PAPUAN GRASSES COLLECTED BY L. J. BRASS. II.*

AGNES CHASE

The grasses here described and listed were collected in 1936 in the region of Fly River, British New Guinea. Part I of the Papuan Grasses collected by Mr. Brass, by A. S. Hitchcock, was published in Brittonia 2: 107–130. 1936. The types of the three species described in the present paper are deposited in the Gray Herbarium, with isotypes in the United States National Herbarium. Only species not previously collected by Mr. Brass in New Guinea are included in the present paper.


Dendrocalamus papuanus Pilger, Bot. Jahrb. 52: 175. 1914. Arundinaria papuana, "being the earliest specific name," is transferred to Dendrocalamus, but the name has priority of place only, being published on the same date.

Middle Fly River: Lake Daviumbu, Brass 7908; rain forest, forming tangled thickets about 3 m. high along edges of sago swamps, on ground rooted over by wild pigs, etc. Western Division: Tarara, Wassi Kussa River, Brass 8518; erect clumps 3 m. high, forming thickets in disturbed rain forest; culms glaucous, leaves glaucous beneath, anthers yellow; same locality, Brass 8660; forming dense undergrowth 2–4 m. high, erect, in light rain forest fringing streams.

Endemic.

Schizostachyum Brassii A. Camus, Jour. Arnold Arb. 9: 144. 1928.

Western District: Daru Island, Brass 6400; gregarious in thickets, 3–3.5 m. high, along edge of creek fringing rain forest.

This collection has been compared with the type of S. Brassii, from Ihu, Vailala River, Brass 1105.

Endemic.

*Botanical Results of the Archbold Expeditions.
Schizostachyum sp.

Middle Fly River: Lake Daviumbu, Brass 7913; abundant in thickets, 5–6 m. high, marking sites of old native camps on crests of ridges in rain forests; stems glaucous, up to 2.5 cm. in diameter, internodes more than 1 m. long, anthers green.


Western Division: Mabaduan, Brass 6541; rare in savanna forests. Middle Fly River: Lake Daviumbu, Brass 7520, 7853; gregarious in spreading tufts on patches of hard soil in savannas. Lower Fly River: Gaima, Brass 8349; common in open savanna forest.

East Indies to Philippines, New Guinea, and Polynesia.

Eragrostis subaristata Chase, sp. nov.

Perennial; culmi caespitosi, erecti, graciles, 37–65 cm. alti; vaginae subcarinatae; ligula minutissima, ciliolata; laminae complanatae vel involutae, 6–15 cm. longae, 1.5–2.5 mm. latae; panicula purpurea, 7–15 cm. longa, ramis brevibus ascendentibus, inferioribus distantibus circa 3 cm. longis; pedicelli minuti; spiculae aliquam crebrae, 7–9 mm. longae, 2 mm. latae, 6–8-florae; glumae 1.2 et 1.7 mm. longae, acutae, 3-nerviae; lemmata 3–3.5 mm. longa, valde nervata, acuminata vel acuminatissima; palea arcuata, carinis prominentibus.

Perennial, glabrous as a whole; culms caespitose, erect, slender, 37–65 cm. tall; sheaths shorter than the internodes, slightly keeled, usually with a few delicate hairs in the throat; ligule very minute, ciliolate; blades folded or involute, 6–15 cm. long, 1.5–2.5 mm. wide (opened out), often sparsely pilose at base on the upper surface; panicle purplish, 7–15 cm. long, with several rather densely flowered ascending branches, the lower distant, about 3 cm. long, the upper approximate and shorter, the axis and branches rather rigid, angled, a few delicate hairs often borne in the axils, the ultimate branchlets and pedicels scaberulous; spikelets somewhat crowded on minute pedicels, mostly spreading, 7–9 mm. long, 2 mm. wide at maturity, 6–8-flowered, the rachilla strongly zigzag, the joints 1 mm. long or less, readily disarticulating; glumes 1.2 and 1.7 mm. long, acute, 3-nerved; lemmas 3–3.5 mm. long, with strong nerves, the summits spreading, the lower lemmas acuminate, the upper tapering into a slender awn-like tip as much as 1 mm. long; palea bowed out, the keels prominent, short-ciliolate.

