

NOTES ON MALESIAN GRASSES V
NEW SPECIES AND COMBINATIONS IN PHEIDOCHLOA,
HYPARRHENIA, AND LEPTOCHLOA

J. F. VELDKAMP
Rijksherbarium, Leiden, Netherlands

PHEIDOCHLOA

Recent collections from New Guinea contained grasses which could only be referred to the genus *Pheidochloa* S. T. Blake (Proc. Roy. Soc. Queensl. 56, 1945, 20), a monotypic genus so far only known from North Australia and Queensland.

The genus seems closely related to *Eriachne* R. Br., but differs from it by the very unequal glumes, the subterete florets with a deep longitudinal furrow formed by the strongly involuted margins of the lemma, the slender and acute callus, and a cylindrical caryopsis.

The New Guinea specimens differed in several aspects from *Ph. gracilis* S. T. Blake and the description of a new species seems warranted. The differences are shown in the following key.

1. Plant branched from nearly every node, bearing axillary, subsessile to shortly peduncled inflorescences next to terminal long-peduncled ones. Lower glume 4—5½ mm long, upper glume 7—11 mm long. Lemmas 3½—5 mm long, awn 2—4 cm, 5—8 times as long as lemma. Palea 3—3½ mm long. Caryopsis 2—2½ mm long. *Australia* 1. *Ph. gracilis*
1. Plant branched, inflorescences long-peduncled and terminal only. Lower glume 2½—3½ mm long, upper glume 4½—6 mm long. Lemmas 2¼—3½ mm long, awn 2—2½ cm, 8—9 times as long as lemma. Palea 2—2¼ mm long. Caryopsis 1½ mm long. *New Guinea*. 2. *Ph. vulpioides*

***Pheidochloa vulpioides* Veldkamp, sp. nov.** — Type: *Ridsdale* NGF 33545 (L).

Differt a *Ph. gracili* S. T. Blake in spiculis minoribus, absentia inflorescentiarum subsessilium vel breve peduncularum insignium.

Small, caespitose, ± glabrous annuals, up to 40 cm high, branched from nearly every node. Culms wiry. Sheaths tight. Ligules up to 0.1 mm high, a row of cilia. Blades ½—6 cm by ¼ mm, setiform, involute, obtuse, smooth. Racemes or depauperate panicles loose, with few (up to 18) spikelets, terminal only, subsessile or shortly stalked axillary inflorescences absent. Peduncle up to 9 cm long, glabrous, smooth. Pedicels up to 5 mm long, sparsely pubescent. *Spikelets* biflorous; florets exclusively cleistogamous or chasmogamous, awned. Rachilla disarticulating below glumes and in between florets, minutely produced. *Glumes* acute, glabrous, rounded on the back, nerves 5—7, close together, leaving wide scarious margins, shortly distant by a small rachilla-node; lower glume oblong to lanceolate, 2¾—3¾ by c. 1 mm; upper glume lanceolate, 4½—6 by 1—1½ mm. *Lemmas* subequal, lanceolate, 2¼—3½ by ½—¾ mm, incl. a ½ mm long, slender, pungent, densely pilose callus; body fusiform, very faintly 5—7-nerved, appressed-ciliate in lower

