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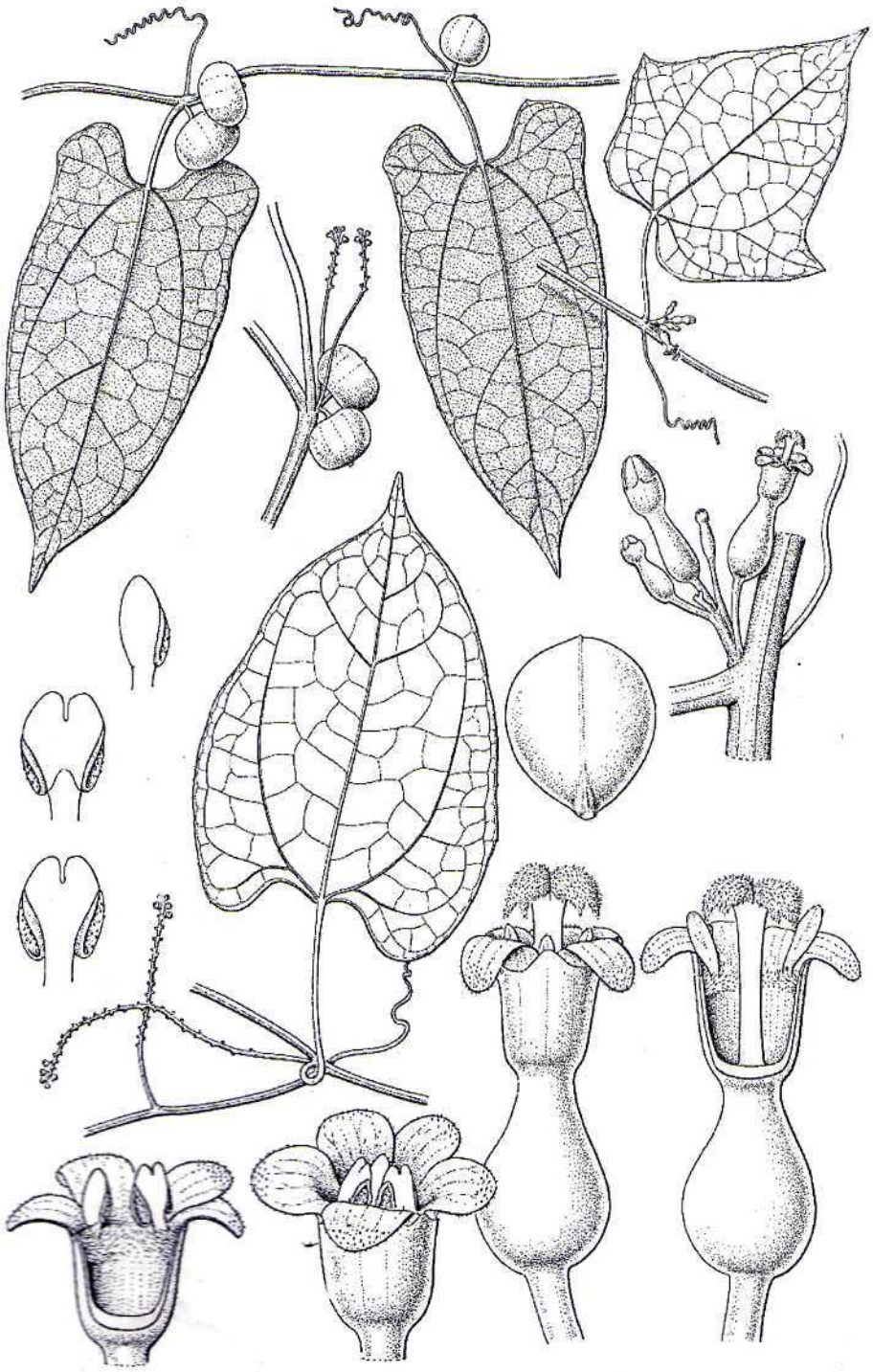

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MISCELLANEOUS NOTES ON MAINLY SOUTHEAST ASIAN *GRAMINEAE*

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ABSTRACT
VELDKAMP, J.F. 2004. Miscellaneous notes on mainly Southeast Asian *Gramineae*. *Reinwardtia* 12(2): 135 — 140. — During the preparation of a revision of the herbaceous grasses of SE Asia a few nomenclatural and taxonomic novelties were detected. New combinations are proposed in *Aristida* L., *Kengia* Packer, *Rytidosperma* Steud., and *Urochloa* P. Beauv. *Aristida novaeguineae* Ohwi is re-instated as a distinct species. A key to the Malesian species of *Aristida* L. is provided. *Moorochloa* Veldk. replaces *Brachiaria* auct., s.s.

