THE FLORA
OF THE
NORTHERN TERRITORY

BY
ALFRED J. EWART, D.Sc., Ph.D., F.L.S.
AND
OLIVE B. DAVIES, M.Sc.

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BY

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AND BY

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P R E F A C E .

During the last few years a growing interest has been taken in that large area, the Northern Territory of Australia ; and questions are continually being raised as to its value for agricultural and pastoral purposes. Some interest may be felt then in the study of the flora of this land, not only as increasing in some degree the study of Systematic Botany, but also as giving some indications as to the fertility of the soil, the moisture conditions, and the fodder or other values of the natural vegetation.

The Commonwealth Government, since taking over the Northern Territory, have carried out a policy of energetically investigating the natural resources of this tract of country.

In addition to the Expedition by Gilruth and Spencer, the Barclay Expedition traversed a large part of the Territory, and Mr. Hill, the collector attached to the party, made large collections of plants.

Dr. A. Morrison was appointed to assist in the work of investigating these collections, and the flora of the Territory generally, and in September, 1913, with Professor Ewart, he published a paper :—" Contributions to the Flora of Australia, No. 21. The Flora of the Northern Territory (Leguminosæ)." Unfortunately he subsequently became seriously ill, and died towards the end of 1913.

Miss Davies was appointed successor to Dr. Morrison, and began work in February, 1914, continuing to the end of 1916.

Mr. Maiden undertook the investigation of the Eucalypts and Acacias collected by the Barclay Expedition, and has made a general examination of these genera as represented in the Northern Territory. Mr. Cheel has contributed an account of the Myrtaceæ, exclusive of Eucalyptus, and Mr. Hamilton one of the Cyperaceæ. For the sake of uniformity, a general account of these groups is given in the text, and the special accounts by the authors in question are given as appendixes at the end of the work. The manuscripts of the Acacias and Eucalyptus, owing to Mr. Maiden's illness, were received too late for the insertion of the additional species in the Keys, and some records of

additional species in other groups were also found too late for complete insertion. They are, however, quoted at the end of each genus. For several years the National Herbarium has kept records of additions to the Flora of the Northern Territory. In Mueller's Census, and for some time subsequently, the records were given merely as from N. Australia, which might or might not include the Northern Territory. General records from N. Australia are given separately at the end of each genus. Aid in the identification of a second smaller collection of plants by Hill was given by Mr. J. R. Tovey, of the National Herbarium. The descriptions and figures for various new species have been made by Miss E. McLennan, B.Sc., Miss I. Cookson, B.Sc., and Miss E. Archer, B.Sc. The large map was prepared by Captain Rossiter. Messrs. Tovey and Audas have assisted in the correction of the proofs.

ALFRED J. EWART,

Melbourne University.

September, 1917.

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INTRODUCTORY.

The present work not only gives much additional information as to the distribution of the plants in the Territory, but includes several new species and genera, viz. :—

Gramineæ. *Panicum orthostachyum*. *Spathia neurosa*. *Setosa erecta*.

Eriachne nervosa. *Astrebla elymoides*.

Eriocaulæ. *Eriocaulon graphitinum*.

Commelinaceæ. *Commelina acuminata*.

Proteaceæ. *Hakea digyna*. *Hakea intermedia*. *Grevillea decurrens*.

G. livea.

Chenopodiaceæ. *Atriplex varia*. *Bassia spinosa*.

Caryophyllaceæ. *Polycarpæa brevianthera*. *P. triloba*. Rutaceæ.

Rossittia scabra.

Tiliaceæ. *Corchorus sericeus*.

Malvaceæ. *Abutilon pedatum*. *Hibiscus Spenceri*.

Euphorbiaceæ. *Petalostigma nigrum*. *Phyllanthus Hunti*.

Combretaceæ. *Terminalia arostrata*. Sterculiaceæ. *Waltheria virgata*.

Convolvulaceæ. *Carpentia floribunda*.

Goodeniaceæ. *Goodenia erecta*. *Scaevola paniculata*. *Dampiera cinerea*.

Rubiaceæ. *Spermacoce scabra*.

Myrtaceæ. *Eucalyptus Spenceriana*. *Tristania grandiflora*.

In addition the following new species of Leguminosæ had previously been described by Ewart and Morrison (Proc. Royal Soc., Vict., Vol. 26, p. 152, 1913) :—

Isotropis argentea.

Jacksonia anomala.

Psoralea luteosa.

Tephrosia pubescens.

Very little is yet known as to the economic properties of the plants of the Northern Territory, more particularly as regards their fodder value or poisonous properties. Dr. Gilruth obtained data during his first visit of the food values of certain grasses, which were identified and published in the 19th Contributions to the Flora of Australia (Proc. of the Royal Soc. of Victoria, 1912, Vol. XXV., p. 105). In the present work these and similar records are given where it has been possible to obtain them, together with information as to valuable wood and other economic properties, including all cases in which plants are known to be poisonous or are suspected of poisonous properties. In this respect many of the Leguminosæ of the Northern Territory more especially come under suspicion.

Few of the plants on the present list have been tested as yet from this point of view, but poisonous species are known to occur in the following genera : *Bauhinia* has three poisonous species, one of which is a fish poison, and another an anthelmintic, but no data are available for the species of this genus on the present list. *Brachysema undulatum* grows in other parts of Australia, and causes mechanical injury. *Canavalia obtusifolia* causes gastro-enteritis in stock.

Several species of *Cassia* are considered poisonous, and, according to Greshoff, this also applies to *Cassia Sophora* and *C. Sturtii*.

No less than five species of *Crotalaria* are recorded as poisonous, and of these one, *C. Mitchelli*, grows in the Northern Territory. Three species of *Erythrina* and two of *Erythrophlæum* have been recorded as poisonous, but they do not include any of the species growing in the Territory. The Asiatic *Flemingia congesta* is a taenifuge, but the *F. lineata* of the Territory has not been tested. Many species of *Gastrolobium* are poisonous, but only one incompletely tested species (*G. grandiflorum*) is included in the present list.

Indigofera boviperda, however, has in West Australia been responsible for large losses of stock. The genera *Phaseolus*, *Psoralea* and *Sesbanea* include

poisonous species, but apparently none from the Territory. *Rhynchosia minima* is, however, poisonous according to Greshoff, and the same may be found ultimately to apply to some of the species of *Swainsona* and *Tephrosia*. Several species of the latter genus are well-known fish poisons, and this applies to at least one species from the Territory, namely, *Tephrosia purpurea*. In this direction there will be much work to be done in the future.

By following the distribution of the flora along the route taken by the Barclay Expedition, it is possible to pick out the most fertile and the best grazing parts. Included also is a map, illustrating the route taken by the Expedition, and showing the camping places with the more important plants collected at each.

KEY TO THE AUSTRALIAN NATURAL ORDERS.

(See pp. 5-18.)

In the following key, the initial letter of an order in which any given character occurs is put in the square corresponding to the order and the character; but unless specified the character need not be constant in the order. When a character is only rarely present the initial letter is in italics.

Thus taking the first line *Ranunculaceæ*, the key indicates that this order comprises Herbs and Climbers, but not trees, shrubs or undershrubs, that the leaves may be opposite or alternate, but not whorled, that stipules are only very rarely present, that bracts are wanting although rarely an involucre is present, etc., etc.

It frequently happens that specimens are received which are so imperfect that they cannot be referred readily to their natural order. Suppose a leafy branch with scattered bundles in the stem and compound leaves were received with a collector's note, "over 30 feet high. Young flowers enclosed by a large bract." The scattered bundles restrict it to *Monocotyledons*. Over 30 feet, restricts it to *Liliaceæ*, *Palmæ*, *Pandanææ*, or *Gramineæ*. Compound leaves restrict it to *Palmæ*, or *Gramineæ* (*Bamboos*), and the bract confines it to *Palmæ*.

The keys for the genera and species are based upon those of Bentham's "*Flora Australiensis*"; such alterations having been made as were necessary for new nomenclature, altered classification, and new species.

FILICES.

Only few Ferns were collected. Of these one, *Notholaena* (*Cheilanthes*) *distans*, R.Br., was not previously recorded from the Northern Territory. Owing to the dry character of the greater part of the terrain the fern flora is scanty, and mainly occurs along creeks, river beds and near the coast.

Cheilanthes tenuifolia, Sw.—100 miles N. Haast's Bluff. G. F. Hill (No. 844), 3/6/1911.

G. F. Hill (No. 342, C. II.), 3/6/1911.

Notholaena (*Cheilanthes*) *distans*, R. Br.—Borrooloola. G. F. H. (No. 725), 13/1/1912.

On Sandstone Ranges.

Notholaena Brownii, Desv. (*Cheilanthes vellea*, F. v. M.).—Sandstone Ranges, 22 miles S.S.W., Borrooloola. G.F.H., 16/2/1912.

With the older records and recent additions the list of the ferns recorded from North Australia is as follows :—

- Ophioglossum vulgatum*, L.
- Helminthostachys zeylanica* (L) Hk.
- Helminthostachys dulcis*, Klf.
- Lygodium scandens*, Sw.
- Lygodium japonicum*, Sw.
- Schizaea dichotoma*, Sm.
- Schizaea bifida*, Willd.
- Hymenophyllum Walleri*, Maid. & Bet.
- Ceratopteris thalictroides*, Brogn.
- Gleichenia platyzoma*, F. v. M.
- Gleichenia circinata*, Sw.
- Gleichenia flabellata*, R.Br.
- Gleichenia Hermannii*, R.Br.
- Lindsaya flabellulata*, Dryand.
- Schizoloma ensifolium*, J. Sm. (*Lindsaya ensifolia*, Sw.).
- Adiantum lunulatum*, N. Burm.
- Notholaena* (*Cheilanthes*) *Prenticei* (Luers), Bak¹
- Notholaena fragilis*, Hook.
- Notholaena vellea*, Desv.
- Notholaena distans*, R. Br.
- Cheilanthes tenuifolia*, Sw.
- Blechnum serrulatum*, C. Rich.
- Blechnum orientale*, L.

	COROLLA.							STAMENS.												
	PETALS.						MORE TRAN VI.	DEFINITE.	IN- DEFINITE.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	
	I.	II.	III.	IV.	V.	VI.														
RANUNCULACEÆ	..	..	R	..	R	..	..	..	R	..	..	..	..	..	..	..	..	..	..	..
DILLENIACEÆ	..	..	D	D	D	..	..	D	D	..	..	..	..	..	..	..	..	..	..	D
MAGNOLIACEÆ	..	M	M	M	M	M	M	..	M	..	..	..	..	..	..	..	..	..	..	..
ANONACEÆ	..	..	..	..	..	A	..	..	A	..	..	..	..	..	..	..	..	..	..	..
MENISPERMACEÆ	..	..	M	M	M	M	..	..	M	..	..	M	..	..	M	..	..	M	M	..
NYMPHEACEÆ	..	..	N	..	..	..	..	..	N	..	..	..	..	..	N	..	..	..	..	..
PAPAVERACEÆ	..	..	..	P	..	P	P	P	P	..	..	..	P	..	..	..	..	..	..	..
CRUCIFERÆ	..	..	..	C	..	..	..	..	..	..	..	C	..	C	..	..	..	..	..	..
CAPPARIDACEÆ	..	C	..	C	..	..	..	C	C	C	C	C	C	C	C	C	C	C	C	C
VIOLACEÆ	..	..	..	..	V	..	..	..	..	..	..	..	V	..	..	..	..	..	..	..
BIXACEÆ	..	B	B	B	B	B	B	B	B	..	..	..	..	..	..	..	..	..	..	..
PITTOSPORACEÆ	..	..	..	..	P	..	..	..	..	..	..	..	..	P	..	..	..	..	..	..
TREMANDRACEÆ	..	..	T	T	T	..	..	..	..	..	..	..	..	..	T	..	T	..	T	..
POLYGALACEÆ	..	..	P	..	P	..	..	..	..	..	..	..	P	P	..	..	P	..	..	..
FRANKENIACEÆ	..	..	..	F	F	F	..	F	F	..	..	..	F	F	F	..	..	..	..	..
CARYOPHYLLACEÆ	..	..	..	C	C	..	..	C	..	..	..	C	C	C	..	..	C	..	C	..
PORTULACEÆ	..	..	..	P	P	P	..	P	P	..	..	P	..	P	P	P	P	..	..	..
ELATINACEÆ	..	E	E	E	E	..	..	E	..	..	..	E	E	E	..	..	..	..	E	..
HYPERICINEÆ	..	..	..	H	H	..	..	..	H	..	..	..	..	..	..	..	..	..	..	..
GUTTIFERÆ	..	G	G	G	G	G	G	..	G	..	..	..	..	..	..	..	..	..	..	..
MALVACEÆ	..	..	..	..	M	..	..	..	M	..	..	..	..	..	..	..	..	..	..	..
STERCULIACEÆ	..	..	..	..	S	..	..	S	S	..	..	..	..	S	..	..	..	..	S	..
TILIACEÆ	..	..	T	T	T	..	..	..	T	..	..	..	..	T	..	..	..	..	T	..
LINACEÆ	..	..	..	L	L	L	..	..	..	..	..	..	..	L	..	..	..	..	L	..
MALPIGHIACEÆ	..	..	..	..	M	..	..	..	..	..	..	..	..	..	..	..	..	..	M	..
ZYGOPHYLLACEÆ	..	..	..	Z	Z	Z	..	..	..	..	..	..	..	..	..	..	Z	..	Z	..
GERANIACEÆ	..	..	..	..	G	..	..	..	..	..	G	G	..	G	G	G	..	..	G	..
RUTACEÆ	..	..	..	R	R	R	R	R	R	..	..	R	R	R	..	..	R	..	R	..
SIMARUBACEÆ	..	..	S	S	S	..	..	..	..	..	..	..	S	..	..	..	S	..	S	..
BURSERACEÆ	..	..	B	B	B	..	..	..	..	..	..	..	..	..	B	..	..	..	B	..
MELIACEÆ	..	..	M	M	M	..	..	..	..	..	..	..	M	M	M	..	M	..	M	..

NORTHERN TERRITORY

WITH PET. SAME NO. AS PET.	TWICE NO. PETALS.	MONADEL- PHOUS.	FREE.	ANTHERS.					CARPELS.							STYLE.				
				CELLED					I.	II.	III.	IV.	V.	VI.	MORE THAN VI.	SIMPLE.	SAME NO. CELLS.	MORE THAN CELLS.	FEWER THAN CELLS	OVARY I— CELLED
				I.	II.	IV.	OPENING SLITS.	OPENING PORES.												
.	.	.	R	.	.	.	.	.	.	.	.	.	.	.	R	.	.	.	.	.
.	.	D	D	.	.	.	D	D	D	D	D	D	D	D	D	.	.	.	.	D
.	.	.	.	.	.	.	.	.	M	.	.	.	.	.	M	.	.	.	.	.
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.	.	M	.	.	M	.	.	.	M	.	M	M	M	M	.	M	.	.	.	.
.	.	.	N	.	.	.	N	.	.	.	N	.	.	N	N	.	.	.	.	.
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.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	B	.	B	B	.	.	.	.	.	.	.	B	B	B	B	B
.	P	P	P	.	.	.	P	P	.	.	.	.	.	.	.	P	.	.	.	P
.	.	T	T	.	T	T	.	T	.	.	.	.	.	.	.	T	.	.	.	.
.	.	P	.	.	P	P	.	P	.	.	.	.	.	.	.	P	.	.	.	P
.	.	F	F	.	F	.	.	.	.	.	.	.	.	.	.	.	F	.	.	F
.	.	.	.	.	C	.	.	.	.	.	.	.	.	.	.	.	C	.	.	C
.	P	P	P	.	P	.	.	.	.	.	.	.	.	.	.	.	.	P	.	P
.	E	E	E	.	E	.	.	.	.	.	.	.	.	.	.	.	E	.	.	.
.	.	.	.	.	H	.	.	.	.	.	H	H	H	.	.	.	H	.	.	H
.	.	.	G	.	G	G	.	.	.	.	.	.	.	.	.	G	G	.	.	G
.	.	M	.	M	M	.	.	.	.	.	.	.	.	.	.	M	M	M	.	M
.	.	S	S	.	S	.	S	S	.	.	.	.	.	.	.	S	S	.	.	S
.	.	T	T	T	T	.	T	T	.	.	.	.	.	.	.	T	T	.	.	.
L	L	L	L	.	L	L	.	.	.	.	.	.	.	.	.	.	L	.	.	.
.	.	M	.	.	M	.	.	.	.	.	.	.	.	.	.	M	M	.	.	.
.	Z	Z	Z	.	Z	.	Z	.	.	.	.	.	.	.	.	Z	Z	.	.	.
.	G	G	G	.	G	.	.	.	.	.	.	.	.	.	.	.	G	.	.	.
.	R	R	R	R	.	R	R	.	.	.	.	R	R	.	.	R	R	.	.	R
.	S	S	.	.	S	.	S	.	.	.	S	S	S	.	.	.	S	.	.	.
.	B	B	.	.	B	B	.	.	.	.	.	.	.	.	.	B	B	.	.	.
M	M	M	M	.	.	.	.	.	.	.	.	.	.	.	M	.	.	.	.	.

		TREES.	SHRUBS.	HERBS.	UNDERSHRUBS.	CLIMBERS.	LEAVES.									BRACTEOLAE.				HERMAPH.
							OPPOSITE.	ALTERNATE.	WHORLED.	RADICAL.	UNDIVIDED.	DIVIDED.	DOTTED.	STELLATE HAIRS.	STIPULES PRES.	STIPULES ABS.	WAXING.	FREE.	INVOLUCRE.	
OLACACEÆ	..	O	O	..	O	O	..	O	..	..	O	..	..	..	..	O	..	..	..	C
ILICINEÆ	..	I	I	..	..	..	..	I	..	..	I	..	..	..	..	I	..	..	..	I
CELASTRACEÆ	..	C	C	..	..	C	C	C	..	..	C	..	..	..	C	C	..	C	..	C
STACKHOUSIACEÆ	..	..	..	S	S	..	..	S	..	..	S	..	..	..	S	S	..	S	..	S
RHAMNACEÆ	..	R	R	..	..	R	R	R	..	..	R	..	..	R	R	R	..	..	..	R
AMPELIDACEÆ	..	A	A	..	..	A	A	A	..	..	A	A	A	..	A	..	..	..	..	A
SAPINDACEÆ	..	S	S	S	..	S	..	S	..	..	S	S	..	..	..	..	..	..	..	S
ANACARDIACEÆ	..	A	A	..	..	A	A	A	..	..	A	A	A	..	A	..	..	..	..	A
LEGUMINOSÆ	..	L	L	L	..	L	L	L	..	..	L	L	..	..	L	L	L	L	..	L
ROSACEÆ	..	R	R	R	..	..	R	..	R	R	R	..	..	R	R	..	..	..	..	R
SAXIFRAGACEÆ	..	S	S	S	..	..	S	S	..	..	S	S	..	..	S	S	..	..	..	S
CRASSULACEÆ	..	..	C	C	..	C	..	..	..	..	..	..	..	..	C	..	..	..	..	C
DROSERACEÆ	..	..	..	D	..	..	..	..	..	..	..	..	..	D	D	..	..	..	..	D
HALORAGACEÆ	..	..	..	H	H	..	H	H	H	..	..	..	..	..	H	H	H	..	..	H
RHIZOPHORACEÆ	..	R	R	..	..	..	R	..	..	..	R	..	..	..	R	..	..	..	..	R
COMBRETACEÆ	..	C	C	..	..	C	C	C	..	..	C	..	C	..	C	C	C	..	..	C
MYRTACEÆ	..	M	M	..	M	..	M	M	..	..	M	..	M	..	M	M	..	M	M	M
MELASTOMACEÆ	..	M	M	M	..	..	M	..	..	..	M	..	..	..	M	..	..	..	..	M
LYTHRACEÆ	..	L	L	L	..	..	L	L	L	..	L	..	..	..	L	..	..	..	..	L
ONAGRACEÆ	..	..	..	O	..	..	O	O	..	..	O	O	..	..	O	..	O	..	..	O
SAMYDACEÆ	..	S	S	..	..	..	S	..	..	..	S	..	S	..	S	S	..	..	..	S
PASSIFLORACEÆ	..	..	..	..	..	P	..	P	..	..	P	P	..	..	P	..	..	..	..	P
CUCURBITACEÆ	..	..	..	C	..	C	..	C	..	..	C	C	..	..	C	..	..	..	..	C
FICOIDEÆ	..	..	..	F	F	..	F	F	..	..	F	..	..	..	F	F	..	..	..	F
UMBELLIFERÆ	..	..	U	U	..	..	..	U	..	..	U	U	..	..	U	U	U	..	U	U
ARALIACEÆ	..	A	A	A	..	A	..	A	..	..	A	A	..	A	..	A	A	A	A	A
CORNACEÆ	..	C	C	C	..	..	C	C	..	..	C	..	..	..	C	..	..	..	..	C
LORANTHACEÆ	..	L	L	..	..	..	L	L	..	..	..	..	..	..	L	L	L	..	..	L
CAPRIFOLIACEÆ	..	C	C	C	..	C	C	..	..	..	C	C	..	..	C	C	..	..	..	C
RUBIACEÆ	..	R	R	R	..	R	R	..	..	..	..	..	..	R	..	..	..	..	..	R

NORTHERN TERRITORY.

FLOWER.					INFLORESCENCE.								CALYX.										COROLLA ABSENT
MON OGIOUS.	DI OGIOUS.	POLYGAMOUS.	REGULAR.	IRREGULAR.	AXILLARY.	TERMINAL.	SOLITARY.	RACEME.	CYME.	SPIKE.	PANICLE.	CLUSTER.	COLOURED.	SEPALs						MORE THAN VI.			
														I.	II.	III.	IV.	V.	VI.				
O	O	O	O	..	O	O	O	O	O	O	O	..	..	..	..	O	O	O	..	..	..	..	
I	I	I	I	..	I	I	I	..	I	..	..	..	..	..	..	I	I	I	I	I	..	..	
..	..	C	C	..	C	C	..	C	C	..	C	..	..	..	..	C	C	C	C	..	..	..	
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H	H	H	..	H	H	..	H	..	..	H	..	..	..	..	H	H	H	H	..	..	..	H	
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C	..	C	C	C	C	C	..	C	C	C	..	..	..	..	..	..	C	C	C	C	C	C	
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A	..	A	..	..	..	A	..	A	..	..	A	..	..	..	..	..	..	..	..	..	..	..	
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R	R	R	..	..	R	R	R	R	R	..	..	R	..	..	..	..	R	R	..	..	..	..	

	OVARY.					OVULES.			FRUIT.				
	CELLED.					I. IN CELL.	II. IN CELL.	MORE THAN II. IN CELL.	DEHISCENT.	INDEHISCENT.	CAPSULE.	FOLLICLE.	BERRY.
	II.	III.	IV.	V.	VI.								
OLACACEÆ ..	O	O	..	..	..	O	O	O	..	O	..	..	..
ILICINEÆ ..	..	I	I	I	..	I	I	..	..	..	..	..	..
CELASTRACEÆ ..	C	C	C	C	..	C	C	C	C	C	C	..	C
STACKHOUSIACEÆ ..	S	S	S	S	..	S	..	..	..	S	..	..	..
RHAMNACEÆ ..	R	R	R	..	..	R	..	..	R	R	R	..	..
AMPELIDACEÆ ..	A	A	A	A	A	A	A	..	..	..	..	..	A
SAPINDACEÆ ..	S	S	S	..	..	S	S	S	S	S	S	..	S
ANACARDIACEÆ ..	A	A	A	A	..	A	..	..	..	A	..	..	..
LEGUMINOSÆ ..	..	..	..	..	..	L	L	L	L	L	..	L	..
ROSACEÆ ..	R	R	R	R	..	R	R	R	R	R	..	..	R
SAXIFRAGACEÆ ..	S	S	S	S	..	S	..	S	S	S	S	..	S
CRASSULACEÆ ..	..	..	..	..	..	..	..	C	C	..	C	..	..
DROSERACEÆ ..	D	D	..	..	D	..	..	D	D	..	D	..	..
HALORAGACEÆ ..	H	H	H	H	..	H	H	H	..	H	..	..	..
RHIZOPHORACEÆ ..	R	R	R	R	..	..	R	R	..	..	..	..	..
COMBRETACEÆ ..	..	..	..	..	..	C	C	C	..	C	..	..	..
MYRTACEÆ ..	M	M	M	M	M	M	M	M	M	M	M	..	M
MELASTOMACEÆ ..	M	M	M	M	M	..	M	M	M	M	M	..	M
LYTHRACEÆ ..	L	L	L	L	..	..	..	L	L	..	L	..	..
ONAGRACEÆ ..	O	O	O	O	O	..	..	O	O	..	O	..	..
SAMYDACEÆ ..	..	..	..	..	..	..	..	S	S	S	..	..	..
PASSIFLORACEÆ ..	..	..	..	..	..	..	..	P	P	P	..	..	P
CUCURBITACEÆ ..	..	C	..	C	C	..	..	C	C	C	..	..	..
FICOIDEÆ ..	F	F	F	F	..	F	F	F	F	F	F	..	..
UMBELLIFEREÆ ..	U	..	..	..	..	U	..	..	..	U	..	..	..
ARALIACEÆ ..	A	A	..	A	A	A	..	..	..	A	..	..	..
CORNACEÆ ..	C	..	..	..	..	C	..	..	..	C	..	..	..
LORANTHACEÆ ..	..	..	..	..	..	L	..	..	..	L	..	..	L
CAPRIFOLIACEÆ ..	C	C	C	C	..	C	..	..	..	C	..	..	C
RUBIACEÆ ..	R	R	R	R	R	R	..	R	R	R	R	..	R

NORTHERN TERRITORY.

[illegible]

	COROLLA.							STAMENS.											
	PETALS.						MORE THAN VI.	DEFINITE.	INDEFINITE.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.
	I.	II.	III.	IV.	V.	VI.													
COMPOSITE ..	C	..	..	C	C	..	..	..	..	..	..	..	C	C	..	..	..	..	..
STYLIDIACEÆ ..	..	..	..	..	S	S	..	..	..	..	S	..	..	..	..	..	..	..	..
GOODENIACEÆ ..	..	..	..	..	G	..	..	..	..	..	..	..	G	..	..	..	..	..	..
CAMPANULACEÆ ..	..	..	C	C	C	C	C	..	..	..	..	C	C	C	C	C	C	C	C
ERICACEÆ ..	..	..	..	..	E	..	..	..	..	..	..	..	..	..	..	..	..	..	E
EPACRIDACEÆ ..	..	..	..	E	E	..	..	..	..	..	..	..	E	E	..	..	..	..	..
PLUMBAGINACEÆ ..	..	..	..	..	P	..	..	..	..	..	..	..	..	P	..	..	..	..	..
PRIMULACEÆ ..	..	..	..	P	P	P	P	..	..	..	..	..	..	P	..	..	..	..	..
MYRSINACEÆ ..	..	..	..	M	M	..	..	..	..	..	..	..	M	M	..	..	..	..	..
SAPOTACEÆ ..	..	..	..	S	S	S	S	..	..	..	..	..	..	S	S	S	S	..	..
EBENACEÆ ..	..	..	E	E	E	E	E	..	E	..	..	..	..	..	..	..	..	..	E
STYRACACEÆ ..	..	..	..	S	S	..	..	..	S	..	..	..	..	..	..	..	..	..	..
JASMINEÆ ..	..	J	..	J	J	J	J	..	..	..	J	..	..	..	..	..	..	..	..
APOCYNACEÆ ..	..	..	..	..	A	..	..	..	..	..	..	..	..	A	..	..	..	..	..
ASCLEPIADACEÆ ..	..	..	..	..	A	..	..	..	..	..	..	..	..	A	..	..	..	..	..
LOGANIACEÆ ..	..	..	..	L	L	..	..	..	..	..	..	..	L	L	..	..	..	..	..
GENTIANACEÆ ..	..	..	..	G	G	..	..	..	..	..	..	..	G	G	..	..	..	..	..
HYDROPHYLLACEÆ ..	..	..	..	..	H	..	..	..	..	..	..	..	..	H	..	..	..	..	..
BORAGINACEÆ ..	..	..	..	B	B	B	B	..	..	..	..	..	B	B	B	..	..	..	..
CONVOLVULACEÆ ..	..	..	..	..	C	..	..	..	..	..	..	..	..	C	..	..	..	..	..
SOLANACEÆ ..	..	..	..	S	S	..	..	..	..	..	..	..	S	S	..	..	..	..	..
SCROPHULARIACEÆ ..	..	S	..	S	S	S	S	..	..	..	S	..	S	S	..	..	..	..	..
LENTIBULARIACEÆ ..	..	L	L	L	L	..	..	..	..	..	L	..	..	..	..	..	..	..	..
OROBANCHACEÆ ..	..	O	..	O	O	..	..	..	..	..	..	..	O	..	..	..	..	..	..
GESNERIACEÆ ..	..	G	..	..	G	..	..	..	..	..	G	..	G	..	..	..	..	..	..
BIGNONIACEÆ ..	..	B	..	..	B	..	..	..	..	..	B	..	B	..	..	..	..	..	..
ACANTHACEÆ ..	..	A	..	..	A	..	..	..	..	..	A	..	A	..	..	..	..	..	..
PEDALIACEÆ ..	..	..	..	..	..	..	..	..	..	..	P	..	P	..	..	..	..	..	..
MYOPORACEÆ ..	..	..	..	M	M	..	..	..	..	..	..	..	M	..	..	..	..	..	..
SELAGINEÆ ..	..	S	..	S	S	..	..	..	..	..	..	..	S	..	..	..	..	..	..
VERBENACEÆ ..	..	..	..	V	V	V	V	..	..	..	V	..	V	V	V	V	V	..	..

NORTHERN TERRITORY.

FROM WITH PETALS.	SAME NO. AS PETALS.	TWICE NO. OF PETALS.	MONADEL- PHOUS.	FREE.	ANTHERS.					CARPELS.							STYLE.					OVARY I— CELLED.	
					CELLED.					OPENING SLITS.	OPENING PORES.						SIMPLE.	SAME NO. CELLS.	MORE THAN CELLS.	FEWER THAN CELLS.			
					I.	II.	IV.	I.	II.		III.	IV.	V.	VI.	MORE THAN VI.								
..	C	..	C	C	..	C	..	C	..	..	..	..	..	..	..	..	..	..	..	..	..	..	C
..	..	..	..	..	..	S	..	..	..	..	..	..	..	..	..	..	..	..	S	S	..	..	S
..	C	..	C	C	..	G	..	G	..	..	..	..	..	..	..	..	..	..	G	G	..	..	G
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..	..	..	..	..	..	J	..	J	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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V	..	..	..	..	..	V	..	V	..	..	..	..	..	..	..	..	..	..	V	V	..	..	..

	TREES.	SHRUBS.	HERBS.	UNDERSHRUBS.	CLIMBERS.	LEAVES.										BRAC-TEOLE.			HERMAPRODITE.
						OPPOSITE.	ALTERNATE.	WHORLED.	RADICAL.	UNDIVIDED.	DIVIDED.	DOTTED.	STELLATE HAIRS.	STIPULES PRES.	STIPULES ABST.	WANTING.	FREE.	INVOLUCRE.	
LABIATÆ..	L	L	L	..	..	L	..	L	..	L	L	L	..	..	L	..	..	..	..
PLANTAGINACEÆ	..	..	P	..	..	..	..	..	P	..	..	..	..	..	..	..	..	..	..
	TREES.	SHRUBS.	HERBS.	UNDERSHRUBS.	CLIMBERS.	LEAVES.										BRAC-TEOLE.			HERMAPRODITE.
						OPPOSITE.	ALTERNATE.	WHORLED.	RADICAL.	UNDIVIDED.	DIVIDED.	DOTTED.	STELLATE HAIRS.	STIPULES PRES.	STIPULES ABS.	WANTING.	FREE.	INVOLUCRE.	
PHYTOLACCACEÆ	P	P	P	P	..	..	P	..	..	P	..	..	..	..	P	..	P	..	P
CHENOPODIACEÆ	..	..	C	C	..	C	C	..	..	..	..	..	..	..	C	..	C	..	C
AMARANTACEÆ	..	A	A	A	A	A	A	..	..	A	..	..	A	..	A	..	A	..	A
PARONYCHIACEÆ	..	..	P	..	..	P	P	..	..	P	..	..	..	P	..	..	P	..	..
POLYGONACEÆ	..	P	P	..	P	..	P	..	..	..	..	..	..	P	..	P	..	..	P
NYCTAGINACEÆ	N	N	N	..	..	N	N	..	..	N	..	..	..	..	N	..	..	..	N
MYRSINACEÆ	M	..	..	..	..	..	M	..	..	M	..	M	..	..	M	..	..	..	..
MONIMIACEÆ	M	M	..	..	M	M	..	..	..	M	..	M	..	..	M	..	..	..	M
LAURACEÆ	L	L	..	..	..	L	L	..	..	L	..	L	..	..	L	..	..	L	I
PROTEACEÆ	P	P	..	P	..	P	P	P	..	P	P	..	..	..	P	P	..	..	P
THYMELÆACEÆ	T	T	T	..	..	T	T	..	..	T	..	..	..	..	..	..	..	T	T
ELÆAGNACEÆ	E	E	..	..	E	..	E	..	..	E	..	..	E	..	..	..	..	..	E
NEPENTHACEÆ	..	N	..	N	..	..	N	..	..	..	..	..	..	..	N	..	..	..	..
EUPHORBICEÆ	E	E	E	..	..	E	E	..	..	E	E	..	E	E	E	..	E	E	..
URTICEÆ	U	U	U	..	..	U	U	..	..	U	U	..	..	U	U	..	..	U	..
CASUARINACEÆ	C	C	..	..	..	..	..	..	..	..	..	..	..	..	..	..	C	..	..
PIPERACEÆ	P	P	P	..	P	P	P	P	..	P	..	P	..	P	P	..	..	..	P
ARISTOLOCHIACEÆ	..	A	A	..	A	..	A	..	..	..	..	..	..	..	A	..	..	..	..
CUPULIFERÆ	C	C	..	..	..	..	C	..	..	..	..	..	..	C	C	..	C	C	..
SANTALACEÆ	S	S	S	..	..	S	S	..	..	S	..	..	..	..	S	..	..	..	S
BALANOPHORACEÆ	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
CONIFERÆ	C	C	..	..	..	C	..	C	..	C	..	..	..	..	..	..	..	..	..
CYCADACEÆ	..	..	..	..	..	..	..	..	..	..	C	..	..	..	..	..	..	..	..

NORTHERN TERRITORY.

FLOWER.					INFLORESCENCE.								CALYX.								COROLLA ABSENT.
MON OECIUS.	DI OECIUS.	POLYGAMOUS.	REGULAR.	IRREGULAR.	AXILLARY.	TERMINAL.	SOLITARY.	RACEME.	CYME.	SPIKE.	PANICLE.	CLUSTER.	SEPALS,						MORE THAN VI.		
..	..	L	L	L	L	..	L	L	L	..	L	..	COLOURED.	I.	II.	III.	IV.	V.	VI.	..	
..	..	..	P	..	P	..	P	..	..	P	..	..	..	..	..	..	P	..	..	..	

FLOWER.					INFLORESCENCE.								PERIANTH.								
MON OECIUS.	DI OECIUS.	POLYGAMOUS.	REGULAR.	IRREGULAR.	AXILLARY.	TERMINAL.	SOLITARY.	RACEME.	CYME.	SPIKE.	PANICLE.	CLUSTER.	ABSENT.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
P	P	.	.	.	P	P	P	P	.	P	.	P	.	.	.	.	P	P	.	.	.
.	.	C	C	C	C	C	C	.	.	C	C	C	.	.	.	.	.	C	.	.	.
A	A	.	.	.	A	A	A	.	A	A	A	A	.	.	.	A	A	A	.	.	.
.	.	.	.	.	P	P	P	.	P	.	.	P	.	.	.	P	P	P	.	.	.
P	.	.	P	.	P	P	.	.	.	P	P	P	.	.	.	.	.	P	P	.	.
.	N	.	.	.	N	N	N	.	N	.	N	N	.	.	.	.	N	N	.	.	.
.	M	.	M	.	M	.	.	M	.	.	M	.	.	.	M	M	M	.	.	.	.
M	M	M	M	.	M	M	M	.	M	.	M	.	.	.	.	.	M	M	M	M	M
.	L	.	L	.	.	.	.	L	L	L	L	L	.	.	.	.	L	.	L	.	.
P	.	.	P	P	P	P	P	P	.	P	.	.	.	.	.	.	P	.	.	.	.
.	T	.	T	T	T	T	T	.	T	.	T	.	.	.	.	.	T	T	.	.	.
.	E	.	.	.	E	.	.	.	E	E	.	E	.	.	E	.	E	.	.	.	.
.	N	.	.	.	.	N	.	N	.	.	N	.	.	.	.	N	N	.	.	.	.
E	E	.	.	.	E	E	E	E	.	E	E	E	E	.	.	.	E	E	E	.	.
U	U	U	.	.	U	U	U	U	U	.	U	U	.	U	U	U	U	U	U	.	.
.	.	.	.	.	.	C	.	.	.	C	.	.	C	C	C	.	.	.	.	.	.
P	P	.	.	.	P	P	.	P	.	P	.	.	P	.	.	.	.	.	.	.	.
A	.	.	.	.	A	.	A	A	.	.	.	A	.	A	.	.	.	.	.	.	.
C	.	.	.	.	C	.	C	.	.	C	.	C	.	C	.	.	C	C	C	.	.
S	.	.	.	.	.	S	S	.	S	S	.	.	.	.	.	S	S	S	S	.	.
B	B	.	.	.	.	B	.	.	.	B	.	.	B	.	B	B	B	B	B	B	B
C	C	.	.	.	C	C	C	.	.	.	.	.	C	.	.	.	.	.	.	.	.
C	C	.	.	.	.	.	.	.	.	.	.	.	C	.	.	.	.	.	.	.	.

NORTHERN TERRITORY.

				SEEDS.							REMARKS.
DRUPE.	NUT.	SCHIZOCARP.	ONE SEEDED.	WINGED.	HAIRY.	SMOOTH.	ARILLUS.	NO ARILLUS.	ALBUMEN.	NO ALBUMEN.	
..	L	..	..	..	..	..	..	..	..	L	STEM IV.-ANGLED
..	..	..	P	..	..	..	..	..	P	..	

SEEDS.								REMARKS.
WINGED.	HAIRY.	ROUGH.	SMOOTH.	ARILLUS.	NO ARILLUS.	ALBUMEN.	NO ALBUMEN.	
..	..	..	..	P	P	P	P	
..	..	..	..	..	..	C	C	UTRICLE
..	..	..	..	..	..	A	..	UTRICLE.
..	..	..	..	..	..	P	..	UTRICLE.
..	..	..	..	..	..	P	..	
..	..	..	..	..	..	N	..	
..	..	..	..	M	..	M	..	
..	..	..	..	..	..	M	..	
..	..	..	..	..	..	L	..	
P	..	..	..	..	..	P	..	
..	..	..	..	..	..	T	T	
..	..	..	..	..	..	E	E	
..	..	..	..	..	..	N	..	LEAVES WITH PITCHERS.
..	..	E	E	E	E	E	E	
..	..	..	..	..	..	U	U	UTRICLE.
..	..	..	..	..	..	C	..	CONE. LEAVES REPLACED BY SCALES
..	..	..	..	..	..	P	..	BRANCHES USUALLY ARTICULATE.
..	..	..	..	..	..	A	..	
..	..	..	..	..	..	C	..	CATKINS.
..	..	..	..	..	..	S	..	
..	..	..	..	..	..	..	..	UTRICLE. LEAFLESS ROOT PARASITES
C	..	..	..	..	..	C	..	CONES. CATKINS.
..	..	..	..	..	..	C	..	CONES. CATKINS.

	STAMENS.							AN- THERS.		OVARY.						STYLES-CELLS.
	WANTING.	I.	II.	III.	IV.	V.	MORE THAN VI.	I. CELLED.	II. CELLED.	SUPERIOR.	INFERIOR.	CELLED.			MORE THAN III.	
												I.	II.	III.		
HYDROCHARITACEÆ	..	H	H	H	..	H	H	..	H	..	H	H	..	H	H	H
SCITAMINEÆ	..	S	..	S	..	S	..	S	S	..	S	S	..	S	..	..
ORCHIDACEÆ	..	O	O	..	..	..	..	..	O	..	O	O	..	O	..	..
BURMANNIACEÆ	..	..	..	B	..	B	..	..	B	..	B	..	..	B	..	B
IRIDACEÆ	..	..	..	I	..	I	..	..	I	..	I	..	..	I	..	I
AMARYLLIDÆÆ	..	..	..	A	..	A	A	..	A	..	A	A	..	A	..	A
TACCACEÆ	..	..	..	..	..	T	..	..	T	..	T	T	..	..	..	..
DIOSCOREACEÆ	..	..	..	D	..	D	..	..	D	..	D	..	..	D	..	D
ROXBURGHIACEÆ	..	..	..	..	R	..	..	..	R	R	..	R	..	..	..	..
LILIACEÆ	..	..	..	L	..	L	..	..	L	L	..	..	..	L	..	L
PONTEDERIACEÆ	..	..	..	P	..	P	..	..	P	P	..	..	..	P	..	P
PHILYDRACEÆ	..	P	..	..	..	..	..	..	P	P	..	P	..	P	..	..
XYRIDACEÆ	..	..	..	X	..	..	..	..	X	..	..	..	..	X	..	X
COMMELYNACEÆ	..	..	..	C	..	C	..	..	C	..	..	..	C	C	..	C
JUNCACEÆ	..	..	..	J	..	J	..	..	J	..	..	J	..	J	..	J
PALMÆ	..	..	..	P	..	P	P	..	P	..	..	P	..	P	..	P
PANDANACEÆ	..	..	..	..	..	..	P	..	P	..	..	P	..	..	..	P
AROIDEÆ	..	..	..	..	A	A	..	A	A	..	..	A	A	A	..	..
TYPHACEÆ	..	..	..	T	..	..	..	..	..	..	..	T	..	..	..	T
LEMNACEÆ	..	L	L	..	..	..	..	L	L	..	..	L	..	..	..	L
NAIADACEÆ	..	N	N	N	N	N	..	N	N	..	..	..	..	..	N	N
ALISMACEÆ	..	..	..	..	..	A	A	..	A	..	..	..	..	A	A	A
ERIOCAULACEÆ	..	..	..	..	E	E	..	..	E	..	..	..	E	E	..	E
CENTROLEPIDACEÆ	..	C	..	..	..	..	..	C	..	..	..	C	C	C	..	C
RESTIACEÆ	..	..	..	R	..	..	..	R	R	..	..	R	R	R	..	R
CYPERACEÆ	..	C	C	C	C	C	C	..	C	..	..	C	..	..	..	..
GRAMINEÆ	..	G	G	G	..	G	G	..	G	..	..	G	..	..	..	..

NORTHERN TERRITORY.

OVULES.			FRUIT.						SEEDS.	
IN CELL.			INDEHISCENT.	DEHISCENT.	BACCATE.	DRUPE.	BERRY.	CAPSULE.	ALBUMEN.	NO ALBUMEN.
I.	II.	MORE THAN II.								
..	..	H	H	..	..	..	..	..	..	H
S	S	S	..	..	..	..	S	S	S	..
..	..	O	O	O	..	..	..	O	..	..
..	..	B	..	B	..	..	..	B	..	..
..	..	I	..	I	..	..	..	I	I	..
A	A	A	A	A	..	..	..	A	A	..
..	..	T	..	..	..	..	T	..	T	..
..	D	..	D	D	..	..	D	D	D	..
..	..	R	..	R	..	..	..	R	R	..
L	L	L	L	L	..	..	L	L	L	..
P	..	P	..	P	..	..	..	P	P	..
..	..	P	..	P	..	..	..	P	P	..
..	..	X	..	X	..	..	..	X	X	..
C	C	C	C	C	..	..	..	C	C	..
J	..	J	..	J	..	..	..	J	J	..
P	P	..	P	..	..	P	P	..	P	..
P	..	P	..	..	..	P	..	..	P	..
A	A	A	..	..	A	..	A	..	A	A
T	..	..	..	..	..	T	..	..	T	..
L	L	L	..	..	..	..	..	..	L	L
N	..	N	N	N	..	..	..	N	..	N
A	A	A	A	A	..	..	..	..	..	A
E	..	..	..	E	..	..	..	E	E	..
C	..	..	..	C	..	..	..	..	C	..
R	..	..	R	R	..	..	..	..	R	..
C	..	..	..	..	..	..	..	..	C	..
G	..	..	..	..	..	..	..	..	G	..
										NO STEMS OR LEAVES. UTRICLE.
										NUTS OR FOLLICULAR.
										NUTLETS.
										SPIKELETS. NUT.
										SPIKELETS. NUT.
										SPIKELETS. NUT OR UTRICLE.

Doodia (Woodwardia) *caudata* (Cav.),
R.Br.
Asplenium normale, Don.
Asplenium unilaterale, Lam. (A.
amœnum, Presl.).
Nephrolepis exaltata (L.) Schott.
Aspidium unitum, Sw.
Aspidium molle, Sw.

Dryopteris prolifera (C. Retz), D.
Chr. (*Polypodium proliferum*,
Roxb.).
Polypodium Walleri, Maid. & Bet.
Polypodium phymatodes, L.
Drymaria quercifolia (L.), J. Sm.
Stenochlæna palustris (Burm.), Bedd.
Acrostichum aureum, L.
Acrostichum pteroides, R.Br.

The material available is insufficient for a separate list confined to the limits of the Northern Territory.

CYCADACEÆ.

Pinnæ linear, with a prominent midrib. Female scales elongated, woolly, with 2 or more erect ovules on each side in marginal notches.—1. *Cycas*.

Pinnæ linear, with several longitudinal scarcely prominent nerves. Female scale with 1 pendulous ovule on each side under the thickened acuminate apex.—2. *Macrozamia*.

1. CYCAS, LINN.

1. *C. media*, R.Br.—North-west and North Coasts, A. Cunningham ; Port Essington, Armstrong ; Escape Cliffs, Hulls.

2. MACROZAMIA, Miqu. 1841.

(*Lepidozamia*, Regel. 1857. *Catakidozamia*, T. Hill. 1865.)

"Rickets" plants. All supposed poisonous to stock.

1. *M. Macdonnelli*, F. v. M.—Simpson's Gap, G. F. Hill, 1911. (Hermansburg, Finke River. G. F. Hill (No. 95), 16/3/1911. Appears to be the leaf of *M. Miquelii* and fruits of *Cycadæ* and *Palmæ* mixed.)

CONIFERÆ.

1. CALLITRIS, VENT. 1808.

(*Frenela*, Mirb., 1826. *Fresnelia*, Steud., 1840. *Leichardtia*, Steph., 1851, *Pachylepis*, Brogn., 1833. *Octoclinis*, F. v. M., 1858. *Parolinia*, Endl., 1841. *Widdringtonia*, Endl., 1842.)

1. *C. robusta*, R.Br., var. *microcarpa*.—Katherine Creek, Gilruth and Spencer, July-August, 1911.

Hermansburg, Finke River. G. F. Hill (No. 96), 16/3/1911.

Recorded. York Sound, Regent's River, and Brunswick Bay, N.W. Coast, A. Cunningham ; Mackenzie River, F. v. Mueller ; Port Darwin, Schultz (No. 438). Cypress Pine.

Var. *intratropica*, F. v. M.—Recorded from North Australia.

An Australian species of *Callitris* is poisonous according to Greshoff. Principle unknown.

TYPHACEÆ.

1. TYPHA, LINN.

1. *T. angustifolium*, Linn.—Port Essington, Armstrong ; in the interior, M'Douall Stuart's Expedition. Bulrush.

PANDANACEÆ.**1. PANDANUS, LINN.**

Drupes connate in clusters, nearly flat on the apex. Male spikes sessile.—

2. *P. odoratissimus*.

Drupes all free.—1. *P. aquaticus*.

1. *P. aquaticus*, *F. v. M.*—Upper Victoria River, *F. v. Mueller*.

2. *P. odoratissimus*, *Linn.*—Arnhem's Land and Islands of the Gulf of Carpentaria, *F. v. Mueller*; Port Darwin, *Schultz* (No. 613); Escape Cliffs, *Hulse*; King's Sound, *Hughan*.

POTAMOGETONACEÆ.

Tribe 1.—Flowers hermaphrodite. Anthers short and broad, sessile at the base of the scale-like perianth segments. Carpels 3 to 6, 1-seeded.—1. *Potamogeton*.

Tribe 2.—Flowers hermaphrodite or unisexual. Perianth none or rudimentary or in one sex only. Carpels 1 or 3 or rarely more, 1-seeded or rarely several-seeded. Aquatic submerged plants, mostly marine or subsaline.—2. *Cymodocea*.

1. POTAMOGETON, LINN. 1735.

(*Buccaferrea*, *Bubani*, 1873. *Groelandia*, *Fourr*, 1869. *Groenlandia*, *J. Gay*, 1854. *Peltopsis*, *Rafin*, 1819. *Sprillus*, *J. Gay*, 1854.)
Pond Weed.

Section 1.—Leaves all alternate and petiolate with floating laminæ, or the lower ones submerged. Stipules connate within the petiole.

Floating leaves 1 to 2 in. long. Nutlets beaked.—3. *P. tricarinatus*.

Floating leaves to $\frac{1}{2}$ in. long. Nutlets distinctly beaked.—2. *P. tenuicaulis*.

Section 2.—Leaves all submerged, sessile or nearly so, those under the peduncles and branches opposite, the others alternate. Stipules connate within the petiole, often very deciduous.—1. *P. crispus*.

1. *P. crispus*, *Linn.*—Albert River, *F. v. Mueller*.

2. *P. tenuicaulis*, *F. v. M.*—Gulf of Carpentaria, *F. v. Mueller*.

3. *P. tricarinatus*, *F. v. M. and A. Benn.*—Hugh River, *Macdonnell Ranges*, *G. F. Hill* (No. 132), 4/5/1911.

Pond Weed.—Liable to give trouble in ponds, etc.

The National Herbarium Census also records *P. natans* *Linn.* from North Australia.

2. CYMODOCEA, KOEN.

1. *C. ciliata*, *Ehrenb.*—Whitsunday Islands, *Kilner*.

C. rotundata *Asch. and Sch.* and *C. isoetifolia* *Asch. and Sch.* also recorded in National Herbarium Census from North Australia.

NAIADACEÆ.**1. NAIAS, LINN.**

1. *N. major*, *All.*—Flinders River, *F. v. Mueller*.

N. tenuifolia also recorded in National Herbarium Census from North Australia.

APONOGETONACEÆ.1. **APONOGETON, THUNB.**

Bulb-shaped rootstock covered with filamentous remains of leaf-sheaths, and emitting roots from the base. Leaves under 6 in. long. Fruit carpels tapering into a short recurved style.—2. *A. monostachyus*.

Bulb-shaped rootstock without filaments, emitting fibrous roots from the apex. Leaves above 6 in. long. Fruit carpels obtuse with the rudimentary style, almost lateral.—1. *A. elongatus*.

1. *A. elongatus*, *F. v. M.*—Roper and Van Alphen Rivers, *F. v. Mueller*.
2. *A. monostachyus*, *Linn.*—Gilbert River, Gulliver.

JUNCAGINACEÆ.1. **TRIGLOCHIN, LINN.**

Arrow-grass.

1. *T. procera*, *R. Br.*—Islands of the Gulf of Carpentaria, *R. Brown*.

ALISMACEÆ.1. **ALISMA, LINN.**

Water Plantain.

Carpels, about 3 lines long, hard, often muricate.—1. *A. acanthocarpum*.

Carpels under 2 lines long, smooth or tuberculate, the pericarp not very hard.—2. *A. oligococum*.

1. *A. acanthocarpum*, *F. v. M.*—Lower Victoria River, *F. v. Mueller*; Gulf of Carpentaria, Gulliver.

2. *A. oligococum*, *F. v. M.*—Upper Victoria River, *F. v. Mueller*; Port Darwin, *Schultz*.

BUTOMACEÆ.1. **TRENAGOCHARIS, HOCHST.**

1. *T. cordofana*, *Hochst.*—(*Butomopsis lanceolata* Kunth.) Lagoons on Gilbert River, Armit.

HYDROCHARITACEÆ.

Tufts of radical leaves and scapes fixed to the bottom of the water.

Leaves with a broad lamina. Flowers hermaphrodite, solitary.

Ovary partially 6-celled.—4. *Ottelia*.

Leaves elongated without any lamina. Flowers unisexual.

Male flowers several in a spathe, exserted. Perianth of 6 segments.—3. *Blyxa*.

Male flowers numerous, crowded in a head shorter than the spathe. Perianth of 3 segments.—2. *Vallisneria*.

Leaves small, verticillate along the floating stems. Spathes sessile, both males and females 1-flowered.—1. *Hydrilla*.

1. **HYDRILLA, RICH.**

1. *H. verticillata*, *Casp.*—Gilbert and Roper Rivers, *F. v. M.*. A troublesome water-weed, blocking watercourses.

2. VALLISNERIA, LINN.

1. *V. spiralis*, Linn.—Albert and Roper Rivers, F. v. M.; Arnhem's Land, R. Brown. Tape Grass.

3. BLYXA, THOU.

1. *B. Roxburghii*, Rich.—Robinson River, Gulf of Carpentaria, F. v. M.; Port Darwin, Schultz (No. 423).

4. OTTELIA, PERS.

Leaf-lamina broadly cordate. Spathe winged.—1. *O. alismoides*.

Leaf-lamina ovate or oblong. Spathe not winged.—2. *O. ovalifolia*.

1. *O. alismoides*, Pers.—Roper River, F. v. M.; Creeks in the neighbourhood of Rockhampton, Bowman, O'Shanesy, Watson; Kennedy district, Daintree.

2. *O. ovalifolia*, L. C. Rich.—Recorded. Albert River, Henne.

GRAMINEÆ.

A. Panicaceae. Pedicel articulate below the glumes. Spikelet with one fertile flower, the male or barren flower, if any, below it.

Tribe I.—*Panicaceae*. Fertile spikelets with one terminal hermaphrodite or female flower, with or without a male one below it. Glumes 4 or 3, the upper flowering one of a firmer texture, the outer one usually smaller, sometimes wanting. A palea to each flower. Stamens 3, rarely fewer. Grain enclosed in the hardened (rarely thin, but stiffened) upper glume and palea. Awns rare, and when present neither twisted nor bent back.

Series I. Spikelets hermaphrodite.

Inflorescence not bracteate. No bristle-like involucre.

Fruiting glume hardened.

Glumes 3 (the outer one deficient).

Spikelets not callous at the base. Flowering glume not awned.—15. Paspalum.

Spikelets with a callous annulus or cup at the base. Flowering glume with a point or short awn.—16. Eriochloa.

Glumes 4.—17. Panicum.

Spikelets surrounded by or intermixed with abortive branches of the panicle, forming a lobed or bristly involucre. Fruiting glume hardened.

Spikelets intermixed with long persistent bristle-like branches, and falling off from them.—18. Setaria.

Involucres crowded or distant along a simple rachis, each enclosing 1 to 3 spikelets and falling off with them.

Involucres of numerous simple or plumose bristles completely surrounding the spikelet.—20. Pennisetum.

Involucre of several outer bristles and inner flat lobes completely surrounding 1 to 3 spikelets, and at length hardened.—19. Cenchrus.

Branches of the panicle produced beyond the base of the last spikelet. Fruiting glume stiff but scarious and rather thin.

Spikelets solitary or few along the slender inarticulate branches of the panicle.—21. Chamæraphis.

Spikelets few on the very short branches of a spike-like panicle, the common rachis broad and flat, at length articulate.—23. Stenotaphrum.

Spikes of few spikelets enclosed at the base in sheathing bracts.—22. *Xerochloa*.

Series II. Spikelets unisexual. Stems prostrate or divaricate.

Spikelets monoecious in a simple spike, the upper ones male, the lower female.—24. *Thuarea*.

Spikelets dioecious, in dense heads.—25. *Spinifex*.

Tribe II.—*Andropogoneæ*.—Fertile spikelets with one terminal hermaphrodite or female flower, with or without a male one below it. Glumes 4 or rarely fewer, one of the outer ones (the largest) enclosing the fruit, the third smaller, thin and hyaline, sometimes wanting, the upper or flowering one very thin and hyaline, often bearing a twisted and bent awn. A palea to each flower, sometimes very small or deficient in the fertile flower. Stamens 3, rarely fewer.

Sub-tribe I.—*Zoysiæ*. Spikelets solitary or rarely in clusters of 2 or 3, inserted all round the inarticulate rachis of a simple spike or raceme. Awns none on the flowering glume, none or straight on the outer ones.

Spikelets 2, rarely 3 or 4 together on very short pedicels. Glumes usually 3, the larger one echinate, a minute outer one sometimes wanting, and a small hyaline flowering one.—11. *Tragus*.

Spikelets in a loose spike or raceme, very narrow. Glumes 3, the 2 outer ones with straight awns.—12. *Perotis*.

Spikelets single in a notched spike, with an awn at the base of the pedicel. 13. *Setosa*.

Sub-tribe II.—*Rottboelliæ*. Spikelets awnless, in pairs or rarely solitary, in alternate notches of the articulate rachis of a simple spike, one sessile fertile and more or less embedded in the rachis, the other pedicellate. Spike 1-sided.

Outer glume of the sessile spikelet hard and globular. Pedicellate spikelet barren.—7. *Manisuris*.

Spike nearly cylindrical. No pedicellate spikelet.—6. *Ophiurus*.

Spike nearly cylindrical. Pedicellate spikelet barren or fertile.—5. *Rottboellia*.

Sub-tribe III.—*Maydeæ*. Spikelets unisexual, the male usually paniculate, the females spicate at the base of the males or in a separate inflorescence. Female spikelets below the males, the fruiting glume very hard, smooth and shining.—1. *Chionachne*.

Sub-tribe IV.—*Euandropogoneæ*. Spikelets in pairs or threes, rarely solitary, one sessile and fertile and one or two pedicellate and male, neuter or rudimentary, rarely fertile or deficient. Flowering glume of the fertile spikelet usually awned or reduced to an awn.

Spikelets in pairs along one side of a simple spike or of the spike-like branches of a simple panicle.

Spikes single or digitate. Sessile spikelet with a male flower below the fertile one.—8. *Ischæmum*.

Spikes digitate. Spikelets 1-flowered, solitary in the notches.—2. *Dimeria*.

Spikes digitate. Spikelets in pairs, both 1-flowered and usually fertile.—4. *Pollinia*.

Spikes solitary, digitate, or several nearly sessile on a simple rachis.

Sessile spikelet 1-flowered and fertile, pedicellate one male or neuter.—9. *Andropogon*.

Spikelets in pairs crowded on a short simple axis and enclosed by a large bract. 4a. *Spathia*.

Spikelets in single or few pairs or triplets on the slender branches of a more or less compound panicle.—3. Imperata.

Spikelets in triplets (1 sessile and fertile between 2 pedicellate and male neuter or rudimentary) within sheathing bracts.—10. Anthistiria.

Sub-tribe V.—*Tristegineæ*. Spikelets paniculate, all similar, the terminal flowering glume more or less stiffened or enlarged when in fruit almost as in Paniceæ, but the awn twisted and bent as in Andropogoneæ.—14. Arundinella.

B. Poaceæ. Pedicels not articulate below the glumes. Rachis of the spikelet articulate above the 2 or 3 lowest glumes, or wholly continuous. Spikelets with one or more fertile flowers, the males or imperfect ones if any above or very rarely below them.

Tribe IV.—*Phalarideæ*. Spikelets with one terminal hermaphrodite flower and rarely two male flowers lower down. Glumes 2 to 6, all keeled or with a central nerve, 2 below the articulation of the rachis persistent or in several genera deficient, 4 or fewer above the articulation, of which 2 enclose the grain without any distinct 2-nerved palea.—26. Oryza.

Tribe V.—*Steptatheræ*. Spikelets with 1, 2, or rarely several hermaphrodite flowers, and rarely a male flower above or below. Flowering glume usually bearing an awn twisted in the lower part, bent or divided about the middle. Palea 2-nerved, usually thin or small, awn, 3-branched.—27. Aristida.

Tribe VI.—*Astreptæ*. Spikelets with several or in a few genera only 1 or 2 hermaphrodite flowers, the rachis usually produced and often bearing 1 or more empty glumes above them. Flowering glumes unawned, or with 1 or more terminal untwisted awns. Palea prominently 2-nerved or 2-keeled, usually as long or nearly as long as the glume.

Sub-tribe I.—*Pappophoreæ*. Spikelet 1 or several-flowered, in a dense compound head or in a spike-like or looser panicle. Flowering glume rounded on the back, with three or more nerves leading to 3 or more terminal lobes or teeth all unawned or the central one or all tapering into untwisted awns.

Spikelets with 1 perfect flower and one or more males or empty glumes in a short dense or loose panicle. Flowering glume with 9, or in extra-Australian species more, plumose awns.—36. Pappophorum.

Spikelets several-flowered, sessile in 2 rows on one side of 1 or 2 simple spikes. Lobes of the flowering glume 3, the central one alone awned.—33. Astrebla.

Spikelets several-flowered, paniculate.

Flowering glume with 3 narrow awned lobes.—37. Triraphis.

Flowering glume with 3 unawned lobes or teeth.—39. Triodia.

Sub-tribe II.—*Chlorideæ*. Spikelets 1 or several-flowered, sessile in simple second or unilateral spikes, which are either solitary or digitate or scattered on a common rachis. Flowering glumes usually keeled, entire and unawned, or with 1, rarely 3, untwisted awns.

Spikelets 1-flowered, awnless, in a simple slender spike, the rachis of the spikelet not produced above the flower.—30. Microchloa.

Spikelets 1-flowered, awnless, in digitate spikes, the rachis of the spikelet not at all or minutely produced above the flower.—31. Cynodon.

Spikelets 1-flowered, awned, in a simple or in digitate spikes, with 1 or more empty glumes above the flowering one.—32. Chloris.

Spikelets several-flowered, awnless or with long-pointed glumes, in digitate or scattered spikes. Grain or seed within the pericarp loose and rugose.—34. Eleusine.

Spikelets several or rarely 1-flowered, awnless, in scattered spikes. Grain smooth, the pericarp adnate.—35. Leptochloa.

Spikelets several-flowered, awnless, in a single or in scattered spikes. Flowering glumes with a minute point between 2 small hyaline lobes.—40. *Diplachne*.

Sub-tribe III.—*Milieæ*. Spikelets 1 or 2-flowered in a loose or narrow dense panicle, the rachis of the spikelet not produced above the upper flower. Outer glumes usually convex, several-nerved or almost nerveless, unawned. Flowering glumes nearly similar, unawned or with 1 straight awn. Grain free.

Rachis of the spikelet glabrous or nearly so. Outer glumes faintly nerved. Flowering glumes unawned.—28. *Sporobolus*.

Rachis of the spikelet hairy round the flowering glumes.

Spikelets 2-flowered. Outer glumes many-nerved. Flowering glumes awned or unawned.—29. *Eriachne*.

Sub-tribe IV.—*Festuceæ*. Spikelets several, often many-flowered in a loose or narrow or dense panicle or capitate, the rachis of the spikelet usually produced beyond the last flower or ending in an empty glume. Outer glumes usually narrow acute, or rarely obtuse, unawned. Flowering glumes entire or slightly notched, obtuse, acute, or the keel or midrib produced into a point or straight awn.

Empty glumes several, either above 1 or 2 flowering ones, or in a separate spikelet.

Several empty unawned glumes above 1 or 2 flowering ones. Panicle narrow and dense or loose and spreading.—42. *Ectrosia*.

Many empty glumes above 1 flowering one, all unawned. Panicle contracted into a dense sessile head or interrupted spike.—43. *Heterachne*.

Only 1 empty glume above the flowering ones, sometimes rudimentary or deficient.

Spikelets usually flat, the flowering glumes keeled entire.—38.

Elytrophorus.

Spikelets usually many-flowered. Flowering glumes 3-nerved.—

41.—*Eragrostis*.

Spikelets few-flowered. Flowering glumes 5-nerved.—44. *Poa*.

Sub-tribe V.—*Hordeaceæ*. Spikelets 1 or several-flowered, sessile on the opposite sides of alternate notches of the rachis of a simple spike. Glumes entire, awned or unawned.—45. *Lepturus*.

1. CHIONACHNE, R.Br. 1838.

1. *C. cyathopoda*, F. v. M.—Okey Creek. G. F. Hill (782), 16/2/1912.

Recorded. Upper Victoria River, Hooker and Sturt's Creeks, F. v. M.; Gulf of Carpentaria, Landsborough.

Common food of large birds.

2. DIMERIA, R.Br. *Dornithopoda*, Trin.

1. *Dimeria tenera*, Trin.—Port Darwin, Schultz (No. 321.)

3. IMPERATA, Cyr.

3. *I. arundinacea*, Cyr.—Gulf of Carpentaria, R.Br.

4. POLLINIA, Trin. 1833.

(*Dactylus*, Burm., 1768. *Eulalia*, Kunth, 1829. *Leptatherum*, Nees, 1841. *Microstegium*, Nees, 1836. *Nemastachys*, Steud., 1855.)

Third glume very small and hyaline or none. Awn contracted at the base into a narrow flexuose stipes.

Spikes several, often numerous. Spikelets both pedicellate, 2nd glume with a fine straight awn. Awn of the terminal glume long.

Annual. Spikes $1\frac{1}{2}$ to 2 in. long.—1. *P. articulata*.

Perennial. Spikes 3 to 5 in. long.—3. *P. irritans*.

Spikes 2 or 3. Spikelet sessile; 2nd glume not awned.

Awn of the terminal glume short and fine.—2. *P. Cumingii*.

Third glume not much shorter than the second, thin and hyaline. Awn with a narrow hyaline 2-lobed dilatation at the base.—4. *P. Mackinlayi*.

1. *P. articulata*, *Trin.*—Port Essington, Armstrong; Port Darwin, Schultz (No. 146).

2. *P. Cumingii*, *Nees.*—60 miles N.E., C. II., G. F. Hill (No. 292), 7/6/1911.

Near Haast's Bluff, Macdonnell Ranges, G. F. Hill (No. 199). Alt., 4000. 22/5/1911. Near water. 79 miles N.W. of C. III., in desert west of Lander Creek. G. F. Hill (No. 343), 14/6/1911. Newcastle Waters. G. F. Hill (No. 492), 7/7/1911. Undunya Creek, near Finke River. G. F. Hill (No. 29), 3/3/1911. Grass in creek bed, 4 ft. high. At Black Rocks, MacArthur River. G. F. Hill (No. 650), 22/10/1911. Northern Territory. Gilruth and Spencer. July-Aug., 1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Dampier's Archipelago, A. Cunningham; Port Darwin, Schultz (No. 466).

3. *P. irritans Benth.*—Arnhem's Land, M'Kinlay.

4. *P. Mackinlayi*, *F. v. M.*—North Coast of Arnhem's Land, M'Kinlay.

4a. SPATHIA, EWART.

Spikes protected by large sheathing bracts which are enlarged bases of foliage leaves. Lamina persists, but is reduced; it articulates with enlarged base and tends to be deciduous at the articulation.

Inflorescence consists of one or two empty bracts at the base, and above them are larger bracts which completely surround the clusters of flowers. When young the lowest bracts ensheath the upper, but as the axis elongates they separate. Main axis of each condensed panicle is short, secondary axes are digitate, 3 or 4 at end of main axis.

Spikelets are arranged in notches on secondary pedicels, with articulation at each node. Pedicels also branched at each node, and spikelets disarticulate in groups of two. The lower groups bear the stalks of the groups above.

Spikelets 1-flowered and of two kinds. One is hermaphrodite with four glumes and two lodicules. Outer glume largest, ciliate; second smaller and more membranous: third reduced, hyaline; fourth glume represented by an elongated awn, which is closely applied to but free from the glume enclosing it.

The upper spikelet, as far as can be determined, is sterile, but it may possibly be male. No stamens could be found in any upper spikelet. It consists of one large outer glume, which completely surrounds a rudimentary membranous inner glume.

The styles are distinct. The grain is enclosed in the outer glume, but is free from it.

Spathia, neurosa. *Ewart and Archer.* (Plate I.)

Stems about 1 ft. high; nodes hairy. Leaves deciduous, lamina having definite articulation, which breaks readily.

Spathes large with prominent veins. Spikelets covered with long brown hairs, which are chiefly on outer glume, second glume hairy along edges only. Awn long and twisted.

30 miles S.E. of Newcastle Waters, G. F. Hill (No. 504), 9/8/11.

Affinities. *Spathia* appears to be intermediate between *Pollinia* and *Andropogon*. It approaches *Pollinia* in the type of inflorescence, and partly in the structure of the lower spikelet. It agrees with *Andropogon* in having sterile (or male) spikelets grouped with the hermaphrodite ones. It differs from both genera in its large sheathing spathes, which are probably a xerophytic adaptation. Within them self-pollination appears to take place, the spikelets disarticulating and escaping from the investing bracts after fertilization, when the seeds are ripe.

5. ROTTBOELLIA, LINN. 1779.

(*Apogonia*, Fourn, 1883. *Coelorachis*, Brogn., 1829. *Cymbachne*, Retz., 1791. *Lasiurus*, Boiss., 1859. *Manisuris*, Linn, 1767. *Ophiurus* Br. *Peltophorus*, Desv., 1810. *Phacelurus*, Griseb., 1844. *Pholinurus*, Trin., 1821. *Stegosia*, Lour, 1790.)

The species form good fodder in the tropical parts of Queensland.

No pedicellate spikelet.—1. *R. corymbosa*.

Pedicellate spikelet barren or fertile.

Stems scarcely branched, with single spikes of 2 to 3 in., the articles of the spike densely ciliate at the top. Sessile spikelet 1-flowered, the outer glume silky villous.—2. *R. formosa*.

Stems usually branched. Peduncles solitary in the upper sheaths, with a spike of 3 to 6 in., quite glabrous. Sessile spikelet above two lines long; 1-flowered. 3. *R. exaltata*.

Stems branched. Peduncles clustered in the upper sheaths, the spikes slender, under 3 in., glabrous. Sessile spikelet under two lines long; 1-flowered.—4. *R. ophiuroides*.

1. *R. corymbosa*, Linn.—Upper Victoria and Albert Rivers, F. v. Mueller.

2. *R. formosa*, R.Br.—Islands of the North Coast, R. Brown; Depot Creek, Upper Victoria River, F. v. Mueller; North Coast of Arnhem's Land, M'Kinlay.

3. *R. exaltata*, Benth.—Islands of the North Coast, R. Brown.

4. *R. ophiuroides*, Benth.—Everywhere, N.A. Gilruth and Spencer, July-Aug., 1911.

Borroloola. G. F. Hill (No. 789), 23/2/1912.

Recorded. Gulf of Carpentaria, R. Brown; Victoria and Fitzmaurice Rivers, F. v. Mueller; Port Darwin, Schultz (No. 798).

6. OPHIURUS, R. BR.

1. *O. Corymbosus*, Gaertn.—Victoria and Albert Rivers, Mueller.

7. MANISURIS, SWARTZ.

1. *M. granularis*, Sw.—Depot and Sturt's Creek, F. v. Mueller.

A good pasture grass.

8. ISCHAEMUM, LINN. 1742.

(*Colladoa*, Cav., 1799; *Hologamium*, Nees, 1835; *Ischaemopogon*, Griseb., 1864; *Meoschium*, Beauv., 1912; *Schoenanthus*, Adans, 1763; *Schima*, Forsk, 1775).

Sessile spikelet, 2-flowered, awnless. Pedicellate spikelet 1-flowered, awned. Outer glume membranous, Spikes 3 to 5.—5. *I. truncatiglumis*.

Spikelets both 2-flowered and awned. Outer glume rigid. Spikes 2 to 3, rarely 4, erect, often appressed so as to appear like 1 cylindrical spike. Nodes glabrous. Stem tall, erect.—1. *I. arundinaceum*.

Nodes bearded. Stems 2 to 3 ft. high. Awn exerted.—2. *I. australe*.

Sessile spikelet 2-flowered, awned. Pedicellate spikelet unawned, with a male or without any flower. Spikes 2.—3. *I. decumbens*.

Spike solitary. Pedicellate spikelets lanceolate, flattened, with 2 male flowers.—4. *I. laxum*.

1. *I. arundinaceum*, *F. v. M.*—Roper River, *F. v. Mueller*; Port Darwin, Schultz (Nos. 30, 182, 815).

2. *I. australe*, *R. Br.*—N. Australia, near Sea Range, *F. v. Mueller*.

Var. villosum, *Benth.*—Near 5-Mile Bar, MacArthur River, *G. F. Hill* (No. 740), 6/2/1912.

Recorded. North Coast, *R. Brown*.

3. *I. decumbens*, *Benth.*—Port Darwin, Schultz, (No. 126).

4. *I. laxum*, *R. Brown.*—Newcastle Waters, *G. F. Hill* (No. 494), 7/7/1911; MacArthur River, *G. F. Hill* (No. 743), 7/2/1912.

Recorded. Islands of the Gulf of Carpentaria, *R. Brown*; mainland of the Gulf, Landsborough; Victoria River, *F. v. Mueller*; Port Darwin, Schultz (No. 10); Arnhem's Land, *M'Kinlay*.

5. *I. truncatiglumis*, *F. v. M.*—Arnhem's Land, *F. v. Mueller*.

I. pectinatum, *Trin.*, recorded in National Herbarium Census from North Australia.

9. ANDROPOGON, LINN. 1735.

(*Agenium*, *Nees*, 1836. *Alloianthena*, *Steud.*, 1855. *Alloiatheros*, *Rafin*, 1830. *Anadelphia*, *Hack*, 1885. *Anatherum*, *Beauv.*, 1912. *Anthrostachys*, *Desv.*, 1831. *Cymbachne*, *Retz.*, 1791. *Cymbogon*, *Spreng*, 1815. *Dichanthium*, *Willem*, 1796. *Dretonis*, *H. B. and K.*, 1815. *Dischanthium*, *Kunth*, 1833. *Eriopodium*, *Hochst*, 1846. *Exotheca*, *Anderss.*, 1856. *Graya*, *Arn.*, 1840. *Gymnandropogon*, *Duthie*, 1878. *Depeocercis*, *Trin.*, 1820. *Oropogon*, *Neck.*, 1790. *Pithecurus*, *Willd.*, 1833. *Schizachyrium*, *Nees*, 3829. *Schizopogon*, *Reichb.*, 1828. *Vetiveria*, *Thou.*, 1827.)

Spikelets in pairs along one side of a simple spike or of the spikelike branches of a simple panicle.

Spike single. Spikelets unisexual, the awned females turned to one side, the awnless males imbricate behind them. (*Heteropogon*).

Spikes about 2 in. long; male spikelets 3 to 4 lines.—6. *A. contortus*.

Spikes 3 to 6 in. long; male spikelets $\frac{1}{2}$ in.—18. *A. triticeus*.

Spikes solitary, digitate, or several nearly sessile on a simple rachis.

Sessile spikelet 1-flowered and fertile pedicellate one male or neuter. (*Andropogon*.)

Spikes 2, 3 or more, clustered at the end of a peduncle without sheathing bracts, very rarely reduced to a single spike.

Spikelets concealed or nearly so under copious long silky hairs.

Long silky hairs on the back of the outer glumes as well as on the rachis and pedicels.—17. *A. sericeus*.

Long silky hairs only or chiefly on the rachis and pedicels.—2. *A. affinis*.

Spike silky hairy, but the hairs not covering the spikelets.

Spikes 3 or 4 in a close cluster. Outer glumes obtuse or toothed.—

3. *A. annulatus*.

Spikes numerous, the common axis elongated.—11. *A. intermedius*.

Spikes 2 together on each peduncle within or above a sheathing bract.

Silky hairs long, concealing the spikelets or nearly so.

Spikes erect. Awns prominent.

Leaves long and broad. Stems tall and stout.—15. *A. procerus*.

Leaves flat and narrow. Spikes densely woolly.—13. *A. lanatus*.

Leaves wholly subulate or very narrow, tapering into long subulate points.

Spikelets small.—8. *A. exaltatus*.

Spikes at length spreading or reflexed.

Awns none or very fine and scarcely projecting.—5. *A. bombycinus*.

Hairs minute. Spikes soon reflexed. Awns very short or none.—

16. *A. refractus*.

Peduncles axillary or terminal, bearing each a single spike above a narrow sheathing bract.—9. *A. fragilis*.

Spikelets in single or few pairs or triplets on the slender branches of a more or less compound panicle.

Outer glume either membranous or narrow and rigid, with two prominent often muricate lateral nerves. (*Chrysopogon*).

Spikelets 3 to 5 lines long, 1 fertile and 2 pedicellate ones to each branch, second glume of the fertile one awned. Awn of the terminal one long and rigid.—10. *A. Gryllus*.

Spikelets scarcely $1\frac{1}{2}$ lines long, 1 to 3 fertile besides the pedicellate ones on each branch, second glume awnless.—14. *A. montanus*.

Spikelets $2\frac{1}{2}$ to 3 lines long, 3 to 5 fertile besides the pedicellate ones on each branch. Panicle narrow, usually compact.

Panicle 3 to 4 in. long, second glume of the fertile spikelet acute awnless.—1. *A. acicularis*.

Panicle 4 to 10 in. long, second glume of the fertile spikelet shortly awned.—7. *A. elongatus*.

Outer glume when in fruit hard, smooth and shining, ovate or lanceolate. (*Sorghum*).

Nodes bearded. Fruiting spikelets lanceolate, $2\frac{1}{2}$ to 4 lines long villous. Awn usually long. Ovary glabrous.—4. *A. australis*.

Nodes bearded. Fruiting spikelets ovoid, 2 lines long, sometimes with a short conical apex, villous. Awn not very long. Ovary glabrous.—18. *A. triticeus*.

Nodes glabrous. Fruiting spikelets lanceolate, about four lines long, villous. Awn very long. Ovary crowned by tuft of hairs.—12. *A. intrans*.

1. *A. acicularis*, Kunth. (*Chrysopogon acicularis*, Trin.).—Abel Tasman River, F. v. Mueller.

2. *A. affinis*, R.Br.—Between Bauhinia Downs and Tanumbirini, G. F. Hill (No. 820), 26/3/1912.

A very good fodder grass.

3. *A. annulatus*, Forsk. (*var. macrostachya*).—Red Lily Lagoon, Roper River, G. F. Hill (No. 838), 7/4/1912.

Recorded. Upper Victoria River, F. v. Mueller.

Good stock grass.

4. *A. australis*, Spreng (*Sorghum plumosum*, Beauv.).—30 miles N.E. Newcastle Waters, G. F. Hill (No. 503), 9/8/1911.

Near Parson's River. G. F. Hill (No. 817), 24/3/1912.

Lat. 29 degrees, 16 minutes, N.T. Survey Route, G. F. Hill (No. 427), 4/7/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown ; Victoria River, F. v. Mueller ; Port Darwin, Schultz (No. 188) ; Escape Cliffs, Hulse ; Arnhem's Land, M'Kinlay.

Good feed before seeding.

5. *A. bombycinus*, R.Br.—Sandstone Ranges, near Tanumbirini, G. F. Hill (No. 811), 26/3/1912.

Amongst rocks not plentiful, of doubtful fodder value.

Black Rocks, MacArthur River, G. F. Hill (No. 652), 23/10/1911.

6. *A. contortus*, Linn (*Heteropogon contortus*, Roem. and Schult).—Ashburton Range, Newcastle Waters, G. F. Hill (No. 483), 29/7/1911.

Roper River, Gilruth and Spencer, July-August, 1911.

Newcastle Waters, G. F. Hill (No. 467), 15/7/1911.

Between Borrooloola and Tanumbirini, G. F. Hill (No. 813), 26/3/1912.

On boggy country.

Okey Creek, G. F. Hill (No. 785), 16/2/1912. On plains.

Head of Kilgour River, G. F. Hill (No. 467), 30/8/1911.

Northern Territory, Gilruth and Spencer, July-August, 1911.

Recorded. Islands of the North Coast, R. Brown ; Victoria River, Elsey ; Strangeways River, M'Douall Stuart ; Port Darwin, Schultz (Nos. 10, 146, 151) ; Sweers Island, Henne.

Bunch spear grass.

By no means a desirable grass. Frequently bores into the skin and intestines of animals, causing fatal inflammation and peritonitis. Cattle eat it when it is young, but it has been stated that in Ceylon they do not touch it.

7. *A. elongatus*, Spreng. (*Chrysopogon elongatus*, Benth.).—Borrooloola, G. F. Hill, 23/2/1912. Near creeks and springs.

Edith Creek, Gilruth and Spencer, July-August, 1911.

North Island, Gulf of Carpentaria, G. F. Hill (No. 619), 20/10/1911.

Recorded. Coen River, Gulf of Carpentaria, R. Brown ; Albert River, Landsborough ; Sweers Island, Henne.

8. *A. exaltatus*, R.Br.—Meyer's Camp, near Haast's Bluff, Macdonnell Ranges, G. F. Hill (No. 193), 23/5/1911. Alt., 4000 ft.

Var. lanatus. R.Br.—Near Darwin, G. F. Hill (2nd Series, 93), 26/7/1913.

Hermansburg, Finke River, G. F. Hill (No. 70), 11/3/1911.

Recorded. Islands of the North Coast, R. Brown ; Sturt's Creek, F. v. Mueller ; Dampier's Archipelago, A. Cunningham ; Walcot.

9. *A. fragilis*, R. Brown.—Upper Victoria River, F. v. Mueller ; Port Darwin, Schultz.

10. *A. Gryllus*, Linn. (*Chrysopogon Gryllus*, Trin).—Near Hermansburg, Finke River, G. F. Hill (Nos. 102 and 103), 20/3/1911.

Borrooloola, G. F. Hill (Nos. 609, 713 and 790), 9/10/1911 ; 13 and 25/1/1912.

Five Mile Bar, MacArthur River, G. F. Hill (Nos. 737 and 738), 25 and 28/1/1912.

Near Hugh River, Macdonnell Ranges, G. F. Hill (No. 140), 4/5/1911.

Roper River, Gilruth and Spencer, July-August, 1911.

Okey Creek, G. F. Hill (No. 781), 16/2/1912.

Northern Territory, Gilruth and Spencer, July-August, 1911.

Borrooloola to Roper River, G. F. Hill, (No. 814), 26/3/1912.

60 miles N.E. of Camp II., G. F. Hill (No. 291), 7/6/1911.

40 miles S.S.W. of Newcastle Waters, G. F. Hill (No. 457), 8/7/1911.

Borrooloola, G. F. Hill, 23/2/1912. Specimen with smut.

A good summer grass.

"Excellent fodder grass. Probably one of the best grasses for horses in the Northern part of the Northern Territory."

Recorded. Cygnet Bay, A. Cunningham; Victoria River, Sturt's Creek and Abel Tasman River, F. v. Mueller; Gulf of Carpentaria, Landsborough, Gulliver.

11. *A. intermedius*, R.Br.—Newcastle Waters, G. F. Hill (No. 493), 7/7/1911.

Five-mile Bar, MacArthur River, G. F. Hill (No. 742), 4/2/1912.

Recorded. Victoria River and Sturt's Creek, F. v. Mueller.

A good grass, producing a large quantity of excellent fodder.

12. *A. intrans*, F. v. M. (*Sorghum intrans*, F. v. M.).—Five-mile Bar, MacArthur River, G. F. Hill (No. 739), 20/1/1912.

MacArthur River, G. F. Hill (No. 731), 6/2/1912.

Northern Territory, G. F. Hill, 1911.

Recorded. Arnhem's Land, F. v. Mueller; Port Darwin, Schultz (Nos. 31, 149, 185); Lagrange Bay, Hughan.

13. *A. lanatus*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; Port Essington, Armstrong.

14. *A. montanus*, Roxb. (*Chrysopogon parviflorus*, Benth.).—Batchelor Farm, G. F. Hill (2nd Series, No. 49), 23/1/1913.

Recorded. Islands of the Gulf of Carpentaria, R. Brown.

Scented golden-beard.

Produces a large quantity of coarse fodder.

15. *A. procerus*, R.Br.—Near Darwin, Gilruth and Spencer, July-August, 1911.

Sandstone Ranges, near Tanumbirini, G. F. Hill (No. 812), 26/3/1912. Among rocks.

Haast's Bluff, Macdonnell Ranges, G. F. Hill (No. 182), 17/5/1911. Alt., 4000 ft.

Alice Springs, G. F. Hill (No. 128), 24/4/1911.

Recorded, Groote Island, R. Brown; Upper Victoria River, F. v. Mueller; Port Darwin, Schultz (Nos. 60, 147, 150, 241, 262).

Lavender-scented grass on hills.

16. *A. refractus*, R.Br.—Port Essington, Armstrong.

Barbed-wire grass.

A coarse pasture-grass.

17. *A. sericeus*, R.Br.—Abraham's Lagoon, Gilruth and Spencer, July-August, 1911.

Top Spring, G. F. Hill (No. 549), 31/8/1911.

Borrooloola, G. F. Hill (No. 693), 14/2/1912.

Bauhinia Downs, Tanumbirini, G. F. Hill (No. 818), 26/3/1912. Very good stock grass; grows in rich soil.

55 miles S.E. of Newcastle Waters, G. F. Hill (No. 511), 26/3/1911.

Blue grass; excellent for pasture.

Var. polystachyus, Benth.—Victoria River and Sturt's Creek, F. v. Mueller; Albert River and Sweers Island, Henne; Escape Cliffs, Hulse.

Tassel Blue Grass.

18. *A. triticeus*, R.Br.—Recorded. Islands of the Gulf of Carpentaria, R.Br.; Arnhem's Land, M'Kinlay; Port Darwin, Schultz (No. 30); Port Essington, Armstrong; Bountiful Island, Henne.

A. punctatus, Roxb. ; *A. brevifolius*, Sw. ; *A. micranthus*, Kunth ; *A. serratus*, Thun. Recorded in National Herbarium Census from North Australia. Some of the species of *Andropogon* are excellent fodder plants, while some have produced valuable oils.

10. ANTHISTIRIA, LINN. 1779.

(*Androscopia*, Brogn., 1829 ; *Aristaria*, Jungh., 1840 ; *Exotheca*, Anderss., 1856 ; *Germania*, Balansa and Poitras, 1873 ; *Heterelytron*, Jungh., 1840 ; *Iseilema*, Anderss., 1856 ; *Perobachne*, Presl., 1830 ; *Themeda*, Forsk., 1775).

The 4-whorled barren spikelets sessile. Awn very long and rigid.

Spikelets in dense compound clusters, sessile within the bracts.

Bracts glabrous. Barren spikelets glabrous or sprinkled with long cilia. Fertile spikelet glabrous or shortly pubescent at the end.—3. *A. imberbis*.

Bracts sprinkled with long spreading hairs. Spikelets nearly of *A. imberbis*.—1. *A. frondosa*.

Spikelets with the surrounding barren ones on slender pedicels within the sheathing bracts. Barren spikelets glabrous. Fertile one densely villous with brown hairs.—2. *A. gigantea*.

The four-whorled barren spikelets pedicellate ; all the spikelets glabrous ; awns very fine.—4. *A. membranacea*.

1. *A. frondosa*, R. Br.—Recorded. Islands off the North Coast, R. Brown ; Arnhem's Land, F. v. Mueller ; Port Darwin, Schultz (Nos. 155, 180, 217).

2. *A. gigantea*, Cav. (*A. avenacea*, F. v. M.).—15 miles E. of Hermannsburg Mission Station, Finke River, G. F. Hill (No. 100), 29/3/1911.

Recorded. Upper Victoria River, F. v. Mueller.

Oat Kangaroo Grass.

3. *A. imberbis*, Retz. (*A. ciliata*, Linn.).—Five-mile Bar, MacArthur River, G. F. Hill (No. 718), 19/1/1912.

Edith Creek, Gilruth and Spencer, July-August, 1911.

Henbury Station, Finke River, G. F. Hill (No. 48), 10/3/1911.

Kangaroo Grass.

4. *A. membranacea*, Lindl.—Tanumbirini, G. F. Hill (No. 815), 26/3/1912. Newcastle Waters, G. F. Hill (No. 472), 17/7/1911.

Recorded. Sturt's Creek, F. v. Mueller, Gregory ; Nichol Bay, Mrs. Crouch. One of the best grasses for stock.

11. TRAGUS, HALL.

1. *T. racemosus* Hall. (*Lappago racemosa* Willd.).—Sturt's Creek, F. v. Mueller.

Small Burr Grass.

12. PEROTIS, AIT. 1789.

(*Xystidium*, Trin. 1820).

1. *P. latifolia*, Ait. (*P. rara*, R. Br.).—Bauhinia Downs to Tanumbirini, G. F. Hill (No. 816), 25/3/1912.

Margin of Claypan, Chewing's Well, G. F. Hill (No. 404), 1/7/1911.

Comet River Grass.

Before seeding forms a good leafy pasture. Of no value for stock after flowering.

Recorded. Between Norman and Gilbert Rivers, Gulliver; in the interior of Arnhem's Land, M'Douall Stuart.

13. SETOSA, EWART.

Spikelets two-flowered, one terminal hermaphrodite flower with a male one below it.

Glumes unawned, but a long straight awn arises laterally from the pedicel of spikelet, close to the articulation of the latter with the main axis. Outer glumes three of unequal size, lowest being very small and scale like, middle one long, while third is smaller than latter and functions as the flowering glume of male flower. Stamens of hermaphrodite flower have broad filaments and small functionless anthers. Grain is enclosed by hardened pale and flowering glume, but is free from them. Hilum is rounded.

Setosa erecta, Ewart and Cookson. (Plate II.)

A harsh, stiff grass, about 2 ft. high, erect stems arising from a glabrous, horizontal, rhizome. Nodes slightly hairy, leaves and stem glabrous.

Leaves linear, blades short, decreasing in length as they approach top of stem, and ending in a bluntly rounded point.

Inflorescence a spike-like raceme 3 to 4 in. long, spikelets borne on a triangular-shaped pedicel, which is attached laterally to a much-flattened, curved and unsegmented axis.

Spikelets 6 to 7 lines long, flattened dorso-ventrally, two-flowered, upper terminal flower hemaphrodite, a male one below it. A long awn, scabrous, with short stiff points, arises laterally from the pedicel close to the articulation of latter with main axis. Pedicel is slightly hairy.

Outer glumes three, unawned, scabrous, with extremely small pointed hairs interspersed with a few longer rigid ones, one of the three functioning as flowering glume to the male flower. Lowest outer glume is very minute, colourless, scale-like and deciduous. Middle outer glume large, 4 to 5 lines long; leathery, 9-11-nerved and ending in a blunt tip.

Male flower. Flowering glume is smaller than large outer glume, 3.5 to 4 lines long, but of same texture with 7 to 11 nerves. Palea as long as the flowering glume, thin and papery, enclosing three stamens, two large lodicules.

Hermaphrodite flower smaller than male flower, about 2 lines long. Both flowering glume and palea are thin and hyaline, palea being enclosed by the flowering glume. Lodicules two, large. Stamens three, with broad flat filaments, small anthers, as long as broad with sagittate base and apex. These stamens seem to be degenerating, the function of pollen production being transferred to the stamens of male flower. Styles distinct, sharply curved at the base of two large feathery stigmas. Grain elongated, enclosed in hardened palea and flowering glume, but free from them. Hilum rounded.

Plant seems well adapted to xerophilous conditions. In section of rhizome a thick, complete band of sclerenchyma is seen, in which the outer ring of vascular bundles is embedded.

The leaf is covered on upper surface by a thick cuticle, which is raised into little finger-like projections. Sclerenchyma is also present over each bundle.

Relationships.—Systematic position of this grass is doubtful. In the presence of three outer glumes, of which the third serves as flowering glume of male flower, and in the nature of the inflorescence it resembles *Neurachne* among the *Zoyseæ*. The first small glume would indicate a relationship to the *Tristeginææ*, but here all the flowers are hermaphrodite.

The awn is altogether peculiar in position, and its homology is doubtful. It is possible that the genus may ultimately form the basis of an additional subsection of the *Andropogoneæ*.

Five-mile Bar Camp, MacArthur River, G. F. Hill (No. 705), 30/12/11.

14. ARUNDINELLA, RADDI. 1823.

(*Acratherum*, Link, 1934 ; *Brandtia*, Kunth., 1830 ; *Calamochloe*, Reicht., 1828 ; *Goldbachia*, Trin., 1821 ; *Riedelia*, Trin., 1833 ; *Thysanachne*, Presl., 1829).

Outer glume nearly as long as the spikelet, with a short point.—1. *A. nepalensis*.

Outer glume about half the spikelet, with a long point.—2. *A. Schultzii*.

1. *A. nepalensis*, Trin.—Abraham's Lagoon, Gilruth and Spencer, July-August, 1911.

Recorded. Upper Victoria River, F. v. Mueller.

2. *A. Schultzii*, Benth.—Port Darwin, Schultz (No. 31).

15. PASPALUM, LINN.

Spikes 2 to 5, usually distant. Spikelets orbicular or broadly ovate, obtuse, about 1 line long.—2. *P. scrobiculatum*.

Spikes 2 or 3, digitate or nearly so. Spikelets ovate, about $\frac{3}{4}$ line long.—1. *P. longiflorum*.

1. *P. longiflorum*, Retz. (*P. brevifolium*, Fluegge.) Var. *propinquum*, Benth.—Gulf of Carpentaria, R. Brown ; between M'Adam Range and Providence Hill, F. v. Mueller.

2. *P. scrobiculatum*, Linn.—Islands of the Gulf of Carpentaria, R. Brown ; M'Adam Range and Roper River, F. v. Mueller ; between Norman and Gilbert Rivers, Gulliver ; Sweers Island, Henne ; Escape Cliffs, Hulse ; Sims Island, A. Cunningham.

Ditch Millet.

16. ERIOCHLOA, HUMB. AND KUNTH.

1. *E. punctata*, Hamilt.—Near Providence Hill, F. v. Mueller.

Early Spring Grass.

Excellent for pasture or hay.

17. PANICUM, LINN. 1735.

(*Acicarpa*, Raddi., 1823 ; *Bluffia*, Nees, 1835 ; *Brachiaria*, Griseb., 1853 ; *Digitaria*, Heist., 1763 ; *Dilencaden*, Rafin., 1840 ; *Echinochloa*, Beauv., 1812 ; *Eriachne*, Phil., 1871 ; *Eriolytrum*, Desv., 1829 ; *Holosetum*, Steud., 1850 ; *Milium*, Adans., 1763 ; *Pseudoraphis*, Griff., 1851 ; *Sanguinella*, Gleichen., 1764 ; *Syntherisma*, Walb., 1788 ; *Thalasium*, Spreng., 1827).

Some species contain prussic acid. Most species are good for stock, and would form excellent hay, but should then be cultivated, and cut when in flower.

Series I. *Digitariææ*.—Spikelets mostly in pairs along the outer or lower side of the simple slender branches of the panicle, one of each pair always pedicellate the other sessile or on a shorter pedicel, the upper ones of each branch occasionally solitary, the lower ones very rarely clustered. Outer glume usually very small.

Branches of the panicle often numerous, the lower ones long and verticillate, the upper ones scattered.—32. *P. papposum*.

Branches of the panicle few, digitate or clustered at the end of the peduncle.

Branches 3 to 8. Spikelets of each pair similar, both fertile, glabrous or softly ciliate.—30. *P. sanguinale*.

Branches usually 2. Spikelets of each pair dissimilar.—7. *P. ctenanthum*.

Branches of the panicle scattered or the upper ones approximate, the lower ones rarely clustered and not verticillate.

Branches usually 2 or 3, distant, 1 to $1\frac{1}{2}$ in. long.—33. *P. stenostachyum*.

Branches often numerous, 2 to 6 in. long.—23. *P. parviflorum*.

Series II. *Trichachneæ*.—Spikelets silky-hairy, or fringed with long hairs, sessile or shortly pedicellate, clustered or rarely in pairs along the rachis of the simple spike-like panicle or of the two or few long erect branches.

Spike single. Spikelets mostly in pairs, about 1 line long, silky hairy, the outer glume deficient.—12. *P. gibbosum*.

Spike-like branches few or spike single. Spikelets mostly clustered, 1 to $1\frac{1}{2}$ lines long, the outer glume present but small and often concealed by the long silky hairs.—18. *P. leucophœum*.

Spike-like branches few. Spikelet 2 to $2\frac{1}{2}$ lines long, fringed with long hairs connected by a prominent nerve or membrane. Glumes with fine points.—31. *P. semialatum*.

Series III. *Paspaloideæ*.—Spikelets sessile or very shortly pedicellate, in one or two rows, very rarely in pairs, along the short simple alternate often distant spikes or spike-like branches of the panicle, rarely reduced to a single terminal spike.

Spikes erect, distant or single. Spikelets usually sessile.

Spike single, terminal. Spikelets glabrous, singly distant or the lowest in pairs.—28. *P. rarum*.

Spikes several distant. Spikelets with long silvery hairs.

Spikelets truncate, singly distant.—2. *P. argenteum*.

Spikelets ovoid, often approximate.—16. *P. holosericeum*.

Spikes several distant. Spikelets glabrous in two close rows.

Spikelets oblique, 1 to $1\frac{1}{2}$ lines long in two close regular rows, second glume broad gibbous, third glume flatter, with a palea in its axil.—10. *P. flavidum*.

Spikelets nearly straight, 1 to $1\frac{1}{2}$ lines long, the rows not always regular and sometimes very few in the spike, second and third glumes nearly equal; both empty.—14. *P. gracile*.

Spikes usually approximate, erect or at length spreading. Spikelets not so closely sessile and frequently subtended by hairs or bristles.

Spikelets about 1 line long, frequently in pairs. A palea in the third glume. Fruiting glume obtuse, rarely tipped with a minute point.—27. *P. prostratum*.

Spikelets nearly 2 lines long, in two rows. A broad palea in the third glume. Fruiting glume obtuse, with an awn-like point.—15. *P. helopus*.

Spikelets nearly 2 lines long, in two rows. A broad palea in the 3rd glume, which is ciliate with long hairs. Fruiting glume obtuse with a short point.—13. *P. Gilesii*.

Spikelets nearly 2 lines long, in two rows. Third glume empty. Fruiting glume obtuse, without any point. Leaves hairy.—24. *P. piligerum*.

(And 1st species of *Paniculatae*).

Spikes distant, at length spreading or reflexed. Spikelets alternate along the rachis, but not close and appearing almost uniseriate.

Leaves pubescent. Spikelets distant on a slender rachis.—25. *P. polyphyllum*.

Leaves glabrous. Spikelets near together on a flattened rachis.—9. *P. distachyum*.

Series IV. *Echinochloae*.—Spikelets sessile and crowded in three or four rows or irregularly along the simple alternate usually second spikes or spike-like branches of the panicle. Glumes sometimes awned.

Spikelets about 1 line long, never awned, densely crowded in four rows along the rachis, without hairs or bristles.—5. *P. colonum*.

Spikelets $1\frac{1}{2}$ to 2 lines long, acuminate or awned, crowded and clustered along the rachis, usually intermixed with rigid hairs or bristles.—6. *P. Crusgalli*.

Series V. *Myuroideae*.—Spikelets not silky, crowded and clustered in a dense continuous or rarely interrupted cylindrical spike-like panicle.

Spikelets ovoid, obtuse, $\frac{1}{2}$ to $\frac{3}{4}$ line long.—20. *P. myosuroides*.

Spikelets acuminate, curved, 1 to $1\frac{1}{2}$ lines long or rather more.—25. *P. piligerum*.

Series VI. *Paniculatae*.—Panicle branches usually more or less divided. Spikelets all pedicellate (except sometimes first four species). Panicle branches scarcely divided. Spikelets few, rarely more numerous, scarcely under 2 lines long. No male flowers.

Spikelets nearly or sometimes quite sessile.—11. *P. foliosum*.

Spikelets few, distinctly pedicellate in a loose spreading panicle.

Spikelets 3 lines long, glabrous. Fruiting glume raised above the others on a stipes dilated at the top. Panicle pedunculate.—19. *P. majusculum*.

Spikelets 2 lines long, glabrous. Fruiting glume raised above the others. Panicle scarcely exceeding the floral leaves.—24. *P. pauciflorum*.

Panicle narrow or spreading. Spikelets numerous, 1 to near 2 lines long. A male flower in the third glume.

Spikelets crowded on the smaller branches. Glumes acute or acuminate; nerves of the second very prominent and rigidly ciliate.—32. *P. semitonsum*.

Spikelets crowded or clustered on the smaller branches. Glumes acute or acuminate, not ciliate.—1. *P. antidotale*.

Spikelets often numerous, shortly pedicellate not clustered. Glumes acute or acuminate.—29. *P. repens*.

Spikelets numerous, on rather long pedicels. Glumes acute.—4. *P. capillipes*.

Spikelets $\frac{1}{2}$ to $\frac{3}{4}$ line long. No male flower.—35. *P. trichoides*.^{*}

Spikelets usually numerous, 1 to near 2 lines long, pedicellate. No male flower.—3. *P. Buncei*.

Panicle spreading with numerous capillary branches.

Lower panicle branches clustered but scarcely verticillate.—8. *P. decompositum*.

Lower panicle branches verticillate. Outer glume nearly as long as the others. A palea in the third glume.—34. *P. trachyrachis*.

1. *P. antidotale*, Retz.—160 miles N. of Camp IV., G. F. Hill (No. 428), 4/7/1911.

Recorded. N.W. Coast, Point Cunningham, Cygnet Bay, A. Cunningham, Enderby Island, Walcot.

2. *P. argenteum*, R. Br.—Recorded. Islands of the Gulf of Carpentaria, R. Brown.

Silver-spiked Grass. A decorative as well as a useful pasture grass.

3. *P. Buncei*, F. v. M.—Near Bauhinia Downs, G. F. Hill (No. 821), 22/3/1912.

Sandy soil near creeks. Fair stock grass.

Borrooloola, G. F. Hill (No. 607), 9/10/1911.

4. *P. capillipes*, Benth.—Batchelor Farm, G. F. Hill (2nd Series, No. 42), 23/1/1913.

Recorded. Escape Cliffs, Hulse ; Port Darwin, Schultz (No. 806).

5. *P. colonum*, Benth.—Port Essington, Armstrong ; Upper Victoria River, F. v. Mueller.

A good fodder grass.

6. *P. Crus-galli*.—Lake Woods, G. F. Hill (No. 484), 3/8/1911.

Borrooloola, G. F. Hill (No. 727), 13/1/1911.

Recorded. Victoria River and M'Adam Range, F. v. Mueller.

Cockshin Grass. Excellent fodder. Seeds form bird food.

7. *P. ctenanthum*, F. v. M.—Hooker's and Sturt's Creeks, F. v. Mueller ; Dampier's Archipelago, Walcot.

8. *P. decompositum*, R. Br.—Five-mile Bar, MacArthur River, G. F. Hill (No. 741), 6/2/1912.

Newcastle Waters, G. F. Hill (No. 476), 17/7/1911.

Cullen Creek, Gilruth and Spencer, July-August, 1911.

10 miles W. of Hugh River, Macdonnell Ranges, G. F. Hill (No. 155), 6/5/1911. Alt., 2500 ft.

Camp III., Lander Creek, G. F. Hill (No. 320), 10/6/1911.

Recorded. Gulf of Carpentaria, R. Brown ; Victoria and Fitzmaurice Rivers, F. v. Mueller ; Cygnet Bay, A. Cunningham. Barley Grass, Papa Grass, an excellent pasture grass. Seed used by natives as food.

9. *P. distachyum*, Linn.—Northern Territory, Gilruth and Spencer, July August, 1911.

10. *P. flavidum*, Retz.—Upper Victoria River, F. v. Mueller.

11. *P. foliosum*, R. Br.—Okey Creek, G. F. Hill (No. 783), 16/2/1912.

A good fodder grass ; good foliage and abundance of grain.

12. *P. gibbosum*, R. Br.—North Coast, R. Brown ; Victoria River, F. v. Mueller.

13. *P. Gilesii*, Benth.—Charlotte Waters, Giles.

14. *P. gracile*, R. Br.—Port Essington, Armstrong.

15. *P. helopus*, Trin. Var. *glabrior*, Benth.—Lower Victoria River F. v. Mueller.

16. *P. holosericeum*, R. Br.—Near Western Creek, G. F. Hill (No. 752), 15/2/1912.

Recorded. Islands of the Gulf of Carpentaria, R. Brown ; Victoria River, F. v. Mueller ; Port Darwin, Schultz (Nos. 14, 113, 136, 138, 830) ; Arnhem's Land, M'Kinlay.

17. *P. indicum*, Linn.—Near M'Adam Range, F. v. Mueller ; Port Darwin, Schultz (No. 184) ; between Norman and Gilbert Rivers, Gulliver.

18. *P. leucophaeum*, H.B.K. (*P. lanatum*, Rottb.).—25 miles N.E. of Camp II., G. F. Hill (No. 246), 7/6/1911.

Camp III., Lander Creek, G. F. Hill (No. 321), 10/6/1911.

35 miles N.E. of Camp II., G. F. Hill (No. 255), 7/6/1911.

19. *P. majusculum*, F. v. M.—Northern Territory, Gilruth and Spencer, July-August, 1911.

Recorded, Victoria River, Elsey.

20. *P. myosuroides*, R. Br.—Victoria River, F. v. Mueller; Port Darwin, Schultz (No. 344).

21. *P. orthostachyum*, Ewart and Davies (*Digitaria orthostachyus*, Stapf and Jesson).—Darwin, G. F. Hill (Series III., No. 4), 2/3/1914.

Sandstone Ranges, Western Creek, G. F. Hill (No. 750), 15/2/1912.

Near Darwin, C. J. F. Allen, Jan.-March, 1914.

This species was first collected in 1912, and was in process of description as a new species, when it was found that specimens collected in 1914 had been forwarded to Kew, and described by Stapf and Jesson (Kew Bulletin, 1915, p. 93) as a new species under *Digitaria*. There is nothing to add to the description given. Large as is the genus *Panicum* (300 species) it is not larger than such genera as *Eucalyptus*, *Acacia*, and *Euphorbia*, and the morphological distinctions upon which its subdivision into smaller genera is based are not larger than those existing in the genera mentioned.

22. *P. papposum*, R. Br.—Five-mile Bar, MacArthur River, G. F. Hill (No. 701), 30/12/1911.

Recorded. Arnhem South Bay, R. Brown.

23. *P. parviflorum*, R. Br. *Var. pilosa*, Bail.—Five-mile Bar, MacArthur River, G. F. Hill (No. 707), 30/12/1911. Good pasture.

24. *P. pauciflorum*, R. Br.—Near Western Creek, G. F. Hill, 15/2/1912.

Recorded. Islands of the Gulf of Carpentaria, R. Brown.

25. *P. piligerum*, F. v. M.—Victoria River, F. v. Mueller. An excellent hay grass.

26. *P. polyphyllum*, R. Br.—Islands off the North Coast, R. Brown; Port Essington, Armstrong; Port Darwin, Schultz (Nos. 34, 148, 191, 818).

27. *P. prostratum*, Lam.—Upper Victoria River, F. v. Mueller; Gulf of Carpentaria, Landsborough.

28. *P. rarum*, R. Br.—Islands of the N. Coast, R. Brown.

29. *P. repens*, Linn.—N.W. Coast, Point Cunningham, Cygnet Bay, A. Cunningham; Enderby Island, Walcot.

30. *P. sanguinale*, Linn.—Northern Territory, Gilruth and Spencer, July-August, 1911.

Five-mile Bar Camp, MacArthur River, G. F. Hill (No. 706), 30/12/1911.

Recorded. Port Essington, Armstrong.

Poisonous. According to Greshoff acts as emetic. Contains Prussic Acid (Brunnich). Summer grass. Excellent for hay (Bailey), but a weed in cultivation.

31. *P. semialatum*, R. Br.—Five-mile Bar, MacArthur River, G. F. Hill (No. 535), 28/1/1912.

Northern Territory, Gilruth and Spencer, July-August, 1911.

Borrooloola, G. F. Hill (Nos. 659 and 712), 5/12/1911 and 13/1/1912.

MacArthur River, at Black Rocks, G. F. Hill (No. 651), 22/10/1911.

Upper Victoria River and M'Adam Range, F. v. Mueller; Escape Cliffs, Hulse; Sweers Island, Henne; Port Darwin, Schultz (Nos. 146, 192, 662, 784, 801); Port Essington, Armstrong.

32. *P. semitonsum*, F. v. M.—Victoria River, Elsey; Near Providence Hill, F. v. Mueller.

33. *P. stenostachyum*, Benth.—Upper Victoria River, F. v. Mueller.

34. *P. trachyrhachis*, Benth.—Victoria River, Elsey; Port Darwin, Schultz (No. 343); Arnhem's Land, M'Kinlay. Coolibar grass.

35. *P. trichoides*, Sw.—Port Darwin, Schultz. (No. 264).

P. tubulatum, Haeck.; *P. brevifolium*, Linn.; *P. effusum*, R. Br.; *P. Mitchellii*, Benth.; recorded in National Herbarium Census from North Australia.

18. SETARIA, BEAUV. 1807.

(*Isophorus Schlecht*, 1861-2).

Fruiting glume transversely rugose. Awnlike panicle-branches, scabrous, with erect teeth.

Panicle cylindrical, simple, 1 to 1½ in. long, the spikelets solitary at the base of the awn-like branches.—1. *S. glauca*.

Panicle dense or interrupted, 3 to 8 in. long, the spikelets clustered near the base of the awnlike branches.—2. *S. macrostachya*.

Fruiting glume smooth. Spikelets more or less clustered.

Awnlike panicle branches, scabrous, with erect teeth.—4. *S. viridis*.

Awnlike panicle branches, scabrous, with reversed teeth.—3. *S. verticillata*.

1. *S. glauca*, Beauv.—Batchelor Farm, G. F. Hill (2nd Series, No. 40), 23/2/1913.

Recorded by various collectors from numerous localities. Pigeon grass. A good fodder.

2. *S. macrostachya*, H. B. K.—Hermansburg, Finke River, G. F. Hill (No. 79), 12/3/1911.

Recorded. Port Darwin, Schultz (No. 272). Good fodder.

3. *S. verticillata*, Beauv.—Dampier's Archipelago and Nichol Bay, Walcot.

4. *S. viridis*, Beauv.—Five-mile Bar Camp, MacArthur River, G. F. Hill (No. 702), 30/12/1911.

Dampier's Archipelago, A. Cunningham.

19. CENCHRUS, LINN.

Leaves glabrous. Involucre under 4 lines long, the inner bristles or lobes lanceolate, not ciliate, inflexed when in fruit.—2. *C. inflexus*.

Leaves softly villous. Involucres 5 lines long, the inner bristles or lobes shortly ciliate. Spikelets usually three.—1. *C. elymoides*.

1. *C. elymoides*, F. v. M.—Sturt's Creek, F. v. Mueller; Port Darwin, Schultz (Nos. 59, 193). A coarse tropical fodder grass.

2. *C. inflexus*, R. Br.—Arnhem N. Bay, R. Brown. Hillside Burr Grass.

C. tribuloides, L.—Darwin, G. F. Hill, (2nd Series, No. 57), 1/4/1913. An introduced alien.

20. PENNISETUM, RICH.

1. *P. arnhemicum*, F. v. M.—Upper Victoria River, F. v. Mueller.

P. refractum, F. v. M.; recorded in National Herbarium Census from North Australia.

21. CHAMAERAPHIS, R. B.

Panicle spreading, with distant spikelets on filiform branches. Fruiting glume short and obtuse.—2. *C. spinescens*.

Panicle spike-like and close, the spikelets all solitary at the base of the long awn-like branches. Fruiting glume acuminate. Outer glume scarcely prominent, callous and truncate.—1. *C. hordeacea*.

1. *C. hordeacea*, R. Br.—Islands off the North Coast, R. Brown.

2. *C. spinescens*, Poir.—*Var. parvispicula*, Benth.—Islands of the Gulf of Carpentaria, R. Brown; between the Norman and Gilbert Rivers, Gulliver.

22. XEROCHLOA, R. BR. 1810.

Spikelets glabrous.—2. *X. imberbis*.

Pedicle second glume and palea of the third glume densely bearded, at least in the upper spikelets.—1. *X. barbata*.

Pedicle second glume and palea of the third glume covered with long intricate woolly hairs.—3. *X. laniflora*.

1. *X. barbata*, R. Br.—Carrington's Landing, MacArthur River, G. F. Hill (No. 594), 20/9/1911.

160 miles W. of Camp IV., G. F. Hill (No. 422), 3/7/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Albert River, Henne.

2. *X. imberbis*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; Cygnet Bay, A. Cunningham; Victoria River and Sturt's Creek, F. v. Mueller; Port Darwin, Schultz (No. 337).

3. *X. laniflora*, Benth.—40 miles N.W. of Camp IV., G. F. Hill (No. 381), 24/6/1911.

Recorded. Sturt's Creek, F. v. Mueller.

23. STENOTAPHRUM, TRIN.

1. *S. americanum*, Schrank (*S. dimidiatum*, Trin.).—N.W. Coast, Wickham; Foul Point, A. Cunningham. Buffalo grass. Useful as a coarse lawn grass in hot climates, but browned by frost, and a low-grade pasture plant.

24. THUAREA, PERS.

1. *T. sarmentosa*, Pers.—Arnhem North Bay, R. Brown. Beach grass.

25. SPINIFEX, LINN. 1771.

(*Ixalum*, Forsk., 1786).

Heads of spikelets several inches in diameter. Male spikelets in spikes of 1 to 1½ in. Females at the base of rigid rachises of 3 to 4 in.—1. *S. longifolius*.

Heads of spikelets not above 1 in. diameter. Male spikelets solitary or clustered within small bracts. Females within broad bracts, the rachis shorter than the spikelets and sometimes minute or obsolete.—2. *S. paradoxus*.

1. *S. longifolius*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; Careening Bay, A. Cunningham; Quail Island, Flood; Nichol Bay, Walcott; Port Darwin, Schultz (Nos. 199, 200).

2. *S. paradoxus*, Benth.—Hermansburg, Finke River, G. F. Hill (No. 82) 12/3/1911. Both coarse spiny drought-resistant grasses of slight pasture value.

26. ORYZA, LINN.

1. *O. sativa*, Linn.—Marshes about Hooker and Sturt's Creeks, F. v. Mueller. Wild Rice. Produces an excellent fodder, as well as grain.

27. ARISTIDA, LINN. 1753.

(*Arthratherum*, Beauv., 1812; *Chaltaria*, Beauv., 1812; *Kielboul*, Adans., 1863; *Molinsia*, Rafin, 1830; *Ortachne*, Nees., 1852-7; *Schistachne*, Figar. and De Nol., 1832; *Streptachne*, H. B. and K., 1815; *Trixostis*, Rafin, 1830).

Of very little economic value. Three-awned Spear grasses. Not desirable grasses.

Section I. Awn articulate on the glume, entire and spirally twisted below the branches. Flowering glume much shorter than the outer ones.

Awn 2 to 3 in. long below the branches, which are at least as long.—4. *A. hygrometrica*.

Awn about $1\frac{1}{2}$ in. below the branches, which vary from $1\frac{1}{2}$ to $2\frac{1}{2}$ in.—7. *A. stipoides*.

Awn $\frac{1}{2}$ to $\frac{3}{4}$ in. below the branches, which vary from 1 to 3 in.—1. *A. arenaria*.

Section II. Awn not articulate and divided to the glume into three branches, the glume itself when barren sometimes twisted but not the awn. Flowering glume about as long or longer than the outer ones.

Panicle-branches very long, at length spreading, with few spikelets on long pedicels. Glumes at least $\frac{1}{2}$ in. long.—5. *A. leptopoda*.

Panicle narrow, rather loose. Outer glumes as long as the flowering ones.

Glumes scarcely 3 lines. Awns under $\frac{1}{2}$ in. long.—6. *A. ramosa*.

Glumes, 4 to 5 lines. Awns $\frac{3}{4}$ to 1 in. long.—2. *A. calycina*.

Panicle narrow, dense. Spikelets sessile and crowded on the short branches. Glumes 3 lines or the flowering ones rather longer. Awns 4 to 6 lines.—3. *A. depressa*.

1. *A. arenaria*, Gaud.—Hermansburg, Finke River, G. F. Hill (No. 56), 11/3/1911.

15 miles E. of Crown Point, G. F. Hill (No. 24), 1/3/1911.

Nichol Bay, Mrs. M'Croud.

2. *A. calycina*, R. Br.—Hermansburg, Finke River, G. F. Hill (No. 74), 11/3/1911.

75 miles W. of Powell's Creek, G. F. Hill (No. 452).

Alice Springs, G. F. Hill (No. 130), 24/4/1911. With smut.

75 miles N.W. of Camp III., G. F. Hill (No. 344), 14/6/1911.

35 miles N.E. of Camp II., G. F. Hill (No. 249), 7/6/1911.

Near Hugh River, Macdonnell Ranges, G. F. Hill (No. 138), 4/5/1911.

Recorded. Upper Victoria River, F. v. Mueller; Port Darwin, Schultz (No. 765).

3. *A. depressa*, Retz.—Lat. 29 degrees 16 minutes, N.T. Survey Route, G. F. Hill (No. 428), 4/7/1911.

4. *A. hygrometrica*, R. Br.—Between Borrooloola and Tanumbirini, G. F. Hill (No. 822), 23/3/1912.

Generally on poor sandy country; useless for stock.

Borrooloola, G. F. Hill, 23/2/1912. On all higher localities.

Northern Territory, Gilruth and Spencer, July-August, 1911.

Recorded. Arnhem N. Bay, R. Brown; Upper Victoria River, F. v. Mueller.

The awns bore into the skins of animals and occasionally reach the intestines, thus causing death.

5. *A. leptopoda*, Benth.—Northern Territory, Gilruth and Spencer, July-August, 1911.

6. *A. ramosa*, R. Br.—Near Western Creek, G. F. Hill (No. 780), 16/2/12.

7. *A. stipoides*, R. Br.—Borrooloola, G. F. Hill (No. 608), 9/10/1911.

90 miles W. of Powell's Creek, G. F. Hill (No. 440), 6/7/1911.

Five-Mile Bar Camp, MacArthur River, G. F. Hill (No. 699), 30/12/1911.

Northern Territory, Gilruth and Spencer, July-August, 1911.

Newcastle Waters, G. F. Hill (No. 491), 7/7/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Gilbert River, Sullivan; Nicholson and Upper Victoria Rivers, F. v. Mueller; Port Darwin, Schultz, (No. 82); Dampier's Archipelago, Walcot.

28. SPOROBOLUS, R. BR. 1810.

(*Agrosticula*, Raddi., 1823; *Bennetia*, Rafin., 1830; *Cryptostachys*, Steud., 1855; *Diachyrium*, Griseb., 1874; *Heleochoa*, Beauv., 1812; *Sperma-chiton*, Llanos, 1851; *Triachyrum*, Hochst., 1841; *Vilfa*, Beauv., 1812).

Panicle narrow, spikelike, continuous or interrupted, the short erect branches flowering from the base.—3. *S. virginicus*.

Panicle loosely pyramidal, the branches spreading in regular distant whorls.

Spikelets loosely pedicellate, minute.—2. *S. pulchellus*.

Spikelets nearly sessile, crowded along the branches.—1. *S. actinocladus*.

1. *S. actinocladus*, F. v. M.—Sturt's Creek, F. v. Mueller. A good sheep grass.

2. *S. pulchellus*, Br.—Newcastle Waters, G. F. Hill (No. 495), 7/7/1911.

Tanumbirini, G. F. Hill (No. 825), 27/3/1912.

Recorded. North Coast, R. Brown; Upper Victoria River, F. v. Mueller; Port Darwin, Schultz (No. 112); Escape Cliffs, Hulse. Good feed, probably does not last well. A good sheep grass.

3. *S. virginicus*, Kunth.—Lake Woods, G. F. Hill (No. 487), 3/8/1911.

Will grow on brackish land along the coast.

Var. pallida, Benth.—Recorded. Gulf of Carpentaria, R. Brown; Sturt's Creek, F. v. Mueller; Port Darwin, Schultz (Nos. 645, 749, 760).

S. Lindleyi, Benth.—Recorded in National Herbarium Census from North Australia.

29. ERIACHNE, R. BR. 1810.

(*Achneria*, Beauv., 1812; *Megalachne*, Theo., 1864).

Most species good for pasture.

Awns much longer than the glumes. Panicle dense. Spikelets sessile or nearly so.

Palea produced into two fine awnlike points.

Outer glumes glabrous, nearly 4 lines long. Awn above 1 in. long.—14. *E. stipacea*.

Outer glumes hairy, 2 to 2½ lines long. Awn scarcely 1 in.—3. *E. Armitii*.

Palea-point short, entire or minutely notched.

Nodes densely bearded. Outer glumes hairy, nearly 4 lines long.

Awn about 1 in.—14. *E. squarrosa*.

Nodes glabrous. Outer glumes hairy, about 2 lines long. Awn under ½ in.—8. *E. glauca*.

Awns much longer than the glumes. Panicle loose, with few pedicellate spikelets. Leaves narrow, hispid, with spreading hairs.—1. *E. agrostidea*.

Awns not longer than the glumes. Panicle loose. Spikelets pedicellate, usually few.

Leaves narrow, hispid. with spreading hairs. Small slender plants.

Outer glumes $1\frac{1}{2}$ lines, glabrous.—6. *E. ciliata*.

Outer glumes, 2 to $2\frac{1}{2}$ lines, shortly hairy.—13. *E. setacea*.

Leaves glabrous.

Leaves subulate. Outer glumes glabrous, about 4 lines long.

Flowering glumes ciliate only.—4. *E. avenacea*.

Leaves flat. Outer glumes hairy, about 4 lines long.

Flowering glume hairy all over.—2. *E. aristidea*.

Panicle narrow, rather more dense, Outer glumes glabrous, about 3 lines long.—7. *E. festucacea*.

Awn none or reduced to a very small point.

Panicle narrow. Spikelets pedicellate. Outer glumes about 3 lines long.

Low plant, with filiform hispid leaves.—9. *E. melicacea*.

Tall plant, with glabrous flat leaves.—11. *E. pallida*.

Panicle loose or reduced to two or three spikelets. Outer glumes not above 2 lines long.

Leaves short, spreading, pungent-pointed, the sheaths covering the short branching stems.—12. *E. scleranthoides*.

Leaves not pungent, the upper ones distant. Spikelets about 2 lines long.—10. *E. obtusa*.

Leaves very fine, hirsute. Small plant. Spikelets Agrostis-like, about 1 line long.—5. *E. capillaris*.

Panicle, dense ovate or oblong.

Outer glumes 14-19-nerved.—17. *E. nervosa*.

Outer glumes fewer nerved, plants smaller.—16. *E. ovata*.

1. *E. agrostidea*, *F. v. M.*—Port Darwin, Schultz (No. 143) ; North Coast of Arnhem's Land, K'Kinlay.

2. *E. aristidea*, *F. v. M.*—Camp III., Lander Creek, G. F. Hill (No. 322), 10/6/1911.

Recorded. Charlotte Waters, Giles.

3. *E. Armitii*, *F. v. M.*—Gilbert River, Armit. ; Norman River, Gulliver.

4. *E. avenacea*, *R. Br.*—Near Darwin, G. F. Hill (2nd Series, No. 94), 26/7/1913.

Recorded. Cavern Island, R. Brown ; Victoria River and M'Adam Range, *F. v. Mueller* ; Port Darwin, Schultz, (No. 350) ; Port Essington, Armstrong.

5. *E. capillaris*, *R. Br.*—Arnhem Land, N. Coast, R. Brown.

6. *E. ciliata*, *R. Br.*—Borrooloola, G. F. Hill (No. 710), 13/1/1912.

Recorded. Arnhem Land, R. Brown ; M'Kinlay ; Port Darwin, Schultz ; Escape Cliffs, Hulse ; Between Norman and Gilbert Rivers, Gulliver.

7. *E. festucacea*, *F. v. M.*—Careening Bay, N.W. Coast, A. Cunningham ; Upper Victoria and Fitzmaurice Rivers, *F. v. Mueller*.

8. *E. glauca*, *R. Br.*—Islands of the Gulf of Carpentaria, R. Brown ; Victoria River and Sturt's Creek, *F. v. Mueller*.

9. *E. melicacea*, *F. v. M.*—Upper Victoria River, *F. v. Mueller*.

10. *E. obtusa*, *R. Br.*—Five-mile Bar, MacArthur River, G. F. Hill (No. 734a), 28/1/1912.

Northern Territory, Gilruth and Spencer, July-August, 1911.

Tanumbirini, G. F. Hill (No. 824), 27/3/1912. Gives good feed for stock.

Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne; Upper Victoria River and Sea Range, F. v. Mueller; Cambridge Gulf and Cygnet Bay, N.W. Coast, A. Cunningham; Port Darwin, Schultz (No. 800).

Var. major, Ewart and Davies.—Much taller and more robust than type. Up to or exceeding 3 ft. Edges of leaves rougher with stiff hairs.

Five-mile Bar, MacArthur River (No. 704), G. F. Hill, 30/12/11.

11. *E. pallida*, F. v. M.—Dampier's Archipelago, Walcot.

12. *E. scleranthoides*, F. v. M.—35 miles N.E. of Camp II., G. F. Hill (No. 250), 7/6/1911.

Alice Springs, G. F. Hill (No. 129), 24/4/1911. On hills.

60 miles N.E. of Camp II., G. F. Hill (No. 294), 7/6/1911.

13. *E. setacea*, Benth.—N. Coast of Arnhem's Land, M'Kinlay.

14. *E. squarrosa*, R. Br.—Victoria River, Elsey.

15. *E. stipacea*, F. v. M. *Var. Schultziiana*, Benth.—Port Darwin, Schultz (Nos. 159, 183).

16. *E. ovata*, Nees.—Recorded in Mueller's Census from North Australia. The variety *pallida* of this species was collected at Lake Eyre by Andrews, and at Charlotte Waters by Giles.

17. *E. nervosa*, Ewart and Cookson. (Plate III.)

A stiff grass, erect stems about 2 ft. high, arising from a woolly horizontal rhizome. Glabrous in all parts except spikelets. Leaves narrow, subulate.

Panicle dense from $4\frac{1}{2}$ to $5\frac{1}{2}$ inches long. Spikelets pedicellate, lateral spikelets on short pedicels, terminal spikelet on a pedicel about as long as the glumes. Outer glumes persistent, firm, acute, 14 to 19-nerved, deeply concave, with slightly scarious edges. Outer and inner glumes of approximately equal length, being 3 to 4 lines long. Flowering glumes longer than outer glumes, densely hairy to about the middle, tapering to a short awn-like point. Palea slightly shorter than flowering glume, minutely bifid with a few hairs on back. Two large lodicules are situated at the base of the ovary.

The nearest affinity is to *Eriachne ovata* var. *pallida*, but *Eriachne nervosa* is a much larger plant, and the outer glumes are more rigid and have 14-19 nerves.

10 miles West of Eva Downs, G. F. Hill (No. 523), 19/8/11.

30. MICROCHLOA, R. BR.

1. *M. setacea*, R. Br.—Arnhem N. Bay, R. Brown.

31. CYNODON, RICH., 1805.

(*Capriola*, Adans., 1763; *Dactylon*, Vill., 1787; *Fibichia*, Koel., 1802).

Flowering glume pubescent. Palea with 2 prominent distant nerves.—

3. *C. tenellus*.

Flowering glume ciliate with long hairs on the keel and margins. Palea very narrow, the two nerves closely contiguous, forming a ciliate keel.—2. *C. convergens*.

Flowering glume with a horizontal ring of long spreading hairs below the point. Palea rather broad, with two distant nerves, and a ring of hairs like the flowering glume.—1. *C. ciliaris*.

1. *C. ciliaris*, Benth.—Charlotte Waters, Giles.

2. *C. convergens*, F. v. M.—Borrooloola to Tanumbirini, G. F. Hill (No. 819), 26/3/1912.

Upper Victoria River, F. v. Mueller. Very good stock grass.

3. *C. tenellus*, R. Br.—Arnhem S. Bay, R. Brown; Upper Victoria River, F. v. Mueller.

32. CHLORIS, Sw. 1788.

(*Chlorides*, Fisch., 1863; *Eustachys*, Desv., 1800; *Heterolepis*, Ehrenb., 1881; *Macrostachya*, Hochst., 1851; *Phacellaria*, Willd., 1840; *Schultesia*, Spreng., 1815).

Usually good pasture grasses.

Spikes digitate, slender. Spikelets acute. Flowering glume usually with a tooth, lobe or short awn on each side of the terminal one.

Spikes few, about 1 in. long. Lobes of the flowering glume awned.—

4. *C. pumilio*.

Spikes numerous, 2 to 3 inches long. Spikelets closely approximate and regularly pectinate. Flowering glume 2-fid, unawned, usually scabrous.—3. *C. pectinata*.

Spikes 6 to 12 or more, 3 to 6 inches long:

Spikelets rather crowded, 2 lines long. Flowering glume with a fine tooth or point on each side of the awn.—2. *C. divaricata*.

Spikelets distant, 3 lines long. Flowering glume tapering into the awn or very minutely toothed.—1. *C. acicularis*.

Spikes digitate, dense, 1 to 2 inches long.—5. *C. scariosa*.

1. *C. acicularis*, Lindl.—66 miles N.E. of Camp II., G. F. Hill (No. 289a) 7/6/1911.

Idracowra Station, Finke River, G. F. Hill (No. 30), 5/3/1911.

15 miles E. of Hermansburg, Finke River, G. F. Hill (No. 101), 21/3/1911.

2. *C. divaricata*, R. Br.—Sturt's Creek, F. v. Mueller. Star Grass. .

3. *C. pectinata*, Benth.—Charlotte Waters, Giles. An excellent pasture grass.

4. *C. pumilio*, R. Br.—Islands off the N. Coast, R. Brown; Norman River, Gulliver.

5. *C. scariosa*, F. v. M.—Sturt's Creek, F. v. Muller.

C. barbata, Sw., *C. pallida*, Hack, are recorded in National Herbarium Census from North Australia.

33. ASTREBLA, F. v. M. 1876.

Spikelets closely imbricate on one side of a second spike of 2 to 3 in. Awn about as long as the lateral lobes.—1. *A. pectinata*.

Awn much longer than the lateral lobes, straight or hooked.

Spikelets at some distance, almost erect in a second spike of 3 to 6 inches.—2. *A. triticoides*.

Spikelets in the notches of the indented axis.—3. *A. elymoides*.

1. *A. pectinata*, F. v. M.—30 miles S.E. of Newcastle Waters, G. F. Hill (No. 501), 9/8/1911.

Northern Territory, G. F. Hill (No. 466), 1911.

Common Mitchell grass.

Recorded. Sturt's Creek, F. v. Mueller.

2. *A. triticoides*, F. v. M.—Sturt's Creek, F. v. Mueller.

3. *A. elymoides*.—This species was ascribed by Bailey (Grasses of Queensland) to Baron von. Mueller. No published description is to be found apart from that given by Bailey. Only one specimen of it existed in the National Herbarium from Darr River; this was first named *Danthonia lappacea* var., and subsequently labelled *D. elymoides*, F. v. M., n.sp., but no description of it made under either *Danthonia* or *Astrebla*. As the description given by Bailey is incomplete and the figure a photograph only, the following amended description with plate showing the structure is given. It is one of the grasses commonly known as Mitchell grass in N. Australia. (Plate IV.)

A grass about 2 ft. high with erect branching stems arising from a rhizomic base. All parts glabrous, except spikelets. Leaves with long sheathing bases and broad flat blades, which taper to long points.

Inflorescence a spike from 5.5 to 13 inches long. First two spikelets inserted on the somewhat twisted rachis at some distance from one another. Spikelets sessile in the alternate notches of the rachis of spike, 6-8 inches long, with two or more hermaphrodite flowers, the rachis of the spikelet hairy round flowering glumes and terminating, above the fertile flowers, in a small hyaline, empty glume. Outer glumes two, glabrous, acute, of very unequal size. Lowest glume small, about 2 lines long, varying in shape, thin and hyaline with one prominent central nerve. Second glume thin, 6-7 lines long, 9-11 nerved with a wide hyaline margin. Flowering glume firm, deeply concave with scarious edges, entire part about $2\frac{1}{2}$ lines long, with three lobes, middle one produced into a short straight awn, two lateral ones smaller, rigid, narrow, tapering to sharp points, 3-nerved, somewhat spreading. Palea flat, acute, with two prominent ciliate nerves. Grain oblong, 2 to 3 lines long, with an oval hilum.

30 miles S.E. Newcastle Waters, (G. F. Hill (No. 502), 9/8/11.

34. ELEUSINE, GAERTN. 1778.

(*Acrachne*, Wright and Arn., 1836; *Dactyloctenium*, Willd., 1809).

Spikes digitate, short. Spikelets very closely packed, the glumes very pointed, the second outer one almost awned.—1. *E. aegyptiaca*.

Spikes 6 to 12, scattered or the upper ones digitate. Glumes pointed, the flowering ones with a small tooth on each side of the point.—2. *E. verticillata*.

1. *E. aegyptiaca*, Pers. Desf.—Hermansburg, Finke River, G. F. Hill (No. 110), 21/3/1911.

Five-mile Bar, MacArthur River, G. F. Hill (No. 729), 27/1/1912.

Recorded. Gulf of Carpentaria, R. Brown, Gulliver; Sir Charles Hardy's Island, Henne; Port Essington, Armstrong; Victoria River, F. v. Mueller; Dampier's Archipelago, Walcot. Button grass.

2. *E. verticillata*, Roxb.—Dampier's Archipelago and Exmouth Gulf, Walcot.

35. LEPTOCHLOA, BEAUV. 1812.

(*Leptostachys*, D. F. W., Mey., 1818; *Oxydenia*, Nutt., 1818; *Rabdochloa*, Beauv., 1812).

Spikelets, 5 or 6-flowered. Flowering glume rather obtuse.—2. *L. subdigitata*.

Spikelets 1-flowered. Flowering glumes acute. Spikes slender, scattered along the long slender rachis.—1. *L. polystachya*.

1. *L. polystachya*, Benth.—Near MacArthur River, edge of swamps, G. F. Hill (No. 588), 17/9/1911. With rust on leaves.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Victoria River, F. v. Mueller; Etheridge and Gilbert Rivers, Sullivan.

2. *L. subdigitata*, Trin., ex. Steud.—Hermansburg, Finke River, G. F. Hill (No. 73), 11/3/1911. Borrooloola, G. F. Hill (No. 606), 9/10/1911. A papery layer of wax on the older stems of No. 73.

Recorded. Sturt's Creek, F. v. Mueller; Upper Murchison and Warren Rivers, Walcot. Cane grass.

36. PAPPOPHORUM, SCHREB. 1791.

(*Enneapogon*, Desf., 1812; *Euraphis*, Trin., 1847; *Polyraphis*, Lindl., 1847).

Outer glumes 1 to 2 lines long, 5 to 9-nerved.—2. *P. nigricans*.

Outer glumes 3 lines long, 11 to 21-nerved.—1. *P. avenaceum*.

1. *P. avenaceum*, Lindl.—Between Alice Springs and Charlotte Waters, Giles.

2. *P. nigricans*, R. Br.—About 30 miles N.W. of Twitchera Gap, Macdonnell Ranges, G. F. Hill (No. 158), 10/5/1911.

Hermansburg, Finke River, G. F. Hill (Nos. 55 and 81), 11 and 12/3/1911.

35 miles N.E. of Camp II., G. F. Hill (No. 247), 7/6/1911.

60 miles N.E. of Camp II., G. F. Hill (No. 247), 7/6/1911.

35 miles S.W. of Newcastle Waters, G. F. Hill (No. 465), 9/7/1911.

Newcastle Waters, G. F. Hill (No. 490), 7/7/1911.