	<i>H. praetermissa</i>	<i>H. filipendula</i>	<i>H. quarrei</i>	<i>H. griffithii</i>
Peduncles	$\frac{1}{2}$ — $\frac{3}{4}$ × spatheole	c. $\frac{1}{2}$ ×	more than 1 ×	$\frac{2}{3}$ to more than 1 ×
Racemes	deflexed after anthesis; 2—4-awned per pair; exerted from lower $\frac{1}{4}$ — $\frac{1}{3}$ of spatheole	not deflexed; 2—4-awned; exerted ± halfway	deflexed; 6—10-awned; terminally exerted	deflexed; 5—10-awned; terminally exerted
Upper raceme-pedical	2—4 mm long; pilose	$4\frac{1}{2}$ —8 mm; glabrous to puberulous	2— $3\frac{1}{2}$ mm; hirsute (to glabrous)	$3\frac{1}{2}$ —8 mm; glabrous
Homogamous spikelets	upper raceme usually with 1 pair	upper raceme with 2 pairs	upper raceme often with one pair	ditto
Sessile spikelets	$7\frac{1}{2}$ —8 mm long	$4\frac{1}{2}$ —7 mm	$4\frac{1}{2}$ — $5\frac{1}{2}$ mm	6—7 mm
Awn	$3\frac{1}{2}$ — $4\frac{1}{2}$ cm long	3—6 cm	$1\frac{1}{2}$ — $3\frac{3}{8}$ cm	4 — $6\frac{1}{2}$ cm
Awn-hairs	$\frac{1}{2}$ — $\frac{1}{3}$ mm long	$\frac{2}{3}$ — $1\frac{1}{4}$ mm	$\frac{1}{2}$ — $\frac{1}{3}$ mm	$\frac{2}{3}$ — $\frac{3}{4}$ mm
Pedicelled spikelets	7—9 mm long	5—8 mm	5—7 mm	6—8 mm

half and along the strongly involute margins, indurate in fruit, *awn* simple, curved, terminal, 2—2½ cm long, 8—9 times as long as lemma, purplish, scabrous. *Palea* slightly shorter than lemma, enclosed, acute, glabrous, hyaline. *Lodicules* 2, strap-shaped, obtuse, glabrous. *Anthers* two, in the cleistogamous florets $\frac{1}{7}$ — $\frac{1}{8}$ mm long (yellowish), usually entangled in style-branches and enclosed, or, in the chasmogamous florets, $\frac{2}{3}$ mm long, protruding, purplish (see note). *Caryopsis* cylindrical, c. 1½ mm long, adaxially deeply furrowed. Embryo minute, hilum basal, punctiform.

NEW GUINEA. Papua, Western Division: Weam, *Ridsdale* NGF 33545 (L, K); Mai Kussa R., *Henty & Katik* NGF 38788 (L).

Ecology: Savannahs and heaths, up to 30 m altitude.

Notes: As already pointed out by S. T. Blake (l.c.) the species of *Pheidochloa* are apparently usually cleistogamous. NGF 38788 (at least in L) is so far the only chasmogamous specimen seen.

Thanks are due to Mr. S. A. Renvoize who kindly checked the material of *Pheidochloa* present at Kew and to Mr. Ch. Monod de Froideville, Bergen (N.H.), Netherlands, for his valuable advise.

HYPARRHENIA

Clayton recently (1969) revised the genus *Hyparrhenia* Fourn. When working up the Malesian material represented at the Rijksherbarium, Leiden, two specimens from SW. Celebes of which one was cited could not be identified with this excellent, well-balanced monograph. A closer study showed many differences to be present with the species treated, some of which are shown in the table.

***Hyparrhenia* (Polydistachyophorum) *praetermissa* Veldkamp, sp. nov.** — *H. filipendula* (Hochst.) Stapf var. *pilosa* (Hochst.) Stapf: Clayton, Kew Bull., Add. Ser. 2 (1969) 98, *pro specim. celeb.* — Type: *Bünnemeijer* 11671 (L.).

Gramen perenne caespitosum. Pedunculi $\frac{1}{2}$ — $\frac{3}{4}$ plo breviores quam spatheola linearis, longe-pilosi in dimidio superiore, basibus pilorum haud tuberculatis. Racemi post anthesin deflexi, 2—4-aristati pro parte, exserti ex parte inferiore spatheolae. Pedicelli racemorum superiorum 2—4 mm longi, pilosi. Racemi superiores saepe uno pare spicularum homogamarum provisi. Spiculae sessiles 7½—8 mm longae, aristis 3½—4½ cm longis, columnae pilis $\frac{1}{2}$ — $\frac{1}{3}$ mm longis. Spiculae pedicellatae 7—9 mm longae, albae pilosae.