Key words: SE Asia, *Gramineae, Aristida, Brachiaria, Cleistogenes, Kengia, Moorochloa, Rytidosperma, Urochloa*.

ABSTRAK
VELDKAMP, J.F. 2004. Aneka catatan tentang *Gramineae,* terutama di Asia Tenggara. *Reinwardtia* 12(2): 135 — 140. — Telah ditemukan beberapa hal baru berkaitan dengan tata nama dan taksonomi rerumputan dari Asia Tenggara. Kombinasi baru diajukan untuk *Aristida* L., *Kengia* Packer, *Rytidosperma* Steud., dan *Urochloa* P. Beauv. *Aristida novaeguineae* Ohwi diposisikan ulang sebagai jenis tersendiri. Kunci identifikasi jenis-jenis *Aristida* di Malesia diungkapkan. *Moorochloa* Veldk. menggantikan *Brachiaria* auct. s.s.

Kata kunci: Asia Tenggara, *Gramineae, Aristida, Brachiaria, Cleistogenes, Kengia, Moorochloa, Rytidosperma, Urochloa*.

INTRODUCTION

During the ongoing study of the Gramineae for the Flora Malesiana, the editorship of the Newsletter Grass Literature, and specimens to identify passing my desk, some notes were collected, which are presented here. When I offered some remarks on *Aristida* L. (Veldkamp, 1992) a key and additional information on the curious distribution of some of its species in Malesia should have been given, an omission which is corrected here.

There has been an extensive discussion on the generic delimitation of *Brachiaria* (Trin.) Griseb. against *Urochloa* P. Beauv. which caused me to make a proposal (1996) to lectotypify the first in the way as it is still generally accepted, and thus retain this well-known name for at least a few species. However, the Nomenclatural Committee for Spermatophyta (Brummitt, 1998) refused it and suggested that a new name (actually a new genus) should be published, with which wish is complied here. A species formerly included in *Brachiaria* is transferred to *Urochloa.*

The delimitation of *Rytidosperma* Steud. is still in doubt, which necessitated a new combination.

A SYNOPSIS OF MALESIAN ARISTIDA

1. a. Column absent (Sect. *Aristida*)..…..…… 2
   b. Column present (very short in *A. novae-guineae*)……...…..… 5
2. a. Lemma 6.25—15 mm long, callus 0.5—1.5 mm long, lateral awns 9.5—35 mm long. — Lower glumes shorter than the upper ones…..……. 3
   b. Lemma 1.5—5.6 mm long, callus 0.1--0.4 mm long, lateral awns 0—9 mm long……. 4
3. a. Annuals. Blades 0.5—0.8 mm wide. Panicle axes scaberulous. Lower glume 4.75—5.8 mm long, mucro up to 0.5 mm long; upper glume 5.5—6.7 mm long, mucro up to 0.5 mm long. Lemma 6.25—7.5 mm long, callus c. 0.5 mm long, central awn 12--16.2 mm long, lateral awns 9.5—12.7 mm long. Anthers c. 1.5 mm long. — Savu, Sumba, Timor ……..…...... ……. *1. A. adscensionis*
   b. Perennials. Blades 1—3 mm wide. Panicle axes smooth. Lower glume 9—17 mm long, mucro 2—5 mm long; upper glume 11—20 mm long, mucro 2—5 mm long. Lemma 9—15 mm long, callus 0.75—1.5 mm long, central awn 20—42 mm long, lateral awns 20—35 mm long. Anthers 2—2.5 mm long. — S Thailand (Satun), expected in N Malaya …….. *11. A. setacea*

