

A Botanical Survey of Pulau Ubin

I.M. TURNER, H.T.W. TAN, K.S. CHUA,
HAJI SAMSURI BIN HAJI AHMAD and Y.C. WEE

Department of Botany
National University of Singapore
Lower Kent Ridge Road
Singapore 0511

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Abstract

An intense botanical survey of Pulau Ubin, a 1019.2 ha island within the Republic of Singapore, found at least 332 native and naturalized vascular plant species. These are listed in the paper together with 40 species found to have escaped from cultivation. Previous botanical records for Pulau Ubin are also collated. The contemporary flora is dominated by early successional and ruderal species in addition to mangrove and beach forest elements. The low diversity and relatively high frequency of aliens (71 out of 332 spp.; 21 per cent of the flora) reflects the high degree of human disturbance on the island.

Introduction

Pulau Ubin is an island within the Republic of Singapore. It was chosen as a site for an intensive botanical survey because as one of the least urbanised and under botanized areas of the city state it was believed likely to possess an interesting flora. Additionally, development of Pulau Ubin is currently a topic of public interest in Singapore. Basic biological information such as a plant species list is prerequisite to the development of nature conservation programmes. This survey will therefore be of value to those involved in future decisions concerning changes in land use on Pulau Ubin.

Site

Pulau Ubin (N 1° 25', E 103° 57') is a granite island of 1019.2 ha (Ng, 1988) lying off the north-east coast of Singapore Island (Fig. 1). The main land uses at present are granite quarrying, agriculture, horticulture, aquaculture and recreational activities, largely of an athletic nature. Pulau Ketam and P. Sekudu, islets to the south of Ubin, were also included in the survey.

Methods

Most of the specimens were gathered by a team of 19 collectors during the period 17–22 June 1990. Some collections have been made subsequently on occasional visits to the island up to May 1991. The collections have been identified, largely by matching to named specimens in the Herbarium, Singapore Botanic Gardens (SING). The Pulau Ubin specimens have been deposited in the Herbarium, Department of Botany, National University of Singapore (SINU).

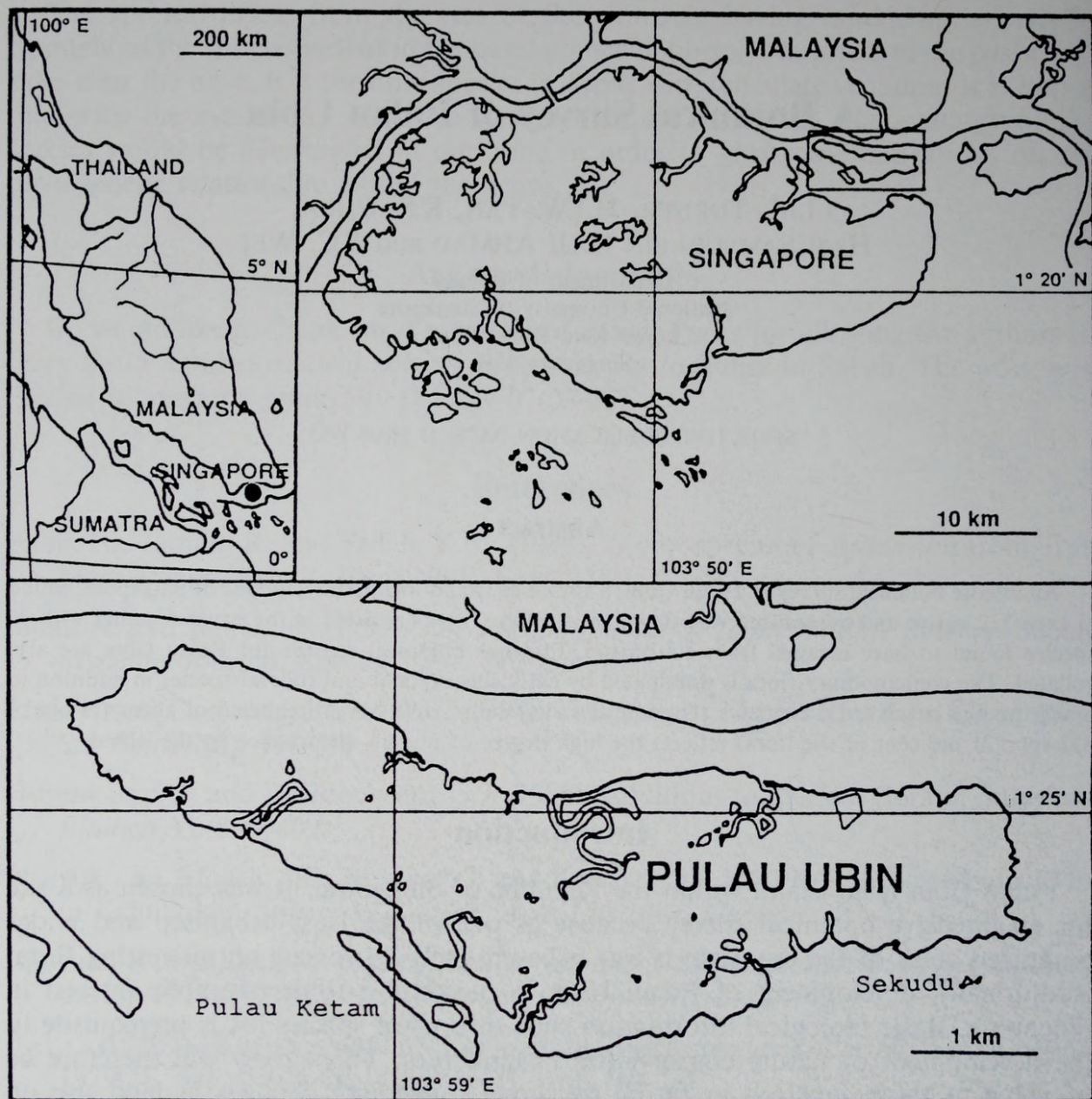


Fig. 1. Map showing locality of study site.

Results and Discussion

The names of the species collected are given in Table 1, the few sterile collections that could not be identified have been omitted. A total of 332 native and naturalized species were collected plus 40 species of cultivated plants that had escaped or were relics of cultivation in now abandoned areas. The distinction between alien and escaped species is somewhat arbitrary and is based largely on Turner, Chua and Tan (1990). The Ubin flora included 24 pteridophytes and one gymnosperm; the rest (including all the escapes) being angiosperms.

The Ubin flora represents about one eighth of the total flora recorded for Singapore. The species list is made up largely by common weed, secondary forest and mangrove species. Primary forest species are nearly completely lacking; a *Knema* species sapling being the only real rain forest tree found. The orchids *Spathoglottis plicata* and *Thrixspermum amplexicaule* were the most notable collections, though the former may possibly be a relic of cultivation. Eight species, *Adiantum latifolium*, *Hemigraphis primulaefolia*, *Pennisetum polystachyon*, *Scurrula parasitica*, *Sesamum radiatum*,

Talinum paniculatum, *Thysanolaena latifolia* and *Typha angustifolia*, were not previously recorded for Singapore. All but *Scurrula parasitica* can be called weeds, being able to colonise disturbed sites readily.