Henbury Station, G. F. Hill (No. 51), 10/3/1911

Providence Knoll, Gilruth and Spencer, July-August, 1911.

Tanumbirini, G. F. Hill (No. 823), 27/3/1912.

Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne; Victoria River, Elsey, F. v. Mueller; Nichol Bay, and Dampier's Archipelago, Walcot. Good feed, but does not last well.

Var. compacta, Ewart and Davies.—Hugh River, Macdonnell Ranges, G. F. Hill (No. 149), 6/5/1911.

Spike ovoid and very dense, $\frac{1}{2}$ to 1 in. long, broader at base than at the tip. Bracts still conceal the rachis after the seed has fallen. Leaves to about 6 in. high. Flowering stems over 1 ft. high.

Other specimens in the National Herbarium from:—Rockhampton, Gladstone, Townsville, Finke River, Macdonnell Ranges.

Hermansburg, Finke River, G. F. Hill (No. 69), 11/3/1911.

37. TRIRAPHIS, R. BR. 1910.

Panicle soft and dense. Flowering glumes hairy, with a pointed lobe or short awn on each side of the central awn.—2. *T. mollis*.

Panicle loose. Flowering glumes coriaceous, with three entire awned lobes.

Stems and leaves glabrous. Outer glumes under 2 lines long. Flowering glumes shortly, silky, pubescent.—3. *T. pungens*.

Stem and leaves glabrous. Outer glumes 5 to 6 lines long. Flowering glumes fringed on the keel with a double row of short hairs.—1. *T. bromoides*.

1. *T. bromoides*, F. v. M.—Sandstone Ranges, near Borrooloola, G. F. Hill (No. 717), 13/1/1912.

2. *T. mollis*, R. Br.—Batchelor Farm, G. F. Hill (2nd Series, No. 104), 26/7/1913.

Everywhere, Gilruth and Spencer, July-August, 1911.

160 miles N. of Camp IV., G. F. Hill (No. 424), 3/7/1911.

Near Hugh River, Macdonnell Ranges, G. F. Hill (No. 137), 4/5/1911.

Recorded, Arnhem's Land, F. v. Mueller; Dampier's Archipelago, Walcot. A good pasture grass.

3. *T. pungens*, *R. Br.*—40 miles S.W. of Newcastle Waters. G. F. Hill (No. 456), 8/7/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown ; Victoria River and Sea Range, F. v. Mueller ; Port Darwin, Schultz.

38. ELYTHROPHORUS, BEAUV. 1812.

(*Echinalysium*, *Trin.*, 1820).

1. *E. articulatus*, *Beauv.*—Cullen Creek, Gilruth and Spencer, July-August 1911.

Recorded. Victoria River, F. v. Mueller ; between Norman and Gilbert Rivers, Gulliver.

39. TRIODIA, R. BR.

Leaves very pungent, the sheaths usually viscid. Flowering glumes silky ciliate, divided nearly to the middle into three lobes.

Panicle narrow and dense. Spikelets pale coloured, 3 to 4 lines long, about 6-flowered.—4. *T. pungens*.

Panicle long, narrow and dense. Spikelets pale coloured, very numerous, under 3 lines long, about 3-flowered.—1. *T. Cunninghamii*.

Leaves not pungent. Flowering glumes glabrous or nearly so, with three short 1-nerved acute teeth. Panicle very long.

Spikelets 3 to $2\frac{1}{2}$ lines long, about 4-flowered. Flowering glume almost nerveless below the teeth.—3. *T. procera*.

Spikelets $1\frac{1}{2}$ to $2\frac{1}{2}$ lines long, 3 or 4-flowered. Nerves of the flowering glume continued below the teeth or to the base.—2. *T. microstachya*.

1. *T. Cunninghamii*, *Benth.*—Cambridge Gulf, N.W. Coast, A. Cunningham.

Var. major Ewart and Davies.—15 miles W. of Hugh River, Macdonnell Ranges, G. F. Hill (No. 136), 6/5/1911. Alt. 3000 ft.

Specimen without flowers. Seed fallen. Seems near *T. Cunninghamii*, *Benth* ; but with outer glumes narrow and more acute, and panicle 14 to 15 in. long. Placed provisionally as a new variety of *T. Cunninghamii*, but possibly an undescribed species.

2. *T. microstachya*, *R. Br.*—Islands off Arnhem's Land, R. Brown ; N.W. Coast, A. Cunningham ; Upper Victoria River, F. v. Mueller.

3. *T. procera*, *R. Br.*—Arnhem S. Bay, R. Brown ; Upper Victoria River, Hooker and Sturt's Creeks, F. v. Mueller.

4. *T. pungens*, *R. Br.*—35 miles N.E. Camp II., G. F. Hill, (No. 254), 7/6/11.

Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne ; N.W. Coast, A. Cunningham.

T. Mitchellii, *Benth.*—Recorded in National Herbarium Census from North Australia.

40. DIPLACHNE, BEAUV. 1812.

Spike slender, simple.—2. *D. loliiformis*.

Spikes numerous in a simple panicle.

Spikelets pale-coloured, 5-8 lines long, 8-12 flowered. Rachis with a tuft of long hairs under the glumes.—3. *D. Muellieri*.

Spikelets usually dark-coloured, 4 lines long or rather more, with more than 6 flowers, rachis glabrous or nearly so.—1. *D. fusca*.

Spikelets light-coloured, scarcely 3 lines long, with usually 5 or 6 flowers.—4. *D. parviflora*.

1. *D. fusca*, Beauv.—90 miles W. of Camp III., G. F. Hill (No. 353), 15/6/1911.

Recorded. Victoria River, F. v. Mueller.

A good pasture grass with good succulent feed. Will grow near brackish water.

2. *D. loliiformis*, F. v. M.—Between Alice Springs and Charlotte Waters, Giles.

3. *D. Muelleri*, Benth.—Sturt's Creek, F. v. Mueller.

4. *D. parviflora*, Benth.—Arnhem S. Bay, R. Brown; N.W. Coast, Hughan.

41. ERAGROSTIS, Host. 1809.

(*Cœlachyrum*, Nees, 1842; *Erochlæ Rafin*, 1825; *Exagrostis*, Steud., 1840; *Harpachne*, Hochst, 1841; *Macroblepharus*, Ohl., 1857-8; *Megastachya*, Beauv., 1812).

Love Grasses. Generally good pasture grasses.

Section I. Spikelets somewhat flattened, the glumes rather distant, loosely imbricate, overlapping the rachis at the base so as not to leave a longitudinal furrow, usually very thin with the lateral nerve on each side faint or marginal.

Spikelets usually 3 or 4-flowered, pedicellate, in a spreading panicle.—14.—*E. tenella*.

Spikelets linear, more than 6-flowered.

Spikelets numerous, pale-coloured, shining, shortly pedicellate and crowded on the long branches of a narrow panicle.—9. *E. leptocarpa*.

Spikelets numerous, very narrow linear, shortly pedicellate and distant along the capillary erect branches of the panicle.—10. *E. pilosa*.

Section II.—Spikelets when mature very flat. Glumes closely imbricate in two distinct rows, leaving a longitudinal furrow or depression between them on each side of the spikelet, the lateral nerve usually prominent in the middle of each side of the glume.

Base of the stems glabrous, not at all or scarcely thickened.

Spikelets narrow, about 3 lines long, crowded secund and spreading or reflexed on the short clustered branches of a simple panicle.

Glumes very acute.—11. *E. Schultzii*.

Spikelets under 3 lines, sessile in small dense globular or oblong clusters sessile along a simple rachis. Stamens usually 2.—4.

E. diandra.

Spikelets 3 to 6 lines, rather narrow, usually sessile and erect, scattered or clustered, rarely shortly pedicellate and spreading, in a simple or branched panicle. Stamens usually 3.—1. *E. Brownii*.

Spikelets 3 to 6 lines long, broad sessile and crowded on a short, almost simple, rachis. Palea-keels ciliate with long rigid hairs.—3.

E. concinna.

Spikelets narrow, clustered along the long erect branches of a narrow panicle. Palea narrow, truncate, glabrous, not above a third as long as the glume.—12. *E. speciosa*.

Base of the stem and short sheath of radical leaves thickened into an almost bulbous woolly-hairy base.

Spikelets shortly pedicellate, nearly 2 lines broad, the base of the flowering glumes woolly-hairy.—8. *E. laniflora*.

Spikelets sessile, scattered, glabrous, above 1 line broad.—5. *E. eriopoda*.

Spikelets shortly pedicellate, glabrous, about $\frac{3}{4}$ -line broad.—2. *E. chaetophylla*.

Section III.—Spikelets very narrow, terete or nearly so. Glume closely appressed.

Spikelets 10 to 30, flowered, rather obtuse, shortly pedicellate in a small panicle.—7. *E. lacunaria*.

Spikelets 12 to 50-flowered, obtuse, sessile, usually clustered, often incurved.—6. *E. falcata*.

Spikelets 8 to 10-flowered, rather acute, nearly sessile, divaricate, on the spreading branches of the panicle.—13. *E. stenostachya*.

1. *E. Brownii*, *Nees*.—Hugh River, Macdonnell Ranges, G. F. Hill (No. 136), 4/5/1911.

Cullen Creek, Gilruth and Spencer, July-August, 1911.

60 miles N.E. of Camp II., G. F. Hill (No. 290), 7/6/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne; Victoria River and Sturt's Creek, F. v. Mueller; Dampier's Archipelago, Walcot; Port Essington, Armstrong; Port Darwin, Schultz (Nos. 210, 312, 453).

Common Love Grass. Excellent for pasture.

Var. interrupta, *Benth.*—Cullen and Edith Creeks, Gilruth and Spencer, July-August, 1911.

2. *E. chaetophylla*, *Steud.*—Hermansburg, Finke River, G. F. Hill (No. 57), 11/3/1911.

90 miles N. $\frac{1}{2}$ W. of Camp III., G. F. Hill (No. 352), 15/6/1911.

Recorded. Cygnet Bay, N.W. Coast, A. Cunningham.

3. *E. concinna*, *Steud.*—Edith Creek, Gilruth and Spencer, July-August, 1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown.

4. *E. diandra*, *Steud.*—Near Haast's Bluff, Macdonnell Ranges, G. F. Hill (No. 197), 22/5/1911.

10 miles W. of Hugh River, G. F. Hill (154a), 6/5/1911.

Borrooloola, G. F. Hill (No. 585), 12/9/1911. On river banks.

Recorded. Upper Victoria River and Sturt's Creek, F. v. Mueller.

5. *E. eriopoda*, *Benth.*—110 miles N. of Camp IV., G. F. Hill (No. 407), 1/7/1911.

Hermansburg, Finke River, G. F. Hill (No. 80), 12/3/1911.

Recorded. Cygnet Bay, N.W. Coast, A. Cunningham; Dampier's Archipelago, Walcot.

6. *E. falcata*, *Gaud.*—Near Hugh River, Macdonnell Ranges, G. F. Hill (No. 139), 4/5/1911. Stunted specimens.

7. *E. lacunaria*, *F. v. M.*—35 miles N.E. of Camp II., G. F. Hill (No. 252), 7/6/1911.

8. *E. laniflora*, *Benth.*—Charlotte Waters towards West Australia, Giles.

9. *E. leptocarpa*, *Benth.*—35 miles N.E. of Camp II., G. F. Hill (No. 253), 7/6/1911; 10 miles W. of Hugh River, Macdonnell Ranges, G. F. Hill (No. 154), 6/5/1911. Alt., 2500 ft. Recorded. Charlotte Waters, Giles.

10. *E. pilosa*, *Beauv.*—Near Haast's Bluff, Macdonnell Ranges, G. F. Hill, (No. 198), 22/5/1911.

Weeping Love Grass. Weed in Queensland gardens, but good pasture grass.

11. *E. Schultzii*, Benth.—Port Darwin, Schultz (No. 81).
12. *E. speciosa*, Steud (*E. Brownii*).—60 miles N.E. of Camp II., G. F. Hill, 7/6/1911.
Recorded. Islands of the Gulf of Carpentaria, R. Brown.
One of the best fodder grasses in the tropics.
13. *E. stenostachya*, Steud (var. *floribunda*, Benth.).—Port Darwin, Schultz (No. 802).
14. *E. tenella*, Beauv.—Upper Victoria and Fitzmaurice Rivers, F. v. Mueller; Gulf of Carpentaria, Landsborough, Gulliver.

42. ECTROSIA, R. BR.

All good pasture grasses.

Panicle compact and dense, with short erect branches.

Flowering glume 2 lines long, entire, awn short.—4. *E. Schultzii*.

Flowering glume 1 line long, thin, notched, awn 1 line.—3. *E. leporina*.

Panicle slender, loose, the short branches spreading.

Flowering glume $\frac{1}{2}$ line long.—1. *E. agrostoides*.

Flowering glume 1 line.—2. *E. Gulliverii*.

1. *E. agrostoides*, Benth.—Port Essington, Armstrong.
2. *E. Gulliveri*, F. v. M.—Between Norman and Gilbert Rivers, Gulliver.
3. *E. leporina*, R. Br.—Cullen Creek, and near Darwin, Gilruth and Spencer, July-August, 1911.

80 miles W. of Powell's Creek, G. F. Hill (No. 442), 6/7/1911.

Recorded. Coen River, Gulf of Carpentaria, R. Brown; Cleveland Bay, A. Cunningham; Victoria River, F. v. Mueller; Port Essington, Armstrong; Port Darwin, Schultz (No. 281); between Norman and Gilbert Rivers, Gulliver.

4. *E. Schultzii*, Benth.—Cullen Creek and Providence Knoll, Gilruth and Spencer, July-August, 1911.

Five-mile Bar, MacArthur River, G. F. Hill (No. 700), 30/12/1911.

Recorded. Between Maurice and Victoria Rivers, F. v. Mueller; Port Darwin, Schultz (No. 287).

43. HETERACHNE, BENTH.

Spikelets ovate, $2\frac{1}{2}$ to $3\frac{1}{2}$ lines long, with more than six upper empty glumes, in one or two heads, sessile in the leaf-sheaths or the upper one shortly pedunculate.—1. *H. Brownii*.

Spikelets orbicular, scarcely $1\frac{1}{2}$ lines diameter, with less than six upper empty glumes, in several globular small heads forming a pedunculate interrupted spike.—2. *H. Gulliveri*.

1. *H. Brownii*, Benth.—Islands of the Gulf of Carpentaria, R. Brown; Carron Creek, F. v. Mueller; Port Darwin, Schultz, (No. 302). A good pasture grass.

2. *H. Gulliveri*, Benth.—Between Norman and Gilbert Rivers, Gulliver. A good pasture grass.

44. POA, LINN.

1. *P. Billardieri*, Steud.—Cygnet Bay, N.W. Coast, A. Cunningham.

P. ramigera, F. v. M., recorded in National Herbarium Census from N. Australia.

45. LEPTURUS, R. BR.

1. *L. repens*, R. Br.—Arnhem, N. Bay, and Islands of the Gulf of Carpentaria, R. Brown ; Port Darwin, Schultz (No. 227).

Stipa elegantissima, Labill. ; *Amphipogon strictus*, R. Br. ; *Arundo Roxburghii*, F. v. M. ; *Bambusa arnhemica*, F. v. M. ; recorded in National Herbarium Census from North Australia.

Tricholæna rosea, Nees (Introd.).—Darwin, G. F. Hill (2nd Series, No. 58), 25/5/1913.

The flowering stems are hairy, with a pink to violet tinge, and when dry are used for dry bouquets. The plant is a native of S. Africa.

CYPERACEÆ.

Tribe I.—Spikelets solitary clustered capitate or umbellate, with several often numerous hermaphrodite flowers rarely (except in *Kyllinga*) reduced to two or one. Empty glumes at the base usually only one or two. Hypogynous bristles or scales when present filiform or flat.

(Empty glumes 3 or 4 and flowers 2 or 3 in *Fimbristylis cyperoides*).

Spikelets clustered or spicate, the clusters or spikes solitary or in simple or compound umbels. Glumes distichous. Style not bulbous. No hypogynous bristles.—2. *Cyperus*.

Spikelet solitary. Glumes imbricate all round. Hypogynous bristle usually present. Nut crowned by the persistent dilated base of the style.—5. *Heleocharis*.

Spikelets solitary clustered or umbellate. Glumes imbricate all round or distichous. No hypogynous bristles. Style thickened or bulbous at the base but articulate on the nut.—6. *Fimbristylis*.

Spikelets solitary or clustered, often lateral, or in a compound umbel. Glumes imbricate all round. Style continuous with the nut. Hypogynous bristles present or not.—4. *Scirpus*.

Spikelets in a terminal head or cluster. Glumes imbricate all round. Hypogynous scales 2, flat and parallel with the glume.—1. *Lipocarpa*.

Spikelets clustered, the clusters usually paniculate.—Glumes imbricate all round. Hypogynous scales 3, flat.—3. *Fuirena*.

(*Schoenus* has sometimes very nearly the characters of *Cyperus*).

Spikelets small, with one flower or rarely two, two inner glumes adhering to the nut.—7. *Kyllinga*.

Tribe II.—Spikelets capitate, spicate or paniculate, rarely solitary or umbellate, with one, rarely two (in *Schoenus*, two to six) hermaphrodite fertile flowers, and sometimes one or more male or sterile flowers above or below. Empty glumes at the base often more than two. Hypogynous bristles or scales when present filiform or flat.

(Flowers sometimes unisexual by abortion in *Caustis*).

Glumes imbricate all round. Style-branches two. Nut crowned by the thickened persistent base of the style.—12. *Rhynchospora*.

Glumes distinctly distichous. Style branches 3, rarely 4.—8. *Schoenus*.

Glumes imbricate all round, or when few obscurely distichous. Style-branches, 3, rarely 4 or 8.

Spikes paniculate, when 2-flowered the lowest fertile, its glumes as long as the outer empty ones. Stamens 3.—11. *Cladium*.

Spikelets paniculate, when 2-flowered the lowest sterile ; flowering glumes obtuse and shorter than the outer empty ones. Stamens 3 to 6.—13. *Gahnia*.

Spikelets solitary or clustered in an irregularly branched inflorescence, when 2-flowered the lowest sterile, and often unisexual. Stamens 3 to 6. Nut crowned by the ovoid or oblong base of the style.—14. Caustis.

Spikelets in a small terminal head. Stamens or staminodia 6.—10. Arthrostylis.

Tribe III.—Flowers strictly unisexual, in unisexual or androgynous spikelets. No utricle enclosing the females. Ovary and nut seated on a disk.—15. Scleria.

1. LIPOCARPHA, R. BR.

1. *L. microcephala*, Kunth.—Cullen Creek, Spencer and Gilruth, July-August, 1911.

Recorded. Arnhem S. Bay, R. Brown; between Norman and Gilbert Rivers, Gulliver; Port Darwin, Schultz (No. 78).

2. CYPERUS, LINN. 1735.

(*Anosporum*, Nees, 1834; *Atomostylis*, Steud., 1850; *Bobartia*, Linn, 1747; *Borabora*, Steud., 1855; *Hydroschoenus*, Zoll. and Mor., 1846; *Opetiola*, Gaertn., 1788; *Papyrus*, Willd., 1812-13; *Pterocyperus*, Opiz., 1852; *Sorostachys*, Steud., 1850; *Torreya*, Rafn., 1819; *Torulinium*, Desv., 1825; *Trentepohlia*, Bolck, 1858).

Section I.—Spikelets flat with navicular keeled glumes. Styles usually 2-cleft. Nut more or less flattened, with one edge next the rachis.

Nut oblong, not exceeding half the length of the glume. Spikelets narrow, very numerous, in a dense sessile compound cluster, rarely with 2 or 3 elongated umbel-rays.—19. *C. polystachyus*.

Nut broad, almost as long as the glume. Tall perennial. Spikelets loosely spicate and distichous along the rays of a large compound umbel.—12. *C. flavicomus*.

Section II.—Spikelets flattened but usually thick. Style 2-cleft or rarely 3-cleft. Nut ovate or broad, with a flat or concave face next the axis, the back convex or with a raised central angle.—21. *C. pygmaeus*.

Section III.—Spikelets flat, the rachis not winged or rarely with an exceedingly narrow border. Style 3-cleft. Nut equally triquetrous.

Spikelets numerous, in a single small dense globular head, with an involucre of long slender bracts.—20. *C. pulchellus*.

Spikelets numerous, clustered or capitate, the clusters or heads solitary or in an umbel of few rays. Glumes with a prominent straight or recurved point. Small annuals (*Squarrosi*).—25. *C. squarrosus*.

Spikelets dark-coloured, clustered or capitate in an umbel of few rays or the clusters rarely solitary. Nuts broad, as long as the glume (*Nigricantes*).—8. *C. difformis*.

Spikelets pale or brown, clustered, capitate or solitary on the rays of a umbel. Nuts broad, not above half the glume. (*Compressi*).

Involucral bracts few, unequal, one or two longer than the inflorescence or all short.

Umbel-rays few. Stems weak. Spikelets oblong. Glumes acutely keeled, with one nerve in the middle of each side.—

28. *C. trinervis*.

Umbel-rays numerous.—16. *C. Haspan*.

Involucral bracts about 6, nearly equal rigid, erect or spreading.

Umbel many-rayed or reduced to a dense cluster. Stem leafless.—29. *C. vaginatus*.

Spikelets pale or dark brown, clustered on the rays of an umbel. Nut narrow, nearly or quite as long as the glume (Fulvi).

Spikelets small and few-flowered, in little globular clusters in a compound umbel.—17. *C. holoschœnus*.

Spikelets very flat, long and narrow linear, clustered in a compound umbel. Glumes mostly obtuse.—6. *C. dactylotes*.

Spikelets very flat, linear, clustered in a simple umbel or compound cluster. Glumes tipped with fine points.—14. *C. Gilesii*.

Spikelets rather thick, oblong or lanceolate. Glumes obtuse or scarcely acute. Stems obtusely triquetrous.

Spikelets 8 to 12-flowered. Glumes imbricate though rather loose.—13. *C. fulvus*.

Spikelets 10 to 30-flowered. Glumes spreading scarcely imbricate.—4. *C. carinatus*.

Spikelets usually numerous in loose spikes along the rays of a simple or compound umbel (Ornati).

Spikelets flat, pale brown or yellowish green, very irregularly spicate. Glumes very obtuse, loosely imbricate.—18. *C. Iria*.

Spikelets flat, pale, densely spicate. Glumes loosely imbricate, the keel produced into a short point.—10. *C. eleusinoides*.

Section IV.—Spikelets flat or terete, the rachis bordered by scarious wings, either persistent or at length more or less detached as small scales. Glumes imbricate. Style 3-cleft. Nut equally triquetrous.

Spikelets shortly spicate or clustered on the rays of a simple or compound umbel. Nut not exceeding half the length of the glume. (Corymbosi).

Stems leafless or the sheath bearing a very short lamina.

Glumes concave, not at all or scarcely keeled. Nut more or less dorsally flattened.—27. *C. malaccensis*.

Glumes keeled. Nut equally triquetrous.

Stems transversely septate.—3. *C. articulatus*.

Stems continuous.—9. *C. diphyllus*.

Stems leafy at the base.

Spikelets rather flat, usually acute, shortly and rather loosely spicate or clustered. 22.—*C. rotundus*.

Spikelets very narrow, scarcely flattened, in dense clusters. Stem obtusely triquetrous. Leaves very narrow.—26. *C. subulatus*.

Spikelets clustered or shortly spicate on the rays of a simple or compound umbel. Nut usually nearly as long as the glume. (Lucidi).

Spikelets small, 5 to 8-flowered, in little globular clusters. Stems obtusely triquetrous.—24. *C. sporobolus*.

Spikelets linear, scarcely flattened, 10 to 20-flowered, in close clusters or heads.—1. *C. angustatus*.

Spikelets flat, of a rich brown. 15. *C. Gunnii*.

Spikelets in lengthened spikes along the rays of a compound or rarely simple umbel.

Spikelets flat. Glumes loosely imbricate. Nut more than half the length of the glume.—10. *C. eleusinoides*.

Spikelets flat. Glumes closely imbricate. Nut less than half the length of the glume. (Exaltati).—11. *C. exaltatus*.

Section V.—Spikelets narrow, terete or nearly so, often flexuose sometimes 1-flowered, the rachis bordered by hyaline wings embracing the nuts. Flowering glumes distant, narrow, closely oppressed to the rachis. Style 3-cleft. Nuts triquetrous.—23. *C. scaber*.

Section VI.—Spikelets small, numerous, terete or scarcely flattened, 1 or 2-flowered, the short enclosed rachis bordered by hyaline wings. Flowering glumes imbricate when more than 1. Style 3-cleft. Nut triquetrous.

Spikelet usually with 2 perfect flowers, in small globular clusters in a compound umbel of many rays.—7. *C. decompositus*.

Spikelets with 1 or rarely 2 perfect flowers, in loose cylindrical spikes in a compound umbel.—2. *C. Armstrongii*.

Spikelets usually with 1 perfect flower, in dense ovoid or 3-lobed heads in a simple umbel.—5. *C. conicus*.

1. *C. angustatus*, *R. Br.*—North Coast, R. Brown ; Port Darwin, Schultz (No. 259).

2. *C. Armstrongii*, *Benth.*—Port Essington, Armstrong ; Port Darwin, Schultz (No. 731).

3. *C. articulatus*, *Linn.*—Port Essington, Armstrong.

4. *C. carinatus*, *R. Br.*—North Coast, R. Brown ; M'Adam Range, F. v. Mueller ; between Norman and Gilbert Rivers, Gulliver.

5. *C. conicus*, *Boeckel.*—Lander Creek, G. F. Hill (No. 299), 10/6/1911.

Edith Creek, Gilruth and Spencer, July-August, 1911.

Gulf of Carpentaria, R. Brown ; Port Darwin, Schultz (No. 603, 709.)

6. *C. dactylotes*, *Benth.*—Lander Creek, G. F. Hill (No. 318), 10/6/1911. Recorded. Attack Creek, M'Douall Stuart.

7. *C. decompositus*, *F. v. M.*—Gulf of Carpentaria, R. Brown

8. *C. difformis*, *Linn.*—Lake Woods, G. F. Hill, (No. 488), 2/8/11. Recorded. Charlotte Waters, Giles.

9. *C. diphyllus*, *Retz.* (*C. corymbosus*, *Retz.*).—Port Essington, Armstrong.

10. *C. eleusionides*, *Kunth.*—Nebo, Gulliver.

11. *C. exaltatus*, *Retz.*—North Coast, R. Brown ; Albert River, Henne ; Flinders River, F. v. Mueller.

12. *C. flavicomus*, *Mich.*—(*C. Hochstetteri*, *Nees*).—Head of Sturt's Creek, F. v. Mueller ; Arnhem's Land, M'Kinlay.

13. *C. fulvus*, *R. Br.*—Charlotte Waters, Giles.

14. *C. Gilesii*, *Benth.*—Charlotte Waters, Giles.

15. *C. Gunnii*, *Hook.*—Lander Creek, G. F. Hill (No. 298), 10/6/11.

Recorded. Dampier's Archipelago, A. Cunningham, Walcot.

16. *C. Haspan*, *Linn.*—Brunswick Bay, A. Cunningham ; Upper Victoria River and M'Adam Range, F. v. Mueller ; Port Darwin, Schultz (No. 310) ; Islands of the Gulf of Carpentaria, R. Brown.

17. *C. Holoschaenus*, *R. Br.*—Edith Creek, Spencer and Gilruth, July-August, 1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown ; Arnhem Land and Upper Victoria River.

18. *C. Iria*, *Linn.*—Darwin, C. E. F. Allen, (No. 20.), January, 1914.

Recorded. Sturt's Creek, F. v. Mueller.

19. *C. polystachyus*, *Rottb.* (*var. laxiflora*, *Benth.*).—Arnhem Land, F. v. Mueller.

20. *C. pulchellus*, *R. Br.* (*C. leucocephalus*, *Retz.*).—Arnhem Bay, R. Brown ; Gulf of Carpentaria, F. v. Mueller.

21. *C. pygmaeus*, Rottb.—Upper Victoria River and Flinders River, F. v. Mueller; Charlotte Waters, Giles.

22. *C. rotundus*, Linn.—Fifteen miles W. of Hugh R. McDonnell Ranges, G. F. Hill (No. 153), 6/5/1911; 10 miles N. of Eva Downs, G. F. Hill (No. 519), 19/8/11.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Arnhem Land, F. v. Mueller;

Nut grass or nut sedge, a noxious weed, useless in pastures, and troublesome in cultivation paddocks.

23. *C. scaber*, Benth.—Gulf of Carpentaria, R. Brown.

24. *C. sporobolus*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; N.W. Coast, Hughan; Upper Victoria River, F. v. Mueller; Port Darwin, Schultz (No. 791); Sweers Island, Henne.

25. *C. squarrosus*, Linn.—Dampier's Archipelago, Walcott; Gulf of Carpentaria, F. v. Mueller.

26.—*C. subulatus*, R. Br.—Alice Springs, Giles.

27. *C. malaccensis*, Lam. (*C. tegetiformis*, Benth).—Lower Victoria River, F. v. Mueller.

28. *C. trinervis*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; M'Adam Range and Fitzmaurice River, F. v. Mueller; Port Darwin, Schultz, (No. 313); between Norman and Gilbert Rivers, Gulliver.

29. *C. vaginatus*, R. Br.—Nichol Bay, F. v. Mueller; lagoons Flinders River, F. v. Mueller.

C. tenuiflorus, Rott.; *C. lucidus*, R. Br.; *C. pennatus*, Lam.; *C. stoloniferus*, Retz.; recorded in National Herbarium Census from North Australia. *C. castaneus*, Willd. (see Hamilton, appendix I.).

3. FUIRENA, LINN.

Leaves glabrous. Glumes shortly pointed. Hypogynous scales contracted at the base, but sessile or nearly so, without bristles.—2. *F. umbellata*.

Leaves pubescent or at least ciliate. Glume points long, often recurved. Hypogynous scales cordate at the base, stipitate, usually alternating with bristles.—1. *F. glomerata*.

1. *F. glomerata*, Linn.—Darwin, C. E. F. Allen (No. 171), March, 1914; Lander Creek, G. F. Hill (No. 302), 10/6/1911; Borrooloola, G. F. Hill (No. 610), 9/10/11.

Recorded. Upper Victoria River and Providence Hill, F. v. Mueller; Port Darwin, Schultz (Nos. 256, 282); between Norman and Gilbert Rivers, Gulliver.

2. *F. umbellata*, Rottb.—Batchelor Farm, C. E. F. Allen (No. 218), August, 1914.

Recorded. Providence Hill and sources of the Bright River, F. v. Mueller.

4. SCIRPUS, LINN.

Section I. *Isolepis*.—No hypogynous bristles. Small or slender plants (except *S. articulatus*).

Spikelets small, in numerous dense heads, almost radical in a tuft of grass-like filiform involucre bracts.—3. *S. humillimus*.

Spikelets solitary or clustered, small (1 to 2 lines), ovoid or ovoid-oblong, terminal or nearly so. Style-branches 3, rarely 2.—5. *S. squarrosus*.

Spikelets clustered, above 2 lines long, oblong or narrow. Style branches 3.—1. *S. articulatus*.

Section II. *Euscirpus*.—Hypogynous bristles 3 to 8. Plants mostly tall and stout.

Spikelets in sessile lateral clusters.—2. *S. debilis*.

Spikelets in terminal or nearly terminal simple or compound irregular umbel or cluster.—4. *S. litoralis*.

1. *S. articulatus*, Linn.—Abrahams' Lagoon, Spencer and Gilruth, July-August, 1911.

Recorded. Mouth of Victoria River, F. v. Mueller.

2. *S. debilis*, Pursh.—Upper Victoria River and Sturt's Creek, F. v. Mueller.

3. *S. humillimus*, Benth.—South Alligator River, Arnhem Land, F. v. Mueller.

4. *S. litoralis*, Schrad.—Gulf of Carpentaria, R. Brown, F. v. Mueller ; Victoria River, F. v. Mueller ; Roper River, Gulliver.

5. *S. squarrosus*, Linn.—In the interior, lat. 70 degrees, 50 minutes, McDouall Stuart's Expedition.

5. HELEOCHARIS, R. BR.

Spike-Rush.

Section I. *Limnocharis*.—Spikelets cylindrical. Glumes obtuse, not at all or very obscurely keeled, rather rigid, with a hyaline border. Persistent base of the style forming a conical usually flat beak to the nut.

Stems terete, appearing articulate from the transverse septa dividing the internal pith.—5. *H. sphacelata*.

Stems continuous, obtusely triquetrous or terete.—6. *H. variegata*.

Section II. *Scirpidium*.—Spikelet cylindrical or tapering upwards, usually smaller than in *Limnocharis*. Glumes with a distinct green centre or prominent keel. Persistent base of the style shortly conical.

3 to 7 bristles arising below the base of each ovary.—1. *H. acuta*.

No bristles around the ovary.—2. *H. atricha*.

Section III. *Heleogenus*.—Spikelets ovoid ; conical or small and few-flowered. Glumes keeled. Persistent base of the style short and depressed. Leaf-sheath oblique at the orifice, often scarious.

Spike dense, many-flowered, pale-coloured, Stems mostly above 6 in. high. Glumes broad, with a green centre. 4. *H. capitata*.

Spike loose, dark-coloured, the glumes not very numerous, prominently keeled. Stems under 3 in.—2. *H. atropurpurea*.

1. *H. acuta*, R. Br.—Lake Woods, G. F. Hill (No. 489), 2/8/1911.

2. *H. atricha*, R. Br.—Between Norman and Gilbert Rivers, Gulliver.

3. *H. atropurpurea*, Kunth.—Victoria River, F. v. Mueller.

4. *H. capitata*, R. Br.—Gulf of Carpentaria, R. Brown ; Sea Range and Victoria River, F. v. Mueller.

5. *H. sphacelata*, R. Br.—Gulf of Carpentaria, R. Brown ; Arnhem Land, F. v. Mueller.

6. *H. variegata*, Kunth (*H. compacta*, R. Br.).—Arnhem N. Bay, R. Brown ; Lower Victoria River, F. v. Mueller.

H. spiralis, R. Br. ; recorded in National Herbarium Census from North Australia.

6. FIMBRISTYLIS, VAHL.

Section I. *Heliocharoides*.—Spikelet solitary, terminal. Glumes imbricate all round.

Nut biconvex, with transverse raised lines or wrinkles. Style-branches 2 or rarely 3.

Spikelet erect, usually whitish.

One or two lower glumes empty.—1. *F. acicularis*.

About four lower glumes empty, all broad and obtuse.—20. *F. leucostachya*.

Spikelet nodding, usually brown.—27. *F. nutans*.

Nut 3-angled or biconvex, smooth striate granular or tuberculate. Style-branches 3 or sometimes 2.

Spikelet oblong, lanceolate. Style-branches 3.

Spikelet about half a line broad. Leaves few or none. No involucre bract. Nut tuberculate.—30. *F. pauciflora*.

Spikelet about $1\frac{1}{2}$ lines broad. Leaves filiform. No involucre bract. Nut minutely tuberculate.—8. *F. cardiocarpa*.

Spikelets about 1 line broad. Leaves setaceous. Involucral bract often as long as the spikelet.—19. *F. leucocolea*.

Spikelet ovate or oblong. Style-branches 2.

Spikelet 1 to $1\frac{1}{4}$ lines broad. Nut tuberculate.

Leaves numerous, filiform. Flowers all hermaphrodite.—

31. *F. polytrichoides*.

Stems leafless. Upper flower female.—3. *F. androgyna*.

Spikelet 3 lines broad. Nut narrow-oblong, striate and cancellate. Stems leafless.—43. *F. tetragona*

Spikelet ovate, erect. Style-branches 3. Nut tuberculate. Leaves numerous.

Nut broad, 3-furrowed, on a long stipes.—44. *F. trigastrocarya*.

Nut 3-ribbed, on a short stipes.—25. *F. monandra*.

Spikelet globular, erect. Style-branches 3. Leaves numerous.

Spikelet white, 2 to 3 lines diameter. Nut flattened, often surrounded by a hyaline wing.—32. *F. pterygosperma*.

Spikelet brown, 1 to $1\frac{1}{2}$ lines diameter.—38. *F. sphærocephala*.

Spikelet nodding, brown, ovoid or cylindrical, 3 lines diameter.

Leaves long and flat.—46. *F. xyridis*.

(See also 39, *F. spiralis*, which has sometimes solitary spikelets.)

Section II.—*Abildgaardia*.—Spikelets solitary or few, flat with distichous glumes, or narrow and spiral in 2 or rarely 3 rows. Style-branches usually 3.

Spikelets solitary, narrow, usually spiral. Glumes long, cartilaginous or scarious.

Glumes scarious, acuminate, with erect points.—29. *F. oxystachya*.

Glumes rigid, opaque, acute, closely appressed.—21. *F. macrantha*.

Glumes rigid with long recurved points.—41. *F. squarrolosa*.

Spikelets often several, very flat, regularly distichous or slightly spiral.—57. *F. Brownii*.

Section III.—*Dichelostylis*.—Spikelets several usually numerous. Glumes imbricate all round. Style-branches 2. Nut biconvex.

Tufted annuals, leafy at the base. Stems under 1 ft.

Nut smooth or very minutely striate or cancellate.

Style-bulb ciliate at the base, the hairs spreading or reflexed over the nut.—45. *F. velata*.

Style-bulb glabrous.—2. *F. æstivalis*.

Nut with distinct longitudinal striæ or ribs and transversely cancellate.

Spikelets numerous, under 2 lines long.—15. *F. dichotoma*.

Spikelets about 5 or fewer, above 2 lines long.—14. *F. depauperata*. Perennials, often above 1 ft. high.

Nut with distinct longitudinal striæ or ribs and transversely rugose. Style flat, ciliate. Leaves often numerous.

Spikelets pale coloured, about 4 lines long. Leaf-sheaths hairy.—40.

F. spirostachya.

Spikelets usually brown, about 3 lines. Leaves glabrous.—16. *F. diphylla*.

Nut smooth or rugose.

Style distinctly ciliate.

Stems leafless or with few leaves. Spikelets ovate-lanceolate, $1\frac{1}{2}$ to 2 lines broad. Nuts smooth.—18. *F. ferruginea*.

Stems leafless. Spikelets ovate or at length oblong, 1 line broad.

Nuts usually rugose.—13. *F. denudata*.

Style slender, nearly glabrous. Nut minute, smooth.

Stem leafless. Spikelets lanceolate or oblong, 4 to 6 lines long.—17. *F. elata*.

Leaves filiform, often numerous, Spikelets ovate, 2 to 3 lines long.—6. *F. cæspitosa*.

Section IV. *Trichelostylis*.—Spikelets several, usually numerous (rarely solitary in *F. spiralis*). Glumes imbricate all round. Style-branches 3 (except rarely in some *Glomeratæ*). Nut various.

Series I.—*Oligostachyæ*.—Spikelets few, not clustered, occasionally solitary, above 2 lines long.

Small annuals. Leaves numerous.

Leaves setaceous. Spikelets narrow. Nuts tuberculate.—39. *F. spiralis*.

Leaves linear. Spikelets ovate, aristate. Nuts granular.—42. *F. subaristata*.

Stems long, leafless. Spikelets narrow. Nuts tuberculate.—12. *F. debilis*.

Series II. *Polystachyæ*.—Spikelets usually numerous in more or less compound umbels, not clustered on the rays.

Spikelets ovate, about 3 lines long or more.

Nuts ovoid-clavate, smooth. Leaves and involucre bracts long.—9. *F. corynocarya*.

Nuts tuberculate. Leave few. Involucre bracts short.

Style glabrous or nearly so. Nut narrow.—37. *F. solidifolia*.

Style ciliate. Nut broad.—21. *F. obtusangula*.

Spikelets rarely 2 lines long, globular ovate or lanceolate.

Spikelets globular, $\frac{3}{4}$ to $1\frac{1}{4}$ lines diameter. Stamen usually 1.—24. *F. miliacea*.

Spikelets globular, $1\frac{1}{2}$ to 2 lines diam. Stamens usually 3.—34. *F. rara*.

Spikelets ovate or lanceolate, very numerous, under 2 lines. Stamens 1, rarely 2 or 3.

Spikelets narrow-lanceolate.

Leaves fairly large.—23. *F. microcarya*.

Leaves 5-7 cm. and 1 mm. broad.—23a. *F. Allenii*.

Spikelets ovate or oblong.—38. *F. quinquangularis*.

Spikelets narrow, acute, 2 to 4-flowered (flowers more than 6 in all the preceding species).—11. *F. cyperoides*.

Series III.—*Glomeratæ*.—Spikelets more or less clustered on the rays of the umbel, and always a central cluster of 2 or more in lieu of the single central sessile spikelet. Leaves usually numerous.

Spikelets not above 2 lines long in clusters of 2 or 3, interspersed usually with a few solitary ones.—10. *F. cymosa*.

Spikelets in clusters of 3 to 10.

Leaves long, rather glaucous. Spikelets 1 to $1\frac{1}{2}$ lines long.—26. *F. multifolia*.

Leaves and inflorescence silky-hairy. Spikelets 2 lines long. 36.—*F. macrostachya*.

Series IV. *Capitatæ*.—Spikelets collected in a single terminal head.

Glumes obtuse, membranous. Involucral bracts concealed under the head or rarely 1 one prominent.

Nut tuberculate.—7. *F. capitata*.

Nut large.—7a. *F. compacta*.

Glumes mucronate. Involucral bracts spreading, 1 to 3 longer than the head. Nut smooth or nearly so.—35. *F. Schultzii*.

Section V. *Oncostylis*.—Style bulbs persistent after the style has fallen, but articulate on the nut and often at length deciduous.—4. *F. barbata*.

1. *F. acicularis*, *R. Br.*—Darwin, C. E. F. Allen (No. 165), March, 1914.

Recorded. Arnhem Land, *F. v. Mueller*; Port Darwin, *Schultz* (No. 79).

2. *F. æstivalis*, *Vahl.*—Near M'Adam Range, *F. v. Mueller*.

3. *F. androgyna*, *R. Br.*—N. Coast, prob. Arnhem Land, *R. Brown*.

4. *F. barbata*, *Benth.*—Hugh R., *G. F. Hill* (No. 135), 4/5/11; Pine Creek, *C. E. F. Allen* (No. 83), Feb., 1914.

Recorded. Gulf of Carpentaria, *R. Brown*; Dampier's Archipelago, Walcot; Depot Creek, Upper Victoria River, *F. v. Mueller*; Port Darwin, *Schultz* (No. 170, 211).

5. *F. Brownii*, *Benth.*—Islands off the North Coast, of Arnhem Land, *R. Brown*.

6. *F. cæspitosa*, *R. Br.*—Arnhem Land and Gulf of Carpentaria, *R. Brown*; Upper Victoria River, *F. v. Mueller*; Sweers Island, *Henne*.

7. *F. capitata*, *R. Br.*—Upper Victoria and Fitzmaurice Rivers, *F. v. Mueller*.

7a. *F. compacta*.—Turrill, Darwin, *C. F. Allen*.

8. *F. cardiocarpa*, *F. v. M.*—Darwin, *C. E. F. Allen* (No. 21), January, 1914.

Recorded. Upper Victoria River, *F. v. Mueller*.

9. *F. corynocarya*, *F. v. M.*—Depot Creek, Upper Victoria River, *F. v. Mueller*.

10. *F. cymosa*, *R. Br.*—Islands of the Gulf of Carpentaria and Prince of Wales Island, *R. Brown*; Escape Cliffs, *Hulse*.

11. *F. cyperoides*, *R. Br.*—Islands of the Gulf of Carpentaria, *R. Brown*; Providence Hill, *F. v. Mueller*; Port Darwin, *Schultz* (No. 658).

12. *F. debilis*, *F. v. M.*—Depot Creek, Upper Victoria River, *F. v. Mueller*.

13. *F. denudata*, *R. Br.*—Arnhem Land, N. Coast, *R. Brown*; Victoria River, *F. v. Mueller*; between Norman and Gilbert Rivers, *Gulliver*.

14. *F. depauperata*, *R. Br.*—Arnhem Land, N. Coast, *R. Brown*.

15. *F. dichotoma*, *Vahl.*—Islands of the Gulf of Carpentaria, *R. Brown*.

16. *F. diphylla*, Vahl. (*F. communis*, Kunth).—Twelve m. west of Hugh River, G. F. Hill (No. 151), 6/5/11 ; Batchelor Farm, C. E. F. Allen (No. 25), January, 1914.

Recorded. Arnhem Land and Gulf of Carpentaria, R. Brown ; Port Darwin, Schultz (No. 34, 178) ; Upper Victoria River, F. v. Mueller.

17. *F. elata*, R. Br.—Arnhem Land, North Coast, R. Brown.

18. *F. ferruginea*, Vahl.—Near Providence Hill, F. v. Mueller.

19. *F. leucocolea*, Benth.—Upper Victoria River, F. v. Mueller.

20. *F. leucostachya*, Boeck.—Port Darwin, Schultz (No. 320.)

21. *F. macrantha*, Boeck.—Victoria River, F. v. Mueller ; Port Darwin, Schultz (Nos. 789, 814).

22. *F. macrostachya*, Boeck.—Port Darwin, Schultz (No. 664).

23. *F. microcarya*, F. v. M.—Batchelor Farm, C. E. F. Allen (No. 22), January, 1914.

Recorded. Sturt's and Depot Creeks, Upper Victoria River, F. v. Mueller ; between Norman and Gilbert Rivers, Gulliver.

23a. *F. Allenii*, Turrit.—Darwin, C. E. F. Allen, 1914.

24. *F. miliacea*, Vahl.—Darwin to Pine Creek, C. E. F. Allen, (No. 82), February, 1914.

Recorded. Upper Victoria River and near M'Adam Range, F. v. Mueller ; between Norman and Gilbert Rivers, Gulliver.

25. *F. monandra*, F. v. M.—Depot Creek, Upper Victoria River, F. v. Mueller.

26. *F. multifolia*, Boeck.—Cygnet Bay, N.W. Coast, A. Cunningham ; Port Darwin, Schultz (Nos. 147, 799).

27. *F. nutans*, Vahl.—Darwin, C. E. F. Allen (No. 100), February, 1914.

Recorded. Islands of the Gulf of Carpentaria, R. Brown.

28. *F. obtusangula*, F. v. M.—Depot Creek, Upper Victoria River, F. v. Mueller.

29. *F. oxystachya*, F. v. M.—Upper Victoria River, F. v. Mueller.

30. *F. pauciflora*, R. Br.—Batchelor Farm, C. E. F. Allen (No. 48) January, 1914.

Recorded. Islands of the Gulf of Carpentaria, R. Brown ; near M'Adam Range, F. v. Mueller ; Regent's and Hunter's Rivers, A. Cunningham.

31. *F. polytrichoides*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

32. *F. pterygosperma*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown ; S. Goulburn Island, A. Cunningham ; Sturt's Creek, Upper Victoria River, F. v. Mueller ; Arnhem Land, N. Coast, M'Kinlay ; Port Darwin, Schultz (No. 790, 812).

33. *F. quinquangularis*, Kunth.—Upper Victoria River, F. v. Mueller.

34. *F. rara*, R. Br.—Arnhem Land, N. Coast, R. Brown ; Depot Creek, Upper Victoria River, F. v. Mueller.

35. *F. Schultzii*, Boeck.—Batchelor Farm, C. E. F. Allen (No. 44), June, 1914 ; Sturt's Creek, F. v. Mueller ; Port Darwin, Schultz (Nos. 96, 92).

36. *F. sericea*, R. Br.—Gulf of Carpentaria, R. Brown ; Upper Victoria River, F. v. Mueller ; Port Darwin, Schultz (No. 602).

37. *F. solidifolia*, F. v. M.—Sturt's Creek, F. v. Mueller.

38. *F. sphærocephala*, Benth.—Victoria River, F. v. Mueller ; Camden Harbour, Martin.

39. *F. spiralis*, R. Brown.—Arnhem Bay, R. Brown.

40. *F. spirostachya*, F. v. M.—Upper Victoria River, F. v. Mueller.

41. *F. squarrulosa*, F. v. M.—Gulf of Carpentaria, R. Brown ; Victoria River, F. v. Mueller.

42. *F. subaristata*, Benth.—Sturt's Creek, F. v. Mueller.

43. *F. tetragona*, R. Br.—Darwin, C. E. F. Allen (No. 153), March, 1914. Islands of the Gulf of Carpentaria, R. Brown ; Providence Hill and Depot Creek, Upper Victoria River, F. v. Mueller.

44. *F. trigastrocarya*, F. v. M.—Depot Creek, Upper Victoria River, F. v. Mueller.

45. *F. velata*, R. Br.—Lander Creek, G. F. Hill (No. 300), 10/6/1911 Arnhem Land, F. v. Mueller.

46. *F. xyridis*, R. Br.—Islands and mainland of Gulf of Carpentaria, R. Brown ; Arnhem Land, N. Coast, M'Kinlay ; Port Darwin, Schultz (Nos. 16, 177, 813); between Norman and Gilbert Rivers, Gulliver.

F. acuminata Vahl. ; *F. rhyticarya*, F. v. M. ; *F. monostachya*, Hass. ; *F. capillaris*, A. Gray (in National Herbarium Census) ; and *F. lanceolata*, Clark ; (in *Kew Bulletin*, 1908, p. 24) ; recorded from North Australia.

7. KYLLINGIA, ROTTB.

Kyllingia triceps, Rottb., —Pine Creek, C. E. F. Allen (No. 102), Feb., 1914.

8. SCHOENUS, LINN. 1737.

(*Chæotspora*, R. Br., 1810 ; *Cyclocampe*, Steud., 1855 ; *Cyclocarpa*, Miq., 1855 ; *Helothrix*, Nees, 1814 ; *Isoschoenus*, Nees, 1841 ; *Streblidia*, Link, 1827).

Panicle, loose but narrow. Leaf-sheaths bearded, with short or subulate points. Hypogynous bristles none or fine and rare.—3. *S. sparteus*.

Panicle loose and much branched with very numerous spikelets.

Stem leafy, the lower leaves very long. No hypogynous bristles.

Leaves nearly 2 lines broad at the base, tapering into long points.

Spikelets 4 to 6 lines.—1. *S. falcatus*.

Leaves subulate from the base. Spikelets 2 lines.—2. *S. punctatus*.

1. *S. falcatus*, R. Br.—Pine Creek, Gilruth and Spencer, July-August, 1911.

2. *S. punctatus*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

3. *S. sparteus*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

9. TRICOSTULARIA, NEES.

1. *T. fimbristylodes*, Benth.—Near Providence Hill, F. v. Mueller ; Port Essington, Armstrong.

10. ARTHROSTYLES, R. BR.

1. *A. aphylla*, R. Br.—Croker's Island, A. Cunningham ; near Providence Hill, F. v. Mueller ; Port Essington, Armstrong ; Leichhardt ; Port Darwin, Schultz (No. 655).

11. CLADIUM, R. Br.

1. *C. glomeratum*, R. Br.—Newcastle Range and Gilbert River, F. v. Mueller.

C. juncea, F. v. M.; *C. manicus*, R. Br.; recorded in National Herbarium Census from North Australia.

12. RHYNCHOSPORA, VAHL.

Hypogynous bristles shorter than the nut. Nut smooth, broadly obovoid, with a very short beak. Stem usually above 1 ft.—3. *R. Wallichiana*.

Three at least of the bristles much longer than the nut. Nut oblong. Stem usually under 1 ft.

Spikelets 4 to 5 lines long. Nut tuberculate or hispid, the beak closely sessile and often as long as the nut. Leaves shorter than the stem.—1. *R. longisetis*.

Spikelets about 3 lines. Nut smooth or nearly so, the beak short and constricted at the base. Leaves often as long as the stem.—2. *R. tenuifolia*.

1. *R. longisetis*, R. Br.—Gulf of Carpentaria, mainland and Groote Island, R. Brown; Upper Victoria River, F. v. Mueller; between Norman and Gilbert Rivers, Gulliver.

2. *R. tenuifolia*, Benth.—Victoria River, Elsey.

3. *R. Wallichiana*, Kunth.—Port Essington, Armstrong.

R. marginata, Clarke; *R. exserta*, Clarke; recorded in Kew Bulletin from North Australia.

13. GAHNIA, FORST.

1. *G. aspera*, Spreng.—Taylor's Range, F. v. Mueller.

14. CAUSTIS, R. Br.

1. *C. flexuosa*, R. Br.—Port Essington, Armstrong.

15. SCLERIA, BERG.

Series I. *Axillares*.—Small annuals. Spikelets small, strictly unisexual, in little axillary or terminal sessile clusters, the males with 3 flowers.—8. *S. pygmæa*.

Series II. *Laxæ*.—Weak plants under 1 ft., probably annual. Spikelets strictly unisexual, in axillary clusters or few in loose spikes, the males with several flowers.

Spikelets in axillary clusters. Outer persistent disk broadly cupular, inner adnate, very shortly 3-lobed.—9. *S. rugosa*.

Spikelets few, small, in loose spikes. Outer disk scarcely prominent, inner adnate, shortly 3-lobed.—5. *S. laxa*.

Series III. *Subspicataæ*.—Perennials. Inflorescence scarcely branched. Fertile spikelets more or less androgynous or at least with empty glumes above the female flower.

Nut tuberculate. Disk-lobes broad, membranous spreading.—1. *S. Brownii*.

Nut smooth and shining. Outer persistent disk cupular, entire; inner obsolete.—6. *S. lithosperma*.

Series IV. *Polystachyæ*.—Perennials. Panicles branched axillary and terminal.

Spikelets unisexual, or the fertile ones androgynous.

Leaf-sheaths with acute angles scarcely or not at all winged.

Nut rugose disk-lobes denticulate.—2. *S. Graeffeana*.

Nut smooth, shining, disk-lobes entire.—3. *S. margaritifera*.

Leaf-sheaths distinctly winged on the angles.—4. *S. hebecarpa*.

Series V. *Macrostachyæ*.—Panicle single, large, loose and very compound, on a long terminal peduncle.—7. *S. oryzoides*.

1. *S. Brownii*, Kunth.—Arnhem, S. Bay, R. Brown; Port Darwin, Schultz (Nos. 37, 782).

2. *S. Graeffeana*, Boeck.—Near Providence Hill, F. v. Mueller.

3. *S. margaritifera*, Willd.—Darwin, C. E. F. Allen (No. 19), Jan., 1914.

4. *S. hebecarpa*, Nees.—Port Darwin, Schultz (No. 816).

5. *S. laxa*, R. Br.—North Coast, R. Brown.

6. *S. lithosperma*, Willd.—Arnhem, S. Bay, R. Brown; Port Darwin, Schultz (Nos. 6, 171, 266, 817).

7. *S. oryzoides*, Presl.—Between M'Adam Range and Providence Hill, F. v. Mueller.

8. *S. pygmæa*, R. Br.—Port Darwin, Schultz (No. 260).

9. *S. rugosa*, R. Br.—Port Darwin, Schultz (No. 80); Upper Victoria River, F. v. Mueller.

PALMÆ.

Erect palms, with a terminal crown of simple pinnate leaves. Flowers monœcious. Outer perianth segments imbricate.—2. *Kentia*.

Erect palms, with a terminal crown of fan-shaped leaves. Flowers hermaphrodite. Perianth-lobes or segments all valvate. Stamens, 6.

Embryo dorsal.—1. *Livistona*.

1. LIVISTONA, R. BR. 1810.

(*Saribus Blume*, 1836).

Petiole more or less aculeate on the edges. Outer perianth-lobes rather obtuse.—2. *L. Mariæ*.

Petiole entirely unarmed. Outer perianth-lobes acute.—1. *L. inermis*.

1. *L. inermis*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

2. *L. Mariæ*, F. v. M. (*L. humilis*, R. Br).—Macdonnell Ranges, G. F. Hill (No. 95a), 16/3/1911. Fruits only.

Recorded. Arnhem's Land, R. Brown; Adam River, M'Adam Range, F. v. Mueller; Port Darwin, Schultz (No. 372); Port Essington, Armstrong; Liverpool River, and Wood Island, Gulliver.

L. Alfredi, F. v. M.—Recorded in Vict. Nat., 1892, from North Australia.

2. KENTIA, BLUME.

1. *K. Wendlandiana*, F. v. M.—Liverpool River, Gulliver.

K. acuminata, Mend.—Recorded in National Herbarium Census from North Australia.

ARACEÆ.

A number of neutral filiform organs immediately above the female flowers and a bare interval separating them from the males. Ovary with one erect ovule. Leaves entire or 3-lobed.—2. *Typhonium*.

Male flowers immediately above the females. Ovary 2-celled, with one erect ovule in each cell. Leaves compound.—1. *Amorphophallus*.

1. AMORPHOPHALLUS, BLUME

(BRACHYSPATHA, SCHOTT).

1. *A. variabilis*, Blume.—N. Coast, R. Brown ; Port Darwin, Schultz (No. 562).

2. TYPHONIUM, SCHOTT.

1. *T. liliifolium*, Schott.—Victoria River, F. v. Mueller.

T. Brownii, Schott.—Recorded in National Herbarium Census from North Australia.

Colocasia antiquorum, Schott ; *Rhaphidophora pertusa*, Schott ; Recorded in National Herbarium Census from North Australia.

FLAGELLARIACEÆ.

1. FLAGELLARIA, LINN. 1747.

1. *F. indica*, Linn.—Roper River and near Darwin. Gilruth and Spencer, July-August, 1911.

Recorded. Port Essington, Armstrong ; Point Pearce, F. v. Mueller ; Escape Cliffs, and Adam's Bay, Hulse.

Supplejack.

RESTIONACEÆ.

Ovary 2 or 3-celled. Styles or style-branches 2 or 3.—1. Restio.

Ovary 1-celled with a single ovule. Styles or style-branches 3.—2. Lep-tocarpus.

1. RESTIO, LINN. 1767.

(*Baloskion*, Rafin, 1836 ; *Chondropetalon*, Rafin, 1836 ; *Craspedolepis*, Steud, 1855 ; *Ischyrolepis*, Steud, 1850 ; *Megalotheca*, F. M., 1873 ; *Rhodoco*, Nees, 1836).

1. *R. tropicus*, R. Br.—North Island, Gulf of Carpentaria, G. F. Hill (No. 621), 20/10/1911.

Recorded. Gulf of Carpentaria, R. Brown.

2. LEPTOCARPUS, R. BR.

Spikelets very densely clustered along the short branches of a long dense panicle. 1. *L. elatior*.

Spikelets clustered along the few narrow branches of the panicle. Perianth segments glabrous.

Stem glabrous.—3. *L. spathaceus*.

Stem cottony-villous.—2. *L. Schultzii*.

1. *L. elatior*, R. Br.—Gulf of Carpentaria and N. Coast (Arnhem's Land?), R. Brown.

2. *L. Schultzii*, Benth.—Port Darwin, Schultz (No. 309).

3. *L. spathaceus*, R. Br.—Gulf of Carpentaria, R. Br. ; sources of the Roper River, F. v. Mueller.

CENTROLEPIDACEÆ.

1. CENTROLEPIS, LATILL. 1804.

(*Alepyrum*, R. Br., 1810 ; *Centrosepis*, R. Hedw., 1806 ; *Devauxia*, R. Br., 1810).

Bristlewort.

Spikes ovate or broad, containing more than four flowers, the outer bracts glabrous or rarely with a few hairs erect or spreading, and 1, 2 or 3 scales under each flower, usually very prominent.—1. *C. Banksii*.

Spikes usually ovate or broad, the outer bracts hispid, with long spreading hairs. Inner scales prominent.—2. *C. exserta*.

1. *C. Banksii*, *Roem. and Schult.*—Victoria River, F. v. Mueller.

2. *C. exserta*, *Roem. and Schult.*—Melville Island, Gilruth and Spencer, July-August, 1911.

Recorded. Providence Hill and M'Adam Range, F. v. Mueller.

XYRIDACEÆ.

1. XYRIS, LINN.

Leaf-tufts on a perennial stock, with rigid sheathing bases. Staminodia densely penicillate.—1. *X. complanata*.

Leaf-tufts annual. Leaves grass-like. Staminodia very slender, with few hairs or scarcely any.—2. *X. pauciflora*.

1. *X. complanata*, *R. Br.* (*X. elongata*, *Rudge*).—Islands of the Gulf of Carpentaria, R. Brown; Bathurst Island, A. Cunningham; Sea Range and Victoria River, F. v. Mueller; Port Darwin, Schultz (No. 128).

Hatpin grass.

2. *X. pauciflora*, *Willd.*—M'Adam Range and Victoria River, F. v. Mueller; Port Essington, Armstrong.

ERIOCAULACEÆ.

1. ERIOCAULON, LINN. 1742.

(*Chaetodiscus*, *Steud.*, 1855; *Electrosperma*, *F. v. M.*, 1854; *Lasuolepis*, *Boeck.*, 1873; *Leucocephala*, *Roxb.*, 1832; *Nasmythia*, *Huds.*, 1862; *Randalia*, *Beauv.*, 1828; *Sphaerochloa*, *Beauv.*, 1828).

Series I. Flowers 3-merous or rarely partially 2-merous by abortion, especially the females.

Submerged stems elongated, densely covered with filiform leaves. Flower heads pubescent, at least at first.—10. *E. setaceum*.

Scapes and radical leaves under 6 in. and often much less, glabrous.

Flower-heads glabrous. Bracts with their tips incurved and appressed.

Outer female perianth segments linear, 3 or fewer or none.

Outer male perianth segments united in a spatha-like scale.

—1. *E. cinereum*.

Outer male perianth segments linear or oblong-spathulate, free or nearly so.

Outer female perianth segments linear, inner none.—7. *E. nigricans*.

Outer female perianth segments linear, inner perianth segments narrow-linear.—4. *E. graphitinum*.

Outer female perianth segments 2, complicate and winged.

Inner female perianth segments 3, oblong. Ovary 3-merous.—5. *E. lividum*.

Inner female perianth segments 2, linear-oblong. Ovary 2-merous.—2. *E. concretum*.

Flower-heads glabrous. Bracts with spreading tips.

Bracts pale-coloured, obtuse or obtusely-acuminate. Female perianth-segments 6, nearly similar.—9. *E. Schultzii*.

Bracts dark-coloured, cuneate with a rigid spreading point. Receptacle villous.—12. *E. tortuosum*.

Series II. Flowers all 2-merous.

Outer female perianth-segments linear or spatulate, very deciduous, not winged.

Scapes filiform, 2 to 4 in. high. Leaves very narrow, fine pointed.

Heads 1 to $1\frac{1}{2}$ lines diameter.—6. *E. monoscapum*.

Scapes 4 to 6 in. high. Leaves broadly linear, many-nerved. Heads near 3 lines diameter.—11. *E. spectabile*.

Outer female perianth-segments complicated with a broad dorsal wing.

Heads at length globular, with the outer bracts reflexed and empty.

All the female flowers with outer perianths.—8. *E. scariosum*.

Heads broad. Outer bracts rigid, all flowering. Inner female flowers without outer perianths.—3. *E. depressum*.

1. *E. cinereum*, R. Br.—Cullen Creek, Gilruth and Spencer, July-August, 1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown ; South Goulburn Island, A. Cunningham ; Victoria River, F. v. Mueller ; Port Darwin, Schultz (No. 368).

2. *E. concretum*, F. v. M. Arnhem's Land, F. v. Mueller.

3. *E. depressum*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown ; near M'Adam Range, Fitzmaurice River, F. v. Mueller.

4. *E. graphitinum* (F. v. M. and Tate), Ewart and Cookson. Plate VI.—A small glabrous herb with tufted leaves and small fibrous root, plants varying in size, when in flower from 3 to 13.2 cms. Leaves radical, sessile, linear .5 to 1.8 cms. long, and .1 to .4 cms. wide, tapering to a short, sharp point. Scapes slender, twisted 2 to 12 cms. long. Flower heads glabrous, globular. Long fine hairs arise from the elongated receptacle, between the flowers, but are not seen on the outer surface of the head. Outer empty bracts thin and oblong. Flowering bracts linear-spatulate, with a blunt point.

Male Flower. Outer perianth segments 3, linear with an obtuse apex inserted near the base of the flower stalk. Inner perianth segments none, represented by 3 small black glands at centre of flower. Stamens 6, anthers large, dehiscent longitudinally.

Female flower. Outer perianth segments 3, somewhat acuminate. Inner segments 3, narrow-linear longer than segments of outer perianth with a few short hair-like outgrowths from the obtuse apex. Ovary consists of 3, 1-seeded carpels which open by two valves when seeds are ripe. Style single with 3 long stigmas.

Collected in 1889 by Col. Tietkens from west end of Macdonnell Ranges, and also from 12 miles from McKinley River. Named by Baron von Mueller and Professor Tate, who recorded it as a new species in Trans. Roy. Soc., S.A., Vol. XIII., 1890, and Vol. XIX., 1895, and in Report of Horn Exped., III. No description was given and plant was recorded as a *nomen nudum* in Kew Index. Additional material was supplied by Professor Osborne from the Adelaide Herbarium, and it has actually proved to be a valid species, hence the above description has been made with figures illustrating its structure which appear on Plate VI.

5. *E. lividum*, F. v. M.—York Sound, A. Cunningham ; near M'Adam Range, F. v. Mueller.

6. *E. monoscapum*, F. v. M.—Margins of water-courses towards M'Adam Range, F. v. Mueller.

7. *E. nigricans*, R. Br.—Carron Creek, Carpentaria, Gulliver.

8. *E. scariosum*, R. Br.—N. Coast, R. Brown ; Port Darwin, Schultz (No. 261).

9. *E. Schultzii*, Benth.—Port Darwin, Schultz (No. 288)

10. *E. setaceum*, Linn.—Near M'Adam Range, F. v. Mueller ; Port Darwin, Schultz (Nos. 75, 369).

11. *E. spectabile*, F. v. M.—Sources of the Limmen Bight River, Gulf of Carpentaria, F. v. Mueller.

12. *E. tortuosum*, F. v. M.—Victoria River, F. v. Mueller.

E. quinqueangulare, Linn. Recorded in National Herbarium Census, from North Australia.

COMMELINACEÆ.

Flowers enclosed in a folded, cordate-turbinate or falcate spatha or leafy-bract, or within short loose leaf-sheaths.

Perianth-segments united in two series. Stamens all perfect.—3. Cyanotis.

Perianth-segments free. Half the stamens reduced to staminodia.—1 Commelina.

No spatha. Bracts small. Flowers paniculate.—2. Aneilema.

No spatha. Flowers spicate. Outer segments herbaceous. Stamens all perfect. Ovary 3-celled.—4. Cartonema

1. COMMELINA, BLUME. 1735.*

(*Amanthopus*, Rafin, 1817 ; *Disecocarpus*, Hassk., 1866 ; *Eralebria*, Medic., 1790 ; *Heterocarpus*, Wight, 1853 ; *Lechea*, Lowe, 1790 ; *Allosperma*, Rafin, 1836).

Spatha not cordate, closed at the base, forming an oblique turbinate inverted cone open at the top only.—3. *C. ensifolia*.

Spatha cordate at the base, with rounded auricles closely appressed but not connate.

Leaves ovate-lanceolate or rarely narrow, contracted above the sheath.

Spatha acute. Peduncles short. Seeds pitted.—1. *C. cyanea*.

Spatha tapering to a long point. Peduncles long.—2. *C. acuminata*.

Leaves very narrow, but contracted above the sheath.

Spatha with a long point. Seeds smooth or slightly rugose.—4. *C. lanceolata*.

1. *C. cyanea*, R. Br.—Victoria River, F. v. Mueller.

2. *C. acuminata*, Ewart and M'Lenman. Plate VII.—Erect glabrous herb, leaves linear, varying in length from 2 to 7 inches without any contraction at the base above the leaf sheath. Spathas on long peduncles from 2½ to 3½ inches broad, strongly acuminate, cordate at the base not connate, length from 1½ to 1¾ in.

Peduncles two, enclosed in spatha, the pedicels of the flowers protruding beyond. A male flower is borne on one peduncle and three hermaphrodite flowers by the second. Outer perianth segments about 3 lines long, the inner about 6 lines and blue in colour.

Perfect stamens 3, the filaments of two being equal in length, and as long as the inner perianth segments, the third being shorter and bearing a larger anther. Petaloid staminodia three with short filaments and bright yellow in colour. Ovary 3-celled, single style and terminal stigma.

The nearest affinity is with *Commelina cyanea*, from which it differs in having long linear leaves, spathas which taper to a long fine point and which are borne on long peduncles, and larger flowers with longer outer perianth segments.

Near Red Lily Lagoon, G. F. Hill (No. 833), 6/4/1912. ; and also by F. v. Mueller, at Sturt's Creek.

3. *C. ensifolia*, R. Br.—Camp III., Lander Creek, G. F. Hill (No. 323), 10/6/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne ; Port Essington, Armstrong ; Port Darwin, Schultz (Nos. 70, 161) ; Upper Victoria River, F. v. Mueller ; Camden Harbour, Walter ; Central Australia, M'Douall Stuart's Expedition and Gosse's Expedition.

4. *C. lanceolata*, R. Br.—Duck Island Camp, MacArthur River, G. F. Hill (No. 674), 8/11/1911.

Recorded. Sturt's Creek, Albert and Roper Rivers, F. v. Mueller.

C. agrostophylla, F. v. M. Recorded in National Herbarium Census from North Australia.

2. ANEILEMA, R. BR. 1810.

(*Amelina*, C. B. Clarke, 1874 ; *Anilema*, Kunth, 1843 ; *Aphylax*, Salisb., 1812 ; *Bauschia*, Seub., 1872 ; *Dichospermum*, Wight., 1853 ; *Dilasia*, Rafin., 1836 ; *Lamprodithyros*, Hassk., 1863 ; *Murdannia*, Royle., 1839 ; *Talipulia*, Rafin., 1836).

Filaments all glabrous. Ovary with only two perfect cells. Stems weak ascending.—3. *A. siliculosum*.

Filaments all or some of them bearded. Ovary 3-celled. Stems erect. Radical leaves linear, tufted.

Filaments all bearded. Panicle irregular. the pedicels distant along the branches.—2. *A. gramineum*.

Filaments of the perfect stamens bearded, of the staminodia glabrous. Pedicels close together along the branches, leaving a thickened denticulate rachis.—1. *A. giganteum*.

1. *A. giganteum*, R. Br.—Islands off the N. Coast, R. Brown ; Port Darwin, Schultz (No. 642).

2. *A. gramineum*, R. Br.—Okey Creek, G. F. Hill (No. 764), 10/2/1912. North Coast, and Islands of the Gulf of Carpentaria, R. Brown, ; Victoria River and Sea Range, F. v. Mueller ; Port Darwin, Schultz (No. 88).

3. *A. siliculosum*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown. *A. vaginatum*, R. Br. ; Port Darwin (?)

3. CYANOTIS, DON. (ZYGOMENES, SALISB.)

C. axillaris, Roem and Schult.—Port Darwin, M. Holtze, 1884 ; Sturt's Creek, F. Mueller.

4. CARTONEMA, R. BR.

Spikes dense. Outer perianth-segments 6 to 7 lines long. Filaments narrow. Anthers narrow, oblong.—2. *C. spicatum*.

Spikes elongated the flowers all distant. Outer perianth-segments 3 to 4 lines long. Filaments shorter than the anthers.—1. *C. parviflorum*.

1. *C. parviflorum*, Hassk.—Islands of the N. Coast, R. Brown ; Victoria River, F. v. Mueller ; N.W. Coast, Bynoe ; Glenelg district, Martin ; Port Darwin, Schultz (No. 280) ; Liverpool River, Gulliver.

2. *C. spicatum*, R. Br.—Arnhem S. Bay, R. Brown ; N. Goulburn Island, A. Cunningham ; Escape cliffs, Hulse ; Port Darwin, Schultz (No. 25).

C. trigonospermum, Clarke ; *C. tenue*, Benth. ; recorded in National Herbarium Census from North Australia.

PONTEDERACEÆ.

1. MONOCHORIA, PRESL.

1. *M. cyanea*, F. v. M.—Upper Victoria River, F. v. Mueller ; Gilbert River, Gulliver.

PHILYDRACEÆ.

1. PHILYDRUM, BANKS. 1788.

(GARCIANA, LOUR. 1790).

1. *P. lanuginosum*, Banks.—Borrooloola, G. F. Hill (No. 613), 9/10/1911. Edith Creek, Gilruth and Spencer, July-August, 1911. Recorded. Port Darwin, Schultz (No. 444).

ROXBURGHACEÆ.

1. STEMONA, LOUR.

(ROXBURGHIA, JONES).

1. *S. javanica*, Kunth.—Port Essington, Armstrong.

LILIACEÆ.

Series I. Fruit succulent or fleshy, indehiscent or rarely opening tardily in 3 valves.

Tribe I. *Smilacæ*.—Perianth-segments distinct, spreading. Anthers erect. Style deeply divided into three stigmatic branches. Embryo distant from the hilum. Albumen hard. Branching climbers. Leaves with distant primary veins, and transverse veinlets.—11. *Smilax*.

Tribe II. *Asparagææ*.—Perianth-segments distinct spreading. Style undivided.

Perianth persistent. Filaments abruptly thickened under the anther. Anthers erect, opening in terminal pores.—6. *Dianella*.

Perianth deciduous. Filaments not thickened. Anthers opening in longitudinal slits. Leafy stems elongated and branched.—10. *Asparagus*.

Tribe III. *Dracaenææ*.—Perianth gamophyllous, at least at the base, deciduous, Anthers versatile. Style undivided. Stems woody, sometimes arborescent. Flowers paniculate.—9. *Dracæna*.

Series II. Fruit dry, capsular or rarely of 1 to 3 indehiscent 1-seeded nutlets.

Tribe IV. *Melanthaceæ*.—Perianth-segments free or shortly united at the base, rarely to the middle. Style more or less divided into three stigmatic branches or short distinct styles. Stock not at all or scarcely bulbous. Anthers frequently turned outwards.—1. *Iphigenia*.

Tribe V. *Anthericææ*.—Perianth-segments free or very shortly united at the base. Style undivided with a small terminal entire or slightly 3-lobed stigma. Stock not bulbous. Flowers racemose, paniculate or umbellate, rarely solitary. Bracts thinly scarious usually hyaline or none, not glumelike.

Perianth spirally twisted over the ovary, after flowering at length deciduous. Capsule, 3-valved. Filaments glabrous.

Anthers 6 or 3, the cells opening longitudinally, but the outer valve produced beyond the inner. Inner perianth-segments fringed, enclosing the inner stamens in the bud. Umbels usually 2 or more-flowered.—2. *Thysanotus*.

Anthers 6, free, opening in slits.—4. *Cæsia*.

Nutlets 1-seeded, indehiscent. Anthers 6, opening in slits.—5. *Corynotheca*.

Perianth not twisted, persistent round the fruit, unchanged or withering.

Flowers loosely racemose, cymose, or paniculate. Anthers 6, opening in slits.—3. *Chlorophytum*.

Flowers numerous, in umbels, with numerous scarious imbricate bracts.—. *Sowerbæa*.

Tribe VI. Perianth small, usually dry, scarious, or hyaline, at least in the females, rarely almost petal-like. Anthers versatile, attached at the back between the basal lobes. Ovary 3-celled, with one laterally attached ovule in each cell.—8. *Lomandra*.

1. THIGENIA, KUNTH.

1. *I. indica*, Kunth.—Arnhem N. Bay and Islands of the Coast, R. Brown; Sea Range, F. v. Mueller.

2. THYSANOTUS, R. BR.

Stock densely tufted, with numerous radical leaves. No tubers.

Umbels single.—1. *T. chrysantherus*.

Stock usually tufted, with several radical leaves often rather long. Roots often tuberous. Scape paniculate at the end, with several few-flowered umbels.—2. *T. tuberosus*.

1. *T. chrysantherus*, F. v. M.—Foot of M'Adam Range, F. v. Mueller; Port Essington, Armstrong.

2. *T. tuberosus*, R. Br.—Islands off the N. Coast (Arnhem's Land), R. Brown; Arnhem's Land, M'Kinlay; Port Essington, Armstrong. Fringe Violet.

3. CHLOROPHYTUM, KER.

1. *C. laxum*, R. Br.—Arnhem S. Bay, R. Brown; Sea Range, F. v. Mueller.

4. CÆSIA, R. BR.

Perianth-segments 3 to 4 lines long. Leaves rather broad, not surrounded by filaments.—2. *C. vittata*.

Perianth-segments under 3 lines long. Leaves very narrow, surrounded at the base by long filaments, the remains of old sheaths.—1. *C. setifera*.

1. *C. setifera*, Baker.—Port Darwin, Schultz (No. 638).

2. *C. vittata*, R. Br. (*Var. chlorantha*, Benth).—Sturt's Creek, F. v. Mueller.

5. CORYNOTHECA., F. v. M.

1. *C. lateriflora*, F. v. M.—Islands of the Gulf of Carpentaria, R. Brown; Shores of the Gulf, F. v. Mueller; Curlew River, N.W. Coast, A. Cunningham.

6. DIANELLA, LAM.

Blueberry plants.

1. *D. caerulea*, Sims.—Port Darwin, Schultz (No. 163, 354)

D. ensifolia, DC.; recorded in National Herbarium Census from North Australia.

7. SOWERBAEA, SM.

1. *S. alliacea*, F. v. M.—Liverpool River, Arnhem's Land, Gulliver.

8. LOMANDRA, LABILL. 1804.

(XEROTES, R. BR. 1810.

Series I. *Fasciculatae*.—Male flowers numerous in sessile clusters, but on pedicels exceeding the bracts.—2. *L. multiflora*

Series II. *Sparsiflorae*.—Male flowers pedicellate or rarely sessile, singly scattered in simple racemes or loose panicles, rarely here and there 2 or 3 together.—1. *L. leucocephala*.

1. *L. Leucocephala*, Labill.—90 miles N. of Camp IV., G. F. Hill (No. 402). 30/6/1911. On sand-hills.

2. *L. multiflora*, J. Britt.—Islands off the N. Coast, R. Brown.

L. longiflora, Labill. Recorded in National Herbarium Census from North Australia.

9. DRACÆNA, LINN.

1. *D. angustifolia*, Roxb.—Port Essington, Armstrong; Port Darwin, Schultz (No. 857); Castlereagh River, Gulliver.

10. ASPARAGUS, LINN.

1. *A. racemosus*, Willd.—Islands of the Gulf of Carpentaria, R. Brown; Mouth of Victoria River, F. v. Mueller; Goulburn Island, A. Cunningham; King's Sound and Collier Bay, Chapman; Glenelg District, Martin; Liverpool River, Gulliver; Port Essington, Armstrong; Port Darwin, Schultz (No. 169).

11. SMILAX, LINN.

1. *S. australis*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; Goulburn Island, A. Cunningham; Port Darwin, Schultz (No. 737); Liverpool River, Gulliver.

Elachanthera Sewelliae, F. v. M.; *Anguillaria dioica*, R. Br.—(In National Herbarium Census), and *Xanthorrhoea Thorntoni*, F. v. M. (in Horn's Expedition), recorded from North Australia.

HÆMODORACEÆ.

1. HÆMODORUM, SM. 1798.

Flowers in dense globular or oblong heads on dwarf stems (under 6 in.) Leaves nearly terete.—1. *H. brevicaulis*.

Flowers (dark red, livid or black) above 3 lines long, very numerous, in dense terminal corymbose cymes, Leaves flat or terete.—2. *H. corymbosum*.

Flowers about 2 lines long, green or yellow, in panicles or spikes, the inner

segments broader, but not longer than the outer. Tropical or Eastern sub-tropical species.

Leaves long, flat, flaccid. Flowers densely cymose in a corymbose panicle.—6. *H. subvirens*.

Leaves flat, rigid, and glaucous. Flowers loosely racemose along the branches of a spreading panicle.—3. *H. ensifolium*.

Leaves slender, terete.

Flowers very shortly pedicellate along the branches of a spreading panicle.—5. *H. parviflorum*.

Flowers nearly sessile along a simple rachis.—4. *H. leptostachyum*.

1. *H. brevicaulis*, *F. v. M.*—Sea Range, and dry plains towards M'Adam Range, *F. v. M.*; Liverpool River, Gulliver.

2. *H. corymbosum*, *Vahl.* (*H. coccineum*, *R. Br.*)—Borrooloola, *G. F. Hill* (No. 709), 13/1/1912.

Recorded. Islands of the Gulf of Carpentaria, *R. Brown*; Henne, Gulliver; Upper Victoria River, *F. v. Mueller*.

An Australian species of *Hæmodorum* is poisonous according to Greshoff. Principle unknown. Reported as poisonous to horses. (*Ql.*, *Ag.*, *Jl. V.*, 1899; 41, pl., 118).

3. *H. ensifolium*, *F. v. M.*—M'Adam Range, *F. v. Mueller*; Port Darwin, *Schultz* (No. 522).

4. *H. leptostachyum*, *Benth.*—Port Darwin, *Schultz* (No. 659).

5. *H. parviflorum*, *Benth.*—Brunswick Bay, N.W. Coast, *A. Cunningham*; Port Darwin, *Schultz* (No. 723).

6. *H. subvirens*, *F. v. M.*—Rocky Hills, Upper Victoria River, *F. v. Mueller*.

AMARYLLIDACEÆ.

Tribe I. Perianth hairy or rarely glabrous. Stigmas or stigmatic lobes large, free or connate. Ovules many, in two rows in each cell. Seeds with a crustaceous testa, the hilum produced into a hooked beak. Leaves horizontally flattened, channelled or terete. Flowers in a simple spike, or raceme, or solitary.

Flowers sessile within sheathing or imbricate bracts in a dense spike. Perianth usually with a long tube.—3. *Curculigo*.

Flowers solitary or few in a loose pedunculate raceme. Perianth divided to the ovary into spreading segments.—4. *Hypoxis*.

Tribe II Perianth glabrous. Stigmas small. Bulbous plants. Leaves horizontally flat, channelled or terete. Flowers umbellate or rarely solitary on leafless scapes.—1. *Crinum*.

1. CRINUM, LINN. 1737.

(*Crinopsis*, *Herb.*, 1837; *Erigona*, *Salisb.*, 1866; *Liriamus*, *Rafin.*, 1836; *Scandianus*, *Rafin.*, 1833; *Taenais*, *Salist.*, 1856; *Tanghekolli*, *Adans.*, 1763).

Probably more or less poisonous to stock.

Filaments not one-quarter as long as the perianth-lobes. Umbels few-flowered. Ovary usually beaked.—3. *C. venosum*.

Filaments more than two-thirds as long as the lobes.

Umbels many-flowered. Ovary usually beaked.—1. *C. angustifolium*.

Umbels 1 or 2-flowered. Ovary not beaked.—2. *C. uniflorum*.

1. *C. angustifolium*, R. Br.—Victoria River, F. v. Mueller ; Port Darwin, Schultz (No. 5, 600, 696); Adams Bay, Hulls.

2. *C. uniflorum*, F. v. M.—Five-mile Bar, Borrooloola, G. F. Hill (No. 697), 20/12/1911.

Coen River, Gulf of Carpentaria, R. Brown ; Sweers Island, Henne.

3. *C. venosum*, R. Br.—Coen River, Gulf of Carpentaria, R. Brown ; Sweers Island, Henne.

C. flaccidum, Herh.—Recorded in National Herbarium Census from North Australia.

2. CALOSTEMMA, R. BR.

1. *C. album*, R. Br.—Turtle Island, Gulf of Carpentaria, R. Brown.

3. CURCULIGO, GAERTN.

1. *C. ensifolia*, R. Br. (*Var. longifolia*, Benth.)—Port Darwin, Schultz (No. 781).

4. HYPOXIS, LINN.

1. *H. marginata*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

H. hygrometrica, Labill.—Recorded in National Herbarium Census from North Australia.

TACCACEÆ.

1. TACCA, FORST.

1. *T. pinnatifida*, Forst.—Islands of the Gulf of Carpentaria, R. Brown, Sweers ; King's Sound, N.W. Coast, Hughan ; Sea Range and Victoria River, F. v. Mueller ; Melville Island, Fraser ; Port Darwin, Schultz (Nos. 169, 195, 810, 832) ; Escape Cliffs, Hulse.

DIOSCOREACEÆ.

1. DIOSCOREA, LINN.

1. *D. sativa*, Linn.—Islands of the Gulf of Carpentaria, R. Brown ; Goulburn Island, A. Cunningham ; Melville Island, Fraser ; Port Darwin, Schultz (No. 173) ; Port Essington, Armstrong.

D. transversa, R. Br.—Recorded in National Herbarium Census from North Australia.

BURMANNIACEÆ.

1. *Burmannia*, Linn.—Radical leaves lanceolate. Flowers several in a once-forked cyme. Perianth at least twice as long as broad.—1. *B. disticha*. Leaves linear-setaceous, very small. Flowers solitary or few. Perianth with the wings as broad as long.—2. *B. juncea*.

1. *B. disticha*, Linn.—Liverpool River, Gulliver.

2. *B. juncea*, Soland.—Port Essington, Armstrong.

ORCHIDACEÆ.

Tribe I.—Anther lid-like, incumbent, usually deciduous. Pollen-masses waxy, 2, 4, or rarely 8, without caudicles or gland. Epiphytes or rarely terrestrial with a creeping rhizome.—5. *Dendrobium*.

Tribe II.—Anther lid-like, incumbent, usually deciduous. Pollen-masses waxy, 4 in pairs, on a single or double caudicle attached to a gland. Epiphytes or terrestrial with creeping rhizomes.—

Epiphytes. Caudicle single.—8. *Vanda*.

Terrestrial with short creeping rhizomes. Caudicle single.

Sepals and petals erect. Labellum scarcely saccate at the base, the disk with longitudinal raised lines.—3. *Geodorum*.

Sepals and petals spreading. Labellum with a short pouch or spur at the base, marked with cristate or bearded veins.—4. *Eulophia*.

Terrestrial with short creeping rhizomes. Caudicle bipartite.

Labellum gibbous and adnate to the column at its base.—6. *Dipodium*.

Tribe III. Anther lid-like, incumbent, usually deciduous. Pollen-masses waxy, 4 or 8, tapering at the base, separately attached and sessile on short caudicles, or on a short dichotomous caudicle. Terrestrial with creeping or rarely tuberous rhizomes or rarely epiphytes. Sepals and petals nearly equal, free and spreading. Flowers often large.—7. *Cymbidium*.

Tribe IV.—Anther erect or bent forward, persistent but free from the rostellum. Pollen granular or mealy. Terrestrial herbs with simple stems bearing one or more leaves or rarely leafless, and a single spike raceme or single flower.—2. *Pterostylis*.

Tribe VI. Anther adnate to the top of the column over the stigma, the cells usually forming two lobes. Pollen-masses 2, granular, attached by caudicles to 1 or 2 glands or pouches over the stigma. Terrestrial herbs, rhizomes with annually renewed tubers. Stems simple leafy. Flowers spicate.—1. *Habenaria*.

1. HABENARIA, R. Br.

Stem leafy with broad leaves. Petals 2-partite. Labellum with 3 narrow-linear lobes. Anther connective as high as the cells.—4. *H. trinervis*.

Leaves narrow, near the base of the stem. Petals divided. Anther connective, very much shorter than the cells.

Lateral lobes of the labellum long and very narrow-linear like the middle lobe.

Leaves narrow-oblong. Spur of the labellum above 1 in. long.—

1. *H. elongata*.

Leaves linear. Spur of the labellum under $\frac{1}{2}$ in. long.—2. *H. graminea*.

Lateral lobes of the labellum lanceolate-falcate; middle lobe linear.

Spur longer than the sepals.—3. *H. ochroleuca*.

1. *H. elongata*, R. Br.—Arnhem S. Bay, and islands off the coast of Arnhem's Land, R. Brown.

2. *H. graminea*, Lindl.—(*Var. arnhemica*, Benth). Port Darwin, Schultz (Nos. 162, 188); Port Essington, Armstrong.

3. *H. ochroleuca*, R. Br.—Islands of the N. Coast, R. Brown.

4. *H. trinervis*, Wight.—Port Darwin, Schultz (No. 828).

H. Holtzei, F. v. M.—Port Darwin, M. Holtze (No. 1056).

2. PTEROSTYLIS, R. Br.

Nun-flower or Parson-in-the-pulpit.

1. *P. recurva*, Benth.—N.A., Drummond; Upper Hay River, Miss Warburton.

3. GEODORUM, JACKS.

1. *G. pictum*, Lindl.—N. Coast, R. Brown ; Port Darwin, Schultz (No. 728) ; Escape Cliffs, Hulse.

4. EULOPHIA, R. BR.

1. *E. venosa*, Reichb.—Providence Hill and Macadam Range, F. v. M.
E. Holtzei, F. v. M.—Near Port Darwin, M. Holtze. In Gard. chron. 1891 (p. 552) ; given as *Pachystoma Holtzei*, F. v. M. Australia.

5. DENDROBIUM, SWARTZ.

1. *D. dicuphum*, F. v. M.—Liverpool River, Gulliver ; Port Darwin, Schultz (No. 412).
D. bigibbum, Lindl. ; *D. Foelschei*, F. v. M.—Recorded in National Herbarium Census from North Australia.

6. DIPODIUM, R. BR.

1. *D. punctatum*, R. Br.—Port Darwin, Schultz (No. 623).

7. CYMBIDIUM, SW. 1799.

- (*Aplectra*, Rafin, 1824 ; *Tridorchis*, Blume, 1858 ; *Trichorhiza*, Lindl., 1841).
 1. *C. canaliculatum*, R. Br.—Five-mile Bar, Borroloola, G. F. Hill (No. 694), 15/12/1911.
 Epiphyte on Eucalyptus (No. 688).
 Fitzmaurice River, F. v. Mueller.

8. VANDA, R. BR.

1. *V. Hindsii*, Lindl.—Arnhem's Land, F. v. M.
Didymoplexis pallens, Griff. ; *Pogonia flabelliformis*, Lindl.—Recorded in National Herbarium Census from North Australia.

CASUARINACEÆ.

1. CASUARINA, LINN. 1759.

Queensland Oaks. Sheokes.

Section I. Whorls 7-16-merous, rarely 6-merous. Cone-valves usually prominent, thickened and keeled or angled on the back or with a short broad and smooth dorsal protuberance.—2. *C. equisetifolia*.

Section II. Whorls 4 or 5-merous. Cone-valves rarely prominent beyond the thick broad obtuse dorsal protuberances, which are very rugose or divided into tubercles (nearly smooth in *C. Decaisneana*).

Male-spikes and branchlets slender.—1. *C. Decaisneana*.

1. *C. Decaisneana*, F. v. M.—6 miles S.E. of Old Henbury Station, Finke River, G. F. Hill (No. 26), 3/3/1911.

On sand-hills. Up to 50 ft.

Recorded. Desert interior, near Mount Mueller, F. v. Mueller.

2. *C. equisetifolia*, Linn.—Head of Kilgour River, G. F. Hill (No. 555). 2/9/1911. Large trees near coast.

Recorded. N. Coast, A. Cunningham ; Island of the Gulf of Carpentaria Henne ; Escape Cliffs, Hulse ; Port Darwin, Schultz (Nos. 9, 225).

Bark said to be an excellent astringent, and to be used advantageously in chronic diarrhoea and dysentery. Bark is used in tanning. Furnishes a hard wood known as Iron Wood.

ULMACEÆ.

Flowers polygamous, the fertile ones frequently hermaphrodite.

Perianth-segments imbricate in the bud. Style-branches (or styles) linear-oblong or dilated, truncate or 2-lobed.—1. *Celtis*.

Flowers polygamous, the fertile ones frequently hermaphrodite.

Male perianth-segments induplicate-valvate. Style branches (or styles) short, involute and persistent on the small fruit.—2. *Trema*.

1. *CELTIS*, TOURM. 1737.

(*Merteusia*, H. B., and K., 1817; *Momisia*, F. G. Dietr., 1819; *Saurombroma*, Rafin., 1838; *Solenostigma*, Endl., 1883.)

Leaves broad, strongly 3-nerved, scarcely acuminate. Cotyledons flat or nearly so.—2. *C. philippinensis*.

Leaves ovate-lanceolate, the lateral nerves scarcely prominent. Cotyledons conduplicate.—1. *C. paniculata*.

1. *C. paniculata*, Blanco.—Islands of the Gulf of Carpentaria, Henne. Investigator-tree.

2. *C. philippinensis*, Blanco.—Near Head of Kilgour River, G. F. Hill (No. 556), 2/9/1911.

North Island, Gulf of Carpentaria, G. F. Hill (No. 635), 20/10/1911.

Recorded. Clermont, Vansittart, and Careening Bays, N.W. Coast, A. Cunningham; Victoria River, F. v. Mueller; King's Sound, Hughan; Islands of the Gulf of Carpentaria and opposite mainland, R. Brown and others; Port Essington, A. Cunningham.

2. *TREMA*, LOUR. 1790.

(SPONIA, COMM. 1790).

Leaves green and scabrous on both sides, sprinkled with scattered hairs or nearly glabrous.—2. *T. aspera*.

Leaves softly pubescent above, densely velvety-pubescent or hirsute underneath.—1. *T. amboinensis*.

1. *T. amboinensis*, Blume.—North Coast, A. Brown.

2. *T. aspera*, Bl.—Simpson's Gap, Macdonnell Ranges, G. F. Hill (No. 131), 30/4/1911.

Recorded. Victoria River, F. v. Mueller.

Peach-leaved Poison Tree. Poisonous according to Maiden Principle unknown.

MORACEÆ.

Tribe I. Flowers unisexual in dense spikes or heads, or crowded on or enclosed in a fleshy receptacle. Stamens erect or slightly incurved in the bud. Styles undivided or 2-branched. Ovule pendulous or laterally attached. Embryo curved or straight. Trees or shrubs, with a milky juice.

Flowers enclosed in a globular ovoid or pear-shaped receptacle enclosed at the small orifice by small bracts.—4. *Ficus*.

Male flowers densely crowded on a broad receptacle, females solitary. Fruit an ovoid mass consisting of the consolidated involucre and pericarp, the tips of the bracts alone free.—3. *Antiaris*.

Tribe II. Flowers unisexual in dense spikes or heads. Stamens inflected in the bud. Styles usually 2-branched. Ovule pendulous or laterally attached. Embryo incurved or involute. Trees or shrubs very rarely herbs.

Male flowers in dense spikes. Females in globular heads, their perianths urceolate with a small orifice. Style-branches elongated.—2. Malaisia.

Flowers in globular androgynous heads. Style elongated with a small branch or tooth at the base. Stem herbaceous.—1. Fatoua.

1. FATOUA, GAUD.

1. *F. pilosa*, Gaud.—Port Essington, Armstrong.

2. MAILAISIA, BLANCO.

1. *M. tortuosa*, Blanco.—Port Darwin, Schultz (No. 395, 745). Wood hard and very tough.

3. ANTIARIS, LESCH.

1. *A. macrophylla*, R. Br.—Shores of Company's Island, opposite Arnhem's Land, R. Brown. Probably poisonous.

4. FICUS, TOURN. 1735.

(*Caprificus*, Gasp., 1844; *Erosma*, Booth., 1849; *Erythrogynne*, Vis., 1845; *Gonosuke*, Rafin., 1838; *Pharmacosycea*, Miq., 1848; *Plagiostrema*, Zucc., 1845 Many yield Caoutchouc.

Section I. Male perianth 3-merous, rarely 6-merous. Stamen 1; anther-cells distinct or confluent. Female perianth 4-6-merous, Stigma (in the Australian species) elongated, acute. Leaves alternate, entire, usually coriaceous. Receptacles usually axillary.

Leaves with rather distinct principal primary veins and numerous transverse reticulations, with a few smaller fine primary veins between the principal ones.

Receptacles sessile or on a peduncle of 1 line, not exceeding 5 lines diameter.—7. *F. nesophila*.

Receptacles on peduncles of 2 lines, $\frac{1}{2}$ to $\frac{3}{4}$ in. diameter.—5. *F. Henneana*.

Leaves with numerous parallel primary transverse veins all equal or every third or fourth more prominent.

Leaves thinly coriaceous, mostly under 3 in.

Petioles under 3 lines. Leaves usually broad and very obtuse.

Receptacles $\frac{1}{2}$ -in. diameter.—11. *F. retusa*.

Petioles $\frac{1}{4}$ to $\frac{1}{2}$ in. Leaves oblong-lanceolate or elliptical, scarcely acuminate. Receptacles $\frac{1}{4}$ -in. diameter.—3. *F. eugenioides*.

Leaves more coriaceous, obtuse or shortly and obtusely acuminate, rarely under 3 in. long.

Receptacles pedunculate.

Leaves softly pubescent underneath. Receptacles villous, scarcely umbonate.—16. *F. leucotricha*.

Leaves glabrous. Receptacles glabrous, prominently umbonate.—11. *F. puberula*.

Receptacles sessile or on very thick short peduncles.—10. *F. platypoda*.

Section II. Male perianth of 5 or 6 lobes or segments, rarely reduced to 1. Stamens 1, 2 or more; anther-cells distinct. Female perianth 4-6-merous.

Stigma (in the Australian species) undivided, peltate, oblique or oblong. Leaves alternate, or opposite, entire, toothed or lobed, often deciduous. Receptacles axillary or on the old wood.

Leaves smooth, at least on the upper side, or scarcely scabrous.—2. *F. coronulata*.

Leaves very scabrous.

Leaves all alternate, pubescent or villous underneath. Receptacles villous, the orifice broad with exerted bracts.—13. *F. scabra*.

Leaves frequently opposite. Receptacles globular, glabrous or rarely pubescent.

Branches glabrous.—9. *F. orbicularis*.

Branches hirsute or pubescent.—1. *F. aculeata*.

Leaves entire or sinuate-crenulate, not aculeate.—14. *F. scobina*.

Section III. Male perianth of 3 or 4 broad segments enveloping each other, enclosing 1 large anther with distinct cells. Female perianth very small or more rarely exceeding the stipes of the ovary. Style glabrous, short, with a peltate or oblique stigma. Leaves usually large. Stipular scar prominent. Receptacles chiefly on the old wood.

Leaves all opposite. Receptacles $\frac{3}{4}$ to 1 in. diameter, not ribbed.—6. *F. hispida*.

Leaves all alternate, glabrous and smooth. Receptacles 1 to $1\frac{1}{2}$ in. diameter; not ribbed. Stigma oblique.—4. *F. glomerata*.

1. *F. aculeata*, *A. Cunn.*—Near Head of Kilgour River, G. F. Hill (No. 554), 2/9/1911.

Providence Knoll to Roper River, Gilruth and Spencer, July-August, 1911.

Recorded. S. Goulburn Island, A. Cunningham; Nichol Bay, Ridley's Expedition; King's Sound and Collier Bay, Chapman.

2. *F. coronulata*, *F. v. M.*—Victoria and Fitzmaurice Rivers, *F. v. M. Mueller*.

3. *F. eugenioides*, *F. v. M.* (*Var. puberula*, *Benth.*).—York Sound, N.W. Coast, A. Cunningham.

4. *F. glomerata*, *Willd.*—Fitzmaurice River, *F. v. Mueller*.

Cluster Fig. In Bombay the sap is a popular remedy which is locally applied to mumps and other inflammatory glandular enlargements.

5. *F. Henneana*, *Miq.*—Maria Island and Caledon Bay, Gulliver.

Yields a fruit suitable for preserving.

6. *F. hispida*, *Linn.*—Brunswick Bay, N.W. Coast, A. Cunningham.

7. *F. leucotricha*, *Miq.*—Sandstone Range, Borroloola, G. F. Hill (No. 597), 2/10/1911.

Islands of the Gulf of Carpentaria, R. Brown; Sea Range, *F. v. Mueller*.

8. *F. nesophila*, *Miq.*—Cambridge Gulf and Enderby's Island, N.W. Coast, A. Cunningham; Nichol Bay, Gregory's Expedition; King's Sound and Collier Bay, Chapman; Islands of the Gulf of Carpentaria, R. Brown, Gulliver; Port Darwin, Schultz (No. 552, 882, 887).

9. *F. orbicularis*, *A. Cunn.*—Near Darwin, Gilruth and Spencer, July-August, 1911.

Recorded. Cadeening Bay, Enderby Island and Dampier's Archipelago, N.W. Coast, A. Cunningham; King's Sound, Hughan; Nichol Bay, Gregory's Expedition; Victoria and Fitzmaurice Rivers, *F. v. Mueller*; Port Darwin, Schultz (No. 407).

10. *F. paltypoda*, *A. Cunn.*—Macdonnell Ranges, G. F. Hill (No. 121), 23/3/1911. Grows on rocky hill-sides.

Recorded. York Sound and Vansittart's Bay, A. Cunningham.

11. *F. puberula*, *A. Cunn.*—York Sound, N.W. Coast, A. Cunningham ; Port Walcot, C. Harper ; Fitzmaurice River, F. v. Mueller.

12. *F. retusa*, *Linn.*—Islands of the Gulf of Carpentaria, R. Brown.

13. *F. scabra*, *Forst.* (*F. aspera*, *Forst.*)—Roper River, Gilruth and Spencer, July-August, 1911.

Rough or Purple Fig.

14. *F. scobina*, *Benth.*—Lizard Island, A. Cunningham ; Port Essington, Leichhardt ; Port Darwin, Schultz (Nos. 6, 410, 499).

F. glabella, *Bl.* (in National Herbarium Census), *F. virginea*, *Banks and Sol.* (in Journ. of Bot., 1901), recorded from North Australia.

URTICACEÆ.

Stigma linear, deciduous. Male perianth-lobes or segments concave or abruptly inflexed at the top. Leaves entire. Bracts very small.—1. Pouzolsia.

Stigma tufted. Male-perianth segments nearly flat. Leaves entire. Bracts united at the base into an involucre.—2. Parietaria.

1. POUZOLSIA, GAUD.

1. *P. indica*, *Gaud.*—Sea Range, Wilson ; Sunday Island, A. Cunningham.

P. quinquenervis, *Benn.*—Recorded in National Herbarium Census from North Australia.

2. PARIETARIA, LINN.

1. *P. debilis*, *Forst.*—Sea Range, F. v. Mueller.

PROTEACEÆ.

The trees of the order furnish very handsome cabinet and building woods.

Sub-order I. *Nucamentaceæ*.—Fruit an indehiscent nut or drupe. Flowers usually solitary within each bract.—1. Persoonia.

Sub-order II. *Folliculares*.—Fruit dehiscent, follicular or 2-valved, rarely (in the first 2 genera), drupaceous and indehiscent. Flowers usually in pairs with a single bract to each pair, rarely (in *Stenocarpus*), the inflorescence anomalous.

Tribe I. Ovules 2 or 4, collateral. Seeds without any intervening substance or separated by a thin lamina or mealy substance. Flowers in racemes or clusters with deciduous or abortive bracts, with an involucre of imbricate bracts.

Ovules 2. Perianth regular or nearly so, the anthers on short filaments attached below the laminae. Style cylindrical or clavate at the end.—4. Helicia.

Ovules 2. Perianth revolute in the bud or rarely straight and regular. Anthers short and sessile within the concave laminae. Leaves alternate.

Seeds without wings short at both ends or annular. In florescence terminal, rarely also axillary.—2. Grevillea.

Seeds winged, chiefly or entirely at the upper end. In florescence axillary.—4. Hakea.

Tribe II. Ovules several, imbricate in 2 rows. Seeds usually separated by thin laminæ or a mealy substance.—5. *Stenocarpus*.

Tribe III. Ovules 2, collateral. Seeds separated either by a hard usually woody substance or by a membrane rarely wanting. Flowers in dense cones or heads.—6. *Banksia*.

1. *PERSOONIA*, Sm. 1798.

(*Linkia*, Cav., 1797 ; *Pentadactylon*, Gaertn., 1805).

1. *P. falcata*, R. Br.—Bacon Swamp, Gilruth and Spencer, July-August, 1911.

Borrooloola, G. F. Hill (No. 683), 8/11/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown ; M'Adam Range, F. v. Mueller ; Escape Cliffs, Hulse ; Victoria River, Bynoe ; Cygnet Bay, N.W. Coast, A. Cunningham.

Wood hard and close-grained.

2. *GREVILLEA*, R. Br. 1810.

(*Anadenia*, R. Br., 1810 ; *Fitchia*, Meissn., 1855 ; *Lysanthe*, Salisb., 1837 ; *Manglesia*, Endl., 1839 ; *Molloya*, Meissn., 1855 ; *Platiopoda*, Spach., 1841 ; *Otychocarpa*, Spach., 1841 ; *Strangea*, Meissn., 1855 ; *Atylus*, Salisb., 1809).

Section I. Racemes secund, and elongated, or few-flowered. Perianth-tube dilated below the middle and usually opening on the lower side, revolute under the limb. Torus small, straight or slightly oblique. Stigmatic disc lateral. Leaves obtuse or mucronate, not pungent.

Leaves mostly pinnate with narrow-linear rigid segments doubly grooved underneath.—8. *G. eriostachya*.

Leaves pinnate with linear or lanceolate segments, glabrous above, silky underneath. Perianth villous.—3. *G. chrysodendron*.

Section II. Racemes various. Perianth-tube dilated below the middle and usually opening on the lower side, revolute under the limb. Torus very oblique, the gland side the shortest. Ovary villous except in a few axillary-flowered species. Stigmatic disc very oblique or lateral.—9. *G. Goodii*.

Section III. Racemes secund, usually many-flowered. Perianth-tube more or less dilated below the middle and usually opening on the lower side, revolute under the limb. Torus oblique, the gland-side the shortest. Ovary glabrous, stipitate. Species all tropical.

Leaves undivided, ovate or lanceolate, angular or prickly-toothed.

Leaves petiolate or tapering at the base.

Leaves glabrous mostly sinuate-toothed.—2. *G. angulata*.

Leaves silky-pubescent at least when young, mostly angular.

Racemes axillary. Perianth bearded inside with spreading or reflexed hairs.

Perianth slightly dilated at the base as in *G. angulata*.—21.

G. Wickhami.

Perianth much dilated at the base as in *G. Cunninghamii*.

—1. *G. agrifolia*.

Leaves sessile, deeply cordate with large stem-clasping auricles, sinuate and prickly-toothed. 4. *G. Cunninghamii*.

Leaves sessile, deeply and regularly pinnatifid with rigid pungent-pointed lobes.—17. *G. pungens*.

Leaves not toothed, entire or divided into long narrow segments. Racemes usually paniculate.

Leaves undivided, broadly falcate, longitudinally reticulate.—6. *G. dimidiata*.

Leaves mostly pinnate, the segments oblong-lanceolate or longitudinally reticulate.

Leaves tapering at the base.—10. *G. heliosperma*.

Leaves decurrent.—5. *G. decurrens*.

Leaves mostly pinnate, the segments oblong-lanceolate or linear, penni-veined with numerous oblique parallel primary veins.—19. *G. refracta*.

Leaf-segments numerous, linear, obscurely veined above, 1-nerved underneath. Racemes long. Perianth above $\frac{1}{2}$ -in. long.—7. *G. Dryandri*.

Leaf-segments not numerous, linear or lanceolate, obscurely veined above, 1-nerved underneath. Racemes dense. Perianth under $\frac{1}{2}$ -in. long.—16. *G. polystachya*.

Section IV. Racemes dense, usually paniculate. Flowers small. Perianth-tube narrow, recurved or reflexed under the limb. Torus straight. Ovary glabrous, stipitate. Fruit usually broad. Seeds winged all round. Tropical or sub-tropical species.

Leaves mostly pinnate.

Leaf-segments linear, very long and narrow.—11. *G. leucadendron*.

Leaf-segments linear-cuneate, obtuse, under 5 in. long.—18. *G. pyramidalis*.

Leaves undivided, falcate, longitudinally reticulate and irregularly several-veined.—12. *G. mimosoides*.

Leaves undivided very narrow, with involute margins.—13. *Grevillea livea*.

Leaves undivided, very long, with 9 to 13 closely parallel veins. 10. *G. striata*.

Section V. Racemes dense or rarely slender, short or cylindrical. Flowers small. Perianth-tube slender, recurved under the limb. Torus straight. Ovary stipitate. Style filiform with an erect stigmatic cone.—15. *G. polybotrya*.

Section VI. Racemes short, dense, axillary. Flowers small. Perianth-tube straight, slender or fusiform; limb erect. Torus straight. Ovary glabrous, stipitate. Style turgid in the middle or fusiform, constricted under the erect stigmatic cone. Western species.—14. *G. paniculata*.

1. *G. agrifolia*, A. Cunn.—Camp II., G. F. Hill, 4/6/1911.

Recorded. Cape Pond, Sim's Island, Lacrosse and Goulburn Islands, A. Cunningham; Nichol Bay, F. Gregory's Expedition; Gulf of Carpentaria, F. v. Mueller; in the interior, McDouall Stuart's Expedition.

2. *G. angulata*, R. Br.—Sim's Island, A. Cunningham; Victoria River, Bynoe, F. v. Mueller; Fitzmaurice River, F. v. Mueller.

3. *G. Chrysodendron*, R. Br.—Hell Gate, Roper River, Gilruth and Spencer, July-August, 1911.

Near Darwin, and Melville Island. Gilruth and Spencer, July-August, 1911.

Roper River, G. F. Hill (No. 841), 9/4/1912.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Victoria River; Bynoe, F. v. Mueller; Port Essington, Armstrong; Port Darwin, Schultz; Melville Island, Fraser; and other points of North Coast, A. Cunningham and others.

4. *G. Cunninghami*, R. Br.—Montague Sound, N.W. Coast, A. Cunningham.

5. *G. decurrens*, Ewart.—Racemes few-flowered forming a short terminal panicle, perianth glabrous externally and on inner surface; torus oblique, gland elongated horse-shoe-shaped, stigmatic disk lateral, convex; leaves divided with broad leaflets decurrent on the rachis. Glabrous but with slight pubescence at insertion of petioles. Leaf 28 cms. over all, of which the petiole is about 7 cms., grooved above, pinnate between lowermost leaflets, but scarcely cleft to midrib between uppermost pairs, pinnæ 7 in number, 10-12 cms. by 2-4 cms., oblong-lanceolate, obtuse, lower margin decurrent on the rachis, with a longitudinal vein on either side of the midrib, and sometimes one or two intramarginal veins, with oblique reticulations between all, conspicuous but more so on upper than on under side, which is paler. Racemes about 3 cms. pedunculate in the upper axils and terminal, few-flowered, the lowermost slightly branched, pedicels about 6 or 7 mm., perianth-tube about 1.5 cm. long, somewhat larger, broader and more tapering at base than in *G. heliosperma*, almost glabrous on inner surface, but with an oblique torus, elongated horse-shoe gland and lateral convex stigmatic disk as in that of other species in this section; ovary glabrous on a stipes of about 12 mm., style 20 mm.

Northern Territory, N. of 15 degrees S. lat. W. S. Campbell, Sept., 1911.

6. *G. dimidiata*, F. v. M.—Maude's Creek, Gilruth and Spencer, July-August, 1911.

Top Spring, G. F. Hill (No. 543), 31/8/1911. Tree 30 ft. high.

Recorded. Careening Bay, A. Cunningham (leaves only); Victoria River, F. v. Mueller; Roper River, M'Douall Stuart's Expedition.

7. *G. Dryandri*, R. Br.—Borrooloola, G. F. Hill (No. 744), 11/2/1912.

North of 15 degrees, W. S. Campbell (No. 20), 5/9/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Henne; Upper Victoria River, F. v. M.; Goulburn Island, A. Cunningham; Port Essington, Armstrong.

8. *G. eriostachya*, Lindl.—70 miles N.W. of Camp III., West of Lander Creek, G. F. Hill (No. 341), 14/6/1911.

40 miles N.N.W. of Meyer's Hill, G. F. Hill (No. 232), 2/6/1912. Up to 12 ft.

35 miles N.E. of Camp II., G. F. Hill (No. 257), 7/6/1911, 7 ft. high. With fruit.

N.A., G. F. Hill (No. 217), Fruits.

Note by Dr. Morrison:—"In *G. eriostachya* the pedicels are very short, but in No. 341 they are seen $\frac{5}{8}$ -in., and in No. 257 $4\frac{1}{2}$ lines. Fruits in Nos. 257 and 217 are $\frac{7}{8}$ -in. long.

9. *G. Goodii*, R. Br.—North Coast, R. Brown; Port Essington, Armstrong; Point Pearce and Newcastle Range, F. v. Mueller.

10. *G. heliosperma*, R. Br.—Near Darwin, Melville Island, Driffeld Creek, Gilruth and Spencer, July-August, 1911.

Borrooloola, G. F. Hill (No. 656), 6/11/1911.

Recorded. North Coast, R. Brown; Port Raffles, A. Cunningham; Melville Island, Fraser; Point Pearce, M'Adam Range, Roper River, F. v. Mueller; Port Darwin, Schultz; Caledon Bay and Liverpool River, Gulliver.

11. *G. Leucadendron*, A. Cunn.—20 miles S.W. of Borrooloola, G. F. Hill (No. 572), 6/9/1911. 25 ft. high.

Recorded. Cambridge Gulf and Enderby Island, Dampier's Archipelago, A. Cunningham ; Sea Range, Victoria River, and sources of the Roper, Wickham ; and Alligator Rivers, Gulf of Carpentaria, F. v. Mueller.

12. *G. mimosoides*, R. Br.—Cadeening Bay, N.W. Coast, A. Cunningham ; Victoria River, M'Adam Range, Fitzmaurice River, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown, Henne.

13. *G. livea*, Ewart and Archer (Plate VIII.).—Tall shrub, about 10-15 ft. Stems, pubescent when young, glabrous when older. Leaves simple, entire, linear, tapering to a curved point. Very narrow margin recurved on the under surface, 7-9 in. long.

Racemes 4-5 in. long, a number together forming a terminal leafless panicle.

Flowers small and numerous, often two arising from the same point of the rachis. Pedicel $1\frac{3}{4}$ -2 lines long. Torus slightly oblique, gland not prominent. Ovary glabrous on a short stipes, style long ; stigmatic disc lateral with a small cone elevation in the centre of the disc.

Fruit small, compressed, $\frac{1}{2}$ -in. by $\frac{1}{2}$ -in., beaked, covered with a dark brown skin which rubs off when ripe leaving a rough light brown surface. Seeds winged all round.

40 miles N.N.W. of Meyer's Hill, G. F. Hill (No. 231), 2/6/11.

30 miles N.W. of Charlotte Waters, G. F. Hill (No. 20), 24/2/11.

70 miles N. of Camp IV., G. F. Hill (No. 231a), 28/6/11.

The nearest affinity appears to be to *G. mimosoides*, from which it differs in the much narrower and involute leaves, shortly stalked ovary, smaller fruits, etc.

14. *G. paniculata*, Meissn.—N. Australia, Drummond, (No. 105), Preis (No. 617), a. and b. ; Fitzgerald Flats, Maxwell.

15. *G. polybotrya*, Meissn.—Glenelg River, N.W. Coast, Martin.

16. *G. polystachya*, R. Br.—Providence Knoll and Eleven-Mile Creek, near Katharine, Gilruth and Spencer, July-August, 1911.

Newcastle Waters, G. F. Hill (No. 496), 7/7/1911.

20 miles S.W. of Borroloola, G. F. Hill (No. 569), 7/9/1911. 30 ft. high.

Recorded. Macadam Range and S. Alligator River, F. v. Mueller.

17. *G. pungens*, R. Br.—W. Coast of the Gulf of Carpentaria, R. Brown, Leichhardt ; Maria Island, Gulliver.

18. *G. pyramidalis*, A. Cunn.—Regent's River, N.W. Coast, A. Cunningham.

19. *G. refracta*, R. Br.—90 miles N. of N.T. Survey Camp III., G. F. Hill (No. 401), 30/6/1911.

Grows to 15 ft. Slender bush on sandy plains.

Recorded. Islands of the Gulf of Carpentaria, R. Brown ; Cambridge Gulf, N.W. Coast, A. Cunningham ; Cygnet Bay, Wickham ; Victoria River, Bynoe, F. v. Mueller ; Sea Range and Fitzmaurice River, F. v. Mueller ; Short's Range, Newcastle Waters, Rilliar's Springs, M'Douall Stuart's Expedition.

20. *G. striata*, R. Br.—Henbury Station, Finke River, G. F. Hill (No. 50), 10/3/1911. Near Ranges.

Recorded. Victoria River, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown.

Resin may be used medicinally as a substitute for pitch. The foliage considered good fodder for stock in times of drought. Wood useful for staves and cabinet wood.

21, *G. Wickhami*, Meissn.—Usborne's Harbour, N.W. Coast, Wickham ; Roebuck Bay, Martin ; King's Sound and Collier Bay, Chapman ; Port Darwin, Schultz ; Gulf of Carpentaria, F. v. Mueller.

G. stenobotrya, F. v. M. ; *G. longistyle*, Hook ; *G. juncifolia*, Hook ; *G. gibbosa*, R. Br.—Recorded in National Herbarium Census from North Australia.

3. HAKEA, Schrad. 1797.

(*Conchium*, Sm., 1798 ; *Mercklinia*, Regel, 1857).

Section I. Flowers in oblong or cylindrical or rarely short racemes, without any involucre. Perianth much revolute. Stigmatic disc oblique or lateral, flat or broadly conical. Tropical or sub-tropical species.

Leaves usually terete very long.

Racemes as well as the whole plant quite glabrous.—2. *H. chordophylla*.

Racemes pubescent or villous.

Leaves 8 to 12 in. long. Torus oblique.—4. *H. digyna*.

Leaves mostly above 1 ft. long. Racemes 3 to 6 in. long. Perianth-tube 4 to 5 lines.

Torus very oblique.—3. *H. Cunninghamii*.

Torus scarcely oblique.—7. *H. lorea*.

Leaves under 6 in. long.—5. *H. intermedia*.

Leaves flat, linear, usually long.

Seed-wing not at all or scarcely decurrent along the nucleus.

Racemes 3 to 6 in. long. Perianth villous, 5 to 6 lines long.

—8. *H. macrocarpa*.

Racemes under $\frac{1}{2}$ -in. long, pedunculate. Perianth silky under 2 lines.—1. *H. arborescens*.

Seed-wing decurrent on both sides round the base of the nucleus.—9.

H. stenophylla.

Section II. Racemes usually short or reduced to sessile clusters, enclosed before their development in an involucre or bud of imbricate scales. Perianth revolute, at least under the limb. Stigmatic disc oblique or lateral, flat or slightly convex, without any cone.—6. *H. leucoptera*.

1. *H. arborescens*, R. Br.—Lat. 19 degrees 16 min., Survey route, G. F. Hill (No. 425), 4/7/1911. Specimen without flowers.

Recorded. Islands of the Gulf of Carpentaria, R. Brown ; Henne ; Cope-land Island, A. Cunningham ; Victoria River, F. v. Mueller ; Port Essington, Armstrong.

2. *H. chordophylla*, F. v. M.—Sturt's Creek, F. v. Mueller ; Kekwick Springs, Waterhouse.

3. *H. Cunninghamii*, R. Br.—Bay of Rest, N.W. Coast, A. Cunningham ; Nichol Bay, Gregory's Expedition ; Victoria River, F. v. Mueller.

4. *H. digyna*, Ewart and Davies (Plate IX.).—Newcastle Waters, G. F. Hill (No. 471), 17/7/1911.

Tree 20 ft. high. Leaves terete, smooth, from 8 to 12 in. Racemes cylindrical, from axils, 6 to 9 cms. long. Rachis glabrous, pedicels and perianths pubescent. Pedicels 8 mm. long. Torus oblique ; gland large, horse-shoe shaped. Ovary stipitate ; stigmatic disc broad, oblique, convex.

Specimen without fruit.

The pedicels arise in pairs, and in the specimens here collected some have fused, resulting in the formation of flowers with two carpels on the one pedicel, as shown in Fig. VI. Figs. VII., VIII., and IX. show transition stages in the fusion of the pedicels. Fig. VII. shows the complete fusion of the glands leaving only one gland.

The species seems nearest *H. chordophylla*, F. v. M.; but differs in the pubescent pedicels and perianths, and in the convex stigmatic disc. The tendency for the fusion of pedicels is probably also a specific characteristic.

5. *H. intermedia*, Ewart and Davies (Plate X.).—60 miles N.E. of Camp II., G. F. Hill (287a), 7/6/1911.

37 miles E. of Hermansburg, Finke River, G. F. Hill (No. 108), 21/3/1911. Up to 15 ft.

Near Jay Gorge, Jay River, G. F. Hill (No. 111), 21/3/1911.

15 ft. high. Leaves terete, smooth, trifid or quadrifid. Whole leaf barely 11 cm. long. Racemes cylindrical, in axils, and in terminal panicles. Racemes 7 to 8 cm. long; rachis, pedicels, and perianths pubescent, the pedicels and perianths more so than the rachis. Pedicels 5 cm. long. Perianth tube 8 to 10 cm. long. Gland prominent, horse-shoe shaped, with lengthened cusps. Torus oblique. Ovary shortly stipitate, glabrous. Stigmatic disc oblique, convex, with small prominent swelling. Fruit described from a second specimen without flowers. Fruit $4\frac{1}{2}$ by $1\frac{1}{2}$ cm., obliquely ovate-lanceolate, obtuse, with mucronate point. Seed-wing not decurrent, convex over nucleus. The species most resembles *H. lorea*, R. Br.; it differs in the size and shape of the leaf, and in the shape of the stigmatic disc, as that of *H. lorea* does not end in a prominent little swelling like *H. intermedia*. This difference is easily seen by comparing Figs. IV. and V.

H. intermedia also closely resemble *H. Ednieana*, in general appearance, but the leaves and the whole plant of *H. Ednieana* are much smaller. The whole leaf of *H. Ednieana* measures about 3 cm., that of *H. intermedia* 11 cm. The stigmatic discs are also quite different, that of *H. Ednieana* being somewhat sharply pointed (Fig. VI.). On the whole *H. intermedia* seems to be an intermediate species between *H. Ednieana* and *H. lorea*.

6. *H. leucoptera*, R. Br.—Charlotte Waters, G. F. Hill (No. 16), 21/2/1911. Grows on dry plains and sandhills. 16 ft. high.

7. *H. lorea*, R. Br. (Var. *suberea*, Sp. le Moore).—Macdonnell Ranges, G. F. Hill (No. 94), 23/3/1911.

Sandstone Country, G. F. Hill, 25/5/1911. Up to 25 ft.

Hermansburg, Finke River, G. F. Hill. With rough corklike bark.

60 miles W. of Camp IV., G. F. Hill (No. 370), 22/6/1911. 8 in. diameter, 30 ft. high.

Recorded. Attack Creek, M'Douall Stuart's Expedition.

Cat-o'-nine-tails.

8. *H. macrocarpa*, A. Cunn.—110 miles N. of N.T. Survey Camp IV., G. F. Hill (No. 406), 1/7/1911.

Camp II., G. F. Hill (No. 239), 4/3/1911.

40 miles N.N.W. of Meyer's Hill, G. F. Hill, 2/6/1911.

Top Spring, G. F. Hill (No. 545), 31/8/1911. Tree 25 ft. high.

Recorded. Arid shores of Cygnet Bay, N.W. Coast, A. Cunningham; Roebuck Bay and Glenelg River, Martin; remotest parts of Sturt's Creek, F. v. Mueller.

9. *H. stenophylla*, A. Cunn.—*H. rhombales*, F. v. M.; *H. multilineata*, Meissn.—Recorded in National Herbarium Census from North Australia.

4. HELICIA, Lour.

1. *H. australasica*, F. v. M.—Towards Macadam Range, F. v. Mueller ; Port Darwin, Schultz.

5. STENOCARPUS, R. Br.

1. *S. Cunninghamii*, R. Br.—Vansittart's Bay, N.W. Coast, A. Cunningham ; sources of the Roper River, F. v. Mueller ; Liverpool River, Cadell's Expedition.

6. BANKSIA, Linn. 1781.

(*Isostylis*, R. Br., 1840).

1. *B. dentata*, R. Br.—Borrooloola, G. F. Hill (No. 654), 8/11/1911 Specimen with fruit.

Recorded. Islands of the Gulf of Carpentaria, R. Brown ; Port Hurd, opposite Melville Island, A. Cunningham ; Point Pearce, F. v. Mueller ; Glenelg River, N.W. Coast, Martin.

Conospermum sphacelatum, Hook.—Recorded in National Herbarium Census from North Australia.

LORANTHACEÆ.

1. LORANTHUS, Linn. 1890.

Mistletoes.

Anthers adnate, linear. Petals united to the middle or higher up. Leaves alternate or opposite. Inflorescence axillary.

Flowers several, in racemes.—8. *L. longiflorus*.

Flowers several, in cymes.

Flowers and inflorescence glabrous. Calyx-limb truncate, much shorter than the adnate tube.—3. *L. dictyophlebus*.

Flowers and inflorescence hoary-tomentose. Calyx-limb 5-toothed, nearly as long as the adnate tube. Cymes sessile, few-flowered. 9. *L. odontocalyx*.

Flowers solitary or in pairs.

Leaves mostly opposite, coriaceous.—4. *L. Exocarpi*.

Leaves all alternate, thin. Pedicels slender. 1.—*L. acacioides*.

Anthers adnate, linear. Petals free. Leaves mostly opposite.

Flowers in clusters of 3, the clusters in axillary racemes.—13. *L. signatus*.

Flowers in axillary cymes (or umbels), the common peduncle with 2 to 5 diverging or divaricate umbellate branches.

Branches of the peduncle (usually 3 or 4) bearing each a single flower.—12. *L. sanguineus*.

Peduncle twice forked with 1 flower to each branch.—2. *L. bifurcatus*.

Branches of the peduncle usually 3 or 4, each bearing 3 flowers. Leaves terete.—7. *L. linophyllus*.

Leaves flat.

Lateral flower of the 3, or all 3, pedicellate. Plant glabrous.—10. *L. pendulus*.

Flowers all 3 closely sessile. Plant more or less hoary-tomentose, at least the calyx.—11. *L. Quandong*.

Branches of the peduncle 2, each with 2 pedicellate flowers.—5. *L. gibberulus*.

Flowers sessile on the dilated apex of the peduncle, between 2 large bracts or floral leaves.—6. *L. grandibracteus*.

1. *L. acacioides*, *A. Cunn.*—N.W. Coast, A. Cunningham ; Victoria and Fitzmaurice Rivers, F. v. Mueller.
2. *L. bifurcatus*, *Benth.*—Camp II., G. F. Hill (No. 242), 4/3/1911. Parasite on No. 341a. *Eucalyptus oleosa* or *Eucalyptus setosa*. Recorded. Islands of the Gulf of Carpentaria, R. Brown.
3. *L. dictyophlebus*, *F. v. M.*—160 miles N. of Survey Camp IV., G. F. Hill (No. 421). On Acacias (Nos. 358 and 236). Lander Creek, Camp III., G. F. Hill (No. 303), 10/6/1911. On *Cassia Sturtii* (No. 36), and *Santalum lanceolatum* (No. 243). Roper River, Gilruth and Spencer, July-August, 1911. On Indiarubber Tree.
4. *L. Exocarpi*, *Behr.*—60 miles N.E. of Camp II., G. F. Hill (Nos. 274 and 375), 7/6/1911. On Acacia Nos. 10 and 244, *Eremophila Duttoni* (No. 244) At Black Rocks, MacArthur River, G. F. Hill, (No. 637), 22/10/1911. Bacon Swamp, Gilruth and Spencer, July-August, 1911. On *Eucalyptus*. Recorded. N.W. Coast, Bynoe ; Victoria River, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown, Henne ; M'Donnell Ranges, M'Douall Stuart's Expedition.
5. *L. gibberulus*, *Tate.*—Camp II., G. F. Hill (No. 242a), 4/6/1911. Near Hermansburg, Finke River, G. F. Hill (No. 77), 12/3/1911.
6. *L. grandibracteus*, *F. v. M.*—Islands of the Gulf of Carpentaria, R. Brown ; between Albert and Flinders Rivers, F. v. Mueller.
7. *L. linophyllus*, *Fenzl.*—Dalhousie Station, G. F. Hill (No. 8), 14/2/1911. On No. 7. Idracowra Station, Finke River, G. F. Hill (No. 35), 6/3/1911. Recorded. Bay of Rest, N.W. Coast, A. Cunningham ; Sturt's Creek, F. v. Mueller.
8. *L. longiflorus*, *Desr.*—N.T., G. F. Hill (No. 539), 1911. Borroloola, G. F. Hill (No. 579), 10/9/1911. Recorded. Victoria River, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown. Bark said to contain 10 per cent. Tannin.
9. *L. odontocalyx*, *F. v. M.*—Towards M'Adam Range, and Providence Hill, F. v. Mueller.
10. *L. pendulus*, *Sieb.*—Borroloola, G. F. Hill (No. 602), 2/10/1911. On Box Gum. 70 miles W. of Camp IV., on Lander Creek, G. F. Hill (No. 372), 22/5/1911. Recorded. Victoria River, F. v. Mueller ; Port Essington, Armstrong ; Gilbert River, F. v. Mueller.
11. *L. Quandang*, *Lindl.*—15 miles N.W. of Crown Point, Overland Telegraph Line, G. F. Hill (No. 23), 1/3/1911. Parasitic on "Mulga." 20 miles N.W. by N. of Meyer's Hill, Macdonnell Ranges, G. F. Hill (No. 220), 1/6/1911. Recorded. Victoria River and Sturt's Creek, F. v. Mueller ; Thomson River, A. C. Gregory ; Islands of the Gulf of Carpentaria, R. Brown, Henne.
12. *L. sanguineus*, *F. v. M.*—Camp III., Lander Creek, G. F. Hill (No. 319), 10/6/1911. Recorded. Victoria River, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown ; Bentinck's Island, and Albert River, Henne.
13. *L. signatus*, *F. v. M.*—Near Darwin, Gilruth and Spencer, July-August 1911.

Recorded. Arnhem S. Bay, and Islands of the Gulf of Carpentaria, R. Brown ; N. Coast, F. v. Mueller ; Quail Island, Flood.

Loranthus amplexifolius, F. v. Mueller ; and *Viscum angulatum*, Heyne.—Recorded in Roy. Soc., S.A., 1895, from North Australia.

SANTALACEÆ.

Perianth-tube adnate at the base, with the upper campanulate, ovoid or cylindrical portion, superior.—3. *Santalum*.

Perianth inferior, the lobes divided to the broad base or dilated summit of the peduncle.

Flowers diœcious, usually 3 or 4-merous, the females solitary, the males in clusters. Leaves alternate, linear-terete or minute and scale-like.—1. *Anthobolus*.

Flowers polygamous, inflorescence and foliage of *Leptomeria* or the leaves developed and flat.—2. *Exocarpus*.

1. ANTHOBOLUS, R. Br.

1. *A. filifolius*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown ; Fitzmaurice River, F. v. Mueller.

2. EXOCARPUS, LABILL. 1798.

(*Canopus Presl.*, 1849 ; *Sarcocalyx*, Zipp., 1830 ; *Xynophylla*, Montr., 1860.).

Leaves ovate, flat, 1 to 2 in. long.—1. *E. latifolius*.

Leaves linear-subulate, 1 to 2 lines long and deciduous, or rarely rather longer and persistent.—2. *E. spartea*.

1. *E. latifolius*, R. Br.—Sandstone Ranges, near Borrooloola, G. F. Hill (No. 791), 23/2/1912. Edible. 12 ft.

Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne ; Islands and Mainland, N. Coast, A. Cunningham ; Point Pearce and Upper Victoria River, F. v. Mueller ; Port Darwin, Schultz (No. 358).

A fragrant wood suitable for cabinet work.

2. *E. spartea*, R. Br.—20 miles N.N.W. of Meyer's Hill, Macdonnell Ranges, G. F. Hill (No. 222), 1/6/1911. Up to 4 ft. 6 in.

3. SANTALUM, LINN. 1742.

(*Sirium*, Schreb., 1789 ; *Fusanus* ; *Eucarya*).

Flowers several in the panicle. Perianth 3 lines long or more.—1. *S. lanceolatum*.

Flowers few (rarely above 3) on the peduncles. Perianth rarely 2 lines long. Fruit 3 to 4 lines diameter, the terminal scar enclosing a small area.—2. *S. ovatum*.

1. *S. lanceolatum*, R. Br.—Hermansburg, Finke River, G. F. Hill (61 and 85), 11-13/3/1911. Drooping shrub, 8 ft.

Dashwood Creek, Macdonnell Ranges, G. F. Hill (No. 172), 13/5/1911.

35 miles N.E. of Camp II., G. F. Hill (No. 243), 7/6/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown : Upper Victoria River, F. v. Mueller ; Port Darwin, Schultz (No. 517).

Note on Herbarium specimen from Mt. Lyndhurst, collected by Max Koch :—

“Cattle tree.” Aboriginal name “Mandanorra.” Blacks eat the fruit. Good fodder, ornamental, 12 ft. high.

Sandalwood. The fragrant wood has been an article of export from Queensland for some time.

2. *S. ovatum*, R. Br.—Arnhem N. Bay, R. Brown ; Port Darwin, Schultz (Nos. 678, 714, 771).

OLACACEÆ.

Tribe I. *Olaceæ*.—Stamens twice as many as petals, or fewer, or if the same number as petals, opposite to them. Ovary often 2 or 3-celled at the base, 1-celled at least at the top ; placenta central, with 2 or 3 pendulous ovules.

Calyx not enlarged after flowering. Stamens twice as many as petals ; anthers oblong or linear.—1. *Ximenia*.

Calyx enlarged and enclosing the fruit. Stamens 3 ; staminodia (in the Australian species), 5 ; anthers short.—2. *Olax*.

Tribe II. *Opilieæ*.—Stamens as many as petals and opposite to them. Ovary 1-celled, with 1 ovule.—3. *Opilia*.

1. XIMENIA LINN.

1. *X. americana*, Linn.—Ranges of the Suttor and Mackenzie Rivers, F. v. Mueller.

Contains Prussic Acid. The wood resembles English Box.

2. OLAX, LINN.

Staminodia undivided.—1. *O. aphylla*.

Staminodia 2-cleft to the middle.—2. *O. Benthamiana*.

1. *O. aphylla*, R. Br.—N. Coast, R. Brown ; barren stony ridges on the Fitzmaurice River, F. v. Mueller ; Arnhem's Land, Leichhardt.

2. *O. Benthamiana*, Miq.—Bay of Rest, N.W. Coast, A. Cunningham.

3. OPILIA, ROXB.

1. *O. amentacea*, Roxb.—York Sound, N.W. Coast, A. Cunningham ; Victoria River, Bynoe, F. v. Mueller ; Port Essington, Armstrong ; Point Pearce, F. v. Mueller.

Cansjera leptostachya, Benth.—Recorded in National Herbarium Census from North Australia.

ARISTOLOCHIACEÆ.

1. ARISTOLOCHIA, LINN.

Birthwort.

1. *A. Thozettii*, F. v. M. (*Var. angustissima*, Benth).—Port Darwin, Schultz (No. 547).

A. Holtzei, F. v. M. (in Viet. Nat., 1893) and *A. indica*, Linn. (in National Herbarium Census) recorded from North Australia.

POLYGONACEÆ.

Perianth-segments 6, the 3 inner ones closing over the fruit.

Stamens 6. Styles 3. Stigmas fringed.—1. *Rumex*.

Perianth-segments 5, nearly equal. Stamens 8 or fewer.

Flowers mostly hermaphrodite. Styles or style-branches 2 or 3. Stigmas entire.—2. Polygonum.

Flowers more or less dioecious. Styles or style-branches 3; Stigmas more or less fringed, or rarely entire.—3. Muhlenbeckia.

1. RUMEX, LINN.

Docks.

1. *R. halophilus*, F. v. M. (*R. crystallinus*, Lange).—Gulf of Carpentaria, F. v. Mueller.

POLYGONUM, LINN. 1735.