4. a. Perennials. Panicle few-spikeled, 20—30 by c. 5 cm. Lower glume 5.25—8.7 mm long, longer than the 4.75—6.4 mm long upper glume. Lemma 4—5.6 mm long, callus 0.3—0.4 mm long, central awn straight, lateral awns 4.25—9 mm long. Anthers 1.1—1.5 mm long. — Celebes, Mindanao……..…… *2. A. chinensis*
   b. Annuals. Panicle many-spikeled, 3—10 by 0.8—4 cm. Lower glume 1.4—2.5 mm long, shorter than the 2—3.5 mm long upper glume. Lemma 1.5—3 mm long, callus 0.1—0.2 mm long, central awn recurved, lateral awns 0(!)—4 mm long. Anthers 0.1—0.6 mm long. — Celebes, Luzon, Mindanao, New Guinea (Irian Jaya: Kebar, Baliem, Swart Valley; Papua New Guinea: W Highlands, Morobe Prov.)…… …… *4. A. cumingiana*
5. a. Lemma column articulated at base. — Basal internodes glabrous. Blades not coiled, 6—25 cm long. Panicle contracted, few-spikeled, 0.8—1 cm wide. Lower glumes 7.5—22 mm long. Lemma margins overlapping, callus 1—2 mm long, column 15—38 mm long, lateral awns well-developed, 24—70 mm long. Anthers 0.75—3 mm long. (Sect. *Arthratherum*)..… 6
   b. Lemma column not articulated at base. — Panicle axes glabrous. Glume apex acuminate to mucronate. Lemma 5.7—11 mm long….. 8
6. a. Panicle axes glabrous. Glumes apex acuminate to mucronate; lower glumes 7.5—14 mm long, shorter than the upper ones. Lemma 8—10 mm long. Anthers 1.5—3 mm long. — Luzon, Buru, New Guinea ……..…...…...…..….. 7
   b. Panicle axes sparsely pilose. Glumes acute; lower glumes 13.5—22 mm long, longer than the upper ones. Lemma 4.5—6 mm long. Anthers c. 0.75 mm long. Culms 0.15—0.4 m long. Central awn straight, 50—70 mm long. — Sumba……..…….…… *10. A. polyclados*
7. a. Culms 0.15—0.4 m long. Glumes mucronate. Central awn straight, 55—72 mm long. Anthers c. 1.5 mm long. Lower glumes 9—14 mm long. — Luzon…..... *5. A. holathera var. holathera*
   b. Culms 0.6 — 1 m long. Glumes gradually acuminate. Central awn recurved, 30 — 50 mm long. Anthers c. 3 mm long. Lower glumes 7.5—10 mm long. — Buru, New Guinea (W Prov.) …….…… *12. A. superpendens*
8. a. Basal internodes glabrous. Blades not coiled. Lower glumes shorter than the upper ones. Lemma margins overlapping, lateral awns well-developed, 8—26 mm long. (Sect. *Macrocladae*)……..……. 9
   b. Basal internodes appressed pilose. Blades becoming coiled with age. Lower glumes longer than the upper glumes. Lemma margins involute, forming a longitudinal furrow, lateral awns much reduced, 0—4 mm long. Culms 0.6—1 m long. Blades 7—21.5 cm long. Panicle loosely contracted, few- spikeled, 15—28 by 1—1.5 cm. Lower glume 6.25—10 mm long. Callus c. 0.5 mm long, column 4—6.25 mm long, central awn straight. Anthers c. 1 mm long. — New Guinea (C Prov.) (Sect. *Streptachne*)…….…… *13. A. utilis var. utilis*
9. a. Lemma column 3.5—21 mm long……..…. 10
   b. Lemma column 0.5—3 mm long. Culms 0.4–0.7 m long. Blades 5.5—15 cm long. Panicle few-spikeled. Lower glume 5—8.2 mm long; upper glume 7—11 mm long. Central awn patent to recurved, 22—30 mm long, lateral awns 8.7–22 mm long. Anthers c. 1.5 mm long. – New Guinea (Manokwari, C Prov.) ..... *8. A. novaeguineae*
10. a. Panicle loosely contracted to lax, 10—60 by 2—8 cm…….……..… 11
   b. Panicle contracted, 4–9 by c. 1 cm. Culms 0.35–0.4 m long. Blades 9–17 cm long. Panicle few-spikeled. Lower glume 5.75–10 mm long; upper glume 8.75—13 mm long. Callus 1.25—1.5 mm long, column 7.5–8.5 mm long, central awn strongly recurved, 17–18 mm long, lateral awns 9–14 mm long. – New Guinea (Milne Bay) ..... *14. A. warburgii*
11. a. Blades 7–80 cm long. Panicle 15–60 cm long. Lateral awns 8–27 mm long……..… 12
   b. Blades 7—12.5 cm long. Panicle 10—13 cm long. Lateral awns 28--30 mm long. Culms 0.25—0.45 m long. Panicle few-spikeled. Lower glume 6—7 mm long; upper glume 10—12 mm long. Callus 1—1.5 mm long, column 5.5—8 mm long, central awn straight, c. 30 mm long. Anthers c. 1.25 mm long. — New Guinea (W Prov.) ..... *9. A. papuana*
12. a. Callus 0.5—0.75 mm long, column 3.5—8 mm long, central awn straight. Anthers 2—4 mm long……..…….....……..…….... 13
   b. Callus 1—1.5 mm long, column 12—21 mm long, central awn recurved. Anthers 1.25—1.5 mm long. Culms 0.5—1.2 m tall. Blades 15—30 cm long. Panicle few-spikeled. Lower glume 6—9 mm long; upper glume 11—15 mm long. Central awn 25—32 mm long, lateral awns 15—27 mm long. —New Guinea (Merauke W Prov.)..…….... *7. A. meraukensis*
13. a. Culms 1—1.75 m tall. Blades 35—80 cm long. Panicle many-spikeled, 30—60 cm long. Lower glume 7.5—12 mm long; upper glume 9—13 mm long. Central awn 22—33 mm long, lateral awns 20--26 mm long. Anthers c. 4 mm long. — Malaya (Perlis), Philippines (Busuanga, Culion)…….……. *3. A. culionensis*
   b. Culms 0.35—1 m tall. Blades 7–21 cm long. Panicle few-spikeled, 13–24 cm long. Lower glume 2.8—5.7 mm long; upper glume 5.5–8.8 mm long. Central awn 8—18.5 mm long, lateral awns 8—15 mm long. Anthers 1.5–2 mm long. — New Guinea ..... *6. A. macroclada* var. *queenslandica*