Pulau Ubin was presumably covered in lowland rain forest and mature mangrove forest until at least the middle of the Nineteenth Century. A list of previous botanical records from the island (Table 2) does include some species one would associate more strongly with primary vegetation such as *Chisocheton macrophyllus*, *Cyathostemma viridiflorum*, *Dipterocarpus* c.f. *sublamellatus*, *Forrestia gracilis*, *Lithocarpus elegans*, *Phoebe grandis* and several celastraceous climbers, but the general impression is that even by the 1880s and 1890s when Ridley and Hullett were collecting on Pulau Ubin much of the vegetation must have been secondary. One has to conclude that all of the terrestrial vegetation has been cleared at some time, much of this by the turn of the century. The state of the mangrove is little better. There are earlier records for 156 species from Pulau Ubin, of which 111 were not re-collected in the survey. This clearly reflects the rapid changes that have occurred on the island.

Two late Nineteenth Century collections of Ridley from Pulau Ubin have been described as isosyntypes. Neither of these species, *Chisocheton macrophyllus* and *Ardisia singaporensis*, were re-collected and are thus very probably extinct in one of their type localities. Hullett's collection of *Claoxylon longifolium* from Ubin (Hullett s.n., March 1885) was described as a syntype of *Claoxylon longifolium* var. *brachystachys* by J.D. Hooker (Hooker 1887, p. 411) but this variety is now generally not recognized and the name reduced to synonymy with the type variety (e.g. Airy Shaw, 1972, Whitmore, 1973). Luerksen (1882) described *Phegopteris subdecurrens* from a fern collection made on Ubin (Kehding 2960) but this taxon is now generally synonymized to *Tectaria semipinnata* (Roxb.) Morton (e.g. Holttum, 1981).

The broad floristic changes brought about by human activities can be examined by comparing the relative abundances of the commonest angiosperm families in the current flora of Ubin and that recorded for Singapore as a whole (Table 3). The Orchidaceae are the commonest family in the flora of Singapore. Only five of the 194 species were found in the current survey on Pulau Ubin. The Leguminosae and the Euphorbiaceae are among the top three families with most species on contemporary Ubin. Both of these families have many weedy, alien species that have added to their diversity.

The flora of Pulau Ubin is clearly depauperate. Bukit Timah Nature Reserve has 854 species recorded (Corlett, 1990), nearly three times the number in one-fifteenth the area. Human interference on Pulau Ubin has led to a semi-natural vegetation dominated by relatively few early successional species with a fairly high representation, 21 per cent of the flora, of alien species. It would be difficult to make a case for the conservation of the present day vegetation of Pulau Ubin on solely botanical grounds from an international perspective. However, from a Singapore standpoint, the patches of mangroves and the larger areas of belukar are of value in a country with so little natural vegetation remaining. Any plans for their destruction merit in-depth consideration of all the possible alternatives before being allowed to proceed.

Acknowledgements

The National University of Singapore Botany Honours Class (1990–1991) did most of the collecting on Pulau Ubin. We are most grateful for their efforts and enthusiasm. Our thanks also go to Soong Beng Ching, Shawn Lum and David Burslem for their assistance. We are grateful to the Director of the Singapore Botanic Gardens for allowing us access to the Herbarium. The survey was supported by the National University of Singapore.

Table 1

List of species collected on Pulau Ubin since June 1990. Representative collection given in square brackets. Marginal note: a = alien species naturalized in Singapore, e = escape from cultivation.

PTERIDOPHYTES

- Acrostichum aureum* L. [M.F. Choong 22]
Acrostichum speciosum Willd. [H.H. Neo 11]
a *Adiantum latifolium* Lamk. [M.Y. Kok 32]
Asplenium nidus L. [A. Ho & J. Lee 11]
Blechnum orientale L. [K.S. Tan 47]
Ceratopteris thalictroides (L.) Brongn. [K.S. Chua & H.T.W. Tan 427]
Davallia denticulata (Burm.) Mett. [A. Ho & J. Lee 13]
Dicranopteris linearis (Burm. f.) Underw. [A. Ho & J. Lee 1]
Drynaria quercifolia (L.) J. Sm. [A. Ho & E.M. Sim 21]
Lindsaea ensifolia Sw. [A. Ho & E.M. Sim 8]
Lycopodium cernuum L. [A. Ho & J. Lee 7]
Lygodium circinnatum (Burm. f.) Sw. [H.H. Neo 103]
Lygodium microphyllum Cav.) R. Br. [A. Ho & J. Lee 5]
Nephrolepis biserrata (Sw.) Schott [A. Ho & J. Lee 3]
Phymatosorus scolopendria (Burm.) Pichi Serm. [I.M. Turner 42]
a *Pityrogramma calomelanos* (L.) Link [M. Chan & Roslina 31]
Platyserium coronarium (Koenig) Desv. [T.S. Teo 59]
Pteridium caudatum (L.) Maxon ssp. *yarrabense* (Domin) Parris [K.S. Tan 56]
Pteris vittata L. [H.H. Neo 203]
Pyrrosia longifolia (Burm.) Morton [Latifah 6]
Pyrrosia piloselloides (L.) Price [A. Ho & J. Lee 12]
Schizaea digitata (L.) Sw. [H.H. Neo 206]
Stenochlaena palustris (Burm.) Bedd. [E.M. Sim & L.P. Ng 32]
Taenitis blechnoides (Willd.) Sw. [H.H. Neo 5]

SPERMATOPHYTES
Acanthaceae

- Acanthus ebracteatus* Vahl [E.M. Sim & L.P. Ng 18]
Acanthus volubilis Wall. [H.H. Neo 117]
a *Andrographis paniculata* (Burm. f.) Nees [J. Lee 104]
Asystasia nemorum Nees [E.M. Sim & L.P. Ng 14]
a *Hemigraphis primulaefolia* (Nees) Vill. [E.M. Sim & L.P. Ng 39]
a *Thunbergia fragrans* Roxb. [M. Chan & Roslina 32]
a *Thunbergia grandiflora* Roxb. [T.S. Teo 124]

Agavaceae

- e *Sansevieria trifasciata* Prain [L.P. Ng 21]

Aizoaceae

- Sesuvium portulacastrum* L. [L.P. Law 4]

Table 1 (Continued)

Amaranthaceae

- a *Celosia argentea* L. [K.S. Tan 37]
- Cyathula prostrata* (L.) Bl. [K.S. Chua 101]
- e *Gomphrena globosa* L. [J. Sim 31]

Anacardiaceae

- a *Anacardium occidentale* L. [K.S. Chua & H.T.W. Tan 440]
- Bouea macrophylla* Griff. [M.F. Choong 58]
- Buchanania arborescens* (Bl.) Bl. [T.S. Teo 25]
- Camptosperma auriculatum* (Bl.) Hook. f. [I.M. Turner 20]
- e *Mangifera indica* L. [J. Sim 33]

Annonaceae

Desmos dasymaschala (Bl.) Safford [M.F. Choong 38]

Apocynaceae

- e *Allamanda cathartica* L. [J. Sim 40]
- Alstonia angustiloba* Miq. [H.H. Neo 205]
- a *Catharanthus roseus* (L.) G. Don [A. Ho & E.M. Sim 7]
- Cerbera odollam* Gaertn. [I.M. Turner 111]

Araceae

- a *Alocasia macrorrhizos* (L.) G. Don [M.F. Choong 42]
- a *Colocasia esculenta* (L.) Schott [H.H. Neo 10]
- e *Dieffenbachia seguine* (Jacq.) Schott [T.S. Teo 70]

Araliaceae

- Arthropphyllum diversifolium* Bl. [L.P. Law 10]
- e *Polyscias fruticosa* (L.) Harms [T.S. Teo 60]
- Schefflera elliptica* (Bl.) Harms [H.H. Neo 111]