(*Ampelgynonum*, Lindl., 1838; *Antenoron*, Rafin., 1817; *Asicaria*, Neck., 1790; *Bergeria*, Koen., 1840; *Bilderdykia*, Dum., 1827; *Bistorta*, Tourn., 1737; *Chylocalyx*, Hassk., 1842; *Echinocaulon*, Spach., 1841; *Goniaticum* Stokes, 1812; *Helxine*, Linn., 1735; *Koenigia*, Linn., 1767; *Lagunea*, Lour., 1790; *Persicaria*, Linn., 1735; *Pleuropterus*, Turcz., 1848; *Tephis*, Adans., 1763; *Thysanella*, A. Gr., 1847; *Tiniaria*, Reicht., 1837; *Tovara*, Adans., 1763; *Trachypyrion*, Ger., 1836.)

1. *P. attenuatum*, R. Br.—Newcastle Waters, G. F. Hill (No. 469), 17/7/1911. In waterholes.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Upper Victoria River, Sturt's Creek, Wentworth, Flinders and Macarthur Rivers, F. v. Mueller.

Note on Herbarium specimen :—Baked in ashes and eaten by the natives. Camels fatten on this."

P. plebeium, R. Br., *P. barbatum*, Linn.—Recorded in National Herbarium Census from North Australia.

3. MUEHLENBECKIA, MEISSN. 1840.

(*Calacinum*, Raein., 1836; *Conobea*, Bert., 1840; *Karkinetron*, Rafin., 1836; *Sacogonum*, G. Don., 1839).

1. *M. Cunninghami*, F. v. M.—Newcastle Waters, G. F. Hill (No. 478), 17/7/1911. Wild scrub near creek. Lignum of some.

Victoria River, F. v. Mueller.

CHENOPODIACEÆ.

Tribe I. Branches continuous. Leaves flat, glabrous, mealy, scaly or glandular. Testa crustaceous. Embryo curved round a mealy albumen.

Perianths equally 5 or 4-lobed, herbaceous, not much enlarged in fruit.

Fruit a small succulent berry.—2. Rhagodia.

Fruit a dry nut enclosed in the perianth.—3. Chenopodium.

Male perianths small, equally 5 or 4-lobed, females much enlarged in fruit with 2 broad appressed segments enclosing the fruit.—4. Atriplex.

Tribe II. Branches continuous. Leaves narrow, entire, flat or terete, glabrous, villous-tomentose or woolly. Testa membranous. Embryo curved round a mealy albumen.

Fruiting-perianth globular or depressed, membranous, herbaceous or succulent, the lobes horizontally (or rarely conically) closing over the fruit. Seed horizontal or oblique.

Fruiting-perianths without appendages, succulent or coriaceous, glabrous or the lobes slightly pubescent.—7. Enchylæna.

Fruiting-perianth surrounded by 3 or 5 distinct or by 1 continuous annular horizontal wings.—6. Kochia.

Fruiting-perianth membranous or herbaceous, enveloped in wool or long hairs, without any or with horn-like or spinescent dorsal appendages.—5. *Bassia* (*Chenolea*).

Fruiting-perianth hard, at least at the base, the lobes usually membranous and withering.—5. *Bassia*. (*Sclerolæna* and *Anisacantha*.)

Tribe III. Branches articulate, fleshy, Leaves none. Flowers more or less immersed. Testa various. Embryo curved or folded with little or no albumen. Single genus.—8. *Salicornia*.

Tribe IV. Branches continuous, Leaves narrow, flat or terete, entire. Testa various. Embryo spirally coiled, without albumen.—9. *Salsola*.

Tribe V. Branches continuous. Leaves entire, linear, fleshy. Testa crustaceous. Embryo enclosing a mealy albumen.—1. *Hemichroa*.

1. HEMICHROA, R. Br. 1816.

1. *H. diandra*, R. Br.—10 miles W.S.W. of Stuart Range, G. F. Hill (No. 228), 2/6/1911. Near salt lakes.

Recorded. Nichol Bay, N.W. Coast, F. v. Mueller.

2. RHAGODIA, R. Br. 1810.

Saltbushes.

Inflorescence nearly single or panicle not much branched.—2. *R. crassifolia*.

Leaves flat, rather thin, mostly alternate broad and small. Plant spinescent.—3. *R. spinescens*.

Leaves thin, green, opposite or alternate. Plant usually slender or weak.—2. *R. nutans*.

1. *R. crassifolia*, R. Br.—Sturt's Creek, F. v. Mueller.

2. *R. nutans*, R. Br.—Macdonnell Ranges, G. F. Hill (No. 118), 23/3/1911.

3. *R. spinescens*, R. Br.—Hermansburg, Finke River, G. F. Hill (No. 99), 18/3/1911.

A hardy perennial fodder-plant. Aboriginal name in the Dieyerie dialect of Central Australia, Yillaroo.

R. Billiardieri, R. Br.—Recorded in National Herbarium Census from North Australia.

3. CHENOPODIUM, LINN. 1735.

(*Agathophytum*, Moq., 1834; *Ambrina*, Spach., 1836; *Anserina*, Dum., 1827; *Blitum*, Linn., 1737; *Botrydium*, Spach., 1836; *Lipandra*, Moq., 1840; *Morocarpus*, Adans., 1763; *Oligandra*, Less., 1834; *Oliganthera*, Endl., 1841; *Orthospermum*, Opiz., 1852; *Orthosporum*, Nees., 1835; *Oxybasis*, Kar., and Kir., 1841; *Teloxys*, Moq., 1834).

Section I. Spinescent shrub. Flower-clusters in terminal spikes. Seeds vertical.—10. *C. nitrariaceum*.

Section II. Herbs mealy-white or glabrous. Flower-clusters in terminal or axillary spikes or panicles. Seeds all or mostly horizontal.—4. *C. auricomum*.

1. *C. auricomum*, Lindl.—Near Anthony's Lagoon, G. F. Hill (No. 528), 21/8/1911.

10 miles W. of Eva Downs, G. F. Hill (No. 516), 19/8/1911.

A tall undershrub (6 ft. high), with herbaceous stems of considerable fodder value, so much so that it has almost disappeared from the stocked portions of the interior. Aboriginal name of the Dieyerie tribe of Central Australians, Batha-oorroo. The natives eat the foliage. Bluebush.

Recorded. Upper Victoria River, and Sturt's Creek, F. v. Mueller; Gulf of Carpentaria, Landsborough; in the interior, M'Douall Stuart's Expedition.

2. *C. nitrariaceum*, F. v. M.—N.W. Coast, Bynoe.

C. atriplicinum, F. v. M.; *C. carinatum*, R. Br.; Recorded in National Herbarium Census from North Australia.

4. ATRIPLEX, LINN, 1735.

(*Endolepis*, Torr., 1860); *Halimus*, Walk., 1822; *Obione*, Gaertn., 1791; *Phyllothea*, Nutt., 1849; *Pterocarya*, Nutt., 1849; *Pterochiton*, Ton., 1845; *Schizotheca*, Lindl., 1847; *Thelophyton*, Moq., 1849).

Saltbushes.

Series I. Dioecious or semidioecious scaly tomentose shrubs, the male clusters in more or less branched or paniculate dense or interrupted leafless spikes.

Fruiting-perianths flat.—4. *A. Moquiniana*.

Fruiting-perianths with thick convex valves.—5. *A. nummularia*.

Series II. Monoecious, decumbent, procumbent, or spreading herbs, scaly-tomentose or very rarely green. Male flowers in globular clusters surrounded by a few females in the upper axils or rarely forming a short terminal spike, females clustered in the lower axils without males. Fruiting perianths more or less compressed, conspicuously 2-valved.

Fruiting perianth flat, rhomboidal, the valves free almost or quite to the base, closing over the fruit.—3. *A. humilis*.

Fruiting perianth with a compressed turbinate base half enclosing the fruit, shorter than or not longer than, the valves.

Leaves nearly orbicular, about 1 in. diameter. Fruiting perianth stipitate, the valves more than twice as broad as the tube.—1.

A. angulata.

Leaves narrow, usually green, $\frac{1}{2}$ to 1 in. long. Fruiting perianth sessile, rhomboidal, the valves not broader than the tube.—6.

A. semibaccata.

Fruiting perianth with a globular ovoid or slightly compressed tube enclosing the fruit, the valves shorter than the tube.

Spreading (or erect). Leaves broad mostly toothed and 2 in. long or more. Fruiting perianth 1 to $1\frac{1}{2}$ lines diameter.—29. *A. varia*.

Diffuse. Leaves obovate or oblong, rarely above 2 lines long.

Fruiting perianth 1 to $1\frac{1}{4}$ lines diameter.—2. *A. elachophylla*.

Series III.—Monoecious spreading or procumbent herbs or undershrubs scaly-tomentose or mealy. Flowers axillary. Fruiting perianths not compressed, enclosing the fruit, the orifice small closed by small erect appressed valves.—7. *A. spongiosa*.

1. *A. angulata*, Benth.—Henbury Station, Finke River, G. F. Hill (No. 27), 7/3/1911. Good fodder.

2. *A. elachophylla*, F. v. M.—Desert of Sturt's Creek, F. v. Mueller.

3. *A. humilis*, F. v. M.—Subsaline banks of Flinder's River, Gulf of Carpentaria, F. v. Mueller.

4. *A. Moquiniana*, Welb.—Bay of Rest, N.W. Coast, A. Cunningham.
5. *A. nummularia*, Lindl.—Macdonnell Ranges, G. F. Hill (No. 28), 23/3/1911. On flat country.
Undunya Creek, Finke River, G. F. Hill (No. 27a), 3/3/1911.
Old Man Saltbush. Good fodder.
6. *A. semibaccata*, R. Br.—Near Hermansburg, Finke River, G. F. Hill (No. 105), 20/3/1911.
7. *A. spongiosa*, F. v. M.—Sturt's Creek, F. v. Mueller.
8. *A. varia*, Ewart and Davies (Plate XI.).—Henbury Station, Finke River, G. F. Hill (No. 42), 9/3/1911.
60 miles N.E. of Camp II., G. F. Hill (No. 284a), 7/6/1911.

Stems about 20-25 cm. high; woody at the base; mealy-white, with scales and scale-hairs. Leaves petiolate, ovate, coarsely and irregularly sinuate-toothed or lobed, 15-20 cm. long. Flowers small, monoecious; females alone in clusters in the lower axils; males in clusters surrounded by females in the upper axils and a few of the males alone, forming a short terminal spike. Fruiting perianths sessile, 2-5 mm. long, 2-3 mm. broad, the lower half a triangular tube closed at the base; the upper, flat, appressed, 5-toothed valves. On the exterior of the fruit are three prominent teeth (Fig. III.). Two types of fruit are seen in Fig. III., between these two extremes all intermediate stages may be found on the same specimen. Specimens resembling type A are by far more plentiful. The species is most closely allied to *A. Muelleri*, Benth. It differs in the strongly toothed fruits and pistillate flowers. The male flowers were not ripe in either of the specimens. Good fodder.

A. leptocarpa, F. v. M.; *A. limbata*, Benth.; *A. Muelleri*, Benth.; *A. vesicaria*, Hew.; *A. halimoides*, Lindl.; (in National Herbarium Census), and *A. lobativalve*, F. v. M. (in Australian Salsol. VI.) recorded from North Australia.

5. BASSIA, ALL. 1766.

(*Chenolea*, Thunb., 1781; *Echinopsilon*, Moq., 1834; *Eriochiton*, F. v. M., 1854; *Londesia*, Fisch. and Mey., 1835; *Willemetia*, Maerkl., 1800; *Sclerolaena*, *Anisacantha*, *Mentropsis*, *Dissocarpus*, *Osteocarpum*, *Coilocarpus*, *Enchylaena* and *Threlkeldia*, partly).

Section I. Fruiting perianth globular or depressed, membranous, herbaceous or succulent, the lobes horizontally (or rarely conically) closing over the fruit. Seed horizontal or oblique.

Fruiting perianth with 3 long radiating soft woolly horns, obtuse and turned up at the end.—1. *B. tricornis*.

Fruiting perianth with 5 radiating spines or awns. Perianth without appendages above the spines.

Perianth with 5 short radiating spines, enveloped in fulvous hairs not longer than the perianth.—4. *B. Muelleri*.

Perianth with 5 membranous notched or bifid appendages and 5 radiating spines lower down, enveloped in dense cottony wool.—6. *B. sclerolaenoides*.

Section II. Fruiting-perianth hard, at least at the base, the lobes usually membranous and withering.

Series I. Fruiting-perianth tomentose or woolly, with 2 opposite diverging dorsal spines, rarely wanting. Seed horizontal or oblique.

Flowers solitary in the axils.—1. *B. bicornis*.

Flowers several together united in a hard globular mass.

Spines small.—5. *B. paradoxa*.

Spines large and divided.—7. *B. spinosa*.*

Series II. Fruiting-perianth glabrous or slightly hairy, with 3 to 5 divaricate dorsal spines. Seed vertical.

Perianth-spines 3, rarely 4, one sometimes very small.—3. *B. glabra*.

Perianth-spines 5, short. Small diffuse undershrub. Perianth under 1 line long.—2. *B. echinopsila*.

1. *B. bicornis*, *F. v. M.* (*Sclerolaena bicornis*, *Lindl.*).—Henbury Station, Finke River, G. F. Hill (No. 40), 7/3/1911.

Recorded. Sturt's Creek and Plains of Promise, *F. v. Mueller*.

2. *B. echinopsila*, *F. v. M.* (*Anisacantha echinopsila*, *F. v. M.*).—60 miles N.E. of Camp II., G. F. Hill (No. 268), 7/6/1911.

3. *B. glabra*, *F. v. M.* (*Anisacantha glabra*, *F. v. M.*).—Upper Victoria River and Sturt's Creek, *F. v. Mueller*.

4. *B. Muelleri*, *F. v. M.* (*Chenolea Muelleri*, *Benth.*).—Sturt's Creek *F. v. Mueller*.

5. *B. paradoxa*, *F. v. M.* (*Sclerolaena paradoxa*, *R. Br.*).—Carrington's Landing, MacArthur River, G. F. Hill (No. 592), 20/9/1911. Specimens less hairy than usual.

37 miles E. of Hermansburg, Finke River, G. F. Hill (No. 107), 21-3/1911. Dense bush up to 3 ft.

Henbury Station. Finke River, G. F. Hill (No. 37), 7/3/1911.

Near Hermansburg, Finke River, G. F. Hill (No. 106), 20/3/1911.

10 miles W.S.W. of Stuart Range, G. F. Hill (No. 224), 2/6/1911. Near Salt Lakes. Good fodder.

6. *B. sclerolaenoides*, *F. v. M.* (*Chenolea sclerolaenoides*, *F. v. M.*).—Hermansburg, Finke River, ; G. F. Hill (No. 104), 20/3/1911.

7. *B. spinosa*, *Ewart and Davies* (Plate XII.).—Branched undershrub, densely tomentose. Leaves sessile, narrow, obtuse, soft and tomentose, about $\frac{1}{2}$ -in. long. Flowers in axillary clusters, not so many in a cluster as in *B. paradoxa*. Fruiting perianths connate into a hard mass of about $\frac{1}{2}$ -in. diameter, each with 1 to 4 simple, bifid, or trifid, spines. Near to *B. paradoxa*, but with fewer flowers in the clusters and with the horns very much stronger and divided.

90 miles N. by $\frac{1}{2}$ -W. of N.T. Survey Camp III., G. F. Hill (No. 346), 15/6/11.

6. KOCHIA, ROTH. 1801.

(*Maireana*, *Moq.*, 1840 ; *Sclerochlamys*, *F. v. M.*, 1858 ; *Pentodon*, *Ehrenb.*, 1879).

Horizontal wings all distinct.—2. *K. brevifolia*.

Horizontal wings more or less perfectly united in a ring.

Leaves mostly $\frac{1}{4}$ to $\frac{1}{2}$ in. long., linear or terete, tomentose or nearly glabrous (sometimes small and slender) spreading. Perianth glabrous or tomentose.—

3. *K. villosa*.

Leaves minute, distant. Branches spinescent. Perianth of *K. villosa*.—

1. *K. aphylla*.

1. *K. aphylla*, *R. Br.*—65 miles N.E. of Camp II., G. F. Hill, 8/6/1911. Cotton Bush.

2. *K. brevifolia*, *R. Br.*—Hermansburg, Finke River G. F. Hill (No. 63) 11/3/1911. Cotton Bush.

3. *K. villosa*, Lindl.—60 miles N.E. of Camp II. G. F. Hill (No. 264), 7/3/1911.

Recorded. Sturt's Creek, F. v. Mueller.

K. melanocoma, F. v. M.; *K. triptera*, Benth.; *K. sedifolia*, F. v. M.; Recorded in National Herbarium Census from North Australia.

7. ENCHYLAENA, R. BR. 1810.

(ENCHYLAENA, SPRENG. 1830).

1. *E. tomentosa*, R. Br.—Hermansburg, Finke River, G. F. Hill (No. 62), 11/3/1911.

60 miles N.E. of Camp II., G. F. Hill (No. 267), 7/3/1911.

Haasts Bluff, Macdonnell Ranges, G. F. Hill (No. 207), 26/5/1911.

Recorded. Sturt's Creek, F. v. Mueller.

8. SALICORNIA, TOURN. 1737.

(*Sarcathria*, Rafin, 1836; *Halocnemum*, *Arthrocnemum*, *Tecticornia*, *Pachycornia*). Glasswort.

Section I. Perianths not dilated at the top, usually narrow. Spikes usually short. Flowers in threes, all or the central one hermaphrodite.

Spikes ovoid or shortly oblong, with few articles, the margins forming opposite thick triangular-conical lobes.—1. *S. arbuscula*.

Spikes oblong-cylindrical, the articles numerous; very short and closely imbricated the margins dilated into semi-circular opposite scarious scales.—

2. *S. cinerea*.

Section II. Perianths at length dilated into a flat transverse or oblique top. Spikes cylindrical, often elongated.—3. *S. leiostachya*.

1. *S. arbuscula*, R. Br.—N.W. Coast, Bynoe.

2. *S. cinerea*, F. v. M.—Henbury Station, Finke River, G. F. Hill (No. 39), 2/3/1911. Russian Thistle. Prickly Saltwort. Good camel feed.

Recorded. Point Pearce and Sturt's Creek, F. v. Mueller.

3. *S. leiostachya*, Benth.—10 miles W.S.W. of Stuart Ranges, G. F. Hill (No. 227), 2/6/1911. Near salt lakes.

Carrington's Landing, MacArthur River, G. F. Hill (No. 593), 20/9/1911.

Recorded. Sand flats about Providence Hill and between M'Adam Range and Point Pearce, F. v. Mueller; Kyejeron Creek, Central Australia, M'Douall Stuart's Expedition.

S. robusta, F. v. M.; *S. australis*, Soland. — Recorded in National Herbarium Census from North Australia.

9. SALSOLA, LINN. 1735.

(*Caroxylon*, Thunb., 1782; *Halothamus*, Jaub. and Spach., 1846; *Isgarum*, Rafin., 1836; *Kali*, Tourn., 1763; *Sarcomorphis*, Boj. and Moq., 1849; *Soda*, Fourr., 1869).

1. *S. Kali*, Linn.—90 miles W. of Alice Springs, G. F. Hill (No. 38), 9/5/1911.

Henbury Station, Finke River, G. F. Hill, 7/3/1911.

Russian Thistle. Prickly Saltwort. Good fodder. Favourite camel feed (Hill). Poisonous according to Greshoff. Anthelminthic. No poisonous principle has been extracted from it.

Dysphania Plantaginella, F. v. M.; *Dysphania litoralis*, R. Br.; *Didymanthus*, Roei, Endl.; *Babbagia dipterocarpa*, F. v. M.; *Suaeda maritima*, Dumort.—Recorded in National Herbarium Census from North Australia.

AMARANTACEÆ.

Tribe I. Anthers 2-celled. Ovary with a single ovule. Leaves alternate.

Stamens free. Flowers in axillary or terminal and paniculate cymes or clusters. Leaves flat.—1. *Amarantus*.

Stamens shortly united at the base. Flowers in dense single terminal spikes, often shortened into heads.

Perianth-segments with the lamina more or less plumose with dorsal articulate hairs, the tips alone glabrous.—2. *Ptilotus*.

Perianth-segments with the whole lamina scarious, coloured and glabrous.—3. *Trichinium*.

Leaves opposite. Stamens united in a cup at the base, with truncate teeth or lobes between the filaments.—4. *Achyranthes*.

Tribe II. Anthers 1-celled. Ovary with a single ovule. Leaves opposite. Stigma capitate. Spikes often shortened into heads axillary (rarely also terminal).—5. *Alternanthera*.

Stigma 2-lobed. Spikes often shortened into heads, terminal or rarely axillary.—6. *Gomphrena*.

1. AMARANTUS, LINN.

Section I. *Euamarantus*.—Pericarp circumsciss.

Perianth-segments mostly 4 or 5, erect or slightly dilated at the end. Clusters axillary and in a long loose terminal shortly-branched spike.—2. *A. leptostachyus*.

Perianth-segments mostly 5, with dilated scarious spreading laminae (when in fruit). Terminal spikes usually paniculate.—3. *A. pallidiflorus*.

Section II. *Euxolus*.—Pericarp membranous, indehiscent or bursting irregularly.—1. *A. interruptus*.

1. *A. interruptus*, R. Br.—Arnhem N. Bay and neighbouring parts of the N. Coast, R. Brown; Sandy Islands, Victoria River, F. v. Mueller; N. Coast, Landsborough.

2. *A. leptostachyus*, Benth.—Port Darwin, Schultz.

3. *A. pallidiflorus*, F. v. M.—Nichol Bay, Walcott; Victoria River, F. v. Mueller.

2. PTILOTUS, R. BR. 1810.

(*Trichinium*, R. Br., 1819, partly).

Series I. Foliage hoary or white with a stellate tomentum (glabrous or with crisped or woolly or silky hairs in all the other species).

Spikes dense, globular ovoid or shortly cylindrical, not exceeding 1 in.

Spikes $\frac{1}{2}$ to 1 in. diameter. Laminae of perianth-segments linear.

Leaves mostly broad, rather thick and densely tomentose.

Spikes globular or at length ovoid. Bracts glabrous or nearly so.—19. *P. obovatus*.

Leaves mostly narrow, thick and densely tomentose. Spikes ovoid, at length cylindrical. Bracts woolly.—17. *P. incanus*.

Spikes not above $\frac{1}{4}$ -in. diameter. Laminae of perianth-segments, almost ovate.—4. *P. astrolasius*.

Spikes cylindrical, above 2 in. long and $1\frac{1}{2}$ in. diameter. Leaves orbicular, very densely woolly.—20. *P. rotundifolius*.

Spikes elongated with distant flowers. Leaves oblong or lanceolate, the stellate hairs short and scattered.—11. *P. dissitiflorus*.

Series II. Spikes cylindrical or elongated or rarely globular. 1 to 3 in. diameter. Flowers more or less yellow or greenish, not red. Inner segments without internal dense wool, but the stamens usually surrounded by a few long hairs.

Spikes elongated with distant flowers. Leaves filiform.—12. *P. distans*.

Spikes dense, at length long and cylindrical.—2. *P. alopecuroides*.

Spikes globular or rarely ovoid. Perianth-segments rather broad, the dorsal hairs very short.—9. *P. corymbosus*.

Series III. Spikes globular ovoid or rarely cylindrical, 1 to 2 in. diameter, terminating simple or rarely branched stems. Perianth straight, pink or red, the inner segments woolly inside towards the base.

Perianth-segments very rigid with short narrow tips. Stems erect. Spikes about $1\frac{1}{2}$ in. diameter.—13. *P. exaltatus*.

Perianth-segments with conspicuous coloured obtuse glabrous tips.

Spikes about 2 in. diameter.—18. *P. Manglesii*.

Series IV. Stems mostly branched or rarely some of them long decumbent and simple, glabrous or with crisped woolly hairs. Spikes mostly globular, $\frac{3}{4}$ to 1 in. diameter.

Inner perianth-segments very woolly inside towards the base (less so in *P. helipteroides*). Bracts rather loose.

Leaves narrow. Stems more or less silky or woolly.—16. *P. helipteroides*.

Leaves broad. Stems glabrous or nearly so except the young shoots.—6. *P. axillaris*.

Inner perianth-segments nearly glabrous inside the wool proceeding chiefly from the staminal cup. Bracteoles closely embracing the perianth.—5. *P. auriculifolius*.

Inner perianth-segments nearly glabrous inside. Staminal cup surrounded by long straight hairs.

Perennial with a thick rootstock. Spikes about 1 in. diameter.—14. *P. fusiformis*.

Annual. Spikes about $\frac{3}{4}$ -in. diameter.—15. *P. gracilis*.

Series V. Spikes globular or cylindrical, $\frac{1}{2}$ to $1\frac{1}{2}$ in. diameter. Staminal cup with transparent scale-like teeth or lobes between the filaments (wanting in all other series). Leaves narrow.—8. *P. calostachyus*.

Series VI. Spikes globular, ovoid or cylindrical, $\frac{1}{4}$ to $\frac{1}{2}$ -in. diameter.

Stems erect, branching, glabrous or slightly hairy. Annual.—10. *P. Cunninghamii*.

Perennials. Branches woolly or villous, at least when young. Spikes numerous, sessile or shortly pedunculate.

Perianth surrounded by long wool concealing the bracts and segments. Spikes cylindrical.—7. *P. brachyanthus*.

Bracts and bracteoles nearly as long as the perianth and very conspicuous.

Branches and foliage villous. Spikes narrow-cylindrical.—3. *P. astrolasius*.

Young shoots woolly. Leaves glabrous, broad. Spikes ovoid. Perianth-segments glabrous inside.—1. *P. ærvoides*.

1. *P. ærovoides*, *F. v. M.*—Nichol Bay, N.W. Coast, F. Gregory's Expedition.
2. *P. alopecuroideus*, *F. v. M.*—90 miles N. $\frac{1}{2}$ -W. of Camp III., G. F. Hill (No. 349), 15/6/1911. Specimen with pink flowers.
Recorded. Water Island, Montague Sound, A. Cunningham ; Usbornes' Harbour. Beagle Voyage ; Glenelg District, Martin.
3. *P. arthrolasius*, *F. v. M.*—Sturt's Creek, F. v. Mueller.
4. *P. astrolasius*, *F. v. M.*—Sturt's Creek, F. v. Mueller ; N.W. Coast, Hughan.
5. *P. auriculifolius*, *A. Cunn.*—Dampier's Archipelago, N.W. Coast, A. Cunningham.
6. *P. axillare*, *F. v. M.*—Nichol Bay., N.W. Coast, F. Gregory's Expedition.
7. *P. brachyanthus*, *F. v. M.*—20 miles N.W. by N. of Meyer's Hill, Macdonnell Ranges, G. F. Hill (No. 215), 1/6/1911.
Recorded. North Australia, F. v. Mueller.
8. *P. calostachyus*, *F. v. M.*—Islands of the Gulf of Carpentaria, R. Brown ; Upper Victoria River, Hooker's and Sturt's creeks, F. v. Mueller ; Nichol Bay, Walcot ; Roebuck Bay, Martin.
9. *P. corymbosus*, *Gaud.* (*P. hemisterius*, *F. v. M.*).—Hammersley Range, Nichol Bay, N.W. Coast, F. Gregory's Expedition.
10. *P. Cunninghamii*, *Benth.*—Point Cunningham, Cygnet Bay, N.W. Coast, A. Cunningham.
11. *P. dissitiflorus*, *F. v. M.*—Near Hammersley Range, N.W. Coast, F. Gregory's Expedition.
12. *P. distans* *Poir.*—Arnhem S. Bay, R. Brown ; Victoria River, Macadam and Sea Ranges, F. v. Mueller ; S. Goulburn Island, A. Cunningham.
13. *P. exaltatus*, *Nees.*—Roper River, Gilruth and Spencer, July-August, 1911.
Recorded. Careening Bay, N.W. Coast, A. Cunningham ; Depuech Island, Bynoe ; Victoria River, F. v. Mueller ; Nichol Bay, F. Gregory's Expedition.
14. *P. fusiformis*, *Poir.*—Islands of the Gulf of Carpentaria, R. Brown ; Dampier's Archipelago, N.W. Coast, A. Cunningham ; Victoria River, F. v. Mueller.
15. *P. gracilis*, *Poir.*—Islands of the Gulf of Carpentaria, R. Brown ; N.W. Coast, Bynoe.
16. *P. helipteroides*, *F. v. M.*—Nichol Bay, N.W. Coast, Gregory's Expedition, sandy plains of the interior. M'Douall Stuart's Expedition.
17. *P. incanus*, *Poir.*—Hermansburg, Finke River, G. F. Hill (No. 60), 11/3/1911. Herbaceous near rocks.
Haast's Bluff, G. F. Hill (No. 185), 17/6/1911.
Recorded. N.W. Coast, Baudin's Expedition ; Dampier's Archipelago, A. Cunningham ; Nichol Bay, F. Gregory's Expedition ; Sturt's Creek, F. v. Mueller.
18. *P. Manglesii*, *F. v. M.*—Glenelg and Roebuck Bays, N.W. Coast, Martin.

19. *P. obovatus*, *F. v. M.*—Finke River, 12 miles W. of Horseshoe Bend, G. F. Hill (No. 25), 2/3/1911. Herbaceous on flat country.

Var. grandiflorum, 60 miles N.E. of Camp II., G. F. Hill (No. 262), 7/6/1911.

Note by Dr. Morrison :—In 262 venation of leaf indistinct on under side of leaf.

Perianth $\frac{5}{8}$ in. Spikes $1\frac{3}{8}$ in. diameter.

Hermansburg, Finke River, G. F. Hill (No. 86), 13/3/1911.

Note by Dr. Morrison :—Perianth $\frac{1}{2}$ -in. long. Inner perianth segments densely woolly on inside. Spikes lengthening to 2 in., $1\frac{1}{8}$ in. broad, pedunculate.

Recorded. N.W. Coast, Bynoe; in the interior, M'Douall Stuart's Expedition.

20. *P. rotundifolius*, *V. v. M.*—Near Hammersley Range, N.W. Coast, F. Gregory's Expedition.

P. parviflorus, *F. v. M.*; *P. divaricatus*, *F. v. M.*; *P. striatus*, *F. v. M.*; *P. Forrestii*, *F. v. M.*; *P. psilotrichoides*, *F. v. M.*—Recorded in National Herbarium Census from North Australia.

3. TRICHINIUM, R. Br. 1810.

(*Arthrotrichium*, *F. v. M.*, 1863; *Gomiotriche*, *Turcz.*, 1849; *Hemisteirus*, *F. v. M.*, 1852).

Perianths glabrous outside except a few hairs round the base. Leaves linear.

Spikes globular or scarcely ovate.

Filaments dilated under the anthers.—1. *T. conicum*.

Filaments filiform except at the base.—2. *T. corymbosum*.

Spikes at first conical, at length cylindrical.—5. *T. spicatum*.

Perianth enveloped in dense white cottony wool proceeding from the lower half. Leaves oblong-lanceolate or obovate.

Spikes sessile.—4. *T. Murrayi*.

Spikes pedunculate.—3. *T. gomphrenoides*.

Perianths enveloped in long dense articulate hairs proceeding from the lower half. Leaves narrow.—6. *T. villosiflorum*.

1. *T. conicum*, *Spreng.*—Islands of the Gulf of Carpentaria, R. Brown; Goulburn Island, A. Cunningham; Port Essington, Armstrong.

2. *T. corymbosum*, *Spreng.*—40 miles W. of Camp IV., Lander Creek, G. F. Hill (No. 369), 21/6/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; N.W. Coast, Bynoe; Victoria River and Sturt's Creek, F. v. Mueller.

Var. acutiflorum, *Benth.*—Arnhem's Land, M'Kinlay.

3. *T. gomphrenoides*, *F. v. M.*—Hammersley Range, N.W. Coast, F. Gregory's Expedition.

4. *T. Murrayi*, *F. v. M.*—20 miles N.W. by N. of Meyer's Hill, Macdonnell Ranges, G. F. Hill (No. 515), 1/6/1911.

5. *T. spicatum*, *F. v. M.*—Red Lily Lagoon, G. F. Hill (No. 837), 7/4/1912. Recorded. Victoria River, F. v. Mueller.

6. *T. villosiflorum*.—Nichol Bay, F. Gregory's Expedition.

T. Macleayi, *F. v. M.*; *T. latifolium*, *R. Br.*; *T. macrotrichus*, *F. v. M.* (in National Herbarium Census), and *T. Whitei*, *Black* (in Trans. Roy. Soc., S.A., 1914), recorded from North Australia.

4. ACHYRANTHES, LINN.

1. *A. aspera*, Linn.—Islands of the Gulf of Carpentaria, R. Brown ; Goulburn Islands, A. Cunningham ; Victoria River, F. v. Mueller ; Escape Cliffs, Hulls ; Nichol Bay, N.W. Coast ; Ridley's Expedition ; Port Darwin, Schultz.

Washerman's Plant of India.

5. ALTERNANTHERA, FORSK. 1775.

(*Allaganthera*, Mart., 1814 ; *Illecebrum*, Spreng., 1817 ; *Lithophila*, Sw., 1788 ; *Pityranthus*, Mart., 1817 ; *Mogiphanes*, Mart. ; *Telanthera*, R. Br.

Staminal cup without teeth between the filaments.

Perianth perfectly glabrous.

Plant glabrous or slightly pubescent at the nodes or in 2 decurrent lines. Leaves narrow.

Perianth-segments and bracteoles (above $1\frac{1}{2}$ lines long), with fine points. Spikes at length several together in dense globular clusters.—6. *A. nodiflora*.

Perianth-segments and bracteoles (1 line long or under), broad with short points. Spikes small, at length cylindrical and scarcely clustered.—2. *A. denticulata*.

Plant more or less hairy or rarely glabrous. Leaves mostly broad.

Rachis of the spire woolly.—5. *A. nana*.

Perianth-segments enveloped in long woolly hairs proceeding from the base (often concealed in the young spike by the bracteoles).

Bracteoles shorter than the perianth. Perianth-segments all equal (about 1 line long) and glabrous inside.—1. *A. angustifolia*.

Perianth-segments $1\frac{1}{2}$ to 2 lines long, the inner ones smaller and woolly inside at the base.—7. *A. polycephala*.

Staminal cup with prominent teeth or lobes between the filaments.

Spikes axillary, shortly pedunculate, ovoid. Lobes of the staminal cup much shorter than the filaments.—3. *A. leptophylla*.

Spikes on long peduncles, globular. Lobes of the staminal cup rather longer than the filaments.—4. *A. longipes*.

1. *A. angustifolia*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown ; Sturt's Creek, F. v. Mueller.

2. *A. denticulata*, R. Br. (*Var. micrantha*, Benth).—Arnhem's Land, F. v. Mueller.

3. *A. leptophylla*, Benth.—Sturt's Creek, F. v. Mueller.

4. *A. longipes*, Benth.—N.W. Coast, Bynoe.

5. *A. nana*, R. Br.—Nicholson River, and Sturt's Creek, F. v. Mueller.

6. *A. nodiflora*, R. Br.—Lower MacArthur River, G. F. Hill (No. 679), 8/11/1911.

Edith Creek, Gilruth and Spencer, July-August, 1911.

Hugh River, Macdonnell Ranges, G. F. Hill (No. 134), 4/5/1911.

Recorded. Sturt's Creek, F. v. Mueller ; Victoria River, Flood ; in the interior, M'Douall Stuart's Expedition ; Albert River, Henne.

7. *A. polycephala*, Benth.—Greville Island, Regent's Harbour, N.W. Coast, Bynoe.

6. GOMPHRENA, LINN. 1737.

(*Bragantia*, Vaud., 1771; *Chnoanthus*, Phil., 1862; *Coluppa*, Adans., 1763; *Ninanga*, Rafin., 1863; *Schultesia*, Schrad., 1831; *Wadapus*, Rafin., 1836; *Xerosiphon*, Turcz., 1843; *Philoxerus*.)

Staminal tube longer than the ovary. Spikes globular or ovoid, usually large. Filaments flat. Leaves linear.

Staminal tube with filiform teeth between the filaments. Spikes globular. Perianth-segments acute. Annual. 4. *G. canescens*.

Staminal tube with flat bilobed segments. Perianth-segments blunt.—10. *G. involucrata*.

Staminal tube without teeth or lobes between the filaments.

Annual of 1 to 2 ft. Spikes at length ovoid or oblong. Perianth-segments obtuse.—8. *G. flaccida*.

Annual under 1 ft. Spikes hemispherical or globular. Perianth-segments acute.—1. *G. affinis*.

Perennial under 1 ft. Spikes hemispherical or globular. Perianth-segments rather obtuse.—9. *G. humilis*.

Staminal tube shorter than the ovary. Spikes rarely above $\frac{1}{2}$ in. diameter. Spikes hemispherical or globular. Perianth very woolly outside below the middle.

Staminal tube with teeth or lobes between the filaments.

Leaves linear. Bracts much shorter than the bracteoles.—3. *G. Brownii*.

Leaves lanceolate. Bracts nearly as long as the bracteoles.—2. *G. brachystylis*.

Staminal tube without teeth or lobes between the filaments.

Leaves broadly lanceolate. Filaments with a minute tooth at the top on each side. 11. *G. leptoclada*.

Leaves narrow-lanceolate. Filaments filiform at the top without lateral teeth.

Spikes $\frac{1}{2}$ -in. diameter or more. Perianth woolly to above the middle. Bracteoles shorter than the perianth.—12. *G. Maitlandi*.

Spikes 4 to 5 lines diameter. Perianth woolly only below the middle. Bracteoles longer than the perianth.—14. *G. pusilla*.

Leaves filiform. Spikes and perianth of *G. pusilla*.—15. *G. tenella*.

Spikes ovoid or oblong-cylindrical. Perianth woolly below the middle.

Spikes 5 lines diameter. Leaves all linear. Filaments broad and 2 or 3 toothed at the end.—6. *G. conica*.

Spikes 3 or 4 lines diameter, densely crowded with broadly lanceolate floral leaves. Filaments tapering at the end.—5. *G. conferta*.

Spikes at length narrow-cylindrical. Perianth small, quite glabrous.

Leaves hairy. Lanceolate or oblong.—7. *G. diffusa*.

Leaves glabrous or nearly so. Narrow linear.—13. *G. parviflora*.

1. *G. affinis*, F. v. M.—Upper Victoria River, F. v. Mueller.

2. *G. brachystylis*, F. v. M.—Hooker's Creek, F. v. Mueller.

3. *G. Brownii*, Moq. (*G. lanata*, R. Br.).—Islands of the Gulf of Carpentaria, R. Brown.

4. *G. canescens*, R. Br.—Lat. 18 degrees, 27 min.; long. 132 degrees (about), G. F. Hill (No. 447), 6/7/1911.

With reddish-purple heads.

Herbert Bros. Station, near Darwin, G. F. Hill (2nd Series, No. 62), 28/5/1913.

Sterling Creek and everywhere, Gilruth and Spencer, July-August, 1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne; Depuech Island, N.W. Coast, Bynoe; Nichol Bay, Gregory's Expedition and Ridley's Expedition; Victoria River and Sturt's Creek, F. v. Mueller; Goulburn Islands, A. Cunningham; Port Darwin and several other points along the coast, Schultz and others; Attack Creek in the interior, M'Douall Stuart's Expedition.

5. *G. conferta*, Benth.—Victoria River, Bynoe.

6. *G. conica*, Spreng.—Islands of the Gulf of Carpentaria, R. Brown; Upper Victoria River and Sturt's Creek, F. v. Mueller; Lara Station, Kennedy.

7. *G. diffusa*, Spreng.—Islands of the Gulf of Carpentaria, R. Brown.

8. *G. flaccida*, R. Br.—Melville Island, Gilruth and Spencer, July-August, 1911.

Recorded. Arnhem N. Bay, R. Brown; Regent's River and Cambridge Gulf, N.W. Coast, A. Cunningham; Usborne Harbour, Voyage of the Beagle; Victoria River, Bynoe, F. v. Mueller; Glenelg River, Martin; Port Essington, Armstrong; Port Darwin, Schultz.

9. *G. humilis*, R. Br.—Roper River, Gilruth and Spencer, July-August, 1911.

Recorded. Albert River, Henne.

10. *G. involocrata*, Ewart.—Everywhere, Gilruth and Spencer, July-August, 1911.

Recorded. Pine Creek, J. H. Niemann.

11. *G. leptoclada*, Benth.—Glenelg district, N.W. Coast, Martin.

12. *G. Maitlandi*, F. v. M.—Dampier's Archipelago, N.W. Coast, A. Cunningham; Pyramid Hill, Nichol Bay, F. Gregory's Expedition.

13. *G. parviflora*, Benth.—Regent River, N.W. Coast, A. Cunningham; Port Darwin, Schultz.

14. *G. pusilla*, Benth.—Foul Point, N.W. Coast, Voyage of the Beagle.

15. *G. temella*, Benth.—Cygnet Bay, A. Cunningham; Foul Point, N.W. Coast, Voyage of the Beagle.

G. platandra, F. v. M.—Recorded in National Herbarium Census from North Australia.

PHYTOLACCACEÆ.

1. GYROSTEMON, DESF. 1820.

(*Cyclothea*, Moq., 1849; *Codonocarpus*, A. Cunn., 1830; *Hymenotheca*, F. v. M.).

Carpels, 4 to 20, separating at their maturity, and opening at the outer edge or at both outer and inner edges. Flowers axillary.

Flowers sessile. Ovary of 8 to 15 carpels. Styles linear.

Fruit nearly globular. Stamens 8 to 12 in a single ring.—2. *G. Cyclothea*.

Flowers shortly pedicellate. Ovary of 15 to above 20 carpels.

Styles shortly linear. Fruit obovoid or pear-shaped. Stamens 30 to 50 covering the whole disc.—3. *G. ramulosus*.

Carpels from above 20 to 50, separating at their maturity and opening on the inner edge only. Flowers in spikes or racemes.—1. *G. cotinifolius*.

1. *G. cotinifolius*, Desf. (*Codonocarpus cotinifolius*, F. v. M.).—8 miles N.E. of Meyer's Hill, Macdonnell Ranges, G. F. Hill (No. 211), 30/5/1911.

In the interior, lat. 20 degrees, M'Douall Stuart's Expedition.

2. *G. Cyclothea*, Benth.—70 miles N. of Camp IV., G. F. Hill (No. 397), 29/6/1911.

Sturt's Creek, near Mount Mueller, F. v. Mueller; between Bonney River and Mount Morphett, M'Douall Stuart's Expedition.

3. *G. ramulosus*, Desf.—Bay of Rest, N.W. Coast, A. Cunningham; Fincke River, M'Douall Stuart's Expedition.

Didymotheca cupressiformis, Walt. (in National Herbarium Census), and *Didymotheca Tepperi*, F. v. M. (in Eng., Bot. Jahrb., 1906). Recorded from North Australia.

NYCTAGINACEÆ.

Herbs with small flowers. Upper portion of the perianth deciduous.

Stamens 1 to 4. Embryo folded.—1. *Boerhaavia*.

Trees, shrubs, or woody climbers. Limb of the perianth persistent on the fruit. Stamens usually 6 to 8. Embryo straight, cotyledons convolute.—

2. *Pisonia*.

1. BOERHAAVIA, VAILL. 1737.

(*Lenckenbergia*, Schauer; *Lindernia* and *Tinantia*, Mart., and Gal.).

1. *B. diffusa*, Linn. (*B. repens*, Linn.).—Five-mile Bar, Roper River, G. F. Hill (No. 721), 19/1/1912.

Finke River, near Hermansburg, G. F. Hill (No. 75), 11/3/1911.

About 30 miles N.W. of Twitchera Gap, Macdonnell Ranges, G. F. Hill (No. 163), 10/5/1911.

Cullen Creek, and Eleven Mile Creek, near Katharine, Gilruth and Spencer, July-August, 1911.

Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown, Henne; Adams Bay, Hulls; Port Essington, Armstrong; Port Darwin, Schultz.

Hogweed. May be used as an expectorant in cases of asthma.

B. elegans, Choisy.; *B. plantaginea*, Cav.; Recorded in National Herbarium Census from North Australia.

2. PISONIA, LINN.

1. *P. inermis*, Forst.—Islands of the Gulf of Carpentaria, R. Brown.

P. aculeata, Linn. Recorded in National Herbarium Census from North Australia.

AIZOACEÆ.

(FICOIDEÆ).

Tribe I. Calyx free, but with a distinct tube bearing the stamens. Petals none.

Capsule opening in valves.—4. *Aizoon*.

Capsule circumsciss.

Styles and ovary-cells 3 to 5.—3. *Sesuvium*.

Styles and ovary-cells 2 or 1.—2. *Trianthema*.

Tribe II. Calyx divided to the base. Petals 5 or fewer or none.—1. *Mollugo*.

1. MOLLUGO, LINN. 1737.

(*Doosera*, Roxb., 1834; *Glinus*, Loeft., 1753; *Paulo-Wilhelmia*, Hochst., 1844; *Physa*, Thou., 1806; *Plenchia*, Rafin, 1814; *Rolofa*, Adans, 1763; *Trigastrotheca*, F. v. M., 1857; *Cerviana*, Minuart).

Section I. Seeds strophiolate, with a filiform appendage (resembling a funicle) more or less encircling them.

Softly tomentose. Flowers rather large in axillary clusters. Stamens about 10 to 15.—1. *M. hirta*.

Glabrous or slightly pubescent. Flowers rather small, in axillary clusters. Stamens under 10.—2. *M. spergula*.

Section II. Seeds without any strophiola.—3. *M. trigastrotheca*.

1. *M. hirta*, Thunb. (*M. glinus*, A. Rich.).—Near Anthony's Lagoon, G. F. Hill (No. 529), 21/8/1911.

Charlotte Waters, G. F. Hill (No. 11), 21/2/1911.

Herbaceous. Growing in bed of dry creek.

Victoria River, F. v. Mueller.

Poisonous according to Greshoff and Maiden. Principle unknown.

2. *M. spergula*, Linn.—Camp III., Lander Creek, G. F. Hill (No. 304), 10/6/1911.

Victoria River and towards M'Adam Range, F. v. Mueller.

3. *M. trigastrotheca*, F. v. M.—35 miles N.W. of Lander Creek, G. F. Hill (No. 377), 24/6/1911.

Depuech Island, N.W. Coast, Bynoe; Hearson Island, Nichol Bay. Walcot; Sturt's Creek and Arnhem's Land, F. v. Mueller.

M. Cerviana, Ser.—Recorded in National Herbarium Census from North Australia.

2. TRIANTHEMA, SAUV. 1751.

(*Ancistrostigma*, Fenzl., 1838; *Diplochonium*, Fenzl., 1839; *Papularia*, Forsk., 1775; *Portulacastrum*, Juss., 1789; *Reme*, Adans., 1763; *Rocama*, Forsk., 1775; *Zaleya*, Burm., 1768).

Ovary and fruit 2-celled, truncate or concave at the top. Styles 2. Flowers clustered.—2. *T. decandra*.

Ovary and fruit 1-celled, with 1 style.

Ovary and fruit truncate or concave at the top.

Flowers clustered.

Glabrous or slightly pubescent. Stamens 5. Capsule short and broad.—1. *T. crystallina*.

Hirsute with long hairs. Stamens about 20. Capsule with a narrow beak.—4. *T. pilosa*.

Ovary and fruit acute or tapering into the style, or rounded at the top.

Glabrous or sparingly pubescent. Flowers solitary, pedicellate, not very small. 3. *T. oxycalyptra*.

Hirsute, small and densely tufted. Flowers solitary in the axils, but crowded on the plant, small.—5. *T. rhynchocalyptra*.

1. *T. crystallina*, Vahl.—Lat. 19 deg., 5 min., N.T. Survey, G. F. Hill. (No. 426), 4/7/1911.

Henbury Station, Finke River, G. F. Hill (No. 41a), 7/5/1911.

Lower Victoria River, F. v. Mueller; in the interior, M'Douall Stuart.

2. *T. decandra*, Linn.—N.W. Coast, A. Cunningham, Bynoe.

3. *T. oxycalyptra*, F. v. M.—Sturt's Creek, F. v. Mueller.

4. *T. pilosa*, F. v. M.—Lat. 19 degrees, long. 132 degrees, G. F. Hill (No. 437), 4/7/1911.

N.W. Coast, Bynoe; Cygnet Bay, A. Cunningham; Nichol Bay and De Grey River, Ridley's Expedition; desert between Hooker's and Sturt's Creeks, F. v. Mueller; islands of the Gulf of Carpentaria, R. Brown.

According to Greshoff an Australian species of *Trianthema* is poisonous, containing saponin.

5. *T. rhynchocalyptra*, F. v. M.—Sandy stony hills and plains, Victoria River, F. v. Mueller; islands of the Gulf of Carpentaria, R. Brown.

T. turgidifolia, F. v. M.; *T. cypseloides*, Benth.; (in National Herbarium Census), and *T. Cussackiana*, F. v. M. (in Chemist and Druggist of Aust., 1895), recorded from North Australia.

3. SESUVIUM, LINN.

1. *S. portulacastrum*, Linn.—Recorded. Albert River, Henne.

4. AIZOON, LINN. 1737.

(*Aizoom*, *Gunniopsis*, *Vestingia*, *Heist.*, 1748).

1. *A. zygophylloides*, F. v. M.—Carrington's Landing, MacArthur River, G. F. Hill (No. 591), 20/9/1911.

Mesembrianthemum aequilaterale, Haw.; *Mesembrianthemum australe*, Soland.; *Tetragonia diptera*, F. v. M.; *Tetragonia implexicoma*, J. Hook.; *Macarthuria apetala*, Haw.; Recorded in National Herbarium Census from North Australia.

PORTULACACEÆ.

Ovary half-inferior. Petals and stamens perigynous.—2. *Portulaca*.

Ovary superior. Petals and stamens hypogynous.—1. *Calandrinia*.

1. CALANDRINIA, H. B. AND K. 1823.

(*Baitaria*, Ruiz. and Pav., 1794; *Cistanthe*, Spach., 1833; *Cosmia*, Domb., 1789; *Duizia*, Phil., 1830; *Gensia*, Moc. and Sesse., 1828; *Phacosperma*, Haw., 1827; *Rhodopsis*, Lilja., 1840; *Tegneria*, Lilja., 1839).

Stamens numerous (20 to 100).

Scapes leafless, 1-flowered. Leaves radical, narrow-linear.—5.

C. uniflora.

Stems more or less leafy, several-flowered.—3. C. quadrivalvis.

Stamens few. Capsule ovoid or oblong, very readily dehiscent.

Stamens mostly 8 to 10. Seeds pitted.—2. C. gracilis.

Stamens mostly 3 to 5. Seeds very smooth and shining.—

1. C. calyptata.

Stamens few. Capsule globular or shortly ovoid, very smooth and shining, and scarcely dehiscent.—4. C. spergularina.

1. *C. calyptata*, Hook.—50 miles W. of Camp IV., Lander Creek, G. F. Hill, 21/6/1911.

2. *C. gracilis*, Benth.—Port Essington, Armstrong.
 3. *C. quadrivalvis*, F. v. M.—Sandy places along the Victoria River and in the Macadam Range, F. v. Mueller.
 4. *C. spergularina*, F. v. M.—Sandy bed of Nicholson River, Gulf of Carpentaria, F. v. Mueller.
 5. *C. uniflora*, F. v. M.—Victoria River, near the main camp, F. v. Mueller.
- C. ptychosperma*, F. v. M.; *C. strophiolata*, F. v. M.; *C. balonensis*, F. v. M.; *C. polyandra*, F. v. M.; *C. pumila*, F. v. M.; (in National Herbarium Census), recorded from North Australia.

2. PORTULACA, LINN.

Leaves mostly alternate.

Stipular hairs minute or none.

Leaves oblong-cuneate. Root slender. Capsule closely sessile.

—6. *P. oleracea*.

Leaves linear-terete. Root usually tuberous. Capsule narrowed into a short stipe.—5. *P. napiformis*.

Stipular hairs numerous and conspicuous.

Leaves thick and short.—1. *P. australis*.

Leaves linear-terete, almost filiform. 4. *P. filifolia*.

Leaves all opposite.

Stipular hairs short, but conspicuous. Flowers usually 3, within the floral leaves, and shortly pedicellate. Style-lobes subulate.—3. *P. digyna*.

No stipular hairs. Flowers solitary and sessile, within 4 bract-like floral leaves. Style-lobes flat and transparent. Leaves lanceolate or linear. 7. *P. oligosperma*.

Leaves orbicular.—2. *P. bicolor*.

1. *P. australis*, Endl.—Gulf of Carpentaria, Bauer.
2. *P. bicolor*, F. v. M.—Victoria River, F. v. Mueller. Heart-plant.
3. *P. digyna*, F. v. M.—Upper Victoria River, Hooker's Creek, and Sturt's Creek, F. v. Mueller.
4. *P. filifolia*, F. v. M.—Sandy deserts on Sturt's Creek, F. v. Mueller.
5. *P. napiformis*, F. v. M.—Victoria River and Beagle Valley, F. v. Mueller; N.W. Coast, Bynoe.
6. *P. oleracea*, Linn.—Victoria River, F. v. Mueller.
7. *P. oligosperma* F. v. M.—Victoria River and Sturt's Creek, F. v. Mueller.

P. Armitii, F. v. M. (in National Herbarium Census), and *P. cyclophylla*, F. v. M. (in Proc., Linn. Soc., N.S.W., 1890), and *P. dubia*, Tepper (in Trans. Roy. Soc., S.A., 1893), recorded from North Australia.

CARYOPHYLLACEÆ.

1. POLYCARPÆA, LOUR.

Section I. *Planchonia*.—Petals and stamens united in a cup or tube, without staminodia.

Stems hard and almost woody at the base, the radical leaves soon disappearing. Leaves all narrow. Flowers 3 to 4 lines.

Stem tall, pubescent. Corolla-tube shorter than the free part.

Stamens the length of the petals. Capsule short, obtuse.—4. *P. longiflora*.

Stems short, glabrous, Corolla-tube longer than the free part.

Stamens much longer than the petals. Capsule oblong, tapering at the top.—6. *P. spirostyles*.

Stems herbaceous, several from a rosette of oblong or obovate radical leaves. Stem leaves narrow. Flowers $1\frac{1}{2}$ to 3 lines.

Ovary sessile.—8. *P. synandra*.

Ovary stalked. Capsule 3-valved.—9. *P. brevianthera*.

Ovary stalked. Capsule 4-valved.—10. *P. triloba*.

Section II. *Aylmeria*.—Petals and stamens free or nearly so, with 5 short staminodia inside the petals and opposite to them.

Sepals purple, glabrous, nearly 3 lines long. Stamens and petals slightly perigynous.—11. *P. violacea*.

Sepals white or yellowish, hairy, about 2 lines long.

Stamens and petals very perigynous.—7. *P. staminodina*.

Section III. *Polycarpia*.—Petals and stamens free or united in a ring at the base, without staminodia.

Stems simple or hard and woody at the base. Radical leaves soon disappearing.

Stamens 5, sepals pointed.

Flowers $1\frac{1}{2}$ lines. Petals rounded and very obtuse. Capsule much shorter than the sepals.—2. *P. corymbosa*.

Flowers less than 1 line. Petals oval-oblong, acute, or toothed at the top. Capsule rather shorter or longer than the sepals.—1. *P. breviflora*.

Stamens 3, sepals obtuse and bi-lobed.—12. *P. Holtzei*.

Stems herbaceous, several from a rosette of oblong or obovate radical leaves.

Flower-heads pedunculate, with scarious bracts.—5. *P. spicata*.

Flower-heads closely sessile, surrounded by herbaceous floral leaves.—3. *P. involucrata*.

1. *P. breviflora*, *F. v. M.*—Bacon Swamp, Spencer and Gilruth, 1911.

N. Coast, R. Brown; Gulf of Carpentaria, *F. v. Mueller*.

2. *P. corymbosa*, *Lam.*—Lat. 19 degrees, long. 130 degrees (No. 439a), G. F. Hill, 4/7/11; Pine Creek; Glen of Palms, E. Giles.

N. Coast, R. Brown; Victoria River and Albany Island, *F. v. Mueller*; Lizard Island, Keppel's Island, and Port Curtis, McGillivray.

3. *P. involucrata*, *F. v. M.*—Hooker's Creek, Sturt's Creek, and near the sources of the Victoria River, *F. v. Mueller*.

4. *P. longiflora*, *F. v. M.*—Grassy Flats along the Victoria River and other parts of Arnhem's Land, *F. v. Mueller*; N.W. Coast, Bynoe; Nichol Bay, Walcot; var. *leucantha*, Victoria R., *F. v. Mueller*.

5. *P. spicata*, *Arn.*—N.W. Coast, Bynoe.

6. *P. spirostyles*, *F. v. M.*—Gilbert's River, *F. v. Mueller*; Port Essington, Leichardt.

7. *P. staminodina*, *F. v. M.*—Sources of the Victoria River, Hooker's Creek and Sturt's Creek, *F. v. Mueller*.

8. *P. synandra*, *F. v. M.*—Hooker's Creek, and Sturt's Creek, *F. v. Mueller*.

9. *Polycarpaea brevianthera*, *Ewart and Cookson* (Plate XIII.).—A glabrous, erect, annual, about 8 to 10 cms. high, with one or more erect, dichotomously branched stems, and a distinct tap root.

Leaves narrow-linear, acute, .5 to 1.5 cms long, with incurved margins. Stipules small, scarious, pointed.

Inflorescence, a biparous cyme. Flowers pedicellate, about 4 mm. long, clustered into dense corymbose heads. Sepals 5, free, ovate, acute white with scarious margins and a prominent purple midrib. Petals and stamens slightly perigynous, united together into a short tube. Petals short, thin, about 1.8 mm. long, not reaching to the top of the capsule, entire part .09 mm. long, free part as long, divided into 2 lanceolate, acute lobes. Stamens united with petals and alternate with them. Filaments short, broad, tapering towards the anthers, which are small, relatively short and broad (hence the specific name), and sagittate. Filament and anther about as long as entire part of petal. Ovary shortly stalked, oblong, tapering at top, 2 mm. long. Style short, broadening out towards the three stigmatic lobes. Capsule three-valved. Seeds small about .02 mm. long, flat, tapering towards one end with a straight embryo.

Roper River, Professor W. Baldwin Spencer, 1911.

Nearest affinity is with *Polycarpaea synandra*, from which it differs in having shorter petals with corolla-tube as long as their free parts, stamens as long as corolla-tube and a stalked ovary.

10. *Polycarpaea triloba*, *Ewart and Cookson* (Plate XIV.).—A small, glabrous, erect, annual. Leaves narrow-linear, acute, .5 to 1.5 cms. long, with incurved margins. Stipules subulate, with scarious margins, tapering to a long fine point.

Flowers pedicellate 3 to 4 mms. long, clustered into small corymbose heads. Bracts white, acute, with deeply toothed edges. Sepals 5, white, scarious, about 4 mms. long, ovate, acute, with a prominent, coloured, midrib. Petals 5, brightly coloured, pink, longer than the capsule, 3.2 mms. long, united with the stamens in a tube 1 mm. long, in which region the cells contain star-shaped crystals of Calcium oxalate. Free parts of petals divided into 2 lanceolate lobes. Stamens 5. 1.8 mms. long, not as long as the petals, but longer than the corolla-tube. Filaments 1.2 mms. long, tapering towards the small sagittate anthers. Ovary slightly stalked, tapering towards the style. Style short .09 mms. long, with three large stigmatic lobes (hence the specific name). Capsule nearly 3 mms. long, splitting by 4 valves. Seeds numerous, small, about .02 mms. long.

The nearest affinity is with *Polycarpaea brevianthera*, from which it differs in having stipules and bracts with deeply toothed margins, petals which are longer than the capsule and the cells of which contain crystals of calcium oxalate, longer stamens and longer anthers, a shorter style and a more deeply trilobed stigma and a capsule which splits by 4 valves.

Georgina River, Alfred Henry, 1889.

11. *P. violacea*, *Benth.*—Croker's Island, A. Cunningham ; Port Essington, Armstrong ; Darwin, C. E. F. Allen, No. 122.

12. *Polycarpaea Holtzei*, *n. sp.*, *Maiden and Betcher*.—Near Darwin, North Australia, Nicholas Holtze (No. 2054), March, 1911.

The following specimens are also referable to this species :—*P. indica*, *var. obtusiflora*, *F. v. M. Herb.*

North Western Australia.—Between the Gascoyne and Fortescue Rivers, W.A., by H. S. King. King Sound, W.A., (W. W. Froggatt) considered by Mr. N. E. Brown, Royal Gardens, Kew, to be a dwarf form of *P. corymbosa*.

Northern Territory.—Brock's Creek, N.T. (Dr. H. I. Jensen). Pine Creek (C. E. F. Allen), No. 80.

In vicinia Darwin, *Australia septentrionalis* Martius, 1911.

Planta annua, humilis, ramosissima, 5-7 cm. alta, leniter pilosa. Folia crebro fasciculata, angusto-lineares marginibus leniter incrassatis, 5-7 mm. longa, aristata. Stipulae laciniatae, lacinia quaque in angustum apicem attenuata foliis aequilongum. Flores in brevibus pedicellis incrassatis in cymis terminalibus, bracteis scariosis laciniatisque. Sepala vix 2 mm. longa, in duos lobos obtusos fissa. Petala libera, obtusa, brevissima, stamina paulo excedentes. Stamina 3, brevissima. Antherae filamentis aequilongae. Ovarium ovoidum, styli petala leniter excedens, stigma leniter incrassata.

A low annual branching from the base, 5 to 7 cm. high, the branches sparingly covered with crisped hairs. Leaves often clustered so as to appear verticillate, narrow-linear with slightly thickened or recurved margins, often almost terete, 5 to 7 mm. long and ending in a fine awn-like point 1 mm. long. Stipules lacinate, each lacinia tapering into a fine point often as long as the leaves. Flowers few or several in terminal cymes, the floral leaves reduced to scarious lacinate bracts. Pedicels very short, thickened at the top, with minute dark points at the base of the sepals (warts or resinous exudations?). Sepals scarcely 2 mm. long, each split down about half way into two obtuse lobes. Petals free, obtuse, hardly longer than the stamens. Stamens 3 only in all flowers examined, the anthers as long and longer than the filaments. Ovarium ovoid, with a very short style only slightly exceeding the petals. Stigma very small, hardly thicker than the style.

The affinity of this new species is clearly with *P. corymbosa*.

The proportionate length of petals and sepals is identical in both species, the indumentum and the shape of the leaves even to the peculiar aristate points are the same, but they are sharply distinguished by the sepals, which are tapering to a fine point in *P. corymbosa*, and are obtuse and deeply bi-lobed in the new species. They differ also in habit and in the lacinate stipules.

The most remarkable character is the 3 stamens. All known species of *Polycarpea* have 5 stamens, though some have in addition stamodia, but we could not find more than 3 fertile stamens in all flowers examined.—J. H. M.

[Several specimens hitherto included under *P. corymbosa* in the Melbourne Herbarium have bifid sepals, and two in particular (Port Darwin, Holtze, 1883, and Pine Creek, sp. 5), appear to be identical with *P. Holtzei*.—A. J. E.]

Incomplete specimens from Hanson Well, Spencer, and from Caledon Bay A. E. Martin, are considered by Mr. Cheel to belong to *P. Burtoni*, F. M. Bailey.

2. DYSPHANIA, R. Br.

Flower-clusters forming a dense terminal leafless spike.—2. *D. plantaginella*.

Flower-clusters closely contiguous but axillary, forming a leafy spike.—

1. *D. littoralis*.

1. *D. littoralis*, R. Br.—Moist salt places on the N. Coast, R. Brown.

2. *D. plantaginella*, F. v. M.—Sturt's Creek, F. v. Mueller.

NYMPHACEÆ.

Sepals and petals 3 each. Carpels 6 or more, free, on a small torus. Ovules few. Flowers small.—2. *Brasenia*.

Sepals 4 to 6. Petals and stamens numerous, the outer ones free, the inner more and more adnate to the torus. Carpels immersed in the torus in a ring round a central conical projection.—3. *Nymphæa*.

Sepals 4 or 5. Petals and stamens numerous, hypogynous. Carpels half immersed without order in the flat top of the torus, no albumen.—1. *Nelumbo*.

1. NELUMBO, ADANS.

(NELUMBIUM, JUSS.).

1. *N. nucifera* Gaertn. (*Nelumbium speciosum* Willd.).—G. F. Hill, 1911/1912.

Recorded. Swamps in Arnhem's Land, F. v. Mueller; Lower Condamine River, Coxon. Pink Water-Lily. Sacred Lotus.

2. BRASENIA, SCHREB.

1. *B. peltata*, Pursh.—North Australia, R. Brown. Water Shield.

3. NYMPHÆA, TOURN. 1700.

(CASTALIA, SALISB. 1805).

1. *N. stellata*, Willd. (*N. gigantea*, Hook).—Top Spring, G. F. Hill (No. 548), 31/8/1911. Frequently cultivated.

Lakes and marshes throughout tropical Australia, R. Brown; F. v. Mueller.

ANONACEÆ.

Petals spreading.—1. *Uvaria*.

Petals concave, not spreading, valvate.—2. *Popowia*.

1. UVARIA, LINN.

1. *U. membranacea*, Benth.—Scrub at Cape York, M'Gillivray.

U. Holtzei, F. v. M., recorded in National Herbarium Census from North Australia.

2. POPOWIA, ENDL.

1. *P. australis*, Benth.—Barrow Bay, Port Essington, Armstrong.

Polyalthia Holtzeana, F. v. M.; *Saccopetalum Brahei*, F. v. M., recorded in National Herbarium Census from North Australia.

MYRISTICÆ.

1. MYRISTICA, LINN. 1742.

(*Comacum*, Adans., 1763; *Horsfieldia*, Willd., 1805; *Knema*, Lour., 1790; *Pyrhrosa*, Endl., 1839; *Sebophora*, Neck., 1790; *Virola*, Aubl., 1775).

1. *M. insipida*, R. Br.—Near Darwin, Gilruth and Spencer, July-August, 1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Brunswick Bay, A. Cunningham; Melville Island, Fraser; Port Essington, Armstrong. Queensland Nutmeg. Wood of a pinkish grey, easily worked.

MENISPERMACEÆ.

Sepals imbricate. Petals 6. Stamens 6, free. Carpels 3.—2. Tinospora.

Sepals imbricate or open. Petals usually 3 to 5. Stamens united in a central column. Carpels broad, the style near the base. Seed albuminous.—1. Stephania.

1. STEPHANIA, LOUR.

(CLYPEA, BLUME).

1. *S. hernandiaefolia*, Walp.—N. Coast, R. Brown; rocky declivities and cataracts of Fitzroy and Stokes' Range, F. v. Mueller. Root poisonous.

2. TINOSPORA, MIERS.

Leaves ovate-cordate, entire.—1. *T. smilacina*.

Leaves broad, obtusely 3-lobed, much veined.—2. *T. Walcottii*.

1. *T. smilacina*, Benth.—Islands of the Gulf of Carpentaria, R. Brown; common in many parts of Arnheim's Land, and thence to the Burdekin, F. v. Mueller.

2. *T. Walcottii*, F. v. M.—Nichol Bay, Walcott.

Tristichocalyx pubescens, F. v. M.; *Pachygone Hullsii*, F. v. M.; recorded in National Herbarium Census from North Australia.

LAURACEÆ.

Sub-order I. Trees or shrubs with perfect leaves. Anther-valves opening upwards.

Three stamens belonging to the inner series, with extrorse anthers.—2. Cryptocarya.

All the stamens with introrse anthers. Flowers dioecious, in heads or umbels, with an involucre of about 4 bracts.—1. Litsea.

Sub-order II. Leafless parasitical twiners. Anther-valves opening upwards. Single genus.—3. Cassytha.

1. LITSEA, LAM.

(Including Tetranthera, Jacq.).

1. *L. chinensis*, Lam. (*Tetranthera laurifolia*, Jacq.).—Islands of the Gulf of Carpentaria, R. Brown, Henne; Port Darwin, Schultz.

2. CRYPTOARYA, R. BR.

(Caryodaphne, Blume).

1. *C. glaucescens*, R. Br. (Var. *Cunninghamii*, Benth).—Hunter's River, Brunswick Bay, N.W. Coast, A. Cunningham.

3. CASSYTHA, LINN. 1753

(*Calodium*, Lour, 1790; *Ozarthris*, Rafin, 1836; *Rombut*, Rumph., 1763; *Rumputris*, Rafin, 1836; *Volutella*, Forsk., 1775).

Laurel Dodders. All destructive to other plants.

Flowers sessile in a spike or head.

Flowers capitate, very small (the spikes contracted into ovoid globose or few-flowered heads).—2. *C. glabella*.

Flowers spicate, the spikes when fully out oblong or elongated, the lower or all the flowers more or less distant.

Flowers 1 to 1½ lines long. Spikes usually elongated, the flowers distant.—1. *C. filiformis*.

Flowers 2 lines long. Spikes very short.—3. *C. melantha*.

Flowers (when fully out) pedicellate in a raceme, sometimes almost shortened into an umbel.—4. *C. pomiformis*.

1. *C. filiformis*, Linn.—Some specimens from Victoria River, F. v. Mueller

2. *C. glabella*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; Sturt's Creek, F. v. Mueller; Port Darwin, Schultz.

3. *C. melantha*, R. Br.—Tungiegi Waterhole, G. F. Hill (No. 509), 10/8/1911. Specimen in fruit only.

Appears nearest *C. melantha*, but the fruits are smaller and the edges of the perianth not so conspicuous.

4. *C. pomiformis*, Nees.—North Australia, Drummond (No. 151), and perhaps (No. 150); Swan River, Preiss (No. 1625); King George's Sound, Harvey, F. v. Mueller.

HERNANDIACEÆ.

(COMBRETACEÆ).

1. GYROCARPUS, JACQ. 1763.

1. *G. americanus*, Jacq. (*Gyrocarpus Jacquini*, Gaertn.).—Northern Territory, G. F. Hill (No. 463), 1911. Fruit only.

Victoria River, Bynoe, F. v. Mueller.

In India the wood is used to make boxes and toys, and is preferred to all others for catamarans; the seeds are made into rosaries and necklaces.

CRUCIFERÆ.

Pods linear at least 4 times as long as broad.

Pods terete or tetragonous, the valves turgid or with a very prominent midrib.—3. *Stenopetalum*.

Pods flattened, usually long, the flat valves parallel with the septum. Cotyledons accumbent.—2. *Cardamine*.

Pods short or oblong, rarely 4 times as long as broad.

Pods terete or globular, the valves very convex.—3. *Stenopetalum*.

Pods flattened, the flat valves parallel to the septum or to each other. 4. *Alyssum*.

Pods flattened laterally, the valves boat-shaped, with their flat sides at right angles to the narrow septum.—1. *Coronocarpus*.

1. CORONOCARPUS, GAERTN.

(SENEBIERA, POIR).

1. *C. didymus*, Linn. (*S. didyma*, Pers.).—A common weed in sandy soil, especially near the sea, in all warm countries, perhaps indigenous to North Australia, and now established in the neighbourhood of towns in almost all the colonies.

Wart Cress. Imparts a bad flavour to milk.

2. CARDAMINE, LINN.

1. *C. eustylis*, F. v. M.—On the rivers flowing into the Gulf of Carpentaria, rare, F. v. M.

3. STENOPETALUM, R. BR. 1821.

1. *S. pedicellare*, F. v. M.—60 miles N.E. of Camp II., G. F. Hill (No. 264a), 7/6/1911.

S. nutans, F. v. M., recorded in National Herbarium Census from North Australia.

4. ALYSSUM, LINN. (Meniocus Desv.), Madwort.

1. *A. linifolium*, Steph.—Lacrosse Island, Cambridge Gulf, N.W. Coast, A. Cunningham.

Blennodia nasturtioides, Benth.; *Blennodia canescens*, R. Br.; *Lepidium strongylophyllum*, F. v. M.; *Lepidium pedicellosum*, F. v. M.; *Lepidium rudemale*, Linn.; recorded in National Herbarium Census from North Australia.

CAPPARIDACEÆ.

Herbs with a capsular fruit.

Torus short, the stamens inserted immediately within the sepals and petals. Seeds several.—1. Cleome.

Torus elongated, bearing the stamens at the top under the ovary.—2. Roeperia.

Shrubs or trees, with an indehiscent succulent fruit.

Ovules and seeds many.

Torus elongated, with a tube-like appendage at the base.—4. Cadaba.

Torus short without any basal appendage.—3. Capparis.

Ovules and seeds usually solitary.—5. Apophyllum.

1. CLEOME, LINN. 1735.

(*Aleome*, Neck., 1790; *Anomalostemon*, Klotzsch., 1861; *Atalanta*, Nutt., 1818; *Buhsia*, Bunge, 1859; *Corynandra*, Schrad., 1846; *Lagansa*, Rumph., 1838; *Micambe*, Adans., 1763; *Peritoma*, D.C., 1824; *Physostemon*, Mart., 1824; *Podogyne*, Hoffm., 1840; *Polanisia*, Rafin., 1818; *Rorida*, J. F. Gmel., 1791; *Roridula*, Forsk., 1775; *Siliquaria*, Forsk., 1775; *Sinapistrum*, Tourn., 1745; *Tetratelia*, Sond., 1859).

Stamens 4 to 6, or rarely 8.

Stemless, with radical leaves and 1-flowered scapes.—1. *C. oxalidea*.

Erect and leafy, with racemose flowers.—2. *C. tetrandra*.

Stamens 8 to 16.—3. *C. viscosa*.

1. *C. oxalidea*, F. v. M.—Gravelly plains on the Upper Victoria River, and table land at the head of Sturt's Creek, F. v. Mueller.

2. *C. tetrandra*, Banks.—N.W. Coast, Bynoe; Victoria River, F. v. Mueller; Port Essington, Armstrong; Gulf of Carpentaria, R. Brown.

3. *C. viscosa*, Linn. (*Polanisia viscosa*).—Hermansburg, Finke River, G. F. Hill (No. 66), 11/3/1911.

Near Haast's Bluff, Macdonnell Ranges, G. F. Hill (No. 204), 26/5/1911.

90 miles W. of Alice Springs, G. F. Hill, 9/5/1911.

60 miles N.E. of Camp II., G. F. Hill (No. 379), 7/6/1911.

Edith and Maude's Creeks, Gilruth and Spencer, July-August, 1911.

Recorded. Along the whole coast from Westward of Victoria river to the limits of Queensland, and abundant about the Gulf of Carpentaria, R. Brown. and others. Dog's Mustard. A troublesome tropical weed. Used in diseases of the ear in Bombay.

C. grandiflora, F. v. M.; recorded in National Herbarium Census from North Australia.

2. ROEPERIA, F. v. M. 1857.

(*Gynandropsis*, D.C., 1824; *Sinapistrum*, Medic. Ph. Bot., 1789; *Tetrateleia*).

1. *R. cleomoides*, F. v. M. (*Gynandropsis Muelleri*, Benth).—On Sandstone Ranges, Borroloola, G. F. Hill (No. 724), 13/1/1912.

Near Western Creek, Sandstone Ranges, G. F. Hill (No. 747), 13/2/1912.

Recorded. N.W. Coast, Bynoe; high, rocky, sandy table-land at the sources of the Victoria River, Hooker's Creek, and Sturt's Creek, F. v. Mueller.

3. CAPPARIS, LINN. 1735.

(*Beautempsia*, Gaud., 1844; *Busbeckia*, Endl., 1833; *Calyptanthus*, Thou., 1811; *Colicodendron*, Mart., 1837; *Destruquezia*, Gaud., 1844; *Hombak*, Adans., 1763; *Lindackera*, Sieb., 1841; *Petersia*, Klotzsch, 1861; *Quadrella*, Meissn., 1867; *Sodada*, Forsk., 1775; *Uterveria*, Bertol., 1839).

Most inland species are considered good stock food, and those forming trees yield excellent cabinet wood.

Section I. Sepals 4, rather large, imbricate in two series. Berry globular or ovoid.

Flowers on slender pedicels in terminal umbels. Outer sepals equal.—

6. *C. umbellata*.

Flowers lateral or axillary, pedicels solitary or one above the other. One of the outer sepals larger and saccate or concave at the base.

Stamens 12 or under. Flowers small.

Pedicels usually 2, one over the other. Flowers very tomentose.

—1. *C. lasiantha*.

Pedicels 4 or 5, one above the other. Flowers slightly pubescent.

—4. *C. quiniflora*.

Stamens numerous, or more than 15.—5. *C. spinosa*.

Section II. Two outer sepals broad, very concave, completely united in the bud, and separating irregularly as the flower expands.

Leaves mostly ovate or oblong.

Leaves mostly 2 to 4 in. long. Ovary glabrous. Fruit from $\frac{1}{2}$ -in. to a little more than 1 in. diameter.—2. *C. lucida*.

Leaves mostly 1 to $1\frac{1}{2}$ in. long. Ovary tomentose. Fruit 2 in. diameter.—3. *C. Mitchellii*.

Leaves lanceolate or long and narrow.—7. *C. umbonata*.

1. *C. lasiantha*, R. Br.—90 miles N., $\frac{1}{2}$ -W. of Camp III., G. F. Hill (No. 357), 15/6/1911.

Mole Hill, Gilruth and Spencer, July-August, 1911. Creeper on India-rubber Tree.

Eva Downs, G. F. Hill (No. 459), 19/8/1911.

40 miles S.S.W. of Newcastle Waters, G. F. Hill, 8/7/1911.

Recorded. N.W. Coast, A. Cunningham; Victoria River, F. v. Mueller; Thomson River, A. C. Gregory.

Fruit eaten by Queensland settlers.

2. *C. lucida*, R. Br.—N.W. Coast, A. Cunningham; Boobyiss, Torres Straits, Herb. Banks.

3. *C. Mitchellii*, Lindl.—Charlie Creek, Macdonnell Ranges, G. F. Hill, 14/5/1911. Fruit only.

30 miles N.E. of Anthony's Lagoon, G. F. Hill (No. 531), 28/8/1911.

Northern Territory, G. F. Hill (No. 87a). 1911. Fruits only.

10 miles W.S.W. of Mt. Stuart, G. F. Hill, 2/6/1911. With ovoid berries.

Recorded. Plains of Promise, F. v. Mueller.

Darling Downs Pomegranate. Wood excellent for carving.

4. *C. quiniiflora*, D. C.—N. Coast, Baudin.

5. *C. spinosa*, Linn. (*C. nummularia*, D.C.).—Henbury Station, Finke River, G. F. Hill (No. 41), 8/3/1911.

Caper (flower-buds pickled).

6. *C. umbellata*, R. Br.—North Island, Gulf of Carpentaria, G. F. Hill (No. 631), 20/10/1911.

Recorded. Careening Bay, N.W. Coast, A. Cunningham; barren plains of the Fitzmaurice and Victoria Rivers, F. v. Mueller; Gulf of Carpentaria, R. Brown; Port Essington, Armstrong.

7. *C. umbonata*, Lindl.—Edith Creek, Gilruth and Spencer, July-August, 1911.

90 miles N, $\frac{1}{2}$ W. of Camp III., G. F. Hill (No. 354), 15/6/1911.

Recorded. Victoria river and dry ridges towards Fitzmaurice River, F. v. Mueller; Depuech Island, Bynoe.

C. loranthifolia, Lindl.; recorded in National Herbarium Census from North Australia.

4. CADABA, FORST.

1. *C. capparoides*, D. C.—N. Coast, Herb. Mus. Par.; Vansittart Bay, A. Cunningham.

5. APOPHYLLUM, F. v. M.

1. *A. anomalum*, F. v. M.—Brigalow shrub, on the Burdekin, F. v. Mueller; Cooper's river, A. C. Gregory.

DROSERACEÆ.

Ovary 1-celled. Styles 2 to 5, distinct or shortly united at the base.—

1. Drosera.

Ovary 2-celled. Style undivided.—2. Byblis.

1. DROSER, LINN. 1735.

(*Adenopa*, Rafin, 1836; *Dismophyla*, Rafin, 1836; *Esera*, Neck., 1790; *Filicirna*, Rafin., 1836; *Rorella*, Hall., 1785; *Rosolis*, Adans., 1763; *Sondera*, Lehm., 1844).

Sundews.

No stipules.—2. *D. indica*.

Stipules scarious. Leaves radical, rosulate, the stems or stock dying away below the rosette or rarely persisting and densely covered with the dried remains of the old leaves and stipules.—

Racemes glabrous or scarcely pubescent. Leaves obovate or orbicular.—

6. *D. Burmanni*.

Racemes, especially the calyxes, softly villous.—3. *D. petiolaris*.

1. *D. Burmanni*, Vahl.—Regent River, N.W. Coast, A. Cunningham; Upper Victoria River, Providence Hill and M'Adam Range, Nicholson River Gulf of Carpentaria, F. v. Mueller.

2. *D. indica*, Linn.—Near Haast's Bluff, Macdonnell Ranges, G. F. Hill (No. 201), 22/5/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Upper Victoria River, F. v. Mueller; Port Essington, Armstrong; Attack Creek, M'Douall Stuart's Expedition.

3. *D. petiolaris*, R. Br.—Melville Island, Gilruth and Spencer, July-August, 1911.

Note on specimen. "A single specimen collected also from Adelaide River, but not forwarded."

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Henne Goulburn Island, A. Cunningham; Port Essington, Armstrong; M'Adam Range, F. v. Mueller.

D. Banksii, R. Br.; recorded from North Australia in National Herbarium Census.

2. BYBLIS, SALISB.

1. *B. liniflora*, Salisb.—N.W. Coast, Bynoe; Hooker and Sturt's Creeks, Upper Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Bown; adjoining mainland, F. v. Mueller.

PITTOSPORACEÆ.

Anthers ovate or oblong. Capsule dehiscent. Petals (except in *Bursaria*) erect at the base.

Trees or erect shrubs. Petals erect at the base. Capsule thick or coriaceous. Seeds several. 1. *Pittosporum*.

Erect shrubs, often prickly. Petals small, spreading from the base.—2.—*Bursaria*.

Anthers ovate or oblong. Berry indehiscent. Petals erect at the base.—3. *Citriobatus*.

1. PITTOSPORUM, BANKS. 1788.

(*Cylbanida*, Noronha., 1857; *Glyaspermum*, Zoll. and Morr., 1845; *Pittosporoides*, Soland., 1788; *Pseuditea*, Hassk., 1842; *Quinsonia*, Montr., 1860; *Senecia*, Comm., 1824).

The trees furnish good cabinet wood, and the flowers of most are valuable for perfumery. Several species contain saponin.

Flowers numerous, small, in compound terminal corymbs, with the lower branches axillary.—1. *P. melanospermum*.

Pedicels axillary, solitary or clustered, 1-flowered, the uppermost sometimes in a terminal cluster.—2. *P. phylliraeoides*.

1. *P. melanospermum*, F. v. M.—York Sound, A. Cunningham; low rocky hills between Victoria River and the Gulf of Carpentaria, F. v. Mueller.

2. *P. phylliraeoides*, D.C.—Alice Springs, Macdonnell Ranges, G. F. Hill (No. 126), 27/4/1911.

Finke River, 8 miles N. of Alice Springs, Macdonnell ranges, G. F. Hill, 21/4/1911.

Hermansburg, Finke River, G. F. Hill (No. 97), 16/3/1911.

Northern Territory, G. F. Hill (No. 98), 1911.

60 miles N.E. of Camp II., G. F. Hill (No. 283), 7/6/1911.

Recorded. Upper Victoria River, and Sturt's Creek, F. v. Mueller.

Poisonous according to Greshoff, contains saponin. A slender-stemmed small tree, yielding a close-grained wood.

2. BURSARIA, Cav.

1. *B. spinosa*, Cav.—About the Gulf of Carpentaria, rare and only the var. *incana*, F. v. Mueller; N.E. Coast, A. Cunningham.

3. CITRIOBATUS, A. CUNN.

1. *C. pauciflorus*, A. Cunn.—Careening Bay, N.W. Coast, A. Cunningham.

ROSACEÆ.

Trees or erect shrubs, with entire leaves. Stipules deciduous or none. Carpel solitary, with 2 erect ovules, and a basal style.

Trees, petals 5 or 4. Stamens perigynous, with filiform filaments and small anthers.—3. Parinarium.

Shrubs, petals none. Stamens hypogynous, anthers longer than the filaments.—2. Stylobasium.

Herbs or scrambling shrubs. Leaves toothed divided or compound.—1. Rubus.

1. RUBUS, LINN.

1. *R. moluccanus*, Linn.—Port Essington, Armstrong. Queensland Bramble; Native Raspberry.

2. STYLOBASIUM, DESF. 1819.

(Macrostigma, Hook. 1842).

1. *S. spathulatum*, Desf.—40 miles W. of Camp IV., Lander Creek, G. F. Hill (363), 21/6/1911.

3. PARINARIUM, JUSS.

Petiole without glands. Leaves much veined. Flowers small. Calyx-lobes acute. Perfect stamens about 8.—2. *P. nonda*.

Petiole with 2 glands. Leaves shining, little veined. Flowers rather large. Calyx-lobes obtuse. Perfect stamens 30 to 50.—1. *P. Griffithianum*.

1. *P. Griffithianum*, Benth.—Port Essington, Armstrong; Quail Island, Flood.

2. *P. nonda*, F. v. M.—From the Upper Lind to Van Diemen's River, Gulf of Carpentaria, Leichhardt; Gilbert River, F. v. Mueller.

LEGUMINOSÆ.

Sub-order I. *Papilionaceæ*.—Flowers 5-merous. Corolla very irregular, papilionaceous, or very rarely (in a few *Sophoreæ*) nearly regular, the petals imbricate, the upper one (or standard) always outside in the bud. Stamens 10, or very rarely 9 or 5.

Tribe I. *Podalyriæ*.—Shrubs rarely herbs or small trees. Leaves simple or digitately compound (except in a few *Burtonias*), without stipellæ.

Stamens all free or scarcely united at the base. Pod not articulate. Standard small or narrow.—13. *Brachysema*.

Standard orbicular or reniform, large. Ovules 4 or more (except in a few *Mirbelias*).

Calyx-lobes shorter or scarcely longer than the tube. Leaves simple or none.—14. *Mirbelia*.

Calyx-lobes much longer than the tube.—15. *Isotropis*.

Standard orbicular or reniform, large. Ovules 2 (4 to 6 in *Jacksonia piptomeris*).

Calyx-lobes much longer than the tube, valvate.

Funicles long and thick, one folded or curved upwards, the other downwards. Pod globular or nearly so. Leaves pinnate, digitate 3 to 5-foliolate or simple.—16. *Burtonia*.

Funicles short and slender. Pod flattened or oblong. Leaves none or very rarely 1-foliolate.—17. *Jacksonia*.

Calyx-lobes shorter than the tube, or, if longer, imbricate or opening in the bud.

Pod triangular, 2-valved. Seeds strophiolate. Calyx shortly 5-toothed. Leaves simple, alternate, or none.—18. *Daviesia*.

Pod ovate or oblong, 2-valved. Calyx 5-lobed or toothed or 2-lipped. Leaves simple, sessile or shortly petiolate.—19. *Gastrolobium*.

Tribe II. *Genistææ*.—Shrubs or herbs, very rarely small trees. Leaves simple or with 1 or 3 or more digitate leaflets. Stamens all united in a sheath open on the upper side in all the Australian genera (except in one species of *Hovea*).

Leaves all simple or none. Flowers axillary, solitary or clustered. Seeds strophiolate.

Anthers uniform. Pod very flat.—20. *Bossiaea*.

Anthers alternately longer and shorter. Leaves alternate or none.

Pod at least twice as long as broad, with coriaceous convex valves. Flowers red, yellow, or reddish-purple.—21. *Templetonia*.

Pod turgid, scarcely longer than broad. Flowers blue or bluish-purple.—22. *Hovea*.

Leaves digitate or simple. Flowers or racemes terminal or leaf-opposed. Seeds not strophiolate.

Anthers alternately longer and shorter. Style (often very minutely) bearded under the stigma.—24. *Crotalaria*.

Anthers uniform. Style beardless. Pod linear, foliular. Flowers minute, solitary or in short racemes.—23. *Rothia*.

Tribe III. *Eulotææ*.—Herbs, rarely shrubs, Leaves pinnate, leaflets entire. Flowers capitate or umbellate on axillary peduncles. Upper stamen usually free, at least at the base, the others united in a sheath; filaments either all or 5 only dilated towards the end. Pod not articulate.—25. *Lotus*.

Tribe IV. *Galegææ*.—Herbs not twining, shrubs, or rarely trees or tall woody climbers. Leaves pinnate, rarely reduced to 3 or 1 leaflets. *Stipellæ* none, or setaceous in a few pinnate genera. Upper stamen usually free, at least at the base, the others united in a sheath, very rarely all united; filaments filiform. Ovules 2 or more (except in *Indigofera linifolia* and in *Psoralea*). Pod not articulate, 2-valved (except *Psoralea*).

Ovule 1. Fruit small, the pericarp adhering to the seed. Herbs or shrubs with black glandular dots. Leaflets (in Australia) 1 or 3, sometimes toothed.—27. *Psoralea*.

Ovules 2 or more (1 in *Indigofera linifolia*). Anthers tipped with a small gland. Pod 2-valved. Herbs or shrubs, sometimes glandular. Leaflets entire. Hairs often appressed and attached by the centre.—26. *Indigofera*.

Ovules 2 or more. Anthers without glands.

Racemes or flowers terminal or leaf-opposed. Herbs or shrubs.

Stamens all united in a sheath, open on the upper side.—28.

Ptychosema.

Upper stamen usually free, or all united in a closed tube.—29.

Tephrosia.

Racemes or flowers axillary. Herbs or shrubs.

Style not bearded (rarely a small tuft of hairs on the stigma in *Tephrosia*).

Pod linear, rarely short and oblong; valves thin or coriaceous, flat or convex when ripe.—29. *Tephrosia*.

Pod long, narrow and thick, the endocarp continuous with the transverse partitions between the seeds.—30. *Sesbania*.

Style bearded under the stigma. Pod turgid, membranous or coriaceous.

Petals acuminate.—31. *Clanthus*.

Petals obtuse.—32. *Swainsona*.

Tribe V. *Hedysareæ*.—Pod separating into 1-seeded articles, or the whole pod 1-seeded and indehiscent (except *Pycnospora* and rarely *Desmodium*). Foliage and inflorescence, in the Australian genera, either of *Galegeæ* or *Phaseoleæ*.

Leaves pinnate with several leaflets, as in *Galegeæ*. Stamens united in a sheath, or in 2 bundles or 5 each.—33. *Æschynomene*.

Leaves with 2 leaflets. Bracteoles large, enclosing the flowers. Stamens all united. Anthers alternately long and short.—34. *Zornia*.

Leaves pinnately 3-foliolate or 1-foliolate, with stipellæ as in *Phaseoleæ*. Stipules usually dry.

Pod flat, not folded. 35. *Desmodium*.

Pod turgid, not articulate, but with transverse lines.—36. *Pycnospora*.

Pod-articles folded over each other within the calyx.

Calyx-tube small, lobes subulate.—38. *Uraria*.

Calyx campanulate, enlarged after flowering, with short broad lobes.—39. *Lourea*.

Pod-articles globular, oblong-terete, or slightly flattened but thick.

Calyx narrow, dry, deeply lobed. Leaves 1-foliolate.—37. *Fabricia*.

Tribe VI. *Phaseoleæ*.—Herbs usually twining or prostrate, rarely erect or shrubby at the base, very rarely trees. Leaves pinnately 3-foliolate or 1-foliolate, rarely 5 or 7-foliolate, with stipellæ (digitate in a very few species, stipellæ minute or none in *Rhynchosia* and its allies). Upper stamen usually free, at least at the base or all but the base. Anthers uniform or very nearly so (except in *Mucuna*). Pod not articulate, 2-valved.

Flowers in axillary short clusters with persistent striate bracts and bracteoles. Seeds not strophiolate.

Calyx tubular.—43. *Clitoria*.

Calyx campanulate.—55. *Dolichos*.

Flowers small, single, scattered in a loose raceme, the rachis not nodose. Bracts small, deciduous (lower flowers often solitary in the axils). Seeds not strophiolate.—44. *Glycine*.

Trees or tall erect herbs with conical prickles. Flowers large, red. Wings very short.—45. *Erythrina*.

Anthers alternately long and short. Flowers large, purple yellow or white. Standard short. Keel acuminate.—46. *Mucuna*.

Twining or erect at the base, not glandular. Flowers in pairs or clusters along or at the top of a common peduncle, the rachis of the cluster gland-like or forming a protruding node. Bracts deciduous or none. Anthers uniform.

Style beardless.

Calyx-lobes 4 (the upper one of 2 united), acuminate.—47. *Galactia*.

Calyx 2 upper lobes united in a large upper lip, the 3 lower minute.—48. *Canavalia*.

Style bearded under the stigma.

Stigma oblique or lateral.

Keel spirally twisted.—53. *Phaseolus*.

Keel straight, or with a curved beak not forming a complete spire.—54. *Vigna*.

Stigma small, terminal.—55. *Dolichos*.

Twining or erect. Flowers racemose, umbellate or solitary, the rachis not nodose. Bracts usually membranous and deciduous. Stipellæ usually minute or none. Style beardless. Upper stamen free.

Ovules 4 or more.—49. *Cantharospermum*.

Ovules 2 or rarely 1.

Pod flattened. Hilum of the seed parallel to the suture with a central funicle.—50. *Rhynchosia*.

Pod flattened. Seed obliquely transverse, the funicle attached to one end of the hilum. Standard usually very silky —51. *Eriosema*.

Pod turgid. Leaflets digitate.—87. *Moghania*.

Erect. Flowers small, in terminal racemes or panicles.

Stipules dry, and habit of *Desmodium*.—52. *Pycnospora*.

Twining. Leaves abruptly pinnate with small leaflets. Upper stamen wanting, the other 9 united in a sheath open on the upper side.—42. *Abrus*.

Tribe VII. *Dalbergiæ*.—Trees or woody climbers. Leaves pinnate with five or more leaflets or sometimes one leaflet, very rarely three. Stipellæ none or small and subulate. Stamens all united in a sheath or tube or into two parcels of five, very rarely the upper one free. Pod indehiscent.

Pod flat, thin or coriaceous, one or both sutures edged with a narrow wing.—41. *Derris*.

Pod flattened but thick, with obtuse sutures.—40. *Galedupa*.

Tribe VIII. *Sophoræ*.—Trees, woody climbers, or rarely tall shrubs or almost herbaceous. Leaves pinnate, with several leaflets, without stipellæ, or reduced to a large leaflet. Stamens all free or scarcely united at the base.—49. *Castanospermum*.

Sub-order II. *Caesalpinieæ*.—Flowers usually 5-merous. Corolla irregular or nearly regular, imbricate in the bud, the upper petal inside. Stamens (in the Australian genera) 10 or fewer and all free. Radicle usually straight.

Leaves twice pinnate, often with hooked prickles. Stamens 10, all bearing anthers.—12. *Peltophorum*.

Leaves simply pinnate.

Sepals and petals 5; stamens 10; anthers all perfect, opening in terminal pores or short slits, or some minute and empty. Leaves abruptly pinnate.—11. *Cassia*.

Sepals and petals 5. Stamens 3, with perfect anthers opening in longitudinal slits; 2 small staminodia. Leaves unequally pinnate.—10. *Petalostylis*.

Sepals and petals 4 or 5. Stamens 2, opening in terminal pores. Leaves unequally pinnate or with sessile digitate leaflets.—9. *Labichea*.

Sepals 4. Petals 3. Stamens 3 or 2 perfect, 4 or 5 minute staminodia. Leaves abruptly pinnate. Pod thick.—7. *Tamarindus*.

Leaves of 2 leaflets or 2-lobed. Stamens 10 or fewer.—8. *Bauhinia*.

Sub-order III. *Mimoseæ*.—Flowers 5-merous, 4-merous, rarely 3-merous or 6-merous, small, regular, sessile in spikes or heads, or very rarely shortly pedicellate. Sepals valvate, often united. Petals valvate (except in *Erythrophloeum*), often united. Stamens equal to or double the number of petals or indefinite. Radicle straight.

Stamens twice as many as petals.

Petals slightly imbricate.—6. *Erythrophloeum*.

Petals strictly valvate.

Anthers tipped with a gland.—5. *Dichrostachys*.

Anthers without any gland. Pod short, flat, falcate or oblique.

Lower flowers of the spike often with long, linear, coloured staminodia. Herbs or undershrubs.—4. *Neptunia*.

Stamens indefinite.

Stamens, at least in the hermaphrodite flowers, all free.—3. *Acacia*.

Stamens monadelphous.

Pod flat and thin, straight or scarcely falcate.—2. *Albizzia*.

Pod curved or twisted, 2-valved and often reddish or pulpy inside, or separating into indehiscent articles.—1. *Pithecolobium*.

1. PITHECOLOBIUM, MART.

(*Cathormion*, Hassk.).

1. *P. moniliferum*, Benth.—Okey Creek, G. F. Hill (No. 765), 16/2/1912.

Recorded. Point Pearce, Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown; along all the watercourses round the Gulf of Carpentaria, Leichhardt.

2. ALBIZZIA, DURA.

1. *A. procera*, Benth.—Gloucester Island, Henne. Wood resembling walnut.

3. ACACIA, LINN. 1737.

(*Arthrosprion*, Hassk., 1855; *Chitonanthus*, Lehm., 1847; *Farnesia*, Gasp., 1838; *Hoopesia*, Buckl., 1862; *Phyllodoce*, Link., 1831; *Tetracheilos*, Lehm., 1847; *Vachellia*, Wight and Am., 1834; *Zigmaloba*, Rafin., 1838).

The bark of many is used in tanning; and many also, at certain periods of their growth, produce a saponin poisonous to stock.

Leaves all or mostly reduced to flat terete or subulate phyllodia or minute scales without leaflets. (*Phyllodineæ*).

Flowers in globular heads.

Phyllodia none or reduced to minute scales.—IV. Calamiformes.

Phyllodia (either small and toothlike or vertically flattened or elongated), decurrent on or continuous with the branches.

Branches flat or 2-winged by the decurrent phyllodia.—

I. *Alatæ*.

Branches 3-winged or the phyllodia (usually pungent) very shortly or scarcely decurrent, but not articulate.—

II. *Continuæ*.

Phyllodia articulate on the stems, at least when old.

Phyllodia rigid, tapering into pungent straight points, usually narrow or short, not whorled.—III. *Pungentes*.

Phyllodia linear-subulate, terete or tetragonous rarely slightly flattened, obtuse or with incurved or innocuous points, not whorled.—IV. Calamiformes.

Phyllodia terete or slightly flattened, usually short, all whorled or crowded and irregularly whorled or clustered.—V. *Brunioideæ*.

Phyllodia vertically flattened, broader than thick, obtuse acute or with incurved or innocuous points.

Phyllodia 1-nerved, the veins pinnate, reticulate or rarely 1 or 2 secondary small nerves from the base on one side of the midrib.—VI. *Uninerves*.

Phyllodia with 2, 3 or more parallel nerves.—VII. *Plurinerves*.

Flowers in cylindrical or oblong spikes.

Phyllodia rigid, tapering into pungent points.—III. *Pungentes*.

Phyllodia obtuse or with a callous, innocuous or hooked point.—VIII. *Julifloræ*.

Leaves all bipinnate. Flowers in globular heads or rarely in spikes.—(*Bipinnatæ*.) IX. *Gummiferae*.

Div. I. *Phyllodineæ*.—Leaves mostly phyllodineous without leaflets.

Series I. *Alatæ*.—Phyllodia bifariously decurrent, forming two opposite wings to the stem, the free part short, broad, and acute, or rigid and pungent-pointed. Flowers in globular heads, on axillary simple peduncles rarely appearing racemose by the reduction of the flowering branches.—9. *A. bossiæoides*.

Series II. *Continuæ*.—Phyllodia narrow, rigid, tapering into a pungent point, continuous with the stem and shortly and trifariously or irregularly decurrent. Flowers in heads or spikes on axillary simple peduncles.—45. *A. Peuce*.

Series III. *Pungentes*.—Rigid shrubs, branches in some species spinescent. Phyllodia articulate on the stem, rigid, tapering into pungent points, subulate, linear or lanceolate, or rarely none. Flowers in heads or spikes on axillary simple peduncles.

A. *Plurinerves*.—Phyllodia 2 or more nerved, or terete and nerveless. Heads globular.—46. *A. phlebocarpa*.

B. *Uninerves*.—Phyllodia 1-nerved. Heads globular.—44. *A. patens*.

Series IV. *Calamiformes*.—Phyllodia rarely none, more frequently narrow-linear or subulate, terete tetragonous or very slightly flattened, articulate on the stem, obtuse or with short innocuous or recurved points, 1 or several-nerved. Flowers in globular heads on simple axillary peduncles, or rarely several heads in a short raceme, or irregularly racemose by the abortion of the floral phyllodia.

A. Plurinerves.—Phyllodia striate, with 2, 3 or more nerves on each side.—

10. *A. Bynoeana*.

B. Uninerves.—Phyllodia 1-nerved or nerveless.—30. *A. juncifolia*.

Series V. *Brunioides*.—Phyllodia numerous, small, linear-subulate, verticillate, clustered or crowded, obtuse or with innocuous or rarely rigid points. Flowers in globular heads or simple axillary peduncles, usually exceeding the phyllodia.

Phyllodia all regularly verticillate.

Phyllodia 8 to 10 or more in the whorl, slender, under $\frac{1}{2}$ -in. long.

Petals striate.

Phyllodia recurved at the end, sulcate. Pod sessile.—37. *A. lycopodifolia*.

Phyllodia recurved at the end, not sulcate. Pod on a stipes of 2 to 3 lines.—21. *A. galioides*.

Phyllodia straight at the end, sulcate. Pod sessile.—26. *A. hippuroides*.

Phyllodia 5 to 7 in. the whorl, recurved at the end, not sulcate.

Petals not striate, with a prominent midrib.—5. *A. Baueri*.

Phyllodia in clusters of about 3. Pod almost woody, narrowed into a long stipes.—65. *A. subternata*.

Series VI. *Uninerves*.—Phyllodia vertically flattened, either narrow and obtuse or with a short oblique point, or broad and obtuse, acute or rarely pungent-pointed, with 1 central nearly marginal nerve, or very rarely 2-nerved. Flowers in globular heads, either on simple axillary peduncles, solitary, in pairs or clusters, or several in axillary racemes.

A. Armatae.—Shrubs or undershrubs, not spinescent. Phyllodia from obovate to lanceolate, rarely above $1\frac{1}{2}$ in. long, more or less undulate, with a central nerve and usually nerve-like margins; marginal glands none, or very small and obscure. Stipules generally persistent, either spinescent or setaceous or acuminate or phyllodia-like. Peduncles 1-headed.—24. *A. Gregorii*.

B. Brevifoliae.—Shrubs, never spinescent. Phyllodia either broad, ovate or falcate, or narrow, oblong or linear, short, obtuse or with a small recurved innocuous point, occasionally undulate and more pointed. Stipules minute or none. Peduncles 1-headed.—59. *A. spatulata*.

C. Angustifoliae.—Shrubs or trees, not spinescent. Phyllodia oblong-lanceolate or linear, occasionally falcate, with one central nerve or rarely 2-nerved, mostly above 1 in. long. Stipules minute or none, or rarely spinescent. Peduncles 1-headed. Some of the species very resinous.—55. *A. Sensis*.

D. Racemosae.—Not spinescent. Phyllodia not pungent, with one central nerve or very rarely a second shorter or fainter one, the veinlets when visible diverging from the midrib or reticulate. Flower-heads globular, few or all or nearly all in axillary racemes, very rarely a few solitary in the lower axils of a young branch. Flowers usually small and 5-merous. Petals not striate.

Phyllodia linear, thick, rarely falcate-lanceolate, usually without glands, the lateral veins reticulate and obscure. Seeds longitudinal.—54. *A. salicina*.

Phyllodia ovate, obovate or broadly oblong, usually under 1 in.—51. *A. pyrifolia*.

Series VII. *Plurinerves*.—Phyllodia vertically flattened, obtuse or with an innocuous or recurved point (rarely pungent when the phyllodium is broad), with 2 or more longitudinal nerves. Flowers in globular heads on axillary peduncles, either solitary or shortly racemose.

A. Triangulares.—Stipules setaceous or minute, not spinescent. Phyllodia small (under $\frac{1}{2}$ -in. long), broadly falcate-ovate or triangular with small points often pungent.

Flowers not $\frac{3}{4}$ -line long. Calyx much shorter than the corolla.—15. *A. deltoidea*.

Flowers above 1 line long. Calyx nearly as long as the corolla.—63. *A. stipulosa*.

B. Brevifoliae.—Phyllodia under 1 in. long, obovate or broadly oblong, very obtuse, often undulate. Stipules inconspicuous.

Phyllodia under $\frac{1}{4}$ -in. or very rarely $\frac{1}{2}$ -in. long. Petals smooth.—57. *A. setulifera*.

Phyllodia $\frac{1}{2}$ to 1 in. long. Petals strongly striate.

Phyllodia faintly nerved. Calyx shortly toothed. Pod thick and hard, hooked at the end, tapering into a long stipes.—67. *A. translucens*.

Phyllodia several-nerved. Sepals spatulate, free or separating. Pod thinly coriaceous, flat, with thickened parallel margins, glutinous and villous.—9. *A. impressa*.

C. Oligoneuræ.—Phyllodia above $\frac{1}{2}$ -in. and mostly above 1 in. long, oblong lanceolate or linear, straight or scarcely falcate, with 2 or 3 nerves, faintly or not at all veined between them (except *A. Simsii*), and not glutinous.

Flower-heads racemose. Phyllodia coriaceous, obtuse.—8. *A. bivenosa*. Peduncles solitary or clustered.—58. *A. Simsii*.

D. Microneura.—Glabrous or glaucous and not glutinous. Phyllodia thick, veinless or with very fine, scarcely prominent parallel veins, narrow or rarely short and obovate.

Veins only visible under a lens (Western species).—12. *A. coriacea*.

Veins very fine, but prominent (Eastern species).—60. *A. stenophylla*.

E. Nervosæ.—Often viscid, occasionally glaucous, rarely hoary or pubescent. Phyllodia straight or sometimes falcate, coriaceous or thin, with several prominent nerves and, when broad, reticulate between them, the nerves rarely reduced to three when the phyllodium is narrow.

Glabrous. Phyllodia coriaceous, oblong, cuneate, obtuse; nerves 3 to 5, slightly prominent, veins reticulate.—25. *A. hemignosta*.

Very viscid. Nerves or veins usually numerous.—16. *A. dictyophleba*.

F. Dimidiatæ.—Phyllodia, usually broad, and often long, falcate or very oblique, with 2, 3, or 4 prominent distant nerves, and reticulately penni-veined between them.

Glabrous. Phyllodia rather thin (2 to 4 in.). Flower-heads in axillary racemes growing out into leafy branches. Pod 6 to 8 lines broad.—7. *A. binervata*.

Glabrous. Phyllodia coriaceous, long-falcate (6 to 8 in.). Flower-heads in axillary clusters or very short racemes.—*A. latescens*.

Hoary or glaucous. Phyllodia large, broad (3 to 4 in.). Pod above 1 in. broad.—56. *A. sericata*.

Woolly or velvety-tomentose. Phyllodia obovate or orbicular ($1\frac{1}{2}$ to 2 in.). Flower-heads in a terminal raceme.—53. *A. retivenia*.

Series VIII. *Julifloræ*.—Phyllodia vertically flattened or in a few species terete, several-nerved or rarely 1-nerved, obtuse acute or pointed, rarely slightly pungent. Flowers in cylindrical dense or interrupted spikes, rarely, when sessile, shortly oblong.

A. Rigidulæ.—Phyllodia flat, often short, straight oblique or shortly falcate. Spikes dense (except *A. megalantha*). Flowers 5-merous.

Phyllodia small, rarely above $\frac{1}{2}$ -in. long, undulate.

Phyllodia mostly clustered, narrow, 2 to 4 lines long. Spikes sessile. Sepals free.—1. *A. amentifera*.

Phyllodia broad, about $\frac{1}{2}$ -in. long. Spikes pedunculate. Calyx sinuate-toothed. Seeds oblique.—70. *A. Wickhami*.

Phyllodia narrow, obtuse with a short point, $\frac{1}{2}$ to $1\frac{1}{2}$ in. long.

Phyllodia obscurely 3 to 5-nerved. Pod 3 to 6 lines broad. Seeds oblique.—38. *A. lysiphloia*.

Phyllodia obscurely 1-nerved. Pod $1\frac{1}{2}$ lines broad. Seeds longitudinal.—*A. linarioides*.

Phyllodia rather broad, coriaceous, mostly 1 to 3 in. long.; rarely 4 in., obtuse or with a glandular callous point, straight oblique or shortly falcate.

Tomentose or pubescent. Stipules conspicuous. Phyllodia 1 to 2 in. long, 2 to 4-nerved, with anastomosing veins. Pod narrow.—62. *A. stipuligera*.

Resinous. Phyllodia 1 to $1\frac{1}{2}$ in. long, 5 to 9-nerved, without intermediate veins.—50. *A. ptychophylla*.

Glabrous, except the young shoots. Phyllodia obliquely narrowed at both ends, somewhat undulate, with a terminal gland often large.

Phyllodia finely 3 to 5-nerved. Spikes pedunculate. Buds very striate. Calyx sinuate-toothed.—61. *A. stigmatophylla*.

Phyllodia very coriaceous, 5 to 9-nerved. Spikes sessile. Pod terete, turgid. Seeds oblique.—69. *A. umbellata*.

Phyllodia finely 3 to 5-nerved. Spikes pedunculate. Buds smooth. Calyx deeply lobed.—33. *A. leptophleba*.

Phyllodia broadly oblong-falcate, obtuse or with a hooked callous point, very coriaceous.

Spikes dense. Flowers not 1 line long. Pod flat. Seeds oblique.—34. *A. limbata*.

Spikes interrupted. Flowers 2 lines long.—39. *A. megalantha*.

Phyllodia nearly straight, coriaceous, obtuse, 3 to 4 in. long. Pod narrow. Seeds longitudinal.—23. *A. gonoclada*.

B. Stenophyllæ.—Phyllodia linear-subulate or narrow-linear, straight or slightly curved, terete or flat but thick, rarely under 2 in. long or above $1\frac{1}{2}$ lines broad. Spikes dense, short or slender, with small 5-merous, or in terete-leaved species often 4-merous flowers.

Phyllodia terete or scarcely flattened, very finely striate under a lens.—47. *A. pityoides*.

Phyllodia terete, nerveless or obscurely 1-nerved. Calyx lobed.—

71. *A. xylocarpa*.

Phyllodia very narrow but flat, 1-nerved. Sepals free.—22. *A. gonocarpa*.

Phyllodia flat but thick, prominently 3 or 5-nerved.—19. *A. drepanocarpa*.

Phyllodia flat, minutely striate under a lens.—2. *A. arida*.

C. Falcatæ.—Phyllodia usually long or large, more or less falcate, narrowed at each end, with numerous parallel nerves or veins, either all equal, or the central one or several more prominent than the others, the smaller ones occasionally anastomosing. Spikes slender, dense or rarely interrupted. Flowers mostly 5-merous. (Several species of this group cannot be distinguished without the fruit.)

Pod (where known and probably in all the species) narrow, with longitudinal seeds, or rarely broader with the longitudinal seeds along the centre.

Phyllodia narrow-lanceolate or linear-lanceolate, rather thick, slightly falcate, with very fine parallel nerves, the midrib usually more prominent.

Loosely pubescent. Stipules conspicuous. Phyllodia not above 3 in. long.—11. *A. conspersa*.

Glabrous or the young shoots silky-pubescent. Stipules inconspicuous. Phyllodia mostly above 3 in. long.—18. *A. doratoxylon*.

Phyllodia narrow-lanceolate, not so thick and rather more falcate than in the preceding species, usually with about 3 nerves more prominent than the rest.

Phyllodia sprinkled with a few hairs. Pod flat, slightly convex over the seeds.—14. *A. delibrata*.

Phyllodia very glabrous, the smaller veins between the three principal nerves scarcely conspicuous. Pod unknown.—40. *A. oligoneura*.

Phyllodia glabrous. Nerves numerous. Pod very convex over the seeds and moniliform.—66. *A. torulosa*.

Phyllodia more falcate than in the preceding species, often broader or longer, with more nerves. Pod narrow or flat, straight or twisted.—49. *A. polystachya*.

Pod (where known and probably in all the species) rather broad, coriaceous woody or rarely rather thin.—Seeds very oblique or transverse. Parallel veins of the phyllodia usually numerous and closely packed.

Phyllodia long, narrow, and slightly falcate. Pod flat, with straight margins and undulate valves. Seeds orbicular.

Branches acutely angular.—48. *A. plectocarpa*.

Branches scarcely angular.—42. *A. pachycarpa*.

Phyllodia broad, falcate or very oblique. Pod nearly terete and turgid.—68. *A. tumida*.

Phyllodia long, and more falcate. Pod hard flat, contracted to the base.

Phyllodia 3 to 5 lines broad. Pod obtuse, not hooked.—36. *A. loxocarpa*.

Phyllodia 6 to 8 lines broad. Pod obtusely hooked at the end.—41. *A. oncinocarpa*.

Phyllodia broad, falcate or very oblique. Pod broad, hard, and woody, obliquely veined.

Branchlets 3-angled. Pod obtusely recurved or hooked at the end, much narrowed at the base.—3. *A. aulacocarpa*.

Branchlets nearly terete or slightly angular. Pod broad, very hard, obliquely truncate at the base.

Pod flat or scarcely twisted, the outer margin entire.—13. *A. crassicarpa*.

Pod much twisted, the outer margin deeply sinuate.—4. *A. auriculiformis*.

Pod uncertain. Smaller veins of phyllodia anastomosing to fine network.—

52. *A. retinervis*.

D. Dimidiata.—Phyllodia large, broad, very oblique or falcate, with 3 or more distant prominent nerves, more or less confluent at or near the lower margin at the base, pinnately net-veined between them.

Branchlets very acutely angular or almost winged.

Glabrous and glaucous, spikes pedunculate. Flowers mostly 4-merous.—32. *A. latifolia*.

Hoary or silky-pubescent, spikes sessile. Flowers mostly 5-merous.—27. *A. holosericea*.

Branchlets terete or scarcely angular.

Spikes 1 to 2 in. long. Flowers glabrous. (Erect shrub)—17 *A. dimidiata*.

Spikes scarcely $\frac{1}{2}$ -in. long, dense. Flowers densely pubescent. Stem prostrate or diffuse.—28. *A. humifusa*.

Series IX. *Gummifera*.—Leaves bipinnate. Stipules of some or all the leaves persistent and spinescent. Flower-heads globular, on solitary or clustered simple peduncles.

Bracts small, close under the flower-heads.

Pinnæ 4 to 6 pairs. Leaflets small, 10 to 20 pairs. Pod thick, cylindrical or spindle-shaped, indehiscent, pithy between the seeds.—20. *A. Farnesiana*.

Pinnæ 1 or 2 pairs. Leaflets small, 8 to 12 pairs. Pod narrow-linear, 2-valved.—64. *A. suberosa*.

Bracts forming a little 4-lobed ring round the middle of the peduncle.

Pinnæ 15 to 25 pairs. Leaflets scarcely 1 line long. Flowers 4-merous. Pod coriaceous; valves slightly convex, striate lengthwise.—6. *A. Bidwilli*.

Pinnæ 3 to 10 pairs. Leaflets 3 to 4 lines long. Flowers 5-merous—43. *A. pallida*.

1. *A. amentifera*, *F. v. M.*—Upper Victoria River, *F. v. Mueller*.

2. *A. arida*, *Benth.*—Parched desert shores of Cambridge Gulf, N.W. Coast, *A. Cunningham*.

3. *A. aulacocarpa*, *A. Cunn* (var. *macrocarpa*).—Stony Creek, Borroloola, *G. F. Hill* (No. 670), 8/11/1911.

Hickory Wattle. A useful cabinet wood.

4. *A. auriculiformis*, *A. Cunn.*—S. Goulburn Island, *A. Cunningham*.

5. *A. Baueri*, *Benth.*—N. Coast, *R. Brown*.

6. *A. Bidwilli*, *Benth.*—Whitsunday and Gloster Islands, *Henne*.

7. *A. binervata*, *D.C.*—Table Island, Upper Roper River.

8. *A. bivenosa*, *D.C.*—N.W. Coast, Admiralty Bay, Baudin's Expedition; Bay of Rest and Dampier's Archipelago, *A. Cunningham*; Depuech Island, *Bynoe*; Hearson Island, *Nichol Bay*, *F. Gregory's Expedition*.

9. *A. bossiaeoides*, *A. Cunn.*—Liverpool River, N.W. Coast. *A. Cunningham*.

10. *A. Bynoeana*, *Benth.*—N.W. Coast, *Bynoe*; Gulf of Carpentaria, *F. v. Mueller*.

11. *A. conspersa*, *F. v. M.*—Islands of the Gulf of Carpentaria, *R. Brown*; and rocky sandy districts of the adjoining mainland, Upper Roper and Limmen-Bight Rivers, *F. v. Mueller*; *Sterculia Creek*, *Leichhardt*.

12. *A. coriacea*, *D.C.*—Bay of Rest, N.W. Coast, A. Cunningham ; Depuech Island, Bynoe ; Nichol Bay, F. Gregory's Expedition.

13. *A. crassicarpa*, *A. Cunn.*—Arnhem S. Bay, R. Brown ; Goulburn and Sims Islands, A. Cunningham ; Point Pearce, F. v. Mueller ; Port Essington, Armstrong ; Gool Island, M'Gillivray ; Sweers Island, Henne.

14. *A. delibrata*, *A. Cunn.*—York Sound and Port Warrender, N.W. Coast, A. Cunningham.

15. *A. deltoidea*, *A. Cunn.*—Greville Island, Montague Sound, and Barren Islands, Regent's Inlet, N.W. Coast, A. Cunningham.

16. *A. dictyophleba*, *F. v. M.*—Mount Humphries, M'Douall Stuart.

17. *A. dimidiata*, *Benth.*—Herbert Bros. Station, near Darwin, G. F. Hill (2nd Series, No. 60), 28/5/1913.

Recorded. Various parts of the N. Coast, A. Cunningham ; Victoria River and M'Adam Range, F. v. Mueller ; Port Essington, Armstrong.

18. *A. doratoxylon*, *A. Cunn.*—Daly Waters, M'Douall Stuart.

19. *A. drepanocarpa*, *F. v. M.*—Rocks of the S.W. Shore of the Gulf of Carpentaria, F. v. Mueller. Whitsunday and Palm Islands, Henne.

20. *A. Farnesiana*, *Willd.*—N.W. Coast, A. Cunningham ; Nichol Bay, F. Gregory's Expedition ; Sturt's Creek and M'Arthur River, F. v. Mueller ; Albert River, Henne.

21. *A. galioides*, *Benth.*—Victoria River, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown ; Sweers Island, Henne.

22. *A. gonocarpa*, *F. v. M.*—Arnhem N. Bay, R. Brown ; rocky shores of the Gulf of Carpentaria, F. v. Mueller.

23. *A. gonoclada*, *F. v. M.*—Victoria River, F. v. Mueller.

24. *A. Gregorii*, *F. v. M.*—Nichol Bay, N.W. Coast, F. Gregory's Expedition.

25. *A. hemignosta*, *F. v. M.*—Cambridge Gulf, A. Cunningham ; Albert, Victoria, Gilbert, and Roper Rivers, F. v. Mueller.

26. *A. hippuroides*, *Hew.*—Usborne's Harbour, N.W. Coast, Voyage of the Beagle ; Attack Creek, M'Douall Stuart's Expedition.

27. *A. holosericea*, *A. Cunn.*—Darwin, G. F. Hill (2nd Series, No. 99), 3/7/1913.

Recorded. Cambridge Gulf, N.W. Coast, A. Cunningham ; Nichol Bay, F. Gregory's Expedition ; Victoria River, F. v. Mueller ; Attack Creek, M'Douall Stuart ; Islands of the Gulf of Carpentaria, R. Brown.

28. *A. humifusa*, *A. Cunn.*—Victoria River, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown.

29. *A. impressa*, *F. v. M.*—Sturt's Creek, Victoria and Van Alphen Rivers, F. v. Mueller ; Short's Range, M'Douall Stuart.

30. *A. juncifolia*, *Benth.*—Islands of the Gulf of Carpentaria, R. Brown ; barren stony places on the Macarthur, Gulf of Carpentaria, F. v. Mueller.

31. *A. latescens*, *Benth.*—Mayday Island, Van Diemen's Gulf, A. Cunningham ; Capstan Island, Port Essington, Armstrong.

32. *A. latifolia*, *Benth.*—Islands of the Gulf of Carpentaria, R. Brown ; Arnhem's Land, F. v. Mueller.

33. *A. leptophleba*, *F. v. M.*—Sturt's Creek, F. v. Mueller.

34. *A. limbata*, *F. v. M.*—N. Australia, *F. v. Mueller*.
35. *A. linarioides*, *Benth.*—Cavern. Island, Gulf of Carpentaria, *R. Brown*.
36. *A. loxocarpa*, *Benth.*—S. Goulburn Island, *A. Cunningham*.
37. *A. lycopodifolia*, *A. Cunn.*—Cambridge Gulf, N. W. Coast, *A. Cunningham*; Hammersley Range, Nichol Bay, *F. Gregory's Expedition*; Victoria River, Bynoe, *F. v. Mueller*; Arnhem S. Bay, *R. Brown*.
38. *A. lysiphloia*, *F. v. M.*—Hooker's and Sturt's Creeks, *F. v. Mueller*; Islands of the Gulf of Carpentaria, *R. Brown*; sandy plains and valleys of the adjoining mainland, *F. v. Mueller*.
39. *A. megalantha*, *F. v. M.*—Sturt's Creek, *F. v. Mueller*.
40. *A. oligoneura*, *F. v. M.*—Victoria River and Macadam Range, *F. v. Mueller*.
41. *A. oncinocarpa*, *Benth.*—Melville Island, *Herb. Fraser*; Sim's Island, *A. Cunningham*.
42. *A. pachycarpa*, *F. v. M.*—Sturt's Creek, *F. v. Mueller*.
43. *A. pallida*, *F. v. M.*—M'Adam Range, Fitzmaurice River, *F. v. Mueller*.
44. *A. patens*, *F. v. M.*—Stony places, Hammersley Range, Nichol Bay, *F. Gregory's Expedition*; Hooker and Sturt's Creeks, *F. v. Mueller*.
45. *A. Peuce*, *F. v. M.*—N. of Will's Creek, Howitt's Expedition.
46. *A. phlebocarpa*, *F. v. M.*—Rocky places at the sources of the Seven-Emu River, Gulf of Carpentaria, *F. v. Mueller*.
47. *A. pityoides*, *F. v. M.*—Sturt's Creek and Gilbert River, *F. v. Mueller*.
48. *A. plectocarpa*, *A. Cunn.*—Cambridge Gulf and Regent's River, N.W. Coast, *A. Cunningham*; Islands of the Gulf of Carpentaria, *R. Brown*; Sturt's Creek, Roper, Seven Emu, and Fitzmaurice Rivers, *F. v. Mueller*.
49. *A. polystachya*, *A. Cunn.*—Port Essington, *A. Cunningham*; Islands of the Gulf of Carpentaria, *R. Brown*.
50. *A. ptychophylla*, *F. v. M.*—Sturt's Creek, *F. v. Mueller*.
51. *A. pyrifolia*, *D.C.*—Dampier's Archipelago, *A. Cunningham*; Nichol Bay, *F. Gregory's Expedition*.
52. *A. retinervis*, *Benth.*—Cape Pond, N. W. Coast, *A. Cunningham*.
53. *A. retivenia*, *F. v. M.*—Short's Range, M'Douall Stuart.
54. *A. salicina*, *Lindl.*—Banks of Creeks, Arnhem's Land, *F. v. Mueller*; Curtis Island, *Henne*.
55. *A. Sentis*, *F. v. M.*—Victoria River, and Plains of Promise, Gulf of Carpentaria, *F. v. Mueller*.
56. *A. sericata*, *A. Cunn.*—Montagu and York Sounds, N.W. Coast, *A. Cunningham*; Victoria River and Gulf of Carpentaria, *F. v. Mueller*.
57. *A. setulifera*, *Benth.*—N.W. Coast, Bynoe.
58. *A. Simsii*, *A. Cunn.*—Islands of the Gulf of Carpentaria, *R. Brown*, *Henne*.
59. *A. spathulata*, *F. v. M.*—Bay of Rest, N.W. Coast, *A. Cunningham*.
60. *A. stenophylla*, *A. Cunn.*—Hooker's and Sturt's Creeks, *F. v. Mueller*.

61. *A. stigmatophylla*, *A. Cunn.*—Brunswick Bay. N.W. Coast, A. Cunningham ; Victoria River, F. v. Mueller.

62. *A. stipuligera*, *F. v. M.*—Sources of the Victoria River, F. v. Mueller ; in the interior, lat. 18 degrees, "Scrub-Wattle," M'Douall Stuart.

63. *A. stipulosa*, *F. v. M.*—Upper Victoria River and Sturt's Creek, F. v. Mueller.

64. *A. suberosa*, *A. Cunn.*—Vansittart Bay and Careening Bay, A. Cunningham ; Glenelg River, J. Martin.

65. *A. subternata*, *F. v. M.*—Table Land, Upper Victoria River, F. v. Mueller.

66. *A. torulosa*, *Benth.*—Sandy banks of Roper and Nicholson Rivers, Gulf of Carpentaria, F. v. Mueller.

67. *A. translucens*, *A. Cunn.*—Montague Sound and Bay of Rest, N.W. Coast, A. Cunningham ; Sturt's Creek, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown, Henne.

68. *A. tumida*, *F. v. M.*—Isle Lacrosse, N.W. Coast, A. Cunningham ; rocky places, Victoria River, Point Pearce, and Sturt's Creek, F. v. Mueller ; Attack Creek, M'Douall Stuart.

Batchelor Farm, G. F. Hill (var. *pilosa*) (2nd Series, No. 71), 17/7/1913. The phyllodes are densely covered with small hairs, and are shorter and broader than in the type form.

69. *A. umbellata*, *A. Cunn.*—Islands of the Gulf of Carpentaria, R. Brown ; Cleveland Bay and Cape Flinders, A. Cunningham ; Seven-Emu, and Robinson Rivers, F. v. M. ; probably also Depot Creek, F. v. Mueller.

70. *A. Wickhami*, *Benth.*—Swan Bay, N.W. Coast, Voyage of the Beagle ; tableland between Victoria River and Sturt's Creek, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown ; and adjoining mainland, F. v. Mueller.

71. *A. xylocarpa*, *A. Cunn.*—Dampier's Archipelago and Water Island, N.W. Coast, A. Cunningham ; Nichol Bay, F. Gregory's Expedition ; Upper Macarthur River, Gulf of Carpentaria, F. v. Mueller.

A. tetragonophylla, *F. v. M.* ; *A. genistoides*, *Cunn.* ; *A. spondylophylla*, *F. v. M.* ; *A. sclerosperma*, *F. v. M.* ; *A. notabilis*, *F. v. M.* ; *A. Luehmanni*, *F. v. M.* ; *A. trineura*, *F. v. M.* ; *A. praelongata*, *F. v. M.* ; *A. brevifolia*, *Benth.* ; *A. conjunctifolia*, *F. v. M.* ; *A. leptostachya*, *Benth.* (in National Herbarium Census), and *A. Kelleri*, *F. v. M.* ; in Proc. Linn. Soc., N.S.W., 1891, recorded from North Australia.

4. NEPTUNIA, LOUR.

Peduncles slender, 1 to 3 in. long. Ovules several. Pod oblong, with several seeds.—1. *N. gracilis*.

Peduncles very short. Ovules 2. Pod orbicular, 1-seeded.—2. *N. monosperma*.

1. *N. gracilis*, *Benth.*—Islands of the North Coast, R. Brown.

2. *N. monosperma*, *F. v. M.*—Upper Victoria River, F. v. Mueller ; Gulf of Carpentaria, Landsborough, Henne.

5. DICHROSTACHYS, W. AND ARN.

(*Caillea*, *Guillem.* and *Pers.*).

Pinnæ 8 to 10 pairs. Leaflets 12 to 20 pairs.—1. *D. cinerea*.

Pinnæ 1 or 2 pairs. Leaflets 4 to 6 pairs.—2. *D. Muelleri*.

1. *D. cinerea*, W. and Arn.—Port Essington, Armstrong.
2. *D. Muelleri*, Benth.—Arnhem's Land, Waterhouse in M'Douall Stuart's Expedition.

6. ERYTHROPHLAEUM, AFZEL:

(*Fillaea*, Guillem., and Pers. ; *Laboucheria*, F. v. M.).

1. *E. Laboucherii*, F. v. M.—Newcastle Waters, G. F. Hill (No. 473), 7/7/1911.

Recorded. Careening Bay and Vansittart Bay, N.W. Coast, A. Cunningham ; Victoria River, Bynoe, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown ; Strangways River, M'Douall Stuart.

Poison-tree or Ironwood. Wood very heavy and dark ; used by the natives for woomerahs and spear-points.

7. TAMARINDUS, LINN.

1. *T. indicus*, Linn.—On the cliffs at the entrance to Victoria River, F. v. Mueller ; Port Essington, Leichhardt.

8. BAUHINIA, LINN.

The inland species considered good food for stock.

Calyx disk-bearing base very short, free part campanulate, deeply lobed. Outer petals 5 to 6 lines long. Pod 2 in. broad.—1. *B. Cunninghamii*.

Calyx disk-bearing base cylindrical, free part as long, divided to the base. Outer petals $1\frac{1}{2}$ in. long. Pod 1 to $1\frac{1}{4}$ in. broad.—2. *B. Hookeri*.

1. *B. Cunninghamii*, Benth.—S. lat. 18 degrees, long. 132 degrees, G. F. Hill (No. 444), 6/7/1911.

Katherine Creek, Gilruth and Spencer, July-August, 1911.

40 miles S.E. of Newcastle Waters, G. F. Hill (No. 444), 10/8/1911.

Recorded. Careening Bay and Vansittart Bay, A. Cunningham ; N.W. Coast, Bynoe ; Oakover River, Nichol Bay, F. Gregory's Expedition ; Arnhem's Land, F. v. Mueller.

Furnishes a heavy dark wood useful for many purposes.

2. *B. Hookeri*, F. v. M.—Arnhem N. Bay, R. Brown ; Port Essington, A. Cunningham.

Queensland Ebony. Furnishes a heavy, dark wood useful for many purposes.

B. Gilesii, F. v. M., and Bail ; recorded in National Herbarium Census from North Australia.

9. LABICHEA, GAUD.

1. *L. nitida*, Benth.—Victoria River, Bynoe.

10. PETALOSTYLIS, R. BR.

1. *P. labicheoides*, R. Br.—Jay Gorge, Macdonnell Ranges, G. F. Hill (No. 133), 4/5/1911.

40 miles N.N.W. of Meyer's Hut, G. F. Hill (No. 233), 2/6/1911.

Recorded. Dampier's Archipelago, Bynoe ; Nichol Bay, F. Gregory's Expedition.

Var. microphylla, Ewart and Morrison.—40 miles W. of Lander's Creek, Camp IV., G. F. Hill (No. 364), 23/6/1911.

The stems and leaf-rachis of this variety are stouter, more rigid, and almost spinescent, terete and covered by a dense hoary coating of hairs. The leaflets

reach 41 in number, and are broadly obovate and retuse or even obcordate, thinly pubescent on lower surface and glabrous above, measuring 2-4 mm. in length by less than 3 mm. in breadth. The sepals are thinly pubescent, and are longer and broader (13 by 3 mm. max.) than those of No. 133, var. *cassioides* in which, however, the petals are larger and the leaflets reach 45 in number.

In the form No. 233, which is almost glabrous, the leaflets are mostly 5-6 mm. long, with the terminal one 8-9 mm. Numerous intermediate forms connect the small-leaved varieties with the fully-developed type. The var. *cassioides* described by Bentham (from Sturt's Creek and Gulf of Carpentaria) is represented in the Melbourne Herbarium by specimens from Sturt's Creek and Nicholson River, both collected by F. v. M. in 1856, but neither has the varietal name added on the labels. On the other hand a specimen of var. *microphylla* (from Mt. Churchman, W.A., Young) is labelled by the Baron, evidently in error, "var. *cassioides*," but in it there are between 50 and 60 leaflets, measuring only 2-3 mm. in length, hirsute, and with a recurved blunt point. Another specimen, collected by Giles shows the rigid and almost spinescent character, while two specimens from the upper Ashburton River, W.A. (Cuthbertson, 1888), indicate the one, a development approaching the typical, and the other a scrubby form similar to *v. microphylla* in the size of the leaf. The leaf development may be taken to indicate the nature of the water supply, the small-leaved forms being found in arid surroundings; although the bed of a river, where moisture is retained in the mud and gravel, produces in the driest season the fully-developed form in flower, while beyond the overhanging banks almost all else is desiccated and dormant.

11. CASSIA, LINN. (*Cathartocarpus*, Pers.).

(a) Flowers in pedunculate racemes or umbels, either axillary or forming a terminal panicle or compound raceme. (The Australian species are shrubs or trees).

Stamens 7 perfect, of which 2 or 3 lower ones larger or on longer filaments; 3 small and imperfect staminodia. Perfect anthers all oblong-linear, the lower ones longer.

Racemes short, almost corymbose, axillary or in a narrow terminal panicle. Pod thick or turgid. Seeds mostly horizontal.—15. *C. Sophora*.

Racemes short, loose, on long peduncles, forming a large terminal panicle. Leaflets 10 to 20 pairs, pubescent. Pod very flat.—8. *C. laxiflora*.

Racemes elongated, on long axillary peduncles. Bracts large, deciduous. Pod very flat.

Pubescent. Leaflets 9 to 15 pairs, oblong or ovate, obtuse, mucronate. Stipules ovate-cordate, acuminate, rigid. Bracts broad, obtuse.—18. *C. venusta*.

Pubescent. Leaflets 9 to 15 pairs, ovate-lanceolate, acute, mucronate. Stipules narrow. Bracts acuminate.—11. *C. notabilis*.

Stamens 10, all with oblong-linear perfect anthers, all equal or the lower ones rather longer.

Glands between the leaflets (at least of the lowest pair), oblong, subulate or stipitate, very rarely wanting.

Bracts acuminate.—17. *C. suffruticosa*.

Bracts small, broad, obtuse. Leaflets oblong-lanceolate or linear.

Leaflets usually 6 to 10 pairs. (Eastern species).—2.
C. australis.

Leaflets usually 3 to 5 pairs. (Western species).—3.
C. Chatelainiana.

Glands between the leaflets sessile, flat, obscure or none (ovoid in *C. leptoclada*).

Very glutinous, otherwise glabrous. Leaflets usually 4 or 5 pairs.—7. *C. glutinosa*.

Glabrous or glaucous. Stipules leafy, semi-cordate. Leaflets usually 3 to 5 pairs.—14. *C. pruinosa*.

Glabrous, glaucous, hoary, or white-tomentose. Stipules small subulate or none. Flowers in very short corymbose racemes.

Leaflets 1 or more pairs, rarely none in the lower leaves and then the phyllodineous petiole has a gland at the end.

Leaflets mostly 1 or 2 pairs, terete or linear.—6. *C. eremophila*.

Leaflets mostly 3 to 6 pairs, linear-lanceolate, cuneate, elliptical or almost obovate.—16. *C. Sturtii*.

Leaflets 1, 2, or rarely 3 pairs, ovate, obovate, or broadly oblong. Pod not above $\frac{1}{2}$ -in. broad.—5. *C. desolata*.

Leaflets 2 or rarely 1 pair, broadly obovate. Pod nearly $\frac{3}{4}$ -in. broad; very obtuse.—13. *C. oligophylla*.

Softly pubescent. Leaflets 2 to 4 pairs, elliptical-oblong. Stipules small, setaceous. Flowers in an umbel of 4 to 6.—12. *C. oligoclada*.

