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HERBARIUM BOGORIENSE, BOTANY DIVISION,

RESEARCH CENTER FOR BIOLOGY-LIPI,

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E-mail: reinwardtia@mail.lipi.go.id

KOORDERSIOCHLOA MERR. (GRAMINEAE), THE CORRECT NAME FOR STREBLOCHAETE HOCHST EX PILG.

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JAN FRITS VELDKAMP

Netherlands Centre for Biodiversity, Naturalis (section NHN), Leiden University, PO Box 9514, 2300 RA Leiden, The Netherlands. E-mail: veldkamp@nhn.leidenuniv.nl

ABSTRACT

VELDKAMP, J. F. 2012. *Koordersiochloa* Merr. (Gramineae), the correct name for *Streblochaete* Hochst. ex Pilg. *Reinwardtia* 13 (3): 299-304. — *Streblochaete* Hochst. ex Pilg. (Gramineae) was not validly published in 1906, but in 1927. *Koordersiochloa* Merr. (1917) is therefore the correct name. Two new combinations are made.

Key words: Africa, Gramineae, India, *Koordersiochloa*, Malesia, Meliceae, combination, *Streblochaete*.

ABSTRAK

VELDKAMP, J. F. 2012. *Koordersiochloa* Merr. (Gramineae), nama yang benar untuk *Streblochaete* Hochst. ex Pilg. *Reinwardtia* 13 (3): 299-304 — *Streblochaete* Hochst. ex Pilg. (Gramineae) tidak di terbitkan secara syah tahun 1906, tetapi baru pada tahun 1927. Maka *Koordersiochloa* Merr. (1927) adalah nama yang benar. Tulisan ini mengetengahkan dua kombinasi baru.

Kata kunci: Afrika, Gramineae, India, *Koordersiochloa*, Malesia, Meliceae, kombinasi, *Streblochaete*.

INTRODUCTION

Streblochaete Hochst. ex Pilg. (Gramineae) is a very curious genus in mountainous areas of the palaeotropics, currently with two species. Curious because of its distribution: one species in Africa [Cameroon, Ethiopia, Kenya, Malawi, Tanzania, Uganda, S Africa (Natal), and Zimbabwe], Réunion, and then "suddenly" in Malesia (E Java, Lombok, Luzon). Recently a second species was described from the Nilgiris, Tamil Nadu, S India, *S. sanjappae* (Kabeer & Nair, 2006). With such a disjunction it is no wonder that three generic names have been published for it: *Koordersiochloa* Merr. (Malesia), *Pseudostreptogyne* A Camus (Réunion), and *Streblochaete* Hochst. ex Pilg. (Africa).

Curious also because of the diaspore that consists of gyros copically intertwining awns whereby the spikelets fall as a single unit, a so-call tangle-head, that adheres to fur or may be distributed by the wind. Chippendall (1955) commented that the awns and the sharp, bearded calli cause intense discomfort and irritation.

The name *Streblochaete* first appeared on the labels of exsiccatae collected by Schimper in Ethiopia in 1840 and 1842 and distributed by Hochstetter. The first collection was labeled as *S. koestlinii* (Hochstetter 412; L!) (Hochstetter, 1841) and the later one as *S. nutans* (Hochstetter II, 683; L!).

There are no descriptive notes on the labels. The first one was described by Richard (1851) as *Danthonia koestlinii* ("kostlini) with *Streblochaete kostlini* in the synonymy, the second collection as *Trisetum longiaristum*, with *Streblochaete nutans* as a synonym. Richard did not realize that the *Bromus trichopodus* A Rich, he described simultaneously was the same species.