Asclepiadaceae

Dischidia major (Vahl) Merr. [M.Y. Kok 36]
Dischidia nummularia R. Br. [J. Lee 1]
Hoya parasitica (Roxb.) Wall. ex. Wight [Latifah 117]

Avicenniaceae

Avicennia alba Bl. [J. Sim 23]
Avicennia officinalis Bl. [T.S. Teo 16]
Avicennia rumphiana Hall. f. [T.S. Teo 20]

Bignoniaceae

- a *Spathodea campanulata* Beauv. [M.Y. Kok 27]

Bombacaceae

- e *Durio zibethinus* J. Murray [K.S. Tan 17]

Boraginaceae

- a *Cordia cylindristachya* R. & S. [E.M. Sim & L.P. Ng 43]
- Heliotropium indicum* L. [Roslina 45]

Table 1 (Continued)

	Bromeliaceae
e	<i>Ananas comosus</i> (L.) Merr. cv. Mauritius [J. Sim 27]
	Cannaceae
e	<i>Canna indica</i> L. [M. Chan 30]
	Capparaceae
a	<i>Cleome rutidosperma</i> DC. [Roslina 37]
	Caricaceae
e	<i>Carica papaya</i> L. [J. Sim 21]
	Casuarinaceae
	<i>Casuarina equisetifolia</i> J. R. & G. Forst. [J. Sim 7]
	Combretaceae
	<i>Lumnitzera littorea</i> (Jack) Voigt [M.Y. Kok 38]
	<i>Lumnitzera racemosa</i> Willd. [J. Sim 26]
	<i>Terminalia catappa</i> L. [J. Sim 1]
	Commelinaceae
	<i>Commelina diffusa</i> Burm. f. [L.P. Law 18]
	Compositae
a	<i>Ageratum conyzoides</i> L. [L.P. Ng & L.P. Law 2]
a	<i>Bidens pilosa</i> L. [K.S. Chua 100]
	<i>Blumea balsamifera</i> (L.) DC. [K.S. Chua & H.T.W. Tan 443]
	<i>Eclipta prostrata</i> (L.) L. [M.F. Choong 43]
	<i>Elephantopus scaber</i> L. [A. Ho & E.M. Sim 14]
	<i>Emilia sonchifolia</i> (L.) DC. ex Wight [A. Ho & E.M. Sim 15]
	<i>Erigeron sumatrensis</i> Retz. [M.Y. Kok 25]
	<i>Gynura procumbens</i> (Lour.) Merr. [L.P. Ng 8]
	<i>Mikania cordata</i> (Burm. f.) B.L. Robinson [M.Y. Kok 21]
	<i>Pluchea indica</i> (L.) Less. [Roslina 19]
a	<i>Sparganophora sparganophorus</i> (L.) C. Jeffrey [K.S. Chua & H.T.W. Tan 428]
	<i>Spilanthes iabadicensis</i> A.H. Moore [K.S. Chua & H.T.W. Tan 100]
a	<i>Synedrella nodiflora</i> (L.) Gaertn. [J. Lee 3]
	<i>Tridax procumbens</i> L. [M. Chan 33]
	<i>Vernonia cinerea</i> (L.) Less. [M.Y. Kok 33]
	<i>Wedelia biflora</i> (L.) DC. [M.Y. Kok 11]
a	<i>Wedelia trilobata</i> (L.) Hitch. [E.M. Sim & L.P. Ng 42]
	<i>Youngia japonica</i> (L.) DC. [T.S. Teo 125]
	Connaraceae
e	<i>Cnestis palala</i> (Lour.) Merr. [T.S. Teo 57]
	Convolvulaceae
	<i>Erycibe tomentosa</i> Bl. [T.S. Teo 54]
	<i>Ipomoea aquatica</i> Forsk. [A. Ho & E.M. Sim 34]
e	<i>Ipomoea batatas</i> (L.) Lamk. [L.P. Law & L.P. Ng 20]
a	<i>Ipomoea cairica</i> (L.) Sweet [J. Sim 41]
	<i>Merremia tridentata</i> (L.) Hallier f. [M. Chan 53]

Table 1 (Continued)

Cucurbitaceae	
e	<i>Cucumis sativa</i> L. [M.F. Choong 50]
Cyperaceae	
	<i>Bulbostylis barbata</i> (Rottb.) Clarke [Roslina 21]
a	<i>Cyperus aromaticus</i> (Ridl.) Mattf. & Kuk [Roslina 6]
	<i>Cyperus compactus</i> Retz. [Latifah & H.H. Neo 2]
	<i>Cyperus compressus</i> L. [Roslina 1]
	<i>Cyperus cyperinus</i> (Retz.) Valck. Sur. [Latifah 2]
	<i>Cyperus halpan</i> L. [M. Chan 13]
	<i>Cyperus javanicus</i> Houtt. [A. Ho & E.M. Sim 66]
	<i>Cyperus kyllingia</i> Endl. [Latifah 18]
	<i>Cyperus pilosus</i> Vahl [Latifah & H.H. Neo 3]
	<i>Cyperus trialatus</i> (Boeck.) Kern [Latifah 1]
	<i>Fimbristylis cymosa</i> R. Br. [Latifah 12]
	<i>Fimbristylis dichotoma</i> (L.) Vahl [Roslina 4]
	<i>Fimbristylis griffithii</i> Boeck. [M. Chan 10]
	<i>Fimbristylis polytrichoides</i> (Retz.) R. Br. [Latifah 11]
	<i>Fimbristylis schoenoides</i> (Retz.) Vahl [H.H. Neo 204]
	<i>Hypolytrum nemorum</i> (Vahl) Spreng. [H.H. Neo & Latifah 1]
	<i>Scleria corymbosa</i> Roxb. [M. Chan & Roslina 27]
	<i>Scleria levis</i> Retz. [Latifah 10]
	<i>Thoracostachyum bancanum</i> (Miq.) Kurz [Latifah 13]
Dilleniaceae	
	<i>Dillenia suffruticosa</i> (Griff.) Mart. [E.M. Sim & L.P. Ng 8]
	<i>Tetracera indica</i> (Christm. & Panz.) Merr. [E.M. Sim & L.P. Ng 27]
Dioscoreaceae	
	<i>Dioscorea glabra</i> Roxb. [T.S. Teo 29]
	<i>Dioscorea laurifolia</i> Wall. ex Hook. f. [K.S. Chua & H.T.W. Tan 437]
Elaeocarpaceae	
	<i>Elaeocarpus ferrugineus</i> (Jack) Steud. [I.M. Turner 38]
	<i>Elaeocarpus pedunculatus</i> Wall. ex Mast. [J. Sim 5]
a	<i>Muntingia calabura</i> L. [T.S. Teo 43]
Eriocaulaceae	
	<i>Eriocaulon longifolium</i> Nees [M. Chan 12]
Erythroxylaceae	
	<i>Erythroxylum cuneatum</i> (Miq.) Kurz [K.S. Tan 30]
Euphorbiaceae	
	<i>Antidesma velutinosum</i> Bl. [L.P. Law 8]
e	<i>Baccaurea motleyana</i> (M.A.) M.A. [A. Ho & E.M. Sim 13]
	<i>Breynia coronata</i> Hook. f. [T.S. Teo 10]
	<i>Bridelia stipularis</i> (L.) Bl. [M. Chan & Roslina 29]
	<i>Claoxylon indicum</i> (Reinw. ex Bl.) Endl. ex Hassk. [M.F. Choong 19]
e	<i>Codiaeum variegatum</i> (L.) Bl. [T.S. Teo 64]