Type: Brass 7879, collected in September 1936, occasional on wet grass plains, Lake Daviumbu, Middle Fly River. A second collection is Brass 8348, common in open savanna forest, Gaima, Lower Fly River.
The strongly pointed lemmas and arching paleas somewhat resemble those of *Eragrostis secundiflora* Presl of North America and *E. harpachnoides* Hack. of Yunnan, China, but are much more subulate than either. In *E. harpachnoides* the spikelets fall entire, the curved pedicels disarticulating.


Coast between Oriomo and Fly Rivers, *Brass 6411*; sandbinding grass, not common on beach.

Islands, Ceylon to Formosa, Philippines, New Guinea, Polynesia and Hawaiian Islands.

**Aristida meraulakensis** Henrard, Meded. Rijks Herb. Leiden 54° (as 55°): 725. 1933.

Western Division: Mabaduan, *Brass 6530, 6576*; common on sandy ridges in savanna forests.

Endemic.


*Cynosurus indicus* L. Sp. Pl. 72. 1753.

Western Division: Daru Island, *Brass 6302*; common weed in native gardens.

Tropics and warm temperate regions of both hemispheres.


*Cynosurus aegyptius* L. Sp. Pl. 72. 1753.

Western Division: Daru Island, *Brass 6304*; weed in native gardens, not common.

Tropics and warm temperate regions of both hemispheres.

**Chloris inflata** Link, Enum. Pl. 1: 105. 1821.

*Andropogon barbatum* L. Mant. 2: 302. 1771; not *A. barbatum* L. 1759.

*Chloris barbata* Swartz, Fl. Ind. Occ. 1: 200. 1797.


Western Division: Daru Island, *Brass 6403*; plentiful on waste ground about the township.

Tropics of both hemispheres.

**Oryza minuta** Presl, Relig. Haenk. 1: 208. 1830.


Western Division: Mabaduan, *Brass 6547*; scattered in shallow
swamp shaded by swampy rain forest; plants about 1 m. tall; nodes purple, panicle erect.

Tropical Asia, East Indies, Philippines, New Guinea.
The name *Oryza latifolia* Desv. has been misapplied to this species.


Western Division: Tarara, Wassi Kussa River, *Brass 8721*; in small swamp.

Malay Peninsula, Sumatra, Borneo, New Guinea.

**Oryza rufipogon** Griff. Not. Pl. As. **3**: *pl. 144. f. 2*. 1851.

Middle Fly River: Lake Daviumbu, *Brass 7564*; dominant over large areas of grass-swamp, culms to 3 m. or more long, the leafy summit rising about 1 m. above the surface of the water; awns pink.

India, Ceylon, Borneo, New Guinea.

This form is commonly referred to *Oryza sativa* L. but it appears to be a perennial.

**Leersia hexandra** Swartz, Prod. Veg. Ind. Occ. **21**: 21. 1788.


Middle Fly River: Lake Daviumbu, *Brass 7601*; margins of swamps and lakes, gregarious in half submerged stands, rising about 1 m. above the surface of the water.

Tropics of both hemispheres.


Western Division: Tarara, Wassi Kussa River, *Brass 8584*; rain forest, in broken shade.

Fiji Islands.


Western Division: Tarara, Wassi Kussa River, *Brass 8664*; savanna forest; rare grass on swampy ground.

China, India to Indo-China; New Guinea.

A slender glabrous form with narrow blades and panicle less densely flowered than usual.


Western Division: Tarara, Wassi Kussa River, *Brass 8695*; common weed in deserted gardens.

Indo-China and New Guinea.


Western Division: Daru Island, Brass 6301; common weed in native gardens.

India to Philippines, Australia and Polynesia.