The species of *Aristida spp.* in Malesia often have curious, unexplainable distributions, which are enumerated below.

1. ARISTIDA ADSCENSIONIS L.

DISTRIBUTION. (Sub)tropics in the New and Old World, not in Australia; nearest in Asia: SW Thailand (Kanchanaburi); Malesia: Lesser Sunda Islands (Sawu, Sumba, Timor). In view of the disjunct distribution most likely introduced, but compare a similar one for *Acrachne racemosa* (Heyne ex Roem. & Schult.) Ohwi, *Desmostachya bipinnata* (L.) Stapf, and *Elytrophorus spicatus* (Willd.) A. Camus.

2. ARISTIDA CHINENSIS Munro

DISTRIBUTION. Thailand to S China (Guangdong, Hong Kong), Taiwan. Malesia: Celebes (Palu), Philippines (Mindanao: Cotabato).

3. ARISTIDA CULIONENSIS Pilg.

DISTRIBUTION. S Thailand (Phuket, Satun, Songkla) to S Vietnam. Malesia: Malaya (Perlis), Philippines (Busuanga, Culion). Note the disjunction here.

4. ARISTIDA CUMINGIANA Trin. & Rupr.

DISTRIBUTION. Tropical Africa to China (Jiangsu) (not in Pakistan) and N Australia (Queensland). Malesia: Celebes (Central, Towuti Lake), Philippines (Busuanga; Culion I.; Luzon: Benguet, Bontoc, Ilocos Norte, Lepanto, Nueva Ecija, Nueva Vizcaya, Rizal, Zambales; Mindanao: Bukidnon), New Guinea (Irian Jaya: Kebar, Baliem, Swart Valley; Papua New Guinea: W Highlands, Morobe Prov.).