Table 1 (Continued)

- Croton hirtus* L'Héritier [K.S. Tan 28]
- a *Euphorbia hirta* L. [M.F. Choong 40]
- Excoecaria agallocha* L. [K.S. Tan 3]
- Glochidion superbum* Baill. [I.M. Turner 113]
- a *Hevea brasiliensis* (Willd. ex A. Juss.) M.A. [M.Y. Kok 7]
- Macaranga conifera* M.A. [M.Y. Kok 54]
- Macaranga gigantea* (Rchb. f. & Zoll.) M.A. [L.P. Law & L.P. Ng 25]
- Macaranga griffithiana* M.A. [I.M. Turner 116]
- Macaranga heynei* I.M. Johnston [K.S. Tan 19]
- Macaranga hypoleuca* (Rchb. f. & Zoll.) M.A. [M.Y. Kok 26]
- Macaranga triloba* (Bl.) M.A. [L.P. Law & L.P. Ng 7]
- Mallotus paniculatus* (Lamk.) M.A. [M. Chan & Roslina 25]
- a *Manihot esculenta* Crantz [M.Y. Kok 28]
- a *Manihot glaziovii* M.A. [H.H. Neo 104]
- e *Phyllanthus acidus* (L.) Skeels [T.S. Teo 50]
- a *Phyllanthus amarus* Schum. & Thonn. [A. Ho & E.M. Sim 35]
- a *Phyllanthus debilis* Klein ex Willd. [E.M. Sim & L.P. Ng 7]
- a *Phyllanthus urinaria* L. [E.M. Sim & L.P. Ng 35]
- a *Ricinus communis* L. [K.S. Tan 48]
- Sapium discolor* (Champ. ex Benth.) M.A. [T.S. Teo 9]
- Suregada multiflora* (Juss.) Baill. [I.M. Turner 30]

Flagellariaceae

Flagellaria indica L. [M. Chan 11]

Gnetaceae

Gnetum macrostachyum Hook. [J. Sim 13]

Goodeniaceae

Scaevola sericea Vahl [M.Y. Kok 39]

Gramineae

- a *Axonopus compressus* (Swartz) Beauv. [M. Chan 15]
- e *Bambusa glaucescens* (Willd.) Sieb. [T.S. Teo 28]
- Centotheca lappacea* (L.) Desv. [Latifah 3]
- a *Chloris barbata* Swartz [A. Ho & E.M. Sim 27]
- Chrysopogon aciculatus* (Retz.) Trin. [Latifah 15]
- a *Coix lacryma-jobi* L. [T.S. Teo 39]
- Cynodon dactylon* (L.) Pers. [K.S. Chua & H.T.W. Tan 447]
- Cyrtococcum accrescens* (Trin.) Stapf [Latifah & H.H. Neo 5]
- Dactyloctenium aegyptium* (L.) P. Beauv. [Roslina 17]
- Digitaria ciliaris* (Retz.) Koel. [K.S. Chua & H.T.W. Tan 446]
- Echinochloa colona* (L.) Link [M. Chan & Roslina 34]
- Eleusine indica* (L.) Gaertn. [M. Chan 18]
- Eragrostis pilosa* (L.) P. Beauv. [Latifah 9]
- Imperata cylindrica* (L.) P. Beauv. [M. Chan 8]

Table 1 (Continued)

- Ischaemum indicum* (Houtt.) Merr. [Roslina 3]
Ischaemum muticum L. [M. Chan 1]
Mnesithea glandulosa (Trin.) Koning & Sosef [T.S. Teo 121]
a *Panicum maximum* Jacq. [L.P. Law 23]
a *Paspalum conjugatum* Berg. [Latifah 6]
Paspalum orbiculare Forst. f. [Latifah 7]
a *Pennisetum polystachyon* (L.) Schult. [Roslina 16]
Pogonatherum paniceum (Lamk.) Hack. [K.S. Chua & H.T.W Tan 445]
a *Rhynchelytrum repens* (Willd.) C.E. Hubb. [Roslina 7]
Saccharum arundinaceum Retz. [L.P. Law 17]
Sporobolus indicus (L.) R. Br. [M. Chan 12]
a *Thysanolaena latifolia* (Roxb. ex Hornem.) Honda [A. Ho & E.M. Sim 19]
Zoysia matrella (L.) Merr. [M. Chan 14]

Guttifera

- Calophyllum inophyllum* L. [M.Y. Kok 51]
Calophyllum pulcherrimum Wall. ex Choisy [H.H. Neo 207]
e *Garcinia mangostana* L. [K.S. Tan 15]
Garcinia nigrolineata Planch. ex T. Anders. [E.M. Sim & L.P. Ng 51]

Hypoxidaceae

- Curculigo orchiioides* Gaertn. [K.S. Tan 27]

Ixonanthaceae

- Ixonanthes reticulata* Jack [M.F. Choong 17]

Labiatae

- a *Hyptis brevipes* Poit. [A. Ho & E.M. Sim 20]
a *Hyptis capitata* Jacq. [K.S. Chua 99]
a *Hyptis suaveolens* (L.) Poit. [A. Ho & E.M. Sim 45]
Leucas zeylanica (L.) R. Br. [E.M. Sim & L.P. Ng 36]
Ocimum basilicum L. [A. Ho & E.M. Sim 33]

Lauraceae

- Cassytha filiformis* L. [L.P. Law 21]
Cinnamomum iners Reinw. ex Bl. [K.S. Tan 49]
Neolitsea zeylanica Merr. [M.Y. Kok 29]

Leeaceae

- Leea indica* (Burm. f.) Merr. [M.Y. Kok 31]

Leguminosae

- a *Abrus precatorius* L. [J. Lee 4]
a *Acacia auriculiformis* A. Cunn. ex Benth. [J. Sim 15]
e *Acacia mangium* Willd. [I.M. Turner 44]
Alysicarpus vaginalis (L.) DC. [E.M. Sim & L.P. Ng 48]
e *Andira inermis* (W. Wright) H.B.K. ex DC. [I.M. Turner 115]
Archidendron clypearia (Jack) I. Nielsen [M.F. Choong 16]

Table 1 (Continued)

- Caesalpinia crista* L. [K.S. Chua & H.T.W. Tan 426]
Calopogonium mucunoides Desv. [L.P. Ng 10]
Canavalia cathartica Thou. [A. Ho & J. Lee 15]
a *Cassia alata* L. [L.P. Law 19]
a *Cassia lechenaultiana* DC. [K.S. Chua 80]
a *Cassia mimosoides* L. [L.P. Ng & L.P. Law 19]
Centrosema pubescens Benth. [A. Ho & E.M. Sim 44]
a *Clitoria laurifolia* Poir. [J. Sim 18]
Crotalaria mucronata Desv. [K.S. Tan 8]
Dalbergia candenatensis (Dennst.) Prain [T.S. Teo 17]
e *Derris elliptica* (Roxb.) Benth. [M.Y. Kok 3]
Derris trifoliata Lour. [A. Ho & J. Lee 14]
Desmodium heterocarpon (L.) DC. [L.P. Ng & L.P. Law 14]
Desmodium heterophyllum (Willd.) DC. [M. Chan & Roslina 31]
Desmodium umbellatum (L.) DC. [M.F. Choong 11]
Entada spiralis Ridl. [K.S. Tan 12]
Intsia bijuga (Colebr.) O. Ktze. [K.S. Chua & H.T.W. Tan 441]
a *Mimosa invisa* Mart. ex Colla [T.S. Teo 42]
a *Mimosa pigra* L. [M.F. Choong 28]
a *Mimosa pudica* L. [M. Chan & Roslina 30]
a *Neptunia plena* (L.) Benth. [T.S. Teo 71]
Peltophorum pterocarpum (DC.) Backer ex Heyne [K.S. Tan 25]
e *Pterocarpus indicus* Willd. [A. Ho & E.M. Sim 40]