The validation of the generic name is generally attributed to Pilger (1906). He wrote (my translation from the German): "With reason Stapf in his identification of the Gramineae in the Flora capensis has distinguished several genera from the real *Danthonias*... Several real *Danthonias* occur in Abyssinia, however, 2 forms have here been united with the genus to which they do not belong... To be excluded is the form which has been distributed by Hochstetter as *Streblochaete nutans*, which however Richard already mentions under *Danthonia*. Here the glumes are much shorter than the spikelets, narrow, the lower 3-nerved, the upper 5-nerved; the callus of the lemma is 2 mm long, shortly stiffly white hairy, distinct from the equally long lower part of the rachilla joint, the lemma is narrow, strongly 7-nerved, and which that is by itself definitive, [his emphasis] from the back awned from below both short points; the awn is very long, becoming upwards very weak, enmeshed with the awns of the other lemmas; the palea is 2-keeled

near the middle, in between infolded; the flower is bisexual. Nothing to do with *Streblochaete nutans* is a species, which Hochstetter first indicated as *Streblochaete Köstlinii*, later as *Danthonia Köstlinii*. This species is according to the nervature and awning a real *Danthonia*.

The question is what exactly Pilger is describing here: a specimen, a species, a genus? Granted, the characters obtained from the collection of *Streblochaete nutans* are apparently generic ones (except for the callus being 2 mm long) and are intended to show that this is not a *Danthonia*. He calls it a form and implicitly a species. He apparently accepts Hochstetter's *Danthonia Köstlinii* as a true *Danthonia*, but what is the generic placement of *S. nutans*? There is no explicit statement that we have the (new) genus *Streblochaete* here and therefore he cannot be regarded to have established the generic name. Just the word 'Gattung' (genus) would have been so useful.

The provisions of the International code of botanical nomenclature cited below are those of the Vienna Code (McNeill *et al.*, 2006). The exact wording of the Code of Melbourne (2011) was not yet available during the writing. It was not expected that there would be significant changes.

It can be argued that he did intend to have *Streblochaete* as the name of a (new) genus. This is enforced by the note on *Schimper II. 683*, where Hochstetter wrote 'n. g. e. tribu. Avenacearum *Danthoniae* affine - Ejusdem generis etiam *Danthonia Köstlinii* Hochst. in prima sectione nr. 412, quae nunc mihi *Streblochaete köstlinif.* ('New genus related to the tribe *Danthonia* of the *A venaceae* - *Danthonia köstlinii* Hochst in the first section nr. 412 is also of the same genus, which now is my *Streblochaete köstlinif.*) Good intentions, however, are insufficient. Article 34.1(d) (see Ex. 1 for a case similar to but not identical with the present one) states 'A name is not validly published ... (d) by the mere mention of the subordinate taxa included in the taxon concerned'. Therefore *Streblochaete nutans* is invalid here (Art. 43.1).

Obviously Art. 42.1 (descriptio generico-specifica) does not apply, as *Streblochaete nutans* does not refer to a new species, as the name was already cited as a synonym of *Trisetum longiaristum* by Richard (1851). If one remains convinced that Pilger validly described *Streblochaete* in 1906 the combination *S. nutans* is superfluous.

One obvious slip of the pen is that Richard would have placed it in *Danthonia*. He included it in *Trisetum*. It was Engler (1892) who regarded it as a *Danthonia*. Another is that Hochstetter first (label

of *Schimper 412*) called the collection *Danthonia koestlinii* and later (label of *Schimper II 683*) *Streblochaeta koestlinii*, and not the other way around. Incidentally, this is not a *Danthonia* at all, but *Phaenanthoecium koestlinii* (Hochst. ex A Rich.) C.E. Hubb., a monotypic genus.

In 1927 Pilger validated *Streblochaeta* with *S. longiaristum* as the only species, and said (my translation) 'For the characters of the genus see Pilger ... 1906'. Before 1935 a description was not required to be in Latin (Art. 36.1), so there seems to be nothing wrong with this. Pilger does not give any intervening publication where the name (inadvertently) might have been validated, and I have found none. C.E. Hubbard (1936) concurred, stating 'In 1906 Pilger ... supplied a short generic description'.