Palmer River, 1 mile above junction with Black River, Brass 6948; sandbinder on gravel banks.

Tropics of the eastern hemisphere.


Western Division: Daru Island, Brass 6303; matted on damp soil in native garden clearings.

Tropics of both hemispheres.

Panicum macrocladum Chase, sp. nov.

Perenne; culmi erecti vel ascendentes, 1—1.2 m. alti; vaginae papilloso-hirsutae; ligula hirsuta, 2 mm. longa; laminae planae, elongatae, 4—7 mm. latae, utrinque hirsutae; panicula breviter exserta, 40—48 cm. longa, nutans, ramis elongatis subcapillaribus scabridis; spiculae 3.2—3.5 mm. longae, hiantes, glabrae; gluma prima 2.5—3 mm. longa, acuminata, 5—7-nervia; gluma secunda et lemma sterile subaequalia, subacuminata, 5—7-nervia; fructus 2 mm. longus, 0.9 mm. latus.

Perennial, culms erect or ascending, 1—1.2 meters tall, glabrous; nodes glabrous, often black; foliage olivaceous, the sheaths much shorter than the internodes, papillose-hirsute, the upper sometimes nearly glabrous toward the base; ligule a dense ring of hairs about 2 mm. long; blades flat, 18—30 cm. long, 4—7 mm. (mostly 5 mm.) wide, loosely hirsute on both surfaces or scabrous only toward the attenuate apex, the margins scabrous; panicle short-exserted, 40—48 cm. long, nodding, with numerous subcapillary compound branches as much as 25 cm. long, the slender angled axis and branches scabrous, the branches and branchlets finally spreading, the spikelets mostly aggregate towards the ends of the branchlets, the scabrous pedicels from about as long as the spikelets to twice as long; spikelets 3.2—3.5 mm. long, mostly gaping at the summit, glabrous; first glume from one fourth shorter to nearly as long as the
spikelet, 5–7-nerved, broad, clasping, acuminate; second glume slightly longer than the sterile lemma, both tapering to a relatively blunt but infolded and seemingly sharp tip, 5–7-nerved; fruit 2 mm. long, 0.9 mm. wide, elliptic, smooth and shining.

Type: Brass 6568, collected in April 1936, sporadic on damp soil in savanna forest, Mabaduan, Western Division. Other collections are: Brass 6350, Daru Island, swampy ground in savanna forest; Macgregor 18, "Kuba Kuba," New Guinea.

This species somewhat resembles Panicum mindanaense Merr. and P. caudiglume Hack., but differs from both in being perennial, taller, and with much longer narrower blades and longer panicles, the first glume not pointed beyond the spikelet as in P. caudiglume, and the panicle branches and spikelets much longer than in P. mindanaense.

Panicum Braunii Mez, (Bot. Jahrb. 56: Beibl. 125: 5. 1921; not P. Braunii Steud. 1854), described from Bismarck Archipelago, appears to be this species. The type (Braun 8) in the Berlin Herbarium agrees with the Brass collections but not entirely with Mez’s description.


Western Division: Mabaduan, Brass 6485; common on old grass-grown garden lands, especially on wet soils.

Endemic.

The type of Panicum papuanum has not been examined but Brass 6485 agrees well with the inadequate description. The type cited is “Insel Waighiou (Lesson).” According to Lasègue (Mus. Bot. Delessert, p. 77. 1845) Lesson visited Waigiou, one of the Papuan islands, in September 1825. This is undoubtedly the island Waig-eoe off the northwest corner of New Guinea.

A Papuan species not represented in the Brass collection is the following:

Panicum cruciabile Chase, nom. nov.


"Hewessee, Pasdun Korle, Aug. 1865 (C.P. [Ceylon Plants] 3890 in Herb. Perad.)."