Lemnaceae

- Lemna perpusilla* Torrey [K.S. Chua & H.T.W. Tan 449]

Liliaceae

- e *Cordyline fruticosa* (L.) A. Chev. [L.P. Law 15]
Dianella ensifolia (L.) DC. [M. Chan 19]
e *Gloriosa superba* L. [J. Lee 102]

Linaceae

- Indorouchera griffithiana* (Planch.) Hallier f. [H.H. Neo 208]

Loganiaceae

- Fagraea acuminatissima* Merr. [I.M. Turner 105]
Fagraea fragrans Roxb. [M.Y. Kok 12]

Loranthaceae

- Dendrophthoe pentandra* (L.) Miq. [A. Ho & J. Lee 10]
Macrosolen cochinchinensis (Lour.) Tiegh. [H.H. Neo 114]
Scurrula parasitica L. [P.T. Chew & A.S. Chew 46]

Magnoliaceae

- e *Michelia champaca* L. [J. Lee 5]

Malpighiaceae

- Tristellateia australasiae* A. Rich. [E.M. Sim & L.P. Ng 20]

Table 1 (Continued)

Malvaceae

- e *Hibiscus rosa-sinensis* L. [L.P. Ng 14]
- Hibiscus tiliaceus* L. [E.M. Sim & L.P. Ng 4]
- Sida rhombifolia* L. [E.M. Sim & L.P. Ng 41]
- Thespesia populnea* (L.) Soland. ex Correa [J. Lee 8]
- Urena lobata* L. [E.M. Sim & L.P. Ng 34]

Melastomataceae

- a *Clidemia hirta* D. Don [E.M. Sim & L.P. Ng 6]
- Dissochaeta gracilis* (Jack) Bl. [K.S. Chua 104]
- Melastoma malabathricum* L. [E.M. Sim & L.P. Ng 2]
- Memecylon edule* Roxb. [K.S. Tan 20]

Meliaceae

- Xylocarpus granatum* Koen. [M.F. Choong 4]

Menispermaceae

- Fibraurea tinctoria* Lour. [L.P. Ng & L.P. Law 4]
- Limacia scandens* Lour. [M.F. Choong 20]

Moraceae

- e *Artocarpus integer* (Thunb.) Merr. [J. Lee 6]
- e *Artocarpus heterophyllus* Lamk. [A. Ho & E.M. Sim 26]
- Ficus aurata* Miq. [K.S. Tan 63]
- Ficus fistulosa* Reinw. ex Bl. [M.F. Choong 49]
- Ficus grossularioides* Burm. f. [M.F. Choong 6]
- Ficus heteropleura* Bl. [M.Y. Kok 19]
- Ficus microcarpa* L. f. [T.S. Teo 34]
- Ficus variegata* Bl. [K.S. Tan 36]
- Ficus virens* Ait. var. *glabella* (Bl.) Corner [M.F. Choong 36]
- Streblus elongatus* (Miq.) Corner [M.Y. Kok 47]

Musaceae

- e *Musa acuminata* Colla cultivar [J. Sim 32]

Myricaceae

- Myrica esculenta* Buch.-Ham. [L.P. Law & L.P. Ng 8]

Myristicaceae

- Knema* sp. [K.S. Tan 51]

Myrsinaceae

- Ardisia crenata* Sims [T.S. Teo 72]
- Ardisia elliptica* Thunb. [T.S. Teo 14]
- Embelia ribes* Burm. [M.Y. Kok 16]

Myrtaceae

- e *Eugenia jambos* L. [K.S. Tan 54]
- Eugenia longiflora* (Presl) F.-Vill. [M.Y. Kok 14]
- Eugenia palembanica* (Miq.) Merr. [K.S. Tan 18]
- Eugenia spicata* Lamk. [T.S. Teo 1]

Table 1 (Continued)

-
- e *Psidium guajava* L. [M.Y. Kok 30]
Rhodamnia cinerea Jack [J. Sim 19]
Rhodomyrtus tomentosa (Ait.) Hassk. [Roslina 15]
Tristaniopsis whitiana (Griff.) Wilson & Waterhouse [M.Y. Kok 40]
- Nepenthaceae**
Nepenthes gracilis Korth. [E.M. Sim & L.P. Ng 54]
- Olacaceae**
Ximenia americana L. [K.S. Tan 1]
- Onagraceae**
Ludwigia hyssopifolia (G. Don) Exell [M. Chan & Roslina 30]
- Opiliaceae**
Champerea manillana (Bl.) Merr. [E.M. Sim & L.P. Ng 13]
- Orchidaceae**
Bromheadia finlaysoniana (Lindl.) Rchb. f. [M. Chan 61]
Dendrobium crumenatum Sw. [A. Ho & J. Lee 9]
Spathoglottis plicata Bl. [A. Ho & E.M. Sim 42]
Thrixspermum amplexicaule (Bl.) Rchb. f. [T.S. Teo 32]
Vanilla griffithii Rchb. f. [T.S. Teo 26]
- Oxalidaceae**
a *Oxalis barrelieri* L. [E.M. Sim & L.P. Ng 9]
a *Oxalis corniculata* L. [J. Lee 2]
- Palmae**
e *Arenga pinnata* (Wurmb) Merr. [H.H. Neo 112]
Caryota mitis Lour. [K.S. Tan 10]
a *Cocos nucifera* L. [K.S. Tan 5]
Licuala spinosa Wurmb [J. Sim 12]
Nypa fruticans Wurmb [J. Sim 29]
Oncosperma tigillarium (Jack) Ridl. [I.M. Turner 37]
- Pandanaceae**
e *Pandanus amaryllifolius* Roxb. [K.S. Tan 46]
Pandanus odoratissimus L. f. [J. Sim 2]
Pandanus yvanii Solms. [L.P. Law & L.P. Ng 3]
- Passifloraceae**
a *Passiflora foetida* L. [K.S. Tan 13]
a *Passiflora laurifolia* L. [E.M. Sim & L.P. Ng 44]
a *Passiflora suberosa* L. [A. Ho & J. Lee 45]
- Pedaliaceae**
a *Sesamum radiatum* Schum. [K.S. Chua & H.T.W. Tan 82]
- Piperaceae**
a *Peperomia pellucida* (L.) H.B.K. [M.F. Choong 39]

Table 1 (Continued)

- e *Piper betle* L. [I.M. Turner 53]
Piper sarmentosum Roxb. ex Hunter [M. Chan & Roslina 29]

Plantaginaceae

- a *Plantago major* L. [M.F. Choong 52]

Portulacaceae

- a *Talinum paniculatum* (Jacq.) Gaertn. [M.F. Choong 57]

Rhamnaceae

Colubrina asiatica L. ex Brongn. [T.S. Teo 38]

Rhizophoraceae

Bruguiera cylindrica (L.) Bl. [T.S. Teo 19]