Apparently because of these statements *Streblochaete* (1906) was entered in publications and databases like IPNI.

Unfortunately, between 1906 and 1927 *Koordersiochloa* had been published by Merrill (1917) and thus this is the correct name for the genus. It is tempting to propose to conserve the "well-known" name *Streblochaete* over the "obscure" name *Koordersiochloa*. This seems ill-fated, as the two species are so very rare and of little importance in ecology, conservation, or general use.

I am not sure who was the first to discover that *Koordersiochloa javanica* Merr. and *Streblochaete longiarista* were identical. Possibly it was Hubbard (1936).

Koordersiochloa Merr.

Koordersiochloa Merr., *Philipp. J. Sci.* 12 (1917) 67. — Type: *Koordersiochloa javanica* Merr. [= *K. longiarista* (A Rich.) Veldk].

Streblochaete Hochst. [ex A Rich., Tent. Fl. Abyss. 2 (1851) 417, nom. nud., in nota sub *Trisetum longiaristum*.; ex Pilg., Bot. Jahrb. Syst. 37, Beibl. 85 (1906) 61, non rite publ.] ex Pilg., Notizbl. Bot. Gart. Berlin 9 (1927) 516. — Type: *Streblochaete longiarista* (A. Rich.) Pilg. [= *K. longiarista* (A. Rich.) Veldk.].

Pseudostreptogyne A Camus, Bull. Soc. Bot. France 77 (1930) 476, t. 1-13. — Type: *Pseudostreptogyne richardii* A Camus [= *K. longiarista* (A Rich.) Veldk.].

Perennial. Culms hollow. Ligule membranous. Spikelets solitary or paired in a panicle, laterally compressed, with 3-5 bisexual florets, the uppermost 1 or 2 male or sterile, breaking up at maturity; disarticulating below each fertile floret. Glumes persistent, similar, shorter than the spikelet, membranous; lower glume 3-nerved; upper glume 5-nerved. Lemmas lanceolate, chartaceous, 7- or 9-

nerved, apex entire to shortly 2-lobed, awn dorsal below the apex or sinus, coiled, entangling among themselves and the spikelets drop off together. *Lodicules* 2, free, cuneate, fleshy, truncate. Anthers 3. *Ovary* glabrous. *Caryopsis* with an adnate pericarp, dorsally furrowed, embryo ca. 0.1 the length of caryopsis, hilum punctiform (F+FF in Reeder's classification, 1957; fide Tateoka, 1965).

Distribution. 2 species in Tropical Africa and S Africa, Réunion, India (Tamil Nadu, Nilgiris), Malesia (Java, Lombok, Philippines).

Notes. Over time *Streblochaete* has been placed in various pooid groups (Tateoka, 1965). Corrected for current nomenclature these are *Brachypodieae* Harz, *Bromeae* Dumort., *Danthonieae* Zotov, and, usually, *Poeae* (which before the rule of autonyms often was called *Festuceae* Dumort.). Tateoka (1965, 1969) based on morphological, anatomical, and cytological data regarded it to belong to the *Meliceae* Rehb. which is presently generally accepted (Clayton & Renvoize, 1968; Watson & Dallwitz, 1996). Perhaps because of this, Mejia-Saulés & Bisby (2000) included it in a phenetic analysis of the *Meliceae* and found it either nested within *Melica* L. and next to the N. American / Siberian *Schizachne purpurascens* (Torr.) Swallen, or basal to the tribe. A DNA sequence comparison using *tmL* was promised, but I have not found it.

The free lodicules and punctiform hilum are aberrant for the tribe. A molecular analysis in a broad context would be illuminating.