A specimen of “3890 Thwaites C P” with the name in Thwaites’ script is in the U. S. National Herbarium. Hooker (Fl. Brit. Ind. 7: 48. 1896.) refers Panicum reticulatum Thwaites “(non Griseb.)” to P. caesium Nees (Hook. Kew Jour. 2: 97. 1850) and is followed by Trimen (Handb. Fl. Ceylon 5: 151. 1900), but P. caesium Nees in 1850 (based on Cuming 652 from the Philippines, but scarcely described) is invalidated by P. caesium Nees in Hook. & Arn. Bot. Beechey Voy. 235. 1836 (an ally of Echinochloa crusgalli [L.] Beauv.)
Merrill (Enum. Philippine Fl. Pl. 1: 69, 1925) refers Panicum caesium Nees 1850 to Panicum tuberculatum Presl; but examination of Presl’s type, collected by Haenke and said to come from Luzon, shows it to be the same as Panicum Mertensii Roth (P. megistion Schult.) of the American tropics. Many of Haenke’s localities have been found to be erroneous; this collection doubtless came from Central America or Mexico. Alston (Suppl. to Trimen, Handb. Fl. Ceylon 312, 1931) refers Panicum caesium Nees 1850, not 1836, to P. luzonense Presl. It may be that Cuming 652 does belong to P. luzonense, which has been confused in herbaria with the species described as P. reticulatum Thwaites. The latter is a very coarse plant, 1 m. tall or more, with strongly tuberculate-hispid sheaths and panicles 30 to 50 cm. long, the long subsimple branches commonly curving at maturity, the spikelets turgid, 2.5 mm. long, the purple glumes and sterile lemma subacute, reticulate.

The name proposed above refers to the coarse irritating hairs on the sheaths, which readily break off and irritate the skin. The grass is found in Ceylon, Burma, the Philippines, and New Guinea, whence there are two collections: Strickland River, W. Bauerlen 61 in 1885 (from National Herbarium of Victoria, Melbourne, Australia), and “Ambasi, Papua,” Copeland King 1012.

Because this has been confused with other species the following specimens of P. cruciabile are also cited:

- Ceylon: Thwaites C P 3890 (type collection in several herbaria).
- Burma: McKerral A18.
- Philippines: Bureau of Science 8122, 23084, 43968; Loher 1716; Merrill 123, 1469, 4229, 6707.

**Panicum viale** Chase, sp. nov.

Perennial; culms tufted, erect or ascending, 90–100 cm. tall, sparingly branching, tuberculate-hispid; nodes and sheaths tuberculate-hispid like the culms, the sheaths much shorter than the internodes; ligule a ring of stiff hairs scarcely 1 mm. long; blades flat, rather stiff, 9–20 cm. long, 2–4 mm. wide (blades of the basal shoots shorter and narrower), strongly tuberculate-hispid; panicles short-exserted, 20–32 cm. long, with numerous slender spreading compound branches, as much as 12 cm. long, the axis and branches slightly flexuous, but rather stiff, angled, scabrous, spikelet-bearing toward the ends, the pedicels about as long as the spikelets or somewhat longer; spikelets 2 mm. long, 0.8 mm. wide, plump,
abruptly short-pointed, glabrous; first glume half as long as the spikelet, clasping, abruptly pointed, 5-nerved, the nerves obscurely anastomosing; second glume and sterile lemma 7-nerved, acute, but the tips usually inrolled forming sharp points, equal, or the lemma slightly shorter; fruit 1.5 mm. long, 0.8 mm. wide, smooth and shining, at maturity olive-brown, the 5 nerves of the lemma showing as pale stripes.

Type: Brass 3631, collected April 11, 1933, fairly common on roadsides, Rona, Laloki River, Central Division. (Previously referred to Panicum tuberculatum Presl.)

This species, known only from this collection, resembles Panicum cruciabile Chase in its harsh tuberculate pubescence, but is a much more slender plant with much narrower blades, smaller panicles, and smaller spikelets.


Middle Fly River: Lake Daviumbu, Brass 7957; large entangling grass in old village clearing.

India, southern China, and East Indies to the Philippines and New Guinea.