Bruguiera gymnorrhiza (L.) Lamk. [T.S. Teo 23]

Ceriops tagal (Perr.) C.B. Robinson [M.F. Choong 29]

Gynotroches axillaris Bl. [A. Ho & E.M. Sim 56]

Rhizophora apiculata Bl. [M.F. Choong 31]

Rhizophora mucronata Poir. [M.F. Choong 47]

Rubiaceae

- a *Borreria alata* (Aubl.) DC. [M.F. Choong 15]
Borreria articularis (L. f.) F.N. Will. [E.M. Sim & L.P. Ng 29]
Borreria laevicaulis (Miq.) Ridl. [A. Ho & E.M. Sim 9]
Borreria setidens (Miq.) Bold. [K.S. Chua & H.T.W. Tan 434]
- a *Diodia ocymifolia* (Willd. ex R. & S.) Bremek. [A. Ho & E.M. Sim 17]
Guettarda speciosa L. [J. Sim 9]
Hedyotis corymbosa (L.) Lamk. [L.P. Law & L.P. Ng 61]
Ixora congesta Roxb. [T.S. Teo 24]
- a *Morinda citrifolia* L. [A. Ho & E.M. Sim 3]
Morinda umbellata L. [E.M. Sim & L.P. Ng 47]
Oxyceros longiflora (Lamk.) Yamazaki [E.M. Sim & L.P. Ng 31]
Scyphiphora hydrophyllacea Gaertn. f. [T.S. Teo 15]
Tarenna costata (Miq.) Merr. [T.S. Teo 4]
Tarenna fragrans (Nees) K. & V. [T.S. Teo 3]
Timonius wallichinus (Korth.) Valetton [J. Sim 2]

Rutaceae

Euodia roxburghiana (Cham.) Benth. ex Hook. f. [K.S. Chua & H.T.W. Tan 108]

- e *Murraya koenigii* (L.) Spreng. [M. Chan 27]

Santalaceae

Dendrotrophe varians (Bl.) Miq. [I.M. Turner 102]

Sapindaceae

Allophyllus cobbe (L.) Raeusch. [M.Y. Kok 22]

Guioa pleuropteris (Bl.) Radlk. [A. Ho & E.M. Sim 57]

Mischocarpus sundaicus Bl. [I.M. Turner 36]

- e *Nephelium lappaceum* L. [M.Y. Kok 45]

Table 1 (Continued)

Sapotaceae

Planchonella obovata (R. Br.) Pierre [T.S. Teo 12]

Scrophulariaceae

- a *Limnophila sessiliflora* Bl. [K.S. Chua & H.T.W. Tan 431]
- Lindernia antipoda* (L.) Alston [E.M. Sim & L.P. Ng 30]
- Lindernia crustacea* (L.) F.v.M. [K.S. Chua & H.T.W. Tan 432]
- Lindernia sessiliflora* (Benth.) Wettst. [K.S. Chua & H.T.W. Tan 433]
- a *Scoparia dulcis* L. [A. Ho & E.M. Sim 18]

Simaroubaceae

Brucea javanica (L.) Merr. [T.S. Teo 45]

Smilacaceae

Smilax megacarpa DC. [K.S. Chua & H.T.W. Tan 425]

Solanaceae

- Physalis minima* L. [K.S. Chua 71]
- e *Solanum melongena* L. [K.S. Chua 72]
- a *Solanum torvum* Sw. [M.Y. Kok 17]

Sonneratiaceae

Sonneratia alba J.J. Smith [K.S. Chua & H.T.W. Tan 442]
Sonneratia ovata Backer [J. Lee 7]

Sterculiaceae

Commersonia bartramia (L.) Merr. [M.Y. Kok 52]
Heritiera littoralis Dryand. ex W. Ait. [I.M. Turner 45]
Pterospermum diversifolium Bl. [T.S. Teo 40]

Symplocaceae

Symplocos fasciculata Zoll. [E.M. Sim & L.P. Ng 52]

Theaceae

Adinandra dumosa Jack [E.M. Sim & L.P. Ng 26]
Eurya acuminata DC. [M.Y. Kok 56]

Thymelaeaceae

Linostoma pauciflorum Griff. [Latifah & H.H. Neo 4]

Tiliaceae

Triumfetta rhomboidea Jacq. [M.F. Choong 55]

Turneraceae

- a *Turnera ulmifolia* L. [Roslina 12]

Typhaceae

- a *Typha angustifolia* L. [I.M. Turner 117]

Ulmaceae

Trema cannabina Lour. [K.S. Tan 34]
Trema tomentosa (Roxb.) Hara [A. Ho & E.M. Sim 40]

Table 1 (Continued)

Umbelliferae	
	<i>Centella asiatica</i> (L.) Urb. [Roslina 28]
Urticaceae	
	<i>Laportea interrupta</i> (L.) Chew [H.H. Neo 105]
Verbenaceae	
	<i>Clerodendrum inerme</i> (L.) Gaertn. [E.M. Tim & L.P. Ng 49]
	<i>Clerodendrum laevifolium</i> Bl. [E.M. Sim & L.P. Ng 44]
e	<i>Clerodendrum paniculatum</i> L. [T.S. Teo 61]
e	<i>Clerodendrum philippinum</i> Schauer [A. Ho & E.M. Sim 22]
	<i>Clerodendrum villosum</i> Bl. [K.S. Chua 69]
	<i>Gmelina asiatica</i> L. [J. Lee 103]
a	<i>Lantana camara</i> L. [T.S. Teo 31]
	<i>Premna corymbosa</i> (Burm. f.) Rottl. & Willd. [K.S. Tan 35]
	<i>Stachytarpheta indica</i> (L.) Vahl [K.S. Chua 95]
	<i>Vitex pinnata</i> L. [J. Sim 14]
	<i>Vitex trifolia</i> L. [K.S. Tan 52]
Vitaceae	
	<i>Ampelocissus elegans</i> (Kurz) Gegnep. [M.Y. Kok 7]
	<i>Cissus hastata</i> (Miq.) Planch. [A. Ho & E.M. Sim 6]
Zingiberaceae	
e	<i>Languas galanga</i> (L.) Stuntz. [L.P. Law 9]

Table 2
Species previously recorded from Pulau Ubin;
representative collections are indicated in square brackets.

Species	Reference
PTERIDOPHYTES	
<i>Adiantum flabellulatum</i> L.	Ridley 1900
<i>Asplenium macrophyllum</i> Sw.	Ridley 1900
<i>Cheilanthes tenuifolia</i> (Burm.) Sw.	Ridley 1900
<i>Drynaria sparsisora</i> (Desv.) Moore	Johnson 1977
<i>Humata heterophylla</i> (Sm.) Desv.	Johnson 1977
<i>Lindsaea divergens</i> Hk. & Grev.	Johnson 1977
<i>Phymatosorus scolopendria</i> (Burm.) Pic. Ser.	Johnson 1977
<i>Pityrogramma calomelanos</i> (L.) Link	Johnson 1977
<i>Pteris ensiformis</i> L. [Ridley 3040]	—
<i>Pyrrosia lanceolata</i> (L.) Farwell [Ridley 9510]	Ridley 1900
<i>Tectaria semipinnata</i> (Roxb.) Morton [Ridley 6027]	Johnson 1977

Table 2 (Continued)