Glabrous and glaucous. Stems slender. Leaflets 2 pairs, obovate or oblong. Glands ovoid.

Stipules minute. Peduncles 2-flowered.—9. *C. leptoclada*.

(b). Flowers in simple racemes, either terminal or becoming lateral by the elongation of the branch. Stamens 5 to 10 all perfect. Pod flat. Herbaceous. Leaflets 2 pairs, obovate.—1. *C. Absus*.

(c). Peduncles, 1-flowered, solitary or 2 or 3 together in or just above the axils. Stamens 5 to 10, all perfect. Pod flat.

Leaflets usually under 12 pairs. Gland stipitate below the lowest pair. Sepals rather obtuse. Anthers 5.—4. *C. concinna*.

Leaflets above 20 pairs. Sepals very acute. Anthers 6 to 10.—10. *C. mimosoides*.

1. *C. Absus*, Linn.—Upper Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown.

2. *C. australis*, Sims (var. *glaucescens*, Benth).—Hooker's Creek, F. v. Mueller.

3. *C. Chatelainiana*, Gaud.—70 miles N. of Survey Camp IV., G. F. Hill (No. 393), 28/6/1911. S. Lat. 17° degrees, Long. 132 degrees, G. F. Hill (No. 455), 7/7/1911.

4. *C. concinna*, Benth.—70 miles N. of Survey Camp IV., G. F. Hill (No. 386a), 28/6/1911.

20 miles S.W. of Borroloola, G. F. Hill (No. 574), 7/9/1911.

Sandstone country, Borroloola, G. F. Hill (No. 604), 2/10/1911.

Lower McArthur River, G. F. Hill (No. 677), 8/11/1911.

Recorded. Upper Victoria River, F. v. Mueller.

5. *C. desolata*, F. v. M.—Near Haast's Bluff, Macdonnell ranges, G. F. Hill (No. 208), 26/5/1911.

Recorded. Depuech Island, N.W. Coast, Bynoe; Victoria River, F. v. Mueller; Central Mount Stuart, M'Douall Stuart.

6. *C. eremophila*, A. Cunn.—7 miles N. of Charlotte Waters, G. F. Hill (No. 17), 23/2/1911.

Henbury Station, Finke River, G. F. Hill (No. 43), 9/3/1911.

Jay Creek, G. F. Hill (No. 43), 21/3/1911.

Var. platypoda, Benth.—Charley Creek, Macdonnell Ranges, G. F. Hill (No. 174), 14/5/1911.

7. *C. glutinosa*, D. C.—Attack Creek, M'Douall Stuart's Expedition.

8. *C. laxiflora*, Benth.—Arnhem N. Bay, R. Brown.

9. *C. leptoclada*, Benth.—Sandstone ranges near Western Creek, Borrooloola, G. F. Hill (No. 745), 15/2/1912.

Recorded. Islands of the Gulf of Carpentaria, R. Brown.

10. *C. mimosoides*, Linn.—Victoria River, F. v. Mueller; Port Essington, Armstrong; Islands of the Gulf of Carpentaria, R. Brown.

11. *C. notabilis*, F. v. M.—Between Bonney River and Mount Morphett, M'Douall Stuart's Expedition.

12. *C. oligoclada*, F. v. M.—Cambridge Gulf, N.W. Coast, A. Cunningham; Upper Victoria River, F. v. Mueller; Gulf of Carpentaria, R. Brown.

13. *C. oligophylla*, F. v. M.—Sandy Plains, Nichol Bay, F. Gregory's Expedition.

14. *C. pruinosa*, F. v. M.—N.W. Coast, Bynoe; rocky hills, Nichol Bay, F. Gregory's Expedition.

15. *C. Sophera*, Linn.—Haast's Bluff (3000 ft.), Macdonnell Ranges, G. F. Hill (No. 177), 16/5/1911. This plant is poisonous, according to Greshoff, but the poisonous principle is not known.

16. *C. Sturtii*, R. Br.—Henbury Station, Finke River, G. F. Hill (No. 36), 7/3/1911. Near Haast's Bluff, Macdonnell Ranges, G. F. Hill (No. 205), 26/5/1911.

60 miles N.E. of Camp II., G. F. Hill (No. 282), 7/6/1911.

This plant is poisonous according to Greshoff, but the poisonous principle is not known.

17. *C. suffruticosa*, Koen.—Islands of the N. Coast, R. Brown.

18. *C. venusta*, F. v. M.—Camp II., G. F. Hill (No. 240a), 3/6/1911.

Camp III., Lander Creek, G. F. Hill, 10/6/1911.

Eleven Mile Creek, near Katharine, Gilruth and Spencer, July-August, 1911.

On sandstone ranges, Western Creek, near Borrooloola, G. F. Hill (No. 746), 13/2/1912.

Recorded. Cambridge Gulf and Dampier's Archipelago, A. Cunningham; granite hills, Nichol Bay, and Hammersley Range, F. Gregory's Expedition; sandstone tableland, Arnhem's Land, F. v. Mueller; Attack Creek, M'Douall Stuart's Expedition.

C. magnifolia, F. v. M.; *C. pleurocarpa*, F. v. M.; *C. artemisioides*, Gaud.; *C. heptanthera*, F. v. M.; recorded in National Herbarium Census, from North Australia.

12. PELTOPHORUM, Vog.

(Caesalpinia, sect., Brasilettia, D.C.).

1. *P. ferrugineum*, Benth.—N.A., Bynoe; Islands of the N. Coast, R. Brown, Earl de Grey's Island, Armstrong.

13. BRACHYSEMA, R. Br.

(Leptosema, Benth; Kaleniezenkia, Turcz.; Burgesia, F. v. M.).

Stems winged, bearing the flowers at their notch-like nodes.

Flowers mostly clustered. Bracts imbricate. Pod not exceeding the calyx.—1. *B. bossiaeoides*.

Flowers solitary. Bracts minute or none. Pod more than twice as long as the calyx.—3. *B. uniflorum*.

Flowers crowded on short radical scapes. Barren stems erect, dichotomous and leafless.—2. *B. Chambersii*.

1. *B. bossiaeoides*, Benth.—N. Coast, R. Brown; Sims Island, A. Cunningham.

2. *B. Chambersii*, F. v. M.—40 miles W. of Lander Creek, Camp IV., G. F. Hill (No. 365), 21/6/1911.

Recorded. Between the rivers Fink and Stephenson, M'Douall Stuart.

3. *B. uniflorum*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

B. oxyloboides, Benth.; recorded from North Australia in National Herbarium Census.

14. MIRBELIA, Sm.

(Dichosema, Benth.; Oxycladium, F. v. M.).

1. *M. oxyclada*, F. v. M.—On sandhills, 70 miles N. of Survey Camp III., G. F. Hill (No. 394), 25/6/1911.

110 miles N. of Survey Camp IV., G. F. Hill (No. 408), 1/7/1911.

Recorded. N.A., A. Cunningham; sandstone tableland at the head of Victoria River, and in Arnhem's Land, F. v. Mueller.

15. ISOTROPIS, BENTH.

Calyx tomentose, 4 lines long. Racemes terminal, leafless. Leaves ovate or oblong, very obtuse.—2. *I. atropurpurea*.

Calyx pubescent, 2 lines long. Pedicels short, axillary or leaf-opposed. Stem-leaves linear, flat.—3. *I. parviflora*.

Calyx pubescent, about 3 lines long. Racemes short, flowers few or solitary. Leaves narrow-linear, flat, closely induplicate, subacute and recurved.—1. *I. argentea*.

1. *I. argentea*, Ewart and Morrison.—Flowers in axillary racemes, petals yellow, of about equal length, keel beaked, pod oblong, obtuse, seeds numerous, smooth.

A slender, few-branched undershrub, 1½ ft. high, the whole plant clothed with an indumentum of appressed shining hairs. Leaves unifoliate, articulate on a very short petiole, narrow linear, flat but closely induplicate, subacute and recurved at distal end, in length up to 5 cm. × 0.3 cm. broad, the stiff silvery hairs more dense on under surface. Stipules subulate and short.

Racemes short, axillary or terminal, flowers few or solitary, peduncles 6-8 mm., with a pair of narrow lanceolate bracts at articulation near or above

middle, and similar but smaller bracteoles close to calyx, which is about 7 mm. long, two lipped, lobes at least twice as long as tube, lanceolate, the upper pair united higher up, forming a broad lip, the lower lobes curving over the prominent keel. Petals yellow, about as long as the calyx, standard on a very short, broad claw, ovate, obtuse, wings slightly shorter, oblong, membranous near base, keel as long as standard with a very slender claw, sharply incurved and broad and membranous below the straight beak. Pod sessile, densely pubescent with stiff erect hairs brown on young pod at first, but yellowish on mature pod, which is turgid, oblong, obtuse with a minute recurved blunt point, 2.1 cm. long, $\times$ 0.6 cm. thick, the pedicel enlarged under it; funicles short, seeds about 26 in pod, subreniform, astrophiolate, flattened and smooth.

10 miles W. of Eva Downs, G. F. Hill (No. 524a), 19/8/1911.

The obtuse pod of this plant, as well as the large beaked keel, distinguish it from the other species of *Isotropis*. In *I. Wheeleri*, F. v. M., the seeds are reniform, with a strongly marked network of raised lines on the surface, and the pubescence is of a different character, its racemes also are terminal, and its pod smaller and acute, while the leaves are tubular rather than terete and channelled as described by Bentham. *I. Winneskii*, F. v. M., has smaller seeds, symmetrically reniform, and rugose over a broad band round the outer margin, the funicle remaining attached in the narrow sinus.

2. *I. atropurpurea*, F. v. M.—Hammersley Range, F. Gregory's Expedition; Attack Creek, and between Mount Morphett and Bonney River, M'Douall Stuart.

3. *I. parviflora*, Benth.—Islands of the Gulf of Carpentaria, R. Brown.

16. BURTONIA, R. BR.

Plant glabrous. Racemes 1 to 3-flowered.—2. *B. subulata*.

Plant very hirsute. Racemes elongated, many-flowered. Leaflets very numerous, small, ovate.—1. *B. polyzyga*.

1. *B. polyzyga*, Benth.—Between Mount Morphett and Bonney River, M'Douall Stuart.

2. *B. subulata*, Benth.—Regent's River, Brunswick Bay, N.W. Coast, A. Cunningham; Islands of the Gulf of Carpentaria, R. Brown; Port Essington, Armstrong; Arnhem's Land, F. v. Mueller.

17. JACKSONIA, R. BR.

(*Piptomeris*, Turcz.).

Series I. *Phyllodineæ*.—Phyllodineous branchlets flat, rigidly coriaceous, toothed or lobed, often prickly.—2. *J. dilatata*.

Series II. *Ramosissimæ*.—Subphyllodineous branchlets crowded, linear, angular-striate, with projecting tooth-like nodes.

Flowers in dense terminal spikes. Calyx very hirsute.—3. *J. odontoclada*.

Flowers in short terminal racemes. Calyx sparingly silky-pubescent.—4. *J. ramosissima*.

Series III. *Scopariæ*.—Flowering branches virgate or rushlike without pungent branchlets. Barren stems or branches usually similar, although occasionally, in the lower part of the stem, much-branched flexuose or pungent.

Calyx-tube half as long as the lobes or longer, turbinate, 10-nerved.

Calyx 4 lines long, the tube half as long as the lobes.—6. *J. vernicosa*.

Calyx 2 lines long, the tube nearly as long as the lobes.—5. *J. thesioides*.

Calyx-tube very short, without prominent nerves.—1. *J. anomala*.

1. *J. anomala*, Ewart and Morrison.—Upper lobes of calyx shorter than lower, connate to top, petals somewhat shorter than calyx, standard small, shorter than the other petals, pod subglobose with two seeds. Flowers small situated on base of dichotomous, striate, leafless stems, with broad scarious bracts and bracteoles. A small undershrub reaching 1 ft. in height, with numerous stems repeatedly forked from the base; branches flattened angular, striate, not pungent, at first thinly pubescent, 1.5 mm. broad; leaves represented by small brown lanceolate scales at nodes. Flowers very shortly pedicellate on short dense nearly sessile racemes clustered on basal rounded portions of branches, each subtended by a suborbicular brown villous bract, with a pair of oblong ovate mucronate bracteoles at base of calyx, in both cases .5 mm. in length, and persisting. Calyx densely silky villous, cleft to near base, lower lobes 9 mm. oblong-linear and acuminate, connate to top and forming a broad ovate lip 7-8 mm. long, with a subulate bifid tip. Petals and pod firmly clasped by calyx, standard broadly ovate, on a very short broad claw, about .5 mm. in length, and fitting under the concave upper lip of the calyx, wings on a very slender claw, narrow oblong, of about the same length as keel, but with a transverse fold near top, keel nearly 8 mm. long, ovate lanceolate. Pod ovoid or subglobose, sessile, villous, 1 cm. long, including the straight and tapering acuminate beak, which is nearly as long as the pod itself, and exceeds the calyx; seeds two, approximately reniform, smooth, brown, 2 mm. in length.

Lat. 18 degrees, 27 min., S. Long. 132 degrees E., G. F. Hill (No. 499), 6/7/1911.

This plant shows affinities to some of the *Brachysemas*, particularly the xerophytic species of the section *Leptosema*, in the leafless condition, radical inflorescence, broad bracteoles (as in *B. bracteolosum*), connate upper calyx lobes, and small ovate standard; but it differs in the small number of seeds in the pod, and in the size and colour of the flowers. Compared with *Jacksonias*, on the other hand, it agrees in having small flowers, with the upper calyx lobes shorter than the lower, petals yellow, nearly equal in length, and shorter than the calyx. The seeds in the pod are only two, which is the usual number in *Jacksonia*, and if we consider that the leafless condition is normal in that genus, while exceptional in *Brachysema*, there need be no hesitation in deciding its generic position. There is seen in this species a considerable resemblance to some of the smaller forms of the *Scoparia* section found in extra-tropical South-west Australia, and its mature calyx even shows the angular character noted in the buds of *J. angulata* and others.

2. *J. dilatata*, Benth.—Near Darwin, G. F. Hill (2nd Series, No. 92), 26/7/1913.

Edith Creek and Bacon Swamp, Gilruth and Spencer, July-August, 1911.

Sandstone Range, Borrooloola, G. F. Hill (No. 600), 2/10/1911.

Recorded. Melville Island, Fraser; Victoria River, Bynoe; Islands of the Gulf of Carpentaria, R. Brown; Port Essington, Armstrong; Arnhem's Land, F. v. Mueller.

3. *J. odontoclada*, F. v. M.—Hell Gate, Roper River, Gilruth and Spencer July-August, 1911.

Recorded. Gulf of Carpentaria, F. v. Mueller; also M'Douall Stuart's Expedition, lat. 17 degrees 58 minutes.

4. *J. ramosissima*, Benth.—20 miles S.W. of Borrooloola, G. F. Hill (No. 564), 7/9/1911.

5. *J. thesioides*, A. Cunn.—Prince of Wales Islands, etc., R. Brown; Victoria River and Macadam Range, F. v. Mueller.

6. *J. vernicosa*, *F. v. M.*—Gulf of Carpentaria, *F. v. Mueller*.

J. Forrestii, *F. v. M.*; *J. compressa*, *Turcz.*; recorded from North Australia in National Herbarium Census.

18. DAVIESIA, SM.

1. *D. reclinata*, *A. Cann.*—Arnhem N. Bay, *R. Brown*; Sims Island, *A. Cunningham*.

19. GASTROLOBIUM, R. BR.

1. *G. grandiflorum*, *F. v. M.*—70 miles N. of Camp IV, on Lander Creek, *G. F. Hill* (No. 382), 29/6/1911.

Recorded. Whittington Range, M'Douall Stuart; Purdie's Pond, Waterhouse. This is poisonous, according to Greshoff, and acts as an inebriant. The poisonous principle is not known with certainty, but may be a readily decomposing alkaloid.

Wallflower Poison-bush, Pea-flower Poison-bush, the Australian Poison bush; a most dangerous plant to stock.

20. BOSSIAEA, VENT.

1. *B. phylloclada*, *F. v. M.*—Sandstone country, near Tanumbirini, *G. F. Hill* (No. 804), 26/3/1912.

Recorded. Islands of the Gulf of Carpentaria, *R. Brown*; Fitzmaurice River, a chief component of the scrub between Van Alphen and Nicholson Rivers, *F. v. Mueller*.

21. TEMPLETONIA, R. BR.

Stems leafy. Stipules minute or inconspicuous.—2. *T. Hookeri*.

Stems leafless. Stipules minute, inconspicuous. Flowers small.—1. *T. egena*.

1. *T. egena*, *Benth.*—Hooker and Sturt's Creeks, *F. v. Mueller*.

2. *T. Hookeri*, *Benth* (*Nematophyllum Hookeri*, *F. v. M.*):—S. of Newcastle Waters, *G. F. Hill* (No. 481), 12/7/1911.

Track to Maude Creek, Gilruth and Spencer, July-August, 1911.

Recorded. N.W. Coast, Bynoe; Islands of the Gulf of Carpentaria, *R. Brown*; Hooker's and Sturt's Creeks, *F. v. Mueller*.

22. HOVEA, R. BR.

(*Poiretia*, *Sm.*; *Plagiolobium*, *Sweet*; *Platychilum*, *Delaun.*).

1. *H. longifolia*, *R. Br.*—Port Essington, *A. Cunningham* (specimens imperfect).

23. ROTHIA, PERS.

(*Westonia*, *Spreng.*; *Xerocarpus*, *Guillem. and Pers.*).

1. *R. trifoliata*, *Pers.*—Upper Victoria River, *F. v. Mueller*.

24. CROTALARIA, LINN.

Rattlepods or Pop-pods. All yield good fibre. Species of this genus have been, both here and elsewhere, considered injurious to stock.

Series I. *Simplicifoliæ*.—Leaves simple, continuous with the short petiole, the Australian species all herbs or undershrubs.

• Ovary and pod pubescent or villous.

Leaves ovate. Stipules leafy, semilunar or falcate. Flowers blue.—12. *C. verrucosa*.

Leaves oblong, linear, or rarely ovate. Stipules setaceous or none. Flowers yellow.

Ovules 2. Pod usually 1-seeded, not exceeding the calyx.

Flowers small.—3. *C. crispata*.

Ovules numerous. Pod many-seeded, above 1 in. long.

Flowers rather large.—6. *C. juncea*.

Ovary and pod quite glabrous.

Upper leaves usually linear. Petals and pod not exceeding the calyx.

Calyx 3 to 4 lines long, silky-pubescent or shortly villous, the two upper lobes united.—7. *C. linifolia*.

Calyx 1 in. long, densely hirsute with long spreading hairs, the upper lobes free.—1. *C. calycina*.

Upper leaves broad, oblong-cuneate or rarely almost linear. Petals and pod much longer than the calyx.

Leaves oblong-cuneate. Flowers large in loose racemes. Calyx 4 to 6 lines; pod $1\frac{1}{2}$ in. long.—10. *C. retusa*.

Leaves oval-elliptical or oval-lanceolate. Flowers numerous in dense racemes. Calyx not above 3 lines, pod, under $\frac{3}{4}$ in. long.—8. *C. Mitchellii*.

Section II. *Unifoliolatae*.—Leaves simple, the petiole articulate or geniculate above the middle. Stem shrubby.

Flowers under $\frac{3}{4}$ -in. long; standard obtuse.

Leaves pubescent or villous, at least underneath. Stipules none or not decurrent.—9. *C. Novæ-Hollandiæ*.

Whole plant quite glabrous. Stipules decurrent.—2. *C. crassipes*.

Flowers $1\frac{1}{2}$ in. long or more; standard acute or acuminate.—4. *C. Cunninghamii*.

Series III. *Digitatæ*.—Leaves all or mostly compound, with 3 rarely 5 digitate leaflets. Herbs or shrubs.

Ovules 2. Pod small, as broad as long. Herb with small flowers.—11. *C. trifoliatrum*.

Ovules many. Pod oblong, much longer than the calyx.—5. *C. disitiflora*.

1. *C. calycina*, Schrank.—Arnhem S. Bay, R. Brown; S. Goulburn Island, A. Cunningham.

2. *C. crassipes*, Hook.—N.W. Coast, Bynoe.

3. *C. crispata*, F. v. M.—Islands of the Gulf of Carpentaria, R. Brown; Victoria, Fitzmaurice and Baines Rivers, F. v. Mueller.

4. *C. Cunninghamii*, R. Br.—70 miles N. of Camp IV., G. F. Hill (No. 386), 28/6/1911. Borroloola, G. F. Hill (No. 663), 7/11/1911.

Recorded. Common on the sandy shores of the N.W. Coast, Bynoe; from Cygnet Bay, A. Cunningham to Victoria River and the Gulf of Carpentaria, F. v. Mueller, Leichhardt; Sandy Ranges of the Hammersley Range, F.

Gregory's Expedition ; Nichol Bay and De Grey River, Ridley's Expedition ; Mount Humphries, M'Douall Stuart.

5. *C. dissitiflora*, Benth.—Glabrous form. Hermansburg, Finke River, G. F. Hill (No. 54), 11/3/1911.

Recorded. Gulf of Carpentaria, Landsborough.

6. *C. juncea*, Linn.—Upper Victoria River, Hooker's and Sturt's Creeks, F. v. Mueller. Sun Hemp of commerce.

7. *C. linifolia*, Linn.—Borrooloola, G. F. Hill (No. 615), 9/10/1911. Lower MacArthur River, G. F. Hill (No. 676), 8/11/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown ; N.W. Coast, Bynoe ; Goulburn Island, A. Cunningham ; Victoria River and Macadam Range, F. v. M.

C. linifolia, Linn.—Okey Creek, G. F. Hill (No. 761), 16/2/1912 (elongated variety).

8. *C. Mitchellii*, Benth.—Will's Creek, Howitt's Expedition.

Var. tomentosa, Ewart.—12 miles N.W. of Camp III. (long. $132\frac{1}{2}$ degrees, lat. $21\frac{3}{4}$ S.), G. F. Hill (No. 326), 12/6/1911.

This plant is poisonous according to Greshoff and Maiden, but the poisonous principle is unknown.

9. *C. Novæ-Hollandiæ*, D.C.—N.W. Coast, Bynoe ; Nichol Bay, F. Gregory's Expedition ; Upper Victoria River and Alligator Point, F. v. Mueller ; Gulf of Carpentaria, Henne, Landsborough ; near Mount Humphries, M'Douall Stuart.

10. *C. retusa*, Linn.—Edith Creek, Gilruth and Spencer, July-August, 1911. Lower McArthur River, G. F. Hill (No. 681), 8/11/1911.

Recorded. Sandy rocky situations on Victoria River, and Sea Range, Arnhem's Land, F. v. Mueller ; Albert River, Henne.

11. *C. trifoliatum*, Willd. (*C. medicaginea*, F. v. M.—Haast's Bluff (4000 ft.), Macdonnell Ranges, G. F. Hill (No. 191), 18/5/1911. Lat. 19 degrees S., long. 132 degrees, G. F. Hill (No. 434), 4/7/1911. Form with leaflets 2 mm. broad.

Recorded. N.W. Coast, Bynoe ; Victoria River, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown, Henne ; Port Essington, Armstrong.

12. *C. verrucosa*, Linn.—Victoria River, and stony hills and grassy banks on the Wickham River, F. v. Mueller.

C. humifusa, Grah. ; *C. incana*, L. ; *C. striata*, D.C. ; *C. quinquefolia*, L. ; *C. alata*, Ham ; recorded from North Australia in National Herbarium Census.

25. LOTUS, LINN.

1. *L. australis*, Andr.—Camp III., Lander Creek, G. F. Hill (No. 316), 10/6/1911.

Recorded. E. tributaries of Victoria River, F. v. Mueller ; Nichol Bay and De Grey River, Ridley's Expedition.

Classed as a poison plant by Greshoff, Smith and Maiden, but no poisonous principle has been extracted, and the evidence as to its poisonous properties is not satisfactory.

26. INDIGOFERA, LINN.

(Sphaeridiophorum, Desv.)

Calyx-lobes very much longer than the very short tube. Herbs or undershrubs (except *I. rugosa*).

Leaves simple, nearly sessile.

Leaves linear or narrow-oblong.

Flowers in short sessile spikes. Pod globular, 1-seeded.—7.

I. linifolia.

Flowers in long pedunculate racemes. Pod linear, several-seeded.—5. *I. haplophylla*.

Leaves cordate-ovate. Pod short usually 2-seeded.—3. *I. cordifolia*.

Leaflets single, ovate, rugose, very white, on a petiole of 3 to 4 lines.—10. *I. rugosa*.

Leaves pinnately 3-foliolate. Flowers scarcely 2 lines long, in very short sessile spikes.—12. *I. trita*.

Leaves pinnate with several pairs of leaflets.

Pod short. Ovules and seeds 2. Spikes short dense and sessile.—4. *I. enneaphylla*.

Pod linear. Ovules and seeds several.

Calyx much shorter than the petals.

Flowers rather crowded in sessile racemes. Pod 1 to $1\frac{1}{2}$ in. long, with an incurved point.—9. *I. parviflora*.

Flowers very small, distant, in slender racemes. Pod $\frac{1}{2}$ to $\frac{3}{4}$ in. long, straight, very slender, often viscid.—13. *I. viscosa*.

Calyx-lobes about as long as the petals. Racemes loose.

Plant hirsute with spreading hairs.—6. *I. hirsuta*.

Calyx-teeth all very short, the lower ones rarely rather longer than the tube. Shrubs.

Leaflet 1, articulate on the petiole.

Leaflet broadly obovate, with parallel prominent pinnate veins.—8. *I. monophylla*.

Leaflet ovate or oval-oblong, reticulate and very rugose.—10. *I. rugosa*.

Leaflets usually 5, obovate or orbicular.

Calyx-teeth shorter than the tube.—11. *I. saxicola*.

Calyx-teeth longer than the tube.—1. *I. bovipерda*.

Leaflets 9 or more. 2. *I. brevidens*.

1. *I. bovipерda* Morrison. (Journ. of Botany, L. 166, May, 1912).—Lander Creek, about 21 degrees S. lat., and 132 degrees E. long., G. F. Hill (No. 374), 25/6/11.

Recorded. Ashburton River, N.W. Australia, Stuart Carey, 1883.

The plant poisoned 120 cattle in one night at the Ashburton River in 1905, and some settlers recognised it as a reputed poison plant seen by them also in the Kimberley District, further North. The area of its distribution is, therefore, very extensive.

2. *I. brevidens*, Benth.—N.A., G. F. Hill, 1911; M'Douall Range and up to lat. 20 degrees 20 minutes, M'Douall Stuart's Expedition.

3. *I. cordifolia*, Heyne.—Port Essington, Armstrong.

4. *I. enneaphylla*, Linn.—60 miles N.E. of Camp II., G. F. Hill (Nos. 285 and 287), 7/6/1911.

Recorded. Nichol Bay, F. Gregory's Expedition; Depuech Island, Bynoe; stony, chiefly basaltic, plains and hills, Upper Victoria River, F. v. M.

5. *I. haplophylla*, F. v. M.—Sandstone Ranges, near Western Creek, G. F. Hill (No. 772), 16/2/1912.

Recorded. Rocky springs and torrents on the Upper Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown.

6. *I. hirsuta*, Linn.—N. Coast, R. Brown; Victoria River and Arnhem's Land, F. v. Mueller; Port Essington, Armstrong; Islands off the Coast, A. Cunningham, Henne.

7. *I. linifolia*, Retz.—Hermansburg, Finke River, G. F. Hill (No. 83), 13/3/1911.

Recorded. N. Goulburn Island, A. Cunningham; Victoria River, F. v. Mueller; Port Essington, Armstrong; Sweers Island, Henne.

8. *I. monophylla*, D. C.—Baudin's Expedition; Depuech Island, N.W. Coast, Bynoe; Nichol Bay and Fortescue River, F. Gregory's Expedition.

9. *I. parviflora*, Heyne.—Nichol Bay and de Grey River, Ridley's Expedition; stony hills and gravelly banks, Victoria River and Sturt's Creek, F. v. Mueller.

10. *I. rugosa*, Benth.—Bed of the Fortescue River, N.W. Coast, F. Gregory's Expedition.

11. *I. saxicola*, F. v. M.—Port Essington, A. Cunningham; grassy stony plains, Sea Range, F. v. Mueller.

12. *I. trita*, Linn., f.—Gravelly Plains, Upper Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown, Henne; and adjoining mainland, Landsborough.

13. *I. viscosa*, Lam.—Victoria River, F. v. Mueller; Brinkley's Bluff, M'Douall Stuart; Islands of the Gulf of Carpentaria, R. Brown; Port Essington, Armstrong.

I. trifoliata, L.; *I. Schultziana*, F. v. M. (in National Herbarium Census), and *I. polygaloides* Scott.; (in Kew Bull, 1915), recorded from North Australia.

27. PSORALEA, LINN.

(*Meladenia*, Turcz.)

In other parts of the globe some species of this genus are considered poisonous to cattle.

Series I. Keel not shorter than the wings.—11. *P. Schultzii*.

Series II. Keel shorter than the wings.

Leaves all 1-foliolate. Leaflets entire or toothed.

Calyx lower lobe much longer than the others.

Plant softly pubescent or silky-villous. Leaflets entire.—2.

P. badocana.

Plant hispid. Leaflets toothed. 1. *P. Archeri*.

Calyx-lobes nearly equal in length. Plant very dark and rough, with glandular dots.

Plant pubescent or villous. Flowers in nearly globular short racemes.—3. *P. balsamica*.

Plant glabrous or slightly hoary. Flowers small, in loose elongated racemes.—6. *P. leucantha*.

Leaves all pinnately 3-foliolate, or the lower ones rarely 1-foliolate.

Calyx lower lobe much longer than the lateral ones. Leaflets entire.

Flowers in dense heads. Calyx very hispid, the lower lobe long-lanceolate. Petals shorter than the calyx.—9. *P. plumosa*.

Flowers in interrupted spikes. Petals longer than the calyx.

Calyx pubescent.—10. *P. pustulata*.

Calyx densely clothed with soft white woolly hairs.—5. *P. lachnostachys*.

Calyx lower lobe scarcely exceeding the upper ones. Leaflets usually toothed.

Calyx softly silky-villous or black, 2 to 4 lines long, completely concealing the pod.—8. *P. patens*.

Calyx hoary-tomentose or slightly pubescent, 1 to $1\frac{1}{2}$ lines long, open when in fruit, and scarcely exceeding or shorter than the pod.

Leaflets ovate or elliptical, mostly $\frac{3}{4}$ to 1 in. long.—4. *P. cinerea*.

Leaflets oblong or lanceolate, $1\frac{1}{2}$ to 3 in. long.—6. *P. leucantha*.

Leaves digitately 3-foliolate. Leaflets entire.—7. *P. luteosa*.

1. *P. Archeri*, *F. v. M.*—Upper Victoria River, *F. v. Mueller*.

2. *P. badocana*, *Benth.*—Maude Creek, and Eleven-Mile Creek, near Katherine, Gilruth and Spencer, July-August, 1911. Gulf of Carpentaria, R. Brown; N. Coast, A. Cunningham; Port Essington, Armstrong.

3. *P. balsamica*, *F. v. M.*—Van Alphen River, *F. v. Mueller*; Attack Creek, M'Douall Stuart.

4. *P. cinerea*, *Lindl.*—Lake Woods, G. F. Hill (No. 486), 2/8/1911. Victoria River, Bynoe; *F. v. Mueller*; Gulf of Carpentaria, Landsborough.

5. *P. lachnostachys*, *F. v. M.*—Nichol Bay, *F. Gregory's Expedition*.

6. *P. leucantha*, *F. v. M.*—Survey Route, lat. 19 degrees, 16 min. S., G. F. Hill (No. 429), 4/7/1911.

Recorded. Hammersley Range, Nichol Bay, *F. Gregory's Expedition*; gravelly Banks of the Victoria River, *F. v. Mueller*, Bynoe; Attack Creek, M'Douall Stuart; Arnhem's Land, *F. v. Mueller*; Gulf of Carpentaria, Landsborough.

7. *P. luteosa*, *Ewart and Morrison.*—N.T., N. of lat. 15 degrees S., W. S. Campbell, September 1911.

8. *P. patens*, *Lindl.*—Abraham's Lagoon, Gilruth and Spencer, July-August, 1911.

Recorded. Victoria River, *F. v. Mueller*; Attack Creek, M'Douall Stuart's Expedition.

9. *P. plumosa*, *F. v. M.*—Hooker's Creek, *F. v. Mueller*.

10. *P. pustulata*, *F. v. M.*—Newcastle Waters, G. F. Hill (No. 474), 17/7/1911.

Recorded. Victoria River, and sources of Nicholson River, Gulf of Carpentaria, *F. v. Mueller*; Nichol Bay, *F. Gregory's Expedition*.

11. *P. Schultzei*, *F. v. M.*—Batchelor Farm, G. F. Hill (2nd Series, No. 83), 17/7/1913

28. PTYCHOSEMA, BENTH.

1. *P. trifoliatum*, F. v. M.—Lander Creek, Camp III., G. F. Hill (No. 306), 10/6/1911.

29. TEPHROSIA, PERS.

Leaflets obovate, oval, elliptical or oblong, the primary veins anastomosing or reticulate within the margin¹

Leaves trifoliate on petioles of 2 cm. or less. Flowers in short racemes.—17. *T. pubescens*.

Leaflets solitary or rarely 3, coriaceous. Flowers in small axillary clusters. Pod softly tomentose.—3. *T. coriacea*.

Leaflets solitary or rarely 3. Flowers sessile in dense head-like clusters axillary.—24. *T. uniovulata*.

Leaflets mostly 5 to 11, rarely under 1 in. long. Racemes elongated. Plant softly tomentose or silky. Flowers numerous. Calyx 4 to 5 lines long, softly villous, lobes longer than the tube.—7. *T. flammea*.

Plant nearly glabrous. Flowers few. Calyx scarcely 2 lines long, the teeth very short. 20. *T. reticulata*.

Leaflets numerous, above $\frac{1}{2}$ -in. long, glabrous above, silky-pubescent or villous underneath. Racemes long.

Leaflets $\frac{1}{2}$ to 1 in. long, very silky underneath, the veins reticulate. Stipules persistent. Bracts small.—4. *T. crocea*.

Leaflets 1 to 2 in. long, silky-pubescent underneath, the primary veins parallel but anastomosing within the margin. Stipules very deciduous. Bracts linear-subulate, long.—12. *T. oblongata*.

Leaflets numerous, not $\frac{1}{2}$ -in. long. Racemes long.

Plant closely pubescent or villous. Stipules striate, reflexed.

Leaflets 11 to 19.—16. *T. porrecta*.

Plant closely silky-pubescent. Stipules minute, erect. Leaflets 30 to 40 or more.—15. *T. polyzyga*.

Leaves all or mostly simple or 1-foliolate. Leaflets long and linear or cuneate-oblong, the veins mostly reaching the margin or irregular.

Leaves sessile, long, linear-lanceolate, the veins anastomosing. Flowers small.—8. *T. graminifolia*.

Leaflets shortly petiolate, long, narrow-linear, without stipellæ. Flowers middle-sized.—22. *T. simplicifolia*.

Leaflets long and narrow-linear, either solitary with 2 stipellæ or 3 with the middle one sessile or rarely another pair lower down. Flowers very small.—10. *T. leptoclada*.

Leaflets cuneate-oblong, 1 or rarely 3 to 5. Flowers large.—13. *T. oligophylla*.

Leaves pinnate. Primary veins of the leaflets oblique, numerous, and parallel.

Flowers nearly sessile, mostly axillary. Pod straight, densely and softly villous. Plant softly tomentose or villous.

Flowers not above 2 lines long. Ovule 1. Pod ovate.—2. *T. brachycarpa*.

Flowers about 3 lines. Ovules 2 or rarely 3. Pod $\frac{1}{2}$ to $\frac{3}{4}$ -in. long.—23. *T. Stuartii*.

Flowers about 4 lines. Pod 1 to 1 $\frac{1}{2}$ in. long. 5. *T. eriocarpa*.

Flowers in short dense terminal racemes. Leaflets narrow, silvery-silky underneath.—14. *T. phæosperma*.

Flowers in long or slender racemes.

Leaflets, small, numerous, with a long terminal one. Flowers small. Pod long.—9. *T. juncea*.

Leaflets few, or, if many, the terminal one not longer than the others.

Pod about 1 in. long, nearly straight. Seeds orbicular.

Leaflets 7 to 15. Flowers rarely 3 lines long. Pod obliquely acute, thin.

Racemes filiform, not 2 in. long, with few distant pairs of flowers. 6. *T. filipes*.

Racemes long and slender. 19. *T. remotiflora*.

Leaflets solitary or rarely 3 or 5. Flowers about 6 lines long. Pod coriaceous, almost obtuse.—13. *T. oligophylla*.

Pod above 1 in. long, more or less incurved. Seeds transversely oblong. Racemes usually long.

Leaflets few, cuneate, glabrous, on long petioles. Calyx large, nearly glabrous; lobes lanceolate. Standard very silky.—11. *T. macrocarpa*.

Leaflets usually above 7. Calyx small, on a slender pedicel; teeth subulate or very short. Pod glabrous pubescent or loosely villous.—18. *T. purpurea*.

Leaflets usually few, long, and narrow. Calyx large, densely rusty-villous; lobes longer than the tube, incurved, acuminate. Pedicels short. Pod softly and closely pubescent.—1. *T. Bidwilli*.

Leaflets usually few; cuneate, silky on both sides. Calyx small, softly silky. Pedicels short. Pod much curved, scarcely flattened, densely silky-tomentosè.—21. *T. rosea*.

1. *T. Bidwilli*, *Benth* (var. *densa*, *Benth*).—Hills near Nichol Bay, F. Gregory's Expedition.

2. *T. brachycarpa*, F. v. M.—Desert near Hooker's Creek, F. v. Mueller.

3. *T. coriacea*, *Benth*.—Upper Victoria and Fitzmaurice Rivers, F. v. Mueller.

4. *T. crocea*, *Benth*.—Islands of the Gulf of Carpentaria, R. Brown.

5. *T. eriocarpa*, *Benth*.—Deserts of Sturt's Creek and Victoria River, F. v. Mueller.

6. *T. filipes*, *Benth*.—Haast's Bluff (4,000 ft.), G. F. Hill (No. 188), 17/5/1911. Islands of the Gulf of Carpentaria, R. Brown, Henne.

7. *T. flammea*, F. v. M.—North Island, Gulf of Carpentaria (Sandstone Ranges), G. F. Hill (No. 633), 20/10/1911. Borrooloola, G. F. Hill (No. 657), 7/11/1911. Sandstone Ranges, near Western Creek, G. F. Hill (No. 777), 16/2/1912.

Recorded. York Sound, A. Cunningham; Upper Victoria River, F. v. Mueller.

8. *T. graminifolia*, F. v. M.—Providence Hill, F. v. Mueller.

9. *T. juncea*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

10. *T. leptoclada*, Benth.—Upper Victoria River, F. v. Mueller.
11. *T. macrocrapa*, Benth.—N.W. Coast (Victoria River) Bynoe ; Sturt's Creek, F. v. Mueller.
12. *T. oblongata*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.
13. *T. oligophylla*, Benth.—Cape York, M'Gillivray ; Albany Island, F. v. Mueller.
14. *T. phaeosperma*, F. v. M.—North Island, Gulf of Carpentaria, G. F. Hill (No. 624), 20/10/1911.
Recorded. N. Coast, A. Cunningham ; Upper Victoria River, F. v. Mueller.
15. *T. polyzyga*, F. v. M.—Upper Victoria River, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown.
16. *T. porrecta*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown ; Port Essington, Armstrong.
17. *T. pubescens*, Ewart and Morrison.—Top Spring, G. F. Hill (No. 535), 31/9/1911.
18. *T. purpurea*, Pers.—Sandstone Ridges, North Island, Gulf of Carpentaria, G. F. Hill (No. 630), 20/10/1911 ; Borrooloola, G. F. Hill (No. 661), 7/11/1911 ; N.T., G. F. Hill (No. 745a), 8/7/1911.
Recorded. Hills near Nichol Bay, F. Gregory's Expedition ; Port Cooper, Herb. F. v. M. ; Arnhem S. Bay, R. Brown.
This plant is well known as a fish poison, and if eaten might also be poisonous to stock.
19. *T. remotiflora*, F. v. M.—N. Coast, R. Brown ; Fitzmaurice and Upper Victoria Rivers, F. v. Mueller ; Albert River, Henne.
20. *T. reticulata*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown ; Sim's Island, A. Cunningham ; Endeavour River, Banks and Solander.
21. *T. rosea*, F. v. M.—Montague Sound, N.W. Coast, A. Cunningham ; Victoria River and Depot Creek, F. v. Mueller.
22. *T. simplicifolia*, F. v. M.—Trap plains, Roper River, F. v. Mueller.
23. *T. Stuartii*, Benth.—In lat. 18 degrees, 35 min., M'Douall Stuart ; Sturt's Creek, F. v. Mueller.
24. *T. uniovulata*, F. v. M.—28 miles S.W. of Newcastle Waters, G. F. Hill (No. 499), 8/7/1911.
Ashburton and Carre Rivers.
T. lamphrolobioides, F. v. M. ; *T. Forrestiana*, F. v. M. ; *T. nematophylla*, F. v. M. ; *T. conferta*, F. v. M. ; *T. sphaerospora*, F. v. M. ; recorded from North Australia in National Herbarium Census.

30. SESBANIA, PERS.

(Agati, Desv.)

Flowers very large (nearly 3 in. long), the petals narrowed at the end.—

3. *S. grandiflora*.

Flowers not 1 in. long. Petals broad.

Racemes pendulous. Stem shrubby.—2. *S. ægyptiaca*.

Racemes erect. Stem herbaceous.

Bracts and bracteoles very deciduous. Calyx-teeth very short.

—1. *S. aculeata*.Bracts and bracteoles setaceous, often persistent. Calyx-teeth subulate-pointed, nearly as long as the tube.—4. *S. simpliciuscula*.

1. *S. aculeata*, Pers.—Crescent lagoon, Gilruth and Spencer, July-August, 1911. McArthur River, G. F. Hill (No. 672), 8/11/1911. Hodson Downs, G. F. Hill (No. 827), 5/4/1912.

Recorded. Sturt's Creek, F. v. Mueller; Gulf of Carpentaria, Landsborough; also M'Kinlay's Expedition.

Pea-bush; yields a rope fibre worth £30 to £40 per ton (Mueller).

2. *S. aegyptiaca*, Pers.—Gulf of Carpentaria, F. v. Mueller.

3. *S. grandiflora*, Pera.—North of 15 degrees, W. S. Campbell, 5/9/1911.

Recorded. Near Nichol Bay, F. Gregory's Expedition and Ridley's Expedition; Glenelg River, N.W. Coast, Clackson; Fitzmaurice River, Arnhem's Land, F. v. Mueller.

4. *S. simpliciuscula*, F. v. M.—Upper Victoria River, F. v. Mueller.

S. brachycarpa, F. v. M.; recorded from North Australia in National Herbarium Census.

31. CLIANTHUS, SOLAND.

(*Donia*, G. Don.)

C. Dampieri, A. Cunn. (*D. speciosa*, G. Don.)—N.W. Coast; Bynoe; Dampier's Archipelago, A. Cunningham; near Nichol Bay, F. Gregory's Expedition.

32. SWAINSONA, SALISB.

(*Cyclogyna*, Benth.; *Diplobolium*, F. v. M.)

Keel incurved, but neither twisted or oblique. Style slender. Ovary silky-villous.

Leaflets usually more than 9. Calyx-lobes lanceolate.—4. *S. phacoides*.

Leaflets usually under 9 (except *S. Burkei*). Calyx-lobes subulate or very short. Plants usually low or procumbent.

Plants softly villous. Leaves obovate. Racemes dense, ovoid before expanding.—1. *S. Burkei*.

Plant glabrous or slightly hoary. Leaflets lanceolate or linear, acute. Flowers few, in short racemes.—3. *S. oroboides*.

Keel oblique or laterally twisted. Style firm, readily twisting. Ovary glabrous or nearly so.—2. *S. occidentalis*.

1. *S. Burkei*, F. v. M.—38 miles N.W. of Camp IV., Lander Creek, G. F. Hill (No. 378), 24/6/1911.

Recorded. Burke's Creek, Newcastle Water, etc., M'Douall Stuart.

2. *S. occidentalis*, F. v. M.—N.W. Coast, Depuech Island, Bynoe; frequent in sterile places about Nichol Bay, F. Gregory's and Ridley's Expedition.

3. *S. oroboides*, F. v. M.—60 miles N.E. of Camp II., G. F. Hill (Nos. 284 and 286a), 7/6/1911.

4. *S. phacoides*, Benth (var. *grandiflora*, Benth).—Nichol Bay and De Grey River, Ridley's Expedition.

Swainsona, sp.—10 miles W. of Eva Downs, G. F. Hill (No. 521), 19/8/1911.

S. oligophylla, F. v. M.; *S. stenodonta*, F. v. M.; *S. oroboides*, F. v. M.; *S. Kingia*, F. v. M.; *S. microphylla*, A. Gray; *S. Macullochiana*, F. v. M.; (in National Herbarium Census), and *S. cylocarpa*, F. v. M.; (in Vict. Nat. VIII., 1891), recorded from North Australia.

33. *ÆSCHYNOMENE*, LINN.

1. *Æ. indica*, Linn.—Upper Victoria River, F. v. Mueller; in the interior, M'Douall Stuart; also in R. Brown's collection without any label.

Æ. aspera, L.; in Spec. Plant (1753), recorded from North Australia.

34. *ZORNIA*, GMEL.

1. *Z. diphylla*, Pers.—Black Rocks, McArthur River, G. F. Hill (No. 644), 22/10/1911.

Sandstone Range, Top Spring, Kilgour River, G. F. Hill (No. 553), 1/9/11.

Recorded. Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown; Port Essington, Armstrong; Sweers Island and Albert River, Henne.

Z. chaetophora F. v. M.; recorded from North Australia in National Herbarium Census.

35. *DESMODIUM*, DESV.

(*Dendrolobium*, W. and Arn.; *Dicerma*, D.C.; *Nicholsonia*, D.C.)

Wings usually free from the keel. Pod glabrous or silky-hairy.

Flowers small, in dense umbels or heads along the branches of a leafy panicle, each umbel almost enclosed in a 2-foliate leaf. Pod-articles 2, nearly orbicular (Sect. *Phyllodium*).—8. *D. pulchellum*.

Flowers in leafless racemes. Pedicels short crowded. Pod-articles 2, nearly orbicular. Leaflets digitate or nearly so. (Sect. *Dicerma*).—1. *D. biarticulatum*.

Wings adhering to slight lateral protuberances or membranous appendages of the keel.

Flowers in racemes or panicles. Ovules several, rarely 2 only. Pod of several articles (or single by abortion) indehiscent, the upper suture straight or slightly indented between the seeds. (*Heteroloma*).

Bracts narrow, persisting at least till the flower expands. Pedicels usually in pairs.

Leaves all 1-foliate. Pod-articles small, nearly glabrous.—

4. *D. gangeticum*.

Leaves all (except sometimes the lowest) 3-foliate.

Pod-articles flat, prehensile pubescent. Stems slender, diffuse. Fruiting-pedicels slender, spreading, much longer than the calyx. Plant slightly pubescent.—

3. *D. flagellare*.

Pod-articles somewhat turgid, slightly pubescent. Stem trailing. Leaflets lanceolate, 2 to 3 in. long.—

2. *D. campylocaulon*.

Bracts broad membranous, falling off long before the flower expands (*Strobiliferæ*).

Pod-articles thin, strongly reticulate.

Leaflets narrow-oblong or linear.—6. *D. neurocarpum*.

Leaflets broadly obcordate.—9. *D. trichostachyum*.

Pod-articles scarcely separating, very finely veined, the upper suture thickened (see below, Sect. *Nicholsonia*).

Flowers in terminal racemes or panicles. Bracts of the Strobiliferæ. Ovules several. Pod very flat, the upper suture straight, the lower slightly indented and opening more or less in 2 valves. (Sect. Nicholsonia).

Stem loosely diffuse. Leaves not crowded, leaflets oblong. Hairs long and spreading.—5. *D. Muelleri*.

Stems procumbent, pubescent. Leaves crowded; leaflets small, racemes filiform, few-flowered.—7. *D. parvifolium*.

1. *D. biarticulatum*, *F. v. M.*—Brunswick Bay, N.W. Coast, A. Cunningham; Albert and Nicholson Rivers, *F. v. Mueller*; Islands of the Gulf of Carpentaria, R. Brown, Henne.

2. *D. campylocaulon*, *F. v. M.*—Fertile plains, Sturt's Creek, *F. v. Mueller*.

3. *D. flagellare*, *Benth.*—Beagle Valley, *F. v. Mueller*.

4. *D. gangeticum*, *D. C.*—Victoria River, *F. v. Mueller*.

5. *D. Muelleri*, *Benth.*—Near Western Creek, G. F. Hill (No. 755), 15/2/1912. Western Creek, G. F. Hill (No. 757), 15/2/1912.

Recorded. Upper Victoria River, *F. v. Mueller*.

A specimen collected by R. Rudd, 14/4/11, at Muntz's Survey Camp, Adelaide R., N.T., has the fruits more deeply indented than usual, and has indentations on the upper as well as on the lower edge. Bentham gives the upper suture as being straight or slightly thickened, but on some specimens of *D. Muelleri* both straight and slightly indented upper sutures occur.

6. *D. neurocarpum*, *Benth.*—Upper Victoria River, *F. v. Mueller*.

7. *D. parvifolium*, *D. C.*—Arnhem N. Bay, R. Brown.

8. *D. pulchellum*, *Benth.*—N. Coast, R. Brown.

9. *D. trichostachyum*, *Benth.*—Islands of the Gulf of Carpentaria, R. Brown; Arnhem's Land, *F. v. Mueller*; Port Essington, Armstrong.

D. polycarpum, *D. C.*; *D. reniforme*, *D. C.*; recorded from North Australia in National Herbarium Census.

36. PYCNOSPORA, R. BR.

1. *P. hedysaroides*, *R. Br.*—Gulf of Carpentaria, R. Brown; Copeland Island, Arnhem's Land, A. Cunningham; Port Essington, Armstrong.

37. ALYSICARPUS, NECK.

(*Fabricia*, *Scop.*)

Calyx with narrow-lanceolate striate lobes, not overlapping. Pod about twice as long, scarcely contracted between the seeds, the articles slightly and irregularly wrinkled.—1. *A. longifolius*.

Calyx with lanceolate, rigid, not striate lobes overlapping each other. Pod shortly exserted, much contracted between the seeds, articles deeply marked with transverse wrinkles.—2. *A. rugosus*.

1. *A. longifolius*, *W. and Arn.*—Arnhem N. Bay, R. Brown; Port Darwin, W. Holtze (No. 1344), 1892; near Pine Creek, J. H. Niemann, April, 1904.

2. *A. rugosus*, *D. C.*—10 miles W. Eva Downs, G. F. Hill (No. 522), 9/8/1911. Okey Creek, G. F. Hill (No. 761), 16/2/12.

Recorded. Upper Victoria River, and Sturt's Creek, *F. v. Mueller*.

A. vaginalis, *D. C.*; recorded from North Australia in National Herbarium Census.

38. URARIA, DESV.

1. *U. cylindracea*, Benth.—Five Mile Bar, McArthur River, G. F. Hill (No. 734), 6/2/1912.

Recorded. Islands of the N. Coast, R. Brown; Upper Victoria River, F. v. Mueller; Port Essington, Armstrong; Sweers Island, Henne.

U. lagopoides, D.C.; recorded from North Australia in National Herbarium Census.

39. LOUREA, NECK.

1. *L. obcordata*, Desv.—Upper Victoria River, F. v. Mueller.

40. GALEDUPA, LAM.

(*Pongamia*, Vent.)

1. *G. pinnata*, L. (*Pongamia glabra*, Vent.).—Fitzmaurice River, F. v. Mueller; Raffles Bay, A. Cunningham.

Oil of seed is a cure for skin diseases. All parts of plant emetic.

41. DERRIS, LOUR.

(*Brachypterum*, W. and Arn.)

1. *D. uliginosa*, Benth.—Islands of the Gulf of Carpentaria, R. Brown; Albert River, Henne; Fitzmaurice River, F. v. Mueller.

42. ABRUS, LINN.

1. *A. precatorius*, Linn.—Islands of the Gulf of Carpentaria, R. Brown, Henne.

Seeds (Crab's-eyes) considered poisonous. Used as jeweller's weights in India.

43. CLITORIA, LINN.

(*Neurocarpum*, Desv.)

1. *C. australis*, Benth.—Arnhem S. Bay, R. Brown.

44. GLYCINE, LINN.

(*Leptolobium* or *Leptocyanus*, Benth.)

Terminal leaflet sessile between the two others or the three very shortly and equally petiolate.—1. *G. falcata*.

Terminal leaflet inserted at some distance from the lateral ones.—2. *G. tomentosa*.

1. *G. falcata*, Benth.—Sturt's Creek, F. v. Mueller.

2. *G. tomentosa*, Benth.—Upper Victoria River, F. v. Mueller; Arnhem N. Bay, R. Brown.

G. sericea, Benth., and *G. japonica*, L. (in National Herbarium Census), recorded from North Australia.

45. ERYTHRINA, LINN.

Leaves broadly 2 or 3-lobed. Calyx about $\frac{1}{2}$ -in. long. Standard scarcely clawed.—2. *E. vespertilio*.

Leaves entire. Calyx about $\frac{3}{4}$ -in. long. Standard narrowed into a short claw.—1. *E. indica*.

1. *E. indica*, Lam.—Islands of the N. Coast, R. Brown: Coral-tree.

2. *E. vespertilio*, Benth.—About 30 miles N.W. of Twitchera Gap Macdonnell Ranges, G. F. Hill (No. 165), 10/5/1911. Borrooloola, G. F. Hill (No. 665a), 8/11/1911.

Recorded. Gulf of Carpentaria, R. Brown; Upper Victoria River, F. v. Mueller; frequent towards Central Australia, M'Douall Stuart's Expedition.

46. MUCUNA, ADANS.

1. *M. gigantea*, D.C.—Islands of the N. Coast, R. Brown. Black Bean.

47. GALACTIA, R. BR.

Glabrous or pubescent with spreading hairs. Flowers few in the raceme, under $\frac{1}{2}$ -in. long.—2. *G. tenuiflora*.

Silky-pubescent or villous. Flowers numerous, 7 or 8 lines long.—1. *G. Muelleri*.

1. *G. Muelleri*, Benth.—Fitzmaurice River, F. v. Mueller.

2. *G. tenuiflora*, Willd.—Upper Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria and adjoining Coast, R. Brown, Henne, Landsborough; Strangways River, M'Douall Stuart's Expedition.

48. CANAVALIA, D.C.

1. *C. obtusifolia*, D.C.—North Island, Gulf of Carpentaria, G. F. Hill (No. 628), 20/10/1911.

Recorded. Nichol Bay, N.W. Coast, F. Gregory's Expedition; Upper Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown. This plant is poisonous according to Greshoff, but the poisonous principle is not known.

49. CANTHAROSPERMUM, W. AND ARN.

(*Atylosia*, W. and Arn.)

Stems trailing or twining.

Pod broad, thin, transversely reticulate. Leaflets broadly obovate or orbicular.—3. *C. marmoratum*.

Pod coriaceous with deeply depressed transverse lines between the seeds. Leaflets rhomboid, ovate or elliptical.—4. *C. reticulatum*.

Stems erect shrubby at the base. Pod coriaceous.

Leaflets very rugose, thick and soft. Pod villous, with long hairs.—2. *C. grandifolium*.

Leaflets scarcely rugose, silky-hoary or silvery-tomentose. Pod tomentose, without long hairs.—1. *C. cinereum*.

1. *C. cinereum* (F. v. M.), Taub.—Nichol Bay, F. Gregory's Expedition; Victoria River, F. v. Mueller.

2. *C. grandifolium* (F. v. M.), Taub.—Upper Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown.

3. *C. marmoratum* (Benth.), Taub.—Upper Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown, Henne.

4. *C. reticulatum* (Benth.), Taub.—Islands of the Gulf of Carpentaria, R. Brown.

50. RHYNCHOSIA, LOUR.

(*Nomisma*, W. and Arn. ; *Copisma*, E. Mey.)

Stems erect and shrubby.

Leaflets minutely tomentose, slightly rugose. Peduncles slender, 1 or few-flowered. Keel obtuse. Seeds strophiolate.—1. *R. acutifolia*.Leaflets softly tomentose, very rugose. Pedicels short, axillary. Keel beaked.—5. *R. rostrata*.

Stems trailing or twining. Flowers racemose.

Pod nearly as broad as long, membranous, transversely reticulate. Seeds strophiolate. Calyx-lobes much longer than the tube.—4. *R. rhomboidea*.

Pod falcate, much longer than broad. Seeds not strophiolate.

Flowers scarcely above 3 lines long.—3. *R. minima*.Flowers nearly 5 lines long.—2. *R. australis*.1. *R. acutifolia*, *R. v. M.*—Victoria River, F. v. Mueller ; Bynoe ; Gilbert River, F. v. Mueller ; N.W. Coast, A. Cunningham ; Nichol Bay, F. Gregory's Expedition.2. *R. australis*, *Benth.*—Port Essington, Armstrong.3. *R. minima*, *D.C.*—Lower McArthur River, G. F. Hill (No. 675), 8/11/1911.

Recorded. Nichol Bay, F. Gregory's Expedition and Ridley's Expedition ; Victoria River, F. v. Mueller ; Goulburn Islands, A. Cunningham ; New Year's Island, R. Brown.

4. *R. rhomboidea*, *F. v. M.*—Victoria River, F. v. Mueller.5. *R. rostrata*, *Benth.*—York Sound, N.W. Coast, A. Cunningham.

51. ERIOSEMA, D.C.

1. *E. chinense*, *Vog.*—Arnhem N. Bay, R. Brown ; Port Essington, Armstrong.

52. MOGHANIA, ST. HIL.

(*Flemingia*, Roxb.)Flowers in small loose panicles.—1. *M. lineata*.Flowers 2 or 3 on a short axillary peduncle.—2. *M. pauciflora*.1. *M. lineata*, (*Roxb.*), *Taub.*—Edith Creek, Gilruth and Spencer, July-August, 1911. Victoria River, Treachery Bay, Gulf of Carpentaria, F. v. Mueller ; Port Essington, Armstrong.*M. parviflora*, (*Benth.*), *Taub.*

Batchelor Farm, G. F. Hill (2nd Series, No. 81), 17/7/1913.

2. *M. pauciflora*, (*Benth.*), *Taub.*—Victoria River, F. v. Mueller ; Gulf of Carpentaria, Landsborough.

53. PHASEOLUS, LINN.

Stipules not produced below their insertion. Pod flattened.

Bracteoles broad, striate, persistent, as long as the calyx. Flowers small, pale yellowish-white.—3. *P. vulgaris*.Bracteoles small and very deciduous. Flowers large, pink or whitish with the wings purple.—1. *P. adenanthus*.

Stipules oblong, produced below their insertion, Pod at length nearly cylindrical.—2. *P. Mungo*.

1. *P. adenanthus*, Meyer (*P. Truxillensis*, H. B. and K.—Between Fitzmaurice River and Macadam Range, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown.

2. *P. Mungo*, Linn.—Okey Creek, G. F. Hill (No. 765), 16/2/1912.

Upper Victoria River, F. v. Mueller; Islands of the N. Coast, R. Brown.

3. *P. vulgaris*, Linn.—Nichol Bay and De Gray River, Ridley's Expedition. French Bean, a wild form of the well-known vegetable.

54. VIGNA, SAVI.

(*Scytalis* and *Strophostyles*, E. Mey; *Plectrotropis*, Schum.)

Calyx-lobes acute, as long as the tube, the two upper united at the base only. Keel with a long obliquely incurved beak.—3. *V. vexillata*.

Calyx-lobes short, the two upper ones united into one broad entire one. Keel rather acute, but not beaked.

Leaflets obovate, very obtuse.—2. *V. retusa*.

Leaflets mostly ovate, acute or acuminate, or narrow and lanceolate or linear. 1. *V. lanceolata*.

1. *V. lanceolata*, Benth.—Upper Victoria River, F. v. Mueller; to the S. of Will's Creek, Howitt's Expedition; Arnhem S. Bay, R. Brown; Albert River, Henne.

2. *V. retusa*, Walp. (*V. lutea*, A. Gray).—Victoria River, F. v. Mueller.

3. *V. vexillata*, Benth.—Séa Range and Point Pearce, F. v. Mueller; Albert River, Henne. The pods have been used as a substitute for French beans.

55. DOLICHOS, LINN.

1. *D. biflorus*, Linn.—Gilbert River, F. v. Mueller.

Trigonella suavissima, Lindl.; *Lamprolobium megalophyllum*, F. v. M.; *Smithia capitata*, Desv.; *Lespedeza lanata*, Benth.; *Sophora tomentosa*, L.; *Caesalpinia Bonducella*, Flem.; *Adenantha pavonina*, L.; *Adenantha abrosperma*, F. v. M.; recorded from North Australia in National Herbarium Census.

ERYTHROXYLACEÆ.

1. ERYTHROXYLON, LINN.

1. *E. ellipticum*, R. Br.—Borrooloola, G. F. Hill (No. 715), 13/1/1912.

Recorded. Gulf of Carpentaria, on the mainland opposite Groote Eyland, R. Brown. A valuable cabinet-wood, of a reddish-brown, close-grained and nicely marked.

ZYGOPHYLLACEÆ.

1. TRIBULUS, TOURN. 1735.

(*Ehrenbergia*, Mart., 1827; *Heterozygis*, Bunge, 1836; *Kallstroenia*, Scop., 1777; *Tribulopsis*, R. Br., 1849).

Leaves, at least the upper ones, opposite. Glands of the disk not prominent. Ovules 2 or more in each cell. (Tribulus proper).

Cocci rounded at the back, without angular or winged edges.

Cocci with 2 or 4 prickles, rarely minute or deficient.

Leaves almost all opposite. Ovules 3 or 4 in each cell.

Annual. Flowers small. Petals about $\frac{1}{4}$ -in.—10. *T. terrestris*.

Perennial. Flowers large. Petals about $\frac{3}{4}$ -in.—3. *T. cistoides*.

Lower leaves alternate. Ovules 2 in each cell. Flowers large.—9. *T. ranunculiflorus*.

Cocci covered with numerous nearly equal prickles.—5. *T. hystrix*.

Cocci with prominent almost winged angles, and two prickles on the back between them.—6. *T. macrocarpus*.

Cocci broadly winged at the angles, without prickles.

Plant glabrous except the inside of the sepals. Cocci smooth.—8. *T. platypterus*.

Plant hirsute. Cocci strongly reticulate on the back and sides.

—4. *T. hirsutus*.

Leaves all alternate. Glands of the disk prominent. Ovules solitary. Fruit pyramidal, the cocci with 2 or 4 tubercles or small prickles below the middle. (*Tribulopsis*, R. Br.).

Leaflets 2 pairs, the lowest much smaller. Perfect stamens, usually 5.—7. *T. pentandrus*.

Leaflets about 3 pairs, ovate, the lowest not far from the stem.

Anthers 5 short, 5 oblong or linear.—2. *T. bicolor*.

Leaflets 3 to 6 pairs, ovate, lanceolate or linear. Anthers 10 nearly similar. Flowers small or large.—1. *T. angustifolius*.

1. *T. angustifolius*, Benth. (*T. Solandri*, F. v. M.).—Borrooloola, G. F. Hill (No. 691, 696, 711a), 14/12/1911, and 13/1/1912.

Recorded. Victoria and Gilbert Rivers, F. v. Mueller; N.W. Coast, Bynoe; Islands of the Gulf of Carpentaria, R. Brown, Henne.

2. *T. bicolor*, F. v. M.—Sandy shores of the Victoria River, F. v. Mueller.

3. *T. cistoides*, Linn.—Observation Island, Gulf of Carpentaria, G. F. Hill (No. 635), 21/10/1911.

Recorded. Gulf of Carpentaria, R. Brown; Port Essington, Armstrong; Albert River and Sweers Island, Henne.

This plant is a tropical cosmopolitan. In the last printed census of Australian Plants the name was omitted by Baron v. Mueller, but no reason given. It is undoubtedly native to North Australia and Queensland, and possibly also to Northern New South Wales. Poisonous according to Greshoff, principle unknown.

4. *T. hirsutus*, Benth.—Nichol Bay, F. Gregory.

5. *T. hystrix*, R. Br.—60 miles N.E. of Camp II., G. F. Hill (No. 280), 7/6/1911.

Recorded. N.W. Coast, A. Cunningham; on sandy soil, in the interior from Nichol Bay, F. Gregory.

Note on Herbarium specimen from Mt. Lyndhurst, collected by Max Koch. "Considered to be valuable fodder. Aboriginal name in the Dieyerie dialect, 'Koola.'" The hairiness, however, and the prickles would considerably lessen its fodder value.

6. *T. macrocarpus*, F. v. M.—In the interior, from Nichol Bay, F. Gregory.

7. *T. pentandrus*, Benth.—Victoria River, and Sea Range, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown.

8. *T. platypterus*, Benth.—Hammersley Range, F. Gregory.

9. *T. ranunculiflorus*, F. v. M.—Dry sandy pastures on the Upper Victoria River, F. v. Mueller.

10. *T. terrestris*, Linn.—Sturt's Creek, F. v. Mueller.

Fruit injurious to the feet of sheep.

Nitraria Schoberi, L. ; *Zygophyllum glaucescens*, F. v. M. ; *Z. iodicarpum*, F. v. M. ; *Z. prismatothecum*, F. v. M. ; *Z. ammophilum*, F. v. M. ; *Z. fruticulosum*, D.C. ; recorded from North Australia in National Herbarium Census.

RUTACEÆ.

Tribe I.—Boroniæ.—Shrubs, very rarely arborescent. Leaves simple, 3-foliolate or rarely pinnate, with opposite small leaflets. Ovary lobed. Fruit separating into distinct, 2-valved cocci. Endocarp separating elastically. Seeds albuminous. Embryo usually terete.

Leaves opposite simple or compound.—2. *Boronia*.

Leaves alternate, simple.—3. *Rossittia*.

Tribe II.—Xanthoxylæ.—Trees or shrubs. Leaves pinnate or 3-foliolate with opposite leaflets, or 1-foliolate, the leaflets usually large. Ovary lobed. Fruit separating into distinct 2-valved cocci. Endocarp persistent, or separating elastically. Seeds with or without albumen. Cotyledons usually flattened and broader than radicle.—1. *Xanthoxylum*.

Tribe III.—Aurantieæ.—Trees or shrubs. Leaves pinnate, with usually alternate leaflets, or 1-foliolate or simple. Stamens twice as many as petals or more. Ovary not lobed. Fruit indehiscent. Seeds without albumen.

Leaves all or mostly pinnate. No thorns.

Petals valvate or nearly so. Cotyledons much folded. Flowers small.—4. *Micromelum*.

Petals imbricate, erect. Cotyledons flat. Flowers large.—5. *Muraya*.

Leaves all simple or 1-foliolate, coriaceous. Thorns axillary.—6. *Atalantia*.

1. XANTHOXYLUM, LINN.

1. *X. parviflorum*, Benth.—Goulburn Island, A. Cunningham ; Port Essington, Armstrong ; Islands of the Gulf of Carpentaria, R. Brown.

2. BORONIA, SM. 1798.

(*Cyanothamnus*, Lindl. 1839.)

The fragrant oil of many might be used in perfumery, and although none are so strongly scented as the West Australian *B. megastigma*, or the Victorian *B. pinnata*, they might improve under cultivation.

Sepals as long as or longer than the petals, enclosing them in the bud. (Plants tomentose or pubescent.)

Sepals longer than the petals.

Leaves all simple. Sepals 5 to 6 lines.—4. *B. grandisepala*.

Leaves mostly or all pinnate. Sepals 3 to 4 lines.—2. *B. artemisiæfolia*.

Sepals (about 2 lines) of the size of the petals. Leaves pinnate.

Leaflets small, ovate, numerous, Pedicels slender.—3. *B. filicifolia*.

Leaflets linear. Pedicels very short.—1. *B. affinis*.

Sepals much smaller than the petals. Inflorescence entirely axillary.—5. *B. lanceolata*.

1. *B. affinis*, R. Br.—Islands of the Gulf of Carpentaria, and mainland opposite Groote Eyland, R. Brown.

2. *B. artemisiaefolia*, F. v. M.—Ranges near Western Creek, G. F. Hill (No. 770), 16/2/1912. The specimens are even more hairy than usual, especially on the stems.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; M'Adam, Fitzroy, and Sea Ranges, F. v. Mueller.

3. *B. filicifolia*, A. Cunn.—York and Montague Sounds, N.W. Coast, A. Cunningham.

4. *B. grandisepala*, F. v. M.—M'Adam range, F. v. Mueller.

5. *B. lanceolata*, F. v. M.—Edith Creek, Gilruth and Spencer, July-August, 1911.

Sandstone Ranges, Borroloola, G. F. Hill (No. 599 and 793), 2/10/1911. and 23/2/1912. Shrubs, 6 ft. and 12 ft. high.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Port Essington, Armstrong, Leichhardt; stony places in Arnhem's Land and Carpentaria, F. v. Mueller.

3. ROSSITTIA, EWART. Plate XV.

This new genus is related to *Eriostemon* and *Phebalium*, its nearest affinity being to *Eriostemon*. It is distinguished from both genera by having double the number of stamens and from *Eriostemon* by its glabrous filaments and non-apiculate anthers, and from *Phebalium* by its petals without inflexed tips. The scurfy tomentum in *R. scabra* completely covers the stem, leaves, pedicels, outer surface of the calyx and the ovary.

1. *R. scabra*, Ewart and Davies.—Leaves alternate, linear, sessile or nearly so, tapering to the base, entire, concave or induplicate with a recurved mucronate or hooked point, spreading or deflexed, reaching to about 4 c.m. in length, but mostly half that length or less.

Flowers axillary single or sometimes in pairs, on pedicels of 2 or 3 mm increasing in flower to 8 mm.

Calyx 4 mm. in length, 5-6 mm. in flower, tube very short, lobes broad imbricate and spreading. Petals yellow, shortly exceeding the calyx, imbricate, deeply emarginate without inflexed tips, 5 m.m. long, broad at top. Stamens free, more or less than 20 in number, filaments short slender, glabrous anthers ovate, 1 mm., not apiculate. Carpels 2, with a scaly surface and two ovules in each loculus.

Ranges near Western Creek, G. F. Hill (No. 773), 16/2/1912.

4. MICROMELUM, BLUME. 1825.

1. *M. pubescens*, Blume.—North Island, Gulf of Carpentaria, G. F. Hill (No. 634), 20/10/1911. Near beach.

Recorded. S. Goulburn Island, and Port Essington, Armstrong; Islands of the Gulf of Carpentaria, R. Brown.

5. MURRAYA, LINN.

1. *M. exotica*, Linn.—Islands of the Gulf of Carpentaria, R. Brown.

6. ATALANTIA, CORR.

1. *A. recurva*, Benth.—Careening Bay, N.W. Coast, A. Cunningham ; Islands of the Gulf of Carpentaria, R. Brown.

SIMARUBACEÆ.

Tribe I. Ovary lobed or carpels distinct. Leaves pinnate.—2. Brucea.

Tribe II. Ovary entire. Leaves 3-foliolate.—1. Harrisonia.

1. HARRISONIA, R. BR.

1. *H. Brownii*, A. Juss.—Islands of the Gulf of Carpentaria, R. Brown.

2. BRUCEA, MILL.

1. *B. sumatrana*, Roxb.—Arnhem's Bay, R. Brown, Victoria River, F. v. Mueller.

BURSERACEÆ.

Calyx 5-lobed, the disk lining the tube, with the stamens on the margin.—

2. Garuga.

Calyx, 3-lobed, the disk free, with the stamens outside or on the margin.—

1. Canarium.

1. CANARIUM, LINN. 1754.

(*Canariopsis*, Mig., 1859 ; *Cenarium*, Linn., 1759 ; *Colophonia*, Comm., 1824 ; *Mehenbethe*, Besl., 1788 ; *Pachylobus*, G. Don., 1832 ; *Pimela*, Lour., 1790 ; *Scutinanthe*, Thwaites, 1856).

1. *C. australianum*, F. v. M.—At Black Rocks, MacArthur River, G. F. Hill (No. 646), 22/10/1911. Tree 35 ft. high. Fruit eaten by natives.

Recorded. Careening Bay, N.W. Coast, A. Cunningham ; Port Essington, Armstrong ; Islands of the Gulf of Carpentaria, R. Brown, Henne.

An Australian species is poisonous according to Greshoff. It contains a fish poison. Bloomfield River natives use the gum as a cement. Wood of a grey colour.

2. GARUGA, ROXB.

1. *G. floribunda*, Descne.—Port Nelson, N.W. Coast, A. Cunningham. The wood close-grained and tough, of a grey colour.

MELIACEÆ.

Tribe I. *Meliæ*.—Stamens united in a tube. Ovules 2 in each cell. Seeds not winged, albuminous.

Leaves simple. Petals very long and narrow.—2. Turraea.

Leaves bipinnate.—3. Melia.

Tribe II. *Trichiliæ*.—Stamens united in a tube. Ovules 2, rarely 1, or (in Carapa) more than 2 in each cell. Seeds not winged, without albumen. Leaves pinnate.

Disk tubular or cup-shaped, enclosing the ovary.—4. Dysoxylum.

Disk annular, or undistinguishable from the thickened base of the ovary.

Stamens equal in number to or not twice as many as petals. Flowers very small, globular.—5. *Aglaia*.

Stamens twice as many as petals.

Staminal tube toothed, with the anthers protruding between the teeth. Ovules solitary. Drupe globular, with a woody or stony putamen.—6. *Owenia*.

Staminal tube truncate or crenate. Ovules more than 2 in each cell. Leaflets reticulate.—1. *Carapa*.

1. *CARAPA*, AUBL.

(*Xylocarpus*, Koen.)

1. *C. moluccensis*, Lam.—Saltwater Creek, near Macadam Range, F. v. Mueller; Islands of the Gulf of Carpentaria, Henne. Cannon-ball tree. Apple Mangrove. Bark contains 22 to 35 per cent. tannin.

2. *TURRAEA*, LINN.

1. *T. pubescens*, Hellen.—Recorded from National Herbarium Census, North Australia.

3. *MELIA*, LINN.

1. *M. composita*, Willd.—Albert River, Henne. White Cedar. The gum is a good substitute for gum-arabic.

4. *DYSOXYLUM*, BLUME.

(*Hartighsea* A. Juss.)

The wood of most species good for indoor use.

1. *D. Schultzii*, C. de C.—Recorded in National Herbarium Census from North Australia.

5. *AGLAIA*, LOUR.

(*Miluea*, Roxb.; *Nemedra*, A. Juss.)

1. *A. elaeagnoidea*, Benth.—Islands of the Gulf of Carpentaria, R. Brown; Entrance Island, Endeavour Straits, Leichhardt.

6. *OWENIA*, F. v. M. 1857.

Leaflets numerous, lanceolate, acute.—2. *O. vernicosa*.

Leaflets 2 to 4 pairs, obtuse, penninerved or reticulate.—1. *O. reticulata*.

1. *O. reticulata*, F. v. M.—20 miles N. of Survey Camp IV., on sand hill, G. F. Hill, No. 391), 28/6/1911.

A tree up to 30 ft. high.

Near Nichol Bay, Walcott; Islands of the Gulf of Carpentaria, R. Brown, F. v. Mueller, Henne.

2. *O. vernicosa*, F. v. M.—Maude's Creek and Leitch Lagoon, Gilruth and Spencer, July-August, 1911.

Recorded. Cambridge Gulf, A. Cunningham; mouth of the Victoria River, F. v. Mueller.

O. acidula, F. v. M.; recorded from North Australia, in National Herbarium Census.

POLYGALACEÆ.

Sepals nearly equal. Anthers 4 or 5. Flowers minute, in terminal spikes.

—3. *Salomonina*.

Inner sepals larger and petal-like. Anthers 8.

Capsule ovate or orbicular, scarcely contracted at the base. Seeds not comose.—1. *Polygala*.

Capsule cuneate, very narrow at the base. Seed hairs forming a long coronæ.—2. *Bredemeyera*.

1. *POLYGALA*, LINN.

Racemes long, terminal. Inner sepals petaloid, obtuse. Crest fringed. Stigma simple, terminal, capitate. 3. *P. leptalea*.

Racemes short, very dense and hirsute, terminal or lateral. Inner sepals herbaceous, acuminate. Crest 2-horned. Style with 1 erect lobe and a lower large glandular stigma.—2. *P. eriocephala*.

Racemes lateral. Inner sepals herbaceous, mucronate, usually falcate. Crest fringed. Style with 1 large hooked or reflexed stigmatic cone.

Racemes shorter than the leaves, or if longer, very dense.

Leaves orbicular.—4. *P. orbicularis*.

Leaves from obovate to linear.

Capsules broadly winged and ciliate.—5. *P. rhinanthoides*.

Capsules wingless and glabrous or nearly so.—1. *P. arvensis*.

Racemes slender, much longer than the leaves.—6. *P. stenoclada*.

1. *P. arvensis*, Willd.—Upper Victoria River, F. v. Mueller; Goulburn Island, A. Cunningham; N. Coast, R. Brown. Australian Milkwort.

2. *P. eriocephala*, F. v. M.—Upper Victoria River, F. v. Mueller.

3. *P. leptalea*, D.C.—Upper Victoria River, F. v. Mueller; Port Essington, Armstrong.

4. *P. orbicularis*, Benth.—S. Goulburn Island, A. Cunningham; Melville Island, Fraser; N. Coast, Armstrong.

5. *P. rhinanthoides*, Soland.—Upper Victoria River, F. v. Mueller.

6. *P. stenoclada*, Benth.—Upper Victoria River, F. v. Mueller.

P. persicarifolia, D.C., and *P. Tepperi*, F. v. M.; recorded from North Australia (in National Herbarium Census).

2. *BREDEMEYERA*, WILLD. 1801.

(*Comesperma*, Labill. 1806.)

Capsule sessile. Seeds filling the cells, without a coma. Stems leafless.—

1. *B. aphylla*.

☞ Capsule narrowed into a stipes, containing the long coma of seeds, which only occupy the broad part of the cells.

Pubescent.—2. *B. secunda*.

Glabrous.—3. *B. sylvestre*.

1. *B. aphylla* (R. Br.), Chodat.—Islands of the N. Coast, R. Brown.

2. *B. secunda* (Banks), Chodat.—Islands of the N. Coast, R. Brown.

3. *B. sylvestre* (Lindl.), Chodat.—70 miles W. of Camp III., G. F. Hill (No. 388, 28/6/1911).

3. SALOMONIA, Lour.

1. *S. oblongifolia*, D. C.—Recorded in National Herbarium Census from North Australia.

EUPHORBIACEÆ.

Tribe I. *Euphorbiæ*.—Involucre calyx-like, including several male flowers, each of a single stamen without any perianth, and one central female one, a single pedicellate pistil without any or rarely with a perianth; the whole flower-head resembling a single flower. Embryo with broad cotyledons and a narrow radicle.—17. *Euphorbia*.

Tribe II. *Stenolobæ*.—Flowers distinct, both sexes with a perianth. Embryo linear, the cotyledons not at all or scarcely broader than the radicle. Shrubs often heath-like, with entire coriaceous leaves, or rarely herbs with small membranous leaves.

Ovules 2 in each cell.—18. *Poranthera*.

Ovules 1 in each cell.—19. *Ricinocarpus*.

Tribe III. *Antidesmæ*.—Flowers distinct, both sexes with a perianth. Embryo with broad cotyledons and a narrow radicle. Trees or shrubs, the flowers small in catkin-like spikes or racemes. Ovary usually reduced to a single cell with 2 ovules. Styles 3.—7. *Antidesma*.

Tribe IV. *Phyllanthæ*.—Flowers distinct, both sexes with a perianth. Embryo with broad cotyledons and a narrow radicle. Ovules 2 in each cell. Flowers in axillary clusters or solitary.

Calyx or perianth-lobes imbricate in the bud.

Petals present at least in the males, sometimes small and gland-like.—1. *Andrachne*.

No distinct petals. Perianth of 4 to 6 calyx-like or petal-like lobes or segments, all similar or the inner ones rather larger.

Stamens 4 or more, central, free, without any rudimentary pistil.

Styles linear, undivided. Leaves opposite. 8. *Dissiliaria*.

Stamens indefinite in a central column, without any rudimentary pistil. Stigmas large flat, usually lobed.—6. *Petalostigma*.

Stamens 2 to 5, central, free or united, without any rudimentary style. Styles linear or short.

Perianth-lobes or segments erect or spreading. Styles usually lobed.—3. *Phyllanthus*.

Perianth turbinate, the male flat-topped, the small orifice closed by minute lobes, the female open, the lobes minute or obsolete. Styles usually entire.—4. *Breynia*.

Stamens 4 or 5, surrounding a 2-fid or 3-fid abortive pistil. Styles 2-fid.—2. *Fluggea*.

Stamens 5, 6 or more, surrounding a broad central disk.—5. *Hemicyclia*.

Calyx-lobes valvate in the bud. Petals present. Stamens 5, on a central column which terminates in an abortive pistil.

Ovary usually 2-celled. Drupe with 2 indehiscent pyrenes. Veinlets of the leaves transverse between the primary veins.—10. *Bridelia*.

Ovary usually 3-celled. Capsule 3-dymous, separating into 2-valved cocci. Veinlets of the leaves reticulate between the primary veins.—9. *Cleistanthus*.

Tribe V. *Crotonaceæ*.—Flowers distinct, both sexes with a perianth, sometimes minute in the males. Embryo with broad cotyledons and a narrow radicle. Ovules 1 in each cell. Flowers, at least the males, in spikes racemes or panicles. Stamens usually indefinite.

Calyx-lobes or segments valvate. Petals present.—11. *Croton*.

Calyx-lobes or segments (at least in the males) valvate. No petals.

Anthers erect, the cells adnate and parallel. Styles 2-fid, the inner surface fringed or with much raised papillæ.—14. *Adriana*.

Anther-cells parallel attached above the base of the anthers versatile.—12. *Mallotus*.

Anthers 4-lobed, opening in 4 valves or longitudinally in 2 valves.

Styles undivided, fringed or not. Trees or shrubs.—13. *Macaranga*.

Calyx small and open or minute. No petals. Stamens 2 to 6, exserted. Styles undivided.

Calyx usually dividing into 2 or 3 broad lobes. Seeds carunculate.

—15. *Sebastiania*.

Calyx minute. Stamens 3 or 2. Seeds without any carunculus.

—16. *Excoecaria*.

1. ANDRACHNE, LINN.

A species of this genus has been known to poison cattle in India.

1. *A. Decaisnei*, Benth.—Islands off the N. Coast, R. Brown; Victoria River, F. v. Mueller.

2. FLUGGEA, WILLD. 1805.

(*Chorisandra*, Wight. 1853.)

1. *F. microcarpa*, Blume (*Securinea obovata*, Muell. Arg.).—Lat. 18 degrees, 27 min., Long. 132 degrees (about), G. F. Hill (No. 450), 6/7/1911. Bush 4 ft. high. Four Mile Lagoon, Borrooloola, G. F. Hill (No. 795), 26/2/1912. Native Mangel. Five-mile Bar, MacArthur River, G. F. Hill (No. 732), 7/2/1912.

Recorded. Regent's River and Cygnet Bay, N.W. Coast, A. Cunningham; King's Sound and Collier Bay, Chapman, Hughan; Hieron Island, Gregory's Expedition; Victoria and Fitzmaurice Rivers, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown; Sweers Island and Albert River, Henne; Port Darling, Schultz (No. 578).

F. Leucopyrus, J. Mueller; recorded from North Australia in National Herbarium Census.

3. PHYLLANTHUS, LINN. 1737.

(*Anisonema*, A. Juss., 1824; *Asterandra*, Klotzsch., 1841; *Calococcus*, Kurz., 1864; *Cathetus*, Lour., 1790; *Ceramanthus*, Hassk., 1844; *Cicca*, Linn., 1767; *Conami*, Aubl., 1775; *Diasperus*, Linn., 1735; *Dichelactina*, Hance., 1852-3; *Emblica*, Gaertn., 1791; *Episteria*, Rafin., 1838; *Frankia*, Bert., 1840; *Hemicicca*, Baill., 1858; *Lobocarpus*, Wight., 1834; *Margaritaria*, Linn., 1781; *Meborea*, Aubl., 1775; *Menarda*, Comm., 1824; *Prosorus*, Dalz., 1852; *Rhopium*, Schreb., 1791; *Staurothyra*, Griff., 1854; *Synostemon*, F. v. M., 1858; *Tephranthus*, Neck., 1790; *Tricarium*, Lour., 1790; *Tricarium Spreng.*, 1826; *Urinaria*, Medic., 1787; *Xylophylla*, Linn., 1789; *Zygosperrum*, Thw., 1858).

Section I. *Glochidion*.—Trees or shrubs the leaves often large, stamens 3 or more, the anthers erect and sessile on a central column, free or more or less connate, the cells parallel with the connective projecting beyond them. Ovary 3 or more celled. Styles short, thick, erect, often connate at the base. No glands or disk in either sex.—7. *P. Ferdinandi*.

Section II. *Synostemon*.—Undershrubs, shrubs or perennial herbs. Leaves small. Stamens 3, the anthers adnate to a central column, the cells parallel. Ovary 3-celled. Styles distinct or connate at the base. No glands or disk in either sex.

Male perianth-segments narrow, erect, herbaceous or rigid, united or free. Hoary or glaucous undershrubs or rarely small shrubs.

Styles thick but free. Stems from a woody base decumbent or ascending. Leaves rather rigid, glaucous.

Leaves sessile, the lower ones cordate, the upper ones ovate.

—6. *P. ditassoides*.

Leaves linear.—1. *P. Adami*.

Styles more or less connate or very short. Stems branching, ascending or erect.

Male perianth-segments free. Leaves ovate or obovate, sessile.

Branches much compressed or angular.—15. *P. ochrophyllus*.

Male flower unknown. Leaves ovate, short, rigid. Branches nearly terete, hoary-tomentose.

Leaves under $\frac{1}{2}$ -in.—18. *P. rigidulus*.

Leaves $\frac{1}{2}$ -in. or more.—11. *P. Hunti*.

Male perianth-segments small, spreading.—17. *P. rhytidospermus*.

Section III. *Kirganelia*.—Shrubs, often large. Leaves distichous, usually petiolate. Stamens 5, the filaments usually connate at the base. Glands present. Ovary and capsule 3 or more-celled, usually fleshy or succulent. Styles distinct or connate at the base, short in the Australian species.

Pedicels filiform, under 2 lines, but mostly longer than the perianth.—16. *P. reticulatus*.

Pedicels mostly shorter than the perianth.—4. *P. baccatus*.

Section IV. *Paraphyllanthus*.—Shrubs or herbs of varied habit. Stamens 3, the filaments free or more or less united. Anthers free, the cells parallel, opening longitudinally. Glands present. Ovary 3-celled. Styles free. Capsule dry.

Filaments more or less united.

Flowers nearly sessile. Capsule tuberculate.—21. *P. Urinaria*.

Pedicels 1 to 3 lines long. Ovary tuberculate. Capsule smooth.—20. *P. trachygyne*.

Flowers nearly sessile. Ovary and capsule smooth.—13. *P. maderaspatanus*.

Filaments free.

Fruiting perianth much enlarged, usually as long as or longer than the capsule.

Glabrous or glaucous plant. Stems decumbent from a woody base.—8. *P. flagellaris*.

Glabrous or glaucous. Shrubby and branched. Seeds striate.—9. *P. grandisepalus*.

Minutely hoary-tomentose. Fruiting-perianth less enlarged.—5. *P. Carpentariae*.

Tomentose or villous plant, shrubby and branched. Capsule sprinkled with hairs.—10. *P. hebecarpus*.

Fruiting perianth shorter than the capsule.

Leaves ovate, about 2 lines long, hoary as well as the perianth.—

12. *P. indigoferoides*.

Leaves oblong, about 3 lines long, glabrous as well as the perianth.—2. *P. aridus*.

Section V. *Euphyllanthus*.—Trees, shrubs or herbs or varied habit. Leaves usually distichous. Stamens 3, the filaments free or more or less united; anthers free, the cells short, more or less diverging or opening transversely, and often separated by a broad connective. Glands present. Ovary 3-celled. Styles free. Capsule dry. Flowers usually minute.

Stems annual or from a perennial base, slightly branched, rather rigid, $\frac{1}{2}$ to 1 ft. high. Leaves oblong.—19. *P. simplex*.

Stems annual, filiform, branching, $\frac{1}{2}$ to $1\frac{1}{2}$ ft. long. Flowers very minute.—14. *P. minutiflorus*.

Section VI. *Reidia*.—Trees or shrubs with distichous leaves. Male perianth of 4 segments. Stamens 2, the filaments united in a central column, anthers with separate parallel cells having the appearance of 4-celled anthers. Female perianth of 4 to 6 segments. Styles 3. 3. *P. Armstrongii*.

1. *P. Adami*, Muell. Arg. (*P. stenocladus*, Muell.).—Port Keats, N.W. Coast, A. Cunningham; M'Adam Range, Point Pearce, Providence Hill, F. v. Mueller; Port Darwin, Schultz, (No. 460),; Port Essington, Armstrong.

2. *P. aridus*, Benth.—Barren shores of Brunswick Bay and Port Warrender, Vansittart Bay, N.W. Coast, A. Cunningham.

3. *P. Armstrongii*, Benth.—Port Essington, Armstrong.

4. *P. baccatus*, F. v. M.—Vansittart Bay and Greville Island, Regent's River, N.W. Coast, A. Cunningham; Victoria River, F. v. Mueller; Port Darwin, Schultz (No. 860).

5. *P. Carpentariae*, Muell., Arg.—Tableland, Arnhem's Land and Roper River, Gulf of Carpentaria, F. v. Mueller.

6. *P. ditassoides*, Muell., Arg.—South Goulburn Island, A. Cunningham; Port Essington, Armstrong.

7. *P. Ferdinandi*, Muell., Arg.—Borrooloola, G. F. Hill (No. 658), 7/11/1911. Islands of the Gulf of Carpentaria, R. Brown.

8. *P. flagellaris*, Benth.—Goulburn Islands, A. Cunningham.

9. *P. grandisepalus*, F. v. M.—Fitzmaurice River, F. v. M.—

10. *P. hebecarpus*, Benth.—Gulf of Carpentaria, F. v. Mueller. Considered poisonous.

11. *P. Hunti*, Ewart and Davies (Plate XVI.)—(named after Mr. Atlee Hunt, Secretary for Home and Territories).—Small bush. Stems woody at the base. Erect 1 ft. or more high. Young branches slightly flattened, older ones terete, slightly tomentose. Leaves on pedicels of about 1 line, obovate, with a short point, $\frac{1}{2}$ -in. or more. Flowers solitary in the axils on pedicels of 1 to 3 lines. Females perianths enlarged after flowering. Styles 3, erect. Capsule 4 to 5 lines diameter, oval, ashy-tomentose. Cocci triangular in section, rugose. Seed smooth. Species close to *P. rigidulus*.

130 miles N. of N.T. Survey Camp IV., G. F. Hill (No. 130), 2/7/1911.

12. *P. indigoferoides*, Benth.—York Sound, N.W. Coast, A. Cunningham,

13. *P. maderaspatanus*, Linn.—Okey Creek, G. F. Hill (No. 762), 16/2/1912. Intercourse Island, Dampier's Archipelago, A. Cunningham ; Port Walcott, N.W. Coast, Harper ; Upper Victoria and Fitzmaurice Rivers, F. v. Mueller ; Port Darwin, Schultz (No. 877).

14. *P. minutiflorus*, F. v. M.—Upper Victoria River, F. v. Mueller.

15. *P. ochrophyllus*, Benth.—Port Darwin, Schultz (No. 428 (males) and No. 489 (females).)

16. *P. reticulatus*, Poir.—Locality doubtful, and possibly not indigenous to the Northern Territory or to Australia.

17. *P. rhytidospermus*, F. v. M.—Camp ii., Lander Creek, G. F. Hill (No. 310), 10/6/1911.

Recorded. Depot Creek, Upper Victoria River, F. v. Mueller.

18. *P. rigidulus*, F. v. M.—Gulf of Carpentaria, F. v. Mueller.

19. *P. simplex*, Retz.—Sandstone Ranges, near Western Creek, G. F. Hill (No. 749), 14/2/1912.

20. *P. trachygynae*, Benth.—Port Darwin, Schultz (Nos. 112, 660, 668 and 788).

21. *P. Urinaria*, Linn.—S. Goulburn Island, A. Cunningham ; Port Darwin, Schultz (Nos. 85, 203) ; .

P. thesioides, Benth (in National Herbarium Census) ; recorded from North, Australia.

4. BREYNIA, FORST. 1776.

(*Foersteria*, Scop., 1777 ; *Melanthesa*, Blume, 1825 ; *Melanthesiopsis* Muell., Arg., 1863).

Fruiting perianth spreading flat to a diameter of about 3 lines.—1. *B. cernua*.

Fruiting perianth broadly turbinate or concave, enlarging to about 2 lines diameter. Styles very short erect or spreading on the obtuse fruit.—2. *B. oblongifolia*.

Fruiting perianth scarcely enlarged.

Ovary and capsule more or less contracted into a stipes at the base and crowned with 3 protuberances surrounding the styles.—

4. *B. stipitata*.

Ovary and capsule sessile, the ovary tapering at the top, the capsule suddenly contracted into a beak.—3. *B. rhynchocarpa*.

1. *B. cernua*, Muell. Arg.—N.W. Coast, A. Cunningham.

2. *B. oblongifolia*, Muell.—MacArthur River, Borroloola, G. F. Hill (No. 673), 8/11/1911.

3. *B. rhynchocarpa*, Benth.—King's Sound, N.W. Coast, Hughan.

4. *B. stipitata*, Muell.—Okey Creek, G. F. Hill (No. 766), 16/1/2/1912.

Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne ; Port Darwin, Schultz (No. 546, 581) ; Prince of Wales Islands, R. Brown.

5. HEMICYCLIA, W. AND ARN.

Filaments exserted, much longer than the small ovoid anthers. 2. *H. sepiaria*.

Filaments very short ; anthers twice as long, oblong, not exceeding the perianth.—1. *H. lasiogyne*.

1. *H. lasiogyne*, *F. v. M.*—Port Essington, Leichhardt, Armstrong; Port Darwin, Schultz (Nos. 700, 742 and 692).

2. *H. sepiaria*, *W and Arn.*—On the beach, Port Darwin, Schultz (No. 746).

6. PETALOSTIGMA, *F. v. M.* 1857.

(*Hylococcus*, *R. Br.* 1873.)

Fruit orange-coloured. Leaves pubescent.—1. *P. quadriloculare*.

Leaves nearly glabrous.—1a. var. *glabrescens*.

Fruit black and non-pubescent. Leaves pubescent.—1b. var. *nigrum*.

1. *P. quadriloculare*, *F. v. M.*—Borrooloola, G. F. Hill (No. 714), 13/1/1912. 20 miles W. of MacArthur River Station, G. F. Hill (No. 560), 499/1911. Small shrub. 10 miles N.N.E. of MacArthur River Station, G. F. Hill (561), 6/9/1911.

Small tree 15 ft. high.

Recorded. N.W. Coast, A. Cunningham; Islands of the Gulf of Carpentaria, Henne; Arnhem's Land, F. v. Mueller; in the interior, lat. 20 degrees, McDouall Stuart; Port Darwin, Schultz (Nos. 94, 298, 299, 447, 449.).

Bitter Crab. Bark yields a brownish yellow dye. Ripe fruit said to be a valuable vermifuge for horses.

1a. Var. *glabrescens*.—Hudson Downs, G. F. Hill (No. 829), 5/4/1912.

1b. Var. *nigrum*, *Ewart and Davies* (Plate XVII.).—Pubescent. Leaves petiolate, ovate, obtuse or acute $\frac{1}{2}$ to 2 in. long. Male flowers in axillary clusters. Perianth segments 2 to 4 lines long, silky-pubescent. Fruit black, $\frac{1}{4}$ -inch diam., glabrous, seeds smooth, dark brown.

Sandstone ranges, Borrooloola, G. F. Hill (No. 708), 13/1/1912. North of 15 degrees, W. S. Campbell (No. 17), 5/9/1911. 70 miles North of Camp IV., G. F. Hill (No. 387), 28/6/1911.

7. ANTIDESMA, LINN.

Flowers inside, glands and rudimentary ovary in the males, ovary in the females, pubescent or hirsute. Spikes paniculate.

Female flowers nearly sessile. Perianth-segments ovate acute.

Leaves rounded at the end.—2. *A. Ghaesembilla*.

Female flowers pedicellate. Perianth-segments very broad and obtuse. Leaves often obtusely acuminate.—1. *A. Dallachyanum*.

Flowers in the interior perfectly glabrous.—

Leaves $\frac{1}{2}$ -to 1 in. long, ovate or obovate. Spikes $\frac{1}{2}$ to 1 in. Perianth segments broad. Fruit small. 3. *A. parvifolium*.

Leaves ovate or elliptical, 1. to 2 in. long. Female perianth segments narrow-lanceolate. Fruit small. 4. *A. Schultzii*.

1. *A. Dallachyanum*, *Baill.*—Port Essington, Armstrong. Herbert River, Cherry.

2. *A. Ghaesembilla*, *Gaertn.*—Careening Bay, N.W. Coast, A. Cunningham; Point Pearce, Victoria and Fitzmaurice Rivers, F. v. Mueller; Port Darwin, Schultz (No. 694, 748).

3. *A. parvifolium*, *F. v. M.*—Sandstone Ranges, near Western Creek, G. F. Hill (No. 771), 16/2/1912.

4. *A. Schultzii*, *Benth.*—Port Darwin, Schultz (Nos. 610, 743).

8. DISSILIARIA, F. v. M.

1. *D. tricornis*, Benth.—Port Essington, A. Cunningham ; and Armstrong.

9. CLEISTANTHUS, Hook.

1. *C. Cunninghamii*, Muell., Arg.—Victoria River, F. v. Mueller.

10. BRIDELIA, Willd.

Whole plant glabrous.—1. *B. ovata*.

Young shoots and under side of leaves tomentose-pubescent.—2. *B. tomentosa*.

1. *B. ovata*, Dcne.—Sims Island, N. Coast, A. Cunningham.

2. *B. tomentosa*, Blume.—Victoria River, F. v. Mueller ; Port Essington, Armstrong ; Port Darwin, Schultz (Nos. 46, 101, 111, 166).

11. CROTON, Linn.

Stamens not more than 12. Leaves penniveined, rarely irregularly 3-nerved at the base.

Leaves densely clothed underneath with a stellate or silvery tomentum.—2. *C. Schultzii*.

Leaves hoary on both sides with a close stellate tomentum.—3. *C. tomentellus*.

Leaves quite glabrous or very sparingly sprinkled when young with stellate hairs or scales.—4. *C. Verreauxii*.

Stamens 20 to 30 or more. Leaves broad, 5 or 7-nerved at the base, densely stellate-tomentose.—1. *C. arnhemicus*.

1. *C. arnhemicus*, Muell. Arg.—Islands of the Gulf of Carpentaria, R. Brown ; Victoria and Fitzmaurice Rivers, and Sea Range, F. v. Mueller ; Port Darwin, Schultz (Nos. 48, 563, 684).

2. *C. Schultzii*, Benth.—Port Darwin, Schultz (No. 609).

3. *C. tomentellus*, F. v. M.—Victoria River, F. v. Mueller ; Careening Bay, N.W. Coast, A. Cunningham.

4. *C. Verreauxii*, Baill.—Islands of the Gulf of Carpentaria, R. Brown ; Port Essington, Armstrong ; Port Darwin, Schultz (Nos. 620 and 680).

12. MALLOTUS, Lour.

(*Rottilera*, Roxb. ; *Echinus*, Lour.)

1. *M. nesophilus*, F. v. M.—Islands of the N. Coast, Henne, Flood ; Port Darwin, Schultz (No. 881) ; Port Essington, Armstrong ; Caledon Bay, Gulliver.

13. MACARANGA, Thou.

(*Mappa*, A. Juss.)

1. *M. Tanaria*, Muell. Arg.—Port Essington, Armstrong, Leichhardt.

14. ADRIANA, Gaud.

(*Trachycaryon*, Kl.)

Leaves or their middle lobe ovate-lanceolate or broad, often acuminate. Styles free, slender, longer than the capsule. Eastern or tropical species.—1. *A. acerifolia*.

Leaves deeply 3-lobed, the middle lobe ovate-oblong, obtuse, not acuminate. Styles free rarely exceeding the capsule. North-western and Western species.—2. *A. tomentosa*.

1. *A. acerifolia*, Hook.—Victoria and Fitzmaurice Rivers, F. v. Mueller. Cotton-bush.

2. *A. tomentosa*, Gaud.—N.W. Coast, Carew River, A. Cunningham; Depuech Island, Bynoe; Nichol Bay and De Gray Rivers, Ridley's Expedition; Point Larrey, Hughan.

15. SEBASTIANIA, SPRENG.

(*Adenogyne*, Klotzsch., 1841; *Cnemidostachys*, Mart., 1824; *Ditrysinia*, Rafin., 1825; *Elachocroton*, F. v. M., 1857; *Gussonia*, Spreng., 1821; *Microstachys*, A. Juss., 1824; *Tragiopsis*, Karst., 1859).

1. *S. chamelaea*, F. v. M.—60 miles N.E. of Camp II, G. F. Hill (No. 272), 7/6/1911. Islands of the Gulf of Carpentaria, R. Brown, Henne; Victoria River, F. v. Mueller; Goulburn Island, A. Cunningham; Port Darwin, Schultz (No. 539); Beagle Bay, N.W. Coast, Hughan.

16. EXCÆCARIA, LINN.

The bark yields caoutchouc in abundance.

Leaves obovate or broadly elliptical, obtuse, entire or crenate, 2 to 3 in. long.—1. *E. Agallocha*.

Leaves narrow-oblong, very obtuse, entire, $\frac{1}{2}$ to 1 in. long.—2. *E. parvifolia*.

1. *E. Agallocha*, Linn.—Islands of the Gulf of Carpentaria, R. Brown; Sweers; Saltwater Banks of Victoria River, F. v. Mueller; Goulburn Island, A. Cunningham; Port Darwin, Schultz (Nos. 597, 677.)

Milky Mangrove, River Poison-tree, Blinding-tree. Bark contains 13-15 per cent. tannin.

2. *E. parvifolia*, Muell., Arg.—Common round the Gulf of Carpentaria, R. Brown, F. v. Mueller, Landsborough. "Gutta-percha tree." (Landsborough). Yields a very handsome cabinet wood.

17. EUPHORBIA, LINN. 1737.

(*Alectorocrotonum*, Schlecht, 1847; *Anisophyllum*, Haw., 1812; *Anthacantha*, Lem., 1858; *Athymalus*, Neck., 1790; *Chamaesyce*, S. F. Gr., 1821; *Chylogala*, Fourr., 1869; *Dactylanthus*, Haw., 1812; *Epurga*, Fourr., 1869; *Esula*, Rupp., 1745; *Gelarrhoeus*, Haw., 1812; *Keraselma*, Neck., 1790; *Lacanthus*, Rafin., 1836; *Lyciopsis*, Schweinf., 1867; *Medusea*, Haw., 1812; *Petalandra*, F. v. M., 1862; *Poinsettia*, R. Grah., 1836; *Tithymalus*, Tourn., 1742; *Treisia*, Haw., 1812; *Zalitea*, Rafin., 1836).

Section I *Anisophyllum*.—Leaves all opposite with small interpetiolar stipules. Involucral glands usually bordered by a petal-like appendage (except *E. Atoto* and *E. pilulifera*). Seeds without any carunculus.

Flower-heads in small distinct terminal cymes with the floral leaves or bracts as long as or longer than the involucre. Capsules and whole plant glabrous.

Seeds smooth. Appendages of the involucral glands scarcely conspicuous.—3. *E. Atoto*.

Seeds rugose. Appendages conspicuously petal-like, entire.—9. *E. Mitchelliana*.

Seeds rugose. Appendages more or less lobed.—11. *E. myrtoides*.

Flower-heads solitary or two together, terminal or in the upper axils. Stems hairy or pubescent.

Stem and leaves pubescent or shortly hirsute.

Involucres $1\frac{1}{2}$ lines long, the glands with a broad palmately lobed appendage.—13. *E. schizolepis*.

Involucres not $\frac{1}{2}$ -line long, the glands with a very small usually lobed appendage.—14. *E. Schultzii*.

Stems slender, sprinkled with long spreading hairs. Involucres under 1 line, the glands with a narrow entire white border.—2. *E. Armstrongiana*.

Flower-heads solitary in the upper or in nearly all the axils or forks.

Stem and leaves pubescent or hirsute.

Involucres $1\frac{1}{2}$ lines long, the glands with a broad palmately lobed appendage.—13. *E. schizolepis*.

Stems much branched, usually 6 in. to 1 ft.—4. *E. australis*.

Involucres about 1 line long, the gland-appendages entire. Dwarf plant with rigid stems of 1 to 2 in.—10. *E. Muellieri*.

Whole plant quite glabrous.

Involucres about 1 line long. Dwarf plant with rigid stems of 1 to 2 in.—10. *E. Muellieri*.

Involucres $\frac{1}{2}$ to $\frac{3}{4}$ -lines long.

Diffuse or prostrate branching stems forming at length a perennial rhizome. Gland-appendages usually entire.

Styles notched only at the end.—5. *E. Drummondii*.

Styles slender bifid.—1. *E. alsinaeflora*.

Annual, with erect and slender stems. Gland-appendages usually entire.—16. *E. Wheeleri*.

Annual, diffuse and much branched. Gland-appendages usually lobed.—11. *E. myrtoides*.

Flower-heads numerous, in dense or rather loose terminal or axillary cymes, the floral leaves, except sometimes the lowest pair, reduced to small bracts shorter than the involucres.

Dwarf glabrous perennial. Leaves ovate or oblong. Gland-appendages large and very white.—8. *E. micradenia*.

Glabrous erect or procumbent annual.—Leaves linear. Gland-appendages rather large.—15. *E. serrulata*.

Pubescent perennial with erect or ascending stems, the ultimate branches filiform and cymes loose. Gland-appendages large and very white.—7. *E. filipes*.

Hirsute annual. Leaves ovate or lanceolate. Flower-heads minute, very numerous in dense headlike axillary cymes. Involucral glands without appendages.—12. *E. pilulifera*.

Section II. *Eremophila*.—Leaves opposite or the lower ones and sometimes those of the lateral branches alternate. Stipules very minute or none. Involucral glands without appendages. Seeds carunculate.—6. *E. eremophila*.

1. *E. alsinaeflora*, Baill.—Mount King, Glenelg River, N.W. Coast, Martin.

2. *E. Armstrongiana*, Boiss.—Port Essington, Armstrong; Port Darwin, Schultz (No. 22).

3. *E. Atoto*, Forst.—Sandy beaches, Melville Island, G. F. Hill (3rd series, No. 12), 12/4/1914.

Recorded. Water Island, Montague Sound, N.W. Coast, A. Cunningham ; Port Essington, Armstrong ; La Grange Bay, Hughan ; Port Darwin, Schultz, (No. 601) ; Gulf of Carpentaria, R. Brown.

4. *E. australis*, Boiss.—Victoria River, F. v. Mueller ; Nichol Bay, M. Brown ; Gulf of Carpentaria, R. Brown, Gregory's Expedition.

Poisonous to sheep.

Var. erythrantha, F. v. M.—35 miles N.W. of Lander Creek, G. F. Hill (No. 379), 24/6/1912.

5. *E. Drummondii*, Boiss.—Roper River, Bull Oak Creek, Gilruth and Spencer, July-August, 1911. 10 miles W. of Eva Downs, G. F. Hill (No. 518), 19/8/1911. About 30 miles N.W. of Twitchera Gap, Macdonnell Ranges, G. F. Hill (164), 10/5/1911.

Recorded. Victoria River, F. v. Mueller ; Gulf of Carpentaria, Landsborough. Said to poison goats (Hill). Poisonous according to Greshoff and Maiden. Irritant. Alkaloid, drumin. According to Maiden it has poisoned stock in N.S.W. Caustic Creeper. It is used by the Queensland natives in cases of snake-bite. The fresh milky sap possesses great healing properties, and is in constant use by bushmen. Feeding tests carried out by Stanley (Agric. Gazette, New South Wales, Sept., 1896), with this and the following species, shewed that sheep could be fed on them without injury.

6. *E. eremophila*, A. Cunn.—10 miles W. of Eva Downs, G. F. Hill (No. 527), 19/8/1911.

North Island, Gulf of Carpentaria, G. F. Hill (No. 618), 19/8/1911.

About 30 miles N.W. of Twitchera Gap, Macdonnell Ranges. G. F. Hill (No. 159), 10/5/1911.

Recorded. Groote Island, Gulf of Carpentaria, R. Brown ; Greville Island, Regent's River, N.W. Coast, and Goulburn Island, A. Cunningham ; Victoria River, F. v. Mueller.

Poisonous according to Miquel. Irritant. Caustic Plant.

7. *E. filipes*, Benth.—Borrooloola, G. F. Hill (No. 605), 2/10/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne ; Fitzmaurice River, F. v. Mueller.

8. *E. micradenia*, Boiss.—Islands of the Gulf of Carpentaria, R. Brown ; Port Darwin, Schultz (No. 545).

9. *T. Mitchelliana*, Boiss.—MacArthur River, at Black Rocks, G. F. Hill (No. 643), 22/10/1911.

Recorded. Sweers Island, Henne.

10. *E. Muelleri*, Boiss.—N.W., F. v. Mueller ; Port Darwin, Schultz (No. 439, 485).

11. *E. myrtoides*, Boiss.—Near Haast's Bluff, Macdonnell Ranges, G. F. Hill (No. 203), 26/5/1911. Lat. 19 degrees, Long. 132 degrees, G. F. Hill (No. 438), 4/7/1911. Hermansburg, Finke River, G. F. Hill (No. 53), 11/3/1911.

Recorded. N.W. Coast, Dampier's Archipelago, A. Cunningham ; Despard's Island, Bynoe.

12. *E. pilulifera*, Linn.—Borrooloola, G. F. Hill (No. 796), 29/2/1912.

Native name, Werribee-werribee, cure for sores according to natives, cure for asthma according to whites (Hill).

Pill Wolfsmilk, Caiacica of the natives in Brasil, Erva doscobras (snake herb), of the Portuguese. Acts as a strong diuretic, and is used in Brazil and the West Indies for snake bite, and in the East Indies for asthma (Dr. Rosenthal). Used as a sedative in spasmodic conditions of the respiratory

apparatus. It produces dermatitis, etc. (Bailey). Loudon says the juice is so acrid as to corrode and ulcerate the body wherever applied. Removes warts, freckles, is used as a depilatory, etc. Application of the juice, powder and extract produces not only erysipelatos, pustular and phlegmonous inflammation, but even gangrene (Pammel).

13. *E. schizolepis*, *F. v. M.*—Upper Victoria River, *F. v. Mueller*.

14. *E. Schultzii*, *Benth.*—Roper River, Gilruth and Spencer, July-August, 1911.

Recorded. Port Darwin, Schultz, (Nos. 15, 237, 844 and 879); Camden Harbour, *F. v. Mueller*.

15. *E. serrulata*, *Reinw.*—Port Essington, Armstrong; Port Darwin, Schultz (No. 234); Escape Cliffs, Hulse.

16. *E. Wheeleri*, *Baill.*—20 miles N.W. by N. of Meyer's Hill, Macdonnell Ranges, G. F. Hill (No. 213), 1/6/1911.

Recorded. Greville Island, Regent's River, and Montague Sound, N.W. Coast, A. Cunningham; King's Sound, Hughan.

E. Carey, *F. v. M.*; recorded from North Australia in Nat. Herb. Census.

18. PORANTHERA, RUDGE.

1. *P. microphylla*, *Brogn.*—Port Darwin, Schultz (No. 54).

19. RICINOCARPUS, DESF.

(*Roeperia*, *Spreng.*)

Leaves linear, the margins much revolute, $1\frac{1}{2}$ to 3 in. long. Petals. much shorter than the calyx. Ovary tomentose.—2. *R. rosmarinifolius*.

Leaves lanceolate, flat, hoary on both sides, $1\frac{1}{2}$ to 3 in. long. Petals much shorter than the calyx. Ovary tomentose.—1. *R. marginatus*.

1. *R. marginatus*, *Benth.*—York Sound, N.W. Coast, A. Cunningham.

2. *R. rosmarinifolius*, *Benth.*—Montague and York Sounds, N.W. Coast, A. Cunningham.

Bischoffia Javanica, *Blume*; *Homalanthus Leschenaultianus* *A. de Juss.*; recorded from North Australia in Nat. Herb. Census.

ANACARDIACEÆ.

Stamens 10. Carpels 5 to 6. Ovules suspended from an erect funicle.—

1. *Buchanania*.

Stamens 5. Ovary 1-celled. Ovule suspended from the top of the cavity

—2. *Semecarpus*.

1. BUCHANANIA, SPRENG. 1800.

(*Cambessedea*, *Kunth*, 1824; *Coniogeton*, *Blume*, 1826; *Lanzana*, *Stokes*, 1812; *Launzan*, *Buch.-Ham.*, 1799; *Launzea*, *Endl.*, 1841; *Lundia*, *Puer.*, 1825).

1. *B. Muelleri*, *Eng.* (*B. angustifolia*, *Roxb.*).—Top Spring, G. F. Hill (No. 442), 31/8/1911.

Recorded. Victoria River, Bynoe, *F. v. Mueller*; Port Essington, Armstrong; Islands of the Gulf of Carpentaria, *R. Brown*.

Var. pilosa.—Borroloola, G. F. Hill (No. 601), 31/8/1911.

This is a form intermediate between the variety and the type, having the leaves of the type and the inflorescence of the variety.

Borrooloola, G. F. Hill (No. 668), 8/11/1911.

An Australian species of *Buchanania* is poisonous according to Greshoff, but the principle is not known.

B. obovata, Eng.; recorded from North Australia in Nat. Herb. Census.

2. SEMECARPUS, LINN.

1. *S. Anacardium*, Linn.—Port Essington, Armstrong.

CELASTRACEÆ.

Leaves alternate. Ovules 2 in each cell. Capsule loculicidal, coriaceous.—

2. Celastrus.

Leaves alternate. Ovules 3 or more in each cell. Capsule 1 loculicidal, woody or bony. Flowers in cymes. Stamens on the margins of the disk.—

1. Denhamia.

Leaves mostly opposite. Ovules 2 in each cell. Drupe indehiscent, 2 or 3-celled.—3. Cassine.

1. DENHAMIA, MEISN.

(*Leucocarpon*, A. Rich.)

1. *D. obscura*, Meissn.—York Sound, N.W. Coast, A. Cunningham; Melville Island (not Moreton Bay), Fraser; Victoria River and Arnhem's Land, F. v. Mueller; Port Essington, Armstrong.

2. CELASTRUS, LINN. 1737.

(*Catha*, G. Don., 1832; *Guevinia*, Hort., 1845-6; *Orixa*, Thunb., 1783; *Semarilla*, Rafin., 1838).

Leaves ovate or elliptical.—2. C. Muellieri.

Leaves linear or narrow-lanceolate.—1. C. Cunninghamii.

1. *C. Cunninghamii*, F. v. M.—Lat. 17 degrees, Long., 132 degrees (about), G. F. Hill (No. 454), 7/7/1911. A tree 20 ft. high, and 3 in. in diameter. Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown.

2. *C. Muellieri*, Benth.—Near Macadam Range, F. v. Mueller.

3. CASSINE, LINN.

(*Elaeodendron*, Jacq.)

1. *C. melanocarpa*, F. v. M.—Arnhem N. Bay, R. Brown.

STACKHOUSIACEÆ.

1. STACKHOUSIA, SM. 1798.

(*Pokio stigma*, Schuch., 1853-5; *Tripterococcus*, Endl., 1837.)

Corolla-lobes oblong, obtuse.—2. *S. muricata*.

Corolla-lobes acute or acuminate.

Cocci obovoid or globular, reticulate. Corolla 3 lines or less.—

3. *S. viminea*.

Cocci broadly winged. Corolla more than 4 lines, with filiform points to the lobes.—1. *S. Brunonis*.

1. *S. Brunonis*, Benth.—Regent River, N.W. Coast, A. Cunningham.

2. *S. muricata*, Lindl.—Sturt's Creek, F. v. Mueller.

3. *S. viminea*, Sm.—35 miles N.W. of Camp IV., Lander's Creek, G. F. Hill (No. 375), 24/6/1911.

Recorded. Islands of the Bay of Carpentaria, R. Brown; Goulburn Island, A. Cunningham.

Macgregoria racemigera, F. v. M.; recorded from North Australia in Nat. Herb. Census.

SAPINDACEÆ.

Flowers irregular, either 1 petal fewer than the sepals, or the stamens or disk unilateral, and ovary excentric.

One ovule in each cell of the ovary.

Herbaceous or half-herbaceous climber with bi-ternate leaflets.

Capsule inflated, membranous.—1. *Cardiospermum*.

Trees with pinnate leaves. Petals 1 fewer than sepals.—

4. *Erioglossum*.

Shrubs or trees, with 1 or 3 digitate leaflets. Sepals 4, broadly imbricate. Petals 4 or none. Fruit of 1 or 2 indehiscent lobes.—2. *Allophylus*.

Two ovules in each cell of the ovary. Low shrubs or undershrubs, with entire, lobed, or pinnately dissected leaves.—7. *Diplopeltis*.

Flowers regular. Disk annular or none. Stamens all round the ovary.

One ovule in each cell of the ovary. Trees or tall shrubs. Leaves pinnate (except *Heterodendron* and sometimes *Atalaya*).

Capsule loculicidally 3-valved.—6. *Cupania*.

Fruit separating into winged samaras.—3. *Atalaya*.

Fruit divided into indehiscent or 2-valved lobes or irregularly loculicidal, the valves not separating from the axis.—

5. *Heterodendron*.

Two ovules in each cell of the ovary.

Trees with pinnate leaves. Petals 4 or 5.—10. *Harpullia*.

Shrubs or rarely small trees. Leaves simple or pinnate with small leaflets. Calyx cup-shaped. Petals none. Disk inconspicuous.

Stamens in the male flower 10 or fewer, usually 8.—8. *Dodonaea*.

Stamens in the male flowers more than 10.—9. *Distichostemon*.

1. CARDIOSPERMUM, LINN.

1. *C. Halicacabum*, Linn.—Victoria River, Sea Range, etc., F. v. Mueller; Albert River, Henne. Heart Pea, Balloon Vine.

2. ALLOPHYLUS, LINN.

1. *A. ternatus*, Lour. (*S. serrata*, D.C.).—N. Coast, R. Brown; Port Essington, Armstrong.

3. ATALAYA, BEUME. 1847.

(*Pseudatalaya*, *Sapindus* partly.)

Flowers and fruit, as well as the whole plant, quite glabrous.—2. *A. salicifolia*.

Flowers and fruit more or less pubescent or tomentose.

Plant glabrous, except the flowers.—1. *A. hemiglaucha*.

Branches, young leaves and panicles velvety-tomentose.

Leaflets and petiole-wings much reticulate.—3. *A. variifolia*.

1. *A. hemiglaucha*, *F. v. M.*—Hermansburg, Finke River, G. F. Hill (No. 93), 13/3/1911. Borrooloola, G. F. Hill, 12/9/1911.

Recorded. N.W. Coast, Bynoe; Hammersley Range, Nichol Bay, F. Gregory; Albert River, Henne. White-wood, Cattlebush. Yields a quantity of gum, often in lumps of 10 to 11 ozs.

2. *A. salicifolia*, *Blume*.—Careening Bay, N.W. Coast, A. Cunningham; Melville Island (not Moreton Bay), Fraser, and A. Cunningham.

3. *A. variifolia*, *F. v. M.*—Borrooloola, G. F. Hill (No. 659), 7/11/1911. Sea Range, Macadam Range, and near Fitzmaurice River, F. v. Mueller.

4. ERIOGLOSSUM, BLUME.

1. *E. edule*, *Blume*.—Brunswick Bay, N.W. Coast, A. Cunningham.

5. HETERODENDRON, DESF. 1818.

1. *H. oleaefolium*, *Desf.*—Hermansburg, Finke River, G. F. Hill (No. 89), 13/3/1911; also (No. 92). Hammersley Range, near Nichol Bay, F. Gregory's Expedition. Wood very hard; useful in turnery.

6. CUPANIA, LINN.

1. *C. anacardioides*, *A. Rich.*—Port Essington, Armstrong.

7. DIPLOPELTIS, ENDL. 1837.

(*Diploptaxis*, *Lindl.*)

Fruit separating into distinct indehiscent cocci.—1. *D. Huegelii*.

Capsule membranous, loculicidally 3-valved. Leaves linear or cuneate, entire or 3-lobed.—2. *D. Stuartii*.

1. *D. Huegelii*, *Endl. (var. eriocarpa, Benth.)*.—Nichol Bay, N.W. Coast, F. Gregory.

2. *D. Stuartii*, *F. v. M.*—Lat. 18 degrees, 27 min., Long. 132 degrees, G. F. Hill (No. 448), 6/7/1911.

Between Mount Morphett and Bonny River, M'Douall Stuart.

8. DODONAEA, LINN. 1737.

(*Empleurosma*, *Bartl.*, 1847; *Ptelea*, *Triopteris*, *Palavia*, *Serjania*, *Thouinia*.)

Series I. *Cyclopterae*.—Leaves entire, toothed, or rarely lobed. Wings of the capsule extending from the base to the style or nearly so, each carpel, including its wing, nearly orbicular or longer than broad.

Leaves flat, elliptical, oblong-lanceolate or spatulate, or if linear not filiform, entire or obscurely sinuate, usually above 2 in. long, rarely between 1 and 2.

Young branches very angular. Seeds smooth and shining. Leaf-veins indistinct.—1. *D. lanceolata*.

Young branches terete or slightly angular. Seeds opaque.—

7. *D. viscosa*.

Leaves flat, more or less cuneate, entire or toothed at the end, rarely exceeding 1½ in., and usually under 1 in.—3. *D. peduncularis*.

Series II. *Platyptera*.—Leaves quite entire, flat. Wings of the capsule very divergent or divaricate, not reaching to the style nor to the base, each carpel, including its wing, broader than long, transversely ovate or oblong.—5. *D. platyptera*.

Series III. *Pinnata*.—Leaves all pinnate or very rarely a few simple ones at the base of the branches. Capsule of the *Cycloptera*, except in *D. oxyptera*, where it approaches that of the *Platyptera*.

Tall shrubs or small trees. Leaflets flat, oblong, lanceolate or obovate, not coriaceous. Racemes or panicles terminal, loose.

Leaflets usually numerous, lanceolate or oblong. Capsule not inflated, the wings broad.—6. *D. polyzyga*.

Leaflets few, obovate or oblong. Capsule large and inflated.—

4. *D. physocarpa*.

Much-branched, leafy shrubs. Pedicels solitary or clustered.—2. *D. oxyptera*.

1. *D. lanceolata*, *F. v. M.*—Capstan Island, N.W. Coast, A. Cunningham ; Victoria River and Sea Range, *F. v. Mueller* ; Islands of the Gulf of Carpentaria, *R. Brown*.

2. *D. oxyptera*, *F. v. M.*—MacArthur River, *G. F. Hill* (No. 722), 19/1/1912.

Recorded. Islands of the Gulf of Carpentaria, *R. Brown* ; dry rocky hills, Fitzmaurice River, Arnhem's Land, *F. v. Mueller*.

3. *D. peduncularis*, *Lindl.* (*var. coriacea*, *Ewart and Davies*).—70 miles N. of Camp IV., *G. F. Hill* (8/6/1911). The leaves are larger and broader than usual and are coriaceous. Some Queensland specimens have even larger leaves, but in these the leaf is thinner.

4. *D. physocarpa*, *F. v. M.*—Lat. 18 degrees, 28 min., Long. 132 degrees, *G. F. Hill* (No. 445), 6/7/1911. About 3 ft. high.

Recorded. Sea Range, Victoria River, *F. v. Mueller*. Poisonous according to Greshoff, principle unknown.

5. *D. platyptera*, *F. v. M.*—Cygnets Bay, N.W. Coast, A. Cunningham ; Fitzmaurice River, *F. v. M.*

6. *D. polyzyga*, *F. v. M.*—Upper Victoria River, *F. v. Mueller*.

7. *D. viscosa*, *Linn.*—Macdonnell Ranges, *G. F. Hill* (No. 123), 23/3/1911. On hill sides, bush 5 ft. Simpson's Gap, Macdonnell Ranges, *G. F. Hill* 30/4/1911. On hill 12 miles N.W. of Charlotte Waters, *G. F. Hill* (No. 18), 24/2/1911. Hop Bush.

Recorded. N.W. Coast, Bynoe.

Poisonous according to Greshoff and Radlkofer. Fish poison. The leaves of a form of this tree are in India used as a vermifuge.

D. petiolaris, *F. v. M.* ; *D. pachynema*, *F. v. M.* ; *D. humilis*, *Endl.* ; *D. tenuifolia*, *Lindl.* ; recorded from North Australia in National Herbarium Census.

9. DISTICHOSTEMON, *F. v. M.* 1857.

(*Pleistichostemon*.)

1. *D. phyllopterus*, *F. v. M.*—(*D. hispidulus*, *Baill.* ; *Dodonaea hispidula*, *Endl.*). On Ranges 26 miles S.W. of Borrooloola, *G. F. Hill* (No. 577), 7/9/1911. Sandstone Ranges, near Western Creek, *G. F. Hill* (No. 769), 15/2/1912.

Recorded. N.W. Coast, Bynoe; Goulburn Island and Cape Pond, A. Cunningham; Victoria River, Point Pearce, and Roper River, F. v. Mueller; Port Essington, Armstrong; Islands of the Gulf of Carpentaria, R. Brown, Henne; From Arnhem's Land to the sources of Gilbert's River, not rare, F. v. Mueller.

10. HARPULLIA, ROXB.

1. *H. Leichhardtii*, F. v. M.—Port Essington, Leichhardt.

RHAMNACEÆ.

Leaves 3 or 5-nerved.—2. *Zizyphus*.

Leaves penninerved.

Panicle branches elongated and raceme-like. Nut 1-seeded, produced into a long wing-like appendage.—1. *Ventilago*.

Panicle or cyme 2-3-chotomous. Endocarp separating into cocci.

Ovary immersed in the disk. Epicarp thick. Leaves white or rusty underneath.—4. *Alphitonia*.

Ovary sessile on the disk. Epicarp thin. Leaves green on both sides.—3. *Emmenospermum*.

1. VENTILAGO, GAERTN. 1788.

(*Enrila*, Blanco, 1837.)

1. *V. viminalis*, Hook.—Newcastle Waters, G. F. Hill (No. 219), 9/8/1911 20 miles N.W. and N. of Macdonnell Ranges, G. F. Hill (1/6/1911).

Recorded. Nicholson River, Gulf of Carpentaria, F. v. Mueller.

2. ZIZYPHUS, JUSS.

Leaves green on both sides, softly pubescent or villous, or at length glabrous. Drupe small, 2-celled.—1. *Z. Oenoplia*.

Leaves white or rusty underneath, with a close tomentum.—2. *Z. quadrilocularis*.

L. Z. Oenoplia, Mill.—Islands of the Gulf of Carpentaria and Arnhem S. Bay, R. Brown.

2. *Z. quadrilocularis*, F. v. M.—Upper Victoria River, F. v. Mueller.

3. EMMENOSPERMUM, F. v. M.

1. *E. Cunninghamii*, Benth.—Port Warrender, N.W. Coast, A. Cunningham.

4. ALPHITONIA, REISSEK. 1840.

1. *A. excelsa*, Reissek.—Borrooloola, G. F. Hill (No. 655), 7/11/1911.

Sandstone ranges and flats, near Tanumbirini, G. F. Hill (No. 807).

Bauhinia Downs, G. F. Hill (No. 575), 24/3/1912. Hell Gate, Roper River and Eleven-Mile Creek, near Katharine. Gilruth and Spencer, July-August, 1911.

Recorded. Islands of the Gulf of Carpentaria (Cape Van Diemen), R. Brown; Sweers Island, Henne; Arnhem's Land, F. v. Mueller.

Red Ash. The leaves, with water, rubbed on the hands remove inkstains.

VITACEÆ.

Stamens free. Ovary 2-celled with 2 ovules in each cell. Woody climbers, with tendrils.—1. *Vitis*.

Stamens and petals connate with the disk. Ovary 3 to 6-celled with 1 ovule in each cell. Erect, without tendrils.—2. *Leea*.

1. CISSUS, LINN.

Leaves simple.

Branches glaucous. Veinlets reticulate, not prominent. Flowers at least 1 line diameter.—3. *C. cordata*.

Not glaucous. Veinlets transverse. Flowers not $\frac{1}{2}$ line diameter.—2. *C. adnata*.

Leaflets 3.—4. *C. trifolia*.

Leaflets 5 to 9, pedate.—1. *C. acetosa*.

1. *Cissus acetosa*, F. v. M.—N. Coast, R. Brown; Victoria and Fitzmaurice Rivers, F. v. Mueller; Sweers Island, Henne.

2. *C. adnata*, Wall.—N. Coast, R. Brown; Sea Range, very rare, F. v. Mueller.

3. *C. cordata*, Wall.—N. Coast, R. Brown.

4. *C. carnosa*, Lam. (*V. trifolia*, Linn.).—N. Coast, R. Brown; Victoria River, F. v. Mueller; Albert River, Henne. Supposed antidote to snake-bite.

2. LEEA, LINN.

1. *L. sambucina*, Willd., Raffles Bay, Goulburn Island and other points of the N. Coast.—A. Cunningham.

ELAEOCARPACEÆ.

1. ELAEOCARPUS, BURM. 1747.

(*Aceratium*, D.C., 1824; *Acronodia*, Blume, 1825; *Acrozos*, Spreng., 1827; *Adenodus*, Lour., 1790; *Beythea*, Endl., 1840; *Craspedum*, Lour., 1790; *Dicera*, Forst., 1776; *Eriostemum*, Colla., 1840; *Ganitrus*, Gaertn., 1791; *Lochneria*, Scop., 1777; *Monocera*, Jack., 1820; *Elaiocarpus*, Perinkara, Adans.).

Flowers about 1 line.—1. *E. arnhemicus*.

Flowers about 2 lines.—2. *E. obovatus*.

1. *E. arnhemicus*, F. v. M.—Near Darwin, Gilruth and Spencer, July-August, 1911.

2. *E. obovatus*, G. Don. (*var. foveolatus*, Benth.).—Islands of the N. Coast R. Brown; Liverpool River, A. Cunningham; Fitzmaurice River and Macadam Range, F. v. Mueller.

TILIACEÆ.

Drupe indehiscent, not echinate, entire or 2-lobed. Petals narrow, short, with a foveolate base. Trees or shrubs.—2. *Grewia*.

Fruit globular, echinate, indehiscent, or separating into 1-seeded cocci. Petals narrow, with a foveolate or pubescent base. Shrubs or herbs.—3. *Triumfetta*.

Capsule 2 to 5-celled, with several seeds in each, opening in valves, usually long and smooth, rarely short and echinate. Petals usually obovate or broad, without a foveola. Shrubs or herbs.—1. *Corchorus*.

1. CORCHORUS, LINN.

Annuals (or biennials), glabrous or loosely pubescent.

Capsule globular or ovoid, very obtuse.—2. *C. echinatus*.

Capsule ($\frac{1}{2}$ to $\frac{3}{4}$ -in. long) rather thick, angular or winged.—1. *C. acutangulus*.

Capsule linear, not winged.

Capsule $\frac{3}{4}$ to 2 in. Lower pair of serratures of the leaves ending in fine setæ. Stamens numerous.

Capsule 5-celled, the transverse partitions conspicuous.—5. *C. olitorius*.

Capsule 3 or 4-celled, without transverse partitions.—9. *C. tridens*.

Capsule under $\frac{1}{2}$ -in., 2 or 3-celled. Leaves without setæ. Flowers very small. Stamens few. Pubescent plants.

Capsule 3-celled, erect or spreading, 3-toothed at the top.—3. *C. fascicularis*.

Capsule 2-celled, reflexed, very hirsute, rather acute.—6. *C. Pumilio*.

Undershrubs or shrubs more or less tomentose or hirsute.

Fruiting pedicels recurved. Capsule linear, curved or twisted, more or less torulose, 2 or 3-celled.

Low diffuse shrubs or undershrubs. Capsule few-seeded.

Sepals under 2 lines. Stamens about 10.

Capsule 3 or 4 lines long, very hispid, slightly curved.—6. *C. Pumilio*.

Sepals under 2 lines. Stamens about 20.

Capsule elongated, much twisted, torulose, glabrous.—10. *C. vermicularis*.

Erect shrubs. Capsule tomentose, elongated, many-seeded.

Tomentum scabrous or almost villous. Sepals 2 or 3 lines.

Petals narrow.—8. *C. sidoides*.

Tomentum soft, close and hoary. Sepals 4 lines or more. Petals broad.

Leaves 2 to 4 in.—4. *C. leptocarpus*.

Leaves about 1 in.—7. *C. sericeus*.

Capsule erect, straight, not twice as long as the calyx, 5-celled.—

11. *C. Walcottii*.

1. *C. acutangulus*, Lam.—Upper Victoria River, F. v. Mueller.

2. *C. echinatus*, Benth.—Hooker's and Sturt's Creeks, sources of the Victoria River, F. v. Mueller.

3. *C. fascicularis*, Lam.—Victoria River, Sturt's and Hooker's Creeks, F. v. Mueller; Arnhem's Bay, R. Brown.

4. *C. leptocarpus*, A. Cunn.—Water Island, N.W. Coast, A. Cunningham.

5. *C. olitorius*, Linn.—Van Diemen's Gulf, A. Cunningham.

6. *C. Pumilio*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; Upper Victoria River, F. v. Mueller.

7. *C. sericeus*, Ewart and Davies (Plate XVIII.).—Leaves alternate about 1 in. long, ovate-lanceolate, thick and velvety, with a dense stellate tomentum, 5-nerved at the base, on petioles of about 4 lines. Flowers clustered in the axils, peduncle of about 5 lines. Pedicels about $1\frac{1}{2}$ to 2 lines. Sepals long and

narrow, densely pubescent, 4 to 5 lines long. Petals not as long as the sepals. Fruit not seen. Near to *C. leptocarpus* but differs in having smaller leaves with closer nerves and dense tomentum.

Borroloola, G. F. Hill, 9/10/1911.

8. *C. sidoides*, *F. v. M.*—N.W. Coast, Bynoe; Cygnet Bay, A. Cunningham; frequent in sterile places on the Victoria River, *F. v. Mueller*; Islands of the Gulf of Carpentaria, R. Brown.

9. *C. tridens*, *Linn.*—Islands of the N. Coast, R. Brown; Upper Victoria River, Sturt's and Hooker's Creeks, *F. v. Mueller*.

10. *C. vermicularis*, *F. v. M.*—Upper Victoria River, *F. v. Mueller*.

11. *C. Walcottii*, *F. v. M.*—Enderby Island, N.W. Coast, A. Cunningham; Hearson Island and Nichol Bay, *F. Gregory*.

Var. parviflora, *Benth.*—N.W. Coast, Bynoe; Nichol Bay, *F. Gregory*.

Var. densiflora, *Benth.*—Gulf of Carpentaria, *F. v. Mueller*.