Panicum sarmentosum Roxb., described from Sumatra, has a larger much more open panicle than has P. incomtum, the panicle branches not viscid. It is far less common and less widely distributed than P. incomtum.

Panicum nodosum Kunth, Rév. Gram. 1: Suppl. IX. 1830.


Western Division: Daru Island, Brass 6260; abundant, covering the ground under shade of rain forest margins.

India to Indo-China, Sumatra, Java, Borneo, Philippines, and New Guinea.

This specimen agrees with the original description of P. Arnottianum Nees, having sparsely pilose blades and simple panicle branches with pubescent spikelets on short branchlets. Panicum nodosum, based on
P. multinode Presl, has an open panicle, the glabrous spikelets less clustered. The numerous intermediate specimens and the common geographic distribution of the two forms indicate a variable species. For a further discussion of the application of the accepted binomial see Merrill, Bull. Torr. Bot. Club 60: 637. 1933.


*Entolasia marginata* (R. Br.) Hughes, Kew Bull. 1923: 331. 1923.

Western Division: Tarara, Wassi Kussa River, Brass 8654; river bank, dry scrub.

Australia.

**Cleistochloa subjuncea** C. E. Hubb. in Hook. Ic. Pl. 33: pl. 3209. 1933.


Western Division: Tarara, Wassi Kussa River, Brass 8735; on raw clay soils.

Australia.

**Hymenachne amplexicaulis** (Rudge) Nees, Agrost. Bras. 276. 1829.


Middle Fly River: Lake Daviumbu, Brass 7613; sporadic in stands of *Oryza* and *Leersia* in swamp margins; culms ascending, 1.5 to 2 m. long.

American tropics, India and Ceylon to Indo-China, Formosa, Java, Borneo and New Guinea.

The names *Panicum myuros* Lam. and *Hymenachne myuros* Beauv. have been commonly misapplied to this species.

**Isachne globosa** (Thunb.) Kuntze, Rev. Gen. Pl. 2: 778. 1891.


Middle Fly River: Lake Daviumbu, Brass 7602; plentiful on shores of lake; culms purple.

China to Philippines and East Indies to New Guinea and Australia.

**Echinochloa stagnina** (Retz.) Beauv. Agrost. 53, 161, 171. 1812.


Fly River: About 30 miles below Everill Junction, Brass 6585; forms pure stands along river banks in water more than 6 feet deep.

India and East Indies to Philippines and New Guinea; also tropical Africa.
Pseudoraphis squarrosa (L.) Chase, comb. nov.

Chamaeraphis aspera Nees in Wall. List no. 8679. 1849. Based on Panicum asperum Koen.

Middle Fly River: Lake Daviumbu, Brass 7600; slender floating aquatic, rooting in shallows of swamps, culms often 3 to 4 m. long. Western Division: Penzara, between Morehead and Wassi Kussa Rivers, Brass 8470; in shallows of permanent waterhole.

India to Borneo, the Philippines and New Guinea.

Cenchrus Brownii Roem. & Schult. Syst. Veg. 2: 258. 1817.

Cenchrus viridis Spreng. Syst. Veg. 1: 301. 1825.

Western Division: Daru Island, Brass 6395; plantation weed, not plentiful.
Indo-China and the East Indies to the Philippines, New Guinea and Australia, early introduced in tropical America.

Dimeria falcata Hack. in DC. Monogr. Phan. 6: 85. 1889.

Middle Fly River: Lake Daviumbu, Brass 7806; gregarious on the wetter savannas.
South China, Indo-China and New Guinea.


Fly River: About 20 miles below Everill Junction, Brass 6582; in pure stands, 3 to 5 m. tall, occupying many miles of the swampy banks of the middle river. [Inflorescence affected by a smut.]

Warm temperate Asia and East Indies to the Philippines and New Guinea.

Ischaemum arundinaceum F. Muell. in Benth. Fl. Austral. 7: 519. 1878.