NOTE. Occasionally the lateral awns are lacking, e.g. in the Philippines in *BS 41306 (Ramos*) (P, SING; 3-awned in BRI) from Culion I., *BS 26092 (Fénix)* (BRI, L, MO, SING, US) from Tanculan, Mindanao, and *Co s.n.* (L) with unknown provenance. A collection by the indefatigable J.F. Maxwell (CMU) was made Central - Thailand (*Maxwell 01-397*, CMU, L, from Nakorn Nayok Prov.) as well.

Such forms with longer glumes and simple awns have been distinguished in Africa as *A. diminuta* (Mez) C.E. Hubb. Its occurrence in Thailand and the Philippines suggests that it cannot be upheld at any rank (Veldkamp, 1992: 227).

5. ARISTIDA HOLATHERA Domin VAR. HOLATHERA

DISTRIBUTION. Australia (W Australia to Queensland), Malesia: Philippines, Luzon (Bataan, Ilocos Norte, Ilocos Sur, La Union, Pampanga, Zambales).

6. Aristida macroclada Henrard var. **queenslandica** (B.K. Simon) Veldk., *stat. nov.*

Aristida macroclada Henrard subsp. q*ueenslandica* B.K. Simon, Austrobaileya II (1984): 95, t. 3b. — Type: *S.T. Blake 21741* (BRI, *sh. 65923*; CANB, MEL, NSW).

DISTRIBUTION. Australia (NE Queensland), Malesia: New Guinea (Irian Jaya: Merauke; Papua New Guinea: W Prov.).

NOTES. Simon (1984, 1992) regarded this taxon as distinct from the typical one because of its well-developed column (5—8 mm long i.s.) with several spirals, against a short column (1—2 mm long i.s.) with half to one spiral in the latter, and a subspecies because these taxa appear to be allopatric.

Indeed the length of the column is distinctive, and the only difference found in this survey.

The typical variety has been found in the Northern Territory and NW Queensland; the citation for New Guinea refers to *A. novae-guineae* (see below). The var. *queenslandica* occurs in Australia in NE Queensland and in New Guinea in the adjacent areas of Merauke and the Western Province.

However, to regard allopatry as an argument to confer automatically the status of subspecies is an *a priori* reasoning often applied, but inapplicable to taxonomy. The difference in the length of the column could well be due to a single mutation, in which case at most the rank of forma should be given. Populations ought to be checked whether the forms do not occur together. The apparent allopatry both in Australia and New Guinea may also be due to the fact that in Malesia all species of *Aristida* tend to be rare and widely scattered, as will be evident from the present account, while the areas where *A. macroclada* s.l. has been found in Australia are badly under-explored.

7. ARISTIDA MERAUKENSIS Henrard

DISTRIBUTION. New Guinea: Irian Jaya (Merauke), Papua New Guinea (W Prov.: Arufi, Mabaduan, Morehead Patrol Post, Sabi).

8. ARISTIDA NOVAEGUINEAE Ohwi

DISTRIBUTION. New Guinea: Irian Jaya (Manokwari), Papua New Guinea (C Prov., Sogeri Plateau).

NOTE. Blake (1969: 3) and subsequent authors have reduced this to *A. macroclada* Henrard from N Australia, but specimens of that seen differ by:

1 a. Blades 15—28.5 cm by 2—3 mm. Lower glumes 3—4.5 mm long. Awns subequal, central awn straight, 8.5—17 mm long ..... *A. macroclada*
b. Blades 5.5—15 cm by 0.5—1.5 mm. Lower glumes 5—8.2 mm long. Awns unequal, central awn patent to recurved, 22—30 mm long ..... *A. novaeguineae*

Therefore *A. novaeguineae* is re-instated as a species.

9. ARISTIDA PAPUANA Veldk.

DISTRIBUTION. Papua New Guinea, W Prov. (Morehead).