Species	Reference
SPERMATOPHYTES	
Agavaceae	
<i>Dracaena elliptica</i> Thunb.	Ridley 1900
<i>Dracaena porteri</i> Bak.	Ridley 1900
Amaranthaceae	
<i>Amaranthus lividus</i> L. [Ridley 4690]	Keng 1990
<i>Cyathula prostrata</i> (L.) Bl.	Ridley 1900
Amaryllidaceae	
<i>Crinum asiaticum</i> L.	Ridley 1900
Annonaceae	
<i>Cyathostemma viridiflorum</i> Griff. [Ridley s.n. Feb 1894]	Keng 1990
Apocynaceae	
<i>Urceola lucida</i> (DC.) Hook. f. [Ridley s.n. 1894]	Ridley 1900
<i>Urnlularia flavescens</i> (Hook. f.) Stapf	Ridley 1900
<i>Willughbeia coriacea</i> Wall. [Ridley 9501]	Ridley 1900
<i>Willughbeia grandiflora</i> Dyer ex Hook. f. [Ridley s.n. 1893]	Markgraf 1972
Araceae	
<i>Aglaonema simplex</i> Bl. [Ridley s.n. 1890]	Ridley 1900
Araliaceae	
<i>Schefflera cephalotes</i> (C.B. Clarke) Harms.	Ridley 1900
<i>Schefflera lanceolata</i> Ridl.	Ridley 1900
Asclepiadaceae	
<i>Calotropis procera</i> (Ait.) Ait. f. — esc. cult.	Ridley 1900
Avicenniaceae	
<i>Avicennia officinalis</i> Bl.	Ridley 1900
Bignoniaceae	
<i>Dolichandrone spathacea</i> (L. f.) K. Schum.	Ridley 1900
Celastraceae	
<i>Reissantia indica</i> (Willd.) Hallé	Ridley 1900
<i>Salacia chinensis</i> L.	Ridley 1900
<i>Salacia grandiflora</i> Kurz [Ridley 4784]	Ridley 1900
Commelinaceae	
<i>Aclisia secundiflora</i> (Bl.) Bakh. f. [Ridley 4759]	Ridley 1900
<i>Forrestia gracilis</i> Ridl. [Ridley 4810]	Ridley 1900
Compositae	
<i>Adenostemma lavenia</i> (L.) O. Kuntze [Hullett 78]	Ridley 1900
<i>Blumea riparia</i> (Bl.) DC. [Ridley s.n. 1894]	—

Table 2 (Continued)

Species	Reference
<i>Eleuthanthera ruderalis</i> (Sw.) Sch.-Bip. [Furtado 18629]	Ridley 1900
<i>Erigeron sumatrensis</i> Retz. [Furtado 18342]	Ridley 1923
<i>Synedrella nodiflora</i> (L.) Gaertn. [Furtado 18624]	—
<i>Tridax procumbens</i> L. [Furtado 18347]	—
<i>Wedelia biflora</i> (L.) DC. [Hullett 387]	Keng 1990
Connaraceae	
<i>Connarus planchonius</i> Schellenb.	Ridley 1900
Cyperaceae	
<i>Fimbristylis ferruginea</i> (L.) Vahl	Ridley 1900
<i>Scleria oblata</i> S.T. Blake [Furtado 18630]	Blake 1961
Dipterocarpaceae	
<i>Dipterocarpus</i> c.f. <i>sublamellatus</i> Foxw. [Ridley s.n. 1890]	—
Euphorbiaceae	
<i>Acalypha indica</i> L.	Keng 1990
<i>Antidesma velutinosum</i> Bl. [Hullett 629]	Ridley 1900
<i>Claoxylon longifolium</i> Endl. ex Hassk. [Hullett s.n. 1885]	Ridley 1900
<i>Galearia fulva</i> (Tul.) Miq.	Ridley 1900
<i>Glochidion microbotrys</i> Hook. f.	Ridley 1900
<i>Macaranga triloba</i> (Bl.) M.A.	Ridley 1900
<i>Suregada multiflora</i> (Juss.) Baill.	Ridley 1900
Fagaceae	
<i>Lithocarpus elegans</i> (Bl.) Hatus. ex Soepadmo	Ridley 1900
<i>Lithocarpus wallichianus</i> (Lindl. ex Hance) Rehd. [Ridley 7479]	Soepadmo 1970
Flagellariaceae	
<i>Flagellaria indica</i> L.	Ridley 1900
Goodeniaceae	
<i>Scaevola sericea</i> Vahl	Ridley 1900
Gramineae	
<i>Chloris barbata</i> Sw. [Furtado 18348]	—
<i>Digitaria ciliaris</i> (Retz.) Koel. [Furtado 18637]	—
<i>Digitaria violascens</i> Link [Ridley s.n. 1894]	—
<i>Eragrostis tenella</i> (L.) P. Beauv. ex R. & S. [Ridley s.n. 1892]	—
<i>Ischaemum muticum</i> L. [Furtado 18625]	—
<i>Leptaspis urceolata</i> (Roxb.) R. Br. [Ridley 369]	—
<i>Mnesithea glandulosa</i> (Trin.) Koning & Sosef [Ridley s.n. 1892]	Ridley 1900
Guttiferae	
<i>Calophyllum inophyllum</i> L.	Ridley 1900
<i>Garcinia eugeniaefolia</i> Wall. ex T. Anders. [Ridley 9488]	Ridley 1900
<i>Garcinia hombroniana</i> Pierre [Ridley 4791]	Ridley 1900
<i>Garcinia nervosa</i> Miq.	Ridley 1900

Table 2 (Continued)

Species	Reference
Labiatae	
<i>Hyptis suaveolens</i> (L.) Poit. [Furtado 18344]	—
<i>Ocimum tenuiflorum</i> L. [Furtado 18622]	—
Lauraceae	
<i>Actinodaphne macrophylla</i> (Bl.) Nees [Ridley 9489]	Keng 1990
<i>Litsea umbellata</i> (Lour.) Merr. [Ridley s.n. 2 Mar 1893]	Ridley 1900
<i>Neolitsea zeylanica</i> Merr.	Ridley 1900
<i>Phoebe grandis</i> Merr.	Keng 1990
Leguminosae	
<i>Albizia retusa</i> Benth. [Ridley 4752]	Ridley 1900
<i>Alysicarpus vaginalis</i> (L.) DC.	Ridley 1900
<i>Canavalia cathartica</i> Thou. [Hullett 463]	Ridley 1922
<i>Crotalaria mucronata</i> Desv. [Furtado 18634]	—
<i>Dalbergia candenatensis</i> (Dennst.) Prain [Ridley 4678]	Keng 1990
<i>Dalbergia junghuhnii</i> Benth.	Keng 1990
<i>Derris heptaphylla</i> (L.) Merr. [Hullett 6194]	Ridley 1900
<i>Derris trifoliata</i> Lour. [Furtado 18346]	Ridley 1900
<i>Pithecellobium ellipticum</i> (Bl.) Hassk.	Ridley 1900
<i>Pongamia pinnata</i> (L.) Pierre [Ridley s.n. 1891]	Ridley 1900
Loganiaceae	
<i>Fagraea auriculata</i> Jack	Ridley 1900
<i>Fagraea racemosa</i> Jack ex Wall.	Ridley 1900
Malpighiaceae	
<i>Tristellateia australasiae</i> A. Rich.	Ridley 1900
Malvaceae	
<i>Abutilon indicum</i> (L.) Sweet	Ridley 1900
<i>Hibiscus surattensis</i> L. [Furtado 18623]	Ridley 1900
<i>Thespesia populnea</i> (L.) Sol. ex Correa [Ridley 4624]	Ridley 1900
Melastomataceae	
<i>Diplectria viminalis</i> (Jack) O. Ktze.	Keng 1990
<i>Pogonanthra pulverulenta</i> Bl. [Hullett 391]	Keng 1990
Meliaceae	
<i>Chisocheton erythrocarpus</i> Hiern	Ridley 1900
<i>Chisocheton macrophyllus</i> King [Ridley 4767, isosyntype]	Ridley 1900
<i>Dysoxylum cauliflorum</i> Hiern [Hullett 392]	Ridley 1900
<i>Sandoricum koetjape</i> (Burm. f.) Merr.	Ridley 1900
Menispermaceae	
<i>Cyclea laxiflora</i> Miers	Ridley 1900
Moraceae	
<i>Artocarpus dadah</i> Miq. [Ridley 4721]	Ridley 1900
<i>Ficus fistulosa</i> Reinw. ex Bl.	Ridley 1900