C. Elderi, *F. v. M.*; *C. hygrophilus*, *Cunn.*; *C. elachocarpus*, *F. v. M.*; (in Nat. Herb. Census), and *C. Allenii*, *F. v. M.* (in Proc. Linn. Soc., N.S.W., 1891); recorded from North Australia.

2. GREWIA, LINN.

Leaves glabrous or nearly so, 3-nerved at the base. Flowers hermaphrodite.

Sepals 7 to 9 lines. Petals small, the foveola very large. Torus elongated. Fruit depressed-globose, not lobed, $\frac{1}{2}$ -in. diameter or more.—4. *G. orientalis*.

Sepals about 4 lines. Petals very small, the foveola large. Torus short. Fruit small, 2-lobed (unless reduced to one carpel).—2. *G. multiflora*.

Sepals about 2 lines. Petals more than half as long, the foveola very small. Torus short. Fruit small, entire.—1. *G. breviflora*.

Leaves white-tomentose underneath or scabrous, 3 or 5-nerved. Flowers polygamo-dioecious.

Leaves obovate-oblong to lanceolate. Foveolate base of the petals broader than the lamina.—5. *G. polygama*.

Leaves ovate or orbicular. Foveolate base of the petals small.

Leaves ovate-cordate, acuminate, often 3 to 4 in. Staminodia in the female flowers numerous, clavate, without anthers.—6. *G. xanthopetala*.

Leaves small, orbicular, very scabrous. Buds striate. (Female flowers unknown).—3. *G. orbifolia*.

1. *G. breviflora*, *Benth.*—Cygnet Bay, A. Cunningham; N.W. Coast, Bynoe; Islands of the Bay of Carpentaria, R. Brown.

2. *G. multiflora*, *Juss.*—Port Essington, Armstrong.

3. *G. orbifolia*, *F. v. M.*—Sandstone rocks of the Upper Victoria River, *F. v. Mueller*.

4. *G. orientalis*, *Linn.*—Van Diemen's Gulf, A. Cunningham; Islands of the Gulf of Carpentaria, R. Brown.

5. *G. polygama*, *Roxb.*—Cullen Creek, and Eleven-Mile Creek, near Katharine, Gilruth and Spencer, July-August, 1911; medicinal astringent, Lower MacArthur River, G. F. Hill (No. 682), 8/11/1911. Five-mile Bar, MacArthur River, G. F. Hill (No. 719), 19/1/1912.

Recorded. Victoria and Fitzmaurice Rivers and Arnhem's Land, F. v. Mueller.

Goulburn Island, A. Cunningham ; Islands of the Gulf of Carpentaria, R. Brown ; Sweers Island, Henne. A valuable remedy in cases of dysentery.

6. *G. xanthopetala*, F. v. M.—Sandstone rocks, Upper Victoria River, F. v. Mueller.

G. laevigata, Vahl. ; recorded in Nat. Herb. Census from North Australia.

3. TRIUMFETTA, PLUM. 1737.

(*Bartramia*, Linn, 1747 ; *Porpa*, Blume, 1825).

Ovary 3 to 5-celled. Fruit 3 to 8-celled, with 1 seed in each cell.

Leaves round-cordate, entire or lobed. Fruit rather large, with two cells and seeds to each carpel.—1. *T. appendiculata*.

Leaves ovate to lanceolate. Fruit small, with as many cells and seeds as carpels. Erect tomentose shrubs.

Broader leaves obovate-rhomboid. Calyx appendages ovate-peltate. (Fruit unknown).—3. *T. glaucescens*.

Broader leaves cordate-lanceolate. Calyx appendages small, obtuse. Fruit depressed-globular, 5-celled, nearly glabrous.—2. *T. denticulata*.

Broader leaves obovate-cordate. Calyx appendages small, acute. Fruit ovoid-globular, 4-celled, very tomentose.—4. *T. micrantha*.

Ovary 2-celled. Fruit 1-seeded.

Fruit covered with long soft plumose setæ.—6. *T. plumigera*.

Fruit very small, scarcely pubescent, shortly echinate.—5. *T. parviflora*.

1. *T. appendiculata*, F. v. M.—Nichol Bay, N.W. Coast, F. Gregory ; Islands of the Gulf of Carpentaria, R. Brown.

2. *T. denticulata*, R. Br.—Cavern Island, and Groote Eyland, in the Gulf of Carpentaria, R. Brown.

3. *T. glaucescens*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

4. *T. micrantha*, F. v. M.—Cullen Creek, Gilruth and Spencer, July-August, 1911.

Victoria River, Hooker's and Sturt's Creeks and Abel Tasman River, F. v. Mueller.

5. *T. parviflora*, Benth.—Islands of the Gulf of Carpentaria, R. Brown.

6. *T. plumigera*, F. v. M.—Near Top Spring, G. F. Hill (No. 544), 31/8/1911. Eleven-mile Creek, near Katharine, Gilruth and Spencer, July-August, 1911.

Recorded. Montague Sound, A. Cunningham ; N.W. Coast, Bynoe ; Depot Creek, sources of the Victoria River, F. v. Mueller.

T. chaetocarpa, F. v. M. ; *T. leptocantha*, F. v. M. ; *T. Winneckeana*, F. v. M. (in Nat. Herb. Census), and *T. Bradshawii*, F. v. M. (in Proc. Linn. Soc., N.S.W., 1891), recorded from North Australia.

MALVACEÆ.

Many of this order yield fibre in great quantity, and material valuable in paper making.

Tribe I. *Malveæ*.—Staminal column bearing filaments to the summit.

Style-branches the same number as ovary-cells. Mature carpels separating more or less from the axis (imperfectly so in some *Abutila*).

Ovules solitary in each cell, ascending with a ventral raphe.—2. *Malvastrum*.

Ovules solitary in each cell, pendulous or horizontal with a dorsal raphe. Bracteoles none.

Styles with decurrent stigmas. Flowers more or less dioecious.—3. *Plagianthus*.

Stigmas terminal, capitate, or truncate.—4. *Sida*.

Ovules 2 or more in each cell. Bracteoles none. Stigmas terminal.—

1. *Abutilon*.

Tribe II. *Hibisceæ*.—Staminal column truncate or 5-toothed at the summit, bearing the anthers or filaments on the outside, or rarely at the summit also. Style-branches or stigmas the same number as ovary-cells. Carpels united in a several-celled capsule, loculicidal or indehiscent.

Style branched at the top or with radiating stigmas. Ovary 5-celled.—

5. *Hibiscus*.

Style undivided, with decurrent stigmas.

Bracteoles 3 to 5, narrow, not cordate, sometimes very small.

Ovary 3, 4 or rarely 5-celled. Capsule coriaceous, loculicidal.—

7. *Cienfuegosia*.

Ovary 5-celled. Capsule woody, sometimes indehiscent.—

6. *Thespesia*.

Bracteoles 3, broad, cordate.—8. *Gossypium*.

1. ABUTILON, TOURN. 1763.

(*Abutilaea*, *F. v. M.*, 1852; *Beloere*, *Shuttl.*, 1862; *Bogenhardea*, *Reichb.*, 1841; *Herissantia*, *Medic.*, 1789; *Lass*, *Adans.*, 1763; *Prestonia*, *Scop.*, 1777. *Fleischeria*. Lantern-Flower. Chinese Lantern. All yield good fibre.

I. Capsule truncate or concave at the top. Carpels (usually 2 or 3-seeded), angular-pointed or awned at the upper outer edge, persistent, or rarely at length deciduous, leaving the filiform placenta attached to the axis.

Carpels (usually 10 or fewer), not exceeding the calyx-lobes, the points erect, or rarely divergent. Stems usually (perhaps always) shrubby.

Calyx-lobes shorter than the tube.

Calyx 1 in. long, campanulate, lobes acute, nearly as long as the tube. Petals twice as long.—1. *A. amplum*.

Calyx $\frac{1}{2}$ to $\frac{3}{4}$ in., lobes acuminate or rather obtuse, spreading, much shorter than the tube.—7. *A. leucopetalum*.

Calyx-lobes longer than the tube or cup, acuminate.—8. *A. otocarpum*.

Carpels usually exceeding the calyx-lobes, the points often divergent. Herbs usually tall, sometimes hard, almost woody at the base.

Stems coarse and erect. Leaves broadly cordate.

Stipules small and subulate. Flowers mostly axillary.—6. *A. indicum*.

Stipules broadly semisagittate. Flowers in terminal leaflets racemes or panicles.—2. *A. auritum*.

Stems rather slender. Leaves ovate or cordate-lanceolate. Capsule truncate, with short divergent points.—9. *A. oxycarpum*.

II. Carpels (often 1-seeded by abortion) rounded or angled at the top, quite distinct, and seceding from the axis when fully ripe.

Carpels numerous (about 20), closely packed, very hirsute. Tall herbs, with large, broadly cordate leaves.—10. *A. pedatum*.

Carpels rarely more than 10, glabrous or slightly tomentose, not scarious. Leaves mostly cordate-orbicular.

Densely velvety-tomentose (shrubby). Petals shortly exceeding the calyx.—4. *A. Cunninghamii*.

Low undershrub, shortly tomentose or pubescent, often with spreading hairs. Petals fully twice as long as the calyx.—5. *A. Fraseri*.

Carpels 10 to 15, slightly hispid, enlarged and scarious when ripe. Slender undershrub, with cordate, often almost sessile leaves.—3. *A. crispum*.

1. *A. amplum*, *Benth.*—Harding River, S.E. of Nichol Bay, F. Gregory's Expedition.

2. *A. auritum*, *G. Don.*—Keppel Bay, R. Brown; Percy Island, A. Cunningham.

3. *A. crispum*, *G. Don.*—Sources of Hooker's Creek, and MacArthur River, F. v. Mueller; Maitland River, F. Gregory's Expedition.

4. *A. Cunninghamii*, *Benth.*—Enderby Island, N.W. Coast, A. Cunningham; Albert River, Henne.

5. *A. Fraseri*, *Hook.*—60 miles N.E. of Camp II., G. F. Hill (No. 289), 7/6/1911.

Recorded. N.W., M'Douall Stuart's Expedition.

6. *A. indicum*, *G. Don.*—Head of Kilgour River, G. F. Hill (No. 434a), 30/8/1911.

Recorded. Point Cunningham and Cygnet Bay, A. Cunningham; Gulf of Carpentaria, Landsborough.

7. *A. leucopetalum*, *F. v. M.*—60 miles N.E. of Camp II., G. F. Hill (No. 277), 7/6/1911. 25 miles N.W. of Anthony's Lagoon, G. F. Hill (No. 530), 27/8/1911.

Recorded. Hooker's Creek and Upper Victoria River, F. v. Mueller.

8. *A. otocarpum*, *F. v. M.*—In the desert or Sturt's Creek, and on Gilbert River, F. v. M.; Nichol Bay, F. Gregory.

9. *A. oxycarpum*, *F. v. M.*—Fitzroy and Mackenzie Rivers, F. v. Mueller.

10. *A. pedatum*, *Ewart.*—Peduncles long, calyx with numerous veins, tube as broad as long, and more than twice the length of the lobes. Corolla yellow, shortly exceeding the calyx. Fruit (immature), depressed globular, carpels not angular. Whole plant densely and softly clothed with a yellowish or rusty indumentum, branches under 26 cm. high from the base, branchlets softly angular. Leaves on long petioles, reaching 3 cm., cordate-orbicular with large blunt teeth or margins, green smooth and velvety on upper surface, paler and veined below, 3.5 cm. diameter. Peduncles in upper axils, up to 4.5 cm. in length, pedicels thickening towards calyx, both being rusty, calyx with a broad base overhanging top of pedicel, 1 to 1.5 cm. long, and about as broad with 20 to 30 veins more or less distinct, tube scarcely expanding upwards, nearly 1 cm. long, lobes 3 or 4 mm., deltoid and shortly acuminate, tomentose on under side; buds cordate-globose contracting to an acute 5-ribbed apex. Petals yellow, 17 mm. long, ciliate at base. Fruit (immature) depressed globose densely pubescent, rounded and smooth, and quite concealed by calyx.

70 miles N. by W. of Camp III., near Lander Creek, G. F. Hill (No. 342), 14/6/1911.

From the carpels being rounded at the top the plant falls into Section II. of the genus *Abutilon*. It appears to be nearest *A. muticum* G. Don, but the peduncles are longer than the petioles, the calyx-lobes are shorter than the tube, and the capsule, although immature, is much shorter than the calyx.

A. tubulosum, Hook; *A. cryptopetalum*, F. v. M.; *A. geranioides*, Benth.; *A. longilobum*, F. v. M.; *A. exonemum*, F. v. M.; (in Nat. Herb. Census), and *A. asiaticum*, G. Don (in Gen. Syst., No. 503, 1831); recorded from North Australia.

2. MALVASTRUM, A. GRAY. 1849.

(*Nototriche*, Turcz., 1863; *Malva*, partly).

1. *M. spicatum*, A. Gr.—30 miles N.W. of Twitchera Gap, Macdonnell Ranges, G. F. Hill (No. 160), 10/5/1911.

Recorded. Victoria River and Gulf of Carpentaria, F. v. Mueller.

M. tricuspidatum, A. Gray.; recorded from North Australia in Nat. Herb. Census.

3. PLAGIANTHUS, FORST.

(*Asterotrichion* and *Blepharanthemum*, Klotzsch.; *Lawrencia*, Hook.; *Halothamnus*, F. v. Mueller). Hemp bush.

Flowers in dense spikes.—4. *P. densiflorus*.

Flowers axillary, solitary or clustered.

The herbaceous parts with scurfy scales.—2. *P. squamatus*.

Glabrous or slightly pubescent herbs.

Flowers all sessile.—1. *P. glomeratus*.

Male flowers stalked.—3. *P. diffusus*.

1. *Plagianthus glomeratus*, Benth.—10 miles W.S.W. of Stuart Ranges, 2/6/11, G. F. Hill (No. 224). Thorny Hemp bush.

2. *P. squamatus*, Benth.—Recorded. Swan River, Drummond, 4th Coll. (No. 106), Preiss (No. 1231.).

3. *P. diffusus*, Benth (in Nat. Herb. Census); and *P. densiflorus*, E. Baker (in Britt. Journ. Bot. XXX., 1892), are recorded from North Australia.

4. SIDA, LINN. 1735.

(*Diadesma*, Rafin, 1836; *Dictyocarpus*, Wight., 1837; *Fleischeria*, Steud., 1844; *Malvinda*, Dill., 1787). All yield good fibre, *Sida* hemp.

I. Calyx without prominent ribs or angles. Carpels strongly reticulate on the sides, indehiscent, or nearly so, never aristate. Perennials or shrubs.

Flowers 1 or 2 together, on slender pedicels, articulate near the top:

Calyx-lobes obtuse, not protruding beyond the broad part of the fruit.

Carpels strongly wrinkled on the back. Fruit $2\frac{1}{2}$ to 4 lines diameter.—2. *S. corrugata*.

Carpels not, or very slightly wrinkled. Fruit not exceeding 2 lines diameter. Leaves and flowers very small.—5. *S. intricata*.

Calyx-lobes acute or scarcely acuminate, remaining herbaceous, and not much enlarged after flowering.

Leaves ovate or ovate-lanceolate, cordate at the base.—6. *S. macropoda*.

Leaves lanceolate or oblong-lanceolate, not cordate.—12. *S. virgata*.

Calyx-lobes acuminate, with long, subulate, woolly points.—3. *S. cryphiopetala*.

Calyx-lobes enlarged and thinner or scarious after flowering.—7. *S. physocalyx*.

Flowers clustered, several together. Pedicels short,^f not articulate.—11. *S. subspicata*.

II. Calyx 5-angled, prominently 10-ribbed. Carpels not reticulate on the sides, and opening in two short valves at the top. Herbs or under shrubs.

Leaves ovate or narrow, whitish with a close tomentum on both sides. Carpels 5.—10. *S. spinosa*.

Leaves ovate or narrow, whitish with a close tomentum underneath. Carpels about 10.—9. *S. rhombifolia*.

Leaves broad, cordate (or rarely narrow). Tomentum soft, loose, or velvety. Carpels about 10.—1. *S. cordifolia*.

III. Calyx with 15 or 20 nerves prominent when in fruit. Carpels numerous. Styles free to the base.

Calyx enlarging after flowering, open at the top.—8. *S. platycalyx*.

Fruiting calyx very large, membranous, quite closed over the fruit.—

4. *S. inclusa*.

1. *S. cordifolia*, *Linn.*—Darwin, G. F. Hill (3rd Series, 2), 2/2/1914.

Recorded. Port Essington, Armstrong; N. Coast, Bynoe.

2. *S. corrugata*, *Lindl.*—110 miles N. of Survey Camp IV., G. F. Hill (No. 409), 1/7/1911. Hugh River, MacDonnell Ranges, G. F. Hill (No. 145), 6/5/1911.

Hermansburg, Finke River, G. F. Hill (No. 84), 13/3/1911.

60 miles N.E. of Camp II., G. F. Hill (No. 261a), 7/6/1911.

Lat. 19 degrees, Long. 132 degrees, G. F. Hill (No. 84), 13/3/1911.

Upper Victoria River, and Sturt's Creek, F. v. Mueller.

3. *S. cryphiopetala*, *F. v. M.*—Brindley's Bluff, MacDonnell Ranges, M'Douall Stuart.

4. *S. inclusa*, *Benth.*—60 miles N.E. of Camp II., G. F. Hill (No. 266), 7/6/1911. Recorded. Hammersley Range, N.W. Coast, F. Gregory's Expedition.

5. *S. intricata*, *F. v. M.*—About 30 miles N.W. of Twitchera Gap, MacDonnell Ranges, G. F. Hill (No. 161), 10/5/1911. Near Mt. Zeal, MacDonnell ranges, G. F. Hill (No. 166), 12/5/1911.

Recorded. Stony ridges of the Upper Victoria River, F. v. Mueller.

6. *S. macropoda*, *F. v. M.*—Summits of Sea Range, Head of Hooker's Creek, Arnhem's Land, and Gulf of Carpentaria, F. v. Mueller.

7. *S. physocalyx*, *F. v. M.*—Hammersley Range, N.W. Coast, F. Gregory's Expedition.

8. *S. platycalyx*, *F. v. M.*—Sturt's Creek, F. v. Mueller.

9. *S. rhombifolia*, *Linn.*—Eleven-mile Creek, near Katherine, Gilruth and Spencer, July-August, 1911. 60 miles N.E. of Camp II., G. F. Hill (No. 276), 7/6/1911.

Recorded. Port Essington, Armstrong.

Queensland Hemp, Sida Weed. The ripe capsules cause the death of fowls that feed on it, the sharp pointed capsules causing internal inflammation.

10. *S. spinosa*, *Linn.*—N. Coast, R. Brown; Upper Victoria River, F. v. Mueller; Quail Island, Flood.

11. *S. subspicata*, *F. v. M.*—Gulf of Carpentaria, R. Brown; Hooker and Sturt's Creeks, F. v. Mueller.

12. *S. virgata*, Hook.—25 miles S.W. of Borroloola, G. F. Hill (No. 573), 7/9/1911. Recorded. Sandstone table-land of the Upper Victoria River, F. v. Mueller.

5. HIBISCUS, LINN. 1737.

(*Abelmoschus*, Medic., 1787; *Azanza*, D.C., 1824; *Bamia*, R. Br., 1830; *Bombycodendron*, Zoll., 1847; *Cotyloplecta*, Alef., 1863; *Furcaria*, Kostal., 1836; *Hymenocalyx*, Zenk., 1835; *Ketmia*, Tourn., 1737; *Lagunaea*, Cav., 1787; *Lagunaruia*, Reichb., 1828; *Munchusia*, Heist., 1838; *Pariti*, Adans., 1763; *Paritium*, St. Hil., 1827; *Pentasperrum*, D.C., 1840; *Petitia*, Neck., 1790; *Polychlaena*, Garcke., 1867; *Solandra*, Murr., 1785; *Triguera*, Cav., 1786; *Trionaea*, Medic., 1787; *Trionum*, Linn., 1735; *Triplochiton*, Alef., 1863; *Fugosia*.)

All yield good fibre (Hibiscus hemp).

Section I. Bracteoles free (sometimes very deciduous). Calyx 5-toothed, splitting open on one side and deciduous. Tall annuals. (*Abelmoschus*, Medic.).

Glabrous or the inflorescence tomentose. Bracteoles small, falling off from the young bud. Flowers white.—4. *H. ficulneus*.

Hispid. Bracteoles 8 to 12, linear, persistent. Flowers red.—12. *H. rhodiopetalus*.

Section II. Bracteoles free. Calyx shortly 5-lobed, inflated. Herb with deeply lobed leaves. (*Trionum*, Medic.).—17. *H. trionum*.

Section III. Bracteoles free. Calyx deeply 5-lobed, the lobes 1 or 3-nerved, without thickened margins. Seeds bordered or covered by long woolly hairs. Low or slender shrubs or undershrubs. (*Bombicella*, D.C.).

Plant densely and rigidly velvety-tomentose. Leaves ovate or lanceolate, mostly undivided. Bracteoles small.—8. *H. microchlaenus*.

Plant closely and densely tomentose. Leaves orbicular, mostly broadly 3-lobed.—11. *H. Pinonianus*.

Section IV. Bracteoles free. Calyx deeply 5-lobed, the lobes with a central nerve and thickened nerve-like margins. Seeds glabrous. Tall herbs or shrubs, often more or less armed with short prickles (except the last 2 species).

Herb glabrous or with scattered hairs. Calyx ribs ciliate. Flowers white or pink.—1. *H. cannabinus*.

Tall shrubs, glabrous or with scattered hairs.—6. *H. heterophyllus*.

Tomentose or densely villous shrubs, without prickles. Calyx tomentose or villous.

Flowers $1\frac{1}{2}$ to 2 in. long.—18. *H. zonatus*.

Flowers about $\frac{3}{4}$ -in. long.—2. *H. Coatesii*.

Section V. Bracteoles free. Calyx deeply 5-lobed, the lobes 1 or 3-nerved, without thickened margins. Seeds glabrous or shortly pubescent. Low or slender shrubs or undershrubs glabrous, scabrous-pubescent or bristly hispid.

Leaves undivided.

Scabrous-pubescent. Leaves ovate-lanceolate or oblong.—7. *H. leptocladus*.

Glandular viscid and rigidly setose. Leaves broad-cordate or orbicular.—13. *H. setulosus*.

Leaves deeply divided.

Glabrous or nearly so. Calyx $\frac{3}{4}$ -in. long. Capsule hispid.—10. *H. pentaphyllus*.

Hirsute and densely setose. Calyx not $\frac{1}{2}$ -in. Capsule glabrous.—5. *H. geranioides*.

Small velvety-tomentose shrubs or undershrubs. Leaves shortly lobed.—

9. *H. panduriformis*.

Section VI. Bracteoles united at least at the base. Calyx 5-lobed.

Tomentose shrubs or undershrubs. Leaves crenate or broadly and shortly lobed.

Involucral lobes long, much exceeding the calyx.—14. *H. Spenceri*.

Involucral teeth or lobes short or broad. Filaments long and few.

Calyx-lobes obscurely nerved.

Leaves crenate. Flowers white or pink.—15. *H. Sturtii*.

Leaves broadly toothed. Flowers purplish.—3. *H. Farragei*.

Involucral bracts united at the base only. Filaments short and numerous. Calyx-lobes 1-nerved, with thickened margins.—

18. *H. zonatus*.

Glabrous tree. Leaves broad-cordate, entire.—16. *H. tiliaceus*.

1. *H. cannabinus*, *Linn* (*H. radiatus*, *Cav.*).—Katharine Creek, Gilruth and Spencer, July-August, 1911. Recorded. Arnhem's Land, Islands of Carpentaria Bay, etc., R. Brown; Victoria and Fitzmaurice Rivers, Macadam Range, etc., F. v. Mueller.

2. *H. Coatesii*, *F. v. M.*—Hammersley Range, near Nichol River, F. Gregory's Expedition.

3. *H. Farragei*, *F. v. M.*—Hermansburg, Finke River, G. F. Hill (No. 90), 13/3/1911. Recorded. Macdonnell Range, E. Giles.

4. *H. ficulneus*, *Linn.*—Head of Kilgour River, G. F. Hill (No. 535a), 30/8/1911. Recorded. In basaltic tropical and sub-tropical plains, N.A., F. v. Mueller. The young mucilaginous pods are edible.

5. *H. geranioides*, *A. Cunn.*—Islands of the Gulf of Carpentaria, R. Brown; Vansittart's Bay, N.W. Coast, A. Cunningham.

6. *H. heterophyllus*, *Vent.*—Western and Okey Creeks, G. F. Hill (No. 759), 16/2/1912. Calyx with prickles but with very little tomentum. Native Rosella.

7. *H. leptocladus*, *Benth.*—Sandstone ranges, Western Creek, G. F. Hill (No. 748a), 14/2/1912. Recorded. Islands of Carpentaria Bay, R. Brown; Victoria River, Bynoe, F. v. Mueller.

8. *H. microchlaenus*, *F. v. M.*—Upper Victoria River, F. v. Mueller; Maitland River, Nichol Bay, Walcott; Fortescue River, M. Brown.

9. *H. panduriformis*, *N. Burman.*—Edith Creek, Gilruth and Spencer, July-August, 1911. Recorded. Victoria River, F. v. Mueller; Maitland River, F. Gregory's Expedition; Albert River, Henne.

10. *H. pentaphyllus*, *F. v. M.*—Victoria River and Arnhem's Land, F. v. Mueller; gathered also in Leichhardt's and M'Douall Stuart's Expeditions.

11. *P. Pinionianus*, *Gaud.*—Mount Denison, M'Douall Stuart.

12. *H. rhodopetalus*, *F. v. M.*—Arhmen's Land, R. Brown; Port Molle, M'Gillivray.

13. *H. setulosus*, *F. v. M.*—Rocks on the MacArthur and Seven Emu Rivers, Gulf of Carpentaria, F. v. Mueller.

14. *H. Spenceri*, *Ewart.*—Involucral bracts united at base into a cup, calyx shorter, cleft to middle; petals 3 times as long as calyx; fruit globose, carpels 5, not angular; leaves cordate-orbicular with a longitudinal grooved gland at base of midrib on under side. Shrub with obtusely-angular branchlets, tomentose. Leaves cordate-orbicular sometimes broadly 3-lobed, irregularly sinuate-toothed and denticulate, or under surface strongly 5 to 7-veined and

reticulate with a linear grooved gland 5 to 10 mm. in length on base of midrib, with a dense but very short grey tomentum, green and very sparingly tomentose above, largest 7 by 7 cm., some broader than long, petiole 2-3 cm.

Flowers (4) clustered in axils of small leaves at top of branch, on pedicels of about 3 mm. Involucre campanulate, 8 mm. long, cleft into 5-6 lanceolate obtusely acuminate segments of about 5 mm., recurved at tip, obscurely striate or 3 or more-nerved. Calyx only 6 mm. long, cleft to about middle into deltoid or lanceolate acuminate lobes with a prominent midrib. Petals purplish, 2 c.m. long by 8 cm., obliquely obovate and tapering into a claw, tomentose externally. Staminal column 1.5 cm. in length. Fruit subglobose, slightly umbonate, 5 by 4 mm., closely tomentose smooth and rounded, calyx and involucre closely fitting over capsules, carpels 5, not angular, seeds glabrous.

Cullen Creek, Gilruth and Spencer, July-August, 1911.

This species belongs to that section of *Hibiscus* in which the bracteoles are more or less united, but is distinguished from the other Australian species in that section by the involucre with its long lobes considerably exceeding the calyx in length. Its nearest affinity is *H. Sturtii*, but in that variable species the involucral lobes are not only shorter but also more numerous. The anthers also as far as could be observed are sessile on the upper third of the column, while in *H. Sturtii* the free portion of the filaments is much longer.

Another character which does not appear to have been utilised in descriptive works, the presence of a gland at the base of the midrib on the underside of the leaf, furnishes what may be said to be conclusive evidence of specific difference of *H. Spenceri* from *H. Sturtii*, in which the gland is entirely absent in all the forms examined. In the shape and indumentum of the leaves it shows a resemblance to *H. tiliaceus*, in which also the midrib gland is found.

15. *H. Sturtii*, Hook.—N.W. Coast, A. Cunningham; Victoria River, F. v. Mueller; N. of M'Donnell Range, M'Douall Stuart.

16. *H. tiliaceus*, Linn.—Darwin, G. F. Hill (2nd Series, 102), 3/7/1913.

Near Darwin, Gilruth and Spencer, July-August, 1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne; Port Molle, M'Gillivray.

Cotton Tree. From the fibre a strong paper can be made. A beautifully marked cabinet wood.

17. *H. Trionum*, Linn.—10 miles W. of Eva Downs, G. F. Hill (Nos. 513 and 514), 19/8/1911.

Recorded. Victoria River and Sturt's Creek, F. v. Mueller.

18. *H. zonatus*, F. v. M.—Hell Gate, Roper River, Gilruth and Spencer, July-August, 1911. Sandstone ranges, 16 miles S.W. of Borroloola, G. F. Hill (No. 684), 16/11/11. Near Western Creek, G. F. Hill (779), 16/2/1912.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; W. Coast of the Gulf, Leichhardt; Rocky Banks of the Seven Emu, MacArthur and Nicholson Rivers, F. v. Mueller.

H. Abemoschus, L.; *H. Manihot*, L.; *H. brachysiphonius*, F. v. M.; *H. Goldsworthii*, F. v. M.; *H. cuneiformis*, D.C.; recorded from North Australia in Nat. Herb. Census.

6. THESPESIA, SOLAND. 1807.

(Azanza, Alef. 1861).

1. *T. populnea*, Corr.—MacArthur River, G. F. Hill (No. 587), 18/9/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne.

Indian Tulip Tree. Said to contain, in bark and wood, tannin and a fine red colouring matter. The seed is said to yield a thick oil.

7. CIENFUEGOSIA, Cav. 1787.

(Fugosia, Juss.)

Whole plant softly tomentose.

Calyx-lobes linear or lanceolate. Bracteoles linear.—1. *C. australis*.

Calyx truncate minutely 5-toothed. Bracteoles setaceous, minute.—

5. *C. thespesioides*.

Plant glabrous or very slightly hoary-tomentose.

Calyx deeply divided into lanceolate lobes.

Leaves ovate or lanceolate, narrowed at the base, on very short petioles.—4. *C. punctata*.Leaves orbicular, 5-nerved, on petioles of 1 in.—2. *C. latifolia*.Calyx truncate, with small linear lobes. Leaves on long petioles, cordate, acuminate.—3. *C. populnifolia*.

1. *C. australis*, Benth.—(*Gossypium australe*, F. v. M.; *Fugosia australis*, Benth.). Haast's Bluff, Macdonnell Ranges, G. F. Hill (No. 180), 16/5/1911. Alt. 3000 ft. and (No. 190), 18/5/1911. Alt. 4000 ft.

Recorded. Barren plains, not rare, F. v. Mueller; N.W. Coast, Bynoe, Maitland River, F. Gregory's Expedition; Gulf of Carpentaria, Landsborough.

2. *C. latifolia*, Benth.—Careening Bay, N.W. Coast, A. Cunningham.

3. *C. populnifolia*, Benth.—Greville Island, Montague Sound, Isles of King George IV.'s Sound, N.W. Coast, A. Cunningham; N.W. Coast, Bynoe.

4. *C. punctata*, Benth.—Port Essington, A. Cunningham.

5. *C. thespesioides*, Benth.—N. Coast, without any precise locality indicated, R. Brown.

8. GOSSYPIUM, LINN. 1735.

(Sturtia, R. Br., 1849; Thurberia, A. Gr., 1854; Xylon, Tourn., 1878).

1. *G. Sturtii*, F. v. M.—Macdonnell Ranges, G. F. Hill (No. 170), 12/5/1911. Australian Cotton.

Var. *triloba*.—North of 15 degrees W.S. Campbell (No. 3), 5/9/1911.

G. Robinsoni, F. v. M.; *G. flaviflorum*, F. v. M.; recorded from North Australia in Nat. Herb. Census.

Urena lobata, L.; *Urena Armitiana*, F. v. M.; recorded from North Australia in Nat. Herb. Census.

BOMBACACEÆ.

Calyx entire in the bud, afterwards 3 to 5-cleft, large woody, filled with mealy pulp. Leaves digitate.—1. *Adansonia*.

Calyx truncate in the bud, afterwards 3 to 5-cleft. Capsule 5-valved, densely woolly inside. Leaves digitate.—2. *Bombax*.

1. ADANSONIA, LINN.

1. *A. Gregorii*, F. v. M.—Sandy plains and low stony ridges, from the Glenelg to the Western Shores of Arnhem's Land, and rarely 100 miles inland, F. v. Mueller, G. Burnett, and others.

2. BOMBAX, LINN. 1753.

(*Eriotheca*, Schott and Endl., 1832; *Salmalia* Schott. and Endl., 1852; *Pachira*, Aubl., *Carolinea*, L.)

1. *B. malabaricum*, D.C.—Point Charles, G. F. Hill (3rd Series, 18), 14/8/1913. Recorded. Careening Bay, N.W. Coast, A. Cunningham.

Kapok or Cotton Tree. Silk cotton tree. Yields kapok.

Camptostemon Schultzii, Masters; recorded from North Australia in Nat. Herb. Census.

STERCULIACEÆ.

Anthers 5 to 15, sessile or stipitate, surrounding the ovary at the top of a column or gynophore.

Flowers unisexual or polygamous. No petals. Anthers sessile. No staminodia. Fruit-carpels separate, sessile or stipitate. Trees. Leaves simple or digitate. (Tribe *Sterculiæ*).

Seeds free.—8. *Sterculia*.

Seed enclosed by and united to the inner wall of the fruit.—

9. *Brachychiton*.

Flowers hermaphrodite. Petals 5, clawed. Anthers on short filaments, surrounding or alternating with 5 teeth of the column or staminodia. Leaves simple. (Tribe *Helicteræ*).—7. *Helicteres*.

Stamens 5, united at the base in a short cup or ring, or rarely free, with or without intervening staminodia, and surrounding the sessile ovary.

Petals flat, longer than the calyx.

Stamens 5, united in a cup, with 5 intervening elongated flat staminodia.—1. *Melhania*.

Stamens 5, united at the base without intervening staminodia. (Tribe *Hermannice*).

Ovary 5-celled.—2. *Melochia*.

Ovary 2-celled.—3. *Dicarpidium*.

Ovary of 1 1-celled carpel.—4. *Waltheria*.

Petals with a short, broad, very concave base, and a sessile or stipitate lamina. (Tribe *Buettneriæ*).—5. *Rulingia*.

Petals small and scale-like or none. (Tribe *Lasiopetaleæ*).—6. *Keraudrenia*.

1. MELHANIA, FORSK.

1. *M. incana*, Heyne.—Recorded. York Sound, Cygnet Bay, and Dampier's Archipelago, A. Cunningham; Upper Victoria River and Sturt's Creek, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown; Albert River, Henne.

2. MELSCHIA, LINN. 1732.

(*Aleurodendron*, Reinw., 1828; *Atheria*, Thou., 1806; *Anomorpha*, Karst., 1844; *Glossospermum*, Wall, 1831; *Lochemia*, Arn., 1839; *Meluchia*, Medic., 1791; *Moluchia*, Medic., 1787; *Physocodon*, Turcz., 1858; *Polychlaena*, G. Don., 1838; *Riedlea*, Vent., 1807; *Visenia*, Houtt., 1777; *Physodium*, Prsl.; *Mougeotia*, Kth.)

Capsule very angular, pyramidal, much longer than the calyx.—2. *M. pyramidata*.

Capsule small, globular.—1. *M. corchorifolia*.

1. *M. corchorifolia*, Linn.—Port Essington, Armstrong ; Sturt's Creek and Macadam Range, F. v. Mueller.

2. *M. pyramidata*, Linn.—Abraham's Lagoon, Gilruth and Spencer, July-August, 1911. Recorded. Victoria River, F. v. Mueller.

3. DICARPIDIUM, F. v. M.

1. *D. monoicum*, F. v. M.—Macarthur River, and Seven Emu Creek, F. v. Mueller.

4. WALTHERIA, LINN. 1737.

(*Astropus*, Spreng., 1822 ; *Lophanthus*, Forst., 1776.)

Calyx teeth relatively short.—1. *W. indica*.

Calyx teeth very long.—2. *W. virgata*.

1. *W. indica*, Linn. (*W. americana*, Linn.).—Edith Creek, Gilruth and Spencer, July-August, 1911.

Recorded. Cambridge Gulf, A. Cunningham ; Victoria River and Arnhem's Land, F. v. Mueller ; Port Essington, Armstrong ; Gulf of Carpentaria, R. Brown, Landsborough.

A wide-spread weed of tropical countries.

2. *Waltheria virgata*, Ewart and Cookson (Plate XIX.).—A small bushy shrub, branches glabrous when old, pubescent when young. Leaves shortly petiolate, alternate, fascicled, obovate, 0.5 to 2.8 cms. long, 0.2 to 0.6 cms. broad. Margins serrate, veins pronounced on under surface. Stellate hairs abundant on under surface, few on upper surface. Stipules subulate, hairy, persistent.

Flowers small, about 1 cm. long, grouped in dense terminal heads, which are surrounded by long linear hairy bracts.

Calyx tubular, deeply 5 cleft, calyx-tube about 0.2 mm. long, densely covered on the outer surface with long spreading hairs, while stellate hairs occur on both surfaces. Calyx-lobes dark red 0.6 to 0.7 mms. long linear, tapering to a fine point, and bearing long simple hairs.

Corolla slightly shorter than calyx, petals 5, free, slightly clawed, limb dark blue and delicate, claw, yellowish-brown and firm.

Stamens 5 opposite the petals, epipetalous, anther-cells parallel dehiscing longitudinally.

Ovary sessile, hairy, 1-celled, 2 ovulate, only one ovule, however, becoming a fully developed seed. Style in some flowers short, curved with a simple stigma—in others long, with a flattened stigmatic surface ; in both cases style bears long simple hairs. Seed small 2 mm. long.

N.T. Survey Camp IV., G. F. Hill (No. 413), 2/7/11.

Nearest affinity is with *Waltheria indica*, L., from which it differs in having larger flowers, the calyx being proportionally longer and the tube shorter, and the petals being blue and almost as long as the calyx.

5. RULINGIA, R. BR.

(*Achilleopsis*, Turcz.)

1. *R. loxophylla*, F. v. M.—Tableland between Victoria River and Hooker's and Sturt's Creeks, F. v. Mueller.

6. KERAUDRENIA, J. GAY. 1821.

(Seringea, Spreng. 1818.)

Bracts narrow. Carpels several-seeded, not always separating, the seeds nearly straight. Leaves mostly lanceolate, 1 to 3 in.—1. *K. Hookeriana*. 菊

Lower bracts broad scarious and coloured, very deciduous. Carpels 1 to 2 seeded, the seeds reniform. Leaves ovate or oblong.

Leaves thick and soft, very rugose, tomentose above, mostly 1 to 2 in. long.—3. *K. nephrosperma*.

Leaves smooth or slightly rugose, mostly under 1 in.—2. *K. integrifolia*.

1. *K. Hookeriana*, Walp.—Arnhem S. Bay, R. Brown; Nicholson River, F. v. Mueller.

2. *K. integrifolia*, F. v. M.—12 miles N.W. of Camp III. (325), 12/6/1911.

3. *K. nephrosperma*, Benth.—Desert at the sources of Victoria River, Sturt's and Hooker's Creeks, F. v. Mueller; Forster's Range, M'Douall Stuart.

K. adenolasia, F. v. M.; recorded from North Australia in Nat. Herb. Census.

7. HELICTERES, LINN.

(Methorium, Schott.)

Calyx $\frac{1}{2}$ -in. long. Carpels spirally twisted.—3. *H. Isora*.

Calyx not above 2 lines long. Carpels straight.

Leaves obtuse, entire.—1. *H. cana*.

Leaves toothed, mostly acute.—2. *H. dentata*.

1. *H. cana*, Benth.—Brunswick Bay and York Sound, A. Cunningham; Upper Victoria River, F. v. Mueller.

2. *H. dentata*, F. v. M.—Upper Victoria River, F. v. Mueller.

3. *H. Isora*, Linn.—Roper River, F. v. Mueller.

8. STERCULIA, LINN.

Leaves digitate. Calyx-lobes 5, spreading. Staminal column long and incurved.—1. *S. foetida*.

Leaves large, entire. Calyx-lobes 4, cohering at the tips.—2. *S. quadrifida*.

1. *S. foetida*, Linn.—N. Coast, R. Brown.

2. *S. quadrifida*, R. Br.—Sims Island, A. Cunningham; Arnhem's Land, F. v. Mueller; Port Essington, Armstrong; Cape Upstart, M'Gillivray.

9. BRACHYCHITON, SCHOTT AND ENG. 1832.

Calyx-lobes (where known) with induplicate margins. Seeds (where known) scarcely cohering. Leaves tomentose or pubescent, at least underneath. Flowers large, sessile.

Leaves green and softly tomentose or pubescent on both sides.—

4. *B. paradoxus*.

Leaves white underneath.—2. *B. discolor*.

Calyx-lobes strictly valvate. Outer coating of the seeds usually remaining adherent to the endocarp. Leaves glabrous. Flowers in short panicles.

Calyx narrow, lobes lanceolate, shorter than the tube. Leaves palmately 5 or 7-lobed.—6. *B. trichosiphon*.

Calyx broadly campanulate, deeply lobed.

Leaves ovate-lanceolate, lobeless.—5. *P. populneo-acerifolius*.

Leaves entire, ovate or cordate, or 3-lobed, acuminate. Flowers tomentose outside when young, glabrous inside. Follicles stipitate.—3. *B. populneus*.

Leaves cordate-acuminate, entire. Flowers tomentose outside, hirsute inside at the base. Follicles nearly sessile.—1. *B. diversifolius*.

1. *B. diversifolius*, *R. Br.*—Careening Bay, N.W. Coast, A. Cunningham; Victoria River and Point Pearce, F. v. Mueller. Flame tree.

2. *B. discolor*, *F. v. M.*—Buckland's Tableland, A. C. Gregory.

3. *B. populneus*, *R. Br.*—Darwin, G. F. Hill (3rd Series, No. 19), 8/8/1913 Sterling Creek, Gilruth and Spencer, July-August, 1911. Top Spring, G. F. Hill (No. 541), 31/8/1911. "Kurrajong."

4. *B. paradoxus*, *Schott.* (*Sterculia ramiflora*, *Benth.*).—Near Darwin, Gilruth and Spencer, July-August, 1911.

80 miles N. of Powell's Creek, G. F. Hill (No. 443), 6/7/1911.

Recorded. Brunswick and Vansittart's Bays, N.W. Coast, A. Cunningham; Victoria River and Point Perron, F. v. Mueller.

5. *B. populneo-acerifolius*, *F. v. M.*—Top Spring, G. F. Hill (No. 547), 31/8/1911.

Head of MacArthur River, G. F. Hill (No. 559), 3/9/1911. A large tree.

The specimen is in leaf only, and the leaves appear to agree with the above species, except that the veins are somewhat tomentose. The apparent fruits are curious pointed insect galls, an inch or more in length.

6. *B. trichosiphon*, *Benth.* (*B. platanoides*, *R. Br.*).—Abel Tasman River, F. v. Mueller; Nichol Bay, F. Gregory. Broad-leaved Bottle-tree.

Brachychiton incana, *R. Br.*, and *Heritiera litoralis*, *Dry.*; recorded from North Australia in National Herbarium Census.

DILLENIACEÆ.

Perfect stamens free or nearly so, more than 10, or, if fewer, on one side of the pistil.—1. *Hibbertia*.

Perfect stamens 10 or fewer, in a complete ring round the pistil.—2.

Pachynema.

1. HIBBERTIA, ANDR.

(*Hemistemma*, *Pleurandra* and *Hibbertia*, *D.C.*; *Ochrolasia*, *Turcz.*; *Hemistephus*, *Drummond*). Guinea Flower.

Section I. *Hemistemma*.—Perfect stamens and staminodia all on one side of the carpels, the staminodia outside. Peduncles mostly 2 or more-flowered. All tropical species.

Leaves oblong or lanceolate, flat or the margins slightly recurved.

Leaves obtuse.—2. *H. Brownei*.

Leaves acute or mucronate, white underneath.—4. *H. dentata*.

Leaves narrow-oblong or linear, the margins revolute.

Leaves oblong-linear, thick, about $\frac{1}{2}$ -in. long.—6. *H. ledifolia*.

Leaves narrow linear, about 1 in. long.

Softly hairy.—8. *H. Muelleri*.

Glabrous.

Leaves white underneath. 1. *H. angustifolia*.

Section II. *Euhibbertia*.—Stamens placed all round the carpels, with occasionally small staminodia outside.

Leaves oval, oblong, or cuneate.

Leaves $\frac{3}{4}$ to 1 in. long, with an intramarginal vein underneath.

Peduncles 1 to 2 lines long.—9. *H. oblongata*.

Leaves $\frac{1}{4}$ to $\frac{1}{2}$ in., without intramarginal veins. Peduncles 1 to 2 lines long. 11. *H. tomentosa*.

Leaves $\frac{1}{2}$ to $1\frac{1}{2}$ in., without intramarginal veins. Peduncles 1 to $1\frac{1}{2}$ in. long.—3. *H. cistifolia*.

Leaves scabrous with scattered stellate hairs. Sepals very scaly.

Peduncles 1 to 2 lines.—5. *H. echiifolia*.

Leaves narrow-linear.

Tomentum stellate. Peduncles $\frac{3}{4}$ to $1\frac{1}{2}$ in.—10. *H. scabra*.

Tomentum of peltate scales. Peduncles 1 to 3 lines.—7. *H. lepidota*.

1. *H. angustifolia*, *Benth.*—Arnhem's Land, R. Brown.

2. *H. Brownei*, *Benth.*—N.A., R. Brown.

3. *H. cistifolia*, *R. Br.*—Gulf of Carpentaria, R. Brown; Port Essington, Armstrong.

4. *H. dealbata*, *Benth.*—Arnhem's Land, R. Brown; Port Essington, Armstrong; A. Cunningham; Leichhardt.

5. *H. echiifolia*, *R. Br.*—N. Coast, R. Brown.

6. *H. ledifolia*, *Benth.*—York Sound, A. Cunningham.

7. *H. lepidota*, *R. Br.*—Gulf of Carpentaria, R. Brown, A. Cunningham; rocky barren sandstone table-land at the sources of Roper River, at the Head of MacArthur River, Upper Victoria River, and near M'Adam Range, F. v. Mueller.

8. *H. Muelleri*, *Benth.*—Barren places at the Mouth of the Victoria, Providence Hill, etc., F. v. Mueller.

9. *H. oblongata*, *R. Br.*—Gulf of Carpentaria, R. Brown; rocky situations, Sim's Island, A. Cunningham; sandstone ravines on the table-land and rocks of the Fitzmaurice River, F. v. Mueller.

Var. brevifolia, *Benth.*—Upper Victoria River, F. v. Mueller.

10. *H. scabra*, *R. Br.*—N. Coast, R. Brown.

11. *H. tomentosa*, *R. Br.*—Gulf of Carpentaria, R. Brown.

H. Holtzei, *F. v. M.*; *H. candicans*, *Benth.*; *H. Goyderi*, *F. v. M.*; recorded from North Australia in Nat. Herb. Census.

2. PACHYNEMA, R. BR. 1818.

(*Huttia*, *Drumm. and Harv.* 1855.)

Stem and branches terete and rush-like.—3. *P. junceum*.

Stem and branches flat.

Branches 1 to 2 lines broad, not glaucous.—1. *P. complanatum*.

Branches $\frac{1}{4}$ to $\frac{1}{2}$ -in. broad or more, very glaucous.—2. *P. dilatatum*.

1. *P. complanatum*, *R. Br.*—N. Coast, R. Brown; Melville Island, Fraser; Port Essington, A. Cunningham, Leichhardt.

2. *P. dilatatum*, Benth.—Macadam Range, F. v. Mueller.

3. *P. junceum*, Benth.—Near Darwin, Gilruth and Spencer, July-August, 1911.

Recorded. N. Coast, R. Brown; Victoria River, Bynoe.

P. sphenandrum, F. v. M.; recorded from North Australia in Nat. Herb. Census.

GUTTIFERÆ.

(Hypericineæ.)

1. HYPERICUM, TOURN. 1737.

(*Adenosepalum*, Fourr., 1868; *Adenotrias*, Jaub. and Spach, 1842; *Ancistrolobus*, Spach, 1836; *Androsaemum*, Tourn., 1763; *Ascyreia*, Choisy, 1821; *Brathys*, Mutis., 1781; *Elodea*, Juss., 1789; *Elodes*, Adans., 1763; *Episiphis*, Rafin., 1836; *Hyporicopsis*, Opiz., 1852; *Martia*, Spreng., 1818; *Pancalum*, Ehrh., 1789; *Receveura*, Vell., 1827; *Sarothra*, Linn., 1751; *Tridia*, Korth., 1836; *Tripentas*, Casp., 1858; *Ascyrum*). St. John's Wort.

1. *H. japonicum*, Thunb. (*H. gramineum*, Forst).—Camp III., Lander Creek, G. F. Hill (No. 312), 10/6/1911. Lesser St. John's Wort.

Recorded. Gulf of Carpentaria, R. Brown.

Calophyllum Inophyllum, Linn. and *C. Soualatti*, Burm.; recorded from North Australia in Nat. Herb. Census.

ELATINACEÆ.

1. BERGIA, LINN. 1771.

(*Bergiera*, Neck., 1790; *Lancretia*, Del., 1813; *Merimea*, Cambess., 1829; *Sphonodylococce*, Willd., 1820).

Flowers small, clustered in the axils. Stamens of the same number as the petals and sepals.

Stems pubescent.—1. *B. ammannioides*.

Stems quite glabrous.—4. *B. pusilla*.

Flowers solitary, pedicellate. Stamens twice the number of the sepals and petals.

Erect annual. Pedicels elongated. Filaments all equal. Styles short.—2. *B. pedicellare*.

Stem woody, prostrate and tortuous. Pedicels short. Outer filaments much broader. Styles filiform.—3. *B. perennis*.

1. *B. ammannioides*, Roth.—Camp III., Lander Creek, G. F. Hill (Nos. 305 and 315), 10/6/1911. Water-fire.

Recorded. Gravelly bed and banks of Victoria River. Sturt's Creek, and their affluents, F. v. Mueller.

2. *B. pedicellaris*, F. v. M.—Careening Bay, N.W. Coast, A. Cunningham; gravelly beds of the Victoria and Fitzmaruice Rivers and along their affluents, F. v. Mueller.

3. *B. perennis*, F. v. M.—Banks of the Rice Swamps, near Sturt's Creek, F. v. Mueller.

4. *B. pusilla*, Benth.—Roper River in Arnhem's Land, F. v. Mueller.

Elatine americana, Arnot; recorded from North Australia in Nat. Herb. Census.

FRANKENIACEÆ.

1. FRANKENIA, LINN. 1737.

(*Beatsonia*, Roxb., 1816; *Franca*, Mich., 1763; *Hypericopsis*, Boiss., 1845; *Menetho*, Rafin., 1836; *Nothria*, Berg., 1767; *Streptima*, Rafin., 1836).

1. *F. pauciflora*, D.C. (*F. laevis*, Linn., partly *F. v. M.*).—Growing near Hot Springs, Dalhousie Station, G. F. Hill (Nos. 1 and 3), 12/2/1911.

10 miles W.S.W. of Stuart Range, G. F. Hill (No. 226), 2/6/1911. Near Salt Lakes.

Idracowra Station, Finke River, G. F. Hill (No. 32), 7/3/1911.

60 Miles N.E. of Camp II., G. F. Hill, 7/6/1911.

Recorded. Sturt's Creek, F. v. Mueller; N.W. Coast, Bynoe. Australian Sea-heath.

BIXACEÆ.

1. MAXIMILLIANA, MART.

(*Cochlospermum*, Kunth. 1822.)

(*Azeredia*, Arrudea, 1846; *Wittelsbachia*, Mart., 1824).

Calyx and inflorescence densely tomentose.—1. *M. Fraseri*.

Calyx and inflorescence glabrous or slightly glandular-pubescent.

Leaves tomentose, with short, rounded, obtuse lobes.—2. *M. heteroneurum*.

Leaves glabrous, divided to the base into narrow-oblong, pedate segments.—3. *M. Gregorii*.

1. *M. Fraseri*, Planch.—Herbert Bros. Station, G. F. Hill (2nd Series, No. 63), 28/5/1913.

Top Spring, G. F. Hill (No. 546), 31/8/1911. Small tree on Ranges. Specimens without any leaves.

Melville Island, Fraser.

2. *M. heteroneurum*, *F. v. M.*—Victoria River, F. v. Mueller, Wickham.

3. *M. Gregorii*, *F. v. M.*—Rocky barren hills in the S.E. part of Arnhem's Land, F. v. Mueller. Yields a useful Kapok.

VIOLACEÆ.

1. HYBANTHUS, JACQ. 1760.

(*Ionidium*, Vent. 1803.)

Calceolaria, Loeft., 1758; *Cubelium*, Rafin., 1824; *Pigea*, D.C., 1824; *Solea*, Spreng., 1800; *Clamingia*, De Vriese., 1845; *Pigea*). Shrub Violet.

Leaves entire, or rarely toothed. Appendages of the lower filaments nearly glabrous. Seeds striate.—2. *H. enneaspermus*.

Leaves toothed. Appendages of the lower filaments woolly-hairy. Seeds smooth.—1. *H. aurantiacus*.

1. *H. aurantiacus*, *F. v. M.*—N.W. Coast, A. Cunningham; Bynoe; Victoria River, F. v. Mueller.

2. *H. enneaspermus*, *F. v. M.* (*Ionidium suffruticosum*, Ging.).—Near Western Creek, G. F. Hill (Nos. 753 and 756), 15/2/1912.

Recorded. Gulf of Carpentaria, R. Brown ; Dampier's Archipelago, A. Cunningham ; Port Essington, Armstrong ; Arnhem's Land, to Lat. 32 degrees on the E. Coast, F. v. Mueller. Spade Flower.

PASSIFLORACEÆ.

ADENIA, FORSK.

Modecca, Lam. ; *Clemanthus*, Klotzsch. ; *Kolbia*, P. de B. ; *Keramanthus*, Hook).

1. *A. australis*, (R. Br.), Engl.—Cygnet Bay, A. Cunningham ; N.W. Coast, Bynoe.

THYMELAEACEÆ.

Stamens 2. Perianth-lobes, 4.—2. *Pimelea*.

Stamens twice as many as perianth-lobes. Shrubs or small trees.—1. *Wikstroemia*.

1. WIKSTROEMIA, ENDL.

1. *W. indica*, C. A. Mey.—Arnhem N. Bay, R. Brown ; Cleveland Bay, N.W. Coast, A. Cunningham. Poisonous to stock.

2. PIMELEA, BANKS AND SOLAND. 1788.

(*Banksia*, Forst, 1776 ; *Calyptrostegia*, C. A. Mey., 1845 ; *Cookia*, J. F. Gmel., 1791 ; *Gymnococca*, Fisch., 1845 ; *Macrostegia*, Turcz., 1852 ; *Thecanthes*, Wickstr., 1818). Riceflower.

Section I. *Thecanthes*.—Involucral bracts united into a 4-lobed cup. Perianth-tube glabrous, not circumsciss. Glabrous annuals.

Involucral lobes very broad, shorter than the entire part, usually marked with forked veins.—5. *P. punicea*.

Involucral lobes reaching to about the middle, with the midrib also prominent.—2. *P. concreta*.

Section II. *Dithalamia*.—Flowers (small) strictly dioecious. Male perianth with a slender tube ; anthers with a narrow connective, the cells very distinct, and after they are open placed back to back ; ovary abortive or rudimentary. Female perianth wholly persistent with small lobes divided to the ovary, or rarely with a short tube and tardily circumsciss. Fruit not at all, or slightly succulent. Leaves opposite, flat, or nearly so.—4. *P. microcephala*.

Section III. *Epallage*.—Flowers hermaphrodite or more or less dioecious. Perianth-tube usually circumsciss after flowering, leaving the lower portion persistent round the fruit. Anthers rather flat, with a broad dorsal connective, the cells closely parallel on the inner face, the whole anther rolled back usually after flowering. Flowers in clusters or heads, rarely solitary, or in dense oblong spikes.

Flowers strictly dioecious. Leaves alternate, softly silky-villous.—1. *P. ammocharis*.

Flowers hermaphrodite, or in some specimens female.—3. *P. Holroydi*.

1. *P. ammocharis*, F. v. M.—On Sandhills, 70 miles N. of Camp IV., G. F. Hill (396), 28/6/1911.

Recorded. Upper Victoria River and Sturt's Creek, F. v. Mueller ; 20 miles S. of Port Nichol, N.W. Coast, Maitland.

2. *P. concreta*, *F. v. M.*—Camden Harbour, N.W. Coast (Herb., *F. v. Mueller*).

3. *P. Holroydi*, *F. v. M.*—Gorges of the Hammersley Range, N.W. Coast, *C. Harper*.

4. *P. microcephala*, *R. Br.*—Hot Springs, Dalhousie Station, 90 miles N. of Oodnadatta, *G. F. Hill* (No. 5), 14/2/1910.

5. *P. punicea*, *R. Br.*—Arnhem N., and S. Bays, *R. Brown*; Arnhem Land, *M'Kinlay*; Sim's Island, *A. Cunningham*.

Var. breviloba, *F. v. M.*—East Alligator River, *P. Cahill*, 1914. Poison Plant (Collector).

P. sanguinea, *F. v. M.*; *P. Forrestiana*, *F. v. M.*; *P. simplex*, *F. v. M.*; (in *Nat. Herb. Census*); and *P. Husseyana*, *F. v. M.* (in *Vict. Nat.* XI., No. 122, 1894); recorded from North Australia.

LYTHRACEÆ.

Annual or perennial herbs, very rarely becoming woody at the base.

Calyx short, membranous, the ribs inconspicuous or only as many as primary teeth; accessory teeth minute or none. Petals very small or none.—1. *Ammania*.

Calyx narrow, with twice as many ribs as primary teeth; accessory teeth prominent. Petals usually conspicuous.—2. *Lythrum*.

Shrubs or trees. Stamens twice as many as petals.

Calyx-lobes 6, with accessory teeth. Capsule enclosed in the calyx.

Maritime shrub, with solitary flowers in the upper axils.—3. *Pemphis*.

Calyx-lobes 4, without accessory teeth. Capsule exserted. Flowers in leafy panicles.—4. *Lawsonia*.

1. AMMANIA, LINN.

(*Rotala*, *Linn.*; *Ameletia*, *D.C.*)

Flowers sessile, solitary in the axils. Capsule opening in as many valves as cells.

Leaves narrow in whorls of 3 to 8. Capsule 3 or 4-valved.—5. *A. Rotala*.

Leaves ovate-lanceolate or oblong, opposite or rarely in threes. Capsule 3 or 4-valved.—4. *A. pentandra*.

Leaves orbicular, opposite. Capsule 2-valved.—2. *A. diandra*.

Flowers pedicellate, solitary or in cymes. Capsule bursting irregularly or transversely.

Flowers solitary, on long filiform pedicels. Leaves oblong-linear. Petals present.—1. *A. crinipes*.

Flowers 1 to 3, on short axillary peduncles. Leaves broadly oblong, petiolate. No petals.—6. *A. triflora*.

Flowers several in axillary cymes.—3. *A. indica*.

1. *A. crinipes*, *F. v. M.*—About pools and lagoons, between the Victoria and Fitzmaurice Rivers, *F. v. Mueller*.

2. *A. diandra*, *F. v. M.*—Around the lagoons and moist banks of the Upper Victoria and Fitzmaurice Rivers, *F. v. Mueller*.

3. *A. vaccifera*, L. (*indica*, Lam.)—Camp III., Lander Creek, G. F. Hill (No. 301), 10/6/1911.

Recorded. Careening and Brunswick Bays, N.W. Coast, A. Cunningham ; Nichol Bay, Gregory's Expedition ; Victoria River and Sturt's Creek, F. v. Mueller.

4. *A. pentandra*, Roxb. (*var. decussata*, Benth.).—Islands of the Gulf of Carpentaria, R. Brown ; Victoria River, F. v. Mueller ; Port Essington, Armstrong.

5. *A. Rotala*, F. v. M.—Beds of streams periodically inundated, Sturt's Creek, F. v. M.

6. *A. triflora*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

Rotala mexicana, Cham. and Schlecht. ; *R. occutiflora*, Koeh. ; *A. auriculata*, Willd. ; *A. multiflora*, Roxb. ; recorded from North Australia in Nat. Herb. Census.

2. LYTHRUM, LINN.

1. *L. arnhemicum*, F. v. M.—Moist shady plains and banks of Victoria River and Sturt's Creek, F. v. Mueller. Northern Loose strife.

L. Hyssopifolia, L. ; recorded from North Australia in Nat. Herb. Census.

3. PEMPHIS, FORST.

(*Maclellandia*, Wight.)

1. *P. acidula*, Forst.—North Coast, A. Cunningham ; Port Essington, Leichhardt.

4. LAWSONIA, LINN.

1. *L. alba*, Lam.—Melville Island, Fraser.

LECYTHIDACEÆ.

Stamens twice as many as petals.

Stamens all perfect. Fruit angular, fibrous, with a single seed.—2. *Barringtonia*.

Outer or inner stamens, or both without anthers. Fruit ovoid or globular, not angular, fleshy, with several seeds enveloped in pulp.—1. *Careya*.

Stamens indefinite. Calyx-lobes 4 to 8, without accessory teeth. Fruit large, fleshy. Flowers large, 1 to 3 in the upper axils.—3. *Sonneratia*.

1. CAREYA, ROXB. 1814.

(*Cumbea*, Wight and Arn., 1834 ; *Cumbia*, Buch.-Ham., 1807.)

1. *C. australis*, F. v. M. (*C. arborea*, Roxb. ; *Barringtonia Careya*, F. v. M.).

Darwin, G. F. Hill (3rd Series, No. 17), 1914.

Recorded. Brunswick Bay, N.W. Coast, A. Cunningham ; Plains at the Mouth of the Victoria River, F. v. Mueller ; Islands of the Gulf of Carpentaria, R. Brown, Henne.

2. BARRINGTONIA, FORST. 1776.

(*Agasta*, Miers, 1875; *Baranda*, Llanos, 1859; *Botryoropsis*, Presl., 1849; *Butonica*, Juss., 1789; *Doxomma*, Miers., 1875; *Megadendron*, Miers., 1875; *Menichea*, Sonner., 1776; *Meteoros*, Lour., 1790; *Mitraria*, G. F. Gmel., 1791; *Stavadium*, Juss., 1789; *Saamstravadi*, Rheede; *Michelia*, Linn.; *Hultum*, Adans.).

1. *B. acutangula*, Gaertn.—Borrooloola, G. F. Hill (No. 617), 9/10/1911. Tree on river banks.

Recorded. Rivulets of M'Adam Range, and Fitzmaurice River, F. v. Mueller.

2. *B. australis*, F. v. M.—Near McArthur River, G. F. Hill (No. 589), 17/9/11; Darwin, Spencer and Gilruth, 1911; Sir Baldwin Spencer, 1913 (Mr. Cheel).

3. SONNERATIA, LINN.

1. *S. acida*, Linn.—Frequent in bogs on the North and N.W. Coast, A. Cunningham.

RHIZOPHORACEÆ.

Calyx-segments longer than the tube. Seeds without albumen, germinating before falling.

Calyx-segments and petals 4. Stamens 8 to 12. Fruit more than half superior.—2. Rhizophora.

Calyx-segments and petals 5 or 6. Stamens twice as many. Fruit more than half superior.—1. Ceriops.

Calyx-segments and petals 8 to 15. Stamens twice as many. Fruit inferior.—4. Bruguiera.

Calyx campanulate, with short teeth. Petals 5 to 8. Stamens twice as many. Fruit inferior. Seeds albuminous, not germinating before falling.—3. Carallia.

1. CERIOPS, ARN.

1. *C. Candolleana*, Arn.—Careening Bay, N.W. Coast, A. Cunningham; Mangrove Beach of the Victoria River, F. v. Mueller; Arnhem N. Bay, R. Brown; Port Essington, Armstrong. Grey Mangrove. Bark yields 21 to 25 per cent. tannin.

2. RHIZOPHORA, LINN.

Mangrove.

1. *R. mucronata*, Lam.—Port Essington, Leichhardt; shores and islands of the Gulf of Carpentaria. Black Mangrove. Bark contains 27 to 28.8 per cent. tannin.

3. CARALLIA, ROXB. 1814.

(*Barraldeia*, Thou., 1809; *Baraultia*, Spreng., 1825; *Catalium*, Buch.-Ham., 1831; *Demidoffia*, Dennst., 1818; *Diatoma*, Lour., 1790; *Kare-Kandel*, Adans, 1763; *Petalotoma*, D.C., 1828; *Symmetria*, Blume., 1826).

1. *C. integerrima*, D.C.—Maude Creek, Gilruth and Spencer, July-August, 1911.

Recorded. Brunswick Bay and York Sound, N.W. Coast, A. Cunningham; N. Coast, R. Brown; Upper Roper River, M'Adam Range and Nicholson River, F. v. Mueller. Samples of bark examined in India yielded 15 per cent. tannin. Wood dense and useful for cabinet work.

4. BRUGUIERA, LAM.

Flowers above 1 in. long. Petals with several setæ at the end.—2. *B. Rheedii*.

Flowers under 1 in. long. Petals without setae at the end.—1. *B. gymnorrhiza*.

1. *B. gymnorrhiza*, Lam.—N.W. Coast, A. Cunningham; N. Coast, R. Brown; Roper River, F. v. Mueller; Port Essington, and Limmen Bight River, Leichhardt. Bark said to contain 13 to 17 per cent. tannin.

2. *B. Rheedii*, Blume.—Port Essington, A. Cunningham (rather doubtful); Islands of the Gulf of Carpentaria, Henne. Red or Orange Mangrove. Bark said to contain 13 to 19 per cent. tannin. Useful cabinet wood.

MYRTACEÆ.

Many of this order are useful bee-plants. Dr. Joseph Lauterer remarks that the tan-resin gums are entirely endemic to Australia, no plants of other countries yielding an exudation similar to them in chemical composition.

Tribe I. *Chamaelaucieæ*.—Ovary 1-celled, with a single placenta. Fruit indehiscent, dry, with 1 or rarely 2 seeds. Shrubs often heath-like. Leaves small. Flowers solitary, or very rarely 2, together in the axils of the leaves or bracts, scattered along the branches, or forming a terminal head.

Stamens definite, in a single series, more or less united in a ring at the base, and often alternating with staminodia.—15. Verticordia.

Stamens indefinite, without staminodia, numerous, or, if few, not regularly alternate or opposite to the calyx-lobes.

Calyx-lobes persistent, or rarely falling off with the upper portion of the tube. Ovules 2, on a filiform placenta attached both to the base and summit of the ovary.—12. Calycothrix.

Calyx-lobes short, deciduous. Ovules 2, the placenta basal or adnate to one side of the ovary.—13. Homalocalyx.

Stamens 5 or 10, regularly alternate with or opposite to the calyx-lobes, quite distinct and without staminodia.—14. Thryptomene.

Tribe II. *Leptospermeæ*.—Ovary divided into 2 to 5, or rarely more cells. Capsule opening at the summit in as many valves as there are cells, or very rarely indehiscent, with 1 or 2 seeds.

Stamens in a single row, definite or indefinite, shorter than or rarely exceeding the petals, free or united in bundles, alternating with the petals. Leaves small or narrow.

Leaves opposite.—11. Baeckea.

Leaves alternate.—8. Leptospermum.

Stamens exceeding the petals, indefinite, either free or united in bundles, opposite the petals. Leaves small or narrow, or rarely large and many-nerved. Flowers closely sessile.

Anthers versatile, with parallel cells, opening longitudinally.—9. Melaleuca.

Anthers erect, attached by the base. Stamens united in bundles opposite the petals.—10. Beaufortia.

Stamens numerous, free or obscurely united at the base. Petals attached by a broad base, free or consolidated into an operculum. Leaves usually large. Flowers in umbels, heads or cymes, rarely sessile on the stem.—7. Eucalyptus.

Stamens exceeding the petals, indefinite, free, or rarely united in bundles opposite the petals. Leaves large or myrtle-like, penniveined. Flowers in pedunculate heads cymes or corymbs, or rarely solitary and pedicellate.

Stamens united in 5 bundles, scarcely exceeding the petals in some species. Leaves alternate or in one species opposite.—6. *Tristania*.

Flowers in cymes. Stamens free, all perfect.

Ovules numerous, horizontal or ascending, covering the placenta.

Leaves opposite. 4.—*Metrosideros*.

Ovules in a ring round a club-shaped or peltate placenta. Leaves alternate.—5. *Xanthostemon*.

Stamens indefinite, free. Fruit dry, indehiscent. Ovary perfectly or imperfectly 2-celled or 1-celled by abortion.

Calyx-lobes 8. Petals none. Flowers solitary, sessile.—3. *Osbornia*.

Calyx-lobes 5, narrow. Petals 5. Flowers solitary, pedicellate.—1. *Fenzlia*.

Tribe III. *Myrtæ*.—Ovary divided into 2 or more cells, or very rarely 1-celled, with 2 parietal placentas. Fruit an indehiscent berry or drupe.—2. *Eugenia*.

1. FENZLIA, ENDL.

1. *F. retusa*, Endl.—Islands of the Gulf of Carpentaria, R. Brown; Victoria River, F. v. Mueller.

2. EUGENIA, MICH. 1735.

(*Myrcianthes*, *Stenocalyx*, *Hexachlamys*, *Phyllocalyx*, *Ananomis*, *Myrtopsis*, *Plinia*, *Plum.*, 1703; *Acmena*, *Jambosa*, *Syzygium*, *Cleistocalyx*, partly).

The fruits of many are useful in cooking. Gum Myrtle.

Section I. *Syzygium*.—Flowers in trichotomous panicles or cymes. Calyx-tube more or less produced above the ovary, the border entire or very shortly sinuately-lobed, or with more prominent but very deciduous lobes. Petals more or less cohering in a calyptra, or rarely spreading and separately deciduous.—3. *E. Smithii*.

Section II. *Jambosa*.—Flowers in trichotomous panicles or cymes. Calyx-tube more or less produced above the ovary, prominently lobed, the lobes usually persistent. Petals free and spreading.

Flowers large, in a large trichotomous terminal panicle. Leaves broad, obtuse, coriaceous. Calyx-tube turbinate.—4. *E. suborbicularis*.

Flowers rather large, few in a terminal cyme. Calyx-tube turbinate; lobes as long as the tube.—2. *E. eucalyptoides*.

Flowers rather small, in a corymbose terminal panicle. Calyx turbinate-campanulate, under 2 lines long; lobes small.—1. *E. Armstrongii*.

1. *E. Armstrongii*, Benth.—Port Essington, Armstrong; N. Coast, A. Cunningham.

2. *E. eucalyptoides*, F. v. M.—Gravelly places on the Victoria River, F. v. Mueller. Fruit used for jam-making under the name of Native Pear.

3. *E. Smithii*, Poir.—Port Essington, Armstrong. Bark yields 17 per cent. tannin. Lilly Pilly.

4. *E. suborbicularis*, Benth.—Darwin, G. F. Hill (3rd Series, No. 16), 1914; and 1st series, No. 333.

Cape York, F. L. Jardine.

E. angophoroides, *F. v. M.*; *E. Holteana*, *F. v. M.*; Port Darwin, M. Holtze, 1891 (in Nat. Herb. Census), and *E. minutiflora*, *F. v. M.* (in Vict. Nat. VIII., No. 197, 1892); recorded from North Australia.

3. OSBORNIA, *F. v. M.*

1. *O. octodonta*, *F. v. M.*—Darwin, G. F. Hill (No. 337), 2/10/14.

Recorded. Islands of the Gulf of Carpentaria and Arnhem N. and S. Bays, R. Brown; Port Essington, Armstrong; Trinity Bay, Henne.

4. METROSIDEROS, BANKS.

(*Nania*, *Miq.*).

1. *M. eucalyptoides*, *F. v. M.*—Arid banks of the Fitzmaurice River, *F. v. Mueller*.

M. tetrapetala, *F. v. M.*; recorded from North Australia in Nat. Herb. Census.

5. XANTHOSTEMON, *F. v. M.*

(*Fremya*, *Brogn. and Gris.*)

1. *X. paradoxus*, *F. v. M.*—Darwin, G. F. Hill (No. 313), 26/7/13.

Recorded. Montague Sound, N.W. Coast, A. Cunningham; rocky hills on the Victoria River, Arnhem's Land, *F. v. Mueller*.

6. TRISTANIA, *R. Br.*

(*Lophostemon*, *Schott.*; *Tristaniopsis*, *Brongn. and Gris.*)

Section I. *Lophostemon*.—Leaves alternate. Stamens inflexed. Pentadelphous, with long claws. Ovary inferior, flat-topped, with very numerous horizontal or recurved ovules in each cell. Seeds linear-cuneate.

Staminal claws half as long as the petals. Flowers usually small. Calyx-lobes short and very obtuse. 5. *T. suaveolens*.

Staminal claws as long as the petals. Flowers few in the cyme, rather large. Calyx-lobes lanceolate, acute.—1. *T. conferta*.

Section II. *Eutristania*.—Leaves alternate. Stamens inflexed. Pentadelphous, with very short claws. Ovary adnate or half-superior, ovules all reflexed. Seeds very flat or expanded at the end into a flat wing, the embryo in the thickened base.

Ovary adnate.

Flowers small, white, and numerous. *T. lactiflua*.

Flowers few and large.—3. *T. grandiflora*.

Ovary half superior.

Stamens much longer than the petals, clustered but almost free.

Seeds not winged.—4. *T. psidioides*.

Leaves opposite. Fruit of *T. psidioides*.—6. *T. umbrosa*.

1. *T. conferta*, *R. Br.*—Port Essington, Armstrong. Brisbane Box-tree.

2. *T. lactiflua*, *F. v. M.*—Foot of M'Adam Range, *F. v. Mueller*; Port Essington, Armstrong.

3. *T. grandiflora*, *Cheel.*—Lat. 18 degrees 30 min.; Long., 132 degrees G. F. Hill (No. 439), 4/7/11.

4. *T. psidioides*, *A. Cunn.*—Brunswick Bay, N.W. Coast, A. Cunningham; Islands of the N. Coast, R. Brown.

5. *T. suaveolens*, Sm.—Victoria River and Sea Range, F. v. Mueller; Gulf of Carpentaria, R. Brown. Swamp Mahogany. A splendid wood for piles and underground work; resembles Spanish mahogany.

6. *T. umbrosa*, A. Cunn.—Hunter's River, York Sound, N.W. Coast, A. Cunningham.

T. longivalvis, F. v. M. (in Nat. Herb. Census); and *T. Brownii*, Sp. le M. (in Journ. Bot., vol. 40, p. 25, 1902); recorded from North Australia.

7. EUCALYPTUS, L'HER.

Series I. *Heterostemon*es.—Outer stamens antherless or with small abortive anthers; anthers of the perfect ones small, globular, or truncate, the cells contiguous, opening in pores or in oblong slits, sometimes at length confluent.—3. *E. bicolor*.

Series II. *Poranther*æ.—Stamens all perfect (except rarely in *E. bicolor*), in *E. polyanthemo*; anthers small and globular, or broader than long, the cells distinct, opening in small circular pores, sometimes extending at length into oblong slits.

Leaves sessile, opposite, cordate or ovate. Flowers in terminal corymbose panicles.—24. *E. pruinosa*.

Leaves orbicular or ovate, obtuse, alternate on long petioles.

Flowers rather large, in a terminal corymbose panicle. Calyx about 3 lines diameter.—16. *E. oligantha*.

Flowers small, mostly in short dense axillary or terminal panicles.

Calyx not above 2 lines diameter.—23. *E. polyanthemos*.

Leaves oblong or lanceolate, rather thin.—3. *E. bicolor*.

Series III. *Micranther*æ.—Anthers very small, globular, or broader than long, with globular distinct cells opening in lateral slits.

Leaves usually long and narrow.

Fruit subglobose, truncate, about 3 lines diameter, scarcely contracted at the orifice.—10. *E. drepanophylla*.

Fruit from nearly globose to narrow-ovoid, contracted at the orifice, not above 2 lines diameter.—8. *E. crebra*.

Fruit hemispherical, very open, not above 2 lines diameter, the valves protruding.—5. *E. brachypoda*.

Leaves ovate or oblong, very obtuse. Fruit scarcely above 1 line diameter.

4. *E. brachyandra*.

Series IV. *Normales*.—Stamens all perfect; anthers oblong-ovate or nearly globose, the cells perfectly distinct, parallel (either contiguous with the connective-gland behind them), and opening longitudinally.

Sub-series I. *Robust*æ.—Peduncles axillary or lateral, or very rarely the upper ones in a terminal corymb, usually flattened, each with several (rarely only 1) large or moderate-size flowers, sessile or tapering into thick pedicels. Leaves usually thick and alternate. Rim of the fruit concave, with a sunk capsule.—14. *E. miniata*.

Sub-series II. *Exsert*æ.—Peduncles axillary or lateral, or rarely also the upper ones in a short terminal corymb, terete or scarcely flattened, each with several, often many flowers, usually pedunculate. Fruit globose or depressed, usually more or less contracted at the orifice, the rim convex or prominent, rarely flat, the capsule valves protruding beyond it.

Leaves orbicular ovate or lanceolate, very thick, the veins (fine and parallel or irregular and oblique) scarcely conspicuous.

Calyx not 3 lines diameter. Operculum short. Tropical species.—

18. *E. pallidifolia*.

Calyx 4 to 6 lines diameter or more. Operculum as long as or longer than the calyx-tube.—17. *E. pachyphylla*.

Leaves long-lanceolate or linear, not very thick, the oblique veins fine, but often conspicuous. Calyx rarely above 3 lines diameter.—27. *E. rostrata*.

Sub-series III. *Subexsertæ*.—Peduncles axillary or lateral, or also the upper ones more or less paniculate, terete or flattened, several-flowered. Calyx-tube broad at the orifice. Fruit turbinate, the orifice not contracted, the capsule level or slightly sunk, the valves often protruding when open.

Leaves broad, with very diverging veins and distinctly reticulate. Tropical or subtropical species.

Flowers nearly sessile or on short thick pedicels. Operculum hemispherical, short.—22. *E. platyphylla*.

Flowers small, distinctly pedicellate. Operculum conical.—1. *E. alba*.

Leaves long-lanceolate, with numerous rather irregular oblique veins, and more or less reticulate. Fruit rather large.—19. *E. patellaris*.

Sub-series IV. *Inclusæ*.—Umbels usually several-flowered, axillary or lateral and solitary or several together, in lateral clusters or very short panicles, and then sometimes reduced to 1 or 2 flowers each, the peduncles terete or rarely flattened. Fruit more or less contracted at the orifice, the capsule sunk, the valves not protruding, excepting their points when acuminate by the splitting of the base of the style.

Umbels solitary and simple, axillary or the upper ones almost paniculate.—

Leaves mostly opposite.—2. *E. aspera*.

Leaves alternate.—20. *E. phœnicea*.

Umbels several together, on very short lateral peduncles, forming short panicles or clusters; operculum very short and flat. Tropical or sub-tropical species.

Leaves mostly opposite, large, broad, thick, and rigid. Umbels irregular, each often reduced to 1 or 2 flowers. Calyx 4 lines diameter or more.—12. *E. grandifolia*.

Leaves from broadly cordate and opposite to broadly lanceolate, irregularly and conspicuously veined. Umbels many-flowered.

Pedicels long. Calyx under 3 lines diameter.—6. *E. clavigera*.

Leaves all narrow-lanceolate, with more regular veins. Pedicels shorter. Calyx small (the whole inflorescence sometimes reduced to an apparently simple cluster).—30. *E. tessellaris*.

Sub-series V. *Corymbosæ*.—Flowers usually large (the umbels or very rarely heads) all in a terminal corymbose panicle, or rarely a few of the lower ones axillary. Fruit often large, more or less urceolate, the capsule deeply sunk. Seeds usually large, flat, with acute edges, often more or less expanded in a variously-shaped wing.

Leaves opposite, connate, large.—21. *E. perfoliata*.

Leaves opposite, sessile, cordate.

Branchlets rusty-pubescent. Leaves large. Fruit above 1 in. long.—

11. *E. ferruginea*.

Branchlets and calyx bristly. Leaves small. Fruit $\frac{1}{2}$ to $\frac{3}{4}$ in. long.

—28. *E. setosa*.

Leaves alternate, petiolate, broadly ovate. Fruit globose, truncate or with a very short neck.—13. *E. latifolia*.

Leaves ovate-lanceolate or lanceolate, acuminate, with numerous fine, close, almost transverse veins.

Tropical species. Fruit 1 to $1\frac{1}{2}$ in. long, prominently ribbed.—

25. *E. ptychocarpa*.

Eastern species. Fruit $\frac{1}{2}$ to $\frac{3}{4}$ in. long, not ribbed.—7. *E. corymbosa*.

Leaves long-lanceolate, thick and smooth, the very fine close almost transverse veins scarcely conspicuous.

Fruit oblong. Operculum depressed, continuous with the calyx till the moment of separation.—29. *E. terminalis*.

Fruit globular or ovoid, contracted at the mouth. Operculum of *E. terminalis*. Flowers large.—26. *E. pyrophora*.

Fruit nearly globular, with a short neck. Operculum depressed.—9. *E. dichromophloia*.

Sub-series VI. *Eudesmieæ*.—Leaves, including the petiolate ones, mostly opposite or nearly so. Peduncles usually 3-flowered. Calyx with 4 minute teeth, more or less conspicuous below the globular hemispherical or flattened operculum. Stamens sometimes in 4 clusters.

Fruit above $\frac{1}{2}$ in. long. Leaves long-lanceolate, the veins usually conspicuous. Flowers rather large.—31. *E. tetradonta*.

Fruit under $\frac{1}{2}$ in. long. Leaves short-lanceolate, the veins scarcely prominent. Flowers small.—15. *E. odontocarpa*.

1. *E. alba*, *Reinw.*—N. Australia, Baudin's Expedition; grassy valleys, MacArthur River, Gulf of Carpentaria, F. v. Mueller.

2. *E. aspera*, *F. v. M.*—Sandstone table-land, Upper Victoria River, F. v. Mueller.

3. *E. bicolor*, *A. Cunn.*—Recorded in National Herbarium Census from N. Australia. Black Box.

Recorded in National Herbarium Census from N. Australia.

4. *E. brachyandra*, *F. v. M.*—Rocky declivities of the Upper Victoria River, F. v. Mueller.

5. *E. brachypoda*, *Turcz.*—N.W. Coast, A. Cunningham; tableland of the Upper Victoria River, also in the scrub between Flinders and Albert Rivers, Gulf of Carpentaria, F. v. Mueller; Macdonnell Ranges, McDouall Stuart's Expedition. Box-tree.

6. *E. clavigera*, *A. Cunn.*—Careening Bay, N.W. Coast, A. Cunningham; islands of the Gulf of Carpentaria, R. Brown; and Rocky Hills, near Macadam Range, F. v. Mueller; Albert River, Henne.

7. *E. corymbosa*, *Sm.*—From N. Australia in National Herbarium Census. Boxtree. Bloodwood.

8. *E. crebra*, *F. v. M.*—Between the Flinders and Lynd Rivers, Gulf of Carpentaria, F. v. Mueller; Ironbark Tree.

9. *E. dichromophloia*, *F. v. M.*—Islands of the Gulf of Carpentaria, R. Brown; Abel Tasman, McArthur, and Roper Rivers, F. v. Mueller.

10. *E. drepanophylla*, *F. v. M.*—N.W. Coast, A. Cunningham; Ironbark.

11. *E. ferruginea*, *Schau.*—Copeland Island, N.W. Coast, A. Cunningham; Victoria River and Arnhem's Land, F. v. Mueller.

12. *E. grandifolia* R. Br.—Islands of the Gulf of Carpentaria, R. Brown.
 13. *E. latifolia*, F. v. M.—Islands of the Gulf of Carpentaria, R. Brown ; upper part of the Roper River, F. v. Mueller.
 14. *E. miniata*, A. Cunn.—Hunter's River, York Sound, and Greville Island, N.W. Coast, A. Cunningham ; islands of the Gulf of Carpentaria, R. Brown ; sandy plains and rocky tablelands round the Gulf of Carpentaria, F. v. Mueller ; between the Lynd and Port Essington, Leichhardt.
 15. *E. odontocarpa*, F. v. M.—Sturt's Creek Desert, F. v. Mueller.
 16. *E. oligantha*, Schau.—Copeland Island, N. Coast, A. Cunningham.
 17. *E. pachyphylla*, F. v. M.—Sandy Desert at Hooker's Creek, F. v. Mueller.
 18. *E. pallidifolia*, F. v. M.—Sandstone tableland on the Upper Victoria River and Sturt's Creek, F. v. Mueller.
 19. *E. patellaris*, F. v. M.—Dry banks of the Roper River, F. v. Mueller.
 20. *E. phoenicea*, F. v. M.—Sandstone tableland on the Victoria and Upper Roper Rivers, F. v. Mueller.
 21. *E. perfoliata*, R. Br.—Barren Hills, Rae's River, N.W. Coast, A. Cunningham ; N.W. Coast, Bynoe.
 22. *E. platyphylla*, F. v. M.—Islands of the Gulf of Carpentaria, R. Brown.
 23. *E. polyanthemus*, Schau.—Islands of the Gulf of Carpentaria, R. Brown. Red Box.
 24. *E. pruinosa*, Schau.—Islands of the Gulf of Carpentaria, R. Brown, Henne ; dry ridge on the Victoria River and near Sea Range, F. v. Mueller.
 25. *E. ptychocarpa*, F. v. M.—Dry river-beds and rocky streams at the sources of the Wentworth, Wickham, and Limmen Bight Rivers, F. v. Mueller ; Melville Island, Fraser ; Port Essington, Gilbert.
 26. *E. pyrophora*, Benth.—Nichol Bay, Gregory's Expedition ; Upper Victoria River and Depot Creek, F. v. Mueller ; Depuech Island, Bynoe.
 27. *E. rostrata*, Schlecht.—Recorded from North Australia in National Herbarium Census. Valuable durable timber. Red gum.
 28. *E. setosa*, Schau.—Islands of the Gulf of Carpentaria, R. Brown ; Sweers Island, Henne.
 29. *E. terminalis*, F. v. M.—Arnhem's Land and Gulf of Carpentaria, F. v. Mueller.
 30. *E. tessellaris*, F. v. M.—Careening and Vansittart's Bays, N.W. Coast, A. Cunningham ; Islands of the Gulf of Carpentaria, R. Brown : S.E. Coast of the Gulf of Carpentaria, F. v. Mueller.
 31. *E. tetradonta*, F. v. M.—Entrance to Victoria River and elevated sterile districts of Arnhem's Land, F. v. Mueller ; N. Coast, A. Cunningham ; Port Essington, Armstrong. Stringy-bark.
- E. gamophylla*, F. v. M. ; *E. Foelscheana*, F. v. M. (in Nat. Herb. Census) and *E. pastoralis*, Sp. le Moore ; (in Journ. Bot. XL, p. 27, 1902) recorded from North Australia. With the four species added by Mr. Maiden (Appendix III.) the total would be 35 and possibly 38 species (*E. intertexta*, R. T. B. ; *E. papuana*, F. v. M. ; *E. Spenceriana*, Maiden ; *E. Hauseana*, Maiden).

8. LEPTOSPERMUM, FORST.

(Fabricia, Gaertn.; Macklottia, Korth.; Homalospermum, Schau.; Pericalymma, Endl.). Teatree.

1. *L. abnorme*, F. v. M.—Port Essington, Armstrong.

9. MELALEUCA, LINN. 1767.

(Asteromyrtus, Schau., 1843; Gymnagathis, Schau., 1843; Meladendron, St. Lag., 1880; Melanoleuce, St. Lag., 1881; Cajuputi, Adans.)

Common name for genus, Teatree or Paperbark.

Series I. *Laterales*. Leaves alternate. Flowers usually small, in axillary or lateral clusters, the axis very rarely growing out, the rachis woolly-pubescent or rarely glabrous.

Leaves lanceolate, flat. Calyx glabrous.—2. *M. alsophila*.

Leaves broadly-oblong to lanceolate, flat, obtuse or scarcely mucronate. Calyx pubescent.—1. *M. acacioides*.

Series II. *Circumscissae*. Leaves alternate (usually above lin. long).

Flowers in axillary, lateral, or rarely terminal globular heads. Calyx-tube circumsciss at the top of the ovary after flowering, and falling off with the lobes (persistent in the other series). Fruits more or less cohering in a globular head.—9. *M. symphyocarpa*.

Series III. *Spiciflorae*. Leaves alternate or opposite. Flowers either solitary or few and distinct, or in more or less interrupted oblong-cylindrical spikes, sometimes at first terminal, but the axis usually growing out before the flowering is over, rarely in dense lateral or cylindrical spikes. Rachis glabrous pubescent or villous.

Leaves flat, often vertical, several-nerved, mostly above lin. long. Spikes interrupted.

Leaves 2 to 8 in. long, broad or narrow. Stamens glabrous, 5 to 9 in each bundle.—7. *M. Leucadendron*.

Leaves 1 to 2 in. long, narrow. Stamens pubescent, 12 to 20 in each bundle.—6. *M. lasiandra*.

Leaves flat, concave or undulate, several-nerved, acute or pungent-pointed, under ½ in. or rarely ¾ in. long.—4. *M. genistifolia*.

Leaves flat and semiterete, narrow, obscurely 1 or 3-nerved.—3. *M. dissitiflora*.

Series IV. *Capitatae*. Leaves alternate or opposite. Flowers, at least the males, in terminal globular heads, the perfect ones occasionally in oblong or cylindrical dense spikes, the axis not growing out until after the flowering is over, the rachis usually woolly-hirsute. Fruiting spike usually very dense, globular or oblong, rarely reduced to 2 or 3 fruits.

Sub-series I. *Longifoliae*. Leaves linear, terete or flat, mostly above lin. long. Flowers usually white or yellow.—5. *M. glomerata*.

Sub-series II. *Peltatae*. Leaves very small, often scale-like, more or less peltately attached. Flowers small, in dense heads or spikes.—8. *M. minutifolia*.

1. *M. acacioides*, F. v. M.—Pandanus Swamps, Else's Creek, Arnhem's Land, and dry plains at the sources of the Roper River, F. v. Mueller.

2. *M. alsophila*, A. Cunn.—N.W. Coast, Usborne's Harbour, Voyage of the Beagle; Liverpool River and Cambridge Gulf, A. Cunningham.

3. *M. dissitiflora*, F. v. M.—Between the Bonney and Mount Morphett, McDouall Stuart's Expedition.

4. *M. genistifolia*, Sm.—Sturt's Creek, Van Alphen and Upper Gilbert Rivers, F. v. Mueller; also McDouall Stuart's Expedition.

5. *M. glomerata*, F. v. M.—Upper Victoria River, F. v. Mueller.

6. *M. lasiandra*, F. v. M.—Arid country, on the Upper Victoria and Fitzmaurice Rivers, F. v. Mueller.

7. *M. Leucadendron*, Linn.—Providence Knoll, and Driffield Creek, Gilruth and Spencer, July-August, 1911.

Maude's and Sterling Creeks, Gilruth and Spencer, July-August, 1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; common from the Victoria River to the Gulf of Carpentaria, F. v. Mueller and others.

Cajaput. Broad-leaved Tea Tree. Poisonous, according to Smith and Lyon. An excellent stimulant, containing cajaputol $C_{10}H_{16}H_2O$. The leaves of all the species yield an oil of commercial value, which was considered by Dr. Joseph Lauterer to be a valuable antiseptic. Wood useful for underground work in water.

8. *M. minutifolia*, F. v. M.—Track to Bacon Swamp, Gilruth and Spencer, July-August, 1911.

Recorded. Victoria River, F. v. Mueller.

9. *M. symphyocarpa*, F. v. M.—Near Darwin, Gilruth and Spencer, July-August, 1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; on the mainland, F. v. Mueller.

M. trichostachya, Lindl; *M. linophylla*, F. v. M.; recorded from North Australia in Nat. Herb. Census. Mr. Cheel (Appendix II.) adds *M. angustifolia*, Gaertn., and *M. hakeoides*, F. v. M., to the Northern Territory Flora.

10. BEAUFORTIA, R. BR. (Schizopleura, Lindl.).

1. *B. elegans*, Schau. N.W. Cape, Martin.

11. BAECKEA, LINN.

(*Astartea*, D.C.; *Jungia*, Gaertn.; *Imbricaria*, Sm.; *Schidiomyrtus*; *Rinzia*; *Euryomyrtus*; *Camphoromyrtus*; *Tetrapora*; *Harmogia*; and *Oxymyrrhine*, Schau.; *Babingtonia*, Lindl.; *Ericomyrtus*, Turcz.

Sub-genus. *Baeckea*. Stamens free, rarely exceeding 20, and usually much fewer. Flowers small.

Section I. *Euryomyrtus*. Filaments filiform or very slightly dilated.—

2. *B. polystemonea*.

Section II. *Harmogia*. Anther-cells distinct, nearly globular, deeply furrowed, parallel or divergent, and opening more or less in longitudinal slits in the furrows. Ovary 3-celled, with several ovules in each cell. Eastern species.—3. *B. virgata*.

Sub-genus *Astartea*. Stamens united in bundles, alternating with the petals. Flowers small.—1. *B. intratropica*.

1. *B. intratropica* (F. v. M.), Ndz.—Ravines of the sandstone tableland at the head of the Roper and Limmen Bight Rivers, F. v. M.
2. *B. polystemonea*, F. v. M.—Brindley's Bluff, McDouall Stuart's Expedition.
3. *B. virgata*, Andr.—Sandstone precipices, Victoria River, rare, F. v. Mueller. Twiggy Heath Myrtle.

12. CALYTRIX, LABILL. 1806.

(Calycothrix, Meissn., 1837; Trichocalyx, Schau., 1840; Calycothrix, Labill, 1806; Calythrix.) Fringe Myrtle or Hair cup.

A. Calyx-tube slender, slightly fusiform and adnate to the ovary below the middle, the upper slender part terete, free, enclosing the base of the style, which is usually persistent, the staminal disk forming a ring round it, but free from it.

Leaves from under $\frac{1}{2}$ line to about 1 line long, minutely ciliate and usually acute and prominently keeled. Petals narrow, acute.—7. *C. microphylla*.

Leaves oblong-lanceolate, acute, 4 to 6 lines long, not ciliate.—6. *C. megaphylla*.

B. Calyx-tube cylindrical, attenuate at the base, but not contracted above the ovary, the free part scarcely longer than broad. Bracteoles more than half as long as the calyx-tube. Calyx-lobes short and broad, with a long hair-like awn.—4. *C. conferta*.

Bracteoles not half as long as the calyx-tube. Calyx-lobes ovate-lanceolate, acuminate, tapering into a short awn.—2. *C. arborescens*.

C. Calyx-tube pubescent, oblong, more or less contracted above the ovary, the free part short; lobes with very short awns or points.

Calyx-tube 2 to $2\frac{1}{2}$ lines long, slightly contracted above the ovary.—3. *C. brachychaeta*.

Calyx-tube 1 line long, much contracted above the ovary.—1. *C. achaeta*.

Calyx-tube nearly glabrous, $1\frac{1}{2}$ lines long, slightly contracted above the ovary. Leaves very fine, 2 to 3 lines long.—5. *C. laricina*.

1. *C. achaeta*, F. v. M.—Track to Roper River, and Melville Island, Gilruth and Spencer, July-August, 1911.

North of 15° , W. S. Campbell, 5/9/1911.

Upper Glenelg River, N.W. Coast, Marten; Victoria River and gullies, and low stony ridges on Fitzmaurice River, F. v. Mueller.

2. *C. arborescens*, F. v. M.—Arnhem's Land, F. v. Mueller; Port Essington, Armstrong.

3. *C. brachychaeta*, F. v. M.—Sandstone tableland, Arnhem's Land, F. v. Mueller.

4. *C. conferta*, A. Cunn.—Port Keath, Cambridge Gulf, A. Cunningham; N.W. Coast, Bynoe.

5. *C. laricina*, R. Br.—Arnhem's Land and islands of the Gulf of Carpentaria, R. Brown.

6. *C. megaphylla*, F. v. M.—McAdam Range, A. C. Gregory.

7. *C. microphylla*, A. Cunn.—Darwin, G. F. Hill (2nd Series, 103), 3/7/1913.

Overland telegraph line, near Elsie Creek, on poor sandy country, G. F. Hill (842), 10/4/1912.

Near Darwin and Greville Island, Gilruth and Spencer, July-August, 1911.

Recorded. Glenelg River, and Roebuck Bay, N.W. Coast, Marten; Victoria River and Arnhem's Land, F. v. Mueller; Melville Island (not Port Macquarie), Fraser; islands of the Gulf of Carpentaria, R. Brown; exposed cliffs of Port Essington, A. Cunningham, Armstrong.

13. HOMALOCALYX, F. v. M.

Leaves linear, mucronate. Calyx-tube cylindrical, lobes and petals acute. Stamens 9 to 15.—1. *H. ericaeus*.

Leaves oblong-triquetrous, obtuse. Calyx-tube broadly turbinate, lobes and petals broad, obtuse. Stamens 20 to 30.—2. *H. polyandrus*.

1. *H. ericaeus*, F. v. M.—Islands of the Gulf of Carpentaria, R. Brown; elevated tableland between the Roper and Limmen Bight Rivers, F. v. Mueller.

2. *H. polyandrus*, F. v. M.—N.A., Leichhardt, no station given.

14. THRYPTOMENE, ENDL.

(Paryphanta, Schau.; Astraea, Schau., Eremopyxis, Baill.)

A. Calyx-tube hemispherical or shortly campanulate, rugose, and pitted without prominent ribs.—1. *T. Maisonneuvii*.

B. Calyx-tube ovoid turbinate or cylindrical, not rugose, often ribbed. Stamens 5.—2. *T. oligandra*. Heath Myrtle.

1. *T. maisonneuvii*, F. v. M.—Fincke River, McDouall Stuart's Expedition.

2. *T. oligandra*, F. v. M.—Islands of the Gulf of Carpentaria, R. Brown.

Var. parviflora, F. v. M.—Barren places, Gilbert River, Gulf of Carpentaria F. v. Mueller.

15. VERTICORDIA, DC. 1826.

(Chrysorrhoe, Lindl., 1836; Diplachne, R. Br., 1819.)

A. Calyx-lobes 5, spreading, without reflexed accessory lobes or herbaceous appendages. Racemes short, mostly terminal, almost corymbose. Leaves linear-triquetrous or semiterete.—1. *V. Cunninghamii*.

B. Calyx-lobes 5, spreading, with subulate plumose divisions, 5 accessory lobes outside and alternating with the primary ones, thin and transparent, reflexed on the tube, fringed or densely ciliate and turned up again from the base of the tube, and 5 herbaceous reflexed appendages on the tube under the spreading lobes. Flowers forming racemes or spikes below the ends of the branches or rarely short terminal racemes. Leaves obovate or orbicular, usually glaucous.—2. *V. grandis*.

1. *V. Cunninghamii*, Schau.—North of 15°, Finniss River, W. S. Campbell (1), 5/9/1911.

Recorded. York Sound, A. Cunningham; Victoria River, Bynoe; islands of the Gulf of Carpentaria, A. Brown; Macadam Range, F. v. Mueller; Port Essington, Armstrong.

2. *V. grandis*, Drumm.—Lagrange Bay, N.W. Coast, Marten.

COMBRETACEAE.

Calyx-tube not produced above the ovary. Petals none. Stamens 10.—

1. Terminalia.

Calyx-tube produced above the ovary. Petals 5. Stamens 10 or fewer.

Bracteoles small. Ovules 2 to 5. Maritime shrubs.—2. Lumnitzera.

Bracteoles enlarged and forming wings to the fruiting calyx. Ovule 10 to 12. Silky or tomentose shrubs.—3. Macropteranthes.

1. TERMINALIA, LINN. 1767.

(Aristotelia, Comm., 1784; Badamia, Gaertn., 1791; Buceras, P. Br., 1756; Buchenavia, Eichl., 1866; Bucida, Linn., 1759; Catappa, Gaertn., 1791; Chicharronia, A. Rich., 1845; Chuncoa, Pav., 1789; Fatrea, Juss., 1804; Gimbernatea, Ruiz. and Pav., 1794; Hudsonia, Robins., 1814; Kniphofia, Scop., 1777; Myrobalanus, Gaertn., 1791; Pamea, Aubl., 1775; Pentaptera, Roxb., 1814; Resinaria, Comm., 1784; Tanibouca, Aubl., 1775; Vicentia, Allem., 1844.)

Section I. *Catappa*.—Fruit with 2 longitudinal membranous or coriaceous wings, or rarely in the first 3 species, with a third narrow wing or prominent nerve.

Fruit, including the wings, much broader than long.

Fruit, including the wings, three times as long as broad; wings quite distinct. Leaves velvety-pubescent underneath.—14. *T. platyptera*.

Fruit, including the wings, not twice as broad as long; wings often confluent above and below. Leaves nearly glabrous. Spike slender, interrupted.

Leaves obovate, much reticulate. Fruit wings scarcely confluent.—16. *T. volueris*.

Leaves obovate, much reticulate. Fruit wings scarcely confluent.—11. *T. oblongata*.

Fruit, including the wings, rather longer than broad and quite surrounded by the confluent wings.

Leaves lanceolate or oblong, silky-pubescent. Spikes elongated, dense. Fruits under $\frac{1}{2}$ in. long.—2. *T. bursarina*.

Leaves lanceolate or oblong, mostly silky-pubescent. Spikes short, dense. Fruits $\frac{3}{4}$ to above 1 in. long.—3. *T. circumalata*.

Leaves obovate, glabrous. Spikes short, dense. Fruits $\frac{3}{4}$ to above 1 in. long.—14. *T. pterocarya*.

Section II. *Myrobalanus*.—Fruit globular or more frequently ovoid, terete or slightly compressed, or surrounded by a prominent acute angle, but not distinctly winged.

Leaves very obtuse, usually broad. Flowers rather small; stamens not above 3 lines long.

Leaves quite glabrous.

Leaves large, narrowed into a short petiole.—9. *T. melanocarpa*.

Leaves large, with a short, broad, flat petiole. Calyx tomentose. Drupe ovoid, without any angle.—8. *T. latipes*.

Leaves large, with a petiole of 2 to 3 in. Drupe acuminate, with 2 slightly prominent angles.—5. *T. edulis*.

Leaves minutely hoary underneath. Drupe ovoid-globular, without angles.—4. *T. discolor*.

Leaves loosely tomentose-pubescent, at least underneath.—13. *T. platyphylla*.

Leaves mostly shortly acuminate. Flowers rather small. Stamens not above 3 lines long.

Leaves ovate.

Leaves 3 or 4 times as long as the petiole, the pellucid dots very conspicuous under a lens.—10. *T. microcarpa*.

Leaves not twice as long as the petiole, the pellucid dots quite microscopic.—12. *T. petiolaris*.

Leaves lanceolate or narrow oblong-elliptical. Drupe acuminate.—6. *T. erythrocarpa*.

Leaves narrow, obtuse. Flowers large. Stamens 5 to 6 lines long.

Fruit beaked.—7. *T. grandiflora*.

Fruit without a beak.—1. *T. arostrata*.

1. *T. arostrata*, *Ewart and Davies*. Plate XII.—Specimens in fruit only. Glabrous. Leaves linear-oblong, obtuse, 1 to 2 in. long, narrowed into a petiole of $\frac{1}{2}$ to lin. Drupe globular lin. or more in diameter, without wings, angles or beak.

Hodson Downs, Nutwood Downs, McMinn's Bar, Roper River, G. F. Hill (834), 7/4/1912.

2. *T. Bursarina*, *F. v. M.*—Newcastle Waters, G. F. Hill (477), 17/7/1911. Tree 30 ft. high. Camel poison.

On creek at head of Kilgour River, G. F. Hill (536), 30/8/1911. Tree 35 ft. high and 5 in. in diameter.

Recorded. Dry gravelly banks of Victoria River and frequent in low place round the Gulf of Carpentaria, *F. v. Mueller*.

A useful cabinet wood.

3. *T. circumalata*, *F. v. M.*—S. of Newcastle Waters, G. F. Hill (482), 29/7/1911.

Recorded. Cape Pond, N.W. Coast, A. Cunningham; Depuech Island, Bynoe; maritime rocks, Nichol Bay, *F. Gregory's Expedition*; in the interior, lat. $18^{\circ} 35'$, McDouall Stuart's Expedition.

Quinine Bush. Yields a clear gum.

4. *T. discolor*, *F. v. M.*—Hearson Island, Nichol Bay, *F. Gregory's Expedition*.

5. *T. edulis*, *F. v. M.*—Sterling Creek, Gilruth and Spencer, July-August, 1911.

Recorded. Victoria, Fitzmaurice and Alligator Rivers, *F. v. Mueller*; South Goulburn Island, A. Cunningham.

6. *T. erythrocarpa*, *F. v. M.*—Upper Victoria River, *F. v. Mueller*.

7. *T. grandiflora*, *Benth.*—Islands of the Gulf of Carpentaria, and Arnhem S. Bay, R. Brown; Port Essington, Armstrong; between Fitzmaurice and Victoria Rivers, *F. v. Mueller*.

8. *T. latipes*, *Benth.*—Victoria River, Bynoe.

9. *T. microcarpa*, *Decne.*—N.A., Baudin's Expedition.

10. *T. melanocarpa*, *F. v. M.*—Shaded valleys, islands of the N. Coast, R. Brown.

11. *T. oblongata*, *F. v. M.*—A specimen, in leaf only, from the scrub, lat. 17° 30', in McDouall Stuart's Collection.

12. *T. petiolaris*, *A. Cunn.*—Point Cunningham, Cygnet Bay and York Sound, N.W. Coast, A. Cunningham.

13. *T. platyphylla*, *F. v. M.*—Borrooloola, No. 666, G. F. Hill, 8/11/11. Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne; Victoria, Fitzmaurice, and Roper Rivers, *F. v. Mueller*; Port Essington, Armstrong.

14. *T. platyptera*, *F. v. M.*—Hodson Downs, G. F. Hill (828), 5/6/1912. Recorded. Arnhem's Land, *F. v. Mueller*; Lynd River, Leichhardt.

15. *T. pterocarya*, *F. v. M.*—Copeland Island, A. Cunningham; sandstone tableland between the Upper Victoria River and Macadam Range, *F. v. Mueller*.

16. *T. volucris*, *Herb. R. Br.*—Port Keats and Cambridge Gulf, N.W. Coast, A. Cunningham; Victoria River, *F. v. Mueller*; islands of the Gulf of Carpentaria, R. Brown; Sweers Island, Henne; in the interior, lat. 18° 35', McDouall Stuart's Expedition.

2. LUMNITZERA, WILLD.

1. *L. racemosa*, *Willd.*—Islands of the Gulf of Carpentaria, R. Brown, Henne.

3. MACROPTERANTHES, *F. v. M.* 1862.

1. *M. Kekwickii*, *F. v. M.*—Newcastle Waters, G. F. Hill (475), 17/7/1911. Recorded. Newcastle Waters, lat 17° 30', McDouall Stuart's Expedition. "Bulwaddy" Tree.

MELASTOMACEAE.

Tribe I.—*Osbeckieae*.—Leaves with 3, 5 or more ribs. Anthers opening in a single terminal pore. Ovary more or less adherent except the convex or conical summit, 2 to 6-celled. Fruit capsular or rarely pulpy. Seeds cochleate.

Anthers all similar and equal or nearly so. Fruit capsular, opening in valves.—2. *Osbeckia*.

Anthers alternately smaller or dissimilar. Fruit succulent or pulpy, bursting irregularly.—1. *Melastoma*.

Tribe II.—*Memecyleae*.—Leaves with the midrib prominent, the veins pinnate or inconspicuous. Anther-cells adnate to a much thickened connective, and opening in separate slits or pores. Ovary adnate, 1-celled, with a central placenta. Fruit a berry.—3. *Memecylon*.

1. MELASTOMA, BURM.

1. *M. malabathricum*, *Linn.*—Between Providence Hill and McAdam Range, and Adelaide River, *F. v. Mueller*; Port Essington, Armstrong.

2. OSBECKIA, LINN. 1753.

(*Amblyanthera*, Blume, 1849; *Asterostoma*, Blume, 1849; *Beckia*, Rafin, 1838; *Ceramicalyx*, Blume, 1849; *Hedusa*, Rafin, 1838; *Kadali*, Adans, 1763.)

1. *O. Australiana*, *Naud.*—Edith Creek, Gilruth and Spencer, July-August, 1911.

North of 15°, W. S. Campbell, 5/9/1911.

Recorded. Melville Island, Fraser; McAdam Range and Arnhem's Land, F. v. Mueller; Port Essington, Armstrong.

O. perangusta, F. v. M.; recorded from North Australia in Nat. Herb. Census.

3. MEMECYLON, LINN.

1. *M. umbellatum*, Burm.—North-west Coast, A. Cunningham.

ONAGRACEAE.

Stamens twice as many as calyx-lobes or petals.—1. *Jussieua*.

Stamens of the same number as calyx-lobes or petals.—2. *Ludwigia*.

1. JUSSIEUA, LINN. 1737.

(*Corynostigma*, Presl., 1850; *Cubospermum*, Lour, 1790; *Oldenlandia*, R. Br., 1756.) Clove-strip.

1. *J. suffruticosa*, Linn.—Edith Creek, Gilruth and Spencer, July-August, 1911.

Recorded. Victoria River and McAdam Range, F. v. Mueller; Strangways River, McDouall Stuart; Albert River, Henne.

2. LUDWIGIA, LINN.

1. *L. parviflora*, Roxb.—Victoria River, F. v. Mueller; Port Essington, Armstrong.

HALORRHAGIDACEAE.

Petals, at least in the males, induplicate, keeled. Fruit a nut-like or rarely spongy, undivided drupe.—1. *Haloragis*.

Petals in the males imbricate. Fruit separable into 2 or 4 nut-like carpels. Aquatic or mud-plants.—2. *Muriophyllum*.

1. HALORAGIS, FORST.

(*Cercodia*, Murr.; *Gonocarpus*, Thunb.) Raspwort.

Western species. Flowers minute. Racemes paniculate, glabrous or with a few scattered hairs. Leaves oblong or cuneate, nearly entire. Racemes filiform, paniculate. Bracts minute or none.—2. *H. trichostachya*.

Eastern species. Scabrous or hirsute. Leaves broadly toothed or crenate. Leaves oblong, often 1 in. long. Fruit small, narrow. Bracts minute.—1. *H. acanthocarpa*.

1. *H. acanthocarpa*, Brogn.—Victoria River, F. v. Mueller; Port Essington, Armstrong; islands of the Gulf of Carpentaria, R. Brown; Sims Island, A. Cunningham; Gould Island, McGillivray.

2. *H. trichostachya*, Benth.—N. A. Drummond, N. 205.

H. heterophylla, Brogn.; *H. Gossei*, F. v. M.; recorded from North Australia in National Herbarium Census.

Ceratophyllum demersum, Linn.; recorded from North Australia in Nat. Herb. Census.

2. MYRIOPHYLLUM, PONTED, 1735.

(Enydria, Vell., 1825; Hylas, Bigel, 1828; Pelonastes, Hook, 1847; Pentapteris, Hall, 1742; Pontamogeton, Walt., 1788; Purshia, Rafin.).

Water Milfoils.

Leaves all in whorls of 3 to 8, the submerged ones pinnatisect with capillary segments, the emerged floral ones entire, toothed or shortly lobed.—

4. *M. verrucosum*.

Leaves all alternate.

Submerged leaves pinnatisect with capillary segments. Stamens 8.

Carpels 2, smooth.—1. *M. dicoccum*.

Carpels 4, tuberculate.—3. *M. trachycarpum*.

Leaves all linear and entire. Minute filiform plants.—2. *M. filiforme*.

1. *M. dicoccum*, *F. v. M.*—Robinson River, *F. v. Mueller*.

2. *M. filiforme*, *Benth.*—Gulf of Carpentaria, mainland opposite Groote Island, *R. Brown*.

3. *M. trachycarpum*, *F. v. M.*—Gulf of Carpentaria, opposite Groote Island, *R. Brown*; ponds near McAdam Range, *F. v. Mueller*.

4. *M. verrucosum*, *Lindl.*—Hermansburg, Finke River, *G. F. Hall* (68), 11/3/1911.

Victoria River, *Bynoe*; Albert River, Gulf of Carpentaria, *F. v. Mueller*.

UMBELLIFERAE.

Creeping perennials or slender annuals with scarious stipules.—1. *Hydrocotyle*.

Annuals or perennials, with dissected or toothed leaves without stipules. Fruit very flat.—2. *Trachymene*.

1. HYDROCOTYLE, LINN. Pennywort.

1. *H. grammatocarpa*, *F. v. M.*—Gulf of Carpentaria, *F. v. Mueller*.

2. TRACHYMENE, RUDGE.

(*Didiscus*, DC.; *Dimetopia*, DC.; *Pritzelia*, Walp.; *Huegelia*, Reichb.; *Cesatia*, Endl.; *Hemicarpus*, *F. v. M.*)

Coarse erect annuals or biennials. Leaves divided or lobed. Flowers numerous in the umbel.

One carpel winged, the other usually abortive.—3. *T. villosa*.

Fruit not winged.—2. *T. glandulosa*.

Rootstock perennial, with elongated branching stems.—1. *T. hemicarpa*.

1. *T. hemicarpa*, *Benth.*—Barren plains from Point Pearce to the mouth of the Victoria River.

Var. major, *Benth.*—Lacrosse Island, Cambridge Gulf and Vansittart Bay, *A. Cunningham*; elevated land, Cape Lambert, Nichol Bay, Gregory's Expedition; Glenelg district, *Martin*.

Var. rotundifolia, *Benth.*—Port Essington, *Armstrong*.

2. *T. glandulosa*, *Benth.*—Nicholson River, Gulf of Carpentaria, *F. v. Mueller*.

3. *T. villosa*, Benth.—Tableland between the Upper Victoria River and Hooker's and Sturt's Creeks, F. v. Mueller.

Eryngium plantagineum, F. v. M.; and *Daucus brachiatus*, Sieb.; recorded from North Australia in National Herbarium Census.

EPACRIDACEAE.

1. LEUCOPOGON, R. Br.

(Perojoa, Cav.; Phanerandra, Stschegl.). Beard Heath.

1. *L. acuminatus*, R. Br.—N. Coast, R. Brown.

MYRSINACEAE.

1. AEGICERAS, GAERTN. 1788.

(Malaspinaea, Presl. 1830.)

1. *A. majus*, Gaertn.—Borrooloola, G. F. Hill (583), 12/9/1911.

Recorded. Albert River, Henne; Port Essington, Armstrong.

River Mangrove. Poisonous according to Greshoff, Ernst and Radlkofer, The bark contains a large quantity of saponin.

PRIMULACEAE.

1. ANAGALLIS, LINN.

(Euparea, Gaertn.; Micropyxis, Duby.) Pimpernel.

1. *A. pumila*, Swartz.—Gulf of Carpentaria, F. v. Mueller.

Samolus repens, Pers.; recorded from North Australia in National Herbarium Census.

PLUMBAGINACEAE.

1. PLUMBAGO, LINN.

1. *P. zeylanica*, Linn.—Port Essington, Armstrong; Victoria River, F. v. Mueller. Roots considered a dangerous irritant poison.

Statice salicornicea, F. v. M.; and *Ægialitis annulata*, R. Br.; recorded from North Australia in National Herbarium Census.

SAPOTACEAE.

Many plants of this order yield Caoutchouc.

Calyx-segments, stamens and corolla-lobes 5 or 6, with small scales in the throat of the corolla alternating with the lobes. No hypogynous disk—1. *Sideroxylon*.

Calyx-segments 6 or 8. Corolla-lobes twice or three times as many. Stamens as many as calyx-lobes, with petal-like staminodia between them. Seeds albuminous.—2. *Mimusops*.

1. SIDEROXYLON, LINN.

(Robertia, Scop.; Achras, Benth.; Sersalisia, R. Br.; Planchonella, Pierre.)

Seeds without albumen; cotyledons thick and fleshy.—3. *S. sericea*.

Seeds albuminous; cotyledons thick and broad.

Flowers sessile or on peduncles shorter than the flowers.—1. *S. Arnhemica*.

Pedicels longer than the flowers.—2. *S. myrsinoides*.

1. *S. arnhemicum*, Benth and Hook.—Sea range, F. v. Mueller
2. *S. myrsinoides*, A. Cunn.—Sea range, F. v. Mueller.
3. *S. sericeum*, Ait.—(*Sersalisia sericea*, R. Br. ; *Lucuma sericea*, Benth and Hook.)
Barren hills, Roe's River, York Sound, A. Cunningham ; Upper Victoria and Gilbert Rivers, F. v. Mueller ; Gulf of Carpentaria, R. Brown.

2. MIMUSOPS, LINN.

1. *M. parvifolia*, R. Br.—Careening Bay, N.W. Coast, A. Cunningham.

EBENACEAE.

Calyx and corolla-lobes 4 to 6 each. Ovary-cells equal or twice as many, with 1 or 2 ovules in each.—2. *Diospyros*.

Calyx-lobes, corolla-lobes, and ovary-cells 3 each, with 2 ovules in each cell.—1. *Maba*.

1. MABA, FORST.

Leaves (mostly 2 to 3 in.) strongly reticulate. Berry globular.—1. *M. compacta*.

Leaves not much reticulate. Berry ovoid. Fruiting-calyx cup-shaped.—2. *M. humilis*.

1. *M. compacta*, R. Br.—Islands of the N. coast of Arnhem's Land, R. Brown.

2. *M. humilis*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown ; Victoria River, F. v. Mueller ; Sweers Island, Henne. Ebony-wood of Queensland.

M. reticulata, R. Br. ; *M. geminata*, R. Br. ; *M. buxifolia*, Pers. ; recorded from North Australia in National Harbarium Census.

2. DIOSPYROS, LINN.

(*Cargillia*, R. Br.)

Calyx and corolla-lobes 4 to 6 each. Ovary-cells usually twice as many, with 1 ovule in each cell.—1. *D. cordifolia*.

Calyx and corolla-lobes 4 or 5 each. Ovary-cells the same number, with 2 ovules in each cell.—2. *D. maritima*.

1. *D. cordifolia*, Roxb.—Victoria River, F. v. Mueller.

2. *D. maritima*, Blume (*C. argillia laxa*, R. Br.).—Gulf of Carpentaria, opposite Groote Island, R. Brown ; Escape Cliffs, Hulls.

D. hebecarpa, Cunn. ; recorded from North Australia in National Harbarium Census.

ILICINEAE.

1. BYRONIA, ENDL.

1. *B. arnhemensis*, F. v. M.—Valley near Providence Hill, Arnhem's Land, F. v. Mueller.

OLEACEAE. (JASMINEAE.)

1. JASMINUM, LINN. 1735.

(*Jacksonia* Hort., 1854 ; *Mogorium* Juss., 1789.) Jasmine.

Leaves all or almost all 3-foliolate. Calyx truncate or very shortly and obtusely toothed.

Leaflets mostly ovate, 2 to 3 in. Panicle usually broad.—2. *J. didymum*.

Leaflets mostly linear or lanceolate. Panicles short.—3. *J. lineare*.

Leaves simple (unifoliolate), the petiole articulate below the middle.

Calyx-teeth much shorter than the tube or obsolete.—4. *J. simplicifolium*.

Calyx-teeth subulate, much longer than the tube.—1. *J. aemulum*.

1. *J. aemulum*, R. Br.—Islands of the Gulf of Carpentaria and Arnhem's Land, R. Brown; Adam's Bay, Hulls; Port Essington, Armstrong.

2. *J. didymum*, Forst.—Borrooloola, G. F. Hill (581), 12/9/1911.

Recorded. Victoria River, F. v. Mueller; Islands of the Gulf of Carpentaria, P. Brown, Henne; Port Essington, Armstrong; Quail Island, Flood; Escape Cliffs, Hulls.

3. *J. lineare*, R. Br.—Nichol Bay, Gregory's Expedition; Gregory River, Landsborough.

4. *J. simplicifolium*, Forst.—MacArthur River, Black Rocks, G. F. Hill (641), 22/10/1911.

Recorded. Arnhem's Land, R. Brown.

J. calcareum, F. v. M.; and *Mayepea axillaris*, F. v. M.; recorded from North Australia in National Herbarium Census.

LOGANIACEAE.

Herbs. Corolla-lobes valvate. Capsules 2-lobed or truncate.

Flowers 5-merous, in dichotomous cymes.—1. *Mitreola*.

Flowers 4-merous, on simple solitary or clustered pedicels.—2.

Mitrasacme.

Shrubs or trees. Corolla-lobes imbricate-contorted.—4. *Fagraea*.

Shrubs, trees or woody climbers. Corolla-lobes valvate.

Fruit a berry. Leaves 3 or 5-nerved.—3. *Strychnos*.

1. MITREOLA, LINN.

1. *M. oldenlandioides*, Wall.—Arnhem's Land, F. v. M.

2. MITRASACME, LABILL. Mitre-wort.

Annuals. Leaves all radical, rosulate, usually withering as the flowering advances. Corolla-tube cylindrical.

Corolla-tube about $\frac{1}{2}$ in. long. Anthers included.

Calyx-lobes short and broad. Capsule nearly globular.—

8. *M. longiflora*.

Calyx-lobes long, narrow and acute. Capsule twice as long as broad.—2. *M. elata*.

Corolla-tube about $\frac{1}{4}$ in. long. Anthers exserted.—3. *M. exserta*.

Corolla-tube under $\frac{1}{4}$ in. long. Anthers included.

Corolla-tube 2 or 3 times as long as the calyx.—14. *M. tenuiflora*.

Corolla-tube shortly exceeding the calyx, rather broad, the lobes very short.—11. *M. nudicaulis*.

Annuals. Stems erect, leafy at least at the base. Pedicels long and slender, the upper ones usually forming an umbel.

Corolla-tube cylindrical, 4 to 5 inches long, lobes rather shorter.—1.

M. connata.

Corolla-tube broad, scarcely exceeding the calyx; lobes as long as or longer than the tube.

Very glabrous. Stems often slightly twining.

Corolla-tube $1\frac{1}{2}$ to 2 lines long.—6. *M. laevis*.

Glabrous or pubescent, not twining. Corolla-tube about 1 line long.—5. *M. indica*.

Corolla-tube ovoid or cylindrical, the lobes much shorter than the tube.

Umbels dense and many-flowered, on pedicels long and solitary.

Umbels loose and few-flowered, on pedicels long and solitary.

Leaves obtuse or scarcely acute.—9. *M. lutea*.

Leaves and calyx-lobes subulate-acute. Plants under 3 in. high.

Stem branching. Capsule ovoid.—10. *M. multicaulis*.

Stem usually simple. Capsule globular.—7. *M. laricifolia*.

Annuals. Stems leafy, densely branched, under 2 in. high, the flowers shorter than or scarcely exceeding the leaves.

Calyx very angular, with short, divaricate, very acute lobes.—12.

M. prolifera.

Calyx with long, linear, very hispid lobes and a very short tube.

—4. *M. gentianeae*.

1. *M. connata*, *R. Br.*—Rocky hills and along streams, Victoria River; Hooker's and Sturt's Creeks, F. v. Mueller; islands of the N. Coast of Arnhem's Land, R. Brown; barren elevated cliffs, Goulburn Island, A. Cunningham; Port Essington, Armstrong.

2. *M. elata*, *R. Br.*—Islands of the Gulf of Carpentaria, R. Brown; Port Essington, Armstrong.

3. *M. exserta*, *F. v. M.*—Recorded. Sandy, rocky, often inundated places on the Victoria River, F. v. Mueller.

4. *M. gentianeae*, *F. v. M.*—Inundated banks of Victoria River, F. v. Mueller.

5. *M. Indica*, *Wight*.—Swamps at the foot of Providence Hill and Victoria River, F. v. Mueller; Port Essington, Armstrong.

6. *M. laevis*, *Benth.*—Grassy plains near Steep Head, Victoria River, F. v. Mueller; Port Essington, Armstrong.

7. *M. laricifolia*, *R. Br.*—Victoria River, F. v. Mueller.

8. *M. longiflora*, *F. v. M.*—Grassy rocks, Wickham River, and Depot Creek, Victoria River, F. v. Mueller.

9. *M. lutea*, *F. v. M.*—Moist, grassy places, head of Sturt's Creek, F. v. Mueller.

10. *M. multicaulis*, *R. Br.*—Islands of the Gulf of Carpentaria, R. Brown; Main Camp, Victoria River, F. v. Mueller.

11. *M. nudicaulis*, *Rein.*—Providence Hill and near McAdam Range, F. v. Mueller.

12. *M. prolifera*, *R. Br.*—Victoria River, near the main camp, F. v. Mueller.

13. *M. stellata*, *R. Br.* (*var. latifolia*, *R. Br.*).—Port Essington, Armstrong; Depot Creek, Victoria River, F. v. Mueller.

M. phascoides, *R. Br.*—Recorded from North Australia in National Herbarium Census.

3. STRYCHNOS, LINN. 1735.

(*Atherstonea*, Pappe., 1862; *Brehmia*, Harv., 1842; *Chemicia*, Scop.; 1777; *Curae*, Humb. 1819; *Ignatia*, Linn., 1781; *Ignatiana*, Lour., 1790; *Lasiostema*, Schreb., 1789; *Narda*, Vell., 1825; *Rouhamon*, Aub., 1775; *Unguacha*, Hochst., 1844.)

S. lucida, R. Br.—Near Darwin, Gilruth and Spencer, July-August, 1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Cambridge Gulf, Regent's River, and Goulburn Island, A. Cunningham; Treachery Bay and Victoria River, F. v. Mueller; N. W. Coast, Marten.

The Australian Species have not been found to contain any poisonous substance. Strychnine and Brucin occur in the seeds of *S. Nux-vomica* and *S. Ignatii*, the seeds of *S. Rheedii* and *S. aculeata* contain Brucin only, while those of *S. potatorum* and others contain no poisonous alkaloids.

4. FAGRAEA, THUNB.

1. *F. racemosa*, Jabk.—Providence Hill, F. v. Mueller.

GENTIANACEAE.

Tribe I. *Eugantianeae*. Terrestrial plants. Leaves opposite. Corolla lobes contorted or otherwise imbricate in the bud. Testa of the seeds membranous.

Corolla-tube cylindrical or short; lobes spreading, contorted in the bud. Styles deciduous.—1. *Erythraea*.

Corolla-tube cylindrical; lobes spreading, imbricate in the bud.

Calyx narrow, tubular, shortly 4-toothed.—2. *Canscona*.

Tribe II. *Menyantheae*. Aquatic or marsh plants. Leaves radical or alternate, sometimes floating. Corolla-lobes with broad margins, induplicate in the bud. Testa of the seeds crustaceous.—3. *Limnanthemum*.

1. ERYTHRAEA, L. C. RICH, 1796.

(*Centaurella*, Delarb., 1800; *Centaureum*, Rupp., 1745; *Centaureum*, Gilib., 1781; *Gyandra*, Griseb., 1845; *Hippocentaurea*, J. A. Schultes, 1814; *Schenkia*, Griseb., 1853; *Xanthera*, Reichb., 1841.)

1. *E. australis*, R. Br. (*E. spicata*, persoon).—Camp III. Lander Creek, G. F. Hill (311), 10/6/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Victoria River, F. v. Mueller; Nichol Bay, N. W. Coast, Ridley's Expedition.

Australian Centaury. Useful Tonic-herb.

2. CANSCORA, LAM.

(*Orthostemon*, R. Br.)

1. *C. diffusa*, R. Br.—Between Victoria and Fitzmaurice Rivers, F. v. Mueller.

3. LIMNANTHEMUM, S. P. GMEL., 1770.

(*Limnanthus*, Neck., 1790; *Nymphoides*, Tourn., 1789; *Schweyckerta*, C. Gmel., 1805; *Trachysperma*, Ratin., 1808; *Villarsia*, J. F. Gmel., 1791; *Waldschmidia*, Wigg., 1780; *Liparophyllum*.) Marsh-wort.

Leaves almost sessile under the cluster of pedicels, which appear as if inserted on the petiole. Flowers white.

Leaves 2 to 8 in. diameter. Calyx 3 to 4 lines long.—3. *L. indicum*.

Leaves under 1 in. diameter. Calyx 1 line long. Stems filiform.—

4. *L. minimum*.

Leaves all on long petioles. Pedicels usually 2 together at the nodes of almost leafless stems. Flowers yellow.

Leaves mostly crenate. Corolla-lobes with a longitudinal central wing inside.—1. *L. crenatum*.

Leaves entire. Corolla-lobes without any longitudinal wing.—2. *L. geminatum*.

1. *L. crenatum*, *F. v. M.*—Five Mile Bar, MacArthur River, G. F. Hill (728), 10/1/1912.

Recorded. Albert River and Bentinck Island, Henne.

Fringed Water Lily (yellow).

2. *L. geminatum*, *Griseb.*—Albert River and Bentinck Island, Henne; stagnant waters near McAdam Range, *F. v. Mueller*.

3. *L. indicum*, *Thw.*—Ponds near S. Alligator River towards McAdam Range, *F. v. Mueller*.

Fringed Water Lily (white).

4. *L. minimum*, *F. v. M.*—York Sound, N. W. Coast, A. Cunningham; lagoons on the Fitzmaurice River, *F. v. Mueller*.

APOCYNACEAE.

Many plants of this order yield Caoutchouc.

Anthers wholly included in the corolla-tube, and usually free.

Ovary single, the carpels completely united from the base.—1. *Carissa*.

Ovary of 2 distinct carpels united only by the whole or the summit of the style.

Ovules few (4 to 6 to each carpel. Fruit of 1 or 2 indehiscent drupes or berries. Mostly trees or shrubs.—4. *Alyxia*.

Ovules numerous. Fruit follicular, dehiscent or without any hardened endocarp.

Follicles short, usually pulpy and scarcely dehiscent. Seeds without hairs. Erect trees or shrubs. Leaves opposite.—

3. *Tabernaemontana*.

Follicles long and linear, dehiscent. Seeds bordered by hairs, very long at one or both ends. Erect trees or shrubs.

Leaves whorled or opposite.—2. *Alstonia*.

Anthers exerted and cohering or connivent in a cone or ring round the stigma. Stems twining. Seeds with a coma.

Throat of the corolla with a corona of scales sometimes united in a ring. Carpels distinct or nearly so. Pappus at the end furthest from the hilum.—5. *Wrightia*.

No corona. Carpels united in a 2-celled ovary. Pappus at the hilum.—6. *Parsonsia*.

1. *CARISSA*, LINN, 1767.

(*Antura*, Forsk., 1775; *Arduina*, Mill., 1759.)

Leaves ovate, rhomboidal or orbicular, those of the smaller branches broadly elliptical.—2. *C. ovata*.

Leaves lanceolate or narrow-elliptical.—1. *C. lanceolata*.

1. *C. lanceolata*, *R. Br.* (*C. Brownii*, *F. v. M.*).—Camp III., Lander Creek, G. F. Hill, 10/6/1911.

Macdonnell Ranges, G. F. Hill (169), 12/5/1911.

60 miles N.E. of Camp II., G. F. Hill, 7/6/1911.

Five Mile Bar, MacArthur River, G. F. Hill (723), 19/1/1912.

Recorded. Victoria River, *F. v. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*; Strangways River, Waterhouse.

2. *C. ovata*, *R. Br.*—Victoria River, Bynoe.

2. ALSTONIA, *R. Br.*, 1809.

(*Blaberopus*, *A. DC.*, 1844; *Pala*, *Juss.*, 1825.)

Corolla-lobes with the left-hand margin overlapping.

Leaves whorled, with transverse parallel veins.—3. *A. verticillosa*.

Corolla-lobes with the right-hand margin overlapping.

Veins numerous, nearly transverse and parallel.—2. *A. ophioxylodes*.

Veins distant, more or less arcuate and anastomosing.

Leaves oval, elliptical or oblong, softly villous underneath.—

4. *A. villosa*.

Leaves linear, glabrous.—1. *A. linearis*.

1. *A. linearis*, *Benth.*—Cliffs of Brunswick Bay and Regent's River, N.W. Coast, *A. Cunningham*.

2. *A. ophioxylodes*, *F. v. M.*—Upper Victoria and Fitzmaurice Rivers, *F. v. Mueller*.

3. *A. verticillosa*, *F. v. M.*—Rocks, Montague Sound, *A. Cunningham*; Port Essington, *Armstrong*; rocky gullies, sources of the Roper River, *F. v. Mueller*.

4. *A. villosa*, *Blume.*—Eleven Mile Creek, near Katharine, Gilruth and Spencer, July-August, 1911.

3. TABERNAEMONTANA, *Blum.*

Quite glabrous. Calyx-segments scarcely obtuse.—1. *T. orientalis*.

Foliage pubescent. Calyx-segments very obtuse.—2. *T. pubescens*.

1. *T. orientalis*, *R. Br.*—Arnhem's Land, *R. Brown*; Sims Island and common along the coast, *A. Cunningham*; Port Essington, *Armstrong*.

2. *T. pubescens*, *R. Br.*—N. Coast, *R. Brown*; Goulburn Islands, *A. Cunningham*.

4. ALYXIA, *R. Br.*—CHAIN FRUIT.

1. *A. spicata*, *R. Br.*—Islands of the Gulf of Carpentaria, *R. Brown*; Henne.

5. WRIGHTIA, *R. Br.*, 1809. (*BALFOURIA*, *R. Br.*, 1809.)

Pubescent. Leaves ovate or elliptical. Corona of 10 distinct scales.—

1. *W. pubescens*.

Glabrous. Leaves linear or lanceolate. Corona a truncate or toothed ring.—2. *W. saligna*.

1. *W. pubescens*, *R. Br.*—Islands off the N. Coast of Arnhem's Land, *R. Brown*; Port Essington *Armstrong*; Fitzmaurice River, *F. v. Mueller*.

2. *W. saligna*, *F. v. M.*—Borrooloola, G. F. Hill (660), 7/11/1911.

Long. 132 (about), lat. 18° 27', G. F. Hill (451), 6/7/1911.

Recorded. Barren ridges, Sea Range, Victoria River and McAdam Range, F. v. Mueller; islands of the Gulf of Carpentaria, R. Brown; Port Essington, Armstrong; Albert River, Henne.

Milk Bush. Wood resembles English Elder; useful for engraving and carving.

6. PARSONSIA, R. BR.

(*Heligme*, *Blume*.)

1. *P. velutina*, R. Br.—Victoria River, F. v. Mueller.

Cerbera Odollam, Gaertn. ; and *Ichnocarpus frutescens*, R. Br. ; recorded in National Herbarium Census from North Australia.

ASCLEPIADACEAE.

Many of this order yield Caoutchouc. The stems (but not the seed-pods) of many yield good fibre.

Tribe I. *Periploceae*. Pollen-masses (1, 2 or 4 to each anther) granular, evidently consisting of 4 or more agglomerated granules. Filaments more or less free (connate in all the other tribes).—1. *Gymnanthera*.

Tribe II. *Secamoneae*. Pollen-masses smooth, 4 to each anther.—5 *Secamone*.

Tribe III. *Euasclepiadeae*. Pollen-masses smooth, 2 to each anther, pendulous. Corolla-lobes imbricate in the bud, usually contorted.

Corona of 5 distinct saccate or inflated segments at the back of the anthers, with an exterior corona below them, consisting of 5 protuberances or a slightly prominent ring. Corolla nearly rotate.

Outer corona very prominent. Plant with succulent leafless branches (in the Australian species).—3. *Sarcostemma*.