Middle Fly River: Lake Daviumbu, Brass 7900; dominant, often only grass over large areas of low savanna and wet plain, coarse matted growth 1 to 1.5 m. high. Lower Fly River (east bank): Gaima, Brass 8259; common in savanna forests. Western Division: Tarara, Wassi Kussa River, Brass 8751; savanna forest, not common. Australia.
Ischaemum aristatum L. subsp. barbatum Hack. in DC. Monogr. Phan. 6: 204. 1889.


Western Division: Daru Island, Brass 6253; frequent in tall grass cover of savanna forests.

India, Indo-China, Java and New Guinea.

In this specimen the nodules on the first glume of the perfect spikelets are obsolete or nearly so.


Lower Fly River (east bank): Gaima, Brass 8260; occasional in savanna forest grass cover; culms often reclining, to 1.5 m. long.

Philippines.


Ischaemum truncatiglumis F. Muell. in Benth. Fl. Austral. 7: 518. 1878.

Western Division: Tarara, Wassi Kussa River, Brass 8537, 8665; savanna forest, occasional on stream banks.

Australia.

Eremochloa bimaculata Hack. in DC. Monogr. Phan. 6: 265. 1889.

Western Division: Wuroi, Oriomo River, Brass 5743 (previously referred to Eremochloa ciliaris [L.] Merr.); rare on gray-soil savanna ridges, alt. 10-30 m. Tarara, Wassi Kussa River, Brass 8408; savanna forests, common.

India.

Rottboellia exaltata L.f. Suppl. 114. 1781.


Western Division: Daru Island, Brass 6296; plentiful, forming dense brakes on wet garden land behind mangroves; culms erect, to 2 m. tall; hairs on foliage irritating to the skin.

Tropics of both hemispheres.


Western Division: Mabaduan, Brass 6554; occasional under the dominant Themeda triandra Forsk., in savanna forests. Wuroi, Oriomo River,
alt. 30 m., Brass 6014; uncommon, on gray-soil savanna ridge. (Previously referred to *Ophiurus pubescens* [Benth.] Domin.)

Australia.

*Thaumastochloa* C. E. Hubb., with *Ophiurus pubescens* as type, was published (Hook. *Ic. Pl.* 34: pl. 3313–3314. 1936) after Part I of The Papuan Grasses appeared. A specimen of *Thaumastochloa pubescens* (Benth.) C. E. Hubb. was later received by the U. S. National Herbarium. The raceme in that is longer, with 4–9 spikelets, the first glumes strongly rugose. This species has not been found in New Guinea. In *T. rariflora* the raceme is reduced to 1 or 2 spikelets, the glumes smooth.


Middle Fly River: Lake Daviumbu, Brass 7933; occasional on sour savanna slopes.

Southern China and India and Indian Archipelago to Indo-China, Philippines and New Guinea.


Western Division: Daru Island, Brass 6404; growing about the wharf, apparently of recent introduction. Central Division: Port Moresby, 200 m. alt., Brass 8787; common on roadsides.

Australia.


Western Division: Penzara, between Morehead and Wassi Kussa River, Brass 8460; savanna-forests, on alluvial flats of creek. Tarara, Wassi Kussa River, Brass 8579; covering small tidal flats behind mangrove fringe.

Australia.

**Rhaphis aciculata** (Retz.) Desv. *Opusc.* 69. 1831.


Western Division: Daru Island, Brass 6426; troublesome weed on roadsides and town allotments.

India and southern China to the Philippines, New Guinea, Australia and Polynesia.


Western Division: Mabaduan, Brass 6538; locally dominant on drier soils of savanna forest, a few culms in the clumps to 2.5 m. tall.

Ceylon, Java, the Philippines, New Guinea and Australia.


Central Division: Port Moresby, 200 m. alt., Brass 8782; open savanna forest; dominant grass on stony hillsides; clumps 1.5–2 m. tall.

Australia.


Western Division: Mabaduan, Brass 6474; locally abundant on sandy soil in savanna forests.

Indian Archipelago to New Guinea and New Caledonia.

United States National Herbarium,
Washington, D. C.

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