10. ARISTIDA POLYCLADOS Domin

DISTRIBUTION. Australia (W Australia to Queensland). Malesia: Sumba (Kendara, Payeti, Waingapu).

11. ARISTIDA SETACEA Retz.

DISTRIBUTION. Mascarenes, Réunion, Rodriguez, India, Sri Lanka, Burma, Thailand (Satun). May be expected in N Peninsular Malaysia.

12. ARISTIDA SUPERPENDENS Domin

DISTRIBUTION. Australia (N Territory, Queensland). Malesia: Buru (Namlea), Papua New Guinea, Western Prov. (Weam). Note the disjunct distribution in Malesia.

13. ARISTIDA UTILIS F.M. Bailey VAR. UTILIS

DISTRIBUTION. Australia (Northern Territory, Queensland). Malesia: Papua New Guinea (N of Port Moresby, Central Prov.).

14. ARISTIDA WARBURGII Mez

DISTRIBUTION. Australia (Queensland, New South Wales), Malesia: Papua New Guinea, Milne Bay Prov. (Sudest, Rossel Isl.). This is a curious disjunction and the species can therefore be expected on the South side of Papua New Guinea as well.

Kengia nedoluzhkoi (Tzvelev) Veldk., *comb. nov.*

Cleistogenes nedoluzhkoi Tzvelev, Bot. Zur. (Moscow & Leningrad) LXXXVII (7) (2002): 115. — Type: *Tzvelev N. 224* (LE, holo).

DISTRIBUTION — Russia, Primorskje Prov., Partizanskaja River.

NOTE. The generic name *Cleistogenes* Keng is invalid under Art. 20.2 ('technical term') and has been replaced by *Kengia* Packer.

Moorochloa Veldk., *gen. nov.* for Brachiaria Auct.

As I have discussed elsewhere (Veldkamp, 1996) the genus *Brachiaria* (Trin.) Griseb. is to be nearly completely reduced to *Urochloa* P. Beauv. This idea originated with T.-Q. Nguyen (1966), was extended by Webster (1987, 1988, 1992), extensively argued by Morrone & Zuloaga (1992, 1993), and followed by subsequent authors, e.g. Terrell & Reveal (1996).

The remnant consists of 3 closely related species. The most wide-spread one is *B. eruciformis* (Sm.) Griseb. (incl. *Panicum isachne* Roth, *P. caucasicum* Trin.), which occurs from S Africa to the Mediterranean, S Russia, and through the Near East to E India, and is introduced widely elsewhere, e.g. in Malesia: Java (Surakarta, Semarang, Pasuruan), Madura, Papua New Guinea (Central Prov.).

Brachiaria malacodes (Mez & K. Schum.) H. Scholz occurs in Namibia to Angola, and *B. schoenfelderi* C.E. Hubb. & Schweick. has been found in Namibia and Zimbabwe.

The most widely distributed species, *B. eruciformis*, generally is cited as the type of *Brachiaria* (Trin.) Griseb. However, it was not included under any name in Trinius' original (1826) concept of the generic basionym *Panicum* L. sect. *Brachiaria* Trin., and so cannot be its type.

It has been generally overlooked that Pfeiffer (1872—1873: 453) lectotypified *Brachiaria* with the Australian *Panicum holosericeum* R. Br. (by error as 'R. & S.'). This was one of the species that was included by Trinius, and now belongs to

Urochloa. Hereby the well-known name *Brachiaria* has become a synonym of the latter.

Because of stability in nomenclature it would have been preferable to maintain the name *Brachiaria* for at least this small group. This could have been achieved easily by appointing *B. eruciformis* as the conserved type and so legalizing the traditional use.

However, this proposal was rejected by the Nomenclatural Committee for Spermatophyta (Brummitt, 1998) with the suggestion that a new name (actually a new genus) should be published. With great reluctance and after long hesitation I have finally followed this advice, and hereby dedicate this 'new' genus to that august body.

Moorochloa ab *Urochloa* in spiculis supra glumas disarticulatis, callo inconspicuo, lemmate superiore chartaceo ad cartilagineo lucido laevi mutico differt. — Type: *Moorochloa eruciformis* (Sm.) Veldk.