Outer corona scarcely prominent. Leaves (in the Australian species) linear.—4. *Pentatropis*.

Corona membranous, the segments either distinct but not saccate or united in a lobed cup round the gynostegium. Corolla nearly rotate.—2. *Cynanchum*.

Tribe IV. *Marsdenieae*. Pollen-masses smooth, 2 to each anther, horizontal or erect. Corolla-lobes contorted-imbricate (very slightly so in some *Tylophorae*).

Pollen-masses small, globular, laterally attached. Corolla rotate. Corona of 5 segments more or less fleshy adnate to the gynostegium, and sometimes forming a ring round it.—8. *Tylophora*.

Pollen-masses oblong, erect. Corolla urceolate or rotate. Corona of 5 segments usually fleshy or saccate and adnate at the base, with a short erect free or adnate point.—9. *Marsdenia*.

Pollen-masses erect. Corolla (small) with a short, broad tube and spreading lobes. Corona none or of 5 scarcely prominent glands at the base of the gynostegium.—7. *Gymnema*.

Tribe V. *Stapelieae*. Pollen-masses smooth, 2 to each anther, erect. Corolla-lobes valvate (often induplicate).—6 *Microstemma*.

1. GYMNANTHERA, R. BR.

1. *G. nitida*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; Sandy Island, Victoria River, F. v. Mueller; Sweers Island, Henne; Forster's Range and Daly Waters, Waterhouse.

2. CYNANCHUM, LINN., 1737.

(Diploglossum, Meissn., 1840; Endotropis, Endl., 1838; Exostegia, Boj., 1844; Psanchum, Neck., 1790; Symphyoglossum, Turcz., 1848; Ziervoglia, Neck., 1790; Vincetoxicum, Mnch.; Cynoctonum, E. Mey; Orthosia, Dcne.; Blyttia, Arn.; Seutera, Rehb.; Cyathella, Dcne.; Bunburya, Harv.; Lyonia, Bl.).

Corona of 5 segments, quite distinct in the Australian species (Vincetoxicum).—1. *C. carnosum*.

Corona with 5 or 10 marginal lobes and 5 or 10 additional protuberances or lobes inside the margin.

Corona-lobes 20, subulate-acuminate, much exceeding the anthers.

No stipule-like leaves.—2. *C. floribundum*.

Corona lobes 20; 10 short, obtuse, denticulate or partially acuminate, and 10 inner rather longer acuminate keels. A pair of stipule-like leaves usually at the base of the petioles.

Glabrous or the inflorescence minutely pubescent.—3. *C. pedunculatum*.

Whole plant softly pubescent.—4. *C. puberulum*.

1. *C. carnosum* (Benth.) Schum.—Cygnat Bay, N. W. Coast, A. Cunningham; Victoria River, F. v. Mueller; islands of the Gulf of Carpentaria, R. Brown.

2. *C. floribundum*, R. Br.—Charlie Creek, Macdonnell Ranges, G. F. Hill (173), 14/5/1911.

Recorded. Nichol Bay, N. W. Coast, Gregory's Expedition.

3. *C. pedunculatum*, R. Br.—Montague Sound, N. W. Coast, A. Cunningham; Victoria River, F. v. Mueller; islands of the Gulf of Carpentaria, R. Brown.

4. *C. puberulum*, F. v. M.—Rocks, upper Victoria River, F. v. Mueller.

C. elegans, Benth.; recorded from North Australia in National Herbarium Census.

3. SARCOSTEMMA, R. BR.

1. *S. australe*, R. Br.—Intercourse Island, Dampier's Archipelago, A. Cunningham.

Caustic-vine; a noxious weed, poisonous to stock.

4. PENTATROPSIS, R. BR., 1814.

(Eutropis, Falc., 1839; Rhyncharrhena, F. v. M., 1859.)

1. *P. quinquepartita*, Benth. (*Daemia quinquepartita*, F. v. M.).—Lat. 29° 27', Survey Route, G. F. Hill (430), 3/7/1911.

5. SECAMONE, R. BR.

Leaves ovate-acuminate or lanceolate.—1. *S. elliptica*.

Leaves ovate, obtuse or scarcely acute.—2. *S. ovata*

1. *S. elliptica*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown ; Port Essington, Armstrong.
2. *S. ovata*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

6. MICROSTEMMA, R. Br.

Corolla bearded inside.—2. *M. tuberosum*.

Corolla quite glabrous.—1. *M. glabriflorum*.

1. *M. glabriflorum*, F. v. M.—Sea Range, Victoria River, F. v. Mueller.
2. *M. Tuberosum*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

7. GYMNEMA, R. Br.

(*Bidaria*, Endl.)

Sect. I. *Gymnema*. Corolla with small scales in the throat alternating with the lobes. No corona.

Leaves ovate to ovate-lanceolate. Umbels mostly in pairs.—3. *G. sylvestre*.

Leaves narrow-lanceolate. Umbels mostly solitary.—1. *G. Muellieri*.

Sect. II. *Bidaria*. Corolla without scales in the throat. Corona none or of very obscure glands at the base of the gynostegium.

Leaves oval-oblong or lanceolate, 1 to 2 in. long, the veins very oblique.—4. *G. trinerve*.

Leaves narrow-linear.—2. *G. stenophyllum*.

1. *G. Muellieri*, Benth.—Upper Victoria River, F. v. Mueller.
2. *G. stenophyllum*, A. Gray.—Victoria River, F. v. Mueller.
3. *G. sylvestre*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.
4. *G. trinerve*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown ; also in Leichhardt's collection without the locality.

8. TYLOPHORA, R. Br., 1809.

(*Belostemma*, Wall., 1834 ; *Homolostyles*, Wall., 1834 ; *Hybanthera* Endl., 1833 ; *Iphisia*, Wight., *Amblyglossum*, Turcz.)

Stems erect pubescent.

Leaves narrow-lanceolate.—1. *T. erecta*.

Leaves ovate-lanceolate.—3. *T. macrophylla*.

Twining.

Flowers (scarcely $1\frac{1}{2}$ lines diameter) in several umbels, sessile along the slender simple peduncles.—2. *T. flexuosa*.

1. *T. erecta*, F. v. M.—Eleven Mile Creek, near Katharine, Gilruth and Spencer, July-August, 1911. Specimens in fruit without flowers. Vegetation agrees with *T. erecta*. Fruit not ripe, resembles *T. macrophylla*, Benth., but is broad at the base, and would be larger when ripe.

2. *T. flexuosa*, R. Br.—Upper Victoria River, F. v. Mueller ; islands of the Gulf of Carpentaria, R. Brown.

3. *T. macrophylla*, Benth.—Darwin, G. F. Hill (3rd Series, I.), 15/1/1914. Recorded. Port Essington, Armstrong ; Adams Bay, Hulls.

9. MARSDENIA, R. BR.

(*Baxtera*, Reichb., 1828; *Chlorochlamys*, Miq., 1848; *Cionura*, Griseb., 1844; *Harrisonia*, Hook., 1826; *Koelreuteria*, Medik., 1782; *Leichhardtia*, R. Br., 1849; *Ruehssia*, Karst., 1849; *Sicyocarpus*, Boj., 1837; *Sphinctostoma*, Benth., 1876; *Tetragonocarpus*, Hassk., 1857; *Verlotia*, Tourn.) Dowbah.

Flowers small in compound cymes. Corolla rotate. Leaves broad or narrow, not cordate.—1. *M. cinerascens*.

Flowers often rather large, in cymes or in simple umbels. Corolla more or less urceolate (except *M. Hullsii*). Leaves large, cordate.

Flowers in cymes. Stigma short.—4. *M. velutina*.

Flowers in simple umbels.—2. *M. Hullsii*.

Flowers in simple umbels. Corolla more or less urceolate. Leaves broad or narrow, not cordate.

Stigma narrow-cylindrical, nor much exceeding the anthers.—3.

M. Leichhardtiana.

Stigma very short and obtuse.—5. *M. viridiflora*.

1. *M. cinerascens*, R. Br.—N.W. Coast, Bynoe, Cygnet Bay and S. Goulburn Island, A. Cunningham; islands of the Gulf of Carpentaria, R. Brown; Port Essington, Armstrong.

2. *M. Hullsii*, F. v. M.—Adam's Bay, Hulls.

3. *M. Leichhardtiana*, F. v. M.—20 miles N.W. by N. of Meyer's Hill, Macdonnell Ranges, G. F. Hill (218), 1/6/1911.

Hooker's and Sturt's Creeks, F. v. Mueller.

Pods eaten by Queensland natives. Dowbah.

4. *M. velutina*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; Port Essington, Armstrong; Adam's Bay, Hulls.

5. *M. viridiflora*, R. Br.—Western Creek, G. F. Hill (756), 14/2/1912.

Recorded. Victoria River, F. v. Mueller; Adam's Bay, Hulls.

Dischidia timorensis, Decais.; *Dischidia Rafflesiana*, Wall.; recorded from North Australia in National Herbarium Census.

CONVOLVULACEAE.

Sepals free, style filiform undivided to the stigma or stigmatic lobes.

Corolla-limb 5-angled or 5-lobed.

Stigma or stigmatic lobes globular or nearly so.—6. *Ipomoea*.

Stigmatic lobes, linear, oblong, or rarely ovate.

Stigmatic lobes 2. Ovary completely or imperfectly 2-celled, with 2 ovules in each cell.—7. *Convolvulus*.

Stigmatic lobes 4 to 8 or rarely 2. Ovary 2-celled, with 1 ovule in each cell.—8. *Polymeria*.

Style more or less branched below the stigmas or divided to the base.

Style-branches 2, with globular stigmas.

Corolla-limb 5 angled, or shortly 5-lobed, folded in the bud.

Flowers axillary.—2. *Breweria*.

Corolla-limb of 5 divisions, imbricate in the bud. Flowers in terminal heads or spikes.—3. *Cressa*.

Style-branches 2, more rarely 3, with discoid stigmas.—4. *Carpentia*.

Style-branches, 4, with linear stigmas.—5. *Evolvulus*.

Ovary itself divided into 2 carpels, each with a basal style and containing 1 or 2 ovules.—1. *Dichondra*.

1. DICHONDRA, FORST.

1. *D. repens*, Forst.—Port Essington, Armstrong. Kidney weed.

2. BREWERIA, R. BR., 1810.

(Bonamia, A. Gr., 1862; Calycobolus, Willd., 1819; Codonanthus, G. Don., 1856; Dethardingia, Nees., 1823; Dufourea, H.B. and K., 1818; Prevostea, Choisy., 1825; Reinwardtia, Spreng., 1825; Seddera, Hochst., 1844; Stylisma, Rafin., 1825; Trichantha, Karst. and Triana., 1856; Wilberforcia, Hook., 1848.)

Silky-pubescent or shortly hirsute. Bracteoles minute.

Leaves linear or lanceolate.—2. *B. linearis*.

Lower leaves somewhat cordate, upper lanceolate.—3. *B. media*.

All the leaves regularly heart-shaped.—1. *B. brevifolia*.

Densely rusty-tomentose or villous with long hairs. Bracteoles at least as long as the calyx.

Sepals slightly unequal. Corolla pink, about 1 in. long,—5. *B. rosea*.

Outer sepals much larger than the inner. Corolla (blue) under $\frac{3}{4}$ in. long.—4. *B. pannosa*.

1. *B. brevifolia*, Benth.—Port Essington, Armstrong.

2. *B. linearis*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; Upper Victoria River, F. v. Mueller; mainland Carpentaria, Landsborough.

3. *B. media*, R. Br.—S. Arnhem Bay, R. Brown; Victoria River, F. v. Mueller; Port Essington, Armstrong.

4. *B. pannosa*, R. Br.—Borrooloola, G. F. Hill (716), 13/1/1912.

Recorded.—Islands of the Gulf of Carpentaria, R. Brown; Victoria River, F. v. Mueller; Port Essington, Armstrong.

5. *B. rosea*, F. v. M.—Hammersley Range, N.W. Coast, R. Brown.

3. CRESSA, LINN.

1. *C. cretica* Linn.—Islands of the Gulf of Carpentaria, R. Brown; mouth of Victoria River, F. v. Mueller; Albert River, Henne. Rosin weed.

4. CARPENTIA, EWART. PLATE XX.

Carpentia, Ewart (Plate XX.).—Calyx polysepalous, sepals resembling foliage leaves, corolla campanulate five-lobed. Ovary bicarpellary unilocular; styles usually 2, sometimes 3, with discoid stigmas curved on the upper surface; 4 ovules attached at base of ovary, 2 to each carpel.

Carpentia floribunda, Ewart and Davies.—Erect spreading woody shrub, about 9 inches to 1 foot in height, stems and leaves covered with silky white hairs. Leaves alternate, crowded on upper branches shortly petiolate, small, lanceolate to ovate centric from one-tenth inch to $\frac{1}{2}$ -inch in length; flowers solitary terminal, sepals hairy. Calyx lobes almost glabrous, protruding beyond bracts. Anthers sagittate. Ovary covered with long white hairs; styles slightly longer than ovary.

Affinities.—Distinguished from *Breweria* and *Cressia* by the inflorescence which is solitary and terminal, and by the variable number of styles with discoid stigmas. Whole plant bears a superficial resemblance to *Wilsonia*, but the sepals are free.

Locality.—Observation Island, Gulf of Carpentaria. G. F. Hill (No. 637)-21/10/11

5. EVOLVULUS, LINN. 1763.

(Camdenia, Scop., 1777; Cladostyles, Humb. & Bonpl., 1808; Leucomalla, Phil. Sert. Mendoc., 1871; Meriana, Vell., 1825; Plesilia, Rafin., 1836.)

1. *E. alsinoides*, Linn.—(*E. linifolius*, Linn.) Near Western Creek, G. F. Hill (775), 16/2/1912. Driffield Creek, Gilruth and Spencer, July-August 1911. 60 miles N.E. of Camp II., G. F. Hill (281), 7/6/1911. About 30 miles N.W. of Twitchera Gap, Macdonnell Ranges, G. F. Hill (162), 10/5/1911.

Islands of the Gulf of Carpentaria, R. Brown; North-west Coast, Bynoe, Gregory's Expedition, etc.; Victoria River, and Arnhem's Land, F. v. M.; Port Essington, Armstrong, A. Cunningham; in the interior, M'Douall Stuart's Expedition.

6. IPOMOEA, LINN., R. Br.

(Pharbitis, Batatas, Calonyction, Skinnera.) (Aniseia, Choisy, 1833; Apopleumon, Rafin., 1836; Bombycospermum, Presl., 1831; Calboat, Cav., 1799; Calycanthemum, Klotzsch., 1861; Clitocyamos, St. Lag., 1880; Convolvuloides, Moench., 1794; Elythrostamna, Boj., 1837; Euryloma, Rafin., 1836; Exogonium, Choisy, 1833; Leptocallis, G. Don., 1837; Macrostema, Pers., 1805; Marcellia, Mart., 1844; Mina, Cerv., 1824; Morenoa, La Llave, 1824; Nil., Medic., 1791; Operculina, Silva, 1836; Piptostegia, Reichb., 1841; Quamoclit, Moench., 1794; Trivolvulus, Moc. and Sesse., 1845.

Series I.—*Digitatae*. Leaves digitately divided into deep lobes or distant segments or leaflets. Flowers of the Speciosae, or rarely of the Campanulatae.

Leaves palmately or almost pedately several-lobed. Flowers large in loose cymes.—20. I. paniculata.

Leaves divided into 3 (or 5?) distinct obovate lobed segments. Flowers rather large. Plant stellate-tomentose.—7. I. Davenporti.

Leaves divided into 5 or 7 ovate or lanceolate entire segments. Flowers large. Plant glabrous or hairy.—21. I. quinata.

Leaves divided into 3 to 7 linear usually pinnatifid segments.

Corolla nearly 2 in. long. Ovary 2-celled.—9. I. diversifolia.

Corolla scarcely $\frac{1}{2}$ in. long. Ovary 3-celled.—8. I. dissecta.

Series II.—*Pharbitides*. Leaves entire or 3-lobed. Ovary usually 3-celled. Sepals usually long and narrow. Corolla of the Speciosae.—15. I. hederacea.

Series III.—*Calycinae*. Leaves entire or lobed at the base. Ovary 2-celled. Sepals large, obtuse (attaining $\frac{3}{4}$ to 1 in. after flowering). Corolla large ($1\frac{1}{2}$ to 3 in. long).

Glabrous or nearly so. Bracteoles small. Sepals very large. Corolla broadly campanulate, about 2 in. long.—2. I. alata.

Glabrous or sparingly pubescent. Bracteoles small. Corolla about 3 in. long, contracted into a tube at the base.

Leaves acuminate. Outer sepals rather longer than the others.—

18. I. longiflora.

Leaves very obtuse, almost reniform. Outer sepals rather smaller than the others.—6. I. costata.

Series IV.—*Speciosae*. Leaves entire, toothed or lobed at the base. Ovary 2-celled or spuriously 4-celled. Sepals moderate or small (rarely attaining $\frac{1}{2}$ in.). Corolla large ($1\frac{1}{2}$ to 3 in. long), often more or less tubular at the base, usually pink, purple, or white.

Stems prostrate or creeping, and rooting at the lower nodes.

Maritime plants. Seeds woolly-hairy.

Leaves rather thick, very obtuse or emarginate. Ovary more or less 4-celled.

Leaves broad, 2 to 3 in. long, the veins prominent.—4. *I. biloba*.

Leaves small or narrow, the veins scarcely prominent.—5. *I. carnosa*.

Leaves rather thin. Ovary 2-celled.—22. *I. reptans*.

Stems twining.

Corolla $2\frac{1}{2}$ to above 3 in. long.

Leaves linear-lanceolate, not cordate. Stems slender.—14. *I. graminea*.

Leaves broadly ovate-cordate. Stems woody at the base.

Pubescent or villous.—23. *I. velutina*.

Glabrous.—*I. abrupta*.

Corolla $1\frac{1}{2}$ to 2 in. long or scarcely more. Leaves cordate or hastate.

Peduncles usually much shorter than the rather long pedicels.—13. *I. gracilis*.

Peduncles mostly longer than the short pedicels. Leaves cordate.—19. *I. Muelleri*.

Series V.—*Campanulate*. Leaves entire toothed or lobed at the base.

Ovary. 2-celled. Corolla moderate or small (rarely exceeding 1 in.), usually broadly campanulate, yellow, white, or pink.

Stems twining. Flowers, several together in pedunculate cymes or racemes, the pedicels usually short.—12. *I. flava*.

Stems twining. Flowers, solitary or rarely 2 or 3 together, the peduncles and pedicels mostly longer than the calyx.

Leaves petiolate.—17. *I. incisa*.

Leaves sessile, narrow, toothed at the base or hastate.—3. *I. angustifolia*.

Stems twining. Flowers small, solitary or several together, sessile or with very short peduncles and pedicels.

Leaves from cordate to lanceolate.—11. *I. eriocarpa*.

Stems erect or ascending, not twining. Leaves not cordate, usually narrow. Flowers small.

Plant hairy. Leaves entire toothed or lobed. Flowers nearly sessile.—16. *I. heterophylla*.

Plant tomentose or densely villous. Leaves entire. Flowers solitary or in small cymes on a more or less elongated peduncle.—10.

I. erecta.

1. *I. abrupta*, R. Br.—North Coast, Bauer; Escape Cliffs, Hulls; Gloster Island, Henne.

2. *I. alata*, R. Br.—Ten miles north of Eva Downs, G. F. Hill (517), 19/8/1911.

Recorded. Islands off Cape Wilberforce, R. Brown.

3. *I. angustifolia*, Jacq.—Montague Sound, North-west Coast, A. Cunningham; Camden and Brecknock Harbours, Martin; upper Victoria River F. v. Mueller; islands of the Gulf of Carpentaria, R. Brown, Henne; Port Essington, Armstrong.

4. *I. biloba*, Fors. (*I. Pescaprae*, Roth.).—Observation Island, Gulf of Carpentaria, G. F. Hill (637a), 21/10/1911.

Near beaches, Melville Island, G. F. Hill (3rd Series, 13), 19/4/1914.

Recorded. Glenelg River and Brecknock Harbour, North-west Coast, Marten; Nichol Bay, Ridley's Expedition; North Coast, R. Brown; Sweers and other islands, and Albert River, Henne; Escape Cliffs, Hulls.

5. *I. carnosa*, R. Br. (*I. stolonifera*, J. F. Gmel.).—Islands of the Gulf of Carpentaria, R. Brown.

6. *I. costata*, F. v. M.—Sturt's Creek, F. v. Mueller; Attack Creek, M'Douall Stuart.

7. *I. Davenporti*, F. v. M.—Davenport Range, M'Douall Stuart.

8. *I. dissecta*, Willd.—Islands off Cape Wilberforce, R. Brown; Victoria River, F. v. Mueller; Port Essington, Armstrong. Contains Prussic Acid.

9. *I. diversifolia*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

10. *I. erecta*, R. Br.—Maude's Creek, Gilruth and Spencer, July-August, 1911.

Recorded. Victoria River, F. v. Mueller; islands of the Gulf of Carpentaria, R. Brown, Henne; near Caledon Bay, B. Geell; in the Strangways River, etc., M'Douall Stuart.

11. *I. eriocarpa*, R. Br.—Upper Victoria River, F. v. Mueller.

12. *I. flava*, F. v. M.—Albert River and its tributaries, F. v. Mueller.

13. *I. gracilis*, R. Br.—Islands of the Gulf of Carpentaria and off Cape Wilberforce, R. Brown.

14. *I. graminea*, R. Br.—Islands off Cape Wilberforce, R. Brown.

15. *I. hederacca*, Jacq.—Victoria River, F. v. Mueller.

16. *I. heterophylla*, R. Br.—Darwin, G. F. Hill (3rd Series, 6), 3/2/1914. Near Western Creek, G. F. Hill (754), 15/2/1912.

Recorded. Victoria River, F. v. Mueller; islands of the Gulf of Carpentaria, R. Brown; Port Essington, Armstrong.

17. *I. incisa*, R. Br.—Upper Victoria River, F. v. Mueller; islands of the Gulf of Carpentaria, R. Brown.

18. *I. longiflora*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; Victoria River, F. v. Mueller; Escape Cliffs, Hulls.

19. *I. Muelleri*, Benth.—Hugh River, Macdonnell Ranges, G. F. Hill (141), 5/5/1911.

Recorded. Nichol Bay, Walcott; Sturt's Creek, F. v. Mueller; in the interior, lat. 18° 30', M'Douall Stuart's Expedition.

20. *I. digitata*, Linn. (*I. paniculata*, R. Br.).—Arnhem Bay, R. Brown.

21. *I. quinata*, R. Br.—North Coast, R. Brown, Henne; Arnhem N. Bay, R. Brown.

22. *I. aquatica*, Forsk. (*I. reptans*, Poir).—Upper Victoria River, F. v. Mueller; Adams Bay, Hulls.

23. *I. velutina*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

I. Turpethum, R. Br.; *I. denticulata*, Choisy; *I. sepiaria*, Koem.; *I. Robertsoni*, J. Hook; *I. Niemanni*, F. M. Reader, 1904; recorded from North Australia in National Herbarium Census.

7. CONVULVULUS, LINN., 1735.

(Bucharea, Rafin., 1836; Merremia, Dennst., 1818; Pantocsekia, Griseb 1873; Rhodorhiza, Webb, 1841; Stevogtia, Neck., 1890. Bindweed.

Flowers solitary or rarely 2 together. Sepals obtuse.

Leaves either very narrow or toothed or lobed.—1. *C. erubescens*.

Flowers in cymes. Sepals acuminate. Leaves cordate, entire.

Softly tomentose. Pedicels short.—2. *C. multivalvis*.

Glabrous or pubescent. Pedicels rather long.—3. *C. parviflorus*.

1. *C. erubescens*, Sims.—Hermansburg, Finke River, G. F. Hill (76). 11/3/1911. Maiden's Blush.

2. *C. multivalvis*, R. Br.—Regent's River, North-west Coast, A. Cunningham; Bynoe; Glenelg district, Martin.

3. *C. parviflorus*, Vahl.—Islands of the Gulf of Carpentaria, R. Brown; Victoria River and Sturt's Creek, Hulls; Port Essington, Armstrong.

8. POLYMERIA, R. BR.

Leaves linear or lanceolate.

Stigmatic lobes 6 to 8.—2. *P. angusta*.

Stigmatic lobes 2. Stems erect. Peduncles 2-flowered.—3. *P. distigma*.

Leaves cordate, ovate or oblong.—1. *P. ambigua*.

1. *P. ambigua*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; Victoria River and Sturt's Creek, F. v. Mueller.

2. *P. angusta*, F. v. M.—Sturt's Creek, F. v. Mueller.

3. *P. distigma*, Benth.—Glenelg district, N.W. Coast, Martin.

Porana sericea, F. v. M.; recorded from North Australia in National Herbarium Census. One or more species of *Wilsonia* probably occur in the Northern Territory, but there are no records from definite localities.

HYDROPHYLLACEAE.

1. HYDROLEA, LINN.

1. *H. zeylanica*, Vahl.—Gulf of Carpentaria, F. v. Mueller.

BORRAGINACEAE.

Fruit a drupe, indivisible or separable into pyrenes.

Trees, shrubs, or woody climbers (rarely herbs in species not Australian).

Style twice forked.—1. *Cordia*.

Style 2 lobed, without any thick ring.—2. *Ehretia*.

Style simple, with a fleshy ring round the entire or slightly 2-lobed summit.—5. *Tournefortia*.

Fruit, dry (except in *Halgania*), separable into 4 nuts or into two 2-seeded carpels. Herbs, undershrubs or low shrubs.

Style 2-lobed. Prostrate herb with lobed leaves.—3. *Coldenia*.

Style simple, with a fleshy ring round the summit or at the base of a terminal cone or point.—6. *Heliotropium*.

Style simple, filiform, with a minute stigma. Anthers exerted, connivent in a long cone or cylinder.

Fruit separable into two 2-celled carpels. Seeds albuminous.

Anther-points straight.—4. *Halgania*.

Fruit 4-lobed, the lobes forming separable nuts, the centre undivided and persistent. No albumen. Anther-points long and twisted.—7. *Trichodesma*.

1. *CORDIA*, LINN.

1. *C. subcordata*, Lam.—Islands of the Gulf of Carpentaria, R. Brown, Henne; Port Essington, Armstrong; Escape Cliffs, Hulls.

2. *EHRETIA*, LINN.

1. *E. saligna*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; Victoria River, F. v. Mueller. Wood useful in turnery. False Cedar.

3. *COLDENIA*, LINN.

1. *C. procumbens*, Linn. (*Lobophyllum*, F. v. M.).—Victoria River, Sturt's Creek, and upper Roper River, F. v. M.

4. *HALGANIA*, GAUD., 1826.

Scabrous-pubescent or nearly glabrous shrubs or undershrubs.

Leaves entire or obtusely toothed. Corolla-lobes broad, usually obtuse.—

1. *H. solanacea*.

Glandular-glutinous, small branching shrubs, nearly glabrous or with a very short appressed pubescence.—2. *H. cyanea*.

1. *H. solanacea*, F. v. M.—Camp IV., Lander Creek, G. F. Hill (368), 21/6/1911.

Recorded. Upper Victoria River and Sturt's Creek, F. v. Mueller; between the Bonney River and Mount Morphett, M'Douall Stuart.

2. *H. cyanea*, Lindl. (*H. strigosa*, Schlecht).—Forty miles N.N.W. of Meyer's Hill, G. F. Hill (229), 2/6/1911.

5. *TOURNEFORTIA*, LINN.

Corolla lobes longer than the tube, imbricate in the bud. Foliage and inflorescence densely silky tomentose.—1. *T. argentea*.

Corolla lobes shorter than the tube, plicate and induplicate in the bud. Foliage tomentose hirsute or nearly glabrous.—2. *T. mollis*.

1. *T. argentea*, Linn.—Islands of the Gulf of Carpentaria, R. Brown, Henne; Sweer's Island, A. Cunningham.

2. *T. mollis*, F. v. M.—Montague Sound, A. Cunningham.

6. *HELIOTROPIUM*, LINN. 1735.

Bourjotia, Pomel., 1874; *Bucanion*, Stev., 1851; *Dialion*, Rafn., 1838; *Euploca*, Nutt., 1837; *Heliophyllum*, DC., 1845; *Hieranthemum*, Spach., 1840; *Piptoclaina*, G. Don., 1837; *Preslaea*, Mart., 1827; *Preslea*, Spreng., 1827; *Sarcanthus*, Anderss., 1855; *Schleidenia*, Endl., 1839; *Schobera*, Scop., 1877; *Tiaridium*, Lehm., 1818.) *Heliotrope*.

Section I.—*Platygyne*. Stigma nearly sessile, umbrella-shaped, without any distinct central cone.—5. *H. curassavicum*.

Section II.—*Euheliotropium*. Stigma, a thick ring at the base of or round a central cone or point. Anthers obtuse or shortly acuminate, not cohering. Throat of the corolla not bearded.

Flowers in scorpioid forked or rarely simple spikes, without bracts. Leaves petiolate or contracted at the base.

Style shorter than the stigma.—15. *H. undulatum*.

Style longer than the stigma.—3. *H. crispatum*.

Flowers few, sessile within the uppermost leaves or forming leafy spikes. Leaves sessile, small.

Leaves linear-lanceolate, rather crowded. Anthers scarcely pointed.

Style longer than the stigma.—8. *H. fasciculatum*.

Leaves ovate or ovate-lanceolate, crowded. Anther points short.

Stigma all but sessile.—7. *H. epacrideum*.

Section III.—*Schleidenia*. Stigma a thick ring round a central cone or point. Anthers acuminate, cohering by their minutely hairy tips. Corolla-throat bearded or pubescent inside.

Corolla-tube scarcely swollen. Style shorter than the stigma. Calyx segments very unequal.

Leaves obovate oblong or lanceolate, flat. Spikes without bracts.—

9. *H. ovalifolium*.

Leaves linear with revolute margins. Spikes bracteate.—13. *H. strigosum*.

Corolla-tube scarcely swollen. Style longer than stigma. Calyx segments about equal.—17. *H. ethelium*.

Corolla-tube swollen round the anthers at or above the middle. Style as long or longer than the stigma.

Leaves lanceolate. Fruit of a single conical nut, the others mostly acute and above $\frac{1}{4}$ in. long. Bracts leaf-like. Plant hirsute or pubescent.

Stems long and prostrate. Corolla-limb longer than the tube.

Bracts small.—12. *H. prostratum*.

Stems diffuse. Bracts longer than the calyx, petiolate or contracted at the base.—1. *H. bracteatum*.

Stems ascending or erect. Bracts longer than the calyx, sessile.

Leaves rather crowded, narrow. Nuts usually 4.—11. *H. pauciflorum*.

Leaves lanceolate. Fruit of a single conical nut, the others abortive.—

2. *H. conocarpum*.

Leaves all narrow-linear, with revolute margins. Bracts rarely exceeding the calyx, usually few and small. Nuts usually scabrous-pubescent.

Stigmatic cone very short.

Erect slightly-branched annual. Hairs spreading. Corolla-tube very slender.—16. *H. ventricosum*.

Stem paniculately branched. Hairs appressed.

Calyx-segments acuminate.

Calyx 2 lines long. Leaves linear.—14. *H. tenuifolium*.

Calyx 1 line long. Leaves filiform.—10. *H. paniculatum*.

Stigmatic cone long and narrow. Calyx-segments 1 line long.

Leaves linear.—4. *H. Cunninghamii*.

Lower leaves ovate, petiolate; crowded. Flowering branches elongated, with few narrow small bract-like leaves. Nuts very hispid.—6. *H. diversifolium*.

1. *H. bracteatum*, *R. Br.*—Edith Creek and Eleven Mile Creek, near Katherine, Gilruth and Spencer, July-August, 1911.

Borrooloola, G. F. Hill (711), 13/1/1912.

Islands of the Gulf of Carpentaria, R. Brown.

2. *H. conocarpum*, *F. v. M.*—Sturt's Creek, F. v. Mueller.

3. *H. crispatum*, F. v. M.—N.W. Coast, Bynoe ; Hammersley Range, M. Brown.

4. *H. Cunninghamii*, Benth.—Dampier's Archipelago, N.W. Coast, A. Cunningham.

5. *H. curassavicum*, Linn.—Hermansburg, Finke River, G. F. Hill (72), 11/3/1911. Smooth Heliotrope.

6. *H. diversifolium*, F. v. M.—Cygnet Bay, N.W. Coast, A. Cunningham ; Bynoe ; Sturt's Creek, F. v. Mueller.

7. *H. epacrideum*, F. v. M.—Sturt's Creek, F. v. Mueller.

8. *H. fasciculatum*, R. Br.—Rocky sandstone ranges, Victoria River, F. v. Mueller ; islands of the Gulf of Carpentaria, R. Brown.

9. *H. ovalifolium*, Forsk.—Camp III., Lander Creek, G. F. Hill (317), 10/6/1911.

Recorded. Victoria River, F. v. Mueller ; islands of the Gulf of Carpentaria and opposite mainland, R. Brown, Henne, and Landsborough.

Var. gracile, R. Br.—Forty miles N.N.W. of Meyer's Hill, G. F. Hill (230), 2/6/1911. Leaves more linear than type.

Recorded. Islands of the Gulf of Carpentaria, R. Brown ; Keppel Bay Thozet.

10. *H. paniculatum*.—Near Haast's Bluff, Macdonnell Ranges, G. F. Hill (206), 26/5/1911.

Recorded. York Sound, N.W. Coast, A. Cunningham ; Cygnet Bay, Bynoe ; Victoria River and Sturt's Creek, F. v. Mueller ; islands of the Gulf of Carpentaria, R. Brown.

11. *H. pauciflorum*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

12. *H. prostratum*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

13. *H. strigosum*, Willd.—Cygnet Bay, N.W. Coast, A. Cunningham ; Hooker's Creek, F. v. M.

14. *H. tenuifolium*, R. Br.—Victoria River, F. v. Mueller ; islands of the Gulf of Carpentaria, R. Brown ; and on the mainland, Landsborough.

15. *H. undulatum*, Vahl.—Nicholson and Albert Rivers, F. v. Mueller.

16. *H. ventricosum*, R. Br.—Depot Creek, Victoria River, F. v. Mueller ; Gulf of Carpentaria, R. Brown ; Port Essington, Armstrong, Leichhardt.

Var. longiflorum.—Darwin, G. F. Hill (3rd Series, 5), 3/3/1914.

17. *H. ethelium*, Ewart and McLennan (Plate XX.). — Stems branched with a woody base, hirsute. Leaves sessile, linear, the margins slightly revolute, $\frac{1}{2}$ -lin. long. Flowers distant, forming interrupted once or twice-forked spikes, bracts small.

Calyx segments not as acute as in *H. tenuifolium*, strigose.

Corolla-tube about as long as the calyx, not ventricose above the middle, bearded in the throat. Anthers acuminate, the points cohering by their hairy tips. Style longer than stigma, the stigmatic ring broad with a conspicuous central cone.

MacArthur River, at Black Rocks, N.T., G. F. Hill (642).

H. indicum, L. ; *H. asperinum*, R. Br. (in National Herbarium Census), and *H. heteranthum*, F. v. M. (in Proc. Roy. Soc., S.A., 1890). recorded from North Australia.

7. TRICHODESMA, R. Br. 1810.

(Borraginoides, Moench., 1794; Friedrichsthalia, Fenzl., 1839; Leiocarya, Hochst., 1844; Pollichia, Medikus., 1783; Spiroconus, Stev., 1851; Streblanthera, Steud., 1844.)

Calyx-segments short and broad, almost cordate, but not auriculate.—1. *T. latiseipaleum*.

Calyx-segments lanceolate, acuminate, or broad without auricles.—2. *T. zeylanicum*.

1. *T. latiseipaleum*, *F. v. M.* (*Pollichia latiseipalea*, *F. v. M.*).—Ten miles W. of Eva Downs, G. F. Hill (525), 19/8/1911.

Recorded. Hooker's and Sturt's Creeks, *F. v. Mueller*.

2. *T. zeylanicum*, *R. Br.* (*Pollichia zeylanica*, *F. v. M.*).—Batchelor Farm, G. F. Hill (2nd Series, 68), 17/7/1913.

110 miles N. of N.T. Survey Camp IV., G. F. Hill (410), 1/7/1911.

Maude Creek, Gilruth and Spencer, July-August, 1911.

Twelve miles S. of Alice Springs, G. F. Hill (127), 23/4/1911.

Near Hermansburg, Finke River, G. F. Hill (78), 12/3/1911.

Recorded. N.W. Coast, A. Cunningham and others; Victoria River, *F. v. Mueller*; islands of the Gulf of Carpentaria and adjoining mainland, R. Brown and others. A favourite camel fodder.

Cynoglossum Drummondii Benth.; recorded from North Australia in National Herbarium Census.

VERBENACEAE.

Tribe I.—*Verbeneae*. Ovules ascending from the base of the cells. Flowers in racemes or spikes sometimes contracted into heads, solitary within each bract, without bracteoles.

Ovary 2-celled, with one ovule in each cell. Spikes dense, usually contracted into heads.—2. *Lippia*.

Ovary 4-celled, with one ovule in each cell. Spike elongated.—1. *Verbena*.

Tribe II.—*Viticeae*. Ovules laterally attached above the base or near the top. Flowers in cymes, or if solitary or in spikes usually accompanied by two bracteoles besides the subtending bract or leaf.

Sub-tribe I.—*Chloantheae*. Ovary not lobed. Fruit small, dry, or rarely drupaceous. Shrubs or herbs usually very cottony or woolly, rarely nearly glabrous, glutinous, or resinous. Seeds where known always albuminous.

Corolla small, regular, or nearly so. Stamens isomerous.

Style entire or minutely 2-lobed. Flowers in dense woolly spikes.—

8. *Newcastlia*.

Style deeply 2-lobed. Flowers 5-merous in heads, cymes or panicles.

—7. *Dicrastyles*.

Corolla more or less 2-lipped, or unequally 5-lobed. Stamens 4.

Anthers with a basal appendage.—4. *Pityrodia*.

Anthers without any basal appendages.

Calyx-lobes much enlarged, spreading and veined after flowering.—6. *Cyanostegia*.

Corolla small, the tube narrow, the upper lip erect. Leaves mucronately toothed.—5. *Denisonia*.

Perfect Stamens 2.—3. *Stachytarpheta*.

Sub-tribe II.—*Euvitaceae*. Ovary not at all or scarcely lobed. Fruit a drupe. Shrubs or trees. Seeds without albumen (or rarely in *Vitex* with scanty albumen).

Corolla small, usually 4-lobed, with a short tube.

Stamens included or not much exerted.

Cymes axillary. Style dilated at the top or truncate.—9. *Callicarpa*.

Cymes or panicles terminal. Style 2-lobed.—10. *Premna*.

Corolla 4-lobed, with a slender tube. Stamens long. Fruiting calyx enlarged and spreading.—13. *Clerodendron*.

Corolla-tube broad, limb 4 or 5 lobed. Stamens not exceeding the upper lip. Drupe with a bony 4-celled putamen. Leaves simple.—12. *Gmelina*.

Corolla-tube short, limb 5-lobed. Stamens often exerted. Drupe with 2 or 4 distinct pyrenes. Leaves often digitately compound (sometimes simple).—11. *Vitex*.

Tribe III.—*Avicennieae*. Fruit a 2-valved capsule. Seed solitary, without integuments; embryo with large folded cotyledons.—14. *Avicennia*.

1. VERBENA, LINN., 1737.

(*Billardiera*, Moench., 1794; *Burseria*, Loeffl., 1758; *Glandularia*, J. F. Gmel., 1791; *Obletia*, Rozier, 1773; *Patya*, Neck., 1790; *Shuttleworthia*, Meissn., 1840; *Uwarowia*, Bunge., 1840.)

1. *V. officinalis*, Linn.—Hermansburg, Finke River, G. F. Hill (59), 11/3/1911.

Common Vervain. Poisonous according to Smith and Lyon. Irritant.

2. LIPPIA, LINN.

(*Zapania*, Scop.)

1. *L. nodiflora*, Rich.—Victoria River, F. v. Mueller.

3. STACHYTARPHETA, VAHL. 1805.

(*Abena*, Neck., 1790; *Cymburus*, Salisb., 1806; *Melasantus*, Pohl., 1827; *Stachytarpha*, Link., 1827; *Tarpheta*, Rafin., 1836; *Valerianoides*, Medic., 1789; *Vermicularia*, Moench., 1802.)

1. *S. dichotoma*, Vahl.—Near Darwin, Gilruth and Spencer, July-August, 1911.

A naturalised alien, native to Tropical America.

4. PITYRODIA, R. BR.

1. *Pityrodia hemigenoides*, F. v. M.—Edith's Creek, Spencer and Gilruth, July-August, 1911.

5. DENISONIA, F. v. M.

1. *D. tenuifolia*, F. v. M.—Towards the sources of the Seven-Emu and M'Arthur Rivers, Gulf of Carpentaria, F. v. Mueller.

6. CYANOSTEGIA, TURCZ.

(*Bunnya*, F. v. M.)

1. *C. Bunnya*, F. v. M.—Roebuck Bay, N.W. Coast, Martin.

7. DICRASTYLES, DRUM. 1855.

(Dicrastyles).

1. *D. ochrotricha*, F. v. M.—Haast's Bluff, G. F. Hill (187), 17/5/1911. Alt. 4000 ft.
Recorded. Sturt's Creek, near Mount Wilford, F. v. Mueller.
D. Carnegiei, Hemsl. (in Hook. Icones, 1899); recorded from N. Australia.

8. NEWCASTLIA, F. v. M. 1857.

Wool loose. Corolla-lobes short. Stamens shorter than the corolla.—1. *N. cladotricha*.

Tomentum close. Corolla-lobes ending in a fine point. Stamens exerted.—2. *N. spodiotricha*.

1. *N. cladotricha*, F. v. M.—Sturt's Creek, near Mount Mueller, F. v. Mueller.

2. *N. spodiotricha*, F. v. M.—Lat. 190°, long. 132°, G. F. Hill (433), 4/7/1911.

The specimens are more densely tomentose than originally described.

Recorded. Between lat. 17° 30' and 18° 30'. M'Douall Stuart.

N. cephalantha, F. v. M.; recorded from North Australia in National Herbarium Census.

9. CALLICARPA, LINN.

1. *C. cana*, Linn.—Victoria River, F. v. Mueller; Groote Island, Gulf of Carpentaria, R. Brown.

10. PREMNA, LINN.

Calyx very shortly and obtusely 3-lobed or obscurely 2-lipped.

Leaves very obtuse. Corolla-tube scarcely exceeding the calyx.—3.

P. obtusifolia.

Leaves shortly acuminate. Corolla-tube nearly twice as long as the calyx.—2. *P. integrifolia*.

Calyx 5-toothed, the margin not dilated.—1. *P. acuminata*.

1. *P. acuminata*, R. Br.—Islands of the Gulf of Carpentaria and adjoining mainland, R. Brown, Henne; Point Cunningham, Cygnet Bay, and Goulburn Islands, A. Cunningham; Victoria River, F. v. Mueller; Escape Cliffs, Hulls; also from M'Douall Stuart's Expedition.

2. *P. integrifolia*, Linn.—Islands of the Gulf of Carpentaria, R. Brown.

3. *P. obtusifolia*, R. Br.—Islands of the Gulf of Carpentaria, and shore of the mainland, R. Brown, Henne, Hulls.

11. VITEX, LINN.

Leaves white underneath, undivided or of 3 or 5 leaflets.—3. *V. trifolia*

Leaves green on both sides, of 3 or 5 leaflets.

Flowers in loose thyrsoid panicles, mostly terminal.—1. *V. acuminata*.

Flowers in very loose dichotomous cymes on axillary peduncles.—2.

V. glabrata.

1. *V. acuminata*, R. Br.—Vansittart and Careening Bays, N.W. Coast. A. Cunningham; Arnhem Bay and Islands of the Gulf of Carpentaria, R. Brown. Wood useful for cabinet work.

2. *V. glabrata*, *R. Br.*—Careening Bay, N.W. Coast, A. Cunningham ; Victoria and Fitzmaurice Rivers and Macadam Range, F. v. Mueller ; Groote Island, Gulf of Carpentaria, R. Brown ; Port Essington, Armstrong ; Adams Bay, Hulls.

3. *V. trifolia*, *Linn.*—Victoria River, F. v. Mueller ; islands of the Gulf of Carpentaria, Henne ; and mainland, F. v. Mueller, Landsborough.

12. GMELINA, LINN.

1. *G. macrophylla*, *Benth.*—Port Essington, Armstrong. Queensland Beech.

13. CLERODENDRON, LINN., 1737.

(Agricolaea, Schrank., 1808 ; Clerodendrum, Burm., 1737 ; Cornacchinia, Savi., 1837 ; Cyclonema, Hochst., 1842 ; Cyrtostemma, Kunze., 1843 ; Douglassia, Adans., 1763 ; Egena, Rafin., 1836 ; Ovieda, Linn., 1737 ; Rothea, Rafin., 1836 ; Siphonanthus, Linn., 1742 ; Spironema, Hochst., 1842 ; Torreya, Spreng., 1821 ; Valdia, Plum., 1763 ; Volkameria, Linn., 1735 ; Volkmannia, Jacq., 1798 ; Elerodendron ; Glossocarya).

Calyx minutely toothed.—3. *C. inerme*.

Calyx 5-lobed to the middle.

Corolla-tube $\frac{3}{4}$ to nearly 1 in. long. Stamens long. Leaves usually tomentose.—5. *C. tomentosum*.

Leaves usually narrow. Flowers mostly in axillary cymes.—4. *C. lanceolatum*.

Corolla-tube 1 to $1\frac{1}{4}$ in. long. Stamens long. Leaves usually glabrous or tomentose only when young.—2. *C. floribundum*.

Corolla-tube 2 in. long or more. Stamens long. Leaves of *C. floribundum*.—1. *C. Cunninghamii*.

1. *C. Cunninghamii*, *Benth.*—Borrooloola, G. F. Hill (797) ; 1/3/1912. Fruits only.

Recorded. S. Goulburn Island, A. Cunningham ; Escape Cliffs, Hulls. Native name Nobooralla. Sticks used by the natives for making fire.

2. *C. floribundum*, *R. Br.*—Camp II., G. F. Hill (241), 4/3/1911.

Finke River, G. F. Hill (88 and 91), 13/3/1911.

Recorded. N. Coast, R. Brown ; N.W. Coast, Bynoe ; Upper Victoria River, F. v. Mueller ; islands of the Gulf of Carpentaria, Henne.

3. *C. inerme*, *Gaertn.* (*C. nereifolium*, *Wall.*).—North Island, Gulf of Carpentaria, G. F. Hill (620), 20/10/1911.

Borrooloola, G. F. Hill (580), 12/9/1911. Woody creeper.

Recorded. Island of the Gulf of Carpentaria, R. Brown ; Albert River, F. v. Mueller ; Port Essington, Armstrong ; Adams Bay, Hulls.

4. *C. lanceolatum*, *F. v. M.*—N.W. Coast, Nichol Bay, Gregory, Walcott ; Depuech Island, Bynoe.

5. *C. tomentosum*, *R. Br.* (*Var. mollissima*, *Benth.*).—Roebuck Bay, N.W. Coast, Martin ; near Caledon Bay, Gulf of Carpentaria, R. Gulliver.

C. Holtzei, *F. v. M.* (in Proc. Roy. Soc. N.S.W., XXIV., 1890) ; recorded from North Australia.

14. AVICENNIA, LINN.

1. *A. officinalis*, *Linn.*—N. Australia, R. Brown. White Mangrove. Malacca Bean.

Tatea acaulis, F. v. M. ; *Hemiphora Elderi*, F. v. M. ; *Chloanthes hemigenioides*, F. v. M. ; *Chloanthes loxocarpa*, F. v. M. ; *Chloanthes atriplicina*, F. v. M. ; *Chloanthes lepidota*, F. v. M. ; *Spartothamnus teucriflorus*, F. v. M. ; recorded from North Australia in National Herbarium Census.

LABIATAE.

Tribe I.—*Ocimoideae*. Stamens 4, declinate. Anthers 1-celled by the confluence of the two cells into one. Nuts dry, smooth or minutely granular.

Corolla lower lobe flat or nearly so, not longer than the upper lobes.

Fruiting calyx deflexed with a broad decurrent upper lobe. False-whorls equal, 6-flowered.—9. *Ocimum*.

Fruiting calyx erect, spreading or deflexed, the upper lobe scarcely decurrent. Flowers very small in one-sided racemes.—8. *Moschosma*.

Corolla lower lobe concave or boat-shaped, longer than the upper lobes.

Filaments free. Corolla sometimes spurred.—6. *Plectranthus*.

Filaments united at the base in a sheath round the style. Corolla never spurred.—7. *Coleus*.

Corolla lower lobe saccate, contracted at the base and abruptly deflexed.

—5. *Hyptis*.

Tribe II.—*Satureieae*. Stamens 4 or 2, erect and equal or ascending in pairs, the upper pair the shortest. Anthers 2-celled or 1-celled by the confluence of the two cells into one. Nuts dry, smooth or minutely granular. Corolla-lobes all equally spreading, or if 2-lipped the upper lip scarcely concave and not hood-shaped.—4. *Dysophylla*.

Tribe III.—*Stachydeae*. Stamens 4, ascending in pairs, the lower ones the longest. Anthers, at least the upper ones, 2-celled. Nuts dry, smooth or granular-tuberculate. Calyx usually 5 or 10 nerved. Corolla upper lip concave or hood-shaped.—3. *Anisomeles*.

Tribe IV.—*Prostanthereae*. Stamens 4, in pairs; anthers all with two perfect cells, or one cell of all the anthers or also both cells of the lower pair sterile or abortive. Nuts prominently reticulate rugose. Seeds albuminous. Calyx various. Corolla upper lip erect, usually short, throat broad.—2. *Prostanthera*.

Tribe V.—*Ajugoideae*. Stamens 4, in pairs exserted from the very short truncate or deeply slit upper lip of the corolla. Nuts prominently reticulate-rugose, not succulent. Seeds without albumen.—1. *Teucrium*.

1. TEUCRIUM, LINN.

1. *T. integrifolium*, F. v. M.—Dry lagoons, Arnhem's Land, Hooker's Creek, F. v. Mueller. Germander.

T. racemosum, R. Br. (Grey Germander), and *T. grandiusculum*, F. v. M. and Tate ; recorded from North Australia in National Herbarium Census.

2. PROSTANTHERA, LABILL. 1806.

(*Chilodia*, R. Br., 1810 ; *Cryphia*, R. Br., 1810 ; *Klanderia*, F. v. M., 1852). Mint Bush.

1. *P. striatiflora*, F. v. M.—On granite hills, 60 miles N.E. of Camp II., G. F. Hill (269), 7/6/1911.

Shrub 6 ft. high.

P. Schultzii, F. v. M. ; recorded from North Australia in National Herbarium Census.

3. ANISOMELES, R. BR. 1810.

1. *A. salvaefolia*, R. Br.—Okey Creek, G. F. Hill (763), 16/2/1912

Recorded. From the N.W. Coast to the Gulf of Carpentaria; islands of the Gulf of Carpentaria, R. Brown; Arnhem's Land, M'Kinlay; Victoria River and Sturt's Creek, F. v. Mueller; Escape Cliffs, Hulls; N.W. Coast and Port Essington, A. Cunningham; Sweers Island, Henne.

4. DYSOPHYLLA, BL.

1. *D. verticillata*, Benth.—(*Pogostemon verticillatus*, Miq.) Boggy situations, S. Goulburn Island, A. Cunningham; Lagoons, Mitchell's River, Gulf of Carpentaria, Leichhardt.

5. HYPTIS, JACQ.

1. *H. suaveolens*, Poit.—Garden Bay, Port Essington, Leichhardt.

6. PLECTRANTHUS, LHER.

1. *P. parviflorus*, Willd.—Port Essington, Armstrong; Gilbert River, F. v. Mueller; Kennedy district, Gaintree. Cockspur flower.

7. COLEUS, LOUR. 1790. (MITSU, CHAP., 1832).

1. *C. scutellarioides*, Benth.—Edith Creek, Gilruth and Spencer, July-August, 1911.

Recorded. N. Australia, R. Brown and others.

Var. angustifolia, Benth.—Table Hill, Victoria River, and Macadam Range, F. v. Mueller; Port Essington, Armstrong.

Var. laxa, Benth.—Roe River, York Sound, N.W. Coast, A. Cunningham; Roebuck Bay, N.W. Coast, Martin; Arnhem's Land, Mackinlay.

Var. limnophila, F. v. M.—Nicholson and MacArthur Rivers, F. v. Mueller.

8. MOSCHOSMA, REICHB. 1828.

(*Lehmannia*, Jacq., 1841; *Lumnitzera*, Jacq., 1825; *Basilicum*, Moench., 1802.)

Fruiting-calyx reflexed or very spreading, campanulate. Racemes loose.

—2. *M. polystachyum*.

Fruiting-calyx erect or slightly spreading, tubular-campanulate. Racemes dense.—1. *M. australe*.

1. *M. australe*, Benth.—Islands of the Gulf of Carpentaria, R. Brown; Upper Victoria and Fitzmaurice Rivers, F. v. Mueller; Liverpool River, N. Coast, A. Cunningham.

2. *M. polystachyum*, Benth.—At Tungiegi Waterhole, G. F. Hill (510) 10/3/1911.

Newcastle Waters, near waterhole, G. F. Hill (470), 17/7/1911.

Lower MacArthur River, G. F. Hill (678), 8/11/1911.

Recorded. Upper Victoria River, F. v. Mueller.

9. OCIMUM, LINN.

1. *O. sanctum*, Linn.—Victoria River, Hooker's Creek and Sturt's Creek, F. v. Mueller; Gulf of Carpentaria, F. v. Mueller, Landsborough; N. Kennedy district, Daintree; in the interior, lat. 18 deg. 30 min., M'Douall Stuart's Expedition. Sacred Balm. Supposed mosquito-fuge.

Orthosiphon stamineus Benth.; *Mentha australis* R. Br.; *Leucas flaccida* R. Br.; recorded from North Australia in National Herbarium Census.

SOLANACEAE.

Fruit an indehiscent berry.

Calyx, if enlarged after flowering, not inflated. Corolla rotate or very open. Anthers opening in terminal pores or slits.—2. *Solanum*.

Calyx inflated over the fruit. Corolla campanulate. Anthers opening in longitudinal slits.—1. *Physalis*.

Fruit capsular, opening in valves. Corolla folded in the bud or with induplicate lobes.

Calyx tubular, circumsciss after flowering, leaving a broad persistent base. Corolla large. Capsule prickly.—3. *Datura*.

Calyx entirely persistent. Capsule smooth.—4. *Nicotiana*.

1. *PHYSALIS*, LINN.

Stock perennial, the whole plant softly pubescent.—2. *P. peruviana*.

Annual, sparingly pubescent. Flowers very small.—1. *P. minima*.

1. *P. minima*, Linn.—Victoria River, F. v. Mueller.

2. *P. peruviana*, Linn.—Sturt River, F. v. Mueller.

Cape Gooseberry. Useful fruit.

2. *SOLANUM*, LINN. 1735.

(*Androcera*, Nutt., 1818; *Aquartia*, Jacq., 1760; *Ceranthera*, Rafin., 1818; *Cliocarpus*, Miers., 1849; *Diamonon*, Rafin., 1836; *Dulcamara*, Moench., 1794; *Normania*, Lowe, 1868; *Nycteterium*, Vent., 1803; *Pseudocapsicum*, Medic. 1789; *Psolanum*, Neck., 1790.)

The species of *Solanum* are mostly of a poisonous character. Nightshades.

I.—No prickles. Whole plant glabrous or pubescent with simple hairs (not stellate).—14. *S. nigrum*.

II.—No prickles. Stellate pubescence or tomentum on the whole plant or rarely on the flowers only.—19. *S. tetrandrum*.

III.—Prickles slender on the branches and leaves (numerous, few, or very rare), none on the calyxes. Stellate pubescence or tomentum on the whole plant or rarely on the flowers only.

Leaves glabrous above except along the veins, tomentose underneath.—5. *S. discolor*.

Leaves closely whitish tomentose on both sides (the tomentum rarely disappearing at length on the upper side). Calyx teeth very small at the time of flowering.

Leaves ovate, oblong, or lanceolate, entire or sinuate-toothed.

Corolla deeply lobed ($\frac{1}{2}$ to $\frac{3}{4}$ in. diameter).—9. *S. esuriale*.

Leaves ovate-lanceolate or lanceolate, mostly lobed at the base.

Corolla-lobes rather short ($\frac{1}{2}$ in. diameter).—3. *S. chenopodium*.

Leaves oblong or lanceolate, entire. Corolla with short broad lobes ($\frac{3}{4}$ to 1 in. diameter).—18. *S. Sturtianum*.

Leaves densely and softly tomentose or velvety hirsute on both sides or at least underneath, sometimes greener and shortly tomentose above.—13. *S. nemophilum*.

IV.—Prickles slender or rarely thickened at the base on the calyxes, as well as on the branches and generally on the leaves. Stellate pubescence rarely mixed with simple hairs, on the whole plant or on the corolla only.

Leaves green and glabrous or sprinkled with stellate hairs or hirsute on the upper or both sides, sinuate-lobed or pinnatifid.—2. *S. cataphractum*.

Leaves nearly equally tomentose on both sides, sinuate-lobed or pinnatifid.

Calyx-lobes with very prominent keels or midribs. Leaf-lobes short, very undulate.—15. *S. petrophilum*.

Calyx-lobes without prominent ribs. Leaf-lobes deep, very obtuse or spatulate.—6. *S. diversiflorum*.

Calyx-lobes broad, obtuse or acute, much enlarged round the fruit after flowering.

Leaves narrow, shortly tomentose, with very numerous long prickles.—1. *S. carduiforme*.

Leaves broad, very densely and softly tomentose, with few prickles.—12. *S. melanospermum*.

Leaves nearly equally, densely, and softly tomentose on both sides, entire or slightly sinuate.

Leaves acute or scarcely obtuse, mostly undulate (1 to 2 in. long), with very numerous long prickles.—10. *S. horridum*.

Leaves obtuse (mostly under 2 in. long), entire or sinuate, with few or no prickles.

Fruiting calyx membranous, globular, very prickly, completely enclosing the fruit. Leaves ovate or oblong.—7. *S. echinatum*.

Fruiting calyx globular, thick, nearly enclosing the fruit. Leaves orbicular or broadly ovate.—11. *S. lasiophyllum*.

Fruiting calyx open, 6 to 8 lines diameter. Ovary 3-celled.—8. *S. ellipticum*.

Leaves mostly acuminate or acute (3 in. long or more), entire, not at all or scarcely prickly.

Flowering calyx under 3 lines long; fruiting calyx 6 to 8 lines diameter. Ovary 4-celled.—17. *S. quadriloculatum*.

Flowering calyx $\frac{1}{2}$ in. long; fruiting calyx nearly 2 in. diameter.—16. *S. phlomidoides*.

Leaves lanceolate, rather obtuse (1 to 3 in. long), entire. Calyx with a globular, very prickly tube and long linear lobes. Flowers large.—4. *S. Cunninghamii*.

1. *S. carduiforme*, *F. v. M.*—Sandy and rocky banks of Nicholson River, Gulf of Carpentaria, *F. v. Mueller*.

2. *S. cataphractum*, *A. Cunn.*—Bat Island and Regent River, N.W. Coast, *A. Cunningham*; Montague Sound, *A. Cunningham*.

3. *S. chenopodium*, *F. v. M.*—In the interior, between Mount Blight and Mount Fisher, lat. 20 deg. 20 min., *M'Douall Stuart's Expedition*.

4. *S. Cunninghamii*, *Benth.*—Lat. 19 deg., long. 132 deg., *G. F. Hill* (436), 4/7/1911.

Recorded. Cygnet Bay, N.W. Coast, *A. Cunningham*, *Bynoe*; Glenelg district, *Marten*.

5. *S. discolor*, *R. Br.*—Coen River, Gulf of Carpentaria, *R. Brown*.

6. *S. diversiflorum*, *F. v. M.*—Borroloola, *G. F. Hill* (616), 9/10/1911.

Recorded. Upper Victoria River, *F. v. Mueller*; La Grange Bay, N.W. Coast, *Marten*; Port Walcott, *Harper*.

7. *S. echinatum*, *R. Br.*—N.W. Coast, *Bynoe*; Upper Victoria River, *F. v. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*.

8. *S. ellipticum*, *R. Br.*—Macdonnell Ranges, *G. F. Hill* (167), 12/5/1911.

Recorded. Hammersley Range, N.W. Coast, Maitland Brown; Sea Range and Sturt's Creek, F. v. Mueller.

Poisonous according to Greshoff; principle unknown.

9. *S. esuriale*, Lindl.—Sturt's Creek, F. v. Mueller.

10. *S. horridum*, Dun.—N. Australia, Baudin's Expedition; Depuech Island, N.W. Coast, Bynoe.

11. *S. lasiophyllum*, Dun. (var. *crassissimum*, Benth.).—N.W. Coast, Bynoe.

12. *S. melanospermum*, F. v. M.—Abel Tasman River, F. v. Mueller.

13. *S. nemophilum*, F. v. M.—Forty miles W. of Camp IV., Lander Creek, G. F. Hill (359), 21/6/1911.

Sepals slightly more pointed in this specimen than usual.

14. *S. nigrum*, Linn.—North of 15 deg., W. S. Campbell, Sept. 1911.

Recorded. Gilbert River, F. v. Mueller.

Poisonous according to Greshoff, Maiden, Rusby, Miquel, Cornevin. Narcotic.

Black Nightshade. Blackberry of Queensland children, and sometimes eaten by them without ill effects, at other times causing illness.

Common Nightshade or Stubbleberry.—Stubbleberries are occasionally cultivated for their fruit. They are sometimes sold as huckleberries, and used for pies and preserves. The fruit should, however, be used with caution, especially before it is ripe. . . . The amount of poison present in any part of this plant varies with the conditions of growth. . . . The use of Black Nightshade for food is certainly not to be recommended. Cases of poisoning are recorded for calves, sheep, goats, and swine. The characteristic symptoms are about the same in man and animals. They are stupefaction, staggering, loss of speech, feeling and consciousness, cramps, and sometimes convulsions. The pupil of the eye is generally dilated. Death is directly due to a paralysis of the lungs, but fortunately few cases are fatal.

15. *S. petrophilum*, F. v. M. (var. *pedicellatum*, Ewart and Davies. Plate XX I.).—Lat. 19 deg., long. 132 deg., G. F. Hill (435), 4/7/1911.

Pedicels and petioles much longer than usual. Comparative lengths: *S. petrophilum*, average length of leaf 3.8 cm., average length of petiole 1.2 cm., average length of pedicel .8 cm.; var. *pedicellata*, average length of leaf 4.5 cm., average length of petiole 4 cm., average length of pedicel 2 to 2.5 cm., so that in the variety the pedicels are much longer than in the type, and the petioles are almost as long as the leaves. The sepals are not quite as narrow in the variety.

16. *S. phlomoides*, A. Cunn.—Enderby Island, N.W. Coast, A. Cunningham; Hammersley Range, M. Brown.

17. *S. quadriloculatum*, F. v. M.—Twelve miles N.W. of Camp III., G. F. Hill (328), 12/6/1911.

Recorded. Upper Victoria River and Nicholson River, Gulf of Carpentaria, F. v. Mueller; in the interior, lat. 22 deg., M'Douall Stuart.

18. *S. Sturtianum*, F. v. M.—Glenelg district, N.W. Coast, Marten.

19. *S. tetrandrum*, R. Br.—Arnhem N. Bay, and islands of the Gulf of Carpentaria, R. Brown; Goulburn Islands, A. Cunningham; Port Essington, Armstrong.

S. Lucani, F. v. M.; in Vict. Nat. IX., 1893, recorded from North Australia.

3. DATURA, LINN.

1. *D. Leichhardtii*, F. v. M.—Gulf of Carpentaria, Landsborough ; Ashburton River, Walcott. Poisonous to stock.

4. NICOTIANA, LINN.

1. *N. suaveolens*, Lehm.—N.W. Coast, Bynoe ; Nichol Bay, Gregory's Expedition.

Native tobacco ; poisonous to stock.

Duboisia Hopwoodii, F. v. M. ; recorded from North Australia in National Herbarium Census.

SCROPHULARIACEÆ.

Sub-order I. *-Antirrhinidae*. Corolla 5-lobed or 2-lipped, imbricate in the bud, the upper lip or two upper lobes outside. Inflorescence centripetal or, in genera not Australian, compound.

Sub-tribe I.—*Eugratiolæ*. Leaves, at least the lower ones, opposite.

Stamens all inserted in the tube and (in the Australian genera) entirely included. Capsule (in the Australian genera) opening loculicidally in two entire or bifid valves or 4-valved, or septicial with bifid valves.

Calyx tubular, 5-angled, 5-toothed. Anther-cells contiguous.—1. *Mimulus*.

Calyx divided to the base or nearly so. Anther-cells more or less stipitate or separated from each other.

Dissepiment of the capsules splitting and forming the inflexed margins of the valves, leaving the two placentas free and separate.

Anthers of the longer stamens 1-celled.—5. *Adenosma*.

Anthers all 2-celled.—4. *Stemodia*.

Dissepiment of the capsule splitting, but leaving the placentas consolidated in a single column.—3. *Morgania*.

Dissepiment of the capsule remaining entire, at least at the base, and forming wings to the placental column.—2. *Ambulia*.

Calyx divided to the base, the outer segment much broader than the others. Anther-cells contiguous.—6. *Bacopa*.

Sub-tribe II.—*Linderniæ*. Stem-leaves opposite. Upper stamens perfect and included in the tube. Lower stamens inserted in the throat, either reduced to staminodia or with long arched filaments with an angle or small lobe or appendage near the base, the anthers contiguous or cohering under the upper lip. Capsule opening in two entire valves parallel to the dissepiment.

Perfect stamens 4.—9. *Lindernia*.

Perfect stamens 2. Staminodia 2. Calyx divided to the base.—10. *Illysanthes*.

Sub-tribe III. *Limoselleæ*. Small creeping or prostrate herbs, with opposite or clustered leaves. Corolla (minute) with a short tube and five nearly equal lobes. Anthers 1-celled. Capsule various.

Capsule indehiscent or bursting irregularly or obscurely 4-valved.—8. *Peplidium*.

Capsule loculicidally 2-valved.—7. *Microcarpæa*.

Sub-order II.—*Rhinanthideæ*. Corolla either with 4, 5 (or rarely more in genera not Australian) spreading lobes, variously imbricate in the bud, the upper ones very rarely outside, or 2-lipped with the upper lip inside. Inflorescence centripetal, or very rarely in genera not Australian, compound

Corolla rotate, 4-lobed. Stamens 4. Anthers equally 2-celled, sagittate.—11. *Scoparia*.

Corolla with a distinct tube or broadly campanulate, lobes 5, nearly equal. Stamens 4.—12. *Centranthera*.

Corolla with a distinct tube, often long, the limb 2-lipped.

Corolla-tube, slender. Stamens 4. Anthers, with one vertical usually linear obtuse cell.

Corolla-tube, straight. Capsule obtuse.—13. *Buchnera*.

Corolla-tube bent above the middle. Capsule obtuse.—15. *Striga*.

Corolla-tube elongated. Capsule acuminate, the beak often oblique.—14. *Rhamphicarpa*.

Corolla-tube slender. Stamens 2. Anthers with one large mucronate or aristate cell.—16. *Hemiarrrhena*.

1. MIMULUS, LINN.

(*Uvedalia*, R. Br.) Monkey flower.

1. *M. Uvedaliae*, Benth., var. *lutea*, Benth.—Swamps at the sources of the MacArthur River, Providence Hill, and Macadam Range, F. v. Mueller.

M. debilis, F. v. M.; *M. gracilis*, R. Br. (Slender Monkey flower); recorded from North Australia in National Herbarium Census.

2. AMBULIA, LAM.

(*Limnophila*, R. Br.).

Lower leaves (or all) deeply divided. Flowers pedicellate.

Calyx segments 1-nerved.—1. *A. gratioloides*.

Leaves all undivided.

Flowers pedicellate. Calyx-segments several-nerved, striate.—2. *A. hirsuta*.

Flowers sessile. Calyx-segments united at the base, slightly striate.

3.—*A. serrata*.

1. *A. gratioloides*, R. Br.—(*Limnophila gratioloides*, R. Br.)—Gulf of Carpentaria, F. v. Mueller.

2. *A. hirsuta*, Benth. (*Stemodia hirsuta*; *Limnophila hirsuta*, Benth.).—Thirty-five N.W. of Camp IV., Lander Creek, G. F. Hill (376), 24/6/1911; Arnhem's Land, F. v. Mueller.

3. *A. serrata*, Gaud. (*Stemodia tenuiflora*, Benth.; *Limnophila serrata*, Gaud.).—Cullen Creek, Gilruth and Spencer, July-August, 1911.

Recorded. Victoria, Upper Roper and Fitzmaurice rivers, and swamps near Providence Hill, F. v. Mueller.

A. sessiliflora, F. v. M.; *A. Kingii*, F. v. M.; recorded from North Australia in National Herbarium Census.

3. MORGANIA, R. Br.

Flowers sessile or the pedicels rarely as long as the calyx. Corolla lips as long as the tube, the upper one entire.

Plant glabrous or nearly so.—1. *M. floribunda*.

Plant hoary-pubescent.—4. *M. pubescens*.

Pedicels mostly longer than the calyx.

Flowers rather large, the lips shorter than the tube, the upper one entire.—2. *M. glabra*.

Flowers small, the lips as long as the tube, the upper one shortly 2-lobed.—3. *M. parviflora*.

1. *M. floribunda*, Benth.—Charlotte Waters, G. F. Hill (12), 21/2/1911. Idracowra Station, Finke River, G. F. Hill (31), 5/3/1911. Ten miles W. of Eva Downs, G. F. Hill (524), 19/8/1911. This plant has been suspected of poisoning stock. Blue Rod.
2. *M. glabra*, R. Br.—Upper Roper River and Alligator Point, F. v. Mueller; Albert River, Henne; Gulf of Carpentaria, Landsborough.
3. *M. parviflora*, Benth.—Arnhem's Land, F. v. Mueller.
4. *M. pubescens*, R. Br.—Roper River, F. v. Mueller.

4. STEMODIA, LINN. 1759.

(Cybranthera, Buch., Ham. 1825; Diceros, Lour., 1790; Honottia, Reichb., 1737; Hydropityon, Gaertn., 1805; Tala, Blanco., 1845; Dickia, Scop., 1777; Gomphipus, Rafin., 1836; Matourea, Aubl., 1775; Poarium, Desv., 1825; Unanuea, Ruiz. and Pav., 1846.)

Flowers sessile or very shortly pedicellate.

Corolla (about 3 lines long) shortly exceeding the calyx.—2. *S. lythrifolia*.

Corolla (about 6 to 7 lines long) twice as long as the calyx.—1. *S. grossa*.

Flowers on pedicels longer than the calyx.—3. *S. viscosa*.

1. *S. grossa*, Benth.—Desert Island, of the N.W. Coast, Bynoe; Nichol Bay, Walcott.

2. '*S. lythrifolia*, F. v. M.—North of 15 deg., W. S. Campbell, 9/19/1911.

Recorded. Common in the rocky islands of the N.W. Coast, A. Cunningham, Bynoe; Upper Victoria River, F. v. Mueller; islands of the Gulf of Carpentaria, R. Brown.

3. *S. viscosa*, Roxb.—Haast's Bluff, G. F. Hill (183), 17/5/1911. Alt 4000 ft.

Hermansburg, Finke River, G. F. Hill (63), 13/3/1911.

Recorded. Victoria River, F. v. Mueller; Gulf of Carpentaria, Landsborough. *S. debilis*, Benth.; recorded from North Australia in National Herbarium Census.

5. ADENOSMA, R. Br.

(*Pterostigma*, Benth.)

1. *A. Muelleri*, Benth.—Macarthur River, F. v. Mueller.

6. BACOPA, AUBL.

(*Herpestis*, Gaertn.)

1. *B. floribunda* (R. Br.), Wett.—Victoria River, F. v. Mueller; South Goulburn Island, A. Cunningham. *B. indica* (Lam.), Wett.; recorded from North Australia in National Herbarium Census.

7. MICROCARPAEA, R. Br.

1. *M. muscosa*, R. Br.—Near Macadam Range, F. v. Mueller.

8. PEPLIDIUM, DELEL.

Flowers sessile or nearly so. Capsule globular, obtuse.—1. *P. humifusum*.

Flowers distinctly pedicellate. Capsule ovoid, acute.—2. *P. Muelleri*.

1. *P. humifusum*, Delile.—Upper Victoria River, F. v. Mueller.
2. *P. Muelleri*, Benth.—Upper Victoria River, F. v. Mueller.

9. LINDERNIA, ALL.

(Vandellia, Linn., 1767; Anagaloides, Krock., 1790; Diceros, Blume., 1826; Hornemannia, Link. and Otto., 1820; Ilyogeton, Endl., 1839; Mitranthus, Hochst., 1844; Pyxidaria, Rupp., 1745; Tittmannia, Reichb., 1824; Vrisea, Hassk., 1842.)

Calyx-segments united in a 5-toothed calyx, at least at the time of flowering. Stems diffuse. Leaves ovate.—1. *L. crustacea*.

Calyx-segments separate from the first.

Leaves ovate, chiefly near the base of the stem.

Plant pubescent or hirsute.—2. *L. pubescens*.

Plant glabrous.—3. *L. scapigera*.

Leaves linear-subulate, few and mostly small.—4. *L. subulata*.

1. *L. crustacea* (Benth.), Wett.—Islands of the Gulf of Carpentaria, R. Brown.
2. *L. pubescens* (Benth.), Wett.—Port Essington, Armstrong.
3. *D. scapigera*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown; near Macadam Range, F. v. Mueller.
4. *L. subulata* (Benth.), Wett.—Newcastle Waters, G. F. Hill (507) 9/8/1911. Specimen with sepals longer than usual and somewhat scabrous. Recorded. Elsey's River, F. v. Mueller; Port Essington, Armstrong. *L. pyxidaria* L.; recorded from North Australia in National Herbarium Census.

10. ILYSANTHES, RAFIN.

(Bonnaya, Link. and Otto.)

Staminodia, acute, with an angle tooth or lobe near the base. Capsule globular, or broadly ovoid.—2. *I. lobelioides*.

Staminodia, linear and obtuse, entire. Capsule oblong or linear.—1. *I. clausa*.

1. *I. clausa* (F. v. M.), With.—Sand Plains, Victoria River, F. v. Mueller.
2. *I. lobelioides*, Benth.—Victoria Range, F. v. Mueller.

11. SCOPARIA, LINN. 1748. (Kreidek, Adans., 1763.)

1. *S. dulcis*, Linn. 1748.—Ranges near Western Creek, G. F. Hill (768), 15/2/1912.

Recorded. Gulf of Carpentaria, F. v. Mueller.

A common tropical weed, probably of American origin.

12. CENTRANTHERA, R. BR.

1. *C. hispida*, R. Br.—Alluvial flats near Fish River, Glenelg district, N.W. Coast, Marten; Victoria River and moist grassy flats, Arnhem's Land, F. v. M.

13. BUECHNERA, ROTH. 1821.

(Buchnera, Linn., 1737; Bonnetia, Neck., 1790; Chytra, Gaertn., 1805; Micalia, Rafin., 1736; Piripea, Aubl., 1775; Striga, Campuleia.)

Flowers in short dense 4-sided spikes, the imbricate bracts very broad and as long as the calyx.—4. *B. tetragona*.

Flowers in slender interrupted spikes, the bracts either narrow or much shorter than the calyx.

Radical and lower leaves broad, rosulate; upper ones narrow, acute, corolla glabrous.—5. *B. urticifolia*.

Leaves all narrow, the lower ones oblong, the upper ones linear, mostly acute. Corolla glabrous.

Corolla-tube 3 to 4 lines long.—1. *B. linearis*.

Corolla-tube not 2 lines long.—3. *B. tenella*.

Leaves all narrow and obtuse, usually hoary, the lower ones oblong.—2. *B. ramosissima*.

1. *B. linearis*, *R. Br.*—Batchelor Farm, G. F. Hill (2nd Series, 68), 17/7/1913.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; South Goulburn Island, A. Cunningham; Port Essington, Armstrong; Victoria River and near Macadam Range, F. v. Mueller; King's Ponds, in the interior, M'Douall Stuart's Expedition.

2. *B. ramosissima*, *R. Br.*—Hunter's River, York Sound, N.W. Coast, A. Cunningham.

3. *B. tenella*, *R. Br.*—South Goulburn Island, A. Cunningham; head of Victoria River, F. v. Mueller; islands of the Gulf of Carpentaria, R. Brown.

4. *B. tetragona*, *R. Br.*—Sterling Creek, Gilruth and Spencer, July-August, 1911.

Recorded. Port Essington, Armstrong.

5. *B. urticifolia*, *R. Br.*—North Island, Gulf of Carpentaria, G. F. Hill (623), 20/10/1911.

Roper River, Gilruth and Spencer, July-August, 1911.

Recorded. Victoria River, F. v. Mueller; Glenelg district, N.W. Coast, Marten.

14. RHAMPHICARPA, BENTH.

1. *R. longiflora*, *Benth.*—N. Australia, F. v. Mueller; lat. 17 deg. 58 min.; M'Douall Stuart's Expedition.

15. STRIGA, LOUR.

Corolla above $\frac{1}{2}$ in. long, the upper lip more than half as long as the lower.—2. *S. multiflora*.

Corolla nearly or fully $\frac{3}{4}$ in. long, the upper lip less than half as long as the lower.—1. *S. curviflora*.

1. *S. curviflora*, *Benth.*—Islands of the Gulf of Carpentaria, R. Brown; N.W. Coast, Bynoe.

2. *S. multiflora*, *Benth.*—Victoria River and Sturt's Creek, F. v. Mueller; on all the islands to the west of Goulburn Island, A. Cunningham; Port Essington, Armstrong; Camden Harbour, Glenelg district, N.W. Coast, Marten.

S. parviflora, *Benth.*; recorded in National Herbarium Census from North Australia.

16. HEMIARRHENA, BENTH.

1. *H. plantaginea*, *Benth.*—Mount King, Glenelg district, N.W. Coast, Marten; between Providence Hill and Macadam Range, F. v. Mueller; Arnhem's Land, M'Douall Stuart's Expedition.

Gratiola peruviana Linn.; *Glossostigma Drummondii* Benth. (in National Herbarium Census); and *Bradshawia macrosiphonia*, F. v. M. (in Proc. Linn. Soc., N.S.W., 1891); recorded from North Australia.

LENTIBULARIACEÆ.

1. UTRICULARIA, LINN.

Bladderworts.

§ I. Stems floating. Leaves submerged, divided into capillary segments mostly interspersed with bladders. Flowers yellow, on axillary peduncles.

Peduncles bearing about the middle a cluster or false whorl of oblong or linear vesicles.—6. *U. stellaris*.

Peduncles without vesicles.

Pedicels thickened and reflexed after flowering. Corolla rather large.

Style about 1 line long.—4. *U. flexuosa*.

Peduncles filiform, pedicels slender and erect in fruit. Corolla small. Stigma almost sessile. Seeds winged.—3. *U. exoleta*.

§ II. *Limosae*.—Plants growing in mud (sometimes under water), with erect leafless scapes. Leaves radical, often accompanied by filaments, of which some bear utricles, or no leaves at all at the time of flowering.

Flowers yellow, several in a raceme.

Spur horizontal. Palate spotted with red.—5. *U. fulva*.

Spur descending.—1. *U. chrysantha*.

Flowers blue or white, several in a raceme. Pedicels short, not winged. Calyx-segments rather acute.—2. *U. cyanea*.

1. *U. chrysantha*, R. Br.—Regent River, Brunswick Bay, N.W. Coast, A. Cunningham; Glenelg River, N.W. Coast, Marten; Victoria River, F. v. Mueller; Port Essington, Armstrong.

2. *U. cyanea*, R. Br.—Fitzmaurice River, F. v. Mueller.

3. *U. exoleta*, R. Br.—Victoria River, and swamps near Sea Range, F. v. Mueller.

4. *U. flexuosa*, Vahl.—Robinson River, Gulf of Carpentaria, and near Providence Hill, F. v. Mueller. Yellow Bladder wort.

5. *U. fulva*, F. v. M.—Around stagnant waters near Macadam Range, F. v. Mueller; Strangways River, M'Douall Stuart.

6. *U. stellaris*, Linn.—Nicholson, Robinson, and Gilbert Rivers, Gulf of Carpentaria, F. v. Mueller.

U. leptoplectra, F. v. M.; *U. lasiocaulis*, F. v. M. (in National Herbarium Census); *U. Muelleri*, Kram. (in Ber. der Deutsch. bot., XII., 1894); *U. capilliflora*, F. v. M. (in Trans. Roy. Soc. N.S.W., XXIV., 1890); *U. Wallichiana*, Wight (in Icon. Pl. Ind., 1850); *U. Singeriana*, F. v. M. (in Trans. Roy. Soc. N.S.W., XXIV., 1890); *U. Kamienski*, F. v. M.; and *U. Holtzei*, F. v. M. (in Vict. Nat. IX., 1893); recorded from North Australia.

BIGNONIACEÆ.

Calyx truncate or slightly toothed. Woody climbers.—1. *Tecoma*.

Calyx spathaceous, split longitudinally. Erect trees. 2. *Dolichandrone*.

1. TECOMA, JUSS. 1789.

(*Astianthus*, D. Don., 1823; *Campsidium*, Seem., 1862; *Campsis*, Lour., 1790; *Dendrophila*, Zipp., 1848; *Ducoudraea*, Bur., 1864; *Kokoschkinia*,

Turcz., 1849; Leucoxylon, Rafin., 1838; Pandorea, Spach., 1840; Platolaria, Rafin., 1838; Stenolobium, D. Don., 1823; Tecomaria, Spach., 1840; Tecomella, Seem., 1862.)

1. *T. australis*, R. Br.—Simpson's Creek, Macdonnell Ranges, G. F. Hill (124).

Recorded. Macdonnell Ranges, in the interior, M'Douall Stuart.

2. DOLICHANDRONE, FENZL. 1862.

(*Spathodea* Beauv. 1805 partly; *Dolichandra* partly.)

Leaves simple or pinnate, mostly whorled, lanceolate, or linear, as well as their leaflets.—2. *D. heterophylla*.

Leaves pinnate; leaflets long, terete, almost filiform.—1. *D. filiformis*.

1. *D. filiformis*, Fenzl. (*Spathodea filiformis*, DC.).—Copeland Island, A. Cunningham; Victoria River, F. v. Mueller.

2. *D. heterophylla*, F. v. M. (*Spathodea heterophylla*, R. Br.).—50 miles from Anthony's Lagoon, G. F. Hill (532), 29/8/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown, Henne; Victoria River, F. v. Mueller; Careening Bay, N.W. Coast, A. Cunningham; Roebuck Bay, N.W. Coast, Marten; King's Ponds, in the interior, M'Douall Stuart.

PEDALIACEÆ.

1. JOSEPHINIA, VENT.

Leaves pubescent underneath, the lower one coarsely toothed. Ovary usually 6-celled. Fruit with a triangular beak.—2. *J. imperatricis*.

Plant densely villous. Lower leaves divided into three distinct segments. Ovary usually 4-celled. Fruit not beaked.—1. *J. Eugenia*.

1. *J. Eugenia*, F. v. M.—Upper Victoria River, F. v. Mueller.

2. *J. imperatricis*, Vent.—N.W. Coast, Baudin.

ACANTHACEÆ.

Tribe I.—*Nelsonieae*. Corolla-limb of 5 nearly equal lobes or 2-lipped, imbricate in the bud, the upper lobes or lip outside. Seeds globular.

Retinacula none or reduced to minute papillae.

Corolla lobes nearly equal. Stamens 2.—2. *Nelsonia*.

Corolla lobes nearly equal. Stamens 4.—1. *Ebermaiera*.

Tribe II.—*Ruellieae*. Corolla-lobes 5, nearly equal or 2-lipped, contorted in the bud. Seeds flat. Retinacula prominent.

Corolla 2-lipped. Stamens 4. Ovules several in each cell.—3. *Hygrophila*.

Corolla-lobes nearly equal, spreading. Stamens 4. Ovules 6 or more in each cell.—4. *Ruellia*.

Tribe III.—*Justicieae*. Corolla 2-lipped or 1-lipped by the reduction of the upper one or rarely nearly equally 5-lobed, the lobes variously imbricate, but not contorted in the bud. Seeds flat, Retinacula prominent.

Corolla with one broad flat (lower) lip. Stamens 4. Leaves usually prickly-toothed.—5. *Acanthus*.

Corolla 2-lipped. Stamens 2.

Bracts small or not enclosing the flowers.—8. *Justicia*.

Bracts in two pairs, forming an involucre enclosing one to three flowers.

Inner involucral bracts broad and appressed. Outer ones spreading subulate or spinous. Anthers 2-celled.—6. *Dicliptera*.

Involucre cylindrical, the two pairs of bracts nearly equal and usually connate, one pair within the other. Anthers 1-celled.—7. *Hypoestes*.

1. EBERMAIERA, NEES. 1832.

(*Erythracanthus*, Nees.; *Staurogyne*, Wall.; *Striftia*, Pohl.)

1. *E. glauca*, Nees.—Edith Creek and Abraham's Lagoon, Gilruth and Spencer, July-August, 1911.

Recorded. Providence Hill and Macadam Range, towards Fitzmaurice River, F. v. Mueller.

2. NELSONIA, R. BR. 1810.

1. *N. campestris*, R. Br.—Driffield Creek, Darwin, Gilruth and Spencer, July-August, 1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; between Victoria and Fitzmaurice Rivers, F. v. Mueller; Albert River, Henne.

3. HYGROPHILA, R. BR. 1810.

(*Asteracantha*, Nees., 1832; *Bahel*, Adans., 1763; *Eberlea*, Riddell, 1847; *Polyechma*, Hochst., 1841; *Tenoria*, Dehnh. and Giord., 1829.)

1. *H. angustifolia*, R. Br. (*H. salicifolia*, Nees.).—Edith Creek, Gilruth and Spencer, July-August, 1911.

Recorded. Van Diemen's Gulf, N.W. Coast, A. Cunningham; Victoria River, F. v. Mueller; Port Essington, Armstrong.

4. RUELLIA, PLUM. 1735.

(*Antheilema*, Rafin., 1836; *Aphragmia*, Nees., 1841; *Aubletia*, Neck., 1790; *Copioglossa*, Miers., 1863; *Cyrtacanthus*, Mart., 1847; *Dizygandra*, Meissn., 1840; *Fabria*, E. Mey., 1843; *Gymnacanthus*, Oerst., 1854; *Holtzen-dorffia*, Klotzsch and Karst., 1847; *Larysacanthus*, Oerst., 1854; *Neowedia*, Schrad., 1821; *Pattersonia*, J. F. Gmel., 1791; *Scorodoxylun*, Nees., 1846; *Stephanophysum*, Pohl., 1831.)

Corolla with a slender tube of 1 in., the broader portion or throat half as long. Capsule $\frac{3}{4}$ in. Flowers pedunculate. 1. *R. bracteata*.

Corolla-tube very shortly slender at the base, the throat much longer. Capsule $\frac{1}{2}$ in. long. Flowers nearly sessile.—2. *R. primulacea*.

1. *R. bracteata*, R. Br.—Arnhem N. and S. Bay, R. Brown.

2. *R. primulacea*, F. v. M.—Henbury Station, Finke River, G. F. Hill (49), 40/3/1911.

Will thrive under the shade of trees. Mr. Coghlan reports it as a valuable plant for stock, especially horses.

5. ACANTHUS, LINN.

(Dilivaria, Juss.).

1. *A. ilicifolius*, Linn.—Gulf of Carpentaria, R. Brown ; Albert River, Henne. Bear's breech.

6. DICLIPTERA, JUSS.

(Brochosiphon, Nees.)

1. *D. glabra*, DCNE.—Glenelg River, N.S. Coast, Marten ; Upper Victoria River and Stirling Creek, F. v. Mueller ; S. Goulburn Island, A. Cunningham.
D. spicata, Decaisne ; recorded from North Australia in National Herbarium Census.

7. HYPOESTES, SOLAND. 1810.

1. *H. floribunda*, R. Br. (var. *densiflora*, Benth.).—Lagrange Bay, N.W. Coast, Marten.

Var. *distans*, Benth.—Hunter's River, N.W. Coast, A. Cunningham.

Var. *paniculata*, Benth.—Near Darwin, Gilruth and Spencer, July-August, 1911. South Goulburn Island, A. Cunningham ; Cape Upstart, Bynoe ; Port Essington, Armstrong.

H. rosea, Decaisne (in Ann. du Mus. III., 1834) ; and *H. moschata*, F. v. M. (in Select. Extra-Trop. Pl., 1891) ; recorded from North Australia. The latter yields a strong musk scent on distillation.

8. JUSTICIA, HONST. 1737.

(Adeloda, Rafin., 1836 ; Apathoda, Nees., 1847 ; Athlianthus, Endl., 1842 ; Campylostemon, E. Mey., 1843 ; Diplanthera, Schrank, 1819 ; Ecbohium, Riv., 1735 ; Geunsia, Neck., 1790 ; Harnieria, Solms., 1864 ; Monechma, Hochst., 1841 ; Raphidosperma, G. Don., 1839 ; Rostellularia, Reichb., 1837 ; Rostellaria.)

1. *J. procumbens*, Linn.—Haast's Bluff, Macdonnell Range, G. F. Hill (210), 26/5/1911.

60 miles N.E. of Camp II, G. F. Hill (286b), 7/6/1911.

Okey Creek, G. F. Hill (760), 16/2/1912.

Five Mile Bar, Borroloola, G. F. Hill (695), 16/12/1912.

Recorded. Gulf of Carpentaria, R. Brown ; Victoria and Fitzmaurice Rivers, F. v. Mueller ; Cooper's River, A. C. Gregory.

Justicia Kempeana F. v. M. ; *Thunbergia fragrans* J. Koen. ; *Strobilanthes Tatei* F. v. M. ; recorded from North Australia in National Herbarium Census.

MYOPORACEÆ.

Corolla usually campanulate, nearly regular, rarely shortly cylindrical at the base. Ovary usually 2 to 4 or more celled, with one ovule in each cell, rarely 2-celled with two ovules in each cell.—2. Myoporum.

Corolla usually tubular at the base, with a more or less irregular limb. Ovary 2-celled, with two or three superposed pairs, or rarely one pair only of ovules in each cell.—1. Eremophila.

1. EREMOPHILA, R. Br. 1810.

(Eremodendron, DC., 1840 ; Stenochilus, R. Br., 1810 ; Pholidia ; Pseudopholidia ; Sentis ; Duttonia ; Pholidiposis.)

Several species supposed to be poisonous to stock.

Sect. I.—*Eremocosmos*. Calyx-segments not at all or scarcely overlapping at the base, more or less enlarged, veined, and scarious after flowering. Ovary

with two or 4 pairs of ovules in each cell. Fruit (where known) dry, the endocarp separating into distinct pyrenes.

Enlarged calyx-segments more or less cuneate and obtuse.—9. *E. Sturtii*.

Enlarged calyx-segments oblong or lanceolate, acute. Leaves linear or linear-lanceolate.

Corolla upper lobes rather acute. Stamens exserted.—5. *E. Latrobei*.

Corolla upper lobe deltoid, semi-lanceolate. Stamens included.—3.

E. Gilesii.

Sect. II.—*Platycalyx*. Calyx campanulate, 5-lobed. Flowers and fruit of *Platychilus*.—7. *E. Macdonellii*.

Sect. III.—*Platychilus*. Calyx-segments much imbricate at the base, the outer ones usually broader. Corolla-lobes all broad and obtuse, or the upper ones scarcely acute. Stamens included or scarcely exserted. Ovules in two or three pairs in each cell. Fruit of *Stenochilus*.

Calyx-segments small or narrow and acute, not enlarged after flowering. Leaves long, linear or lanceolate.—6. *E. longifolia*.

Calyx-segments ovate or lanceolate, acute, not exceeding three lines in flower, nor much enlarged afterwards. Plants very glabrous, often drying blue.—1. *E. bignoniaeflora*.

Calyx-segments broad-lanceolate, four to six lines long, more or less hirsute.

Leaves linear or lanceolate.—4. *E. Goodwinii*.

Leaves obovate or oblong, serrulate.—10. *E. Willsii*.

Sect. IV.—*Stenochilus*. Calyx-segments imbricate at the base, usually enlarged after flowering. Corolla, four upper lobes short and acute, the fifth lowest more deeply separated and sometimes narrow. Stamens exserted. Ovules two or three pairs, or rarely only one pair in each cell. Drupe succulent, with a thick bony putamen not separating into nuts.

Lowest corolla-lobe obtuse. Calyx much enlarged after flowering.—2. *E. Duttoni*.

Lowest corolla-lobe acute. Calyx-segments acute, scarcely enlarged after flowering.—8. *E. maculata*.

1. *E. bignoniflora*, *F. v. M.*—Newcastle Waters, G. F. Hill (479), 17/7/1911. 30 miles N.E. of Anthony's Lagoon, G. F. Hill (583), 20/10/1911. Fruit only.

Recorded. Sturt's Creek and Gilbert River, *F. v. Mueller*.

Wood fragrant; useful for cabinet work. *Bignonia Berrigan*.

2. *E. Duttoni*, *F. v. M.*—35 miles N.E. of Camp II., G. F. Hill (244), 7/6/1911.

20 miles N.W. of Charlotte Waters, G. F. Hill (21), 24/3/1911.

3. *E. Gilesii*, *F. v. M.*—Macdonnell Ranges, *E. Giles*.

Var. argentea, *Ewart*.—60 miles N.E. of Camp II., G. F. Hill (286), 27/6/1911.

The leaves are broader, hardly viscid, but covered with a dense covering of small white hairs, also more abundant on the outside of the corolla. The corolla is rather larger, and the plant almost distinct enough for separate specific description.

Var. filiforme.—35 miles N.E. of Camp II., G. F. Hill (245 and 242b), 7/6/1911.

With very narrow channelled leaves.

4. *E. Goodwinii*, *F. v. M.*—40 miles S.S.W. of Newcastle Waters, G. F. Hill (458a), 8/7/1911.

5. *E. Latrobei*, *F. v. M.*—140 miles N. of Camp IV. G. F. Hill (415) 3/7/1911. A small bush.

Recorded. Sturt's Creek and Newcastle Range, *F. v. Mueller*; between Strangways River and Rupert's Range, M'Douall Stuart.

6. *E. longifolia*, *F. v. M.*—Jay Creek, G. F. Hill (112), 21/3/1911.

Recorded. Sturt's Creek, *F. v. Mueller*; in the interior, M'Douall Stuart's Expedition.

7. *E. Macdonellii*, *F. v. M.*—12 miles N.W. of Charlotte Waters, G. F. Hill (19a), 24/2/1911.

Var. macrocarpa, *Ewart and Davies*.—90 miles N.W. of Camp III., G. F. Hill (347), 15/6/1911. Specimen with flowers and unripe fruit.

Owen Springs Station, Hugh River, G. F. Hill (114), 21/3/1911. Specimen with fruits.

The variety differs from the type in the possession of larger glabrous leaves (about 3 cm.). The stem is pubescent, with very short hairs. The flower is larger, measuring 3.4 cm., the pedicel slightly over 3 cm. The calyx is campanulate, the lobes not so acute as in the type, and the division in some cases much deeper. The fruit is much larger, measuring 1.5-2 cm., and its surface is marked by rough longitudinal ridges. It is four-celled.

It seems probable that *E. Macdonelli* really includes at least two species, but until more material is available, it has been thought best to put these fresh specimens under a new variety.

8. *E. maculata*, *F. v. M.*—90 miles N., half W. of Camp III., G. F. Hill (350, 551, and 356a), 15/6/1911. A bush 3 ft. high. Spotted Berrigan.

Recorded. Attack Creek, M'Douall Stuart's Expedition.

Native "Fuchsia"; a poison bush. Poisonous according to Maiden and Greshoff. Contains a large quantity of prussic acid. If the leaves or the fruits are eaten by stock separately or at different times no harm occurs, but when taken together a violent poison is produced which quickly causes death. (Brunnich.)

9. *E. Sturtii*, *R. Br.*—Idracowra Station, Finke River, G. F. Hill (33), 7/3/1911. Narrow leaved Berrigan.

10. *E. Willsii*, *F. v. M.*—Finke River, M'Douall Stuart's Expedition.

Var. integrifolia, *Ewart*.—On sandhills 20 miles N.W. by N. of Meyer's Hill, Macdonnell Ranges, G. F. Hill (214), 1/6/1911.

The edges of the leaves are entire instead of being serrated or indented. In shape the leaves are near to the variety *glabriuscula*, which has, however, glabrous branches and serrated leaves.

E. Freelingii, *F. v. M.*; *E. Fraseri*, *F. v. M.*; *E. Cantoni*, *F. v. M.*; recorded from North Australia in National Herbarium Census.

2. MYOPORUM, BANKS AND SOLAND. 1786.

(*Andreusia*, Vent., 1807; *Bertolonia*, Spin., 1809; *Bisoon*, A.DC., 1847; *Pentacoelium*, Sieb. and Bucc., 1846; *Pogonia*, Andr., 1801; *Polycoelium*, A. DC., 1847.)

1. *M. tenuifolium*, *Forst. (M. acuminatum, R. Br.)*.—Abraham's Lagoon and Mole Hill, Gilruth and Spencer, July, 1911. Thin leaved Berrigan.

Observation Island, Gulf of Carpentaria, G. F. Hill (636), 21/10/1911.

Recorded. Dampier's Archipelago and Cygnet Bay, N.W. Coast; A. Cunningham; Nichol Bay, N.W. Coast, Ridley's Expedition.

M. Dampieri Cunn. (Watery bush); recorded from North Australia in National Herbarium Census.

RUBIACEÆ.

Tribe I. *Cinchonææ*.—Leaves opposite or rarely whorled, with small or membranous stipules between or inside of them. Ovules several in each cell of the ovary.

Sub-tribe I. *Naucleææ*.—Flowers very numerous, closely packed in globular heads on a small receptacle. Ovules pendulous or imbricate on a pendulous placenta. Fruits capsular or rarely fleshy, not pulpy. Trees or shrubs.—3. *Sarcocephalus*.

Sub-tribe II. *Hedyotideææ*.—Flowers in cymes, clusters, or solitary. Corolla-lobes valvate. Ovules attached to an axile or basal placenta. Fruit capsular or separating into dry cocci. Herbs, undershrubs, or rarely shrubs.

Flowers 4-merous. Petals entire.—2. *Oldenlandia*.

Flowers 5-merous. Petals 2- or 3-toothed.—1. *Dentella*.

Sub-tribe III. *Gardeniææ*.—Flowers in cymes, clusters, or solitary. Corolla-lobes imbricate. Ovules attached to an axile or parietal placenta. Fruit succulent, indehiscent.

Ovary 1-celled, with 2, 3, or more prominent parietal placentas. Stipules connate within the petioles. Inflorescence usually terminal.—5. *Gardenia*.

Ovary 2-celled (rarely several-celled), with axile placentas. Stipules interpetiolar.—4. *Randia*.

Tribe II. *Coffeææ*.—Leaves opposite or rarely whorled, with small or membranous stipules between or inside of them. Ovules solitary or very rarely 2, collateral in each cell of the ovary, rarely several to each carpel separated by spurious septa. Cells of the fruit or pyrenes always 1-seeded.

Sub-tribe I. *Ixoreææ*.—Corolla-lobes imbricate (usually contorted). Ovules laterally attached, usually peltate. Fruit a berry or drupe. Albumen copious. Trees or shrubs.—9. *Ixora*.

Sub-tribe II. *Guettardeææ*.—Corolla-lobes imbricate. Ovules suspended from the summit of the normal or spurious cells. Fruit a drupe, the nucleus or pyrenes usually hard. Albumen little or none. Trees or shrubs. Flowers in forked cymes or solitary, rarely umbellate. Uniovulate spurious cells of the ovary and pyrenes of the fruit much more numerous than the style-lobes, superposed in several series.—8. *Timonius*.

Cells 1-ovulate, of the same number as the style-lobes.—7. *Guettarda*.

Sub-tribe III. *Vanqueriææ*.—Corolla-lobes valvate. Ovules laterally attached at or near the top. Fruit a berry-like drupe, with 1-seeded pyrenes. Albumen copious. Trees or shrubs.—6. *Canthium*.

Sub-tribe IV. *Psychotriææ*.—Corolla-lobes valvate. Ovules erect from the base or laterally attached below the middle. Style-lobes short. Fruit a berry-like drupe with 1-seeded pyrenes. Albumen copious. Trees or shrubs.

Ovules and 1-seeded pyrenes 4, style-lobes 4.—11. *Cœlospermum*.

Ovules and 1-seeded pyrenes of the same number as the style-lobes (2).—10. *Psychotria*.

Sub-tribe V. *Spermacoceææ*.—Corolla-lobes valvate. Ovules variously laterally attached to the axis, the ovary usually perfectly 2-celled. Style-lobes short. Fruit capsular, or indehiscent and dry. Albumen copious. Herbs, undershrubs, or rarely shrubs.—12. *Spermacoce*.

1. *DENTELLA*, FORST.

(*Lippaya*, Endl.)

1. *D. repens*, Forst.—Islands of the Gulf of Carpentaria, R. Brown; Fitzmaurice River and Sturt's Creek, F. v. Mueller.

2. OLDENLANDIA, LINN., 1737.

(*Agathisanthemum*, Klotzsch., 1861; *Gonotheca*, Blume., 1830; *Karamyschewia*, Fisch. & Mey., 1838; *Peltospermum*, Benth., 1849; *Pentodon*, Hochst., 1844; *Listeria*, Neck., 1790; *Theyodis*, A. Rich., 1847; *Hedyotis*; *Synaptantha*; *Anotis*.)

Capsule slightly protruding from the calyx-tube, and opening loculicidally, or both septicidally and loculicidally. Leaves narrow-linear. Pedicels slender, solitary, or 2 or 3 together.

Very slender, erect. Panicle loose, almost leafless. Corolla-lobes shorter than the tube. Capsule loculicidal and septicidal.—

2. *O. mitrasacmoides*.

Slender and diffuse. Pedicels axillary. Corolla-lobes shorter than the tube. Capsule loculicidal and septicidal.—1. *O. galioides*.

Capsule at least half-superior, opening in 4 valves.

Corolla divided almost to the base, and often persistent. Seeds angular, or if peltate not concave. Very small much-branched annuals or perennials.—4. *O. scleranthoides*.

Corolla-lobes shorter than the tube. Seeds broad, concave, peltately attached by a prominent rib on the inner face. Perennials with linear leaves.—3. *O. pterospora*.

1. *O. galioides*, *F. v. M.*—Cullen Creek, Gilruth and Spencer, July-August, 1911. Recorded. Along rivulets near M'Adam Range, *F. v. Mueller*; S. Goulburn Island, A. Cunningham.

2. *O. mitrasacmoides*, *F. v. M.*—Depot Creek and Arnhem's Land, *F. v. Mueller*.

3. *O. pterospora*, *F. v. M.*—Sturt's Creek, *F. v. Mueller*.

4. *O. scleranthoides*, *F. v. M.*—Depot Creek, *F. v. Mueller*.

O. spermacocoides, *F. v. M.*; *O. Crouchiana*, *F. v. M.*; *O. tillaeacea*, *F. v. M.*; *O. trachymenioides*, *F. v. M.*—Recorded from North Australia in *Mueller's Census*.

3. SARCOCEPHALUS, AFZEL., 1818.

(*Cephalina*, Thonn., 1828; *Plantanocarpum*, Korth., 1839.)

1. *S. cordatus*, *Miq.*—Borrooloola, G. F. Hill (653), 27/10/1911.—Recorded. Glenelg River, N.W. Coast, Herb. Hooker; Victoria River, *F. v. M.* Leichhardt-tree or Canary-wood. Bark yields a canary-yellow dye; a good cabinet wood.

4. RANDIA, LINN.

(*Stylocoryna*, Cav.; *Griffithia*, W. & Arn.; *Cupia*, Dc.; *Gynopachs*, Bl.)

1. *R. densiflora*, *Benth.*—Recorded. Gulf of Carpentaria, *R. Brown*.

R. sessilis, *F. v. M.*—Recorded from North Australia in *Mueller's Census*.

5. GARDENIA, ELLIS, 1761.

(*Bergkias*, Senner., 1776; *Caquipiria*, J. F. Gmel., 1791; *Hyperacanthus*, E. Mey., 1843; *Piringa*, Juss., 1820; *Rothmannia*, Thunb., 1776; *Salhbergia*, Nak., 1790; *Yangapa*, Rafin., 1838.)

Calyx-limb large, scarcely toothed, but splitting on one side or into 2 lobes. Plant glabrous.

Leaves under 1 in. long, narrowed at the base. Corolla-tube dilated upwards, longer than the calyx.—1. *G. edulis*.

Leaves broadly ovate. Corolla-tube cylindrical, scarcely exceeding the calyx-lobes.—5. *G. resinosa*.

Calyx-limb with 4 to 6 linear obtuse lobes, rarely cohering. Young shoots pubescent.

Leaves obovate or oblong, under $1\frac{1}{2}$ in. long. Fruits under 1 in. long.

—4. *G. pyriformis*.

Leaves broadly ovate or orbicular, 2 to 3 in. long. Fruits $1\frac{1}{2}$ to 2 in. long.—3. *G. megasperma*.

Calyx-limb campanulate, truncate, with long subulate-acuminate teeth. Corolla-tube long and cylindrical.—6. *G. suffruticosa*.

Calyx-teeth distinct from the base. Fruit large. Plant glabrous.—2. *G. fucata*.

1. *G. edulis*, *F. v. M.*—Gilbert River and between Flinders and Lynd Rivers, *F. v. M.*

2. *G. fucata*, *R. Br.*—Gulf of Carpentaria, *R. Brown*.

3. *G. megasperma*, *F. v. M.*—North Island, Gulf of Carpentaria, *G. F. Hill* (No. 622), 20/10/1911. Darwin, N.T., *G. F. Hill*, 12/11/1914. Stapleton, N.T., *G. F. Hill*, 5/11/1914. Cambridge Gulf and Vansittart Bay, N.W. Coast, *A. Cunningham*; rocky places, Victoria River, *F. v. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*. The specimens of *Gardenia megasperma* from Darwin and Stapleton, N.T., show several variations, both from the type species and from one another. These may be due to cultivation, and in order to fully determine these points it would be necessary to make an examination on the spot. The variations are mainly seen in the flower and fruits. The flower varies very much in size, in length of pedicel, in size of calyx, length of calyx-tube and calyx-lobes, and the length of the corolla-tube. The shape of the fruit varies from globular to pear-shaped, and in size from 2 to 3 inches.

Var. *arborea*, *Ewart and Cookson*, 28 miles S.E. Newcastle Waters, N.T., *G. F. Hill* (No. 498), 8/7/1911. A tree up to 20 feet high, which seems intermediate between *Gardenia megasperma* and *G. pyriformis*. It resembles the former in the structure of the fruits, which are globular, about 2 in. long, with large seeds and 5 parietal placentas, while it resembles the latter in the leaves, which are oblong-ovate. However, as no flowers are present on the specimen, the exact determination is impossible, and what now appears to be a variety only may in reality be a distinct species.

4. *G. pyriformis*, *A. Cunn.*—York Sound, N.W. Coast, *A. Cunningham*; Victoria River, *Bynoe*.

5. *G. resinosa*, *F. v. M.*—Rocky hills, Victoria River, *F. v. Mueller*, *Bynoe*.

6. *G. suffruticosa*, *R. Br.*—Gulf of Carpentaria, *R. Brown*.

6. CANTHIUM, LAM., 1783.

(*Clusiophyllea*, Baill., 1878; *Dondisia*, DC., 1830; *Lycioserissa*, Roem. & Schutt., 1819; *Psydrax*; *Electronia*, Linn., 1767 partly; *Mitrastigma*, Harv., 1842; *Phallaria*, Schum. & Thonn., 1827; *Psilostoma*, Klotzsch., 1837; *Psydrax*, Gaertn., 1788; *Webera*, Cramer., 1803.)

Leaves broadly ovate, prominently penniveined, and reticulate.—2. *C. latifolium*.

Leaves oblong-elliptical to narrow-lanceolate, prominently and obliquely penniveined.—1. *C. attenuatum*.

Leaves ovate to oblong-elliptical (2 to 6 in. long), very smooth and shining, the veins scarcely prominent.—3. *C. lucidum*.

1. *C. attenuatum*, *R. Br.*—Brunswick Bay, N.W. Coast, A. Cunningham ; Victoria River and Arnhem's Land, F. v. Mueller ; N. Coast, R. Brown ; Sweers Island, Henne.

2. *C. latifolium*, *F. v. M.*—Macdonnell Ranges, 8 miles E. of Haast's Bluff, G. F. Hill (176), 16/5/1911.

3. *C. lucidum*, *Hook. & Arn.*—Gulf of Carpentaria, R. Brown.

C. coprosmoides, *F. v. M.*—Recorded from North Australia in National Herbarium Census.

7. GUETTARDA, LINN.

1. *G. speciosa*, *Linn.*—Port Essington, Armstrong.

8. TIMONIUS, RUMPH.

(*Polyphragmon*, *Desf.*)

1. *T. Rumphii* *DC.* (*P. sericeum*, *Desf.*).—Careening Bay, N.W. Coast, A. Cunningham ; Upper Victoria and Fitzmaurice Rivers, F. v. Mueller ; Port Essington, Armstrong ; Sweers Island, Henne ; Upper Lynd' River, Leichhardt.

9. IXORA, LINN., 1735.

(*Bemsetia*, *Rafn.*, 1838 ; *Eumachia*, *DC.*, 1830 ; *Panchezia*, *Montr.*, 1860 ; *Schetti*, *Adans.*, 1763 ; *Siderodendrum*, *Schreb.*, 1789 ; *Sideroxyloides*, *Jacq.*, 1763.)

Section I. *Pavetta*.—Flowers 4-merous. Style slender, simple, or the lobes not separating.—4. *I. tomentosa*.

Section II. *Ixora*.—Flowers 4-merous. Style-lobes usually spreading. Cymes dense, sessile. Corolla-tube $1\frac{1}{2}$ in. long ; lobes acute, $\frac{1}{4}$ the length of the tube.—1. *I. coccinea*.

Panicles loose. Corolla-tube 3 to 4 lines long ; lobes oblong, nearly as long as the tube.—3. *I. timorensis*.

Section III. *Pentadium*.—Flowers 5-merous.—2. *I. pentamera*.

1. *I. coccinea*, *Linn.*—Port Essington, Armstrong.

2. *I. pentamera*, *Benth.*—Islands of the Gulf of Carpentaria, R. Brown.

3. *I. timorensis*, *Dcne.*—N. Coast, R. Brown ; Port Essington, Armstrong.

4. *I. tomentosa*, *Roxb.* (*Pavetta indica*).—Borrooloola, G. F. Hill (662), 7/11/1911. Recorded. Careening Bay, N.W. Coast, A. Cunningham ; Victoria River, F. v. Mueller ; Bynoe ; N. Coast, R. Brown.

I. Pavetta *Roxb.* ; *I. Dallachyana*, *F. v. M.* ; *I. expandens*, *F. v. M.*—Recorded from North Australia in National Herbarium Census.

10. PSYCHOTRIA, LINN.

(*Grumilea*, *Gaertn.*)

1. *P. nesophila*, *F. v. M.*—N. Coast, R. Brown ; N. Goulburn Island, A. Cunningham ; Port Essington, Armstrong.

11. COELOSPERMUM, BLUME.

(Pogonolobus, F. v. M.)

1. *C. reticulatum*, Benth.—Recorded. Arnhem S. Bay, R. Brown ; Low Island, Henne ; McAdam and Newcastle Ranges, F. v. Mueller.

C. decipiens, Baill.—Recorded from North Australia in National Herbarium Census.

12. SPERMACOCE, LINN.

(Borreria, G. F. W. Mey.; Bigelovia, Spreng.)

Stamens inserted at the base or below the middle of the corolla-tube, the anthers always included. Corolla 1 to 1½ lines long.

Leaves linear, lanceolate, or narrow-elliptical. Stems erect, divaricate or scarcely diffuse. Stamens at the base of the tube.

Corolla-lobes much shorter than the tube.—2. *S. brachystema*.
Corolla-lobes longer than the tube.

Corolla densely bearded at the throat. Anthers small, ovate.—10. *S. pogostoma*.

Corolla not bearded, the narrow lobes pubescent inside
Anthers oblong.—7. *S. leptoloba*.

Stamens inserted at the orifice of the corolla-tube, alternating with its lobes.

Calyx usually 4-lobed. Corolla-lobes without internal appendages.

Annual or perennial herbs.

Corolla-lobes longer than the short broad tube.

Leaves linear or linear-lanceolate.

Corolla about 1 line long. Stamens much shorter than the lobes.—9. *S. multicaulis*.

Corolla about 2 lines long. Stamens as long as or longer than the lobes.—4. *S. exserta*.

Leaves ovate or elliptical, on long petioles. Stamens exceeding the corolla-lobes.—8. *S. membranacea*.

Leaves ovate or broadly lanceolate, rigid, with callous margins.

Stamens not exceeding the corolla-lobes.—11. *S. scabra*.

Corolla-lobes shorter than the tube.

Flowers about 4, in terminal and lateral heads. Corolla about 3 lines long. Cocci almost closed.—5. *S. inaperta*.

Flowers numerous, in heads chiefly terminal.

Corolla about 3 lines long ; lobes nearly as long as the tube.—12. *S. stenophylla*.

Corolla about 4 lines long ; lobes a little more than half as long as the slender tube.—6. *S. lævigata*.

Calyx usually 4-lobed. Corolla-lobes with 2 oblique prominent laminae or auricles on the inner face. Leaves linear or lanceolate.

Annual or perennial herbs.

Corolla 2½ to 3 lines long ; the lobes about as long as the tube.—3. *S. breviflora*.

Corolla 5 to 6 lines long ; the lobes shorter than the tube.—
1. *S. auriculata*.

Calyx 2-lobed. Corolla-lobes without appendages. Undershrub.—

13. *S. suffruticosa*.

1. *S. auriculata*, F. v. M.—N. Coast, R. Brown ; Upper Victoria River, F. v. Mueller ; Port Essington, Armstrong.

2. *S. brachystema*, R. Br.—Arnhem's Land, F. v. Mueller ; Port Essington, Armstrong.

3. *S. breviflora*, F. v. M.—Victoria River and Depot Creek, F. v. Mueller ; Arnhem N. Bay and Islands of the Gulf of Carpentaria, R. Brown ; Attack Creek, M'Douall Stuart.

4. *S. exserta*, Benth.—Islands of the Gulf of Carpentaria, R. Brown ; Croker's Island, A. Cunningham ; Port Essington, Armstrong.

5. *S. inaperta*, F. v. M.—Grassy places, Lower Victoria River, F. v. Mueller.

6. *S. lævigata*, F. v. M.—Stony and grassy banks of Victoria River, Wickham's Creek, and Depot Creek, F. v. Mueller.

7. *S. leptoloba*, Benth.—Port Essington, Armstrong.

8. *S. membranacea*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

9. *S. multicaulis*, Benth.—Islands of the Gulf of Carpentaria, R. Brown.

10. *S. pogostoma*, Benth.—Arnhem's Land, F. v. Mueller ; Port Essington, Armstrong.

11. *S. scabra*, Ewart.—Calyx shorter than corolla, corolla-tube and lobes about equal, stamens inserted at throat, nearly as long as corolla-lobes, which are inflexed at tip, capsule opening to near base. A scabrous-hirsute plant, leaves with thickened callous margins.

Leaves sessile, narrow oblong-lanceolate undulate narrowed to base with thickened margins and a very acute point, up to 25 mm. long by 3-4 mm. broad, stipular sheath very short, 0.6 mm., bristles several times longer and rigidly ciliate. Flower heads terminal or axillary, flowers on short pedicels ; calyx about 5 mm. long, the lobes longer than the tube, narrow linear, acute rigid and ciliate ; corolla 6 mm. long, tube funnel-shaped slightly bearded at throat, lobes of about equal length to tube, elliptical oblong with veins, ciliate internally, and a few short rigid hairs externally at the rounded concave tip ; stamens attached at top of tube, a little shorter than corolla lobes ; style slender, capitate, exserted beyond corolla ; capsule 3 mm. long opening to near base. 35 miles W. of Camp IV., Lander Creek, G. F. Hill (367), 21/6/1911.

The specimens of this species of *Spermaceae* are 40 cm. in height, rigid, and more hirsute and scabrous than any of its congeners. Its leaves and stipular sheaths have the same characters as those seen in *S. marginata*, but the latter differs from *S. scabra* in its corolla being very short and in the stamens being included within the tube, although the inflexed or concave apices of the lobes supply an additional point of resemblance.

12. *S. stenophylla*, F. v. M.—Sweers Island, Gulf of Carpentaria, Henne.

13. *S. suffruticosa*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown.

S. marginata, Benth.; (in National Herbarium Census) *S. uniseta*, Baill.; *S. Jacobsoni*, Baill.; (in Bot. Bull. III.) *Knoxia corymbosa*, Willd.; *Hydnophytum formicarum*, Jack.; *Morinda citrifolia*, L.; *Cælospermum decipiens*, Baill.; *Scyphiphora hydrophyllacea*, Gaertn.; (in National Herbarium Census) recorded from North Australia.

CUCURBITACEÆ.

Anther-cells very flexuose or conduplicate.

Calyx-tube elongated. Petals fringed with long cilia.—5. Trichosanthes.

Calyx-tube broadly campanulate or turbinate. Petals not fringed.

Tendrils branched.

Males in pedunculate racemes. Fruit dry, fibrous.—2. Luffa.

Male flowers small, in clusters or short sessile racemes (in the Australian species). Fruit a small berry.—3. Bryonopsis.

Tendrils simple.

Anthers tipped with an appendage to the connective. Fruit pulpy or fleshy.—4. Cucumis.

Anthers without any appendage.—3. Bryonopsis.

Anther-cells straight, parallel.—1. Melothria.

1. MELOTHRIA, LINN., 1737.

(Aechmandra, Arn., 1841; Arkezostis, Rafin., 1836; Dididostigma, Kunzl., 1843; Harlandia, Hance., 1852; Juchia, M. Roem., 1846; Karivia, Arn., 1841; Landersia, Macfad., 1837; Melothrix, M. Laws., 1875; Melotria, P. Br., 1756; Mukia, Arn., 1841; Pilogyne, Schrad., 1835; Solena, Lour., 1790; Zehneria, Endl., 1833).

Calyx-tube broadly campanulate. Anthers without appendages. Female flowers pedunculate, bearing staminodia.—1. *M. Cunninghamii*.

Calyx-tube turbinate. Anthers with a minute appendage. Female flowers sessile, without staminodia.—2. *M. maderaspatana*.

1. *M. Cunninghamii*, F. v. M. (*Zehneria Cunninghamii*, F. v. M.).—Arnhem N. Bay, R. Brown.

2. *M. maderaspatana*, Cogn. (*Mukia scabrella*, Arn.).—Hermansburg, Finke River, G. F. Hill (52), 11/3/1911.

Recorded. N.W. Coast, Bynoe; Nichol Bay, Gregory's Expedition; Upper Victoria River and Gulf of Carpentaria, F. v. Mueller; Port Essington, Armstrong.

M. subpellucida, Cogn.; *M. celebica*, Cogn.—Recorded from North Australia in National Herbarium Census.

2. LUFFA, CAV.

1. *L. graveolens*, Roxb.—Recorded. N.W. Coast, Bynoe; tributaries of the Victoria River, F. v. Mueller. Native Towel-gourd. The bath Loofah is the vascular network of the fruit of *L. cylindrica*. *L. aegyptiaca*, Mill.; *L. foetida*, Cav.—Recorded from North Australia in National Herbarium Census.

3. BRYONOPSIS, ARN.

(*Bryonia*, Linn.)

1. *B. laciniosa*, Naud.—Sir Charles Hardy's Island, Henne; Port Essington, Armstrong.

Medicinal value; bitter and aperient.

4. CUCUMIS, LINN.

1. *C. trigonus*, Roxb.—Oakover River, Nichol Bay, Gregory's Expedition; Victoria River, F. v. Mueller; Port Essington, Armstrong; Albert River, Henne; in the interior, McDouall Stuart's Expedition.

C. Melo, L.—Recorded from North Australia in National Herbarium Census.

5. TRICHOSANTHES, LINN., 1737.

(Eopepon, Naud., 1866; Involutaria, Ser., 1825; Platygonia, Naud. 1866.)

1. *T. cucumerina*, Linn.—Sandstone Ranges, near Borrooloola, G. F. Hill (792), 25/2/1912.

Recorded. Victoria River, F. v. Mueller; bare rocky hills, Nichol Bay, Gregory's Expedition.

An emetic and a drastic purgative.

T. Holtzei, F. v. M.; *T. Muelleri*, Cogn.; *Momordica Charantia*, L.—Recorded from North Australia in National Herbarium Census.

CAMPANULACEÆ.

Corolla usually irregular. Anthers united in a ring round the style. Ovary 2-celled (*Lobelia*).

Corolla-tube slit open to the base, the limb very irregular, 2-lipped.—

2. *Lobelia*.

Corolla-tube entire or very shortly slit, the limb spreading, nearly regular or oblique.—3. *Isotoma*.

Corolla regular, campanulate. Anthers free. Ovary 3- to 5-celled.—1. *Wahlenbergia*.

1. WAHLENBERGIA, SCHRAD., 1814.

(Aikinia, Salisb., 1830; Cervicina, Delile., 1813; Edraianthus, A. DC., 1839; Hedraeanthus, Griseb., 1844; Schultesia, Roth., 1827; Streleskia, Hook., 1847; Valvinterlobus, Dulac., 1867.)

1. *W. gracilis*, A. DC.—Hugh River, Macdonnell Ranges, G. F. Hill (150), 6/5/1911; Lower MacArthur River, G. F. Hill (677), 8/11/1911.

Recorded. Victoria River, F. v. Mueller; Port Essington, Armstrong. Native Bluebell. Austral Bluebell.

2. LOBELIA, PLUM., 1737.

(Dobrowskya, Presl., 1836; Dortmanna, Linn., 1735; Grammatotheca, Presl., 1836; Holostigma, G. Don., 1834; Holostigmatea, Reichb., 1841; Isolobus, A. DC., 1839; Juchia, Neck., 1790; Mecoschistum, Dulac., 1867; Mezleria, Presl., 1836; Monopsis, Salisb., 1817; Parastranthus, G. Don., 1834; Pratia, G. Don., 1834; Rapuntium, Tourn., 1768; Rhynchopetalum, Fresen., 1838; Stooria, Neck., 1790.)

Flowers hermaphrodite (anthers, stigma, and ovules all perfect).

Leaves sessile, linear or linear-lanceolate.—3. *L. stenophylla*.

Leaves sessile, ovate or orbicular, prominently toothed.—2. *L. quadrangularis*.

Flowers more or less dioecious, the males with an entire stigma and very short ovary with abortive ovules; females with rudimentary stamens or abortive anthers.—1. *L. dioica*.

1. *L. dioica*, R. Br.—Gulf of Carpentaria, opposite Groote Island, R. Brown; Roper River and near Macadam Range, F. v. Mueller.

2. *L. quadrangularis*, R. Br. (*L. humistrata*, F. v. M.).—Banks of brooks and streams, Victoria and Fitzmaurice Rivers, F. v. Mueller.

3. *L. stenophylla*, Benth.—Roper River, Gilruth and Spencer, July-August, 1911.

Recorded. Port Essington, Armstrong.

L. heterophylla, Labill.—Recorded from North Australia in National Herbarium Census.

3. ISOTOMA, LINDL., 1826.

(*Hippobroma*, G. Don., 1834 ; *Lobelia* partly ; *Enchysia* partly ; *Lamencia* partly.)

1. *I. petraea*, F. v. M.—Near Haast's Bluff, Macdonnell Ranges, G. F. Hill (195), 22/5/1911.

1. *Gulliverii*, F. v. M.; *Sphenoclea zeilanica*, Gaertn.—Recorded from North Australia in National Herbarium Census.

GOODENIACEÆ.

Ovules 2 or more in each cell of the ovary or on each side of the imperfect rudimentary dissepiment.

Anthers connate round the style. Capsule linear, 4-valved at least at the base. Leaves narrow-linear or heath-like or reduced to scales.—3. *Leschenaultia*.

Anthers free (when the flower is expanded). Capsule globular ovoid or oblong, opening from the top in 2 or 4 valves. Indusium cup-shaped.

Calyx entirely free.—1. *Velleia*.

Calyx-tube adnate (sometimes exceedingly short), lobes free or adnate at the base.

Style undivided.—2. *Goodenia*.

Style 2- or 3-cleft.—4. *Calogyne*.

Anthers free. Fruit more or less succulent and indehiscent.—5. *Catosperma*.

Ovules 1 or 2 in the whole ovary.

Calyx-tube adnate.

Corolla-tube split, lobes spreading, not auriculate. Ovules 2.

Anthers free.—6. *Scaevola*.

Corolla-tube slit, upper lobes auriculate. Ovule 1. Anthers connate.—7. *Dampiera*.

Calyx and corolla tubes almost closed over the ovary, but free.

Corolla-tube with horizontally spreading lobes. Ovule 1.—*Brunoniaceæ*.

1. VELLEIA, SM., 1798.

(*Euthales*, R. Br., 1810 ; *Ménoceras*, Lindl., 1847.)

Sepals 5, lanceolate, nearly distinct.—2. *V. panduriformis*.

Sepals 5, ovate, connate at the base.—1. *V. connata*.

1. *V. connata*, F. v. M.—70 miles N. of Camp IV., G. F. Hill (400), 29/6/1911. On sandhills. Erect *Velleia*.

2. *V. panduriformis*, A. Cunn.—Recorded. Goodenough Bay and Port Cunningham, N.W. Coast, A. Cunningham.

V. Cusackiana, F. v. M.—Recorded from North Australia in National Herbarium Census.

2. GOODENIA, SM., 1794.

(*Aillya*, De Vr., 1854 ; *Boutonia*, Hot., 1840 ; *Collema*, Anders., 1839 ; *Monochila*, Spach., 1840 ; *Picrophyta*, F. v. M., 1852 ; *Stekhovia*, De Vr., 1854 ; *Tetraphylax*, De Vr., 1854.)

Probably some of the species of this or allied genera possess active medicinal properties, as a fragment of what appeared to be a species of *Goodenia*.

was sent to the late Dr. Joseph Bancroft with a note stating that the aboriginal women gave it to their babies to cause them to sleep when on long journeys. The writer, however, gave no information as to how the herb was administered. Some species yield a bitter tonic extract.

Section I. *Eugoodenia*.—Corolla with two upper lobes splitting much lower than the others, and arching over the genitalia or rarely spreading. Ovules either imbricate in 1 or 2 rows in each cell of the ovary or few and erect from the base of the cavity.

Series I. *Racemosæ*.—Flowers (yellow, white, or blue) in a long, terminal, leafless, interrupted spike raceme or panicle.

(Corolla-lobes less unequal.)—16. *G. Ramelii*.

Series II. *Cæruleæ*.—Peduncles axillary, bracteolate (except *G. Vilmoriniæ*), 1-flowered or the lower lobes loosely cymose. Flowers blue (except *G. erecta*.)

Bracteoles large, leafy, ovate or oblong. Plant glabrous.—3. *G. azurea*.
Bracteoles linear or small.

Flowers blue.—17. *G. scaevolina*.

Flowers yellow, in a narrow panicle, smaller than in *G. scaevolina*.—

6. *G. erecta*.

Bracteoles none.—20. *G. Vilmoriniæ*.

(16. *G. Ramelii*, with a long, leafless panicle, has also the flowers blue.)

Series III. *Foliosæ*.—Erect or rarely decumbent herbs or undershrubs, usually glandular-pubescent or hirsute, with leafy stems. Peduncles axillary, 1-flowered, articulate under the flower, without bracteoles (or very rarely a few peduncles have 1 or 2 minute ones). Flowers yellow, white, or purple.

Stem-leaves all broad, abruptly petiolate or pinnate. Plant glandular-pubescent or rarely glabrous, not villous.—9. *G. grandiflora*.

Stem-leaves contracted at the base into a short petiole or almost sessile. Plant villous or silky-hairy.

Villous, often viscid. Leaves toothed. No spur to the corolla.—
10. *G. heterochila*.

Hairs appressed, almost silky. Leaves entire, long-lanceolate, crowded.—19. *G. Strangfordii*.

Stem-leaves sessile or stem-clasping. Annuals with spreading hairs.

Floral leaves sessile, narrow. Dissepiment of the capsule very short.

Calyx-lobes lanceolate or linear, leafy. Leaves mostly toothed.
—18. *G. sepalosa*.

Calyx-lobes linear-subulate. Stem-leaves mostly entire, linear or linear-lanceolate.—11. *G. hispida*.

Floral leaves cordate, auriculate, not decurrent. Dissepiment of the capsule exceedingly short.—2. *G. auriculata*.

Floral leaves more or less decurrent. Dissepiment reaching to the middle of the capsule.—1. *G. Armstrongiana*.

Series IV. *Pedicellosæ*.—Herbs with the leaves chiefly radical or tufted, the stem leaves either free and distant or collected in terminal tufts, rarely scattered and linear or reduced to bracts. Peduncles long, radical or in terminal tufts, axillary, 1-flowered, without bracteoles. Glabrous or with scattered or appressed or silky hairs.

Radical leaves pinnatifid.—5. *G. coronopifolia*.

Radical leaves entire, linear or lanceolate.—7. *G. glauca*.

Doubtful, perhaps allied to *G. glauca*, but foliage unknown.—13. *G. microptera*.

Section II. *Amphichila*.—Corolla with the 2 upper lobes separated much lower down than the others. Ovules very numerous, closely packed in more than 2 rows in each cell of the ovary. Flowers small, in leafless panicles or on radical scapes.

Flowering stems $\frac{1}{2}$ to 2 ft. high, several times longer than the radical leaves.

Flowers purple.—15. *G. purpurascens*.

Flowers yellow.

Panicle loose and moderately branched. Leaves not conspicuously veined.—8. *G. gracilis*.

Panicle very much branched. Leaves rigid, conspicuously veined.—12. *G. lamprosperma*.

Flowering stems 2 to 4 in. high, much exceeding the tufted or rosulate membranous radical leaves.—4. *G. bicolor*.

Dwarf creeping or stoloniferous plant. Leaves ovate, in rosulate tufts. Scapes or peduncles filiform, mostly 1-flowered.—14. *G. pumilio*.

1. *G. Armstrongiana*, *De Vr.*—N. Australia, R. Brown; Port Essington, Armstrong; Victoria River and grassy flats between Providence Hill and Macadam Range, F. v. M.

2. *G. auriculata*, *Benth.*—Depot Creek, Upper Victoria River, F. v. Mueller.

3. *G. azurea*, *F. v. M.*—35 miles N.W. of Lander Creek, G. F. Hill (380), 24/6/1911.

Recorded. Upper Victoria River and tableland at the sources of Sturt's Creek, F. v. Mueller.

4. *G. bicolor*, *F. v. M.*—Pastures between Macadam Range and Providence Hill, F. v. Mueller.

5. *G. coronopifolia*, *R. Br.*—Cambridge Gulf, N.W. Coast, A. Cunningham; islands of the Gulf of Carpentaria, R. Brown.

6. *G. erecta*, *Ewart* (Plate XXII.).—Calyx-segments subulate, connate in lower half with tube of corolla, which is yellow, with upper lobes separated half-way to base and unequally winged, capsule cylindrical with dissepiment reaching to near top, seeds minute, numerous in 2 rows. Inflorescence in long narrow racemose panicles.

Lower stem-leaves absent, that subtending lowest peduncles of inflorescence 2 cm. long, obovate acute with a few large teeth, sinuate-toothed tapering gradually to base and almost decurrent in a thin line, floral leaves above less toothed and diminishing to linear bracts. Inflorescence a narrow racemose panicle up to 3.8 cm. in length. Peduncles in axils of stem leaves and shorter than these, bearing cymes of 3-7 flowers with a pair of leafy bracts at forks, Calyx 5-6 mm. long, subulate free part of segments as long as connate, tipped with minute dark coloured glands, seen also on bracts. Corolla yellow, thinly pubescent externally, 12 to 14 mm. in length, upper part cleft for half-way to base with a shorter wing on lower margin, forming a linear gibbosity between segments of calyx on under side of tube formed by coalescence of calyx, corolla, and ovary. Summit of ovary 3 mm. in flowering stage, free and glabrous, style of a deep blackish violet, with long cilia from near the base to indusium, which is glabrous on back with short white or sometimes purplish cilia on margin. Capsule cylindrical, 6 mm. long, with dissepiment to near top, seeds numerous in 2 rows, flat suborbicular minutely granular and surrounded with a narrow smooth margin.

The plant shows a general agreement with the characters of *G. scaevolina*, F. v. M., although this is not seen in the leafy young specimens representing

it in the Melb. Herb. The leaves, as far as seen, and the bracts are similar, the upper corolla-lobes are unequally winged, the dissepiment of the capsule reaches almost to the top of the cavity, and the seeds have the characters described by Bentham. The inflorescence, however, is in a very narrow panicle, and the flowers are smaller in all their dimensions, besides being yellow instead of blue, as in *G. scaevolina* and the rest of the series *Cœruleæ*.

12 miles N.W. of Camp III., G. F. Hill (329), 12/6/1911.

7. *G. glauca*, *F. v. M.*—60 miles N.E. of Camp III., G. F. Hill (269a and 283a), 7/6/1911.

Recorded. Sturt's Creek, *F. v. Mueller*. Pale *Goodenia*.

8. *G. gracilis*, *R. Br.*—80 miles W. of Powell's Creek, G. F. Hill (441), 6/7/1911. Slender *Goodenia*.

9. *G. grandiflora*, *Si.*—Haast's Bluff, Macdonnell Ranges, G. F. Hill (200), 22/5/1911. Poisonous, according to Greshoff. Principle unknown.

10. *G. heterochila*, *F. v. M.*—Newcastle Water and Burke River, M'Douall Stuart's Expedition.

Var. foliosa, *Benth.*—Victoria River, *F. v. Mueller*.

Var. runcinata, *Benth.*—Arnhem's Land, *F. v. Mueller*.

11. *G. hispida*, *R. Br.*—Islands of the Gulf of Carpentaria, R. Brown; Copeland Island, A. Cunningham; Bowen's Straits, Port Essington, Armstrong.

12. *G. lamprosperma*, *F. v. M.*—Victoria River, Sturt's Creek, and Macadam Range, *F. v. Mueller*.

13. *G. microptera*, *F. v. M.*—Nichol Bay, N.W. Coast, Walcott.

14. *G. pumilio*, *R. Br.*—South Goulburn Island, A. Cunningham.

15. *G. purpurascens*, *R. Br.*—Victoria River and Sturt's Creek, *F. v. Mueller*; islands of the Gulf of Carpentaria, R. Brown; Fitzmaurice River and near Providence Hill, *F. v. Mueller*.

16. *G. Ramelii*, *F. v. M.*—Attack Creek, M'Douall Stuart.

17. *G. scaevolina*, *F. v. M.*—Sandstone Hills, Upper Victoria River, *F. v. Mueller*.

18. *G. sepalosa*, *F. v. M.*—N.W. Coast, Bynoe; Camden Harbour, Martin; Port Essington, Armstrong.

19. *G. Strangfordii*, *F. v. M.*—Upper Victoria River, *F. v. Mueller*; Elsey's Crek, *F. v. M.* Herb.

20. *G. Vilmoriniæ*, *F. v. M.*—Between Bonney River and Mount Morphet, M'Douall Stuart.