Tufted perennial, up to 160 cm high, from a short rhizome. Cataphylls apparently absent. Culms erect, simple, smooth, ± glabrous. Sheaths glabrous to sparsely pubescent, the basal densely so at the foot. Ligule 2—3 mm high, truncate to obtuse, fimbriate. Throat long white-pilose. Blades wiry, linear, up to 45 cm by 5 mm, gradually very acute, glabrous but for throat, smooth, upper surface with a conspicuous, $\frac{1}{2}$ —1 mm wide midrib. Spatheate panicle contracted, interrupted, up to 40 cm long. *Spatheoles* linear, 3½—4½ by 3—4 mm, involute, sparsely pilose, reddish. Peduncles filiform, 6—15 mm long, much shorter than spatheole, long white-pilose in upper half, hairs not distinctly bulbous-based. *Raceme-pedicels* slightly unequal, fused at base over c. 1½ mm, white-pilose, lower c. $\frac{1}{2}$ mm long, upper 2—4 mm long. Racemes c. 2 cm long, 2—4-awned per pair, white-pilose, laterally exserted in lower $\frac{1}{4}$ — $\frac{1}{2}$ of spatheole, finally deflexed. *Homogamous spikelets* in one pair, upper raceme with or without, 7½—8 mm long, ♂, acute. *Lower glume* of pedicelled one with an up to 1¼ mm long mucro. *Sessile spikelets* lanceolate, 7½—8 mm long; callus linear, 1¼—1½ mm long, pungent, white-pilose, dorsally with a deep slit, *awn* 3½—4½ cm long, column with $\frac{1}{3}$ — $\frac{1}{2}$ mm long hairs, anthers 1¼—2¼ mm long. *Pedicelled spikelets* 7—9 mm long, white-pilose, as the homogamous ones; *lower*

glume with 2—3½ mm long arista. Pedicel-tooth absent to caudately triangular to subulate, up to ⅔ mm long.

SW. CELEBES. WNW.-side of Mt Bonthain, *Bünnemeijer 11631* (BO, L!); Lombasang, *Bünnemeijer 11671* (BO, K, L!).

Ecology: Between 950 and 1400 m altitude.

Vernacular: *kaba djonga*.

Notes: According to Clayton (1969) *H. filipendula* var. *filipendula* occurs in Malasia. The number cited, *Monod de Froideville 1560*, and all others so far seen belong to var. *pilosa*.

Thanks are due to Dr. Clayton, Kew, for his valuable advise.

LEPTOCHLOA ¹⁾

In the revision of *Centotheca* Desv. (see preceding article by Monod de Froideville) the name *Poa malabarica* Linné had to be considered as it was at one time confused with *C. latifolia*. The situation was discussed by Merrill (1933), who equated the type with the common *Diplachne fusca* (Linné) Beauv. and because of the rule of priority changed the name to *Diplachne malabarica*.

Other authors, however, have felt that *Diplachne* and *Leptochloa* cannot be distinguished and in uniting the two have chosen for *Leptochloa* as the correct name. (Cf. Scribner, Proc. Ac. Nat. Sc. Philad. 1890, 1891, 303, and Hitchcock, e.g. Man. Grasses U.S., ed. 2, 1951, 491, 890). The following new combinations then become necessary:

Leptochloa malabarica (Linné) Veldkamp, *comb. nov.* — *Poa malabarica* Linné, Sp. Pl. 1 (1753) 69. — [*Tsiamapulu* Rheede, Hort. Mal. 12 (1703) 83, t. 45] — *Festuca fusca* Linné, Syst. Nat., ed. 10 (1759) 876; Sp. Pl., ed. 2 (1762) 109. — *Diplachne fusca* Beauv., Agrost. (1812) 80, 160; Bor, Grasses (1960) 492. — *Diplachne malabarica* Merr., Bull. Torrey Bot. Club 60 (1933) 633. — See Merrill and Bor for further synonymy.

Leptochloa tectoneticola (Backer) Jansen, *comb. nov.* — *Diplachne tectoneticola* Backer, Bull. Jard. Bot. Btzg, sér. 3, 2 (1920) 326.

Leptochloa malayana (C. E. Hubb.) Jansen, *comb. nov.* — *Diplachne malayana* C. E. Hubb., Kew Bull. (1934) 106.

¹⁾ Partly by the late Dr. Jansen.