1. a. Spikelets disarticulating above the glumes, callus inconspicuous. Upper lemma chartaceous to cartilaginous, shiny, smooth, muticous ..... *Moorochloa*
   b. Spikelet disarticulating below the glumes, callus distinct. Upper lemma indurated, dull, coarsely to finely transversely rugose, apiculate to mucronate ..... *Urochloa*

1. Moorochloa eruciformis (Sm.) Veldk., *comb. nov.*

Panicum eruciforme Sm. in Sibth. & Sm., Flora Graeca I (1808): 44, t. 59. — *Brachiaria eruciformis* Griseb. in Ledeb., Fl. Ross. IV (1853): 469 ('*erucaeformis*'). — *Panicum cruciforme* Sibth. ex Roem. & Schult., Syst. Veg. II (1817): 426 (sphalm.). — *Echinochloa eruciformis* Rchb., Fl. Germ. Excurs. III (1833): 45. — *Milium alternans* Bubani in Willk. & Lange, Nuov. Giorn. Bot. Ital. V (1873): 317, nom. superfl. — Type: *Sibthorp s.n.* (OXF, holo, L, photocopy, LP, photo).

2. Moorochloa malacodes (Mez & K. Schum.) Veldk., *comb. nov.*

Panicum malacodes Mez & K. Schum. in Mez, Notizbl. Bot. Gart. Berlin-Dahlem VII (1917): 70. — *Brachiaria malacodes* H. Scholz, Willdenowia VIII (1978): 384. — Type: *Antunes 202* (B, holo).

3. Moorochloa schoenfelderi (C.E. Hubb. & Schweick.) Veldk., *comb. nov.*

Brachiaria schoenfelderi C.E. Hubb. & Schweick. in Schweick. & C.E. Hubb., Bull. Misc. Inform. (1936): 323. — Type: *Schoenfelder 584* (PRE, holo).

I take the opportunity to transfer a SE Asian species to *Urochloa*:

A NEW COMBINATION IN UROCHLOA

Urochloa burmanica (Bor) Veldk., *comb. nov.*

Brachiaria burmanica Bor, Kew Bull. (V) (1950) :232. — Type: *U Thein Lwin 526* (K, holo).

DISTRIBUTION. Myanmar, Yangon (Rangoon) Distr., Pyay [Prome, subdiv. of Bago (Pegu) Distr.].

Rytidosperma bonthainicum (Jansen) Veldk., *comb. nov.*

Danthonia pilosa R. Br. var. *bonthainica* Jansen, Reinwardtia II (1953): 258. — *Notodanthonia penicillata* (Labill.) P. Beauv. subsp. *bonthainica* Veldk., Taxon XXIX (1980): 298. — *Danthonia bonthainica* Veldk., Blumea XXXVIII (1993): 217. — *Notodanthonia bonthainica* H.P. Linder, Telopea VI (1996): 615. — *Austrodanthonia bonthainica* H.P. Linder, Telopea VII (1997): 270. — Type: *Bünnemeijer 11971* (BO, holo; L).

DISTRIBUTION. Celebes (Bonthain).

HABITAT. In subalpine coppices, disturbed places, 2500—2890 m alt.

NOTE. Ms. M. Gies (in litt., June 14, 1992) reported the presence of axillary cleistogamous spikelets in *Bünnemeijer 12260* (L, SING). I have seen the sheets, but not such spikelets.

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Taxonomic keys should be prepared using the aligned-couplet type.

Strict adherence to the *International Code of Botanical Nomenclature* is observed, so that taxonomic and nomenclatural novelties should be clearly shown, Latin description for new taxon proposed should be provided, and the herbaria where type specimens are deposited should be indicated. Synonyms should be presented in the long form [name of taxon, author's name, year of publication, abbreviated journal or book title, volume (number): [page].

Maps, line drawing illustrations or photographs preferably should be prepared in landscape presentation to occupy two columns. Illustrations must be submitted as original art accompanying, but separate from, the manuscripts. On electronic copy, the illustrations should be saved in jpg or .gif format. Legends for illustrations must be submitted separately at the end of the manuscript.

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