G. hirsuta, *F. v. M.*; *G. Stobbsiana*, *F. v. M.*; *G. Chambersii*, *F. v. M.*; *G. melanoptera*, *F. v. M.*; *G. O'Donnelli*, *F. v. M.*; *G. Armitiana*, *F. v. M.*; *G. cirrifica*, *F. v. M.*; *G. minutiflora*, *F. v. M.* (in National Herbarium Census); and *G. Forrestii*, *F. v. M.* (in Vict. Nat. IX., 1892).—Recorded from North Australia.

3. LESCHENAULTIA, *R. Br.*, 1810.

(*Latouia*, *Lindl.*, 1847.)

Leaves all reduced to small scales. Branches rigid, intricate, divaricate.—

2. *L. divaricata*.

Leaves and stems filiform. Capsule pedicellate.—3. *L. filiformis*.

Leaves linear, acute, slightly flattened. Stems filiform. Capsule sessile.—

1. *L. agrostophylla*.

1. *L. agrostophylla*, F. v. M.—Sandstone tableland of the Upper Victoria River and MacArthur River, Gulf of Carpentaria, F. v. Mueller.

2. *L. divaricata*, F. v. M.—Macdonnell Ranges, G. F. Hill (168), 12/5/1911.

3. *L. filiformis*, R. Br.—Sandstone Ranges, Borrooloola, G. F. Hill (595), 2/10/1911.

The Borrooloola specimens are exactly like those collected by R. Brown at Carpentaria, as represented in the Melb. Herbarium, having short weak decumbent stems about 6 in. high. The flowers are 18 mm. long, intermediate between *L. filiformis* and *L. agrostophylla*; but, as in the latter, a narrow wing is seen on both sides of the two upper lobes of the corolla, and the two lips of the indusium are densely ciliated, as figured by Mueller, in contrast with their usually glabrous condition in *L. filiformis*. Capsule unformed.

The leaf and general appearance more closely resemble *L. filiformis*. The difficulty could be settled by making *L. agrostophylla* a variety of *L. filiformis*.

Recorded. Islands of the Gulf of Carpentaria, R. Brown.

4. CALOGYNE, R. BR.

(*Distylis*, Gaud.)

Style with 2 branches. Dissepiment reaching at least the middle of the ovary.—1. *C. Berardiana*.

Style with 3 branches. Dissepiment exceedingly short, almost rudimentary.—2. *C. pilosa*.

1. *C. Berardiana*, F. v. M.—Dampier's Archipelago, N.W. Coast, A. Cunningham.

2. *C. pilosa*, R. Br.—Arnhem Bays and islands of the Gulf of Carpentaria. R. Brown.

C. heteroptera, F. v. M.; *C. purpurea*, F. v. M.—Recorded from North Australia in National Herbarium Census.

5. CATOSPERMA, BENTH.

1. *C. Muelleri*, Benth.—Gravelly banks of Victoria River, Hooker's and Sturt's Creeks, F. v. Mueller.

6. SCAEVOLA, LINN., 1771.

(*Baudinia*, Lesch., 1839; *Camphusia*, De Vr., 1851; *Cerbera*, Lour., 1790; *Crossotoma*, Spach., 1840; *Glypha*, Lour., 1838; *Hemicharis*, Salisb., 1839; *Lobelia*, Adans., 1763; *Merkusia*, De Vr., 1851; *Pogonetes*, Lindl., 1836; *Roemeria*, Dennst., 1818; *Temminckia*; *Molkenboeria*.) Fan flower.

Section I. *Sarcocarpæa*.—Shrubs. Leaves usually large, with woolly axils. Flowers in lateral or axillary dichotomous cymes. Exocarp usually very succulent.—4. *S. Koenigii*.

Section II. *Crossotoma*.—Shrubs. Flowers solitary, on short slender axillary peduncles.—10. *S. spinescens*.

Section III. *Pogonanthera*.—Herbs or undershrubs. Peduncles or pedicels axillary, 1-flowered or the lower ones bearing a dichotomous cyme of 3 or more flowers or rarely flowers sessile on leafless nodes. Anthers sometimes tipped with a minute tuft of hairs.

Stem-leaves very small and distant or none.—8. *S. parvifolia*.

Leaves linear, mostly 1 in. long or more. Plant glabrous.—3. *S. Cunninghamii*.

Section IV. *Xerocarpæa*.—Herbs, undershrubs, or shrubs. Flowers sessile or nearly so in the axils of floral leaves or bracts, all or the upper ones forming a terminal dense or interrupted and leafy spike.

Series I. *Globuliferae*.—Ovary 2-celled. Hairs on the back of the indusium short or few or scattered. Flowers rather large (usually blue), with rows of soft bristles or subulate teeth tipped with minute white tufts descending in the throat from the margins of the lobes.—2. *S. angulata*.

Series II. *Macrostachyæ*.—Ovary 2-celled. Hairs on the back of the indusium short or few or scattered. Flowers usually smaller than in *Globuliferae* (white?) with very few or no penicillate bristles within the throat. Fruiting spike usually continuous with small bracts.

Branching tomentose-villous shrub. Leaves small, entire mostly sessile.—

9. *S. revoluta*.

Glabrous or viscid shrubs. Leaves petiolate, broad, toothed.—6. *S. ovalifolia*.

Undershrubs or herbs. Leaves linear or lanceolate.

Leaves 1 in. or under.—5. *S. macrostachya*.

Leaves over 1 in. long.—7. *S. paniculata*.

Series III. *Pogogyneæ*.—Ovary 2-celled. Indusium with a dense tuft of hairs at the base on the back as long as the indusium itself.—1. *S. amblyanthera*.

1. *S. amblyanthera*, *F. v. M.*—Granite valleys of the Upper Nicholson River, Gulf of Carpentaria, *F. v. Mueller*.

2. *S. angulata*, *R. Br.*—South Goulburn Island, *A. Cunningham*; islands of the Gulf of Carpentaria, *R. Brown*.

3. *S. Cunninghamii*, *DC.*—Dampier's Archipelago, *A. Cunningham*; Nichol Bay, Gregory's Expedition.

4. *S. Koenigii*, *Vahl.*—N. Coast, *A. Cunningham*; mouth of the Victoria River, *F. v. Mueller*. Young leaves eaten as a pot herb. The pith yields "rice paper." The wood is also useful.

5. *S. macrostachya*, *Benth.*—Lacrosse Island, Cambridge Gulf, and Regent's River, *A. Cunningham*; Usborne's Harbour, *Bynoe*.

6. *S. ovalifolia*, *R. Br.*—Sandstone tableland, Upper Victoria River, *F. v. M.*; islands of the Gulf of Carpentaria, *R. Brown*; Sweers Island, *Henne*.

7. *S. paniculata*, *Ewart and Davies* (Plate XXIII.).—Shrub or undershrub, hirsute all over with fairly long silky hairs. Leaves lanceolate, 1 to 1½ in. long, passing into the bracts, which are about ½ in. long and somewhat broader. Flowers sessile, in rather dense leafy spikes. Corolla about ½ in. long, slightly hairy outside. Near to *S. macrostachya*, but has larger leaves, is more tomentose, and the inflorescence is a raceme of spikes. Sandstone Ranges, near Western Creek, *G. F. Hill* (774), 16/2/1912.

8. *S. parvifolia*, *F. v. M.*—110 miles N. of Survey Camp, *G. F. Hill* (411), 1/7/1911; 40 miles W. of camp at Lander Creek, *G. F. Hill* (366), 21/6/1911.

Recorded. Hooker's Creek, *F. v. Mueller*.

9. *S. revoluta*, *R. Br.*—Islands of the Gulf of Carpentaria, *R. Brown*; Sea Range and Upper Victoria River, *F. v. Mueller*.

10. *S. spinescens*, *R. Br.*—Dampier's Archipelago, *A. Cunningham*. Prickly fanflower. *S. depauperata*, *R. Br.*—Recorded from North Australia in National Herbarium Census.

An Australian species of *Scaevola* is poisonous according to Greshoff. Arrow poison.

7. DAMPIERA, R. Br.

(*Linschotenia*, De Vr.)

1. *D. cinerea*, Ewart and Davies (Plate XXIV.).—Shrub or undershrub, clothed with a dense complicated stellate tomentum. Branches terete. Leaves $1\frac{1}{2}$ to 2 in., oblong-lanceolate tapering into a petiole of about $\frac{1}{2}$ in. thick, entire, and concave. Flowers sessile, solitary within the bracts, forming spikes of about 4 to 5 in., sometimes branching at the base into a leafless panicle. Bracts small, lanceolate; bracteoles very small. Calyx-tube densely tomentose. Ovary 1-celled. 70 miles N. of Camp IV., G. F. Hill (399a), 29/6/1911; 20 miles N.W. by N. of Meyer's Hill, Macdonnell Ranges, G. F. Hill (212), 1/6/1911.

D. incana, R. Br.—Recorded from North Australia in National Herbarium Census.

BRUNONIACEÆ.

BRUNONIA, Sm., 1811.

1. *B. australis*, Sm.—70 miles N. of Camp III., G. F. Hill (399), 1911. Blue Pincushion.

STYLIDIACEÆ.

(*Candolleaceæ*.)

1. STYLIDIUM, SWARTZ, 1805.

(*Andersonia*, Koen., 1834; *Candollea*, Labill, 1805; *Forsteriopsis*, Sond., 1845; *Ventenatia*, Sm. 1805; *Stylidium*, Andr., 1811.)

Hair-trigger or spring-back plants.

Section I. *Tolypangium*.—Capsule globular-ovoid, obovoid or oblong.

Series I. *Lineares*.—Perennials with a tufted or shortly proliferous stock or rarely annuals. Leaves radical, linear or rarely linear-lanceolate. Scapes leafless; except a few scattered bracts. Inflorescence racemose, paniculate or corymbose.—3. *S. Floodii*.

Series II. *Spathulatae*.—Perennials with a tufted or proliferous stock or rarely annuals. Leaves radical or terminal, from linear-spathulate to obovate. Scapes leafless, except a few scattered bracts.

Scape with long, spreading, glandless hairs.—4. *S. floribundum*.

Scape glabrous or with short, glandular hairs.—5. *S. leptorrhizum*.

Section II. *Nitrangium*.—Capsule linear or very narrow-oblong.

Series III. *Tenellæ*.—Slender annuals. Leaves small or thin, alternate or scattered, the lower ones sometimes more crowded, but not distinctly tufted or rosulate.

Leaves linear, chiefly in the lower part of the stem. Bracts very small.—2. *S. fissilobium*.

Leaves scattered along the stem, contracted at the base, the lower ones not larger, the upper ones passing into the bracts. Tropical species.

Floral leaves or bracts opposite. Capsule sessile.—1. *S. alsinoides*.

Floral leaves or bracts alternate. Capsule pedicellate.—*S. tenerrimum*.

Series IV. *Corymbulosæ*.—Slender annuals or small perennials. Leaves radical, rosulate or tufted. Scapes rarely exceeding 6 in. Flowers corymbose or sessile in the forks or along the scape or its branches, or solitary.

Leaves radical, not forming a bulb, the lamina thin, obovate-orbicular. Tropical species.

Calyx-lips undivided, short and broad. Corolla-lobes nearly equal.—10. *S. rotundifolium*.

Calyx lower lips 3-partite. Corolla with 2 lobes much longer and bifid. Very slender, slightly granular. Flowers white.—11. *S. schizanthum*.

Rather more rigid and glandular. Flowers pink.—6. *S. lobuliflorum*.

Stem shortly developed below the terminal tuft of leaves and peduncles. Tropical species.

Leaves linear-subulate. Peduncles 1-flowered.—9. *S. pedunculatum*.

Leaves oblanceolate or spatulate. Stem thick and hard. Flowers corymbose.—8. *C. pachyrrhizum*.

Leaves petiolate, orbicular, membranous ($\frac{1}{2}$ to 1 in.).—7. *S. muscicola*.

1. *S. alsinoides*, *R. Br.*—Victoria River towards Stokes Range and Wickham River, Gulf of Carpentaria, F. v. Mueller.

2. *S. fissilobium*, *F. v. M.*—Grassy, inundated places on the Victoria River, between main camp and Steep Head, F. v. Mueller.

3. *S. Floodii*, *F. v. M.*—Lander Creek, G. F. Hill (313), 10/6/1911.

Recorded. Gravelly banks of the Upper Victoria and Roper Rivers, F. v. M.

4. *S. floribundum*, *R. Br.*—Islands of the Gulf of Carpentaria, R. Brown; moist, shady places at the sources of Wentworth River, and near M'Adam Range, F. v. M.

5. *S. leptorrhizum*, *F. v. M.*—Greville's Island, Regent River, N. Coast, A. Cunningham; dry pastures on the Victoria River and between M'Adam Range and Providence Hill, F. v. Mueller; Port Essington, Armstrong.

Var. pilosum, *Benth.*—Van Diemen's Gulf, N.W. Coast, A. Cunningham.

6. *S. lobuliflorum*, *F. v. M.*—Moist, sandy pastures on the Victoria River, near Steep Head, F. v. Mueller.

7. *S. muscicola*, *F. v. M.*—In tufts of moss near springs and cataracts on the Upper Victoria River, F. v. Mueller.

8. *S. pachyrrhizum*, *F. v. M.*—Pastures between Providence Hill and M'Adam Range, F. v. Mueller.

9. *S. pedunculatum*, *R. Br.*—Port Essington, Armstrong.

10. *S. rotundifolium*, *R. Br.*—Plains at the foot of M'Adam Range, F. v. Mueller; Hunter's River, York Sound, A. Cunningham.

11. *S. schizanthum*, *F. v. M.*—Moist pastures on the Victoria River, F. v. Mueller.

12. *S. tenerrimum*, *F. v. M.*—Margins of swamps between M'Adam Range and Providence Hill, F. v. Mueller.

S. calcaratum, *R. B.*—Recorded from North Australia in National Herbarium Census.

COMPOSITÆ.

Tribe I. *Vernoniaceæ*.—Leaves alternate. Flower-heads discoid, the florets all tubular, hermaphrodite and regular or nearly so. Involucre imbricate. Anthers usually obtuse at the base, without tails. Style-branches subulate and acute, not swollen at the base.

Flower-heads on separate peduncles.

Involucre ovoid, without leafy bracts. Pappus of capillary bristles with a few or a ring of short ones outside.—2. *Vernonia*.

Involucre ovoid, consisting of few herbaceous bracts. Anthers almost tailed. Pappus of 2 to 4 exceedingly deciduous short bristles.—1. *Pleurocarpæa*.

Flower-heads small, sessile, in a cluster or compound head.

Involucre narrow, flattened. Pappus of a few rigid bristles.—3. *Elephantopus*.

Tribe II. *Asteroideæ*.—Leaves alternate or very rarely opposite. Flower-heads either heterogamous or diœcious, the female florets ligulate or filiform, the hermaphrodites or males tubular and 4- or 5-toothed, or (in very few exceptional species) the florets all hermaphrodite and tubular. Anthers various. Style-branches in the hermaphrodite florets usually more or less flattened, produced beyond the stigmatic lines into tips or appendages, papillose on the outside.

Female florets ligulate, forming a ray to the flower-head.

Pappus of the ray or of all the florets of capillary simple or plumose bristles.

Achenes terete or slightly flattened. Ray-florets in a single row.

Anthers obtuse at the base or shortly pointed. Involucral bracts with dry scarious margins.—8. *Olearia*.

Anthers with fine tails. Involucral bracts dry or the outer ones leaf-like. Ray-florets often irregular.—11. *Pterigeron*.

Achenes much flattened. Ray-florets numerous, usually in several rows.

Achenes all fertile, produced into a slender beak bearing a capillary pappus.—7. *Podocoma*.

Achenes all fertile, not beaked, the capillary pappus sessile.—6. *Vittadinia*.

Achenes of the ray fertile, with a capillary pappus, those of the disk mostly abortive, with a reduced or scaly pappus.—4. *Minuria*.

Pappus of rigid, unequal, usually divaricate awns or spines, sometimes accompanied by scales.—5. *Calotis*.

Female florets filiform or irregular.

Flower-heads small, closely sessile, in dense clusters or compound heads.

Involucral bracts linear, herbaceous or scarious.

Pappus none. Anthers without tails or points at the base.—15. *Sphæranthus*.

Pappus of capillary bristles. Anthers with short tails or points at the base.—16. *Pterocaulon*.

Involucral bracts dry, rigid and acute. Anthers tailed. Pappus of a few rigid bristles, flat and scale-like at the base.—12. *Thespidium*.

Flower-heads separately pedunculate or rarely sessile, but distinct. (A few species of *Olearia* have the ray-florets minutely and imperfectly ligulate.)

Pappus of simple capillary bristles.

Involucral bracts narrow-linear, herbaceous or soft. Style of the disk-florets branched.—9. *Blumea*.

Involucral bracts rigid, often broad. Some or all the disk-florets sterile, with a simple style.—10. *Pluchea*.

Pappus of the female florets none, of the sterile disk-florets small.

Anthers and involucre of *Pluchea*.—14. *Epaltes*.

Pappus of scabrous denticulate or almost plumose bristles.

Ray-florets usually irregular. Anthers tailed. Involucre dry or leafy.—11. *Pterigeron*.

Pappus a short, scaly, jagged tube or cup. Anthers tailed.

Involucre dry.—13. *Coleocoma*.

Pappus none or of short obtuse scales.

Anthers obtuse at the base.—Tribe IV. *Anthemideæ*.

Anthers with fine tails.—Tribe V. *Gnaphalieæ*.

Tribe III. *Heliantheæ*.—Leaves opposite or rarely alternate. Flower-heads either heterogamous, with the female florets more or less ligulate, the central ones tubular hermaphrodite or male, or rarely discoid, with all the florets hermaphrodite and tubular. Receptacles with chaffy scales between the florets. Anthers without tails. Style of *Senecionidæ* or approaching that of *Asteroidæ*. Pappus of stiff awns, or of short scales or none.

Involucre of 2 or 3 rows of bracts, nearly equal or the outer row broader and leafy.

Pappus none or of very short awns or fine bristles.

Receptacle flat or slightly convex.

Style-branches obtuse and flattened. Ray-achenes triangular, disk-achenes flat.—25. *Eclipta*.

Style-branches almost acute. Ray- and disk-achenes usually flattened or thick.—26. *Wedelia*.

Style of the disk-florets undivided. Ray-achenes flattened; disk-achenes abortive.—24. *Moonia*.

Receptacle conical. Style-branches truncate.

Ray-achenes triangular; disk-achenes flattened.—27. *Spilanthes*.

Pappus of 2 to 4 rigid awns.

Ray-florets when present, neuter.—29. *Bidens*.

Ray-florets when present, female.—28. *Glossogyne*.

Flower-heads small, narrow, collected in dense clusters or compound heads. No pappus.—30. *Flaveria*.

Tribe IV. *Anthemideæ*.—Leaves alternate. Flower-heads heterogamous, the females ligulate or filiform or without corollas, the disk-florets hermaphrodite or male, or very rarely all the florets tubular and hermaphrodite. Receptacle without or rarely with scales. Anthers without tails. Style of *Senecionidæ*.—Pappus none or reduced to a raised border or rarely of short scales.—31. *Centipeda*.

Tribe V. *Gnaphalieæ*.—Leaves alternate, quite entire. Flower-heads discoid, with all the florets tubular and hermaphrodite or the central ones male, or the florets of the circumference female and filiform or very rarely ligulate or irregular, or rarely the heads more or less dioecious. Anthers with very fine hair-like tails at the base, sometimes very short (or rarely quite wanting?). Style-branches usually nearly terete, very obtuse or truncate. Involucral bracts most frequently scarious.

Sub-tribe I. *Angiantheæ*.—Flower-heads small, usually numerous, sessile or nearly so on a common receptacle, in a dense cluster or compound head, usually surrounded by scarious or leafy bracts, forming a general involucre. Florets all hermaphrodite, a few rarely sterile.—22. *Calocephalus*.

Sub-tribe II. *Helichryseæ*.—Flower-heads distinct, pedunculate or sessile. Female filiform florets few or none, rarely forming 1 or 2 complete outer series.

Pappus of chaffy scales.—21. *Rutidosis*.

Pappus of capillary bristles, simple, barbellate or plumose.

Involucral bracts linear, all herbaceous or the inner ones shortly scarious at the tips.—17. *Ixiolæna*.

Involucral bracts imbricate, scarious or with petal-like laminæ. Achenes sessile.

Involucral bracts all very thin and scarious. Outer female florets usually large and irregular.—23. *Podolepis*.

Outer involucral bracts thin and scarious. Achenes more or less distinctly contracted into a beak.—19. *Leptorrhynchus*.

Involucral bracts almost all or the inner ones or their laminæ opaquely scarious or petal-like. Achenes not beaked. Female florets usually few. Stems erect, leafy, simple or branched.—18. *Helichrysum*.

Pappus usually plumose from the base.—20. *Waitzia*.

Tribe VI. *Senecionidæ*.—Leaves alternate. Flower-heads either heterogamous, with the female florets ligulate or rarely filiform, or sometimes homogamous, with all the flowers hermaphrodite and tubular. Receptacle without scales. Anthers obtuse or scarcely pointed at the base, without tails. Style-branches truncate and penicillate, or rarely with pubescent tips or appendages. Pappus of capillary bristles. Involucral bracts in the Australian genera in a single row, with or without a few small outer ones round their base.—32. *Erechthites*.

1. PLEUROCARPÆA, BENTH.

1. *P. denticulata*, Benth.—Islands of the Gulf of Carpentaria, R. Brown.

2. VERNONIA, SCHREB.

1. *V. cinerea*, Less.—Victoria River and Macadam Range, F. v. Mueller.

3. ELEPHANTOPUS, LINN.

1. *E. scaber*, Linn.—Port Essington, Armstrong.

4. MINURIA, DC.

(*Therogeron*, DC.; *Elachothamnus*, DC.; *Kippistia*, F. v. M.).

1. *M. integerrima*, Benth.—Hooker's and Sturt's Creeks, F. v. Mueller.

M. leptophylla, DC.—Recorded from North Australia in National Herbarium Census.

5. CALOTIS, R. BR., 1820.

(*Cheioloma*, F. v. M., 1852; *Goniopogon*, Turcz., 1851; *Huenefeldia*, Walp., 1840.)

Many of the species are noxious weeds.

Achenes not winged. Perennials.

Stock emitting stolons or creeping rhizomes and a tuft of radical leaves. Scapes simple or with very few heads.—4. *C. scapigera*.

Stems numerous, erect, several-headed, the radical leaves decayed before flowering. Flower-heads small. Involucral bracts narrow.—2. *C. lappulacea*.

Achenes winged. Pappus short or of very fine awns.

Perennial with slender branching stems.—1. *C. breviseta*.

Small annuals.—3. *C. pterosperma*.

1. *C. breviseta*, Benth.—Maude Creek, Gilruth and Spencer, July-August, 1911. "Same species from Edith Creek, but only a small bit, so that it cannot be divided." (Note sent with specimen.) Upper Victoria River and barren plains, Fitzmaurice River, F. v. Mueller; Albert River, Henne.

2. *C. lappulacea*, Benth.—60 miles N.E. of Camp II., G. F. Hill (270), 7/6/1911. Common or Yellow Burr Daisy.

3. *C. pterosperma*, R. Br.—Borrooloola, G. F. Hill (603), 2/10/1911; islands of the Gulf of Carpentaria, R. Brown.

4. *C. scapigera*, Hook.—Northern base of Newcastle Range, F. v. Mueller. Tufted Burr Daisy. *C. cymbacantha*, F. v. M.; *C. porphyroglossa*, F. v. M.; *C. Kempei*, F. v. M.—Recorded from North Australia in National Herbarium Census.

6. VITTADINIA, A. RICH.

(*Microgyne*, Less.; *Eurybiopsis*, DC.)

Section I. *Vittadinia vera*.—Achenes with 2 or more ribs on each face.

—1. *V. brachycomoides*.

Section II. *Eurybiopsis*.—Achenes very flat, the margins slightly thickened, without prominent ribs on the faces.—2. *V. macrorrhiza*.

1. *V. brachycomoides*, F. v. M.—Basaltic plains, Hooker and Sturt's Creeks and Arnhem Land, F. v. Mueller.

2. *V. macrorrhiza*, A. Gray.—Brunswick Bay and Prince Regent's Harbour, N.W. Coast, A. Cunningham; Providence Hill, F. v. Mueller; Port Essington, Armstrong; islands of the Gulf of Carpentaria, R. Brown.

7. PODOCOMA, Cass. 1817.

(*Podopappus*, Hook. & Arn.; *Asteropsis*, Less.; *Ixioclamys*, F. v. M.)

1. *P. cuneifolia*, R. Br.—Nichol Bay, N.W. Coast, F. Gregory's Expedition.

8. OLEARIA, MOENCH., 1802.

(*Eurybia*, Cass., 1820; *Haxtonia*, Caley., 1831; *Orestion*, Rafin., 1836; *Shawia*, Forst., 1776; *Spongotrichium*, Nees., 1833; *Steetzia*, Sond., 1852; *Steiractis*, DC., 1836.)

Section I. *Eriotriche*.—Indumentum of the under side of the leaves consisting of densely intricate woolly hairs. Leaves alternate, often small.

—2. *O. axillaris*.

Section II. *Merismotriche*.—Glabrous, glandular-pubescent or hirsute, and often glutinous, the hairs simple rigid, white or transparent and septate. Involucre hemispherical, with narrow usually acute bracts. Flower-heads rather large, few, terminal or in the upper axils, on peduncles shorter than or rarely exceeding the leaves.—4. *O. Stuartii*.

Flower-heads solitary, on peduncles very much longer than the leaves.

Glabrous. Peduncles with subulate bracts. Involucre much shorter than the disk.—3. *O. Ferresii*.

Glabrous or hispid. Peduncles without any or with only one bract.

Involucre as long as the disk.—1. *O. arguta*.

1. *O. arguta*, Benth.—Islands of the Gulf of Carpentaria, R. Brown.

Var. lanata, Benth.—Arnhem, N. and S. Bays, R. Brown.

2. *O. axillaris*, F. v. M.—Dampier's Archipelago, N.W. Coast, A. Cunningham. Coast Aster.

3. *O. Ferresii*, F. v. M. (Aster Ferresii, F. v. M.).—Haast's Bluff, G. F. Hill (186), 17 5/1911.

Recorded. Brindley's Bluff, near Macdonnell Ranges, M'Douall Stuart's Expedition.

4. *O. Stuartii*, F. v. M. (Aster Stuartii, F. v. M.).—35 miles N.W. of Camp II., G. F. Hill (256), 7 6/1911.

9. BLUMEA, DC., 1833.

(Doellia, Sch., 1843 : Placus, Lour., 1790.)

Flower-heads all distinctly pedunculate.

Usually not exceeding 1 ft., pubescent or villous, not viscid. Stem-leaves sessile and stem-clasping, mostly lanceolate. Peduncles rather long.—4. *B. integrifolia*.

Small. Leaves chiefly radical. Stem-leaves few, small, ovate. Peduncles long and filiform.—2. *B. diffusa*.

Flower-heads, at least the upper ones, sessile and clustered.

Leaves lanceolate, oblong or obovate-oblong, the upper ones sessile.

Involute about 4 lines long.—3. *B. hieracifolia*.

Involute under 3 lines long.—1. *B. Cunninghamii*.

Almost all the leaves petiolate and broadly obovate.

Involute 2 to 3 lines long.—5. *B. lacera*.

1. *B. Cunninghamii*, DC.—Lower MacArthur River, G. F. Hill (680), 8, 11/1911. Appears to answer to *B. Cunninghamii*, DC., but leaves (on stem of plant) are all sessile, though on young shoots (of same species) they are shortly pedicellate.

Recorded. Careening and Brunswick Bays, N.W. Coast. A. Cunningham ; Point Pearce, Victoria River, F. v. Mueller ; Gulf of Carpentaria, R. Brown.

2. *B. diffusa*, R. Br.—Islands of the Gulf of Carpentaria, R. Brown ; towards M'Adam Range, F. v. Mueller.

3. *B. hieracifolia*, DC.—Between Providence Hill and M'Adam Range, F. v. Mueller.

4. *B. integrifolia*, DC.—Roper River, Cullen and Driffeld Creeks, Gilruth and Spencer, July-August, 1911.

Recorded. Port Keats, N.W. Coast, A. Cunningham ; Victoria River, M'Adam Range, Roper River, F. v. Mueller.

5. *B. lacera*, DC.—Edith Creek, Gilruth and Spencer, July-August, 1911. Recorded. Victoria River, F. v. Mueller.

B. glandulosa, DC.; (in National Herbarium Census) and *B. Solandri*, Sp. le M.; (in Journ. of Bot. XLIII., 1905).—Recorded from North Australia.

10. PLUCHEA, Cass., 1817.

(Berthelotia, DC., 1836 ; Eyrea, F. v. M., 1852 ; Gymnostylis, Rafin., 1818 ; Gynema, Rafin., 1817 ; Karelinia, Less., 1834 ; Leptogyne, Ell., 1824 ; Pluechea, Zoll. & Mor., 1854 ; Spiropodium, F. v. M., 1858 ; Stylimmus, Rafin., 1819 ; Tecmarsis, DC., 1836.)

Section I. *Pluechea*.—Flower-heads ovoid. Involucral bracts lanceolate or the outer ones ovate.

Shrub of 3 to 4 ft. Leaves obovate. Flower-heads in dense terminal corymbs 2 to 3 in. diameter.—2. *P. indica*.

Herbs or undershrubs of 1 to 2 ft. Flower-heads in loose leafy corymbose panicles, solitary or in small clusters on the branches.—3. *P. tetranthera*.

Section II. *Eyrea*.—Flower-heads broad or hemispherical. Involucral bracts narrow.—1. *P. Eyrea*.

1. *P. Eyrea*, *F. v. M.*—Hermansburg, Finke River, G. F. Hill (71), 11/3/1911.

Recorded. Islands of the Gulf of Carpentaria, R. Brown; Arnhem's Land, F. v. Mueller; Nichol Bay, F. Gregory's Expedition.

Var. major.—Camp III., Lander Creek, G. F. Hill (307), 11/3/1911.

2. *P. indica*, *Less.*—Islands of the Gulf of Carpentaria and the opposite mainland, R. Brown; Port Essington, Armstrong.

3. *P. tetranthera*, *F. v. M.*—Victoria, Flinders, and Van Alphen Rivers, F. v. Mueller.

P. baccharoides, *F. v. M.*; *P. squarrosa*, *Benth.*—Recorded from North Australia in National Herbarium Census.

11. PTERIGERON, A. GR., 1852.

(*Oliganthemum*, *F. v. M.*, 1859; *Streptoglossa*, Steetz., 1863.)

Flower-heads large, almost hemispherical.

Ray-florets ligulate, exceeding the involucre.

Leaves ovate, decurrent. Ray-florets not $\frac{1}{4}$ line broad.—1. *P. decurrens*.

Leaves narrow or obovate, not decurrent. Ray-florets fully $\frac{1}{2}$ line broad.—2. *P. liatroides*.

Ray-florets very slender, about as long as the involucre. Leaves oblong, stem-clasping or slightly decurrent.—3. *P. macrocephalus*.

Flower-heads ovoid.

Leaves decurrent. Ray-florets about as long as the involucre.—

5. *P. odoratus*.

Leaves not decurrent. Ray-florets very slender and shorter than the involucre.—4. *P. microglossa*.

1. *P. decurrens*, *D. C.*—N.W. Coast, Bynoe; Nichol Bay, F. Gregory's Expedition.

2. *P. liatroides*, *Benth.* (*var. humilis*, *Benth.*)—Strangways River, M'Douall Stuart's Expedition.

3. *P. macrocephalus*, *Benth.*—Gulf of Carpentaria, F. v. Mueller; in the interior, lat. 19 degrees 32 minutes, M'Douall Stuart's Expedition.

4. *P. microglossus*, *Benth.*—Sturt's Creek and Fitzmaurice River, F. v. Mueller.

5. *P. odoratus*, *Benth.*—90 miles N.W. of Camp III., G. F. Hill (No. 356), 15/6/1911.

Recorded. Victoria River, F. v. Mueller.

Var. major, *Benth.*—Roper River, Gilruth and Spencer, July-August, 1911.

Recorded. Albert River, F. v. Mueller.

P. adscendens, *Benth.*; *P. filifolius*, *Benth.*; recorded from North Australia in National Herbarium Census.

12. THESPIDIUM, F. v. M.

1. *T. basiflorum*, *F. v. M.*—Islands of the Gulf of Carpentaria, R. Brown; Port Essington, Armstrong; Upper Gilbert River, F. v. Mueller.

13. COLEOCOMA, F. v. M. 1857.

1. *C. Centaurea*, F. v. M.—90 miles N., $\frac{1}{2}$ W. of Camp III., G. F. Hill (No. 348), 15/6/1911.

Recorded. Sturt's Creek, F. v. Mueller.

14. EPALTES, CASS. 1818.

(*Ethuliopsis*, F. v. M., 1861; *Gynaphanes*, Steetz., 1864; *Litogyne*, Harv., 1863; *Pachythelia*, Steetz., 1864; *Sphaeromorphaea* partly.)

1. *E. australis*, Less.—Camp III., Lander Creek, G. F. Hill (No. 297), 10/6/1911. Spreading Epaltes.

Borrooloola, G. F. Hill (No. 611), 9/10/1911.

Recorded. Victoria River to Arnhem's Land, F. v. Mueller; in the interior, M'Douall Stuart's Expedition; Islands of the Gulf of Carpentaria, R. Brown.

15. SPHAERANTHUS, VAILL.

Pubescent or hirsute. Involucral bracts ending in a subulate ciliate point. Disk-florets (always?) sterile.—1. *S. hirtus*.

Glabrous. Involucral bracts scarious, often jagged at the end. Disk-florets (always?) fertile.—2. *S. microcephalus*.

1. *S. hirtus*, Willd. (*S. indicus*, L.).—Victoria River and Gulf of Carpentaria, F. v. Mueller; Albert River and Bentinck's Island, Henne.

2. *S. microcephalus*, Willd. (*S. africanus*, L.).—Low flats, Alligator River, and Van Diemen's Gulf, N.W. Coast, A. Cunningham; Islands of the Gulf of Carpentaria, R. Brown; Albert River, F. v. Mueller.

16. PTEROCAULON, ELL. 1824.

(*Chlaenobolus*, Cass., 1827; *Monenteles*, Labill., 1825; *Sphaeranthoides*, A. Cunn., 1836.)

Clusters of flower-heads small but numerous, forming a terminal dense interrupted spike.—3. *P. verbascifolium*.

Clusters of flower-heads solitary, globular or ovoid-oblong.

Plant tomentose or woolly. Decurrent wings entire.

Clusters globular.—2. *P. spacelatum*.

Plant glandular-pubescent, not tomentose. Decurrent wings toothed.

Clusters ovoid or oblong, large. Disk-florets solitary.—1. *P. glandulosum*.

Clusters globular, rather small. Disk-florets usually 2.—3. *P. sphaeranthoides*.

1. *P. glandulosum*, F. v. M.—Macdonnell Ranges, G. F. Hill (No. 171), 12/5/1911.

Var. velutinum.—Haast's Bluff, G. F. Hill (No. 184), 17/5/1911. This specimen is extremely hairy. The hairs are most abundant on the stem, and on the upper surface of the leaf, making the leaf feel thick and soft. None of the Herbarium specimens is as hairy as this one.

2. *P. spacelatum*, Benth and Hook.—11 mile Creek, near Katharine, Gilruth and Spencer, July-August, 1911.

Recorded. Nichol Bay, N.W. Coast, Herb. F. v. Mueller; Victoria River and M'Adam Range, F. v. Mueller; Albert River, Henne; Gulf of Carpentaria, Landsborough; Attack Creek and M'Donnell Ranges, M'Douall Stuart's Expedition.

3. *P. sphaeranthoides*, *F. v. M.*—Hermansburg, Finke River, G. F. Hill (No. 65), 11/3/1911.

Recorded. Enderby Island, Dampier's Archipelago, N.W. Coast, A. Cunningham; N.W. Coast, Bynoe; Granite Hills, Nichol Bay, Gregory's Expedition.

4. *P. verbascifolium*, *F. v. M.*—Glenelg River, N.W. Coast, Marten; between Victoria and Fitzmaurice Rivers, *F. v. Mueller*.

P. Billardieri, *F. v. M.*: recorded from North Australia in National Herbarium Census.

17. IXIOLAENA, BENTH.

1. *I. leptolepis*, *Benth.*—Sturt's Creek, *F. v. Mueller*. Stalked Ixiolaena.

18. HELICHRYSUM, VAILL. 1737.

Section I. *Xerochlaena*.—Perennials, sometimes almost woody at the base; rarely also annual. Involucre broad, hemispherical, the outer sessile broad bracts passing more or less gradually into intermediate or inner ones with scarious or linear claws and radiating coloured laminae. Achenes glabrous, papillose or rarely shortly villous.—2. *H. bracteatum*.

Section II. *Chrysocephalum*.—Herbs with corymbose flower-heads. Involucre ovoid-turbinate or almost globose, the bracts coloured in many rows scarcely exceeding the florets, appressed or squarrose, ciliate. Female florets in 1 or 2 rows, but not so numerous as the hermaphrodite ones. Achenes glabrous or papillose. Pappus-bristles few, simple at the base, plumose at the end.—1. *H. apiculatum*.

1. *H. apiculatum*, *D. Don*.—Hugh River, Macdonnell Range, G. F. Hill (No. 142), 5/5/1911.

About 90 miles W. of Alice Springs, G. F. Hill (No. 156), 9/5/1911. With racemose inflorescence. Pointed Everlasting.

Recorded. Arnhem's Land, *F. v. Mueller*.

Poisonous according to Greshoff, anthelminthic. Causes death from irritation and from the formation of hair-balls in the stomachs of stock.

2. *H. bracteatum*, *Willd.*—Port Essington, Armstrong.

H. oligochaetum, *F. v. M.*; *H. Gilesii*, *F. v. M.*; recorded from North Australia in National Herbarium Census.

19. LEPTORHYNCHUS, LESS. 1832.

(*Aphanorhynchus*, *Endl.*, 1838; *Doratolepis*, *Schlecht.*, 1847; *Rhytidanthes*, *Benth.*, 1837.) Buttons.

1. *L. ambiguus*, *Benth.* (var. *semicalvus*, *F. v. M.*).—20 miles N.W. by N. of Meyer's Hill, Macdonell Ranges, G. F. Hill (No. 216), 1/6/1911.

20. WAITZIA, WENDL. 1808.

(*Morna*, *Lindl.*, 1837; *Pterochaeta*, *Steetz.*, 1845; *Viraya*, *Gaud.*, 1826.)

1. *W. corymbosa*, *Wendl.*—(*W. nivea*, *Benth.*; *W. odontolepis*, *Turcz.*) 60 miles N.E. of Camp II., G. F. Hill (No. 263), 1911. Dwarf plants. Immortelle.

21. RUTIDOSIS, D. C. 1837. (Wrinkle Wort.)

(*Actinopappus*, Hook, 1852; *Pumilo*, Schlecht., 1848; *Lepidocoma*.)

Leaves decurrent. Pappus-scales deeply divided into bristle-like lobes.—

1. *R. Brownii*.

Leaves not decurrent. Pappus-scales undivided.

Anthers much exserted. Pappus-scales 5 to 7, spatulate, quite entire. Flowers yellow.—2. *R. helichrysoides*.

Anthers not exserted. Pappus-scales about 10.—3. *R. leucantha*.

1. *R. Brownii*, Benth.—islands of the Gulf of Carpentaria, R. Brown.

2. *R. helichrysoides*, D. C.—60 miles N.E. of Camp II., G. F. Hill (No. 265), 7/6/1911.

3. *R. leucantha*, F. v. M.—Mackenzie River, F. v. Mueller.

22. CALOCEPHALUS, R. Br. 1817. (Beauty Heads.)

(*Achrysum*, A. Gr., 1852; *Blennospora*, A. Gr., 1851; *Leucophylla*, R. Br., 1817; *Pachysurus*, Steetz., 1845.)

Pappus bristles united to a cup at the base.—1. *C. multiflorus*.

Pappus hairs free, plumose at the tip.—2. *C. Knappii*.

1. *C. multiflorus*, Benth.—Hermansburg, Finke River, G. F. Hill (No. 58), 11/3/1911. Specimen about 10 in. high.

2. *C. Knappii*, Ewart and White (Proc. Royal Soc. Vict., Vol. 22, 1909, p. 320).—Finke R., H. Kempe, Dec. 1879, 1880 and 1882.

C. Dittrichii, F. v. M.; recorded from North Australia in National Herbarium Census.

23. PODOLEPIS, LABILL.

(*Scalia*, Sims.; *Panaetia*, Cass.; *Scaliopsis*, Walp.; *Siemssenia*, Steetz. *Stylolepis*, Lehm.; *Rutidochlamys*, Sond.)

1. *P. longipedata*, A. Cunn.—Mackenzie River, F. v. Mueller. (Long P.)

P. canescens, Cunn. (Grey P.); *P. pallida*, Turcz.; *P. rugata*, Labill. (Pleated P.); recorded from North Australia in National Herbarium Census.

24. MOONIA, ARN.

(*Pentalepis*, F. v. M.)

Leaves entire. Involucre, 5 to 6 lines long.—3. *M. trichodesmoides*.

Leaves coarsely toothed. Involucre about 3 lines long.

Leaves mostly ovate-lanceolate or lanceolate; nearly sessile.—1. *M. ecliptoides*.

Leaves mostly ovate, petiolate.—2. *M. procumbens*.

1. *M. ecliptoides*, Benth.—N.W. Coast, Bynoe; Camden Harbour (Marten?), Hooker's and Sturt's Creeks, F. v. Mueller; Port Essington, Armstrong.

2. *M. procumbens*, Benth.—Palm Bay, Croker's Island, A. Cunningham; Port Essington, Armstrong.

3. *M. trichodesmoides*, Benth.—Nichol Bay, N.W. Coast, F. Gregory's Expedition.

25. ECLIPTA, LINN.

1. *E. platyglossa*, *F. v. M.*—Islands of the Gulf of Carpentaria, R. Brown, Henne; Albert and Roper Rivers, *F. v. Mueller*. Yellow Twinhead.

E. alba, *Hassk.*; *E. latifolia*, *L.*; recorded from North Australia in National Herbarium Census.

26. WEDELIA, JACQ.

(*Wollastonia*, *D. C.*)

Five or six of the outer involucre bracts more leaf-like and longer than the others. Pappus cup-shaped.—3. *W. urticifolia*.

Outer involucre bracts not longer than the inner ones.

Pappus small and cup-shaped in the centre of the achene, and sometimes 1 or 2 teeth or small bristles from the angles.—4. *W. verbesinoides*.

Pappus none or of 1 or 2 deciduous bristles.

Straggling perennial. Leaves ovate or broadly ovate-lanceolate.—2. *W. biflora*.

Erect coarse annual. Leaves lanceolate.—1. *W. asperrima*.

1. *W. asperrima*, *Benth.*—Victoria River and Sturt's Creek, *F. v. Mueller*.

2. *W. biflora*, *D. C.*—Islands of the Gulf of Carpentaria, R. Brown; South Goulburn Island, A. Cunningham; Keppel Bay, Thozet.

3. *W. urticifolia*, *D. C.*—Grassy rocky places, Goulburn Island, A. Cunningham; Islands of the Gulf of Carpentaria, R. Brown.

4. *W. verbesinoides*, *F. v. M.*—N. Australia, *F. v. Mueller*; Arnhem's Bay, R. Brown; Finke River, M'Douall Stuart's Expedition.

27. SPILANTHES, LINN.

Flower-heads with yellow rays.—2. *S. grandiflora*.

Flower-heads discoid, without rays.—1. *S. anactina*.

1. *S. anactina*, *F. v. M.*—Islands of the Gulf of Carpentaria, R. Brown, Henne.

2. *S. grandiflora*, *Turcz.*—Sturt's Creek, *F. v. Mueller*.

28. GLOSSOGYNE, CASS.

(*Diodontium*, *F. v. M.*)

Leaves alternate, pinnate. Ray-florets few. Disk-florets 4-toothed.—

2. *G. tenuifolia*.

Leaves opposite, entire, slender. Ray-florets wanting. Disk-florets 5-toothed.—1. *G. filifolia*.

1. *G. filifolia*, *F. v. M.*—Sources of Hooker's Creek, *F. v. Mueller*.

2. *G. tenuifolia*, *Cass.*—Goulburn Island, A. Cunningham.

29. BIDENS, LINN.

1. *B. bipinnata*, *Linn.*—Victoria River, *F. v. Mueller*; Islands of the Gulf of Carpentaria, R. Brown. Bur-marigold.

30. FLAVERIA, Juss. 1789.

(*Brotera*, Spreng., 1802; *Nauenbergia*, Willd., 1803; *Vermifuga*, Ruiz. and Pav., 1794.).

1. *F. australasica*, Hook.—Roper River, Gilruth and Spencer, July-August, 1911.

Recorded. Nichol Bay, N.W. Coast, F. Gregory's Expedition; Victoria River and Hooker's Creek, F. v. Mueller; Islands of the Gulf of Carpentaria, R. Brown; in the interior, M'Douall Stuart's Expedition; Albert River, Henne.

31. CENTIPEDA, Lour. 1790.

(*Sphaeromorphaea*, partly).

1. *C. orbicularis*, Lour. (*Myriogyne minuta*, Less.).—Camp III., Lander Creek, G. F. Hill (No. 296), 10/6/1911. Spreading Sneezeweed.

Camp II., N.T., G. F. Hill (No. 240b), 3/6/1911.

Abraham's Lagoon, Gilruth and Spencer, July-August, 1911.

Recorded. Arnhem's Land, F. v. Mueller.

Snuff-plant. Poisonous according to Greshoff; anthelmintic.

C. racemosa, F. v. M.; *C. Cunninghamii*, F. v. M. (Erect Sneezeweed); recorded from North Australia in National Herbarium Census.

32. ERECHTITES, Rafin. 1817.

(*Neoceis*, Cass, 1820; *Ptileris*, Rafin, 1818.)

1. *E. hispidula*, D. C.—Borrooloola, G. F. Hill (No. 614), 9/10/1911.

Cullen Creek, Gilruth and Spencer, July-August, 1911. Specimen with very large leaves; 11 cm. long, 2 cm. wide. Stiff Fire-weed.

Brachycome iberidifolia, Benth.; *Erigeron ambiguus*, F. v. M.; *Erigeron sessilifolius*, F. v. M.; *Conyza aegyptiaca*, Ait.; *Gnaphalium luteo-album*, Linn.; *Gnaphalium indicum*, Linn.; *Helipterum Margarethae*, F. v. M.; *Helipterum roseum*, Benth.; *Helipterum floribundum*, D. C.; *Helipterum incanum*, D. C.; *Helipterum condensatum*, F. v. M.; *Helipterum Humboldtianum*, D. C.; *Helipterum corymbiflorum*, Schlecht.; *Decazesia hecatocephala*, F. v. M.; *Myriocephalum Stuartii*, Benth.; *Angianthus tomentosus*, Wendl.; *Gnephosis cyathopappa*, Benth.; *Senecio Gregorii*, F. v. M.; *Senecio platylepis*, D. C.; *Senecio laetus*, Forst.; *Senecio brachyglossus*, F. v. M.; (in National Herbarium Census), *Helipterum Fitzgibbani*, F. v. M.; (in Vict. Nat. VII., 1890) recorded from North Australia.

ADDENDA.

GRAMINEÆ.

Anthistiria avenacea, F. v. M.—Roper Plains. N.T., Dr. Gilruth, 1911. Locally known as Blue Grass, and generally eaten last by stock.

Astrebala triticoides, F. v. M., var. *lappacea*, Benth.—Bull Oak Creek, Dr. Gilruth, 1911.

Eragrostis tenella, Beauv.—Water-course bottom, Bull Oak Creek, Dr. Gilruth, 1911.

Eriochloa punctata, Hamilt.—Bull Oak Creek, Dr. Gilruth, 1911.

AMARANTACEÆ.

REESIA, Ewart (Proc. Royal Soc. of Victoria, 1913, p. 9).

Reesia erecta, Ewart.—Near Pine Creek. J. H. Niemann, 1904.

VERBENACEÆ.

HUXLEYA, Ewart (Proc. Royal Soc. of Victoria, 1912, p. 109).

Huxleya linifolia, Ewart and Rees.—Port Darwin, N. Holtze, 1892.

BORRAGINACEÆ.

Trichodesma latiseptum, F. v. M.—Bull Oak Creek, Dr. Gilruth, 1911.

STYLIDÆ.

Stylidium alsinoides, R. Br., var. *cordifolium*.—Port Darwin, M. Holtze, 1890, No. 1171.

POPULAR NAMES.

Where the same plant has more than one popular name the form adopted by the Vernacular Names Committee is marked with an asterisk.

Apple Mangrove ..	Carapa moluccensis	Broad-leaved Tea-	
Arrowgrass ..	Triglochin	tree ..	Melaleuca Leucadendron
Austral Centaury ..	Erythraea australis	Buffalo Grass ..	Stenotaphrum americanum
„ Cotton ..	Gossypium Sturtii	Bulrush ..	Typha angustifolium
„ Milkwort ..	Polygala arvensis	Bulwaddy Tree ..	Macropteranthus Kekwickii
„ Poison-bush	Gastrolobium grandiflorum	Bunch Spear Grass	Andropogon contortus
„ Sea-heath	Frankenia pauciflora	Bur-marigold ..	Bidens
Balloon Vine ..	Cardiospermum Halicacabum	Burr Daisy, Common ..	Calotis lappulacea
Barbed-wire Grass	Andropogon refractus	Buttons ..	Leptorhynchus
Barley Grass ..	Hordeum murinum	Button Grass ..	Eleusine aegyptiaca
Barnyard Grass*	Panicum Crus-Galli	Cajaput ..	Melaleuca Leucadendron
Beach Grass ..	Thuarea sarmentosa	Canary-wood ..	Sarcocephalus cordatus
Bear's Breech ..	Acanthus ilicifolius	Cane Grass ..	Leptochloa subdigitata
Beauty Heads ..	Calocephalus	Cannon-ball Tree ..	Carapa moluccensis
Bindweed ..	Convolvulus	Cape Gooseberry ..	Physalis peruviana
Bitter Crab ..	Petalostigma quadriculare	Caper ..	Capparis spinosa
Black Bean ..	Mucuna gigantea	Cat-o'-nine-tails ..	Hakea lorea
Black Mangrove ..	Rhizophora mucronata	Cattlebush ..	Atalaya hemiglaucæ
Black Nightshade*	Solanum nigrum	Cattle Tree ..	Santalum lanceolatum
Bladderworts ..	Utricularia	Caustic Creeper ..	Euphorbia Drummondii
Blinding-tree ..	Excoecaria Agallocha	Caustic Plant ..	„ eremophila
Blood-tree ..	Eucalyptus corymbosa	Caustic-Vine ..	Sarcostemma australe
Bloodwood ..	Eucalyptus corymbosa	Chain Fruit ..	Alyxia
Blueberry plants ..	Dianella	Cluster Fig ..	Ficus glomerata
Bluebush ..	Chenopodium auricomum	Cockshin Grass ..	Panicum Crus-galli
Bluebush, Leafless*	Kochia aphylla	Comet River Grass	Perotis latifolia
„ Short-leaved ..	„ brevifolia	Common Love Grass	Eragrostis Brownii
Blue Grass ..	Andropogon sericeus	Common Mitchell Grass ..	Astrebala pectinata
Box-tree ..	Eucalyptus brachypoda	Common Nightshade	Solanum nigrum
Brisbane Box-tree	Tristania conferta	Common Vervein ..	Verbena officinalis
Birthwort ..	Aristolochia	Coolibar Grass ..	Panicum trachyrachis
Broad-leaved	Brachychiton trichosiphon	Coral-tree ..	Erythrina indica
Bottle-tree ..	„		

Cotton-bush ..	{	Adriana acerifolia	Native Fuchsia ..	Eremophila maculata
		Kochia aphylla and	Native Pear ..	Eugenia eucalyptoides
		Kochia brevifolia	Native Raspberry ..	Rubus moluccanus
Cotton Tree ..	Bombax malabaricum		Native Rosella ..	Hibiscus heterophyllus
	& Hibiscus tiliaceus		Native (Austral*)	
Cypress Pine ..	Callitris robusta		Tobacco ..	Nicotiana suaveolens
Darling Downs			Native Towel-gourd	Luffa graveolens
Pomegranate ..	Capparis Mitchellii		Nightshade ..	Solanum nigrum
Ditch Millet ..	Paspalum scrobiculatum		Nun-flower ..	Pterostylis
Docks ..	Rumex		Nut Grass or Sedge*	Cyperus rotundus
Dog's Mustard ..	Cleome viscosa		" Old Man" Saltbush	Atriplex nummularia
Early Spring Grass	Eriochloa punctata		Orange Mangrove	Bruguiera Rheedii
Ebony Wood ..	Maba humilis		Papa Grass ..	Panicum decompositum
Emu Bush, Spotted	Eremophila maculata		Paper Bark ..	McLaleuca
Everlasting ..	Helichrysum		Parson-in-the-pulpit	Pterostylis
Fire Weed ..	Erechtites		Pea Bush ..	Sesbania aculeata
French Bean ..	Phaseolus vulgaris		Peach-leaved Poison	
Fringed Water Lily	Limnanthemum		Tree ..	Trema aspera
(white) ..	indicum		Pea-flower Poison-	Gastrolobium
Fringed Water Lily	Limnanthemum cren-		bush ..	grandiflorum
(yellow) ..	atum		Pigeon Grass, Pale	Setaria glauca
Fringe Violet ..	Thysanotus tuberosus		Pink Water Lily	Nelumbo nucifera
Fringe Lily, Bulbous*	" "		Pipewort ..	Eriocaulon
Glasswort ..	Salicornia		Poison-Tree ..	Erythrophloeum La-
Golden Goosefoot*	Chenopodium auri-			boucherii
	comum		Pond Weed ..	{
Greenhood* ..	Pterostylis			Potamogeton
Grey Mangrove ..	Cerriops Candolleana			Potamogeton
Gutta-percha Tree	Excoecaria parvifolia			tricarinatus
Hair-trigger ..	Stylidium		Pop-pods ..	Crotalaria
Hare's-tail Grass ..	Ectrosia leporina		Prickly Saltwort ..	{
Hatpin Grass ..	Xyris complanata			Salicornia cinerea
Heart Pea ..	Cardiospermum Hali-			Salsola Kali*
	cacabum		Purple Fig ..	Ficus scabra
Heart Plant ..	Portulaca bicolor		Queensland Beech	Gmelina macrophylla
Herbert River ..	Antidesma		Queensland Bramble	Rubus moluccanus
Cherry ..	Dallachyanum		Queensland Ebony	Bauhinia Hookeri
Hickory Wattle ..	Acacia aulacocarpa		Queensland Hemp	Sida rhombifolia
Hillside Burr Grass	Cenchrus in flexus		Queensland Nutmeg	Myristica insipida
Hogweed ..	Boerhaavia diffusa		Queensland Oaks	Casuarina
Immortelle ..	Waitzia		Quinine Bush ..	Terminalia circumalata
Indian Tulip Tree	Thespesia populnea		Rattle Pods ..	Crotalaria
Investigator Tree..	Celtis paniculata		Red Ash ..	Alphitonia excelsa
Ironbark ..	Eucalyptus drepano-		Red Gum* ..	Eucalyptus rostrata
	phylla		Rice ..	Oryza sativa
Ironbark Tree ..	Eucalyptus crebra		" Rickets" plants	Macrozamia
Ironwood ..	{		River Mangrove ..	Aegiceras majus
	Casuarina equisetifolia		River Poison-Tree	Excoecaria Agallocha
	Erythrophloeum		Rosella ..	Hibiscus heterophyllus
	Laboucherii		Rough (Sand paper*)	
Kangaroo Grass ..	Anthistiria imberbis		Fig ..	Ficus scabra
Kapok* ..	Bombax malabaricum		Rough Grass* ..	Panicum trachyrachis
Lantern-flower ..	Abutilon		Russian Thistle ..	{
Laurel Dodders ..	Cassytha			Salicornia cinerea
Leichhardt Tree	Sarcoccephalus cordatus			Salsola Kali
Lignum, Tangled ..	Muehlenbeckia Cun-		Sacred Balm ..	Ocimum sanctum
	ninghamii		Sacred Lotus ..	Nelumbo nucifera
Love Grasses ..	Eragrostis		Saltbushes ..	Atriplex and Rhagodia
Madwort ..	Alyssum		Sandalwood ..	Santalum lanceolatum
Malacca Bean ..	Avicennia officinalis		Scented Golden-	
Mangrove ..	Rhizophora		beard ..	Andropogon montanus
" White ..	Avicennia officinalis		Scrub-wattle ..	Acacia stipuligera
Milk Bush ..	Wrightia saligna		Scurvey Grass ..	Commelina ensifolia
Milky Mangrove ..	Excoecaria Agallocha		Seem ..	Micromelum pubescens
Mistletoes ..	Loranthus		Sheoke ..	Casuarina
Mitchell Grass ..	Astrelba pectinata		Sida Weed ..	Sida rhombifolia
Native (Austral*)			Silky Bluegrass* ..	Andropogon sericeus
Bluebell ..	Wahlenbergia gracilis		Silk Cotton Tree ..	Bombax malabaricum
			Silver-spiked Grass	Panicum argenteum
			Small Burr Grass ..	Tragus racemosus

Snuff-plant or Sneeze		Tassel Blue Grass	<i>Andropogon sericeus</i>
Weed*	<i>Centipeda orbicularis</i>	Tea Tree	{ <i>Leptospermum</i> <i>Melaleuca</i>
Soft Lovegrass* ..	<i>Eragrostis pilosa</i>	Twinhead	<i>Eclipta</i>
Spade Flower ..	<i>Hybanthus enneasper-</i> <i>mus</i>	Umbrella Grass* ..	<i>Panicum decompositum</i>
Spike Bush ..	<i>Heleocharis</i>	Turpentine Grass* ..	<i>Andropogon refractus</i>
Spring-back or Trig-		Vervein	<i>Verbena officinalis</i>
ger* Plant ..	<i>Stylidium</i>	Wallflower Poison-	<i>Gastrolobium</i>
Spurge, Flat* ..	<i>Euphorbia Drummondii</i>	bush	<i>grandiflorum</i>
" Desert* ..	" <i>eremophila</i>	Wart Cress	<i>Coronocarpus didymus</i>
Star Grass ..	<i>Chloris divaricata</i>	Water Milfoils ..	<i>Myriophyllum</i>
St. John's Wort ..	<i>Hypericum</i>	Water Plantain ..	<i>Alisma</i>
Stringy-bark ..	<i>Eucalyptus tetradonta</i>	Water Shield ..	<i>Brasenia peltata</i>
Stubbleberry ..	<i>Solanum nigrum</i>	Washerman's Plant	<i>Achyranthes aspera</i>
Sundews ..	<i>Drosera</i>	Weeping Love Grass	<i>Eragrostis pilosa</i>
Sun Hemp ..	<i>Crotalaria juncea</i>	White Cedar ..	<i>Melia composita</i>
Supplejack ..	<i>Flagellaria indica</i>	White Gum ..	<i>Eucalyptus rostrata</i>
Swamp Mahogany	<i>Tristania suaveolens</i>	White Mangrove ..	<i>Avicennia officinalis</i>
Sweet Quandong*	<i>Santalum lanceolatum</i>	Whitewood ..	<i>Atalaya hemiglaucia</i>
Tahvine* ..	<i>Boerhaavia diffusa</i>	Wild Rice ..	<i>Oryza sativa</i>
Tall Oat Grass ..	<i>Anthistiria gigantea</i>	Wrinkle Wort ..	<i>Rutidosia</i>
Tape Grass ..	<i>Vallisneria spiralis</i>	Yellow Burr Daisy	<i>Calotis lappulacea</i>

The following lists of economic and injurious plants include only those in regard to which definite information could be obtained. Further investigations will undoubtedly extend these lists greatly.

PLANTS of FODDER VALUE.

Gramineae

Chionachne

Andropogon affinis

" *annulatus*

" *Gryllus*

" *intermedius*

" *sericeus*

" *australis*

" *montanus*

" *refractus*

Anthistiria mem- *branacea*

Perotis latifolia (before seeding)

Panicum argenteum

" *Buncei*

" *colonum*

" *decompositum*

" *foliosum*

" *parviflorum*

" *piligerum*

" *sanguinale*

Setaria glauca

" *macrostachya*

Cenchrus elymoides (Harsh, and of little value when old)

Sporobolus actinocladius (Harsh, and of little value when old)

Sporobolus pulchellus (Harsh, and of little value when old)

Oryza sativa

Eriachne obtusa

Cynodon convergens

Chloris

" *pectinata*

Pappophorum nigricans

(Hairy when fruiting)

Triraphis mollis

Manisuris granularis

Eriochloa punctata

Diplachne fusca

Eragrostis

" *Brownii*

" *speciosa*

Ectrosia

Proteaceae

Grevillea refracta

Santalaceae

Santalum lanceolatum

Polygonaceae

Polygonum attenu- *tum* (Camels)

Chenopodiaceae

Rhagodia spinescens

Chenopodium aurico- *rum*

Atriplex angulata

Atriplex nummularia

" *varia*

Bassia paradoxa

Salicornia cinerea

(Camels)

Salsola Kali (Harsh and spiny)

Zygophyllaceae

Tribulus hystrix (when young only)

Borraginaceae

Trichodesma zeylani- *cum* (Camels)

Acanthaceae

Ruellia primulacea

Leguminosae

Bauhinia

Castanospermum

Lotus

Indigofera

Tephrosia

Swainsona

Desmodium

Dolichos

Glycine

Erythrina

Mucuna

Canavalia

Phaseolus

Vigna

VALUABLE WOODS.

Casuarinaceae

Casuarina

equisetifolia

Urticaceae

Malaisia tortuosa

Excoecaria parvifolia

Proteaceae

Persoonia falcata

Grevillea refracta

Banksia dentata

Santalaceae

Exocarpus latifolia

Santalum lanceo-

latum

Myristiceae

Myristica insipida

Hernandiaceae

Gyrocarpus americanus

Capparidaceae

Capparis Mitchelli
Pittosporaceae
Pittosporum phillyraeoides
Leguminosae
Albizzia procera
Acacia aulacocarpa
Acacia sp. (see Text)
Bauhinia Cunninghamii
 " *Hookeri*
Erythroxylaceae
Erythroxylon ellipticum
Burseraceae
Canarium australianum
Garuga floribunda
Meliaceae
Dysoxylon
Sapindaceae
Heterodendron oleaeifolium
Malvaceae
Hibiscus tiliaceus
Myrtaceae
Melaleuca Leucadendron
Tristania suaveolens
Eucalyptus (see Text)
Combretaceae
Terminalia bursarina
Apocynaceae
Wrightia saligna
Boraginaceae
Ehretia saligna
Verbenaceae
Vitex acuminata
Myoporaceae
Eremophila bignoniiflora
Rubiaceae
Sarcocephalus cordatus

POISONOUS PLANTS.

Cycadaceae
Macrozamia
Coniferae
Callitris
Gramineae
Panicum sanguinale
Haemodorraceae
Haemodorum corymbosum
Ulmaceae
Trema aspera
Chenopodiaceae
Salsola Kali ?
Aizoaceae
Mollugo hirta
Trianthema pilosa
Menispermaceae
Stephania hernandiae-folia

Pittosporaceae
Pittosporum phillyraeoides
Leguminosae
Acacia (see Text)
Gastrolobium grandiflorum
Lotus australis
Indigofera boviparda
Erythrophloeum Laboucherii
Psoralea (see Text)
Abrus precatorius
Tephrosia purpurea
Canavalia obtusifolia
Zygophyllaceae
Tribulus cistoides
Burseraceae
Canarium australianum
Euphorbiaceae
Euphorbia australis
 " *Drummondii*
 " *eremophila*
Andrachne (see Text)
Phyllanthus hebecarpus
Anacardiaceae
Buchanania (see Text)
Sapindaceae
Dodonaea physocarpa
 " *viscosa*
Thymeleaceae
Wickstroemia indica
Pimelea punicea
Lecythidaceae
Careya australis
Barringtonia acutangula
Myrtaceae
Melaleuca Leucadendron
Plumbaginaceae
Plumbago zeylanica
Myrsinaceae
Aegiceras majus
Asclepiadaceae
Sarcostemma australe
Convolvulaceae
Ipomoea dissecta
Verbenaceae
Verbena officinalis
Solanaceae
Solanum ellipticum
 " *nigrum*
Datura Leichhardtii
Nicotiana suaveolens
Scrophulariaceae
Morgania floribunda
Myoporaceae
Eremophila maculata
Goodeniaceae
Goodenia grandiflora
Scaevola parvifolia
Compositae
Helichrysum apiculatum (Doubtful)

Centipeda orbicularis
 (excites sneezing)

INJURIOUS OTHER THAN POISONOUS.

Gramineae
Andropogon contortus
Aristida hygrometrica
Lauraceae
Cassytha (see Text)
Capparidaceae
Cleome viscosa
Malvaceae
Sida rhombifolia
Leguminosae
Crotalaria (see Text)
Zygophyllaceae
Tribulus hystrix

MEDICINAL.

Gramineae
Panicum sanguinale
Casuarinaceae
Casuarina equisetifolia
Urticaceae
Ficus glomerata
Proteaceae
Grevillea refracta
Nyctaginaceae
Boerhaavia diffusa
Capparidaceae
Cleome viscosa
Leguminosae
Galedupa pinnata
Euphorbiaceae
Petalostigma quadriloculare
Euphorbia Drummondii
 " *pilulifera*
Sapindaceae
Dodonaea viscosa
Lecythidaceae
Careya australis
Myrtaceae
Melaleuca Leucadendron
Gentianaceae
Erythraea australis
Eucurbitaceae
Bryonia laciniosa
Trichosanthes cucumerina
Goodeniaceae
Goodenia (see Text)
Vitaceae
Vitis trifolia
Tiliaceae
Grewia polygama

OTHER ECONOMIC VALUES.

Bombax malabaricum	Kapok	Ocimum sanctum	Mosquito-fuge
Maximiliana Gregorii	"	Melaleuca Leucadendron	Oil
Eugenia	Edible Fruits or Seeds	Andropogon	"
Solanum nigrum	" "	Thespesia populnea	"
Phaseolus vulgaris	" "	Terminalia circumalata	Gum
Vigna vexillata	" "	Melia composita	"
Eugenia eucalyptoides	" "	Canarium australianum	"
Physalis peruviana	" "	Atalaya hemiglauc	"
Panicum decompositum	" "	Asclepiadaceae	Caoutchouc
Exocarpus latifolia	" "	Excoecaria	"
Capparis spinosa	" "	Ficus	Timber and
Hibiscus ficulneus	" "	Asclepiadaceae	Fibre
Carallia integerrima	Tannin	Crotalaria	"
Carapa moluccensis	"	Sesbania aculeata	"
Excoecaria Agallocha	"	Abutilon ..	"
Ceriops Candolleana	"	Sida ..	"
Rhizophora mucronata	"	Hibiscus ..	"
Bruguiera gymnorrhiza	"	" tiliaceus	"
" Rheedii	"	Sarcocephalus cordatus	Dye
Eugenia Smithii	"	Thespesia populnea	"
Casuarina equisetifolia	"	Petalostigma quadriloculare	"
Loranthus longiflorus	"	Boronia	Perfume
Acacia	Timber and Tannin	Pittosporum	"
Thespesia populnea	Tannin	Crotalaria juncea	Hemp

APPENDIX. I.

CYPERACEAE, NORTHERN TERRITORY.

BY

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With the notable exception of the genus *Carex*, referred to below, the Indo-Malayan flora is well represented in the Northern Territory, all the genera listed, together with a generous percentage of species, are included in the flora of India. Examples from both these regions exhibit considerable facial divergence within a species, the morphological characters commonly used for diagnostic purposes exhibiting an extreme range of variation. This feature is also exceptionally marked in examples from different localities in both countries. Geographical variation in this family is noted by Bentham (B. Fl. vii., 280), under *Cyperus rotundus*, L. Discussing variation in this cosmopolitan species, he notes a wide range in height, irregularity of the inflorescence, length of spikelets, and number of flowers thereon, &c., in plants from various stations within Australia, and says, loc. cit.: "This species is abundantly spread over the tropical and temperate regions of the Old and New World, varying in many places, as much as in Australia." Bentham also refers to the difficulties attendant upon the classification of this widely distributed family, in his carefully compiled prefatory notes on Cyperaceae. The numerous synonyms incorporated by modern monographers (see C. B. Clarke on Cyperaceae in Hook, Fl. Brit. Ind., 7), accentuate the difficulties encountered when dealing with such an imperfectly known Cyperaceous flora as that obtaining in Northern Australia.

THE TRIBES.

The accompanying list of members of the family Cyperaceae in the Northern Territory includes representatives of all the genera noted in the tribe Scirpeae.

Tribe ii.—*Hypolytriae* is not represented.

Tribe iii.—*Rhynchospora* which contains the important genera, *Schoenus*, *Lepidosperma*, *Cladium*, *Gahnia*, &c., is represented by but one genus (*Schoenus*), and that by an individual species.

Tribe iv.—*Sclerieae* also contains but one genus (*Scleria*), from N.A., with a single species.

Tribe v.—*Cariceae*, in which the numerically large and widely-distributed genus *Carex* finds a place, is not represented in the flora of the Northern Territory. This hiatus becomes more remarkable from the fact that some 160 species (exclusive of the large number which have been reduced to synonyms) are described by C. B. Clarke in Hooker's Fl. Brit. Ind.

THE GENERA.

Kyllingia.—This genus is not recorded from N.A., in Mueller's Census. The 4 species found in Australia are included in the Indian Flora.

Cyperus.—70 species are recorded from Australia, of which 30 species occur in N.A.

Heleocharis.—Of the 12 species recorded for Australia 7 species are found in N.A. The species listed (*H. acuta*) is not noted in the Indian flora.

Fimbristylis.—This genus is exceptionally well represented in the Northern Territory; of the 56 Australian species enumerated no less than 50 occur in N.A., 13 species are listed, of which 8 are found in India.

Scirpus.—23 species are recorded from Australia, 7 occurring in N.A., *S. articulatus* (in list) is also found in India.

Lipocarpa.—2 species are recorded from Australia; of these *L. microcephala* occurs in N.A., and is also included in the Indian flora.

Fuirena.—Both of the Australian species are found in N.A., and occur also in India.

Schoenus.—This genus has 67 representatives in Australia, of which 4 only are noted from N.A. The single example listed (*S. falcatus*) is not found in India.

Scleria.—8 of the 13 species recorded from Australia are members of the flora of N.A., *S. margaritifera* is not an Indian species.

Kyllingia triceps, *Rotb.*—Pine Creek, C. E. F. Allen (No. 102), 2/1914.

Cyperus castaneus, *Willd.*—A form approaching *C. amabilis*, *Vahl.* Growing in crevices, sandstone rocks. Borroloola, G. F. Hill (No. 596), 2/10/1911.

Cyperus difformis, *L.*—Lake Woods, G. F. Hill (No. 488), 2/8/1911.

Cyperus holoschoenus, *R. Br.*—Edith Creek, Professor W. Baldwin Spencer and others, July-August, 1911.

Cyperus dactyloides, *Benth.*—Lander Creek, G. F. Hill (No. 318), 10/6/1911.

Cyperus Iria, *L.*—Darwin, C. E. F. Allen (No. 20), 1/1914.

Cyperus rotundus, *L.*—Fifteen miles west of Hugh River, Macdonnell Ranges, G. F. Hill (No. 153), 6/5/1911; 10 miles north of Eva Downs, G. F. Hill (No. 519), 19/8/1911.

Cyperus Gunnii, *Hook f.*—Lander Creek, G. F. Hill (No. 298), 10/6/1911.

Cyperus conicus, *Boeck.*—Lander Creek, G. F. Hill (No. 299), 10/6/1911.

Heleocharis acuta, *R. Br.*—Lake Woods, G. F. Hill (No. 489), 2/8/1911.

Fimbristylis acicularis, *R. Br.*—Darwin, C. E. F. Allen (No. 165), 3/1914.

Fimbristylis nutans, *Vahl.*—Darwin, C. E. F. Allen, (No. 100), 2/1914.

Fimbristylis pauciflora, R. Br.—Batchelor Farm, C. E. F. Allen (No. 48), 1/1914.

Fimbristylis cardiocarpa, F. v. M.—Darwin, C. E. F. Allen (No. 21), 1/1914.

Fimbristylis tetragona, R. Br.—Darwin, C. E. F. Allen (No. 153), 3/1914.

Fimbristylis velata, R. Br.—Lander Creek, G. F. Hill (No. 300), 10/6/1911.

Fimbristylis diphylla, Vahl.—Twelve miles west of Hugh River, Macdonnell Ranges, G. F. Hill (No. 151), 6/5/1911; Batchelor Farm, C. E. F. Allen (No. 25), 1/1914.

Fimbristylis miliacea, Vahl.—Darwin to Pine Creek, C. E. F. Allen (No. 89), 2/1914.

Fimbristylis microcarpa, F. v. M.—Batchelor Farm, C. E. F. Allen (No. 22), 1/1914.

This species is reduced by C. B. Clarke (Hook. Fl. Brit. Ind., 7, 646) to a var. of *F. complanata*, Link. In this publication it appears (presumably by a printer's error) as *F. microcarpa*.

Fimbristylis (Trichelostylis) Allenii, Turrill.—Near Darwin in wet land, C. E. F. Allen (No. 170), 3/1914. Kew Bulletin, No. 3, 1915, p. 117.

Fimbristylis (Trichelostylis) compacta, Turrill.—Near Darwin in swamp, C. E. F. Allen (No. 174), 4/1914; Pine Creek, near Darwin, in gorge, C. E. F. Allen (No. 103), 2/1914. Kew Bulletin, No. 3, 1915, p. 118.

Fimbristylis Schultzii, Boeck.—Batchelor Farm, C. E. F. Allen (No. 44), 6/1914.

Bulbostylis barbata, Kunth, (*Fimbristylis barbata*, Benth).—Pine Creek, C. E. F. Allen (No. 83), 2/1914; Hugh River, Macdonnell Ranges, G. F. Hill (No. 135), 4/5/1911.

Scirpus articulatus, L.—Abraham's Lagoon, Professor W. Baldwin Spencer and others, July-August, 1911.

Lipocarpus microcephala, Kunth.—Cullen Creek, Professor W. Baldwin Spencer and others, July-August, 1911.

Fuirena umbellata, Rottb.—Batchelor Farm, C. E. F. Allen (No. 218), 7/1914.

Fuirena glomerata, Lam.—Darwin, C. E. F. Allen (No. 171), 3/1914; Lander Creek, G. F. Hill (No. 302), 10/6/1911; Borroloola, G. F. Hill (No. 610), 9/10/1911.

Schoenus falcatus, R. Br.—Pine Creek, Professor W. Baldwin Spencer and others, July-August, 1911.

Scleria margaritifera, Willd.—Darwin, C. E. F. Allen (No. 19), 1/1914.

APPENDIX II.

MYRTACEÆ OF NORTHERN TERRITORY (EXCEPT EUCALYPTUS).

BY

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DIVISION LEPTOSPERMOIDEÆ.

SUB-FAMILY BACKHOUSIINÆ.

OSBORNIA.

O. octodonta, F. v. M.—Darwin, G. F. Hill (No. 337), 2 10/14.

Sub-Family *Metrosiderinæ*.

XANTHOSTEMON.

X. paradoxus, F. v. M.—Darwin, W. Baldwin Spencer, 1913, G. F. Hill (No. 313), 26/7/13; lower part of Victoria River, R. J. Winters (No. 10), August, 1913. We have also specimens from Isdell River, W. Kimberley, W. V. Fitzgerald, June, 1905.

TRISTANIA.

T. grandiflora, sp., nov.—Syn. *T. suaveolens*, Sm., var. ? *grandiflora*, Benth, B. Fl., iii., 263.

I have compared specimens of this species from the Northern Territory with those of *T. suaveolens*, and find that there is sufficient difference to warrant it being raised to specific rank, as will be seen by the following description:—Habit of plant not stated. Branches and leaves as well as the inflorescence very hoary, tomentose. Leaves alternate, shortly petiolate, elliptical oblong, or rarely ovate elliptical, obtuse, usually about $1\frac{1}{2}$ to 2 inches long, and $\frac{3}{4}$ to 1 inch broad, venation, on the upper side of the leaves plainly visible to the naked eye, but rather obscure on the underside except the midvein. Flowers much larger than those of *T. suaveolens*, in axillary cymes, usually consisting of three flowers, but the two lateral flowers mostly suppressed, and only the remains of pedicels left, so as to give the inflorescence the appearance of being simple axillary flowers, peduncle $\frac{3}{4}$ to 1 inch long. Slightly flattened or biconvex. Calyx-tube attenuated at the base and more or less ribbed, lobes comparatively large, persistent. Petals nearly orbicular, about 3 lines diameter. Staminal bundles slightly longer than the petals. Fruits undeveloped. This species is intermediate between *T. suaveolens*, Sm., and *T. lactiflua*, F. v. M., differing from the former in the smaller leaves which are much more shortly petiolate, and more hoary-tomentose, and the flowers are not so numerous in the cymes. From *T. lactiflua*, its nearest ally, it differs in the flowers being larger and fewer in number, and in the shorter and broader leaves.

Habitat: Lat. 18 degrees, 30 degrees Long., about 132 degrees., G. F. Hill (No. 439), 4/7/11. The locality given in Bentham is "Attack Creek, McDouall Stuart," and he remarks "Perhaps a distinct species, but there is but a single specimen."

T. lactiflua, *F. v. M.*—In the National Herbarium, Sydney, there are specimens from the following localities:—Ord River, E. Kimberley, Dr. Eric Mjöberg (Nos. 88 and 89), 1911. A specimen also from MacArthur River, collected by Baldwin Spencer in 1902, is placed under this species provisionally, although it is somewhat different.

SUB-FAMILY LEPTOSPERMINÆ.

SERIES LATERALES.

MELALEUCA.

M. alsophila, *A. Cunn.*—MacArthur River, G. F. Hill (No. 671), 5/11/11. We have specimens of this species in the National Herbarium from Wyndham, North West Australia, collected by A. E. Woodroffe in 1903, and from Goody Goody and Wyndham, E. Kimberley, collected by W. V. Fitzgerald in April, 1905.

M. acacioides, *F. v. M.*—Tree 30 ft. high, on Sandstone Country, near Tanumbirini, and 14 miles N.N.W. Meyers' Hill, G. F. Hill (Nos. 563 and 803), 6/9/11 and 20/3/11.

SERIES CIRCUMSCISSÆ.

M. symphyocarpa, *F. v. M.*—Northern Territory, C. E. F. Allen (No. 138), Stoney Creek, Booroola, G. F. Hill (No. 669), 8/11/11.

There are also specimens in the National Herbarium, Sydney, from near Darwin collected by N. Holtze, and by Baldwin Spencer in July-August, 1911, and from Cape York by Macleay; also from Cape Sidmouth, without collector's name or date.

M. angustifolia, *Gaertn.*—Abraham's Lagoon, near Darwin, Baldwin Spencer, July-August, 1911. There are specimens in the National Herbarium, collected by Banks and Solander in 1770. This species is erroneously cited as a synonym under *M. viridiflora*, *Gaertn.*, by De Candolle (*Prodr.* iii., p. 212), and Don (*Hist. of Gard and Bot.* ii., p. 814), probably owing to the fact that the *var. angustifolia*, *Linn. f.*, of *M. Leucadendron* has been mistaken for this species. See also Baker and Smith (*Journ. Roy. Soc., N.S.W.*, xlvii., p. 199 (1913)).

I have consulted both Gaertner's work and the *Index Kewensis*, and find that in both works, *M. angustifolia*, *Gaertn.*, is regarded as a distinct species. *Melaleuca angustifolia*, of Blume, however, is, according to *Index Kewensis*, a synonym of *M. Leucadendron*.

SERIES SPICIFLORÆ.

(1) *M. Leucadendron*, *L. Mant.* i., 105 (1767), *Sm. Trans.*, *Linn. Soc.* iii., p. 274 (1797), and in *Rees' Cyclop.*, Vol. xxiii., No. 1 (1819); *Willd. Sp. Pl.*, 1248 (1805), *Pers., Synops. Pl.*, p. 26 (1807), *R. Br.*, in *Ait., Hort.*, *Kew*, Vol. 4, p. 410 (1812); *Link. Enum.* ii., p. 272 (1821), *D. C. Prodr.* iii., p. 212 (1828); *Don Hist. of Gard and Bot.* ii., p. 814 (1832), *Myrtus Leucadendron* *L. sp. Pl.*, 676.

The following is a description by Smith, *l.c.*: "Foliis alternis lanceolatis acuminatis falcato-obliquis quinquenervis. ramulis petiolisque glabris,"

Smith also gives the following particulars :—"The tree is a native of some parts of East Indies, and from it is distilled the green aromatic oil called Cajeput, from cajuputi, a white tree, the Malay name of the plant, hence Linnæus gave the name *Leucadendron* to this species." In Rees' Cyclop., Smith again describes the species as follows :—"Leaves alternate, lanceolate, pointed, obliquely falcate, five-ribbed. Foot-stalks, young branches, and germen smooth. Native of some parts of the East Indies, especially the Molocca Islands, Ceram and Amboyna, growing in hilly places, flowering from January to March, and ripening fruit from August to November, but according to Rumphius, it is rarely propagated from seed. This is described by that accurate writer, as a large tree, as thick as a man's body, or much thicker, with many irregular widely spreading branches, but not of a lofty growth. Leaves scattered, on short foot-stalks, lanceolate, entire, smooth, tapering at each end, but most at the extremity, curved laterally into a sickle-shape from five to eight inches long, scarcely an inch broad in the widest part, furnished with five principal ribs, connected by intermediate interbranching veins. Stipules none. Flowers white, in long, loose somewhat whorled spikes, whose smooth common stalk terminates in a leaf-bud, and becomes a branch. The bundle of stamens are $\frac{3}{4}$ of an inch long, and each divided nearly to the base. Germen (ovary) scarcely so large as a hemp-seed, globose, smooth, quite sessile, the capsules remaining long firmly fixed to the branch, surmounted by leaves, after the seeds have fallen out, as is common to the whole genus.

Rumphius speaks much of the resinous and aromatic properties of this tree, its whitish or grey aspect, and its agreeable shade. The wood is hard and heavy, but easily splits and soon decays, being neither beautiful nor useful. The outer bark is of a spongy nature, and much used for caulking vessels, as it swells in the water ; but is nevertheless liable to shrink again, and give way. It is called baru, a name given to all substances used for that purpose. An oil is obtained by firing the tree, which soon becomes thick, and is used for candles. Rumphius says nothing of any fine essential oil being procured by distillation from this tree, see the next species (*M. minor*)." Then we have some remarks by Bentham in Journ. Linn. Soc. (Bot.), Vol. x., p. 139 (1867), who states that "One species, the old *M. Leucadendron*, Linn., the only one which from Australia spreads itself over the Indian Archipelago and the Malayan Peninsula, is, with this very wide geographical range, also singularly polymorphous.

It has been divided into more than a dozen species, and most botanists retain two, three, or four as distinct, the extreme forms being widely dissimilar; but the characters, derived chiefly from the shape and size of the leaves, from the dense or interrupted spikes, from the size and colour of the flowers, and from the indumentum, are so variously combined in different specimens, the forms at other times pass so gradually one into the other, or differ so much at different ages, or even on different branches of the same tree, that I have completely failed in the endeavour to sort the specimens into distinct races.

The seeds, in the few species where they have been examined in the ripe state, differ considerably in shape, in the presence or absence of wings, and in the shape of the cotyledons of their embryo ; but these differences, as far as known, do not appear to be available for the distinction of sectional groups."

Bentham (Fl. iii., p. 142), pointed out the wide range of variation of this species. Owing to the immense variation, as shewn by the specimens under the name *M. Leucadendron* in the National Herbarium, Sydney, it was suggested by Mr. Maiden (Forest Flora, Vol. i., p. 90, 1903), that "it would be desirable for a monographer to re-examine all the forms of this variable species." Mr. R. T. Baker (Proc. Linn. Soc., N.S.W., Vol. xxxviii., p. 597 (1913), has also

stated: "It is doubtful whether *M. Leucadendron*, Linn., really occurs in Australia. Comparison of Australian material has been made with the original specimens of Linnæus in the Herbarium of the Linnean Society of London, and Dr. Daydon Jackson was not able to match any of the specimens sent." (See also Baker and Smith, Jour. Roy. Soc., N.S.W., xlvii., p. 193, 1913). A photograph of the original specimen of *M. Leucadendron*, Linnæus, is reproduced by Messrs. Baker and Smith on Plate viii., of the latter work.

In examining the specimens collected by Baldwin Spencer, G. F. Hill, and others from the Northern Territory, and comparing them with the material in the collection contained in the National Herbarium, Sydney, it seemed to me that at least nine (if not more) species or well-marked varieties were included under the name *M. Leucadendron*, and that these were referable to the various species included as synonyms by Bentham and others. I have accordingly drawn up a complete list and arranged them in alphabetical order, of those species which have to be taken into consideration when dealing with *M. Leucadendron* as follows:—

Melaleuca.

- angustifolia, Linn., Fil., see *Leucadendron*.
- angustifolia, Gaertn.
- angustifolia, Blume, prob. a var. of *Leucadendron*.
- cajeputi, Roxb.=minor Sm.
- coriacea, Salisb (1796)=*Leucadendron* var., *viridiflora*.
- coriacea, Poir, suppl. 3,685 (non Salisb.), See. D.C., Prodr.
- Cumingiana, Turcz (1847), Phillipine Islands.
- Cunninghamii, Schauer, in Walp (1843)=*M. Leucadendron* var.
- Crosslandii, W. V. Fitzg.=form of *coriacea* (Poir).
- lanceolata, R. Br., Herb. (Non Link)=(?) *albida*.
- lancifolia, Bail., see *Leucadendron*, var. *viridiflora*.
- lancifolia, Turcz. (1847), Philippine Islands.
- latifolia, Linn., Fil., see *Leucadendron*.
- Leucadendron*, Linn., Mant. 105 (1767).
- „ Forst. Prodr., p. 38 (1786), prob. a var. of *Leucadendron*.
- „ Lam. (1789).
- „ Willd., sp. Pl., 3, p. 1428 (1805), see Link (1821).
- „ Smith (1796).
- „ R. Br. (1812).
- „ Benth. (1866).
- „ Linn., fil., suppl. 342.
- „ Hayn, see D.C. Prod.
- „ F. v. M. (1858).
- „ Maiden (1903).
- „ Britten (1901).
- „ var. *angustifolia*, Linn., Fil. and Pers. (1807).
- „ var. *Cunninghamii*, Bailey.
- „ var. *lancifolia*, Bailey=*leucadendron*, var. *viridiflora*.
- „ var. *latifolia*, Linn., Fil. and Forst (1786).
- „ var. *saligna*, Bailey.
- „ var (?) *parvifolia*, Benth.
- Maideni, R. T. Baker=*viridiflora*, Gaertn.
- mimosoides, A. Cunn., Herb., Schau=*Leucadendron*, var. *mimosoides*
- minor, Smith (1796)=*Leucadendron*, var. *minor*.
- ruscifolia, Sol. M.S., form of Sieberi.
- saligna, Blume.

saligna, Bailey, see *Leucadendron*.

saligna, Schau., in Walp. (1843) = *Leucadendron*, var. *saligna*.

sanguinea, Sol., M.S. = *Leucadendron*, var. *sanguinea*.

Sieberi, Schau. = *Leucadendron*, var. *albida*.

Smithii, Baker = *Leucadendron*, var. *albida*.

viridiflora, Gaertn. (1788).

„ (Sol.), Britten = *sanguinea* (Sol.).

„ R.Br. (1812) = *albida* (Sieb.).

„ Willd. (1805) = *viridiflora*, Gaertn.

„ Smith = *viridiflora*, Gaertn.

„ Brogniart, Gris. — *viridiflora*, Gaertn.

„ var. *angustifolia*, Blume, Bijdr., 1099.

Metrosideros.

albida, Sieb., in D.C. (1828) = *Leucadendron*, var. *albida*.

coriacea, Labill, in Spreng., Syst., Veg. 2,490 (1825) = *viridiflora*.

coriacea, Poir. Encyc., Suppl. iii., 685 (1813).

„ Salisb., Prod., 352 = ? *viridiflora*.

quinquenervium, Cav. (1797) = ? *coriacea*, Poir.

Myrtus.

Leucadendron, Linn = *Melaleuca Leucadendron*, L.

saligna, Gmel. = *Melaleuca Leucadendron*, var. *leptospermum*.

Leptospermum.

speciosum, Schau. (1843) = *Leucadendron*, var. *viridiflora*.

Callistemon.

nervosus, Lindl. †(1848) = *Leucadendron*, var. *coriacea forma Crosslandiana*.

If we carefully consider the above list of names, it will be seen that no less than 27 distinct names have been applied to the various forms of *M. Leucadendron*, excluding *M. angustifolia*, of Gaertner, which is quite distinct from *M. Leucadendron*, var. *angustifolia*, of Linn., Fil., and *M. angustifolia*, of Blume. *M. Cumingiana*, Turcz., and *M. lancifolia*, Turcz., appear to be described from Philippine Island specimens, so that we need not concern ourselves with these two species. With regard to *M. Leucadendron*, of Linn. however, this species was described from specimens originally collected in India. It is interesting to note that in the extreme northern parts of the Continent of Australia, a number of species of Indian plants have been found, and in connection with the species of *Melaleuca* under consideration, one would naturally expect to find representatives of the typical *M. Leucadendron*. A close examination of the specimens at my disposal, however, reveals the fact that there are none which can be taken to be strictly identical with the Indian plants of this species. The nearest approach we have, however, is, the *M. mimosoides*, of A. Cunningham Herb., which appears to me to be a well-marked form with rather longer leaves and pinkish or pale reddish coloured flowers, and perhaps better regarded as a variety than a distinct species. A more close examination of the plants in the field, as well as a systematic examination of the development of the seedlings, may enable one to raise the various forms or varieties enumerated here as species, but, until this has been done, it seems wiser to regard them as off-shoots of *M. Leucadendron*, and to give the various forms varietal names, according to the grouping given in the following key.

KEY TO VARIETIES OF *M. LEUCADENDRON*.

A.—Calyx and rachis glabrous ; leaves acuminate-falcate, 3-5 nerved ; flowers white.—1. *Leucadendron*.

Flowers pinkish or reddish.—2. *Var. mimosoides*.

B.—Calyx and rachis silky-hairy, or more or less woolly.

(a) Leaves 6 inches or more long, acuminate about $\frac{1}{2}$ -inch broad, 3-5 nerved.—3. *Var. saligna*.

(b) Leaves large, more or less silky, elliptical-lanceolate, $\frac{3}{4}$ to 1 inch or more broad, 5-9 or occasionally 11-nerved, rather obtuse ; flowers reddish or crimson ; fruits large.—4. *Var. sanguinea*.

Flowers greenish-yellow, fruits rather smaller than (No. 4).—5.—*Var. Cunninghamii*.

(c) Leaves small, coriaceous, shiny, usually acute, usually 5-nerved ; flowers greenish-yellow.—6. *Var. coriacea*.

Flowers pinkish or reddish.—*forma Crosslandiana*.

(d) Leaves oval-elliptical, comparatively thin, opaque (not shiny), obtuse ; flowers greenish-white.—7. *Var. minor*.

C.—Calyx and rachis pubescent or tomentose ; leaves stiff, obtuse or sub-acute, 3-4 inches long, 5 to 7-nerved ; flowers greenish or greenish-white.—8. *Var. viridiflora*.

Leaves $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long, 3-5-nerved ; flowers pallid white.—

9. *Var. albida*.

(2). *M. Leucadendron*, var. *mimosoides*. Nov., (omb.

M. mimosoides, A. Cunn., Herb Schauer, M.s.s., Walp., Repertorium Botanices Systematicæ, Tomus ii., p. 927 (1843).

The original description is as follows :—"Ramis elongatis pendulis, innovationib. glabris ; foll. alternis coriaceis rigidis subverticalib. elongato-lanceolatis subfalcatis in petiolum attenuatis longe acuminatis 3-5 nervib., sub-venosis opacis imperforatis ; spicis subapicalib. elongatis interruptis glaberrimis ; calycib. ructus urceolatis truncatis." The habitat given is : "In Nova Hollandia orientali tropica, A. Cunn., Herb., No. 253/1819."

Bentham (Fl. Aust. iii., p. 142) quotes this and several other species as synonyms under *M. Leucadendron*. Bailey (Syn. Queensl. Fl., p. 170, Queensl. Fl. ii., No. 601, Cat. Queensl. Woods, No. 171, and Comprehensive Catalogue of Queensland Plants, p. 188), regards it as a distinct variety and records it under the name *M. Leucadendron*, var. *saligna*.

Having made a close examination of the very large series of specimens in the National Herbarium, Sydney, I am of the opinion that the following specimens belong to the *M. mimosoides* of Cunn., in Walp., but are really too close to *M. Leucadendron* L. to be regarded as distinct species, but may be regarded as a variety under the name var. *mimosoides*. The specimens labelled *M. Leucadendron*, var. *saligna*, by Bailey, from Bentinck Island, very closely resemble the photograph of *M. Leucadendron* from the Linnean Herbarium reproduced by Baker and Smith, l.c., Plate viii. The rachis of *M. Leucadendron* is described by various botanists as being perfectly glabrous, and the flowers white, and leaves 5-nerved and falcate or sickle-shaped. From a close examination of the following specimens it will be found that the rachis is also perfectly glabrous, and the flowers opposite or somewhat whorled or sub-verticillate, and the leaves distinctly falcate or sickle-shaped, with five nerves. The flowers, however, are in most cases pinkish or reddish, as mentioned by Bailey, l.c.

The following are the localities represented in the National Herbarium, Sydney, collections :—Near Darwin, Sir Baldwin Spencer, June-July, 1911 ; Bentinck Island, J. F. Bailey, June, 1901 ; Rockhampton, R. Simmonds, 1903 ; J. L. Boorman, August, 1912, and June 1913. Specimens from Darwin collected by N. Holtze, and Granite Creek (alt. 1600 ft.), Almaden, North Queensland, R. H. Cambage (No. 3867), August, 1913, are in matured fruit only, but seem to belong to this species, and are placed here provisionally.

(3). *M. Leucadendron* var. *saligna*.

Syn. *M. saligna*, Schauer, Mss., in Walp., Rep. ii., 927, 1843.

The original description of Schauer is as follows :—“ Ramis elongatis pendulis ; innovationib. ramulisq. villosus ; fall. alternis coriaceis, subverticalib. lanceolatis subfalcatis in petiolum attenuatis acuminatis 5-nervi venosis marginatis, adultis deniq. glabris opacis imperforatis ; spicis infrapicalib. ovalib. densis, rhachide calycibq. cyathiformib. villosis, dentib. membranaceis ovato-subrotundis ; phalangibus. . . . ? . In Novæ Hollandiæ tropicæ ora septentrionali in ripis paludosis fl., Endeavour, A. Cunn. Herb., No. 256/1819.”

This is very similar in general appearance to *M. Leucadendron*, var. *mimosoides*, but has narrower leaves, and the rachis and calyx-tube distinctly woolly or villous. Specimens in the National Herbarium, Sydney, which may be placed under this variety are as follows :—

Darwin, Professor W. Baldwin Spencer, 1913 ; Charters Towers, Queensland, H. B. Walker, August, 1903 ; Rockhampton, R. Simmonds, 1903 ; Lakes Creek, Rockhampton, J. L. Boorman, August, 1912 ; Mount Morgan, Queensland, C. F. Henrichson, October, 1911 ; Georgetown, N. Queensland, R. H. Cambage (No. 3897), August, 1913. In Granite Creek, Almaden, N. Queensland, R. H. Cambage (No. 3868), August, 1913. It is quite possible that some of the late Mr. F. M. Bailey's specimens belong to this variety, but the only specimens I have seen which were distributed by Bailey under the name *M. Leucadendron*, var. *saligna*, belong to the var. *mimosoides*.

The *Melaleuca* (Cajeputi) *angustifolia*, Blume, Mus. Bot. Lugd. Batav., p. 83, (1856), and synonyms quoted under this species in Walper's *Annales Botanices systematicæ*, vol. 2, p. 621 (1851-2), namely, *M. saligna*, Blume, *M. viridiflora*, var. *angustifolia*, Blume, *M. Leucadendron*, Forst., *M. Leucadendron*, Hayne, and *Myrtus saligna*, Gmel., probably belong to this variety or to the var. *mimosoides*.

(4) *M. Leucadendron*, var. *sanguinea*.

M. sanguinea (Sol. M.S. and Herb.) (*M. Leucadendron* and *M. viridiflora*, of Britten Illust. Bot. Cook's Voyage, p. 38, t. 113) (Non Linn. or Gaertn.) *M. Leucadendron*, var. *Cunninghami*, Bailey, syn., Queensland, Fl. p. 170 (1883). Queensl. Fl. ii., p. 600 (1900), Comp. Cat., p. 188. Fig. 167.

This is a very handsome large-leaved species which appears to have been confused with *M. viridiflora*, Gaertn., but as will be seen from remarks I have made under *M. viridiflora*, Sm., is quite distinct, and there can be no doubt that the specimen marked *M. sanguinea*, in Dr. Solander's own handwriting, is identical with the one reproduced by Britten, l.c., from specimens collected by Banks and Solander. In the National Herbarium there are several fine specimens, some of which have been mixed up with *Callistemon* spp., and marked “ red flowers.” They may be briefly described as follows :—

Small trees, usually 20-25 feet high (R. H. Cambage), with rather thick and robust branches, and papery bark, the young tips and leaves more or less silky-hairy. Leaves broad-lanceolate, somewhat falcate, obtuse, from 4½ to 6 inches long, and about 1 inch or occasionally 1½ inch broad, petiole sometimes

bent into a semi-circle giving the leaves a decided falcate appearance. Venation very prominent, varying from 5 to 7, or occasionally 9 to 11, with numerous intermediary prominent-nerves which give the leaves a net-work appearance, plainly visible to the naked eye. Oil-glands more or less obscure even when held up to the light. Flowers in loose terminal spikes usually of a reddish colour, 3 to 4½ inches long, the rachis more or less woolly-tomentose, as well as the calyx-tube, calyx-lobes somewhat persistent. Petals small, roundish, scarcely 2 lines long, glabrous, scarious. Stamens reddish or crimson, a little over ¾-inch long, the filaments shortly united at the base. Fruits 3-4 mm. diam., truncate at the orifice.

The following specimens are in the National Herbarium, Sydney :—New Holland, Banks and Solander, 1770 ; Thursday Island, F.M. Bailey ; Croydon, N. Queensland, R. H. Cambage (No. 3922), August, 1913 ; Cape York, (no collector or date given). To the above we may also add specimens collected by Mr. G. F. Hill (No. 420), from 160 miles N. of Survey Camp, C. III., July, 1911.

(5) *M. Leucadendron*. *Var. Cunninghami* (Schau.). Syn. *M. Cunninghami*, Schau. in Walp.

Rep. ii., p. 927 (1843).

This is very similar in general appearance to *M. sanguinea* of Solander, but has green or greenish-yellow flowers, and the leaves rather more silvery or silky hairy. The following are the localities :—Wyndham, N.W. Western Australia, A. E. V. Woodroffe, 1903 ; Providence Knoll and Driffield Creek, Northern Territory, Sir Baldwin Spencer, July-August, 1911 ; Port Darwin, N. Holtze ; near Saxby River, Miss Sulman, August, 1913. In Granite Creek, Alma-den N. Queensland, R. H. Cambage (No. 3867), bark almost fibrous, 20 ft. high, alt. 1600 ft. ; Sweet's Island, J. F. Bailey, June, 1901 ; Bay River, Western Australia W. V. Fitzgerald, May, 1905. There are also specimens collected by Mr. G. F. Hill (No. 403), 90 miles N. of Camp iv., June, 1911.

(6) *M. Leucadendron*. *Var. coriacea*, Syn. *Metrosideros quinquenervia*, Cav.

Icon, 4, p. 19, Tab. 333 (1797) ; *M. coriacea*, Poir, suppl. 385, in D.C. Prod. iii., list of Synonyms under *Melaleuca viridiflora*.

In the National Herbarium, Sydney, there is a large series of specimens, with shiny, coriaceous 5-nerved leaves, more or less acute, and which agree with those in Cavanilles' illustration quoted above, and which somewhat resemble the specimens of the *var. viridiflora*, but seem to be an intermediate variety between that species and the *var. Cunninghamii*.

I have not seen the original specimens named by Poiret, but have taken up his name for this variety as it seems to be appropriate, and, will cause less confusion than would be the case if Cavanilles' name "*quinquenervia*" was taken up as it should according to the rules of priority, owing to the fact of other varieties having five-nerves. This seems to be a fairly common plant along the rivers in the Northern parts of Queensland and extends into the extreme North of Australia, and is probably the plant referred to by Baron F. von Mueller in his Botanical Report on North Australian Expedition, under the command of A. C. Gregory, Esq. (Jour. Linn. Soc. (Bot.) ii., p. 144, 1858), where he gives the following remarks :—" *Melaleuca Leucadendron*, forms the largest and straightest timber tree in the North." These remarks coincide with those made by Mr. W. S. Campbell, as published in the "Sydney Morning Herald of October 6th, 1913," when describing a trip to the Northern parts of the Continent, as follows : "Here and throughout the country, in the many favourable moist places, the

tea tree, *Melaleuca Leucadendron*, abounds. Along the banks of the rivers, creeks, and many lagoons and swampy localities, it attains a great height and diameter. Overhanging the water amongst other vegetation, with its silvery green, pendulous leaves, it adds greatly to the beauty of many beautiful places. This tree seems to differ to some extent from that bearing the same name in New South Wales, and which is very common about the coast, the leaves being more willowy-like." Baker and Smith (Jour. Roy. Soc. N.S.W., xlvii. p. 193) re-publish Mr. Campbell's remarks, and add the following made by Mr. W. H. Tibbits, L.S. "These trees also grow in Cape York Peninsula and out from Cooktown." § Some specimens collected by Mr. Campbell are in the National Herbarium, Sydney, and agree with those from the following localities:—Lat. 17 degrees, Long. 132 degrees, G. F. Hill (No. 453), 7/7/11. Booroola, Northern Territory, G. F. Hill (No. 578), 7/9/11; Maudes' Creek and Stirling Creek, Sir Baldwin Spencer, July, 1911; Antigua Estate, Ingham, N. Queensland, Ralph G. Johnson, 1903; Charters Towers, Queensland, W. B. Walker, August, 1903; Rockhampton, Q., R. Simmons, 1903; Yeppon, Q., J. L. Boorman, August, 1912, 30-40 ft.; Alma-den, N.Q., R. H. Cabbage (No. 3866), August, 1913, 20 ft. high; Croydon, N.Q., R. H. Cabbage (No. 3929), August, 1913; Prairie to Baronta, 30 miles east of Hughenden, N.Q., R. H. Cabbage (No. 3964 and No. 3967), 10 ft. high, August, 1913; Bouldercombe, Rockhampton, Q., F. W. Smith, November, 1911.

M. Leucadendrum. *Var. coriacea forma Crosslandiana* (W. V. Fitzg.). This is very similar to *var. coriacea*, but has reddish or crimson coloured filaments instead of greenish-yellow ones. The name *Crosslandiana* was first published by Mr. W. V. Fitzgerald in the Western Mail, 2nd June, 1906, with a photographic sketch. Specimens of this in the National Herbarium are from the following localities:—Mount Harris, W. Kimberley, W. V. Fitzgerald, June, 1905, and near Derby, W. V. Fitzgerald, July, 1906. Some specimens in fruit only collected at Pt. Hedland by Dr. J. B. Cleland, seem to belong to this variety.

Then we have *Callistemon nervosus*, Lindl., in Mitchell's Trop. Aust., p. 235, 1848. It is included by Benth (B. Fl. iii., 143) as a synonym under the name *Melaleuca Leucadendron*, *var. (?) parvifolia*. The original specimens were collected at Mitchell's Camp of 16th July, 1846, which is quite close to Mantua Downs on the Claude and Nogoa Rivers, south of Springsure, N. Queensland. The flowers when fresh are evidently of a crimson colour, as will be seen by Mitchell's remarks, which are as follows:— "and we found a magnificent new crimson *Callistemon*, with its young flowers and leaves wrapped in wool."

A description is also given by Mitchell, l.c., as follows:—" *C. nervosum* (Lindl., M.S.); ramis pallidis, foliis ovato-lanceolatis quinque-nerviis mucronatis junioribus tomentosis, rachi calycibusque lanatis."

I have examined the specimens collected by Mitchell, which are in the National Herbarium, Melbourne, kindly lent by Professor A. J. Ewart, and find that they are almost identical with the *forma Crosslandiana*, which, as I have said before, differ only from the *var. coriacea* in the flowers being crimson instead of greenish-yellow. As the name "*nervosa*" has already been applied to another myrtaceous plant by Link, it seems advisable to place this as a synonym under *forma Crosslandiana*.

I have not seen specimens of *M. lanceolata*, R. Br., Herb., nor of *Leptospermum speciosum*, Schau., in Walp. Rep. ii., 923, the latter of which, according to Benth (B. Fl. iii., 143) are "described from Cunningham's specimens in bud only," but as Cunningham's specimens were collected in New South Wales and Moreton Bay (*vide* Walp. Rep. ii., 923) and Brown's were according to

Bentham, l.c., collected "Behind the Government House, Sydney," it appears to me that these may be quite distinct from those collected by Mitchell, and may probably belong to the var. *viridiflora* and var. *albida*.

(7) *M. Leucadendron*, var. *minor*.

M. minor, Sm., in Rees Cycl., Vol. xxiii., No. 2 (1819) (Lesser Cajeput Tree). Arbor alba minor, Rumph, Amboin, Vol. 2, p. 76, t., 17.

The following is a description by Smith:—"Leaves scattered, elliptical lanceolate, bluntish, straight, five ribbed. Young branches and germen (ovary) downy. Native of Amboyna, but less frequent than the foregoing (*Leucadendron*) with which it has been confounded by everybody but Rumphius. We now venture, for the first time, to distinguish them. This is smaller in all its parts, and rather a shrub than a tree. The young leaves are extremely silky: adult ones nearly smooth, about two (scarcely three) inches long, and one broad, exactly elliptical and not oblique or falcated. Footstalk broad and very short, somewhat hairy. Young branches, where the flowers are seated, densely clothed with white silky prominent down, as is likewise the germen (ovary). The calyx is but slightly downy. Fruit smooth, depressed and truncated.

The late Mr. Christopher Smith, from whom we have received specimens of both these plants, assured us of this being what yields the oil of Cajeput, and Rumphius gives the same account (see Cajeput). The bark is woody and brittle throughout, not externally corky like the former. The structure of their parts of fructification is the same in both, especially the form of the stamens. Rumphius's plates are by no means calculated to give a just idea of the foliage of either, especially of the present, but his descriptions are excellent."

It is described by Decandolle (Prod. iii., p. 212), who gives *M. cajaputi*, Roxb., and *Myrtus saligna*, Gmel, as synonymus. Don. (Hist. Gard. and Bot. ii., p. 814 (1819), also gives East India Islands and Amboyna as the habitat, quoting the same synonyms as in Decandolle's work, l.c., J. F. Duthie (in Hooker's Flora of British India, Vol. ii., p. 465 (1879), describes two varieties of *M. Leucadendron*, quoting *M. Leucadendron*, of Linn. Mant., 105, as Var. *Leucadendron*; spikes glabrous, and *M. viridiflora*, of Gaertn., and several synonyms as var. *minor*, with "spikes villous."

In the National Herbarium, Sydney, there is a specimen labelled *Me-leuca Leucadendron*, from Singapore, iv., 1896, Schlesischer botanischer Tauschverein (No. 854) Plantæ ex India extra Gangem, which agrees in every detail with the original description of Smith. The leaves are not in any way subfalcate, as mentioned in Decandolle's latin description. Some specimens collected by the late Mr. E. Betche at Atherton, N. Queensland, in August, 1901, are almost identical with the Singapore specimens, in that the leaves are elliptical—lanceolate, bluntish and five-nerved as described by Smith for his *M. minor*. Mr. Betche remarks that his specimens are from a "small tree with papery bark." In addition to the specimens from Atherton, there are also specimens from Rockhampton, Q. (R. Simmonds, 1903), and Maude's Creek, N.T., Professor W. Baldwin Spencer, July-August, 1911, which seem to be almost identical with the Singapore specimens, and are best placed under *M. Leucadendron*, var. *minor*.

(8) *M. Leucadendron*, var. *viridiflora*.

M. viridiflora (Sol.) Gærtner Fruct., i., 173 (1788) t., xxxv., f.a.b. The original description is as follows:—"Calyx hemispherical (a) crassus edentulus. Capsula immersa, trilocularis, tri-valvis, Stamina (b) filiformia, longissima, basi connata."

It is more fully described by Smith (Trans. Linn. Soc., iii., p. 275 (1797) as follows :—

“Foliis alternis elliptico-lanceolatis, coriaceis, quinquenervia, ramulis petiolisque pubescentibus. Unquestionably a very distinct species from the preceding (*M. Leucadendron*) with which the younger Linnæus confounded it, the leaves are much more thick and rigid, straight, not falcated, nor so much pointed, of a light colour, with generally five, but sometimes 7 nerves. The foot-stalks and younger branches are downy, which is not the case in *M. Leucadendron*.

This grows in New South Wales. The flowers are pale yellowish-green.”

It is also described by R. Brown in his Mss. as will be seen by the following in Aiton's *Hortus Kewensis*, Vol. iv., p. 410, 1812 :—

“*Melaleuca viridiflora*.—Foliis elliptico-lanceolatis æquilateris 5-nerviis, ramulis, et rachi spicæ calycisque tubopubescentibus, phalangium unguibus calycis laciniis brevioribus obsoletisve. Brown Mss.

Melaleuca viridiflora, Willd., sp. pl. 3, p. 1429. *Metrosideros quinquenervia* Cavanill, ic. 4, p. 19, t. 333. Green-flowered *Melaleuca*, Nat. of New South Wales. John White, M.D., Introd. about 1798.”

The above description and synonyms quoted are repeated in *Miscell. Bot. Works* of R. Brown, in Ray. Society, Vol. ii., p. 451, 1867. Persoon (*Synopsis Plantarum*, Vol. i., p. 26 (1807), also takes up the name *M. viridiflora*, Sm., and copies Smith's descriptions, and at the same time quotes *M. Leucadendron B. angustifolia*, of Linn. fil. supp. 342, and *Metrosideros quinquenervia*, Cav., as synonyms. The habitat gives by Persoon is New Holland and New Caledonia.

Smith (in Rees Cycl., No. 3, 1819) repeats his description of *M. viridiflora*, with additional particulars as follows :—“Leaves alternate, elliptic-lanceolate, straight, bluntish, coriaceous, five-ribbed. Foot-stalks and young branches downy. Germen nearly smooth, native of New Caledonia and New South Wales. The younger Linnæus confounded it with both the preceding (*M. Leucadendron* and *M. minor*). From the first it is abundantly distinct.

With the second it more agrees in the shape of the leaves, but differs in their thick rigid texture; and much longer more downy foot-stalks. The flowers are twice as large, green, not white, with a smooth or very slightly-hairy germen. The young leaves of the present species are finely downy, but scarcely silky.”

De Candolle (*Prod.* iii., p. 212) takes up the name *M. viridiflora*, giving Gaertner as the author, and also gives the habitat Nova-Cambria Australi (New South Wales) et Nova Caledonia (New Caledonia). He also quotes the following synonyms :—*M. Leucadendron*, var. *angustifolia*, Linn., f. suppl., 342; *M. angustifolia*, Gaertn.; *Metrosideros quinquenervia*, Cav., *Met. coriacea*, Poir (non Salisb). *Met. albida*, Sieb., plant exs., Nov. Holl., No. 349 ?. Don. (*Hist. of Gard.*, and Bot., p. 815 (1832)), gives practically the same particulars and synonyms as those in Decandolle's *Prod.*

It seems to me that the type specimens, from which the description and drawing was made by Gaertner, i.e., were collected at Bustard Bay by Banks and Solander, and are figured in Britten's *Illustrations of the Botany of Cook's Voyage*, p. 37, t. 112, under the name *Melaleuca Leucadendron*. Examples of the specimens collected by Banks and Solander, which may be regarded as co-types, are in the National Herbarium, Sydney, and are in fruit, the capsules

being fully matured as shown in Gaertner's drawing. There are also specimens of the broad-leaved form, which have the flowers fully developed of a reddish or crimson colour, collected by Banks and Solander, and labelled *M. Leucadendron*, L. (*M. viridiflora*, Sol.), which are figured in Britten's Illust. Bot. Cook's Voyage, p. 38, t. 113. These specimens are identical with another sheet of specimens labelled in Dr. Solander's handwriting, "*M. sanguin.*"

It is interesting to note that neither of the two latter mentioned sheets of specimens collected by Banks and Solander have any matured fruits, so that it seems hardly possible that Gaertner's drawing was made from these specimens. It is also of particular interest to note that on the sheet labelled *M. Leucadendron*, L. (*M. viridiflora*, Soland) reproduced in Illust. Bot. Capt. Cook's Voyage on tab. 113, there is also a label apparently in Dr. Solander's handwriting marked "Calyx glabr., *M. viridif.*" Now the specimens in the sheet on which the label is pasted, have terminal spikes of flowers, with the calyx-tubes densely woolly or villous, not "glabrous," so that it would appear that the label has been affixed to the wrong sheet of specimens. There seems to be no doubt that the specimens labelled *M. Leucadendron*, L., fig. in Illust. Bot. Cook's Voyage on t. 112, are really the ones intended for *M. viridiflora*, by Solander, and as these are identical with specimens collected by R. Brown, labelled *M. Leucadendron*, L., var. *East Coast ex Herb.*, R. Brown, Iter Australiense, 1802-5 (Presented by direction of J. J. Bennett, 1876), ex. Herb. Bot. Reg. Edin., we may conclude that those referred to by Bentham (B. Fl. iii., 142) from the Islands of the Gulf of Carpentaria collected by Brown as well as the Banks and Solander specimens, were seen by Smith, Willdenow and other earlier botanists.

I have carefully compared the Banks and Solander specimens together with those of R. Brown mentioned above, with specimens from New Caledonia, labelled *M. viridiflora*, ex. Herb., Plantæ Schlechterianæ, No. 15016 (vide Schlechter in Jahrbucher, Vol. 39, p. 208 (1907). [See also Dr. A. Guillaumin's Contribution a la Flore de Bourail (Nouvelle Calédonie) Annales du Musée colonial de Marseille, Tome xix., p. 12 (1911), and R. Schlechter's Pflanzengeographische Gliederung der Insel Neu Caledon, p. 9 (1904)]; also with specimens labelled *M. Leucadendron*, var. *lancifolia*, ex. Herb. F. M. Bailey, Brisbane, and *M. Maidenii*, R. T. Baker (type specimen) and find that they cannot be separated by any morphological characters in either flowers, fruits, or foliage. To the above we may also add specimens from the following localities: Wyralla, Richmond River, W. Bauerlen, April, 1891; Breakfast Creek, Leichhardt (No. 142); Casino, D. J. McAuliffe, June, 1912; Newcastle, R. H. Cambage, July 1901; Port Macquarie, J. H. Maiden and J. L. Boorman, July, 1895, and June, 1915; Bellinger River district, March, 1910; Woolgoola, E. H. F. Swain; Sandgate, near Brisbane, J. H. Simmonds, July, 1910. There are also specimens from New Caledonia, collected by J. Rossitter in 1903, said to yield Niaouli oil, Bai du Sud, New Caledonia, collected by Le Boucher (No. 1539), 1903; and S. S. Islands (probably New Caledonia), C. Moore, 1850, which are identical with the New South Wales specimens.

(9) *M. Leucadendron*, var. *albida*.

Syn. *M. Sieberi*, Schauer, Mss. in Walp. Rep. ii., p. 928 (1843); *M. Leucadendron*, Maiden Forest Fl., of N.S.W., Vol. i., p. 90, 1903, pl. 15. Hall, Univ., Calif., Pub., Bot., p. 31, pl. 4, fig. 3 (1910); *M. Smithii*, T. R. Baker, Proc., Linn. Soc., N.S.W., Vol. xxxviii., p. 597 (1913), and Baker and Smith, Jour. Roy. Soc. N.S.W., Vol. xlvii., p. 201 (1913); *Metrosideros albida*, Sieb. in D.C.

Prodr., iii., p. 212 (1828), quoted as synonym under *M. viridiflora*, and Benth fl., p. 143. The following is a copy of the description given by Schauer :—

Foll. sparsis confertis coriaceis obliquis patulis oblongo-lanceolatis breviter petiolatis acuminatis inermib. trinervis glabris; spicis singulis v. plurib. subapicalib. laxiusculis ebracteatis, rachide calycq. sub-cylindricis canotomentosis, hajujs debtin. herbaceis subtundis; phalangib. polyandris, unguib. corolla duplobreviorib. ex apice factigiato-bilamentosis. In Nova Cambria australis. Benth (B. Fl. iii., 143) refers to this species and suggests that it is probably only a form of *M. Leucadendron*. Baker and Smith, l.c., regard it as a synonym of *M. lanceolata*, R. Br. Herb.

I have not seen the original specimens, but judge from the above description that it was drawn up from specimens collected by Sieber during his short stay here about 1825. We know that Sieber collected most of his plants in the Port Jackson district, and the Blue Mountains, and can safely assume that he collected specimens of the plants commonly known as the "Broad-leaved Tea Tree," which has whitish flowers and prompted him to name it *Metrosideros albida*, as most of the *Melaleucas* and *Callistemons* were in those days regarded as belonging to the genus *Metrosideros*. It very closely resembles the var. *viridiflora*, and is very difficult to distinguish from that variety, as the morphological characters are so much alike. The leaves are rather smaller, and they are usually 5-nerved, whereas those of var. *viridiflora* are more often 5 to 7-nerved. Messrs. Baker and Smith have also found that the oil of the Sydney plants is distinct from the oil of the plants found in the Northern parts of the State, so that it seems desirable to give it a distinctive varietal name. R. Brown seems to have regarded it as identical with Gærtner's and Smith's plants, as a specimen in the National Herbarium, Sydney, collected by Brown (Iter Australiense, R. Brown, 1802-5, Ex. Herb. Hort. Bot. Reg. Edin. Presented by J. J. Bennett to the British Museum in 1876, is labelled "*M. Leucadendron* (*M. viridiflora*)."

There is also another specimen collected by Brown labelled "*M. Leucadendron* var.;" this latter belongs to the var. *viridiflora*. Specimens in the National Herbarium, Sydney, which may be placed under the var. *albida* are from the following localities :—

Sydney, B. Bynoe (no date given); South Head Road (Weber, March, 1857); Rose Bay (J. H. Maiden, May, 1897, and E. Cheel, April, 1898); Newcastle (R. H. Cambage, July, 1901); Nambucca Heads (J. L. Boorman, June, 1910); Wamberal (E. Cheel, April, 1911); Tuggerah Lakes (A. A. Hamilton, April, 1915); Lake Macquarie (Miss P. Clarke, April, 1915); Port Stephens and Port Macquarie (J. L. Boorman, June, 1915); Wilson River, Telegraph Point (J. H. Maiden, May, 1915); Botanic Gardens, Sydney, near Hot House, and on lawn in lower garden near duck-pond, with a photograph of the latter. Some specimens from Laurieton (J. L. Boorman, November, 1915) seem to belong to this variety, although in some respects they approach the var. *viridiflora*. A specimen of *M. Smithii*, R. T. Baker, marked "Type," with a slab of timber, is also in the National Herbarium, Sydney.

Forma ruscifolia (*M. ruscifolia*, Sol., Herb. (Banks and Solander, New Holland). This is a very small-leaved form of the above variety, the leaves being only about 1 inch long. Otherwise it seems to belong to the var. *albida*.

M. lasiandra, F. v. M.—40 miles N.N.W. Meyers' Hill, G. F. Hill (No. 238), 2, 6/11, and 60 miles N. of Camp iii., west of Sander Creek in Spencer's desert, G. F. Hill (No. 340). The only specimen in the National Herbarium collection, is one collected during the Calvert Expedition. It is recorded from the Fitzroy and Margaret Rivers by W. V. Fitzgerald.

SERIES CAPITATAE.

SUB-SERIES LONGIFOLIAE.

M. hakeoides, F. v. M.—Hot Springs, Dalhousie Station, G. F. Hill (No. 6), 14/2/11. The specimens collected by Mr. Hill agree with specimens collected by Dr. Beckler from towards Cooper's Creek, the type locality for this species. (B. Fl. iii., p. 151).

There are also specimens in the National Herbarium, Sydney, from Mount Lyndhurst, S.A., collected by Max Koch in November, 1898, and Umberatana, near Yadnamatana Mines, S.A., collected by Mr. W. Gill, in May, 1907, which seem to belong to this species.

The species is united with *M. glomerata*, a South Australian species, by Mueller, which it very closely resembles, but the latter has coarser more flat leaves than those of *M. hakeoides*, which are very slender and quite terete.

M. glomerata, F. v. M.—40 miles N.N.W., Meyers' Hill, 2/6/11, and near Mount Hughden Macdonnell Ranges, 16/5/11, 140 miles N. of N.T. Survey Camp iv., 2/7/11, G. F. Hill (Nos. 175, 237 and 414).

SERIES PELTATAE.

M. minutifolia, F. v. M.—Bacon Swamp, Darwin, Sir Baldwin Spencer, 1911-13. In the National Herbarium, Sydney, there are also specimens of this species collected by W. V. Fitzgerald, near Inglis' Camp, King Leopold Ranges, W. Kimberley and Wyndham, in May, 1905, and September, 1906.

SUB-FAMILY CHAMAELAUCIEAE.

Calytrix (*Calycothrix*).

C. microphylla, A. Cunn.—20 miles S.W. Borroloola, G. F. Hill (No. 568), 7/9/11.

Melville Island, W. Baldwin Spencer, July, 1911; Pine and Horseshoe Creek, E. J. Dunn, August, 1913; Goose Hill, E. Kimberley, W. V. Fitzgerald, September, 1906; Croydon, N.Q., R. H. Cambage (No. 3926). Also N. Australia, Mr. Stockdale and Clowes and Bynoe.

C. microphylla, var. ? *longifolia*, Benth.—70 Miles N. of Camp iv., N.T. Survey. G. F. Hill (No. 385), 28/3/11.

C. brachychaeta, F. v. M.—N.T. (W. S. Campbell, May, 1911); also Leonard River, W. Kimberley, W. V. Fitzgerald, May, 1905.

C. achaeta, F. v. M.—Katherine Creek and Edith Creek (W. Baldwin Spencer, July-August, 1911); Bathurst Island (N. Holtze, March, 1911); Pine Creek Railway (E. J. Dunn, August, 1913); N. Territory without specific locality (C. E. F. Allen (No. 78); two forms with red and white flowers. There are also specimens from Goose Hill, E. Kimberley, collected by W. V. Fitzgerald, in September, 1906.

Thryptomene.

T. Maisonneuvii, F. v. M.—40 miles N.W. Meyer's Hill, N.T., G. F. Hill. (No. 240), 2/6/11. There are also specimens in the National Herbarium,

Sydney, from near Ferdinand River, South Australia, collected by R. Helms during the Elder Exploring Expedition in June, 1891.

T. oligandra, F. v. M.—Coleman River, Dr. E. Mjöberg, September, 1913, Glasshouse Mountains, Qld., J. Shirley, September, 1910. These are additional records to that given by Benthām (Fl. Aust. iii., p. 63) namely, Endeavour River (Banks and Solander) specimens of which are in the National Herbarium, Sydney, Lizard Island and Sandy table-land on the Suttor.

Verticordia.

V. Cunninghamii, Schau.—20 miles S.W. Booroola, N.T., G. F. Hill (Nos. 570 and 571), 7/9/11. There are also specimens in the National Herbarium, Sydney, from Darwin (N. Holtze), Sir Baldwin Spencer, July-August, 1911 ; and Goose Hill, E. Kimberley, W. V. Fitzgerald, September, 1906.

APPENDIX III.

NOTES ON A COLLECTION OF EUCALYPTS

CHIEFLY MADE BY

G. F. HILL, IN THE NORTHERN TERRITORY,

With a Description of a New Species. .

By

J. H. MAIDEN, I.S.O., F.R.S., F.L.S.

[There have been added notes on specimens chiefly collected by Dr. H. I. Jensen. Where not otherwise stated, the numbers and the references to the plants are those of G. F. Hill.]

(1) *E. pruinosa*, Schauer.

446.—Lat. 18° 27', Long. 132°. 6th July, 1911. Tree 4 ft. 6 in. in diameter. Leaves and fruits.

566.—20 miles south-west of Borroloola. 7th September, 1911. Leaves, buds and flowers. The type came from the Gulf of Carpentaria (Ferdinand Bauer), probably from the same class of country as No. 566.

Roper River Flats (W. Baldwin Spencer, 1911).

(See my *Crit. Rev. Eucal.*, i., 74, for Northern Territory references).

(2) *E. gamophylla*, F. v. M.

223.—35 miles north-west of Meyer's Hill. 2nd June, 1911.

45.—Henbury Station, Finke River. 9th March, 1911. Leaves and fruits.

In the absence of full material or details it is not always possible to distinguish this species from *E. pruinosa*, Schauer.

(3) *E. oleosa*, F. v. M., var. *glauca*, Maiden (*Crit. Rev. Eucal.*, ii., 167).

241a.—35 miles north-west of Meyer's Hill. 2nd June, 1911. Broadish leaves and fruit. One small specimen.

117.—Hugh River. 21st March, 1911. Stunted scrub on stony ridges. Stem covered with long flakes of smooth bark. New bark brown colour.

Both specimens have leaves broader than the type, especially No. 241a, and hence show a transition to *E. Gillii*, Maiden.

(4) *E. pallidifolia*, F. v. M.

556a.—Near Kilgour River. On Ranges. 2nd September, 1911. In immature fruit. (See *Crit. Rev. Eucal.*, iii., 29, for Northern Territory references).

(5) *E. rostrata*, Schlecht.

115.—Jay Creek, along watercourses. 21st March, 1911. White stem, brownish yellow marks (blotches). Buds and fruits received. The most widely diffused of all species.

(6) *E. microtheca*, F. v. M.

405.—110 miles north of Northern Territory Survey Camp iv. In sandy plains. 1st July, 1911. Fruits only received.

The type of this species came from the Victoria River.

(See *Crit., Rev. Eucal.* ii., 53, for a reference to the little we know of this species in the Northern Territory. See *E. Spenceriana*, n.sp. below, p. 307.

(7) *E. intertexta*, R. T. Baker.

118.—Jay Creek and Hugh River. Grows along watercourses. White stems, brownish-yellow marks. Large tree. In bud, flower, and very early fruit.

355.—90 miles north, $\frac{1}{2}$ west of Camp iii. 15th June, 1911. Trees and scrubs in desert. White bark with grey patches. In fruit only. Perhaps the desert form of No. 116.

Useful localities for a species whose range is not yet well defined.

(8) *E. pachyphylla*, F. v. M.

(*E. pyriformis*, Turcz., var. *minor*, Maiden, *Crit. Rev. Eucal.*, ii., 232 and 235).

147.—15 miles west of Hugh River, Macdonnell Ranges, at elevation of 3,000 feet. 6th May, 1911. Flowers and young fruits.

361.—40 miles west of Camp iv., Lander Creek. 21st June, 1911. Stunted scrub in desert. Flowers.

371.—60 miles west of Camp iv., Lander Creek. 22nd June, 1911. Dwarf scrub, smooth stem, long rolls of dead bark near ground. Ripe fruits.

It will be observed that in Mueller's plate of *E. pachyphylla* in the "Euca-lyptographia," the buds are shown sessile or nearly so, and the fruits have pedicels of considerable length. The type also comes from Hooker's Creek.

(9) *E. clavigera*, A. Cunn.

"Smooth white bark." Cullen Creek (W. Baldwin Spencer, July-August, 1911). Also received from E. J. Dunn.

See a note by R. H. Cambage in *Proc. Roy. Soc., N.S.W.* xlix., 495 (1915).

(10) *E. papuana*, F. v. M.

See *Proc. Roy. Soc., N.S.W.*, xlix., 330 (1915); also *E. clavigera*, A. Cunn., var. *Dallachiana*, Maiden, in *Proc. Roy. Soc., N.S.W.*, xlvii., 77 (1913).

122.—Macdonnell Ranges. 23rd March, 1911. Fruits. On hill sides, trunks 2 ft. in diameter.

685.—Borrooloola. 20th November, 1911. Large tree. White stem. Buds and flowers.

392.—70 miles north of Camp iv., Northern Territory Survey. 28th June, 1911. Fruits.

311.—Stapleton. On dry stony country. White stem and branches. Trunk 4 inches diameter at ground.

362.—Burrundie (Dr. H. I. Jensen, 4th November, 1915). "Water Gum" (*i.e.*, growing in moist places).

"Growing in moist places on alluvial soil with *Melaleuca* and *Pandanus*. Tall, graceful, slender tree. Bark white and smooth, slightly frayed or peeling at base of trunk."

386.—McKinlay River Flats (Dr. H. I. Jensen, April, 1916).

406.—Locally called "Moreton Bay Ash." Woolngi (Dr. H. I. Jensen).

408.—Cullen River (Dr. H. I. Jensen).

See also a note by R. H. Cambage in *Proc. Roy. Soc., N.S.W.* xlix., 496 (1915).

(11). *E. Spenceriana*, *n. sp.*

Arbor 50' attinens, trunco 2-3' diametro. Cortex rugosa, in lamellis secedens, non crassa. Lignum rubrobrunneum. Folia immatura tenuiuscula, pallida, late lanceolata, apicibus obtusa, 14 c.m. longa. Venae secundariae tenues, numerosae, fere parallelae, angulum 60° cum costa media formantes. Folia matura immaturibus similia sed minora. Ramuli graciles, subteretes. Flores umbellis gracilibus tenuibusque, paniculati. Umbellae ad 7 flores, pedunculis pedicellisque longis filo similibus. Alabastra parva, clavata, opercula acuminata. Antherae poris dehiscentes (Porantherae). Fructus margine tenue et chartacea, ovoidei, circiter 6 mm. longi, valvarum apicibus distincte sub orificio depressis.

A tree of moderate height, attaining at least 50 feet, and a trunk-diameter of 2 to 3 feet. Bark more or less rugged and flaky, particularly near the butt, such flakes being lenticular, thin, and dry, and externally whitish to grey and even black. This rough bark extends to a variable extent over the trunk and larger branches. Bark not thick. Timber dark reddish-brown, interlocked, with a relatively thin, pale sap-wood.

Juvenile leaves.—Pale-coloured, equally green on both sides, broadly lanceolate, rather blunt at the apex, say 14 cm. long, with 6 cm. in greatest width, not thick, gradually tapering into a petiole of 2-2.5 cm. Midrib prominent, the secondary veins very fine and numerous, roughly parallel and meeting the midrib at an angle of 60°. Intramarginal vein not far removed from the edge.

Mature leaves.—Thin, graceful foliage very similar to the juvenile leaves, but smaller, and the intramarginal vein closer to the edge. Branchlets thin and almost terete.

Flowers.—In graceful, slender umbels, arranged in a paniculate manner, and not exceeding the leaves. Umbels with up to 7 flowers, peduncles and pedicels long, terete, and almost thread-like. Buds small (about 5 mm. long), clavate, the calyx-tube gradually tapering into the slender pedicel. The operculum shorter than the calyx-tube and tapering to a fine point. Anthers with glands at top, filaments at base, and opening in pores (Porantherae).

Fruits.—Rim thin, frail, the whole fruit of papery texture and readily crushed by the fingers, ovoid, about 6 mm. long, the tips of the valves distinctly sunk below the orifice.

Type. Burrundie, Northern Territory, 5th November, 1915 (Dr. H. I. Jensen).

In honour of Sir W. Baldwin Spencer, K.C.M.G., who on his scientific expedition from Port Darwin to the Roper River in July-August, 1911, and again in the following year, at my request brought excellent flowering material of the species.

RANGE.

Northern Australia, using the term in a wide sense, that is to say, the Northern Territory and Northern Western Australia. In the Northern Territory it extends from near the coast to a considerable distance inland. Its range has not been fully ascertained.

Specific localities are:—

Port Darwin (M. Holtze) in Herb., Melbourne, as *E. microtheca*, *F. v. M.*

348.—“Box Gum.” Just going off flower. Rapid Creek, near Darwin (near coast). (Dr. H. I. Jensen). 6th November, 1915.

346.—“Common Box Gum.” Burrundie, 5th November, 1915. (Dr. H. I. Jensen). In flower, with a few ripe fruits.

347. “Common Box Gum.” Growing outside Courthouse, Pine Creek, 6th November, 1915. (Dr. H. I. Jensen). In plump bud.

“Black Box. Rare.” Edith River, near Roper River, May-September, 1911. (W. S. Campbell).

In flower, Darwin to Roper River, 1912. (W. Baldwin Spencer.)

422.—“Box.” Woolngi (Fergusson Railway Crossing). 5th July. 1916. “The slate country where the slates are aluminous and fissile has Box preponderating. This Box is identical with my Pine Creek Box (sent under Nos. 346, 347, 348.” (Dr. H. I. Jensen).

346, 347, 348.—“This is the Coolibar or Box of the Northern Territory. The wood burns to a clean white ash, much appreciated for making dampers. Excellent, durable timber, but not white-ant proof. In general appearance the tree is such a typical Box, that I put it down as *E. microtheca*.” (Dr. H. I. Jensen).

The following specimen is from North Western Australia.

“Eucalyptus N.W.C.” (North West Coast). Allan Cunningham, in Hookerian Herbarium, referred to *E. drepanophylla*, *F. v. M.*, by Bentham (B. Fl., iii., 221).

AFFINITIES.

E. Spenceriana has affinity with *E. microtheca* in regard to anthers and to *E. papuana*, *F. v. M.*, and allied species as regards fruits.

1. With *E. microtheca*, *F. v. M.*

Mueller, who had apparently not seen fruits, labelled one specimen *E. microtheca*, and Dr. Jensen assumed that it was that species. *E. microtheca* is apparently comparatively rare in the Northern Territory. Reference to Plate 52, Vol. ii., *Crit. Rev. Eucal.*, shows that the two species are sharply different as regards the typical fruits, those of *E. microtheca* being very small, hemispherical and having the valves very much exerted. At the same time, I have seen specimens (e.g., Reid River, via Townsville, Queensland, Nicholas Daley, 24th February, 1912), which show evidence of slight transition in the fruits.

The timbers of *E. Spenceriana* and *E. microtheca* appear to closely resemble each other.

In my *Forest Flora*, N.S.W., vi., 20., I have drawn attention to the remarkable variation in the bark, and it may be that more careful examination and comparison of *E. Spenceriana* and *E. microtheca* in the field may throw light on the reputed variation of the bark in *E. microtheca*, which is not quite satisfactory to me.

2. With *E. papuana*, F. v. M.

Undoubtedly the two species have affinity as regards their fruits, but their anthers are quite different, those of *E. papuana* being versatile and having long parallel slits, with a comparatively large gland at the back. The flowers are larger and fewer in the panicle and have flat opercula.

The foliage of the two species has a general resemblance, but the leaves of *E. papuana* are more undulate, more irregular in outline, thicker, and the venation is coarser.

The timber of *E. papuana* is brown and not reddish, and the bark tessellated or smooth. *E. papuana* is closely related to *E. clavigera*, A. Cunn.