Table 2 (Continued)

Species	Reference
<i>Ficus kerkhovenii</i> Val.	Keng 1990
<i>Ficus laevis</i> Bl.	Ridley 1900
<i>Ficus obscura</i> Bl. var. <i>borneensis</i> (Miq.) Corner	Ridley 1900
<i>Ficus pellucido-punctata</i> Griff.	Ridley 1900
Myristicaceae	
<i>Knema glaucescens</i> Jack	Ridley 1900
<i>Knema globularia</i> (Lamk.) Warb. [Ridley 4817]	Keng 1990
Myrsinaceae	
<i>Aegiceras corniculatum</i> (L.) Blanco	Ridley 1900
<i>Ardisia singaporensis</i> Ridl. [Ridley 2816, isosyntype]	Ridley 1900
<i>Ardisia villosa</i> Roxb. [Ridley 2809]	Ridley 1900
Myrtaceae	
<i>Eugenia leucoxylon</i> (Korth.) Miq. [Ridley 9486]	Keng 1990
<i>Tristaniaopsis whitiana</i> (Griff.) Wilson & Waterhouse [Ridley 4970]	Ridley 1900
Oleaceae	
<i>Olea brachiata</i> (Lour.) Merr.	Ridley 1900
Ochnaceae	
<i>Gomphia serrata</i> (Gaertn.) Kanis	Ridley 1900
Orchidaceae	
<i>Bulbophyllum medusae</i> (Lindl.) Rchb. f.	Ridley 1900
<i>Corymborkis veratrifolia</i> (Reinw.) Bl. [Ridley 2037]	Ridley 1900
<i>Cymbidium finlaysonianum</i> Lindl. [Goodenough s.n. 1894]	—
<i>Grammatophyllum speciosum</i> Bl.	Ridley 1900
<i>Renanthera elongata</i> Lindl.	Ridley 1900
<i>Spathoglottis plicata</i> Bl. [Furtado 18621]	—
<i>Thrixspermum calceolus</i> (Lindl.) Rchb. f. [Goodenough s.n. 23/5/1896]	Ridley 1900
<i>Vanilla griffithii</i> Rchb. f.	Ridley 1900
Palmae	
<i>Caryota mitis</i> Lour. [Goodenough 3148]	—
<i>Licuala spinosa</i> Wurmbe [Ridley 3166]	Ridley 1900
<i>Nenga pumila</i> (Mart.) Wendl. [Goodenough s.n. 1890]	—
<i>Orania sylvicola</i> (Griff.) H.E. Moore [Ridley 3146]	Ridley 1900
Pandanaceae	
<i>Pandanus odoratissimus</i> L. f.	Ridley 1900
<i>Pandanus parvus</i> Ridley	Ridley 1900
Passifloraceae	
<i>Passiflora foetida</i> L. [Furtado 18626]	—
Piperaceae	
<i>Piper caninum</i> Bl.	Ridley 1900
Rhamnaceae	
<i>Ventilago malaccensis</i> Ridl.	Keng 1990

Table 2 (Continued)

Species	Reference
Rhizophoraceae	
<i>Bruguiera cylindria</i> (L.) Bl. [Ridley 366]	Ridley 1900
Rubiaceae	
<i>Borreria articularis</i> (L. f.) F.N. Will. [Furtado 18339]	—
<i>Borreria laevicaulis</i> (Miq.) Ridl. [Furtado 18343]	Keng 1990
<i>Gaertnera viminea</i> Hook. f. ex Clarke [Ridley 9500]	Ridley 1900
<i>Ixora congesta</i> Roxb.	Ridley 1900
<i>Lasianthus cyanocarpus</i> Jack [Ridley 9499]	Ridley 1900
<i>Morinda umbellata</i> L.	Ridley 1900
<i>Ophiorrhiza singaporensis</i> Ridl.	Ridley 1923
<i>Oxyceros longiflora</i> (Lamk.) Yamazaki [Ridley 9487]	—
<i>Psychotria griffithii</i> Hook. f.	Ridley 1900
<i>Psychotria malayana</i> Jack	Ridley 1900
<i>Psychotria rostrata</i> Bl.	Keng 1990
<i>Uncaria glabrata</i> (Bl.) DC.	Ridley 1900
<i>Urophyllum streptopodium</i> Wall. ex Hook. f. [Hullett 393]	Ridley 1900
Rutaceae	
<i>Clausena excavata</i> Burm. f.	Ridley 1900
Sapindaceae	
<i>Cardiospermum halicacabum</i> L.	Ridley 1900
<i>Lepisanthes rubiginosa</i> (Roxb.) Leenh. [Hullett 386]	Ridley 1900
<i>Mischocarpus sundaicus</i> Bl. [Ridley 9495]	—
Solanaceae	
<i>Datura candida</i> (Pers.) Pasq. — esc. cult.	Ridley 1900
<i>Physalis minima</i> L. [Ridley 367]	Keng 1990
<i>Solanum torvum</i> Sw. [Furtado 18628]	—
Sterculiaceae	
<i>Pterospermum diversifolium</i> Bl. [Ridley 387]	Ridley 1900
<i>Sterculia coccinea</i> Jack	Ridley 1900
Turneraceae	
<i>Turnera ulmifolia</i> L. [Furtado 18633]	—
Urticaceae	
<i>Poikilospermum cordifolium</i> (Borg.-Petr.) Merr.	Ridley 1900
<i>Poikilospermum suaveolens</i> (Bl.) Merr.	Ridley 1900
Verbenaceae	
<i>Clerodendrum inerme</i> (L.) Gaertn.	Keng 1990
<i>Stachytarpheta indica</i> (L.) Vahl [Furtado 18627]	—
<i>Vitex trifolia</i> L.	Keng 1990
Zingiberaceae	
<i>Hornstedtia leonurus</i> (Koenig) Retz. [Ridley 9494]	Holttum 1950

Table 3

The five angiosperm families with the most species for the flora of Singapore (after Turner *et al.* 1990) and the contemporary flora of Pulau Ubin.
Total number of species with number of alien species in brackets.

Singapore		Pulau Ubin	
Orchidaceae	194 (0)	Gramineae	26 (8)
Rubiaceae	147 (7)	Leguminosae	25 (10)
Euphorbiaceae	127 (13)	Euphorbiaceae	24 (8)
Gramineae	119 (18)	Cyperaceae	19 (1)
Cyperaceae	95 (3)	Compositae	18 (5)

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