3. With *E. Brownii*, Maiden and Cambage (*Proc. Roy. Soc.* xlvii., 215, 1913).

This belongs to the Porantherae, and is described as a Box, two points of similarity to *E. Spenceriana*. But the leaves of *E. Brownii* are more narrow lanceolate, have glossy leaves and have more spreading venation. The inflorescence has very much shorter peduncles and pedicels, and the fruits have not papery walls as in *E. Spenceriana*.

4. With *E. drepanophylla*, F. v. M.

I only mention this because of the inclusion of an imperfect specimen (North West Coast, Allan Cunningham) under *E. drepanophylla*, F. v. M., in B. Fl., iii., 221.

E. drepanophylla was even less known then than it is now. It is an Iron-bark, and has not yet been found out of Northern Queensland.

(12). *E. alba*, Reinv.

(See *Crit. Rev. Eucal.*, iii., 91, 95, 97.)

Dr. Jensen attempts to differentiate between the "Poplar Gum," a large tree of flats, with leaves and fruits invariably treble the size of those of the "Salmon Gum" of Mallee-like habit. He says there is no gradation from one type to the other, but although this may hold in the districts travelled by Dr. Jensen, the statement is not of universal application.

402.—"Poplar Gum." Cullen River (Dr. H. I. Jensen). Timber red and flaky. In the specimen before me the bark is thin and so also is the sap-wood.

426.—"Poplar Gum." On alluvial flats. Dean's Camp, Burrundie. (Dr. H. I. Jensen).

373, 374.—"Poplar Gum." "Sparingly on all flooded flats from McKinlay River to Mary River, near Coronet Hill. One of the largest trees in the Territory, up to about 50 feet in height. Stem up to 3 feet at base. In wet season a good shade, but the tree loses its leaves in dry season. Bark white or greenish grey to topmost branches." (Dr. H. I. Jensen).

382.—"Poplar Gum." Wandi to Mt. Diamond flats. (Dr. H. I. Jensen).

376. "Salmon Gum." "Mallee-like, up to 25 feet. Grows on poor, sandy, silicious soils, never transgresses on to rich soil. Chiefly on hills." Wandi. (Dr. H. I. Jensen).

427.—“ Salmon Gum.” Dean’s Camp, Burrundie (calciophobe hill). (Dr. H. I. Jensen).

341.—“ Salmon Gum.” “ A Mallee type. Several trees frequently from one root. Bark smooth, white to reddish, medium sized. Leaves drop off in end of dry season except in very moist places.” Burrundie. (Dr. H. I. Jensen).

404.—“ Salmon Gum.” “ The Salmon and Poplar Gum are similar in colour of bark, shape of leaf and, to a layman, in shape of fruit, but the Poplar Gum is a large tree growing on moist flats, leaves and fruits invariably treble the size of those of the Salmon Gum. Salmon Gum is crooked, small and Mallee-like in habit. There is no gradation from one type to the other.” Umbrawarra. (Dr. H. I. Jensen).

(13). *E. grandifolia*, R. Br.

The type comes from the Northern Territory, and is broad-leaved. The species may have narrower leaves. So little is known of the species that the following notes in regard to specimens all collected by Dr. H. I. Jensen, except two indicated, will be useful.

Melville Island. Leaves of medium width. (Prof. W. Baldwin Spencer.)

364.—“ Small tree. Trunk rough up to first branches; upper branches smooth, whitish with few greyish blotches. Trees in front of Mines Office, Darwin.” Narrow leaves like 354. The specimen practically consists of the voluminous compound unbels.

342.—“ Smallish tree. Rough bark on trunk and lower branches; branches smooth, white.” Darwin.

Dr. Jensen sends from Darwin a juvenile leaf which, in its dried state, is 16 inches long and $7\frac{1}{4}$ broad.

353.—“ Moreton Bay Ash. Rapid Creek, near Darwin (near coast).”

354.—“ Moreton Bay Ash.” Rapid Creek. Leaves mostly narrow lanceolate, and reminiscent of *E. papuana*, but with the inflorescence of *E. grandifolia*.

363. “ White River Gum (so called locally). Large tree growing on flats near creeks and river. Stem covered with scaly flakes near ground, say up to 2 feet from ground; above that smooth, greyish or whitish bark.” Howard Creek, near Darwin.

349. “ Cabbage Gum. Rough bark like Bloodwood bark to top. Associated with Moreton Bay Ash. Medium sized tree. Smooth, white-barked specimens grow to a large size.” McKinlay Flats, Burrundie.

352.—“ Moreton Bay Ash. (Cabbage Gum with tessellated bark at base of trunk).” Burrundie (an inland district).

389.—“ Locally known as ‘ Moreton Bay Ash.’ Bark rough at base only; smooth and deciduous on upper limbs.” McKinlay River Flats.

350.—“ Medium to large trees on flats; smallish on hills. Bark ranges from the Moreton Bay Ash type to entirely rough like Bloodwood, or again, quite smooth, white over entire stem on flats, without curly character of leaf or shape and characteristics of seed-capsules changing. The tree when it has rough bark half way up stem is known as Moreton Bay Ash; the other varieties are known as Cabbage Gums. Large tree, dense foliage.” Foliage thick. Burrundie.

351.—“Cabbage Gum. Rough bark three parts up stem.” Pine Creek (an inland district).

The leaves are large and broad for the most part, but two or three are narrow, reminiscent of *E. papuana*.

355.—“Cabbage Gum. Somewhat crooked-limbed, scraggy trees, height 30 feet with rough bark (like that of Bastard Bloodwood) half way up stem white smooth bark on branches. Leaves undulate and broadly lanceolate. Stem up to 12 inches in diameter.” Pine Creek.

356.—“Cabbage Gum. Rough bark three-quarters of way up stem and in some trees up to branches. Not distinctly marked into squares; more like Bloodwood.” Pine Creek.

Leaves smaller than 355, and like it undulate and with curved midrib. Pine Creek Railway (E. J. Dunn). With very large juvenile leaves.

405.—“On the slate country in parts the Moreton Bay Ash type of this species is abundant.” Umbrawarra.

407.—“Broad leaved variety.” Woolngi.

(14). *E. Houseana* (W. V. F.), Maiden

In *Proc. Roy. Soc., N.S.W.*, xlix., 318 (1915).

In the original paper, at p. 320, 321, several Northern Territory specimens are quoted. The following, collected by Dr. H. I. Jensen, are additional ones.

381.—Burrundie (McKinlay River Flats).

359.—“Snow-white bark, smooth barked tree, growing singly or in branches like Mallee. Medium size. It is crooked on poor soil, straighter on Burrundie alluvial soil.” Burrundie

345.—“Particularly partial to flooded clay flats. Like many trees it loses its leaves in the dry season.” Pine Creek.

379.—“Tree up to 40 feet high, smooth white bark.” On flats, Pine Creek to Wandí.

375.—Wandí Non-glaucous.

380.—Mt. Diamond to Wandí flats.

413.—Umbrawarra.

(15). *E. aspera*, F. v. M.

480.—South Newcastle Waters, 27th September, 1911. “Snapping Gum,” up to 2 ft. 6 in. in diameter. Leaves and fruits.

The type came from the Upper Victoria River, and the species is still imperfectly known.

211.—Tanami Tin Field. (Dr. H. I. Jensen, 1914).

(16). *E. phoenicea*, F. v. M.

See *Crit. Rev. Eucal.*, iii., 41.

800.—Sandstone country, near Tanumbirini, 25th March, 1912. Buds, flowers, fruits. This and the next species have orange to crimson filaments, and are highly decorative. Pine Creek. (Dr. H. I. Jensen, 1916).

(17). *E. miniata*, A. Cunn.

See *Crit. Rev. Eucal.*, iii., 39.

809.—8 mile Spring, on to Tanumbirini, 26th March, 1912. Occurs near creeks and springs. Stem like Bloodwood.

552.—Top Spring. On Sandstone Range. This specimen, with one loose flower only, is probably this species.

Pine Creek Railway, Brock's Creek. (E. J. Dunn).

"Woolly Butt." "I find that *E. miniata* grows on the deeper loams, while *E. phoenicea* takes its place on the more barren dry parts." On granite country between Cullen River and Wandii. (Dr. Jensen).

Juvenile leaves of this species collected by Mr. R. H. Cambage at Croydon, North Queensland, with abundant stellate hairs, have been already described in *Crit. Rev. Eucal.*, iii., 37.

I have already figured juvenile leaves of this species at fig. 3a, Plate 95 of my *Critical Revision*, but Mr. Hill's specimens (below) are more satisfactory.

I have received juvenile leaves, some in a strictly opposed state, from Darwin, collected in July, 1916. (G. F. Hill). They vary from oval and ovate to nearly circular.

Sometimes they are slightly emarginate, with a not very prominent mucro. A not uncommon size is 9 cm. (about $3\frac{3}{4}$ inches) long by up to 7.5 cm. (3 inches), with a petiole 1 cm. long.

As a general rule the intramarginal vein is not far removed from the edge, but there is some variation in this respect.

(18). *E. ptychocarpa*, F. v. M.

809.—Eight-mile Spring on to Tanumbirini. Found near creeks and springs, 26th March, 1912. Stem like Bloodwood. Crimson filaments. Leaves, buds, and flowers.

810.—Eight-mile Creek on to Tanumbirini, 26th March, 1912. Cream-coloured filaments. Leaves, flowers. (Tree similar to 809).

It is to be noted that this species has filaments of two colours. This character is not rare, on the other hand it is not common.

(19). *E. ferruginea*, Schauer.

778 (number to be confirmed).—Sandstone Ranges near Western Creek, Northern Territory, 16th February, 1912. Rough scaly bark. Buds and flowers only.

Another imperfectly known species. The timber and bark of a tree are important in the definition of a species, and it would be very desirable if there could be obtained short logs (say a foot long) of all the Northern Territory species. Bearing in mind their friable character, the barks should be tightly lashed round with sacking before beginning to cut them with a saw or an axe.

(20). *E. setosa*, Schauer.

398.—Camp iv., Northern Territory Survey, 29th June, 1911. A single fruit and leaves.

241a.—40 miles N.N.W. of Meyer's Hill, 2nd June, 1911. Up to 40 feet; rough stem. (G. F. Hill.) Fruits and leaves only. Fruits smaller and more glabrous than any I have previously seen. When complete material is available it may be worthy of consideration as to whether this form is worthy of indication as a variety.

Woolngi (Dr. H. I. Jensen). A pipy piece of a limb received with this specimen has flaky bark (of the Woolly Butt character).

Also occurs in Northern Queensland, around the Gulf of Carpentaria.

(21). *E. terminalis*, *F. v. M.*

The following specimens are identical with specimens included by Mueller under the above species, but the *Corymbosae* are under revision.

808.—Sandstone Ranges between Bauhinia Downs and Tanumbirini, 20th March, 1912. Smooth white stem, rusty near ground. Leaves, buds, flowers.

120.—Macdonnell Ranges, 23rd March, 1911. Leaves, buds, flowers. Near a form formerly named *E. polycarpa*, *F. v. M.*

(22). *E. Foelschiana*, *F. v. M.*

There appears to be a narrow-leaved form as well as the normal or broad-leaved form.

"Brock and Bridge Creek district is where I believe Inspector Foelsche collected his type material. In these localities it is never to my present knowledge more than 15 feet high. It is a low scrub, found principally on clayey, clay-slate and schist-flats, leaves very fleshy, flowers in huge bunches at end of branches, flowers very fleshy, fruits large.

"The specimens at Burrundie, however, grow to a height of 30 feet or more, both broad-leaf and narrow-leaf form, and the tree has the appearance of the Cabbage Gum. The leaves are not as large as usual in the scrubby form. Wood white-ant proof." (Dr. Jensen).

Pine, Horseshoe and Brock's Creek. (E. J. Dunn and Winters).

344.—Narrow-leaved form (Dr. Jensen).

358.—"Bastard Bloodwood. Rough bark to top of branches, narrow-leaved type." Burrundie. (Dr. Jensen).

387.—"Rough bark almost to top." McKinlay River flats. (Dr. Jensen).

Edith Creek, also track to Katherine River. Widely spread. (W. Baldwin Spencer).

368.—"Medium sized tree; trunk covered with rough scaly bark." Broad-leaved type. Batchelor, about 60 miles south of Darwin. (Dr. Jensen).

420.—Woolngi. (Dr. Jensen).

416.—Umbrawarra. (Dr. Jensen).

(23). *E. latifolia*, *R. Br.*

Pine and Horseshoe Creeks. (E. J. Dunn).

107.—"Bloodwood." Fairly large tree, near Pine Creek. (C. E. F. Allen).

357.—"Bastard Bloodwood." "Roughish bark except on branches, where it is white and smooth. Trunk up to one foot. Crooked-limbed small tree." Pine Creek. (Dr. Jensen).

390.—"Bloodwood." McKinlay River flats. (Dr. Jensen).

385.—"Bastard Bloodwood." "Roughish bark over most of stem, branches often smooth." Near Wandii. (Dr. Jensen).

383.—Near Wandii. (Dr. Jensen).

Between Bull Oak and Crescent Lagoon. Track, Cullen Creek. (W. Baldwin Spencer).

401.—Woolngi. Timber pale red in colour. (Dr. Jensen).

411. Umbrawarra. (Dr. Jensen).

The Northern Territory is rich in *Corymbosae*, but as I have not revised this section for my Critical Revision, I will postpone consideration of it.

(24). *E. odontocarpa*, *F. v. M.*

Tanami. (G. F. Allen, No. 202, 1914).

(25). *E. tetradonta*, *F. v. M.*

W. S. Campbell, 1911.

Melville Island and Darwin. (Spencer, 1911).

340.—Darwin. (G. F. Hill). "Common Stringybark for Port Darwin to inland slopes, several hundred miles from coast. Always on poor soil." (Dr. H. I. Jensen).

"Stringybark Box." Pine Creek. (E. J. Dunn).

Batchelor Farm, C. E. F. Allen, No. 224, 1914.

Edith Creek, also 10 mile, Katherine River. (W. Baldwin Spencer, 1911).

Juvenile leaves of this species have been received from Darwin from Dr. Jensen (July, 1916), and have not hitherto been described. I proceed to describe them.

The branchlets are markedly quadrangular, and, like the leaves, are entirely glabrous or very slightly glaucous, and equally green on both sides. They are large, oblique or falcate, very acuminate with prominent purplish midribs, raised chiefly on the lower sides of the leaves.

Secondary veins very distinct, but fine, roughly parallel, and making an angle of about 60 degrees with the midrib. The intramarginal vein is at a considerable distance from the edge.

A not uncommon size of the lamina is 25 cm. (say 10 inches) long and 13 cm. (say 5 inches) broad, with a petiole of 1.5 cm. Still in the opposite stage they may be half the width.

The basis of our knowledge of the Eucalypts of the Northern Territory is Mueller's "Monograph of the Eucalypti of Tropical Australia,"* which, however, includes cognizance of some North and South Queensland species.

The species enumerated for the Territory in the above work are (in the order given) :—

1. *E. rostrata*, *Schlecht.* (Leichhardt's Overland Expedition).
2. *E. brevifolia*, *F. v. M.* (Victoria River and Sturt's Creek, Arnhem's Land and Gulf of Carpentaria). [Synonym of *E. microtheca*, *F. v. M.*
3. *E. patellaris*, *F. v. M.* (Roper River).
4. *E. tessellaris*, *F. v. M.* (Gulf of Carpentaria).
5. *E. polycarpa*, *F. v. M.* (Intra-tropical New Holland). [Possibly a form of *E. terminalis*, but I suspend my judgment.]
5. *E. terminalis*, *F. v. M.* ("Intra-tropical New Holland").
6. *E. dichromophloia*, *F. v. M.* ("Intra-tropical New Holland").
7. *E. ptychocarpa*, *F. v. M.* (Sources of the Rivers Wentworth, Wickham, Limmen Bight).

* Journ. Linn. Soc., iii., 81 (1858).

8. *E. aurantiaca*, *F. v. M.* (Elevated tracts near Gulf of Carpentaria.) [*E. miniata*, *A. Cunn.*, is the older name.]
9. *E. phoenicea*, *F. v. M.* (Victoria River, Arnhem's Land, Gulf of Carpentaria).
10. *E. latifolia*, *F. v. M.* (Roper River).
11. *E. aspera*, *F. v. M.* (Sandstone Tableland, Victoria River and Sturt's Creek, &c.).
12. *E. ferruginea*, *Schauer.* (Sandstone Tableland).
13. *E. bigalerita*, *F. v. M.* [Arnhem's Land]. (A synonym of *E. alba*, *Reinw.*]
12. *E. confertiflora*, *F. v. M.* (Victoria River to Gilbert River). [A synonym of *E. ferruginea*, *Schauer*.]
14. *E. tetradonta*, *F. v. M.* (Arnhem's Land, Port Essington).
15. *E. brachyandra*, *F. v. M.* (Upper Victoria River).
16. *E. clavigera*, *A. Cunn.* (Macadam Range).
17. *E. odontocarpa*, *F. v. M.* (Sturt's Creek).
18. *E. pachyphylla*, *F. v. M.* (Hooker's Creek).

In the *Flora Australiensis* (Vol. iii., 1866), Bentham adds the following species, sometimes giving useful additional localities to those given by Mueller.

19. *pruinosa*, *Schauer.*
20. *oligantha*, *Schauer.*
21. *crebra*, *F. v. M.* (The broader-leaved *E. melanophloia*, *F. v. M.*, is really meant).
2. *brachypoda*, *Turcz.* [A synonym of *E. microthera*, *F. v. M.*]
22. *pallidifolia*, *F. v. M.* (Hooker's Creek).
13. *platyphylla*, *F. v. M.* (Islands of the Gulf of Carpentaria).
13. *alba*, *Reinw.* (MacArthur River, Gulf of Carpentaria). [*E. alba* and *E. platyphylla* are conspecific.]
23. *grandifolia*, *R. Br.* (Islands of the Gulf of Carpentaria).
24. *setosa*, *Schauer.* (Gulf of Carpentaria).
5. *pyrophora*, *Benth.* (Upper Victoria River and Depot Creek). [Its relation to *terminalis* requires to be worked out.]

In "Eucalyptographia," under *E. clavigera*, Mueller enumerates the following species (excluding those already enumerated) from North Australia, and points out that the Sections *Renantherae* and *Hemiantherae* are unrepresented :—

- Abergiana*, *F. v. M.* [A North Queensland species; I am not aware of a Northern Territory locality.]
- Cloiziana*, *F. v. M.* [Recorded only from Queensland, so far as I am aware. See *Crit. Rev. Eucal.*, ii., 158.]
- exserta*, *F. v. M.* [Confined to Queensland, so far as we know at present.]
- leptophleba*, *F. v. M.* [Confined to Queensland so far as we know at present.]

maculata, Hook, f. [By this is meant var. *citriodora*, confined to Queensland.]

melanophloia, F. v. M. [See the note under *E. crebra*, F. v. M., above.]

perfoliata, R. Br. [I only know this from North-West Australia, as stated in B. Fl., iii., 254.]

populifolia, Hook, f. [This does not extend further north than northern Queensland.]

resinifera, Sm. [This species certainly does not extend to the Northern Territory; probably an allied species, *E. pellita*, F. v. M., which extends to Northern Queensland, is meant.]

tereticornis, Sm. [I have not received it from the Territory, but its occurrence there is not unlikely, as it occurs in Papua.]

Torelliana, F. v. M. [Only known from North Queensland.]

In the "Flora Australiensis," Bentham, by "North Australia," includes North Western Australia, as well as the Northern Territory. By the term "North Australia" Mueller means the same, together with an indefinite part of North Queensland.

In my view, it is not safe to add any one of the above species to the flora of the Northern Territory without proper evidence.

In subsequent parts of the "Eucalyptographia," Mueller includes :—

largiflorens, F. v. M. (*bicolor*, F. v. M.) ("to Carpentaria").

25. *gamophylla*, F. v. M. (Macdonnell Range).

26. *Foelschiana*, F. v. M. (Darwin, &c.).

[I do not admit *E. bicolor* to the flora of the Northern Territory on such evidence as is available at present. It is recorded from North Queensland. See *Crit. Rev. Eucal.*, ii., 9.]

Then we have "Report on the work of the Horn Scientific Expedition to Central Australia," Part iii., Geology and Botany (1896). Botany, pp. 117-194, by Prof. Tate. The Eucalypts enumerated (from the Macdonnell Ranges) at pp. 158-9 are :—

2. *microtheca*, F. v. M.

18. *pachyphylla*, F. v. M.

27. *oleosa*, F. v. M.

28. *Oldfieldii*, F. v. M.

also var. with leaves oval-oblong to ovate-obcordate, one to one and-a-quarter inches long. Slopes of Mt. Sonder.

4. *tessellaris*, F. v. M.

1. *rostrata*, Schlecht.

24. *gamophylla*, F. v. M.

23. *setosa*, Schauer.

5. *terminalis*, F. v. M.

29. *eudesmoides*, F. v. M.

[In the above list only *oleosa*, *Oldfieldii* and *eudesmoides* are additions to the flora of the Territory. I suspend my judgment as regards *Oldfieldii*.]

From the above lists I show that 29 species have been recorded from the Northern Territory, but all the records are not entirely satisfactory, while additional species remain to be recorded.

In the present paper it would appear that the following four species are enumerated for the Territory for the first time :—

intertexta, R. T. Baker.

papwana, F. v. M.

Spenceriana, n. sp.

Houseana (W V F.), Maiden.

The variety (*glauca*, Maiden) of *oleosa*, F. v. M., is stated.

The species enumerated in this paper include all enumerated from the Territory, with the exception of the following ;—

patellaris, F. v. M.

tesselaris, F. v. M.

dichromophloia, F. v. M.

brachyandra, F. v. M.

oligantha, Schauer.

melanophloia, F. v. M.

Oldfieldii, F. v. M.

eudesmoides, F. v. M.

SUMMARY.

<i>rostrata</i>	<i>phoenicea</i>	<i>clavigera</i>	<i>grandifolia</i>
<i>microtheca</i>	<i>latifolia</i>	<i>odontocarpa</i>	<i>setosa</i>
<i>patellaris</i>	<i>aspera</i>	<i>pachyphylla</i>	<i>gamophylla</i>
<i>tesselaris</i>	<i>ferruginea</i>	<i>pruinosa</i>	<i>Foelscheana</i>
<i>terminalis</i>	<i>alba</i>	<i>oligantha</i>	<i>oleosa</i>
<i>dichromophloia</i>	<i>tetradonta</i>	<i>melanophloia</i>	<i>Oldfieldii</i> (?)
<i>ptychocarpa</i>	<i>brachyandra</i>	<i>pallidifolia</i>	<i>eudesmoides</i> .
<i>miniata</i>			

Viz. : 29 species enumerated by Mueller and others. I add to this list :—

intertexta *papwana* *Spenceriana* *Houseana*

4 species, making 33 species in all recorded from the Northern Territory.

The present collections under review enumerate 25 species, leaving 8 species recorded by others.

I desire to thank Mr. W. F. Blakely, my assistant, and Miss Flockton, artist, Botanic Gardens, Sydney, for valuable help in the preparation of these notes.

APPENDIX IV.

ACACIAS OF THE NORTHERN TERRITORY.

By

J. H. MAIDEN, F.R.S.,

[WITH PLATES XXVI. AND XXVII.]

PART I.

The basis of our knowledge of the Acacias of the Northern Territory will be found in Mueller's account* of those found by him in Gregory's Expedition of 1856. The paper, however, takes cognizance of species from other parts of Australia.

The expedition proper lasted from June to August, and went from the mouth of the Victoria River, near Cambridge Gulf, Northern Territory, via the Roper River to the Albert River on the south shore of the Gulf of Carpentaria opposite Sweers Island (where Henne afterwards collected).

Mr. A. C. Gregory, on the 7th January, 1857, wrote to the Colonial Secretary, Sydney, a "Third letter," giving an account of the "North Australian Expedition," and this was ordered by the Legislative Assembly of N.S.W. to be printed on the 16th of the same month. A map accompanies this Report, which makes the various botanical collecting stations quite clear.

In *Proc. Roy. Soc., N.S.W.*, xiv., 81 (1880), Mueller adds "some data from my unpublished diaries of the expedition of 1855 and 1856.... The collections formed by me in that particular region, now, after twenty-three years, for the first time revisited by Mr. (Alexander) Forrest and his party, were mostly destroyed on the passage from Timor to Sydney, so that many of the localities now given from my journal remained ever since unrecorded."

Mueller's paper was handed to Bentham (who had long since specialised on Acacia), for editing, and at p. 115, Bentham, one of the most cautious of botanists, says: "In the few cases where I clearly identified them with others previously described, I have given the published names, adding his manuscript names for the purpose of reference, and retaining his characters as completing our previous knowledge of the plants."

This surely was wise action. No one can defend the publication of manuscript names without due consideration. In the case of a huge genus, species of which are spread over vast areas, sometimes difficult of access, so that additional material may not again be available for half a century and even longer, it may hinder the progress of knowledge to abstain from the publication of a manuscript name with its accompanying (perhaps incomplete) description, but based on special knowledge. In Mueller's paper some names were considered by Bentham to be synonyms which are now not so considered, and as one grows in experience, additional evidence comes under one's notice that many of the names and descriptions of the older botanists are not wrong, and should never have been suppressed. In making these remarks I am chiefly referring to

* A.—"Contributiones ad Acaciarum Australiae Cognitionem." *Journ. Linn. Soc.*, iii., 11, 12 (1859).

considered judgments, not to names casually given. Bentham, in the *Flora Australiensis*, faithfully gives synonyms, or reputed synonyms, wherever he knows them : some were overlooked by him. These thoughts are inspired by researches in regard to Australian Acacias, and I feel that knowledge in regard to some species would have been fuller and clearer if the well-intentioned, but still mistaken suppression of manuscript names had not been carried to the extent it has been.

Following are the species recorded by Mueller in the above paper, from what is now the Northern Territory, and I deal with his paper in some detail as it is not only the first, but also the most important paper on the genus in the province dealt with.

1. *A. stipulosa*, *F. v. M.* (op. cit., p. 119).

Upper Victoria River and Sturt's Creek.

Bentham (in Mueller's paper) draws attention to the affinities to *A. deltoidea*, *A. Cunn.*

2. *A. phlebocarpa*, *F. v. M.* (119).

Seven Emu River, Gulf of Carpentaria. This locality is near the eastern boundary of the Territory.

3. *A. patens*, *F. v. M.* (120).

Hooker's and Sturt's Creeks, but since found with a much wider range. Close to *A. siculaeformis*, *A. Cunn.*, and Bentham (in Mueller's paper) thought them conspecific, but afterwards changed his opinion.

A. juncifolia, *Benth.* (122), was described in Hooker's *London Journal of Botany*, i, 341 (1842). Following is a translation :—

"Glabrous, branches terete, phyllodes straight or somewhat spreading, elongate-subulate, terete—somewhat compressed, without nerves or indistinctly one-nerved, slightly grooved, without a point or uncinat-mucronate, peduncles solitary or double, much shorter than the phyllode, heads many-flowered, sepals free, rather broad spatulate. Phyllodes 3-6 inches long. Peduncles 2-6 lines long, never it appears, racemose. Flowers of *A. pugioniformis*, but the sepals are broader. Interior of New South Wales, Cunningham, Fraser, Mitchell."

Then on the edge of the mountain (Mt. Pluto, near 25 degrees south latitude, and 147 degrees east longitude, a little north of the Warrego, Mitchell collected a "Curious new Acacia, resembling a pine tree, but with the stature of a shrub." Bentham in Mitchell's "Tropical Australia," p. 342 (1848), described it as *A. pinifolia*, in words of which the following is a translation, and reduced this to *A. juncifolia* in B. Fl., ii, 339.

"Glabrous, branches smooth, phyllodes erect and somewhat incurved, long, linear filiform, the nerve distinct on both sides, somewhat tetragonous, shortly pungent-mucronate, peduncles solitary and very short, heads many-flowered, sepals spatulate, free or slightly cohering at the base. Very near *A. pugioniformis*, but the phyllodia are five, six or more inches long, being longer even than in *A. calamifolia*. It differs from the latter species in the inflorescence and calyx."

Then Mueller (*Journ. Linn. Soc.*, iii, 122, 1859), described, under the name of *A. tenuissima*, a new species, in words of which the following is a translation.

"Glabrous, branches somewhat terete, phyllodes very thin, elongated, tetragonous-filiform, curved-mucronulate, the stipules minute, deltoid and persisting for a long time, peduncles short, solitary, monocephalous, pods papery, broadly linear, straight, compressed, marginate, without nerves, slightly flexuose at the sutures, shortly stipitate at the base and acute at the apex."

Bentham referred this to his *A. pinifolia*, which Mueller had suggested as possible, but he had not a specimen of Bentham's species to compare.

Mueller's plant is No. 5, and came from near the source of the MacArthur River, but there is no known specimen in Australia.

Bentham points out that Mueller gave the name of *A. tenuissima* to two species, the other being given, at p. 135 of Mueller's paper, the name of *A. tenuissima*. It came from Sturt's Creek.

In B. Fl., ii, 401, Bentham makes it var. (?) *tenuissima* of *A. xylocarpa*, *A. Cunn.*

In B. Fl., ii., 339, Bentham records *A. juncifolia* from "Islands of Gulf of Carpentaria, R. Brown," which I have not seen,* and also from "barren stony places on the MacArthur, Mueller," the unsatisfactoriness of which I have just shown.

In his "Second Census," Mueller recorded *A. juncifolia* for N.A., but Professor Ewart informs me that there is no specimen from the Northern Territory in the Melbourne Herbarium.

I recommend that *A. juncifolia* be not admitted to the record of the Northern Territory species without additional evidence. If it occurs in the Territory, it will probably be found in the south-eastern part of it, rather than on the northern coast.

4. *A. lycopodifolia*, *A. Cunn.* (123).

Victoria River; it had already been collected in Arnhem Bay, another Northern Territory locality. I received it from the Lower Victoria River in 1913, from R. J. Winters and E. J. Dunn.

Var. *glabrescens*, *Benth.*: Collected by Mueller at the Victoria River, who described it in B. Fl. ii., 342, from material named *A. asperulacea*, by Mueller.

5. *A. galioides*, *Benth.* (123).

Victoria River, also Islands of Gulf of Carpentaria (R. Brown).

A. asperulacea, *F. v. M.* (123), is a synonym of *A. lycopodifolia*, *A. Cunn.*, var. *glabrescens*, *Benth.* See above.

6. *A. subternata*, *F. v. M.* (124).

Upper Victoria River, Roper, and Limmen Bight Rivers.

7. *A. salicina*, *Lindl.* (126).

Arnhem's Land to the Roper River. This has proved to be a widely distributed and very variable species. Reference may be made to my "*Forest Flora, N.S.W.*," Part 39, p. 146.

8. *A. Sentis*, *F. v. M.* (128). This species is not synonymous with *A. decora*, *Reichb.*, as Bentham, who edited Mueller's paper, thought at the time.

Victoria River, Arnhem Land, Gulf of Carpentaria. A widely diffused species in the drier parts of Australia.

A. pendula, *A. Cunn.* (133).

Mueller records specimens from Sturt's Creek without flower or fruit, and therefore (as he points out) doubtful.

The species is very widely distributed, but I know of no authentic record of it for the Northern Territory.

9. *A. stenophylla*, *A. Cunn.* (133).

Hooker's and Sturt's Creeks. Since then found to be widely distributed in Australia.

10. *A. dineura*, *F. v. M.* (130).

Sources of Roper and Limmen Bight Rivers. In editing Mueller's paper, Bentham agreed that the species was valid, but in B. Fl., ii., 391, he placed it under *A. binervata*, *DC.*, the specimens being "small and in fruit only."

* Unless it is "*Acacia juncifolia*, *Benth.*: received from Kew without specific locality." Mr. J. F. Bailey has kindly favoured me with a specimen from the Queensland Herbarium. It probably came from Islands of the Gulf of Carpentaria, R. Brown, and it is *A. Alleniana*, *Maiden*, n. sp. See below, p. 330. The pods are so immature as to cause a description to be unsatisfactory.

A. dineura and *A. binervata* have considerable superficial resemblance.

A. dineura also occurs around Darwin.

A. dissoneura, *F. v. M.*, Wing's *Southern Science Record*, July, 1882, is a synonym.

11. *A. translucens*, *A. Cunn.* (133).

Sturt's and Hooker's Creeks and Victoria River, also Islands of Gulf of Carpentaria (R. Brown).

12. *A. impressa*, *F. v. M.* (not *A. Cunn.*) (133).

Victoria River and Sturt's Creek. Bentham gives the caution that it is very near *A. translucens* in foliage and flowers, but with a very different fruit.

13. *A. hemignosta*, *F. v. M.* (134).

Victoria and Roper Rivers. Also occurs in North Western Australia and in Northern Queensland.

A. tenuissima, *F. v. M.* (135). See above, p. 319.

14. *A. pityoides*, *F. v. M.* (135). Sturt's Creek.

15. *A. xylocarpa*, *A. Cunn.* As *A. orthocarpa*, *F. v. M.* (136).

MacArthur River. (See note on *A. juncifolia*, above p. 319. Var. (?) *tenuissima*, *Benth.* (B. Fl., ii., 401). *A. tenuissima*, *F. v. M.* (135).

16. *A. gonocarpa*, *F. v. M.* (136).

Arnhem Bay, R. Brown, rocky shores of Gulf of Carpentaria.

17. *A. drepanocarpa*, *F. v. M.* (137). South-west of the Gulf of Carpentaria.

18. *A. lysiphloia*, *F. v. M.* (137), in B. Fl., ii. 393.

Sturt's and Hooker's Creeks. Limmen Bight River, Gulf of Carpentaria.

19. *A. delibrata*, *A. Cunn.* (138).

Under *A. delibrata* in B. Fl., ii., 405, Bentham only quotes *A. Cunningham's* specimen's from North Western Australia. He gives an account of Mueller's Northern Territory *A. delibrata* specimens, viz., "Arnhem's Land, head of the Seven Emu River, Upper Roper River, Victoria River, Sturt's Creek, Fitzmaurice River," under *A. oligoneura*, *F. v. M.*, surmising that Mueller's is a synonym of Cunningham's species. Under *A. oligoneura* (p. 139 of Mueller's paper), he gives a useful account of each of Mueller's supposed *delibrata* specimens.

In B. Fl., ii., 405, he grudgingly separates *A. delibrata* and *A. oligoneura*, saying of the latter: "Possibly the same as *A. delibrata*."

Mueller's "Iconography" does not help us, for he figures *delibrata* and omits *oligoneura*. He, however, maintains them as separate species in his "Second Census."

Since the above was written, I have received a portion of the type of *A. delibrata* from Kew, and find that it has been collected in North Western Australia during the last few years, but it was noted as a different species. So far it has not been collected in the Northern Territory, but I think that is only a matter of time. The *A. delibrata* figured in Mueller's Iconography is quite a different plant.

My account of Tropical Western Australian Acacias is before the Royal Society of New South Wales, and it is expected to be published in 1917.

20. *A. oligoneura*, *F. v. M.* (139).

Victoria River, Macadam Range, Arnhem Land. These are the only two localities quoted in B. Fl., ii., 405. See below, p. 343.

This is a puzzling, uncertain species. In the paper before the Royal Society of New South Wales just referred to, I have discussed, at some length, "What is *Acacia oligoneura*, *F. v. M.*?"

21. *A. torulosa*, *Benth.* (139).

This is a case in which a new species in Mueller's paper is attributed to Bentham. (See *B. Fl.*, ii., 405).

Bentham, in editing Mueller's paper, synonymises it with *A. julifera*, *F. v. M.*, MSS., non Benth.

A. julifera is described by Bentham in Hooker's *London Journal Bot.*, i., 374. The type is from Rodd Bay, Port Curtis, Queensland.

Bentham in *B. Fl.*, ii., 405, keeps the two species apart, but unfortunately Mueller only figures *A. torulosa* in his "Iconography."

This is another pair of species which, as Bentham points out, are scarcely to be separated except by the fruit, and therefore it is to be regretted that opportunity was not taken of figuring *A. julifera* from the best material available.

It does not appear that *A. julifera* extends to the Northern Territory.

A. torulosa is recorded from the Nicholson and the Roper, and I do not know another authenticated Northern Territory locality. It extends into Queensland.

22. *A. pachycarpa*, *F. v. M.* (139). Sturt's Creek.

In Mueller's paper Bentham places it under *A. doratoxylon*, but in *B. Fl.*, ii., 409, he recognises its specific rank, and points out its affinity to *A. plectocarpa*, *A. Cunn.* Mueller figures it in his "Iconography."

23. *A. conspersa*, *F. v. M.* (140).

Near the Roper and Limmen Bight Rivers. Bentham, in Mueller's paper, points out its relationship to *A. leptocarpa*, *A. Cunn.* In *B. Fl.*, ii., 403, it comes next to *A. doratoxylon*, *A. Cunn.*

24. *A. gonoclada*, *F. v. M.* (140).

Victoria River, also Arnhem's Land, Figured in "Iconography."

25. *A. amentifera*, *F. v. M.* (141). Upper Victoria River.

26. *A. Wickhami*, *Benth.* (141). Victoria River and Sturt's Creek.

Mueller described his "Gulf of Carpentaria specimen No. 38," under the name *A. calligera*, and Bentham, in doubtfully referring it to *A. Wickhami*, does not take his usual course of recording the synonym in *B. Fl.*, ii., 393. He points out the variation in the species.

27. *A. ptychophylla*, *F. v. M.* (142). Sturt's Creek. Still little known.

28. *A. umbellata*, *A. Cunn.* (142).

Type from Cleveland Bay and Cape Flinders, North Queensland, also Bauer's "North Coast" which usually means Gulf of Carpentaria in this connection.

Bentham, in Mueller's paper, makes the latter's proposed name *A. acradenia*, a synonym. Mueller collected it at the Gulf of Carpentaria, Seven Emu River, and sources of the Victoria River—Northern Territory localities.

In the same paper Bentham pointed out that "Cunningham's specimen is very bad," and that the specific name (*umbellata*) might perhaps be inappropriate, possibly an allusion to the habit that Mueller and other botanists occasionally indulged in of changing specific names if they deemed them inappropriate.

In *B. Fl.*, ii., 394, under *A. umbellata*, Mueller's *acradenia* specimens are quoted, but the synonym is not mentioned, probably through an oversight.

In the "Iconography" Mueller figures *A. acradenia*, but does not mention *A. umbellata* (it, however, was not his practice to mention synonyms).

I received it from Tanami from Dr. H. I. Jensen, in 1913, and from the Lower Victoria River from R. J. Winters and E. J. Dunn, in the same year.

29. *A. leptophleba*, *F. v. M.* (143). Sturt's Creek.

The imperfect specimens were, in Mueller's paper, referred to *A. aulacocarpa*, *A. Cunn.*, but in B. Fl. ii., 395, he points out his error.

For a note on *A. aulacocarpa*, *A. Cunn.*, see below, p. 327.

30. *A. crassicarpa*, *A. Cunn.*, not *crassocarpa* (143). Point Pearce and Victoria River.

31. *A. megalantha*, *F. v. M.* (143). Sturt's Creek. Still imperfectly known.

32. *A. tumida*, *F. v. M.* (144). Victoria River, Point Pearce, Sturt's Creek.

A. retinervis, *Benth.* (144).

Bentham, in editing Mueller's paper, considered this species to include the preceding, but in B. Fl., ii., 409, he acknowledges the specific rank of *A. tumida*.

It is recorded from North West Australia, and while it is in the highest degree likely that it also occurs in the Northern Territory, I exclude it from the flora until it has been actually found. Mueller includes it in the "Second Census," but I do not know on what evidence.

33. *A. stipuligera*, *F. v. M.* (141).

Sources of Victoria River, Hooker's and Sturt's Creeks. Bentham says it is the "Scrub Wattle" of M'Douall Stuart.

34. *A. sericata*, *A. Cunn.* (*A. platycarpa*, *F. v. M.* (145)). Suppressed by Mueller in favour of *A. flavescens*, *A. Cunn.* Gulf of Carpentaria, Victoria River. Since found not far from Darwin.

35. *A. holosericea*, *A. Cunn.* (145). Victoria River, Arnhem's Land.

Var. *pubescens*, *F. v. M.* Victoria and Roper Rivers.

36. *A. limbata*, *F. v. M.* (145). North Australia (without a definite locality).

37. *A. dimidiata*, *Benth.* (145). Macadam Range, Victoria River.

Var. *eristachya*, *F. v. M.* (145), Victoria River, with tomentose petals and calyces; it is not taken up by Bentham in B. Fl., ii., 412.

38. *A. latifolia*, *Benth.* (146).

Arnhem's Land, Limmen Bight River, Gulf of Carpentaria. Figured in "Iconography."

39. *A. Farnesiana*, *Willd.* As *A. lenticellata*, *F. v. M.* (147). Sturt's Creek and MacArthur River.

40. *A. pallida*, *F. v. M.* (147) partly.

Macadam Range and Fitzmaurice River. Bentham's comments at pp. 147 and 148 of Mueller's paper should be read.

41. *A. Bidwilli*, *Benth.* (147).

A record tentatively stated by Bentham, but in B. Fl., ii., 420, he refers some of Mueller's specimens from Ridges of the Victoria River to his (?) var. *major*.

(I have not given all the known localities for Northern Territory species for reasons of space.)

So that Mueller, in his valuable paper in *Journ. Linn. Soc.*, iii., 114 (1859), recorded 41 species of *Acacia* for the Northern Territory, which are now accepted as valid records.

B.—In “Landsborough’s Exploration of Australia,” edited by J. S. Laurie, there is an Appendix by Mueller, of a list of plants noticed round the Gulf of Carpentaria from the Roper to the Gilbert (1862).

This tract includes part of Queensland, but that portion from the Roper River going south and east to the Queensland border is in the Northern Territory. The Gilbert River is of course in Cape York Peninsula.

Following is the list of *Acacias* recorded by Mueller, and although we cannot in all cases say which were actually obtained from the Northern Territory, it so happens that they are all Northern Territory species.

<i>A. phlebocarpa</i> , F. v. M.	<i>A. lysiphloea</i> , F. v. M.
<i>A. pinifolia</i> , Benth. = <i>A. juncifolia</i> , Benth.	<i>A. delibrata</i> , A. Cunn. (?)
<i>A. subternata</i> , F. v. M.	<i>A. torulosa</i> , F. v. M.
<i>A. salicina</i> , Lindl.	<i>A. conspersa</i> , F. v. M.
<i>A. decora</i> , Reichb. (This is really <i>A. Sentis</i> , F. v. M.; see above, p. 320).	<i>A. calligera</i> , F. v. M. = <i>A. Wickhami</i> , Benth.
<i>A. dineura</i> , F. v. M.	<i>A. umbellata</i> , A. Cunn.
<i>A. hemignosta</i> , F. v. M.	<i>A. sericata</i> , A. Cunn.
<i>A. pityoides</i> , F. v. M.	<i>A. holosericea</i> , A. Cunn.
<i>A. orthocarpa</i> , F. v. M. = <i>A. xylocarpa</i> , A. Cunn.	<i>A. limbata</i> , F. v. M.
<i>A. gonocarpa</i> , F. v. M.	<i>A. dimidiata</i> , Benth.
<i>A. drepanocarpa</i> , F. v. M.	<i>A. latifolia</i> , Benth.
	<i>A. Farnesiana</i> , Willd.
	<i>A. suberosa</i> , A. Cunn.

42. *A. suberosa*, A. Cunn., is the only addition to the preceding list.

C.—Report by Mr. F. G. Waterhouse on the Fauna and Flora, Natural History and Physical Features of Australia, on the line of J. M'Douall Stuart's Route across that Continent, from the South to the North Coast. (Parliamentary Paper, S.A., No. 125, 1862.) The botanical references are scanty; brief ones referring to *Acacias* will be found at pp. 8 and 10 (Mulga, Myall and *Acacia Farnesiana*).

D.—The next list of Northern Territory *Acacias* is to be found in B. Fl., ii. (1864), but the term “North Australia,” as used by Bentham, includes also North-west Australia.

The following species are additional :—

43. *Bynoeana*, Benth. Gulf of Carpentaria (Mueller).

44. *hippuioides*, Heward. Attack Creek (M'Douall Stuart).

Baueri, Benth. “North Coast” (R. Brown), which means Gulf of Carpentaria). I have not seen it from the Northern Territory, and would like to see the record confirmed. Mueller omits it from the Second Census.

45. *Simsii*, A. Cunn. Islands of the Gulf of Carpentaria (R. Brown). See p. 346.

46. *dictyophleba*, F. v. M. Mt. Humphries (M'Douall Stuart).

47. *latescens*, Benth. Capstan Island, Port Essington (Armstrong). I have received it, 20th April, 1916, from Koolpinyah, near Darwin. (G. F. Hill, No. 436).

48. *retivenia*, *F. v. M.* Short's Range (M'Douall Stuart).

49. *linarioides*, *Benth.* Cavern Island, Gulf of Carpentaria (R. Brown).

50. *stigmatophylla*, *A. Cunn.* Victoria River, Mueller, but not quoted in his paper in *Journ. Linn. Soc.* iii., (1859).

51. *polystachya*, *A. Cunn.* Port Essington (A. Cunningham), and probably islands of Gulf of Carpentaria (R. Brown).

52. *plectocarpa*, *A. Cunn.* Islands of Gulf of Carpentaria (R. Brown), Sturt's Creek, Roper, Seven Emu and Fitzmaurice Rivers (Mueller), but not mentioned in Mueller's paper in *Journ. Linn. Soc.*, iii.

This is a species concerning which there has been a good deal of confusion. It is not the *A. plectocarpa* as figured by Mueller in the *Iconography*. I have dealt with it in my paper before the Royal Society of N.S.W., 1917.

53. *oncinocarpa*, *F. v. M.* Melville Island (Herb. Fraser).

54. *auriculiformis*, *A. Cunn.* South Goulburn Island, A. Cunningham. I received this in 1913 from the Lower Victoria River from R. J. Winters and E. J. Dunn.

55. *humifusa*, *A. Cunn.* Islands of Gulf of Carpentaria (R. Brown), Victoria River (Mueller), but not mentioned in Mueller's paper in *Journ. Linn. Soc.*, iii.

I received it from the Lower Victoria River from R. J. Winters and E. J. Dunn.

E.—"A catalogue of plants collected during Mr. Alexander Forrest's geographical exploration of North-West Australia in 1879," by Baron von Mueller, *Proc. Roy. Soc., N.S.W.*, xiv., 81 (1880).

This expedition traversed between King's Sound and Port Darwin, and the following *Acacias* were collected in the Territory :—

A. Sentis, *F. v. M.*, near Rudolph Range, Sturt's Creek.

A. retivenia, *F. v. M.*, Margaret River.

A. Wickhami, *Benth.*, Margaret River.

A. stipulosa, *F. v. M.*, East of Oscar Ranges, Humbert River.

A. pallida, *F. v. M.*, Margaret River.

A. Farnesiana, *Willd.*, Mt. Hale.

There are no new records for the Territory.

F.—In the Appendix to Ernest Giles' "Australia Twice Traversed," in 1872-4 (published in 1889), Mueller gives the following list of *Acacias* :—

A. Sentis, *F. v. M.*, between Mt. Olga and Barrow Range.

A. patens, *F. v. M.*, Mt. Olga and Macdonell Range.

A. spondylophylla, *F. v. M.* Glen of Palms, Macdonnell and Rawlinson's Ranges.

A. lycopodifolia, *A. Cunn.* Macdonnell Ranges.

A. minutifolia, *F. v. M.*, Mt. Olga.

A. strongylophylla, *F. v. M.*, between the Alberta and Mount Olga, Macdonell Range; also towards Lake Amadeus and Barrow Range.

A. aneura, *F. v. M.*, between Mount Olga and Barrow Range.

56. *A. spondylophylla*.

57. *A. minutifolia*.

58. *A. strongylophylla*.

59. *A. aneura*.

Are not in previous lists.

G.—In “Plants indigenous to the neighbourhood of Hermannsburg, on the River Finke, Central Australia,” collected by the Rev. H. (should be J.) Kempe, and named by Mueller, in *Proc. Roy. Soc., S.A.*, v., 19 (1882), we have :—

A. Sentis, *F. v. M.*

A. aneura, *F. v. M.*

A. minutifolia, *F. v. M.*

A. pyrifolia, *DC.*

A. Farnesiana, *Willd.*

A. salicina, *Lindl.*

60. *A. pyrifolia* is not in previous lists.

H.—In “Additions to the Flora of South Australia,” by Prof. Tate (*ib.*, p. 82), we have from the Northern Territory :—

A. Gilesiana, *F. v. M.*, from Mount Eba, quoting Melbourne “Chemist and Druggist,” July, 1882.

A. Kempeana, *F. v. M.*, near the Finke River, quoted same Journal, June, 1882.

A. estrophiolata, *F. v. M.*, *Southern Science Record*, July, 1882. From near the Finke River.

A. sessiliceps, *F. v. M.*, from near the Finke River, Melbourne “Chemist and Druggist,” July, 1882.

A. lysiphlea, *F. v. M.*, near the Finke River.

A. dictyophleba, *F. v. M.*, *Fragm.*, iii., 128. Mount Humphries (Stuart), and Finke River.

A. Farnesiana, *Willd.*, near the Finke River.

61. *A. Gilesiana*.

62. *A. Kempeana*.

63. *A. estrophiolata*.

64. *A. sessiliceps*.

Are not in previous lists.

I.—In “Plants collected in Central Australia,” by C. Winnecke in 1883, published by Mueller in *Proc. Roy. Soc., S. A.*, viii., 10 (1886), only one *Acacia* is published, viz., *A. dictyophleba*, *F. v. M.*

J.—Mueller’s “Second Census of Australian Plants” (1889), lists 77 species, and gives for Northern Australia (including Northern Territory), the following not previously enumerated :—

A. genistoides, *A. Cunn.* (I do not know a Northern Territory locality).

A. Gregorii, *F. v. M.*, *Fragm.*, iii., 47. (I do not know definitely a Northern Territory locality).

A. spathulata, *F. v. M.* (I do not know a Northern Territory locality).

A. sclerosperma, *F. v. M.*, in Wing’s *S. Science Rec.*, ii., 150 (1882), Nichol River, North West Australia, but I do not know of any Northern Territory record.

65. *A. Luehmanni*, *F. v. M.*, in *Fragm.* xi., 116 (Liverpool River).

A. deltoidea, *A. Cunn.* (I do not know a Northern Territory locality).

A. setulifera, *Benth.* (I do not know a Northern Territory locality).

A. bivenosa, *DC.* (I do not know a Northern Territory locality).

A. trineura, *F. v. M.* (I do not know a Northern Territory locality).

66. *A. praelongata*, *F. v. M.*, *Melbourne Chemist and Druggist*, August, 1883. Of the localities given in the original description, "near Port Darwin" should be Elizabeth River, near Darwin, and "Adam's Bay" is Adam Bay, a few miles north-east of Darwin.

A. flavescens, *A. Cunn.* (He suppresses *A. sericata*, *A. Cunn.*, which he believes *A. flavescens* includes, so this is not an additional record).

A. brevifolia, *Benth.* (I do not know a Northern Territory locality).

67. *A. conjunctifolia*, *F. v. M.*, in *Fragm.*, xi., 68. (Victoria River, B. Gulliver).

A. arida, *Benth.* (I do not know a Northern Territory locality).

A. leptostachya, *Benth.* (I do not know a Northern Territory locality).

A. loxocarpa, *Benth.* (I do not know a Northern Territory locality).

A. retinervis, *Benth.* (I have already commented on this species at p. 323. and consider it doubtful in absence of evidence).

68. *A. aulacocarpa*, *A. Cunn.* (Prof. Ewart has it in the Melbourne Herbarium from A. C. Hulls, Escape Cliffs. Of the references to *A. aulacocarpa* in *Journ. Linn. Soc.*, iii., 143, the *A. aulacocarpa* there quoted by Benthams is *A. leptophleba*, *F. v. M.*, while the var. *brevifolia*, *F. v. M.*, is from Suttor Desert, Queensland, and not from the Northern Territory).

A. Bidwilli, *Benth.* (See above, p. 323).

Mueller omitted the following, which appear to be valid records prior to the publication of the "Second Census," apparently through inadvertence :—

<i>aneura</i>	<i>Kempeana</i> .
<i>crassica</i> rpa (in his original 1859 paper)	<i>minutifolia</i> .
<i>estrophiolata</i> .	<i>sessiliceps</i> .
<i>Gilesiana</i> .	<i>strongylophylla</i> .
<i>hippuroides</i> .	

As regards State localities in the Census, Mueller's prefatory remarks at p. viii., of the "First Census of Australian Plants" (1882), and not reprinted with the "Second Census," may be read. He points out the unsatisfactoriness of "N.A." (and indeed other divisions) as botanical provinces. He goes on to say: "The geographic columns in these pages indicate simply the occurrence of plants within any of the colonial areas, but have been extended even to such species, which merely *may* (my italics) pass boundary lines." Mueller then goes on to show the finding of a plant in certain geographical areas may require it to be recorded in an adjacent State if the conditions may be presumed to be similar.

I had correspondence with Mueller on this very point, in the course of enquiry as to why certain species came to be recorded for my own State (New South Wales), when I could not find records of New South Wales localities. In some cases he informed me that the records for Queensland, South Australia, and Victoria were so near the boundary of New South Wales, that they could

safely be attributed to New South Wales. As regards the Victorian-New South Wales Boundary, he informed me that when a plant was found fifteen miles away from the border, he inserted it for both States. I thought this a pity, and respectfully informed the veteran so, as I think that all records for a State should be backed up by specific localities in that State. (In the present incomplete state of our knowledge of Northern Territory plants, I would of course raise no objection to the fifteen mile boundary; the circumstances are different).

It may be that some of the "N.A." records for Acacias are marked in the "Second Census" on the same principle. I do not say they are, for although I cannot find the records I will continue to search for them, and also for the plants within the Territory itself. It is, however, proper to point out that records simply based on the "N.A." of the "Second Census" have not the same value in my eyes as those concerning which I have been able to obtain specific localities. I would gratefully welcome any information on the subject, and meantime no harm can result in temporarily excluding some names, "probabilities" as most of them appear to be.

K.—See also Journal of Mr. W. H. Tietkens' Central Australian Expedition (1889). This was ordered by the South Australian Legislative Assembly to be printed on the 30th October (1890). It was reprinted in octavo form by the South Australian Government Printer in 1891.

It contains a list of plants compiled by Mueller and Tate. The paper is a copy of one published in *Journ. Roy. Soc., S. A.*, xiii., 94 (1890). It is prefaced by a useful catalogue of localities.

The list of species of *Acacia* quoted is:—

A. Bynoeana, Benth. Western end of Lake Amadeus.

A. spondylophylla, F. v. M. Mt. Sonder.

A. stronglyphylla, F. v. M. Mt. Sonder; Western end of Lake Amadeus; Mt. Olga.

A. pyrifolia, DC. Gill's Creek; Laura Vale; Sandhills east of Lake Macdonald.

A. notabilis, F. v. M. Mt. Sonder; Gill's Creek.

A. salicina, Lindl. Mount Sonder; West end of Lake Amadeus; Tableland West of Eringa.

A. dictyophleba, F. v. M. Sandhills North of Mount Harris.

A. patens, F. v. M. Mt. Sonder, a shrub from 5 to 8 feet.

A. acradenia, F. v. M. Mt. Harris. = *A. umbellata*, A. Cunn.

A. doratoxylon, A. Cunn. 12 miles south-east of Gill's Creek; Mt. Olga; Tableland West of Eringa.

A. aneura, F. v. M. West of Lake Amadeus; tableland West of Eringa.

A. cyperophylla, F. v. M. Warman Rocks

A. Farnesiana, Willd. Mt. Sonder.

69. *A. notabilis*. (This is in Mueller's "Second Census," but this is apparently the first record.)

70. *A. doratoxylon*. (Admitted in the "Second Census" perhaps on the doubtful evidence of Mueller's *Journ. Linn. Soc.*, iii., paper. The reputed *doratoxylon* from the Northern Territory may perhaps be revised.)

71. *A. cyperophylla*, F. v. M.

Are not in previous lists.

L.—In 1892 Prof. Stirling collected *Acacia retivenia*, *F. v. M.*, at Attack Creek, on the Transcontinental Telegraph Line (*Proc. Roy. Soc., S. A.*, xvi., 262 (1892)).

M.—In the Report on the botanical collections made by R. Helms, Elder Exploring Expedition, *Proc. Roy. Soc., S. A.*, xvi., 333 (1896), which were reported on by Mueller and Tate, no collections appear to have been made north of latitude 26 degrees, but some of them were made so close to that line that the list of Acacias given at pp. 351-2 will be useful to the student of the Northern Territory flora.

N.—We now turn to the "Report on the work of the Horn Scientific Expedition of Central Australia," Part iii., "Geology and Botany" (1896), "Botany," pp. 117-194, by Prof. Tate.

This work is recapitulatory to some extent of the plants collected in former expeditions, and mostly named by Mueller.

The Acacias enumerated at pp. 155-7 include the following not previously enumerated :—

72. *A. tetragonophylla*, *F. v. M.* (Hermannsburg, Kempe, Tempe Downs, etc.).

73. *A. ulicina*, Meissner, var. *oxyclada*. (West of Macdonnell Range. Tietkens.)

74. *A. coriacea*, DC. (South Macdonnell Range, Tate).

A. Cowleana, Tate, and *A. frumentacea*, Tate, are described as new at p. 187, and there are brief notes on species at p. 193.

75. *A. Cowleana*, Tate, is stated to be near to *A. glaucescens*, Willd., and *A. Cunninghamii*, Hook.

76. *A. frumentacea*, Tate, is compared both with *A. leptopetala*, Benth., and with *A. Sentis*, *F. v. M.*

O.—Holtze, Nicholas. Bathurst Island (1910). He published a brief botanical report on the island, a list of plants observed, and the fep. report of two and a-half foolscap pages is accompanied by a plan of the island. The document is headed "Northern Territory of South Australia," but it does not appear to have been presented to Parliament.

The list of plants contains the names—

Acacia praelongata, *F. v. M.*

A. drepanocarpa, *F. v. M.*

A. auriculiformis, *F. v. M.*

A. latifolia, Benth.

All of which have been previously recorded from the Northern Territory.

P.—J. M. Black, in *Proc. Roy. Soc., S. A.*, xxxviii., 460 (1914), describes Captain White's collections, the greater part of which were made north of the 26th parallel, and therefore in the Northern Territory.

For a list of the Acacias see p. 465. They include :—

A. aneura, *F. v. M.*, Crown Point, stated to be the dominating feature of the local flora.

A. cyperophylla, *F. v. M.*

A. cibaria, *F. v. M.*, 30 miles east of Deep Well. (See *A. brachystachya*, Benth., p. 342 below).

A. dictyophleba, *F. v. M.*, Depot Sandhills.

A. Cambagei, *R. T. Baker*, between Crown Point and Horseshoe Bend.

A. Kempeana, *F. v. M.*, thirty (30) miles east of Deep Well. Common along the foot of Macdonnell Range.

A. Oswaldi, *F. v. M.*, Love Creek.

A. pyrifolia, *DC.*, Crown Point.

A. salicina, *Lindl.*, "Umbrella Bush," between Crown Point and Horseshoe Bend.

A. sessiliceps, *F. v. M.*, near New Crown Point.

77. *A. Cambagei*

78. *A. Oswaldi*

Are not in previous lists.

79. *A. cibaria* is also new, but I look upon it as a synonym of *A. brachystachya*. In this case, see p. 341.

PART II.

We will now deal with Mr. G. F. Hill's collections; a few recent specimens received from himself and from other collectors have been added. Where no name of collector is given, Mr. Hill's is understood. The numbers, together with localities, dates and other particulars given in inverted commas, are copies of Mr. Hill's labels.

BENTHAM'S SERIES II., CONTINUAE.

1. *A. continua*, *Benth.*—"No. 400a. 90 miles north of the N.T. Survey Camp iv., 30th June, 1911."

Pods and a few scattered flowers, the specimens fragmentary.

SERIES III., PUNGENTES.

SUB-SERIES UNINERVES.

2. *A. patens*, *F. v. M.*—"259. 35 miles N.E. of Camp 2. 4 feet high, 7th June, 1911." In bud only.

3. *A. tetragonophylla*, *F. v. M.*—"No. 10. Blood's Creek, Overland Telegraph Line, S.A., 17th February, 1911. Shrub 6 feet high, growing near watercourse." Flowers and pods.

Although this specimen came from within South Australia, it will be observed that the species has been recorded (p. 329) from the Northern Territory.

SERIES IV., CALAMIFORMES.

SUB-SERIES UNINERVES.

4. *A. Alleniana*.—"No. 776. Sandstone Ranges, near Western Creek, N.T., 16th February, 1912."

Frutex gracilis. Phyllodii linearibus ad 23 cm. longis, flexuosis, non striatis, subteretibus, costatis. Floribus capitulis 5-meris, 4-5 phyllodiorum axillaribus congregatis. Bracteis capitulis longis acuminatis et stipitibus tenuibus spinis similibus in capitulo immaturo. Calyce angustissimo, spathulato, paucis pilis, corolla circa dimidio aequilongo. Petalis circa dimidio longitudinis conjunctis, glabris, uno nervo. Pistillo laeve. Leguminibus seminibusque non visis. *A. praelongatae*, *F. v. M.*, proxima affinis videtur.

Phyllodes linear, a slender shrub up to 23 cm. (9 inches) long, flexuose, terminating in a non-pungent point, articulate at base, not striate, covered with

pale glandular dots, usually with the appearance of two grooves and a semi-circular ridge between them. The opposite surface nearly round. When quite fresh, the phyllode is doubtless sub-terete, with the two blunt margins slightly incurved. No gland observed at base.

Flowers in heads, 5-merous. The flower heads are clustered in the axils of the phyllodes, 4 or 5 springing from stipules surrounding the pedicels at the base.

Bracts with long pointed heads and thin stipes, standing out like prickles beyond the petals in the unopened flower-head.

Calyx very narrow spatulate, with a few hairs, about half the length of the corolla.

Petals united about half-way up but separating at a touch, glabrous, with nerve.

Pistil smooth. Pods and seeds not seen.

This interesting species belongs to the series *Calamiformes*, section *Uninerves*. I dedicate it in honour of Mr. Charles Ernest Frederick Allen, Curator of the Botanic Garden, Darwin, now at the front, who has done excellent work in collecting species of this genus.

Its closest affinity appears to be with *A. praelongata*, *F. v. M.*, from which it differs in the greater length of the phyllodes of that species, and also in their comparative flatness with midrib and visible lateral nerves.

The protruding bracts of the new species give it a different appearance to that of *A. praelongata*, but the structure of the flowers is not very different.

The flowers of the new species are in clusters, and not racemose as in *A. praelongata*.

When pods are available a further statement can be made in regard to the position of the species.

The prickly bracts are also observable in *A. Simsii*, *A. Cunn.*, and *A. homoclada*, *F. v. M.*

I think it very possible that *A. Alleniana* has been passed over as *A. juncifolia*,* the unsatisfactoriness of whose record for the Northern Territory I have already drawn attention to. I only know *A. juncifolia* from Queensland and New South Wales at present, and proceed to compare *A. juncifolia* and *A. Alleniana*, using for the purpose a specimen of the former species from the Balonne River, Queensland, which tradition in the National Herbarium, Sydney, says was collected by Mitchell, and it is probably a co-type.

A. juncifolia, *Benth.*

Phyllodes shorter (up to 17 cm.), terete or semi-terete, bent near base, where there is a gland, nerve visible, short wrinkled attachment to the stem.

Flower heads usually in pairs but sometimes in threes. *Peduncles* short.

The *bract* on the peduncle figured at 2 of Mueller's Iconography Plate of *A. juncifolia* is not present in this specimen.

Calyx irregularly divided to the base, glabrous, but rugose or papillose. It has no hairs.

Floral bracts shorter than the buds, hardly visible in the flower-head.

A. Alleniana, *n. sp.*

Phyllodes longer (up to 23 cm.), terete, no nerve visible, gland absent, long wrinkled attachment.

Flower heads as many as 5 together in the axils of the phyllodes. *Peduncles* very long and slender.

No *bract* seen.

Calyx divided to the base, narrow, ciliate at the top.

Floral bracts much exceeding the buds in length, giving a prickly appearance to the flower-head.

* This is no longer a matter for surmise. See under *A. juncifolia*, p. 320, where I show that a specimen from Kew (labelled *juncifolia*), received at the Queensland Herbarium, turns out to be *A. Alleniana*.

SERIES IV., UNINERVES.

SUB-SERIE: ANGUSTIFOLIAE.

5. *A. Sentis*, *F. v. M.*—"34. Idracowra Station, Finke River, 6th March, 1911. Host of No. 35." Phyllodes and pods.

"109. 37 miles east of Hermannsburg, Finke River, 21st March, 1911. Up to 15 feet." Phyllodes and pods.

"505. 35 miles S.E. Newcastle Waters, stunted bush on plains. 9th August, 1911." In flower.

"558. Head of Macarthur River, Northern Territory, small tree. 3rd September, 1911." In flower.

SERIES V., BRUNIOIDEAE.

6. *A. spondylophylla*, *F. v. M.*—"No. 178. Haast's Bluff, Macdonnell Range, 3000 feet. 16th May, 1911." In flower.

7. *A. Jensenii*, *n. sp.*—"No. 384, N.T. Survey Camp 14, 20th June, 1911. On sandhills, grows to 20 feet, 1½ inches in diameter."

Frutex altus vel arbor parva altitudinem 20' attingens, phyllodiis et ramulis viscidis, glabris, ramulis fere teretibus. Phyllodiis oblanceolatis, 2.5-4 cm. longis, rectis vel paullo curvatis, nervo medio venis lateralibusque prominentibus, crassiusculis et minutis glandulis uniformiter tectis. Floribus glabris, 5-meris, capitulis ca 30-floris longis pedunculis glandulosis aliquando, 2.5 cm. longis. Calyce truncato, nervis distinctis calycis loborum apicibus incrassatis. Petalis plus dimidio longitudinis conjunctis. Pistillo laeve. Legumine semineque non visis. *A. salicinae*, *Lindl.*, affinis videtur.

A tall shrub or small tree attaining a height of 20 feet, and a trunk diameter of 1½ inches, branches rigid, perhaps pendulous, the foliage pale yellowish green, and together with the branchlets viscid, quite glabrous, branchlets nearly terete, but slightly angled, particularly towards the ends, through slightly raised ribs extending from the bases of the petioles.

Phyllodia oblanceolate, 2.5-4 cm. (say 1-1½ inches long), about 4 mm. wide, straight or but slightly curved, terminating in a short point, midrib and lateral veins somewhat prominent, the marginal vein slightly incurved, gland at base of phyllode, texture rather thick and covered uniformly with minute glands.

Flowers glabrous, 5-merous, about 45 in the head. Flower heads on long peduncles, which are glandular. Sometimes nearly 2.5 cm. (1 inch) long. Usually axillary, sometimes racemose.

Bracts narrow, spoon-shaped, smooth.

Calyx truncate with marked nerves, which are thickened at the tips of the calyx lobes. About two-thirds of the length of the petals.

Petals united two-thirds up, spreading a little.

Pistil smooth but not shiny, hoary. Pod and seed not seen.

The name proposed for the species is in honour of Dr. Harold Ingomar Jensen, who, when Government Geologist of the Northern Territory, collected the local flora, particularly Eucalyptus, on his official journeys, and supplied valuable notes in regard to them.

This species belongs to the series Uninerves, Section Angustifoliae.

It appears to be closest related to *A. salicina*, *Lindl.*, and in the absence of pods and seeds it may be separated from that species by the viscid and generally smaller phyllodia, the flower heads on long peduncles, which are covered with resinous glands, and in the shape and sculpture of the calyx which is longer and extends two-thirds along the corolla.

The flower buds are smaller and rounder, that is, less ribbed and pointed than those of *A. salicina*, and also much more numerous in the head.

SUB-SERIES RACEMOSAE.

8. *A. Jennerae*, n. sp.—“295. At waterhole about 80 miles north-east of C. (arrow), 2, 8th June, 1911.”

Frutex vel arbor parva, glaber, ramulis teretibus. Phyllodiis lanceolatis, rectis vel paullo curvatis, apice basique sensim attenuatis, 15 cm. longis et 1.5 cm. latissima parte, 1-nervosis, nervis secundariis angulum 30 nervum medium facientibus, nullis nervis, secundariis praecipue prominentibus. Racemis brevibus, capitulis globosis ca. 36-floris, plerumque 5-meris, calyce truncato, brevissime lobato, parte superiore villosa, corolla calyceum ca. triente superante. Petalis liberis, glabris. Pistillo laeve vel pruinoso. Leguminibus vel seminibus non visis. Videtur *A. difformis*, R. T. Baker proxime affinis.

A shrub or small tree, glabrous in all its parts, branchlets terete, or slightly angular through the decurrence of thin ribs proceeding from the bases of the phyllodia.

Phyllodia lanceolate, straight or slightly curved, tapering gradually to both ends, up to 15 cm. (6 in.) long, and about 1.5 cm. in the widest part. With from 1-3 marginal glands. One-nerved, the secondary veins meeting the midrib at an angle of about 30° and spreading. No secondary vein specially prominent.

Racemes rather short but loose, with several globular flower heads of about 36 in the head, mostly 5-merous.

Bract with circular dark-brown top, fringed; on a slender pedicel.

Calyx truncate, very shortly lobed, hairy at the top, extending two-thirds or more up the corolla.

Petals free, glabrous, except for a few scattered hairs.

Pistil smooth or hoary.

Pods or seeds not seen.

The name is given in honour of Miss Amelia Maud Jenner, Librarian, Botanic Gardens, Sydney, to whom I am indebted for useful assistance in the preparation of this paper.

This species belongs to the series Uninerves, Section Racemosae.

In the absence of pods and seeds, it may be provisionally placed in the *penninervis-retinodes* group, and its nearest affinity appears to be *A. difformis*, R. T. Baker, *Proc. Linn. Soc., N.S.W.*, xxii., 154 (1897), a species which is, so far as we know, confined to the drier parts of New South Wales.

The differences appear to be absence of a second vein parallel to the midrib, which is often found in *A. difformis*; the latter has also a more falcate phyllode with a more rounded apex and a peculiar thickening at the base.

A. difformis has also longer racemes with more numerous heads of flowers.

As regards the structure of the individual flowers I can detect no important difference between them and those of *A. difformis*.

Considering all the points, I think there are sufficient differences between the plant under consideration and *A. difformis*, to warrant a name being given to it: its final position can only be assigned with certainty when fruits are available.

9. *A. salicina*, Lindl., var. *varians*, Benth.

“7. Hot Springs, Dalhousie Station, S.A., 14th February, 1911. Host of No. 8.” (presumably a Loranth). Flowers and pods.

“13. Charlotte Waters, 21st February, 1911. Near river bed, grows to 20 feet.” Flowers and pods.

The phyllodes are long (up to 18 cm.) and narrow-lanceolate (under 1 cm broad).

9a. *A. salicina*, Lindl., var.

"362. 40 miles west of Camp iv. Lander Creek, 21st June, 1911." In flower.

"196. Near Haast's Bluff, Macdonnell Range, 4000 feet, 22nd May, 1911." In bud.

I have received the same form from the Strelley River, North Western Australia, collected by Dr. J. B. Cleland.

A glaucous or glabrous shrub with angular branchlets.

Phyllodes obovate-long or almost spatulate, obtuse, narrowed at the base, almost sessile, the apex terminating in a short straight or recurved point. 3-4 cm. long, and rather more than 1 cm. broad. As many as three, and occasionally four glands on the inner margin, fewer on the outer margin. Texture fleshy, and in drying the phyllodes take on a pseudo-netted-veined appearance.

Flowers in not numerous globular heads, up to 20 and 25 in the head, glabrous, 5 or 6-merous, racemes longer than the phyllodia.

Calyx with nearly oblong sepals, truncate at top, slightly lobed and ragged at the edge, scarcely thickened at the edge, central nerve visible. Sepals half or a little less than half as long as the petals.

Petals united about half way up, sometimes spreading.

Pistil very immature, but appears to be quite smooth.

Bracts leafy with ragged edge.

Pod and *seed* not seen

I have described these specimens at length because they constitute a form new to me. Pods are not available, but the form seems to be conspecific with the very variable *A. salicina*, Lindl. Perhaps when pods are available it may be given rank as a variety.

The following comparisons with species having phyllodes somewhat similar in size and shape may be useful.

1. With *A. Wattsiana*, F. v. M.

After *A. salicina*, its closest affinity appears to be with this species. The type of *A. Wattsiana*, F. v. M., comes from Broughton and Rocky Creeks, S.A.; the species is not rare in that State, and does not appear to extend to the Northern Territory or Western Australia.

The phyllodes of *A. Wattsiana* are thinner (and therefore do not dry wrinkled), usually larger, and have fewer glands (being usually uniglandular), flowers in the head usually fewer.

The bract is nail-headed, but foliar in the present form.

2. With *A. bivenosa*, DC.

Principally from the North-West Coast, we have a form of *A. bivenosa* strikingly different in general appearance from the type; this is *A. elliptica*, A. Cunn. (see B. Fl., ii., 381). *A. elliptica* is very similar in appearance to the new form of *A. salicina*, but the second prominent vein readily separates them. It is, however, to be borne in mind that in individual specimens of *A. elliptica* (*bivenosa*), the second vein is sometimes so faint as to be easily passed over.

10. *A. stronglylophylla*, F. v. M., *Fragm.*, viii., 226.—"144. 15 miles west Hugh River, Macdonnell Ranges, 3000 feet on hills, 6th May, 1911." Phyllodes and pods.

11. *A. pyrifolia*, DC.—“181. Haast's Bluff, Macdonnell Ranges, 3000 feet. 16th May, 1911.” In flower.

SERIES VII., PLURINERVES.

SUB-SERIES BREVIFOLIAE.

12. *A. translucens*, A. Cunn.—“758. Sandstone Ranges, Western Creek, 16th February, 1912.” In flower.

13. *A. impressa*, F. v. M.—“192. Haast's Bluff, Macdonnell Range, 4000 feet, 18th May, 1911.” In flower.

- “234. 40 miles N.N.W. Meyer's Hill, on stony hills, shaggy bark, 2nd March, 1911.” In very young pod, affected with galls.

SUB-SERIES OLIGONEURAE.

14. *A. estrophiolata*, F. v. M.—“15. ‘Ironwood,’ Charlotte Waters, 21st February, 1911.” Fruit only.

- “47. Henbury Station, Finke River, small tree in ranges, 10th March, 1911.” Flowers only.

Flowers very small, glabrous, apparently 5 or 6-merous, but very fragile.

Calyx narrow spatulate, a little ragged at the apex; sepals free.

Petals free, glabrous.

Pistil smooth and shiny.

Bracts irregular in shape, glabrous, with ragged edge.

Phyllode with gland sometimes near the base and sometimes under the tip around which it curves.

SUB-SERIES MICRONEURA.

15. *A. Cambagei*, R. T. Baker.—“14. Charlotte Waters, 21st February, 1911; grows to 20 feet near creek or on plains.” Phyllodes (about 7 mm. wide) and pods.

- “19. 20 miles north-west of Charlotte Waters, 24th February, 1911, up to 30 feet.” Phyllodes (about 4 mm. wide) and pods.

- “527a. Eva Downs, spreading tree 35 feet high, 20th August, 1911.” Flowers over mature. Phyllodes far more falcate than the others, and much wider (1-1.5 cm.).

16. *A. coriacea*, DC.—“202. Near Haast's Bluff, Macdonnell Range, 22nd May, 1911. On ranges, up to 10 feet.” Hardly in flower.

- “221. 25 miles N.N.W. of Meyer's Hill, Macdonnell Range, 1st June, 1911, up to 25 feet, 6 inches in diameter.” In pod.

- “236. 40 miles N.N.W. of Meyer's Hill, 2nd June, 1911.” Flower and fruit.

Tanami (Dr. H. I. Jensen).

17. *A. stenophylla*, A. Cunn.—“468. Newcastle Waters, large bush, 17th July, 1911.” Flowers past maturity.

SUB-SERIES NERVOSAE.

18. *A. hemignosta*, F. v. M.—“506. 30 miles south-east Newcastle Waters, small tree, 9th August, 1911.” In flower.

- “550. Top spring, Kilgour River, on Sandstone Range, 1st September, 1911.” In early bud.

Lower Victoria River (R. J. Winters and E. J. Dunn).

19. *A. dictyophleba*, *F. v. M.*—"235. 40 miles N.N.W. of Meyer's Camp, on stony rises, 2nd June, 1911."
Tanami (Dr. H. I. Jensen).

SUB-SERIES DIMIDIATAE.

20. *A. sericata*, *A. Cunn.*—"806. Near Bauhinia Downs Station, 24th March, 1912." In flower only.

Three or four secondary nerves springing at intervals from the marginal dorsal nerve.

Stems and phyllodes quite glabrous, but the stems mealy. Glands on phyllodes 4-5 in the depressions of the edges of the phyllode, and at the extreme base.

Flower-heads usually in fours or fives.

The flower is smaller than that of var. *Dunnii*. It has some pale scattered hairs on the sepals, and petals above the calyx.

20a. *Var. Dunnii*, *var. nov.*—Found (in Long. 129° 39' E., and Lat. 15° 14' S. approximately), at Blunder Bay, which is about 10 miles above the mouth of Victoria River.

The first plant was observed on 22nd May, 1913, in Gouty Gum Gully (Baobab trees grow there), about 1½ miles up the creek from the anchorage on the south side of the bay. Afterwards other plants were found growing on the quartzite ridge that runs east and west opposite, and on the south side of the anchorage at Blunder Bay.

It occurs at sea level and up to 150 feet above, as on the creek level and on top of the quartzite ridge.

The plant first found grew in poor alluvial soil among stones at the side of a small running creek. On the ridge the variety grows on bare hard quartzite rock without soil. The roots penetrate the cracks and fissures in the rock, and it is marvellous to see such luxuriant foliage supported by apparently innutritious material.

Single stems without branches grow up to a height of 12 to 14 feet (including the terminal spray of flowers), apparently in one season. Near the ground the stems do not exceed one inch in diameter. The stems are round, and several grow up from the same root. From top to bottom and including the branching flower branches they are glaucous. The top of the shoot spreads out into a bunch of flower heads about 18 inches in length.

The above notes are based upon a report by Mr. E. J. Dunn (Government Geologist of Victoria), who with Mr. R. J. Winters collected it.

The variety is larger in all its parts than the normal form. It is a superb form.

Mr. Dunn gives the length of the phyllodes up to 17 inches (say 43 cm.), and I have seen thoroughly dry specimens up to 14½ inches (say 36 cm.) long, and 7½ inches (say 18 cm.) broad in the middle.

The glands do not quite agree with those of the normal form; in var. *Dunnii* the glands are on an angular or projecting kink of the marginal nerve, and always terminating a main nerve. In the normal species the gland is at the end of the nerve, and in the depressions of the marginal vein.

Flower-heads up to four together, and on peduncles of various lengths. 5-merous. Each flower-head about half an inch in diameter and flowers in May (Dunn).

Calyx-lobes (sepals) separated irregularly nearly to the base. It has a strong central nerve to each lobe, and a thickened apex with long hairs.

Petals separated irregularly from $\frac{1}{3}$ to $\frac{1}{2}$ way down. Nerves strong and thickened at the tips, with long hairs not quite half way down the flower.

Pistil exceedingly small and smooth.

Intermediate forms between the normal form and var. *Dunnii* were seen at Pine and Horseshoe Creeks (E. J. Dunn).

After the above was written, I saw "Notes on a new *Acacia* from Victoria River, Northern Territory," by E. J. Dunn, *Proc. Roy. Soc., Vict.*, xxviii. (new ser.), 228, with two plates. The *Acacia* is the var. *Dunnii* just described.

SERIES JULIFLORAE.

SUB-SERIES RIGIDULAE.

21. *A. lysiphylloea*, *F. v. M.*—"418. 130 miles north of Northern Territory Survey Camp iv., N.T., 10 feet, spreading, rough bark." In flower.

22. *A. Kelleri*, *F. v. M.*—Described in *Proc. Linn. Soc., N.S.W.*, xvi., 468 (1891), from the Durack River, near the better-known Prince Regent River, which runs into the Cambridge Gulf, North-West Australia.

I have received it from the Lower Victoria River from R. J. Winters and E. J. Dunn, 1913, which is a new record for the Northern Territory.

23. *A. stipuligera*, *F. v. M.*—"258. 35 miles north-east of Camp 2, 7th June, 1911, 10 feet high." In flower.

"358. 40 miles west of Lander Creek, Camp iv., slender bush." In flower.

SUB-SERIES STENOPHYLLAE.

24. *A. cyperophylla*, *F. v. M.*—9. Under this number we have two specimens:—

(A). "Christmas Creek, Dalhousie Springs Station, S.A., 15th February, 1911." Phyllodes only.

(B). "Bark and seeds," really bark, seeds and pods.

We are endeavouring still to ascertain the range and other particulars of *A. cyperophylla*, and I invite attention to part LX. of my "Forest Flora of New South Wales" in this connection, which deals (pp. 275, 276) with its distribution (*inter alia*) in southern portion of the Northern Territory.

Dalhousie Springs is a little south of the Northern Territory boundary, but in the work quoted are some localities for this species within the Territory.

The pods, seeds, and red, curly bark, are those of *A. cyperophylla* without a doubt, and the name "Red Mulga" is that generally applied to this species, but the phyllodes may perhaps belong to another species. I say this with some doubt, as we do not yet know for certain the amount of variation in *A. cyperophylla* phyllodes.

25. *A. pityoides*, *F. v. M.*—"No. 260. 35 miles N.E. of C (arrow) 2, 7th June, 1911, 4 feet high." Flower and pod (without seed).

This specimen agrees with Bentham's description (*B. Fl.*, ii., 400) very well, except in one particular.

Bentham's words are "Calyx very thin and transparent, deeply lobed, or the sepals quite free but not spatulate, fully two-thirds as long as the corolla."

Mueller's original description (*Journ. Linn. Soc.*, iii., 136) simply says: "Sepalis tenerrimis liberis oblongis, corolla triente brevioribus."

The calyx is truncate, with an irregular edge; it is thin. It agrees with Mueller's description. (At the same time it is closer to Mueller's Iconography figure of *A. xylocarpa* than of *A. pityoides*.)

Mueller's figure of *A. pityoides* in "The Iconography of Australian Acacias" (which, as usual, does not state the history or locality of the specimen figured), shows the calyx "deeply lobed" as Bentham describes, and I have not come across quite such a deeply-lobed calyx in any plant attributable to *A. pityoides*, although I have seen (in other specimens) the calyx somewhat less oblong, and more deeply lobed than is shown in No. 260.

The flowers are glabrous, and the pistil is hard, brown and hoary. The bract broadens and thickens at the top, and is glabrous. The phyllodes are finely striate under the lens, often uniformly slightly scabrous and wrinkled at the base. Sometimes different parts of the plant are viscid or resinous.

The figure of the funicle of *A. pityoides*, *F. v. M.*, in the Iconography is quite straight (perhaps the artist has been a little diagrammatic). In No. 260 the funicle is much twisted near the seed, even in a very young state.

No. 260 agrees also with :—

(a) A specimen in fruit collected at Tanami, Northern Territory, by Dr. H. I. Jensen, "small tree, height 6 feet, dense scrubs" (C. E. F. Allen's No. 210).

(b) "Fairly tall plants of 4-8 feet, much branched, and with no definite stem, all issuing from a common stool, and also suckering. Usually growing in loose sandy places." Jericho, Queensland (J. L. Boorman).

(c) "8-10 feet, bark fairly smooth. Shrub spreads into 6 or 8 stems from one root. Spike pale yellow. aril yellowish-red." On sandy tableland at 1400 feet, Prairie to Baronta, 30 miles east of Hughenden, Queensland (R. H. Cambage, No. 3962).

26. *A. tanumbirinese*, n. sp.—"No. 802. Sandstone country near Tanumbirini, N.T., 26th March, 1912." In flower only.

Frutex glaber, surculis teneris resinosis, ramulis angulatis, phyllodiis angusto-linearibus, ca. 15 cm. longis, 4-5 mm. maxima latitudine. Nervo medio prominente, nervis numerosis tenuibus parallelibus, 1-2 aliquando ceteribus crassioribus. Floribus 5 meris, spicis gracilibus non densissimis ad 4 cm. longis, pedunculis 5 mm. Sepalis basi partitis, tenuissimis, villosis, corolla ca. dimidio aequilongis. Petalis basi connatis, poculo similibus formati, paullo villosis, tenuissimis. Pistillo villoso, Leguminibus seminibusque non visis. *A. drepanocarpae*, affinis videtur.

A glabrous shrub, the young shoots resinous, branchlets angular.

Phyllodia narrow, linear, straight or slightly curved, terminating in a blunt, sometimes curved point, tapering very gradually to both ends: gland near base of phyllode on the inner margin. About 15 cm. (6 inches) long, and 4-5 mm. in greatest width. Central nerve prominent with numerous fine parallel nerves of which one or two are sometimes thicker than the others.

Rhachis hoary, resinous.

Flowers 5-merous in spikes which are slender and not very dense, up to 4 cm. long, peduncle of about 5 mm.

Calyx, the sepals divided to the base, very thin, almost without central nerve; hairy, about half the length of the corolla.

Petals divided half way down, cup shaped (that is to say relatively broad), glabrous, except for a few hairs, very thin.

Pistil hairy.

Fods and seeds not seen.

This species belongs to the series *Juliflorae*, and may be grouped in the sub-series *Stenophyllae*, sub-section with spikes pedunculate.

In the absence of pods and seeds, its closest relation appears to be *A. drepanocarpa*, *F. v. M.*, from which it differs in the longer phyllodes with solitary glands.

The flowers are very different, the lobes of the calyx in the new species being narrow, almost spatulate, while the calyx of *A. drepanocarpa* is cupuliform as figured by Mueller in the Iconography. In the original description of *A. drepanocarpa* (*Journ. Linn. Soc.*, iii., 137), Mueller says "Flores desunt." Bentham, however, describes the flower (*B. Fl.*, ii., 402) as "with narrow lobes, half as long as corolla," which description, as far as it goes, would be applicable to the proposed new species rather than to the figure in the Iconography.

But No. 802 differs in other respects from Mueller's figure or Bentham's description, and seems to be worthy of specific rank.

27. *Acacia aneura*, *F. v. M.*—"22 (duplicate). Henbury Station, Finke River, 10th March, 1911." A form with narrow phyllodes, up to 9 cm. long. The flower is rather old for examination, but the details appear to be as follows:—

Calyx very narrow and thin, fringed at the apex and deciduous.

Petals united about half way up, glabrous.

Pistil brown with surface finely granulated.

Bracts capitate, fringed at the apex.

28. *A. Cuthbertsoni*, *Luehmann*.—"273. 60 miles north-east of Camp 2, 7th June, 1911."

"373. 60 miles west of C (arrow) 14, Lander Creek. Pods only.

29. *A. sibirica*, *S. Le M. Moore*.—"No. 46. Henbury Station, Finke River, 10th March, 1911." In flower.

"119. 12 miles south of Alice Springs, 23rd April, 1911." In flower.

119 bis. Charlotte Waters northward. Grows to 15 feet, Macdonnell Range, 23rd March, 1911." In flower. Some of the phyllodes are comparatively narrow.

Following is a note on No. 119:—

Flower in spikes, 5-merous. *Calyx* semi-truncate, granulated edge, woolly at the base; thin, often persistent when the corolla has fallen off. *Petals* smooth, united about half way up. *Pistil* smooth or hoary. There are broad concave bracts at the base of the spike.

The original description of *A. sibirica* in *Journ. Linn. Soc.*, xxxiv., 189 (1899) omits the pods, or rather the pods are doubtful, nor do the specimens now quoted supply the deficiency.

But Diels and Pritzel (*Engler's Bot. Jahrb.*, xxxv., 308), state under *A. sibirica*,

"Different from the preceding (*A. aneura*), in having broader leaves, but somewhat similar to it. Specimen 1). 5122 collected near Menzies is a tree 5 m. high, the fruit deformed by some gall-making insect, but left after a time by the insect with little orbicular doors, sometimes cordate and emarginate (cf. Spencer Moore l.c., 189).

"The normal fruits entirely similar to those of *A. aneura*, *F. v. M.*"

This not only gives the affinity of the species with *A. aneura*, but it describes the pods of *A. sibirica*. I have not seen No. D. 5122, but I venture to suggest that it is unlikely that the fruits of one species is likely to be "entirely similar" to those of another.

A. sibirica is most closely related to *A. Kempeana*, *F. v. M.* (*Australasian Chemist and Druggist*, 1882). It is figured in the Iconography, but the specimens quoted in the original description come from widely separated localities, no type being mentioned.

In *A. Kempeana* we have the "calyx short-toothed, nearly three times shorter than the unstreaked corolla" (compare also Iconography). In *A. sibirica* the flower (already described) is about half the length of the corolla. It seems to me that this is the most important difference, as far as our knowledge goes at present. The calyx of *A. sibirica* appears to be larger and more deeply lobed, and the lobes are more obtuse than those of *A. Kempeana*; the petals of *A. sibirica* are somewhat recurved, while those of *A. Kempeana* are not, the corolla cylindroid, forming almost a vase-shape. (See Iconography).

In *A. sibirica* the gland is distant from the base of the phyllode; right at the base in *A. Kempeana*.

We hope to get pods and particulars of habit, bark and timber of *A. sibirica*, but I think that *A. sibirica* is worthy of specific rank, and we have Northern Territory localities for it, which is of some interest.

30. *A. Hilliana*, n. sp.—"417. 140 miles north of Northern Territory Survey Camp iv., N.T. Bush 18 inches high, spread of 3 feet, 2nd July, 1911."

"327. 12 miles north-west of C (arrow) iii., 12th June, 1911."

Frutex pumilus, patens, glaber, viscidus, ramulis teretibus. Phyllodiis linearisubulatis, acuminatis ad fere 3 cm. longis, teretibus v. paulo applanatis, nerviis obscuris et tenuibus, numerosis glandulis asperatis. Spicis cum pedunculis longis (2 cm.) ad 2.5 cm. perfecte expansis. Sepalis angustis, petalis dimidio aequilongis. Petalis maxima ex parte conjunctis, deinde liberis, glabris, paulo patentibus. Pistillo pruinoso. Legumine seminibusque non visis.

Species *A. aneuræ*, *F. v. M.*, affinis.

A dwarf, spreading, glabrous, viscid shrub, branchlets terete, or nearly so. Phyllodia linear-subulate, pointed up to nearly 3 cm. (say 1 inch) long, terete or slightly flattened, obscurely and finely nerved, or nerves obscured by false nerves, the result of irregular contraction of the tissue. The surface slightly roughened with numerous small glandular protuberances.

Spikes singly or in pairs, with long peduncles (say 2 cm.), slender but closely packed, up to 2.5 cm. when fully out.

Flowers mostly 5-merous.

Sepals narrow, irregularly united near the base, and sometimes free, glabrous, thin and transparent, about half as long as the petals.

Petals united two-thirds of the way up, slightly spreading, glabrous.

Pistil hoary.

Bract capitate, glabrous. Pods and seeds not seen.

This free-flowering and interesting species I name in honour of Gerald Freer Hill, who collected it, and most of the specimens described in this paper. His No. 417 I constitute the type.

His 327 is more viscid, but otherwise typical.

The following specimen "west of, near Lake Amadeus, Tietkens" (Tate's handwriting), belongs to this species. A specimen in his handwriting has "*A. aff. aneuræ*," and subsequently he struck out the word "*aff.*" It was afterwards labelled "*cyperophylla*" by him.

Prof. Tate, in *Journ. Cent. Aust. Exp. Exped.*, 1889, W. H. Tietkens, p. 74 (1891), labelled this *A. aneuræ*. In Part LX. of my "Forest Flora of New South Wales," I have tried to make clear Prof. Tate's views on *A. cyperophylla*, but the data are not quite sufficient to say that he published a statement that the present specimen is *A. cyperophylla* as well as *A. aneuræ*. There would probably have been no difficulty had Tietkens' specimens been numbered.

AFFINITIES.

The new species belongs to the Series Juliflorae, Section Stenophyllae, with sub-section "Spikes pedunculate."

Of this sub-section, Bentham notes four species which are more or less viscid or resinous, viz., *xylocarpa*, *gonocarpa*, *oncinophylla* and *drepanocarpa*.

1. With *A. xylocarpa*, *A. Cunn.* This has much longer phyllodes, which are thin, and a different calyx.

2. With *A. gonocarpa*, *F. v. M.* In this species we have much longer phyllodes with very different nervation.

3. With *A. oncinophylla*, *Lindl.*, a viscid pubescent species from the Swan River. It has longer, ribbed phyllodes, with a lobed calyx.

4. With *A. drepanocarpa*, *F. v. M.* This has wider phyllodes and a different calyx.

5. With *A. cyperophylla*, *F. v. M.* With reference to what has already been said, I venture to suggest reference to Part LX. of my "Forest Flora of New South Wales," in which this imperfectly-known species is dealt with. It will be seen that in phyllodes and structure of flower it is very different to *A. Hilliana*.

6. With *A. aneura*, *F. v. M.* The sepals of *A. aneura* are in shape not very dissimilar to those of *A. Hilliana*, but are more hirsute, as is also the pistil. The phyllodes are, as a rule, very much broader, and longer, of a very different texture, and not viscid. *A. aneura* is also a much larger shrub. *A. aneura* has some, though not close, resemblance to *A. Hilliana*, in that narrow-phylloded form which is related to *A. brachystachya*.

But the phyllodes of both species are very different to those of *A. Hilliana*, which, in the present state of our knowledge, has no very close congener. Until pods and seeds can be procured we must be content with saying that it is allied to *A. aneura*.

31. *A. ramulosa*, W. V. Fitzgerald, *Journ. W. A. Nat. Hist. Soc.*, 15 (May, 1904). See also Ewart and White, *Proc. Roy. Soc.*, *Vict.*, xxii., 92 (1909).

"213. (C. E. F. Allen). Tree 25 feet high." Tanami, collected by Dr. H. I. Jensen, without flowers and fruits, appears to be *A. ramulosa*.

Fitzgerald described *A. ramulosa* from Lennonville (6 miles north of Mt. Magnet), W.A. He did not collect flowers, but described the pod as "linear-cylindrical, mostly 4-6 inches long, hardly or not contracted between the seeds, the valves striate, finely tomentose." It is one of the local Mulgas. I collected pods and flower-spikes from near Cue, in the Murchison district.

The description may be completed as follows:—

Flower 5-merous; calyx very irregular, but sepals bluntly lobed and almost spatulate with the tips ciliate, a third as long as the corolla; petals glabrous and recurved, united two-thirds up; pistil with a close tomentum.

The synonymy of this species appears to be as follows:—

1. *A. cibaria*, *F. v. M.*, in *Melb. Chem. and Drugg.*, July, 1882 (in part).

2. *A. stèreophylla*, *Diels and Pritzel* (non Meissn.), in *Engler's Bot. Jahrb.*, xxxv., 307 (1905).

1. *A. cibaria*, *F. v. M.*—Mueller and Forrest ("Plants indigenous around Shark's Bay, W.A.," 1883), speaking of the then recently described *A. cibaria*, *F. v. M.*, say that the native name is "Wonuy," and that the aborigines use the seeds for food. Some Shark's Bay seeds that I received from Mueller at the time I described as "two or three times as large as most *Acacia* seeds

(resembling small castor-oil seeds somewhat), and with excessively hard and very thick coats."

I am satisfied that they do not answer to the main description of *A. cibaria* seed, although they gave the name to the species. I could now say if necessary, with great probability of correctness, the Shark's Bay species that yielded the large, edible seeds.

Tate in *Proc. Roy. Soc., S. A.*, v., 85 (1882), says that "this species includes *A. aneura*, var. *stenocarpa*. He adds that it may be identical with *A. brachystachya*, Benth., inasmuch as flowering specimens of *A. aneura* and *A. brachystachya* cannot readily be distinguished, and both species occur in the same region; the length of the spike is variable. Under these circumstances it seems advisable to abolish the latter specific name."

Ewart and White (*Proc. Roy. Soc., Vict.*, xxii., 92), state that ". . . *A. cibaria*, F. v. M., appears close to *A. brachystachya*, and was in fact marked by Mueller, 'Forsan *A. brachystachya*.'"

I find that the original description of *A. cibaria* is so little known, and it is so important, that I quote it here, with comments in brackets.

"Branchlets not angular, slightly silky; phyllodes rather long, thick, rigid, broadly linear, very finely many-nerved, of greyish hue, curved apiculated; stipules and gland obliterated." (Applies to both *A. ramulosa* and *A. brachystachya*).

"Spikes axillary, solitary, short-stalked, not elongated; flowers slightly short-hairy, bracts rhomboid towards the summit, very thin towards the base, surpassed in length by the flowers; sepals narrow, free, hardly half as long as the unstreaked corolla;" (*A. brachystachya*) "pods straight, cylindrical, longitudinally streaked, seeds placed likewise, oblong, their two areoles minute; strophiole very short, cupular, occupying only the basal portion of the seed; funicle closely twisted beneath the strophiole." (*A. ramulosa*).

"Between the Darling River and Barcoo, Dr. Beckler" (*A. brachystachya*).

"Near the Murchison River, Ch. Gray, near the Gascoyne River, Oliver Jones." (*A. ramulosa*).

"A tall shrub or small tree allied to *A. aneura* in foliage, but very different as regards fruit." (*A. ramulosa* and *A. brachystachya*).

"The aborigines use the seeds very largely for food, wherever this species occurs." (*A. sp.*).

"The fruits from near Shark Bay are much larger and the seeds brownish, not black. It is the 'Wonuy' of the natives." (*Acacia sp.*, whose identity can only be guessed at).

So that the description of *A. cibaria* is a mixture of *A. ramulosa*, *A. brachystachya* and *A. sp.* It had better be dropped.

For a figure and full account of *A. brachystachya*, Benth., see Part LXI. of my "Forest Flora of New South Wales."

2. *A. stereophylla*, Diels and Pritzel non Meissn. In Engler's *Bot. Jahrb.*, xxxv., 307 (1905) Diels and Pritzel quote what they call *A. stereophylla*, Meissn., and add *A. cibaria* as a synonym. Following is a translation of their remarks, and although I have not seen the specimen described in the first paragraph, it is evident to me that it is *A. ramulosa*, W. V. F.

"To the description is added:—Up to 3 m. high, phyllodes glaucous-cinereous, legumes afterwards pendulous, thick, more or less smooth, coriaceous but scarcely woody, distinctly longitudinally striate (the younger ones sometimes shortly cinereous-pubescent), narrowed slightly between the seeds, seeds longitudinal, thick but hardly twice as long as broad, concave in the middle of both sides.

"In the Austin district near Menzies, in open shrubby places in sandy-muddy soil, in fruit (m. Oct. D. 5123), near Carnarvon at the mouth of the Gascoyne River, in sandy soil, in fruit m. Aug. (D. 3724). Also in the Berlin Herb. there is an undetermined specimen collected at Shark's Bay in 1830 by Gaudichaud, which agrees entirely in fruit and flowers with preceding specimens.

"With these specimens collected by us, and with the originals of *A. cibaria*, F. v. M., in the Melbourne herbarium agreeing entirely with every description of *A. stereophylla*, Meissn., we think *A. cibaria* ought to be suppressed.

"This species (*A. stereophylla*), with the fruit up till now unknown, was placed by Bentham with doubt close to *A. acuminata*, Benth. Now by the structure of the pod, our specimen appears to be close to *A. xylocarpa*, A. Cunn."

(It is evident that the authors have got a wrong impression as to what *A. stereophylla*, Meissn., is.)

RANGE OF *A. ramulosa*, W. V. F.

Dr. Jensen's finding it at Tanami adds another species to the flora of the Northern Territory. It was previously only known from Western Australia, as under:—

- (a) "An erect, much branched shrub of 6-10 feet." Lennonville (Murchison River district). Type (W. V. Fitzgerald).
- (b) A spreading shrub 8-10 feet. Laverton, 211 miles north of Kalgoorlie. (J.H.M.).
- (c) Tampa, 122 miles north of Kalgoorlie (J. F. Jutson, No. 11). Pods flat in the unripe state, and doubtful because so unripe.
- (d) Coolgardie (L. C. Webster).
- (e) A shrub of 2-3 m. (6½-10 feet) high. Watheroo Rabbit Fence (Max Koch, No. 1662). This was named *A. ramulosa*, by Fitzgerald, with *A. cibaria*, F. v. M., and *A. stereophylla*, Meissn., as synonyms. See also note by Ewart and White already quoted. These authors attribute this labelling as "probably Diels and Pritzel." This may be, but the National Herbarium, Sydney, has received from Mr. W. V. Fitzgerald portion of his herbarium as a gift, and the above specimen is labelled (not recently) in his handwriting—" *A. stereophylla*, Meissn. = *A. cibaria*, F. v. M. = *A. ramulosa*, W. V. F."

SUB-SERIES FALCATAE.

32. *A. doratoxylon*, A. Cunn., aff.—"No. 261. 35 miles north-east of Camp 2, 7th June, 1911." In late flower.

"360. 40 miles west of Camp 4, Lander Creek, 21st June, 1911." In late flower and very early fruit.

Phyllodes linear, thick, one indistinct central nerve, very finely striate, gland at base, up to about 16 cm. (say 6½ inches) long and 3 mm. broad.

Flowers in short spikes, 5 or 6-merous.

Calyx truncate, thin, a few short hairs on the ribs and apex.

Petals 5 or 6, glabrous, lobed about one-third down.

Pistil hoary or smooth.

When more satisfactory material (including pods and seeds) is available, the *Acacia* can be re-examined, but at present I do not feel justified in saying that it is or is not *A. doratoxylon*, in spite of the fact that it has not the tuft of hairs surrounding the calyx which seems pretty constant in *A. doratoxylon*.

The calyx in Nos. 261 and 360 is relatively larger, compared with the corolla, than in the case in *A. doratoxylon*.

33. *A. oligoneura*, F. v. M.—"132. Near Red Lily (Lagoon), 6th April, 1912." In flowers only. Flowers identical with those of the same species from Liverpool Range, Western Australia. See my remarks on this species at p. 321.

34. *A. torulosa*, Benth.—"383. 70 miles north of Camp 4 on sand-hills." In flower only.

"419. 140 miles north of Northern Territory Survey Camp 14. 10 feet, spreading, 2nd July, 1911."

All other specimens of this species seen by me have very thin phyllodes; those of Nos. 383 and 419 are rather thick, and they agree with the plate in Mueller's Iconography in being nearly straight and obscurely veined.

35. *A. Cowleana*, Tate.—"345. 78 miles N. $\frac{1}{2}$ W. of Camp iii., 15th June, 1911. In desert. 10 feet high. Clean stem."

"389. 70 miles north of Camp 14. On the sandhills, 10 feet high." Flowers only.

It seems to be this species (Horn Exped. *Botany*, p. 187), type from Macdonnell Range, which I have not seen. It has a remarkable satiny sheen with golden tips to young shoots. It is a matter for consideration as to whether this species is sufficiently distinct from *A. Cunninghamii*, Hook. but pods are not available for a final decision.

36. *A. tumida*, F. v. M.—"497. Newcastle Waters, 7th July, 1911." In flower only.

Following are additional Northern Territory localities, which will supplement those in B. Fl., ii., 409.

Darwin district; also Melville Island (W. Baldwin Spencer); Medium shrub on sandy flat 20 miles south-east of Darwin (G. F. Hill, No. 433); Pine and Horseshoe Creeks (E. J. Dunn); Lower part of Victoria River (R. J. Winters); Umbrawarra (Dr. H. I. Jensen, No. 414); Near Wandi (Dr. H. I. Jensen, No. 397).

I have a single specimen in flower given to me by Walter Scott Campbell, who collected it in 1911, as from Thursday Island. As this would constitute a new record for Queensland, I draw attention to the matter with the view of it being confirmed or rejected.

The following north-west Australian localities will supplement the single one (Isle Lacrosse) quoted in B. Fl., ii., 409. Mr. Fitzgerald also quotes it from Roebuck Bay and the Fitzroy River.

- (a) Artesian Range, West Kimberley (W. V. Fitzgerald, No. 1361).
- (b) Knobby's Well, West Kimberley (W. V. Fitzgerald).
- (c) Near junction of Lennard and Barker Rivers (W. V. Fitzgerald, No. 534).
- (d) Barnett River, near junction of Station Creek (W. V. Fitzgerald, No. 1098).
- (e) Dampier's Land, near Broome (Dr. E. Mjöberg, No. 132).
- (f) Strelley River (Dr. J. B. Cleland).

Mr. W. V. Fitzgerald, in reference to the glaucousness of this tropical species, speaks of it as "a bluish looking tree of about 30 feet in height."

He collected specimens from Dillen's Springs, East Kimberley, which appear to be normal, except that the phyllodes are narrower, and both they and the pods are covered with a dense silky tomentum.

It would appear to be convenient to record this as var. *pubescens*. It would certainly help to justify the tree being called "bluish."

37. *A. difficilis*, n. sp.—"578. 25 miles S.W. of Borroloola, 7th Sept., 1911." Pods only.

"598. Near Sandstone Ranges, Borroloola, 2nd October, 1911." Pods only.

The following additional specimens belong to this species, and supply flowers which are not available in Nos. 578 and 598 :—

- (a) Howard Creek, 20 miles south-east of Darwin, 15th June, 1916. In flower only (G. F. Hill).
- (b) Batchelor, 17th July, 1913. In flower only (G. F. Hill, No. 317).
- (c) Koolpinyah, on gravelly rises, 3rd September, 1915. Fruits only ; also flower and pod on same twig ; slender, drooping habit seeds used for poisoning fish (G. F. Hill, No. 350).
- (d) Francis Creek (calciphile). Fruits only, 27th July, 1916 (Dr H. I. Jensen, No. 431).

The following specimens from North Queensland have narrower phyllodes :

- (e) Little River, 30 miles east of Croydon, North Queensland, 28th August, 1913. Flowers and fruits (R. H. Cambage, No. 3918).
- (f) Also from a correspondent of Mr. Cambage at Croydon. Phyllodes comparatively narrow. In flower and mixed with *A. torulosa*, *Benth*, August, 1914 (R. H. Cambage, No. 4107 in part).
- (g) About 15 feet high. On granite at 1600 feet, Alma-den, North Queensland, 18th and 20th August, 1913. Fruit only (R. H. Cambage, Nos. 3855 and 3891).

Frutex plus minus pubescens, habitu gracile pendulo, ramulis fere teretibus, albido-seu brevissimo-pubescentibus

Phyllodis falcato-oblongis ad falcato-lanceolatis, basi multo angustatis et valde obliquis, sparse hirsutis, plerumque 8-10 cm. longis, 1.5-3 cm. latis, venis parallelibus numerosissimis, 5-9 prominentioribus quam ceteris quae sunt tenues et raro coalescentes. Spicis gracilibus sed densis 2.5-5 cm. longis. Sepalis lineari-spathulatis, ciliatis. Petalis sepalis circiter duplo longioribus. Legumine falcato fere terete, non tumido, 12-14 cm. longo, 4 mm. lato. Seminibus nigris, oblongo-ovatis, legumine longitudinaliter dispositis. Funiculo breve, plica ultima, in arillum brevem turbinatum dilata.

A. tumida, *F. v. M.*, valde affinis.

A more or less pubescent shrub of slender, drooping habit. Branchlets nearly terete and densely covered with short white hairs which disappear in old specimens.

Phyllodia falcate-oblong to falcate-lanceolate, much narrowed and very oblique at the base, more or less plentifully besprinkled with hairs, the young phyllodia silvery white with a dense tomentum, usually 8 to 10 cm. long (say 3-4 inches), 1.5 to 3 cm. broad (say $\frac{5}{8}$ to $1\frac{1}{4}$ inch), with very numerous parallel veins, 5 to 9 of them more prominent, the others very fine, closely packed, and very rarely anastomosing. Single gland at base of phyllode as in *A. tumida*.

Spikes slender but dense, solitary, in pairs or threes, 2.5 to 5 cm. (1-2 inches) in length. Flowers 5-merous.

Sepals linear-spathulate, very thin, almost transparent, usually separating to the base (sometimes irregularly united at the base), covered with long silky hair.

Petals united half way up, about twice the length of the calyx.

Pistil large and covered with pale hairs.

Pod falcate, more or less twisted, narrow, nearly terete, not tumid, 12-14 cm. ($5\frac{1}{2}$ inches) long, 4 mm. wide, with rudimentary, slightly oblique septa between the seeds.

Seeds shining black, oblong-ovate, 5 mm. long, with half the breadth, almost strictly longitudinally arranged in the pod, funicle short, the last fold broadened, ridged, and dilated into a shallow turbinate aril under the seed.

The type is Howard Creek, 15th June, 1916 (G. F. Hill) (In flower). Co-types are Nos. 578 and 598.

So far as the evidence is available at present, it is not a strong species, but I think sufficiently different from its nearest ally, *A. tumida*, *F. v. M.* Good will result from drawing special attention to its characters, and I believe that further acquaintance will increase its stability. We require further information in regard to quite a number of Northern Territory species.

AFFINITIES.

1. With *A. tumida*, *F. v. M.*—This species is the one to which it is closest related.

The phyllodia of *A. tumida* are larger, and, speaking generally, more glabrous, but we have specimens of *A. tumida* from North Western Australia more tomentose than any I have seen in *A. difficilis*.

The flowers of the two species closely resemble each other. A difference appears to be in the calyx which, in the proposed new species, appears to have the sepals broader and more silky-hairy. In the new species the bracts appear to be hooked or nail-headed rather than foliar, but this difference may be only apparent.

The pods of the two species seem, however, sufficiently different, those of *A. tumida* much broader and with fleshier valves, while the seeds are more obliquely arranged, and, in the only specimen I have seen with sound seeds (Dillen's Springs, East Kimberley, W. V. Fitzgerald, October, 1906), the seeds are ovoid to pear-shaped, and with the funicles missing. They are the shape of those depicted in the "Iconography," rather than the oblong shape of the new species.

In comparison with the figure of *A. tumida* in "Iconography of Australian Acacias," it would appear that the aril of the new species is more hood-shaped, and extends for a greater distance over the seed.

The bracts of *A. tumida* are figured toothed; only entire ones have been noted in the new species.

2. With *A. holocarpa*, *Benth.*—This is another terete-podded species with which it may be compared, but the funicle is long and straight, making the seeds pendulous when the valves are opened. The sepals and the comparative length of sepals and petals are very different in the two species.

3. With *A. retinervis*, *Benth.*—The new species can be compared with *A. retinervis*, of which, however, the pod is not known.

The phyllodes of the two species have a general resemblance, but in the new species there may be as many as 14 intermediate longitudinal veins seen under the lens; in *A. retinervis* they are fewer and anastomosing.

In *A. retinervis* the sepals are not separated much more than half way down the petals; they come off in one piece, and are much less transparent than in the new species.

38. *A. Simsii*, *A. Cunn.*, var. *multisiliqua*, *Benth.* (B. Fl. ii., 383).

In describing this variety, Bentham quotes R. Brown's specimens from the Carpentaria Islands (Islands of the Gulf of Carpentaria), and under "North Australia" the only locality given for *A. Simsii* is "Islands of the Gulf of Carpentaria."

Our specimen of *A. Simsii* collected at "Bay of Inlets" Banks and Solander, and figured in Illustr. Bot. Cook's Voyage, tab. 84, p. 27, is also var. *multisiliqua*, although the pods figured are short and broad.

Turning to the "Iconography of Australian Acacias" (Mueller), the two central drawings of flowering specimens are var. *multisiliqua*.

In Mr. Hill's collection under review we have :

"No. 801. Sandstone country near Tanumbirini, N.T." Also I have :

"Slender shrub of 8 feet in dense thickets, Channel Island, Port Darwin, 1st June, 1916 (G. F. Hill, No. 435)." In young pod.

There is a gland a little (half inch) above the base of the phyllode. The calyx is very narrow-spathulate. The petals are glabrous, united two-thirds of the way up, but separating at a touch. Pistil smooth.

A word of caution may be desirable as to the considerable similarity in phyllodes and flowers of this variety, and *A. homoclada*, *F. v. M.* (*Fragm.*, xi, 34) (see Iconography), but the arillus is very different.

SUB-SERIES DIMIDIATAE.

39. *A. latifolia*, *Benth.*—"624. North Island, Gulf of Carpentaria, 20th October, 1911." Flower and fruit.

40. *A. holosericea*, *A. Cunn.*—The following note on the seed may be added from a ripe, fresh specimen, from Darwin.

When the twisted valves open, the small, perfectly black, highly polished seed drops out and remains for some time, suspended by a long funicle which is attached to a bright yellow aril (G. F. Hill, No. 321).

Lower Victoria River (R. J. Winters and E. J. Dunn), Tanami (Dr. H. I. Jensen).

41. *A. dimidiata*, *Benth.*—"565. 20 miles south-west of Borroloola, 7th September, 1911." In pod.

"826. Ranges Hodson Downs, 5th April, 1912." In flower.

Lower Victoria River (R. J. Winters and E. J. Dunn).

BIPINNATAE.

42. *A. Farnesiana*, *Willd.*—"44. Henbury Station, Finke River, 9th March, 1911."

43. *A. Bidwilli*, *Benth.*—"840. McMinn's Bar, 7th April, 1912." This specimen has about 46 pinnules to a leaflet ; in the "Iconography" figure there are 62 pinnules. Also Darwin (Prof. Baldwin Spencer), Tanami tinfields (Dr. H. I. Jensen, No. 201).

44. *A. Sutherlandi*, *F. v. M.*—"537. Tree, 35 feet ; 4 inches in diameter. Head of Kilgour River, 30th August, 1911."

38 pinnules to the leaflet in this specimen ; in the "Iconography" 32 are figured.

The type came from Flinders River, North Queensland ; the present is believed to be the first occasion on which it has been recorded for a definite Northern Territory locality.

Additions to the Flora of the Territory.

Six new species are described in this paper, viz. :—

<i>Alleniana</i>	<i>Hilliana</i>	<i>Jenseni</i>
<i>difficilis</i>	<i>Jennerae</i>	<i>tanumbirinis</i>

Five previously described species are added, viz. :—

<i>continua</i>	<i>Kelleri</i>	<i>Sutherlandi</i>
<i>Cuthbertsoni</i>	<i>sibirica</i>	

Records proposed to be rejected.

I recommend that the following species, reputed to belong to the Northern Territory flora, be not admitted without additional evidence :—

Baueri, Benth. *juncifolia*, Benth. *retinervis*, Benth.
julifera, Benth. *pendula* A. Cunn.

(See also my remarks under Mueller's "Second Census" records at p. 327).

Species endemic in the Northern Territory.

The following species are endemic, so far as our knowledge goes at present, but I am confident that further search will cause the number to be greatly reduced. In the meantime it will be a useful check list.

<i>Alleniana</i> , n. sp.	<i>Gilesiana</i>	<i>oncinocarpa</i>
<i>amentifera</i>	<i>Hilliana</i> , n. sp.	<i>pachycarpa</i>
<i>conjunctifolia</i>	<i>Jennerae</i> , n. sp.	<i>praelongata</i>
<i>Cowleana</i>	<i>Jensenii</i> , n. sp.	<i>ptychophylla</i>
<i>crassicaarpa</i>	<i>latescens</i>	<i>sessiliceps</i>
<i>difficilis</i> , n. sp.	<i>leptophleba</i>	<i>strongylophylla</i>
<i>estrophiolata</i>	<i>megalantha</i>	<i>subternata</i>
<i>frumentacea</i>	<i>minutifolia</i>	
	Total, 23.	

The Northern Territory species, arranged in regard to affinities, stand as follows :—

SERIES I. ALATAE.

(No members recorded).

SERIES II. CONTINUAE.

continua

SERIES III. PUNGENTES (PLURINERVES).

phlebocarpa

SERIES III. PUNGENTES (UNINERVES).

patens *tetragonophylla*

(No Aphyllae or Spicatae recorded).

SERIES IV. CALAMIFORMES (PLURINERVES).

Bynoeana

Gilesiana *sessiliceps*

CALAMIFORMES (UNINERVES).

Alleniana *praelongata*

(No Subaphyllae recorded).

SERIES V. BRUNONIOIDEAE.

<i>galioides</i>	<i>lycopodifolia</i>	<i>spondylophylla</i>
<i>hippuroides</i>	<i>minutifolia</i>	<i>subternata</i>

(Six Brunonioideae out of ten known).

SERIES VI. UNINERVES (ANGUSTIFOLIAE).

*Jenseni**Sentis*

UNINERVES (RACEMOSAE).

frumentacea
*Jennerae**notabilis*
*pyrifolia**salicina*
strongylophylla

(Spinescentes, Armatae, Triangulares, Brevifoliae, not recorded.)

At p. 115 (*Journ. Linn. Soc.*, iii.), Mueller observed that Uninerves are exceedingly rare within the tropics. This remains true, in spite of the fact that many species of *Acacia* have been added to the flora since 1859. Two (a comparatively high number) have been added in this paper.

SERIES VII. PLURINERVES (TRIANGULARES).

*Luehmanni**stipulosa*

PLURINERVES (BREVIFOLIAE).

*impressa**translucens*

PLURINERVES (OLIGONEURAE).

*estrophiolata**Simsii*

PLURINERVES (MICRONEURA).

*Cabbagei**coriacea**Oswaldi**stenophylla*

PLURINERVES (NERVOSAE).

*dictyophleba**hemignosta*

PLURINERVES (DIMIDIATÆ).

dineura
*lutescens**retivenia*
sericata

(Armatae not recorded).

SERIES VIII. JULIFLORAE (RIGIDULAE).

amentifera
gonoclada
Kelleri
Kempeana
leptophleba
*limbata**linarioides*
lysiphloea
megalantha
ptychophylla
sibirica
*stigmatophylla**stipuligera*
umbellata
Wickhami
xylocarpa

JULIFLORAE (STENOPHYLLAE).

aneura
brachystachya
conjunctifolia
*Cuthbertsoni**cyperophylla*
drepanocarpa
gonocarpa
*Hilliiana**ramulosa*
pityoides
tanumbirinense

JULIFLORAE (FALCATAE).

<i>auriculiformis</i>	<i>difficilis</i>	<i>pachycarpa</i>
<i>conspersa</i>	<i>doratoxylon</i>	<i>plectocarpa</i>
<i>Cowleana</i>	<i>oligoneura</i>	<i>polystachya</i>
<i>crassicarpa</i>	<i>oncinocarpa</i>	<i>torulosa</i>
<i>delibrata</i> (?)	<i>aulococarpa</i>	<i>tumida</i>

JULIFLORAE (DIMIDIATAE).

<i>dimidiata</i>	<i>holosericea</i>	<i>humifusa</i>	<i>latifolia</i>
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(Tetramerae not recorded).

At p. 116, *Journ. Linn. Soc.*, iii., Mueller says: "Most singular is the vast preponderance of Juliflorae in North Australia, being nearly equal in number to those of all other sections collectively." This was written in 1859, and in 1916 one writes with somewhat different facts. Yet now the numbers appear to be 45 Juliflorae, total of all other sections 44, making 89 species in all.

SERIES IX. BIPINNATAE.

<i>Bidwilli</i>	<i>Farnesiana</i>	<i>pallida</i>	<i>suberosa</i>	<i>Sutherlandi</i>
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Species recorded for the Territory.

In the following list, records of occurrence in other States is given; the letter (*a*) means that the species is, so far as we know at present, confined to the Northern Territory.

We know so little of plant distribution in the Territory at present, that the letters (*b*) signifying Coastal, and (*c*) Inland, may be suggestive. The suggestions are purely tentative.

Synonyms and doubtful records are in Italics.

<i>Alleniana</i> , n. sp., a.	<i>conspersa</i> , b.	<i>frumentacea</i> , a., c.
<i>aneura</i> , W.A., S.A., V., N.S.W., Q., c.	<i>continua</i>	<i>galioides</i> , Q., b.
<i>amentifera</i> , a, c.	<i>coriacea</i> , Q. c.	<i>genistoides</i>
<i>aneura</i> , var. <i>stenocarpa</i>	<i>Cowleana</i> , a, c.	<i>Gilesiana</i> , a., c.
<i>arida</i>	<i>crassicarpa</i> , a, b.	<i>gonocarpa</i> , b.
<i>asperulacea</i>	<i>Cuthbertsoni</i>	<i>gonoclada</i> , Q., b.
<i>aulococarpa</i>	<i>cyperophylla</i> , c.	<i>Gregorii</i>
<i>auriculiformis</i> , Q., b.	<i>decora</i>	<i>hemignosta</i> , b.
<i>Baueri</i>	<i>delibrata</i>	<i>Hilliana</i> , n. sp., a.
<i>Bidwilli</i> , Q., b.	<i>delloidea</i>	<i>hippuroides</i> , a.
<i>bivenosa</i> , W.A.	<i>dictyophleba</i> , S.A., Q., c.	<i>holosericea</i> , Q., b.
<i>brachystachya</i> , S.A., N.S.W., Q., c.	<i>difficilis</i> , n. sp., a	<i>humifusa</i> , Q., b.
<i>brevifolia</i> , Q.	<i>dimidiata</i> , b.	<i>impressa</i> , W.A., S.A., Q., b., c.
<i>Bynoeana</i> , S.A., b., c.	<i>dineura</i> , b.	<i>Jennerae</i> , n. sp., a.
<i>calligera</i>	<i>doratoxylon</i> , W.A., S.A., V., N.S.W., Q., c.	<i>Jenseni</i> , n. sp., a.
<i>Cabbagei</i> , S.A., N.S.W., Q., c.	<i>drepanocarpa</i> , b.	<i>julifera</i>
<i>cibaria</i>	<i>estrophiolata</i> , a, c.	<i>juncifolia</i> .
<i>conjunctifolia</i> , a, b.	<i>Farnesiana</i> , W.A., S.A., N.S.W., Q., b., c.	<i>Kelleri</i> .
	<i>flavescens</i> = <i>sericata</i> .	<i>Kempeana</i> , S.A., N.S.W., Q., c.

<i>latescens</i> , a., b.	<i>pinifolia</i>	<i>stereophylla</i> , Diels and
<i>latifolia</i> , Q., b.	<i>pityoides</i> , Q., b., c.	Pritzel.
<i>leptophleba</i> , a., c.	<i>plectocarpa</i> , b.	<i>stigmatophylla</i> , b.
<i>leptostachya</i> , Q.	<i>polystachya</i> , Q., b.	<i>stipuligera</i> , S.A., Q., c.
<i>limbata</i> , b.	<i>praelongata</i> , a., b.	<i>stipulosa</i> , W.A., c.
<i>linarioides</i> , b.	<i>ptychophylla</i> , a., c.	<i>strongylophylla</i> , a., c.
<i>loxocarpa</i>	<i>pyrifolia</i> , W.A., c.	<i>suberosa</i> , b.
<i>Luehmanni</i> , b.	<i>ramulosa</i> , W. V. F.	<i>subternata</i> , a., b., c.
<i>lycopodifolia</i> , S.A., Q., b., c.	<i>retinervis</i>	<i>Sutherlandi</i> , Q.
<i>lysiphloea</i> , S.A., Q., b., c.	<i>retevenia</i> , S.A., c.	<i>tanumbirinense</i> , n. sp.
<i>megalantha</i> , a., c.	<i>salicina</i> , W.A., S.A., V.,	<i>tenuissima</i>
<i>minutifolia</i> , a., c.	N.S.W., Q., b., c.	<i>tetragonophylla</i> , S.A.,
<i>notabilis</i> , W.A., S.A.,	<i>sclerosperma</i>	N.S.W., Q., c.
N.S.W., c.	<i>Sentis</i> , W.A., S.A., V.,	<i>torulosa</i> , Q., b.
<i>oncinocarpa</i> , a., b.	N.S.W., Q., b. c.	<i>translucens</i> , b., c.
<i>oligoneura</i> , b.	<i>sericata</i> , Q., b.	<i>trineura</i> , S.A., V.
<i>orthocarpa</i>	<i>sessiliceps</i> , a., c.	<i>tumida</i> , b., c.
<i>Oswaldi</i> , S.A., N.S.W.,	<i>setulifera</i>	<i>ulicina</i> , W.A., S.A.,
Q., c.	<i>sibirica</i> , W.A., c.	N.S.W., Q., c.
<i>pachycarpa</i> , a., c.	<i>Simsii</i> , Q., b.	<i>umbellata</i> , Q., b., c.
<i>pallida</i> , c.	<i>spathulata</i> , W.A.	<i>Wickhami</i> , b., c.
<i>patens</i> , S.A., c.	<i>spondylophylla</i> , S.A., c.	<i>xylocarpa</i> , b.
<i>pendula</i>	<i>stenophylla</i> , S.A., V.,	
<i>phlebocarpa</i> , Q., b.	N.S.W., Q., c.	Total 90 species

CONCLUSION.

I hope this preliminary paper may be of some use as forming a basis for consideration of the Acacias of the Northern Territory. I have encountered unexpected difficulties in finding that certain specimens and plates did not always tally with the descriptions. Materials of tropical (particularly coastal) Australian Acacias are, in the case of some species, not quite satisfactory, but the director of Kew (Sir David Prain), the keeper of the Kew Herbarium (Dr. Staff), the keeper of the British Museum Herbarium (Dr. A. B. Rendle), and of the Melbourne Herbarium (Prof. Ewart) have always promptly helped me with material. As regards a number of the older species, it is to be borne in mind that they were obtained from the coastal districts, and only those who have collected in the tropics in coastal areas know how very difficult (and in the rainy season almost impossible) it is to preserve good specimens.

In many species (and this also applies to some of the six species I propose as new), botanists have, even to the present day, found it impossible to obtain both flowering and fruiting specimens, at all events properly matched.

The assiduous collector (Mr. G. F. Hill) of most of the material dealt with for the first time in this paper, and Mr. C. E. F. Allen, are both officers of the Commonwealth Government, resident in Darwin, and they are doing good work in collecting properly matched material of the genus, and in giving data concerning the plants. It is hoped, therefore, that in a very few years our knowledge of the Northern Territory Acacias will be more certain than it is at the present time. We are dealing with a Territory rich in the genus, and I believe that many more species remain to be discovered in it, some of them new to science.

I am very grateful for the assistance of Miss Margaret Flockton, who has made admirable detail drawings of many of the species, and also of Mr. W. F. Blakely, one of my botanical assistants, who has given me most valuable help.

DESCRIPTIONS OF PLATES.

PLATE XXVI.

Acacia Alleniana, n. sp. (A-G).

- A. Phyllode, average length 9 inches ; natural size.
- B. Showing base of phyllode.
- C. Portion of phyllode showing grooves.
- D. Flower-head showing the floral bracts extending beyond the buds.
- E. Flower.
- F. Pistil.
- G. Floral bracts.

Acacia Jensenii, n. sp. (H-M).

- H. Flowering twig ; natural size.
- I. Flower-head.
- K. Flower.
- L. Pistil.
- M. Floral bract.

Acacia Jenneræ, n. sp. (N-S).

- N. Flowering twig ; natural size.
- O. Flower-head.
- P. Flower.
- Q. Corolla opened out.
- R. Pistil.
- S. Floral bract.

PLATE XXVII.

Acacia Hilliana, n. sp. (A-D).

- A. Flowering twig ; natural size.
- B. Flower.
- C. Pistil.
- D. Floral bract.

Acacia tanumbirinense, n. sp. (E-H)

- E. Flowering twig ; natural size.
- F. Flower.
- G. Pistil.
- H. Floral bract.

Acacia difficilis, n. sp. (I-O).

- I. Phyllode and floral spike ; natural size.
- K. Flower.
- L. Pistil.
- M. Floral bract.
- N. Pod.
- O. Seed and attachment.

INDEX.

Index to orders, genera, new species, economic plants, vernacular names, and to the species of *Eucalyptus* and *Acacia*. The species in the general text are arranged in alphabetical order, and hence can be found by direct reference to the particular genus.

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PLATE I.—SPATHIA NEUROSA.

Fig. 1, Inflorescence. 2, Young plant entire, shewing spathes with laminas attached. 3, Spathe with enclosed inflorescence. 4, Single spikelet cluster with basal hermaphrodite and terminal sterile spikelet. 5, Hermaphrodite spikelet, with stamens, but ovary removed. 6, Sterile spikelet. 7, Grain shewing hilum and embryo.

PLATE II.—*SETOSA ERECTA*.—Fig. 1, General habit. 2, Spicate inflorescence. 3, Section of rhizome near node—(a) parenchyma; (b) sclerenchyma; (c) vascular bundle. 4, Section of leaf—(a) corrugated cuticle; (b) epidermis; (c) sclerenchyma above bundle. 5, Epidermis of leaf, highly magnified.

PLATE III.—*SETOSA ERECTA*.—Fig. 1, ^fSingle spikelet (x 3)—(a) awn; (b) pedicel; (c) small outer glume; (d) flowering glume of male flower. 2, Spikelet attached to axis and (a) shewing position from which awn (b) arises. 3, Large outer glume, dorsal view, shewing awn arising laterally from pedicel of spikelet (x 3). 4, Large outer glume, ventral view (x 3). 5, Flowering glume of male flower (x 3). 6, Pale of male flower, through which stamens are seen (x 3). 7, Stamens of male flower more highly magnified—*l*=lodicules. 8, Flowering glume and pale of hermaphrodite flower, shewing 2 stigmas and 3 rudimentary stamens (x 9). 9, Stamens, ovary, style and stigmas of a young hermaphrodite flower, highly magnified. 10, Grain, shewing position of embryo. 11, Grain, shewing rounded hilum.

PLATE IV.—*ERiachne nervosa*.

Fig. 1, Habit. 2, Inflorescence. 3, A single spikelet (x 3). 4, Outer glume shewing numerous nerves (x 7). 5, Flowering glume (x 7). 6, Pale, showing rachis of spikelet hairy round the pale, one of the stamens, ovary and lodicules (x 7).

PLATE V.—ASTREBLA ELYMOIDES.

Fig. 1, Spike. 2, Spikelet with outer glumes removed (x 3). 3, Second outer glume (x 5). 4, Lowest outer glume (x 7). 5, A single flower (x 5). 6, Flowering glume (x 5). 7, Pale (x 6). 8, Rudimentary terminal glume (x 5). 9, Grain shewing hilum (x 4). 10, Grain shewing position of embryo (x 4).

PLATE VI.—*ERIOCAULON GRAPHITINUM*.

Figs. 1 and 2, Plants shewing variation in size. 3, Flowering bract (x 38). 4, Male flower (x 38). 5, Female flower (x 38).

PLATE VII.—*COMMELINA ACUMINATA*.

Fig. 1, Inflorescence. 2, Spathe. 3, Male flower. 4, Hermaphrodite flower.
5, One of the three partly sterile anthers. 6, Seed. (5 and 6 magnified.)

E. Archer del.

PLATE VIII.—GREVILLEA LIVEA.

Fig. 1, Inflorescence and leaf. 2, Single flower. 3, Carpel. 4, Segment of perianth. 5, Fruit. 6, Seed. 7, Side view of stigma. 8, Section of leaf. (Figs. 2, 3, 4 and 5, x 5; Fig. 8, x 12).

PLATE IX.—HAKEA DIGYNA.

Fig. 1, *Hakea digyna*, portion of stem, etc. 2, Normal flower. 3, Normal carpel on pedicel. 4, Stigmatic disc. 5, Interior of perianth. 6, Flower with two carpels. 7, 8, 9, Transition stages in the fusion of the pedicels, etc.

PLATE X.—HAKEA INTERMEDIA.

Fig. 1, *Hakea intermedia*. 2, Single flower. 3, Carpel. 4, Stigmatic disc, *Hakea intermedia*. 5, Stigmatic disc, *Hakea lorea*. 6, Stigmatic disc, *Hakea Ednieana*.

Fig. I.

Fig. II.

A.

Fig. III.

B.

Fig. IV.

Fig. V.

PLATE XI.—ATRIPLEX VARIA.

Fig. 1, *Atriplex varia*. 2, Enlarged greatly to shew terminal staminate flowers and axillary pistillate flowers. 3, Two types of fruit—(a) common type ; (b) rarer type. 4, Fruit with seed in situ. 5, Scales and scale hairs.

PLATE XII.—FIGS. 1-3, *BASSIA SPINOSA*. FIGS. 4-7, *TERMINALIA AROSTRATA*.

Fig. 1, Fruiting branch. 2, Leaf. 3, Spine. 4, Leafy branch. 5, Fruit.
6, Fruit in section. 7, Seed.

PLATE XIII.—POLYCARPÆA BREVIANThERA.—Fig. 1, Entire plant. 2, Single flower (x 4). 3, Two petals and three stamens (x 25). 4, Stalked ovary, style, 3 stigmatic lobes (x 20). 5, Capsule dehiscing (x 20). 6, Seed (x 75).

PLATE XIV.—*POLYCARPÆA TRILOBA*.—Fig. 1, Inflorescence. 2, Portion of inflorescence magnified. 3, Stipule (x 25). 4, Single flower (x 4). 5, Portion of corolla, with stamens (x 18). 6, Ovary, style, and stigma (x 15). 7, Capsule (x 18). 8, Seeds (x 20).

PLATE XVI.—PHYLLANTHUS HUNTI.

Fig. 1, Fruiting branch. 2, Fruit. 3, Coccus of fruit, from inner surface.
4, Seed.

O.B. Davies del.

PLATE XVII.—*PETALOSTIGMA QUADRILOCULARE* VAR. *NIGRUM*.

Fig. 1, Leafy branch. 2, Male flower. 3, Stamens. 4, Fruit from above.
5, Fruit from side. 6, Seed.

PLATE XVIII.—*CORCHORUS SERICEUS*.

Fig. 1, Flowering branch. 2, Leaf from dorsal. 3, Ventral, surface.
4, Fruiting cluster. 5, Flower, with 2 sepals and 3 petals removed.

J. Hooker del.

PLATE XIX.—*WALTHERIA VIRGATA*.—Fig. 1, Portion of flowering branch. 2, Flower (x 7). 3, Flower opened (x 8). 4, Portion of calyx magnified to shew lining of stellate hairs. The dots are crystals of calcium oxalate. 5, Ovary with long style. 6, Ovary with short style. 7, Seed. (Figs. 5, 6 and 7, x 22.)

PLATE XX.—CARPENTIA FLORIBUNDA.

Fig. 1, Portion of flowering stems. 2, Flower enlarged. 3, Corolla opened, showing stamens.
4, Ovary. 5, Section of ovary.

PLATE XXI.—*SOLANUM PETROPHILUM* VAR. *PEDICELLATA*.

Fig. 1, Leafy and flowering shoots. 2, Fruit. 3, Leaf from upper and under surface.

PLATE XXII.—*GOODENIA ERECTA*.

Fig. 1, Flowering branch. 2, Portion of same enlarged.

PLATE XXIII.—SCAEOVOLA PANICULATA.—Fig. 1, Stem with flowers and leaves. 2, Young flower. 3, Flower with calyx removed. 4, Fruiting calyx. 5, Anther.

PLATE XXIV.—DAMPIERA CINEREA.

Fig. 1, Portion of stem and inflorescence. 2, Hairs of stellate tomentum (magn.).
3, Flower. 4, Older flower, corolla fallen. 5, Stigma. 6, Anther.

PLATE XXV.—*HELIOTROPIMUM ETHELIUM*.

a and *b*) flower, (*c*) corolla, (*d*) young flower opened out, (*e*) stigma, (*f*) fruit.
Heliotropium tenuifolium (*g*) flower, (*h*) corolla, (*i*) stigma.

PLATE XXVI.

ACACIA ALLENIANA (A-G).

A. JENSENII (H-M).

A. JENNERAE (N-S).

PLATE XXVII.

ACACIA HILLIANA (A-D).

A. TANUMBIRINENSE (E-H).

A. DIFFICILIS (I-O)

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