Prompted by a query of a reviewer I here add some notes on the caryopsis and its parts. Unfortunately, I have not seen any of *K. longiarista* and their description has been taken from various sources. Whenever they were mentioned the authors agreed that the embryo and hilum are small. The dorsal furrow is therefore not the hilum. For illustrations see Camus (1930), Jacques-Félix (1962, 'hilum ... peu visible', hilum hardly visible). Clayton (1970) and Launert (1971) used the same plate, but cited different sources for the caryopsis. Especially Tateoka (1965: t. 2, 3) was quite specific and illustrated sections of the embryo ('very small relative to the endosperm ... embryo and hilum are very small'). Kabeer & Nair (2006) depicted *S. sanjappae*, but did not describe details of the fruit.

The description of *K. longiarista* is based on Malesian material because I am writing an account for this area and it was beyond the scope of this essentially nomenclatural note to make a revision of the genus. The few African specimens seen did not

appear to differ significantly. I have not seen any material of *K. sanjappae*.

Key to the species

- 1a. Stolons absent. Spikelets solitary. Upper glume 0.8-1 times as long as the adjacent lemma. Fertile lemmas apical teeth 1-2 mm long. *Caryopsis* 5-6 mm long *K. longiarista*
- 1b. Stolons present. Spikelets usually paired. Upper glume ca. 1.2 times as long as the adjacent lemma. Fertile lemmas apical teeth 3-4 mm long. *Caryopsis* ca. 3.4 mm long *K. sanjappae*

1. *Koordersiochloa longiarista* (A. Rich.) Veldk., *comb. nov.* -Fig. 1.

Trisetum longiaristum A. Rich., Tent. Fl. Abyss. 2 (1851) 417. — *Danthonia streblochaete* Steud., Syn. Pl. Glumac. 1 (1854) 245, nom. superfl. — *Danthonia longiarista* Engler, Hochgebirgsfl. Trop. Afr. (1892) = Abh. Preuss. Akad. Wiss. 1891 (1892) 130 ("longearistata"⁷⁷). — *Streblochaete nutans* Hochst. [ex A. Rich., Tent. Fl. Abyss. 2 (1851) 417, in syn.] ex Pilg., Bot. Jahrb. Syst. 37, Beibl. 85 (1906) 61, nom. superfl. — *Streblochaete longiarista* Pilg., Notizbl. Bot. Gart. Berlin 9 (1927) 516 ("longiaristum"⁷⁷). — Type: *Schimper* 11-683 (P, holo, sh. 00440070; B, K, L, P, sh. 00440071, 00440072), designated here.

Bromus trichopodus A. Rich., Tent. Fl. Abyss. 2 (1851) 437. — Type: *Quartin Dillon & Petit s.n.* (P, holo, sh. 02609750; P, sh. 02609749), designated here.

Koordersiochloa javanica Merr., Philip. J. Sci. 12 (1917) 67, t; Backer, Handb. Fl. Java 2 (1928) 216. — Lectotype: *Koorders* 40846 (BO holo, sh. 1307788; L, sh. 924.18-219; P, sh. 03221648; US, sh. 00081964), designated here.

Pseudostreptogyne richardii A. Camus, Bull. Soc. Bot. France 77 (1930) 476, t. 1-13. — Lectotype: *Richard* 522 (P, holo, sh. 00541679; P, sh. 00541680 "Richard 334"), designated here.

Culms caespitose, decumbent, 0.3-1 m long, stolons absent. **Leaf-sheaths** smooth or scabrous. **Ligules** 2-12 mm long. **Blades** linear, 7-27 cm by 4-12 mm, scabrid, apex attenuate. **Panicle** contracted, linear, nodding, 8-25 cm long. **Primary branches** simple, the lowermost 5-10 cm long, scabrid. **Spikelets** solitary, erect, oblong to lanceolate, 16-30 mm long, rachilla internodes 1.8-3 mm long, densely white pilose, callus elongated, 2-3 mm long, bearded; pungent. **Lower glume** 6-12 mm long, 0.6-0.8 times as long as the upper glume, apex acute; **upper glume** 10-13 mm long, 0.8-1 times as long as the adjacent lemma, acute. **Fertile lemmas** 3-5, lanceolate, 10-17 mm long, 7-nerved,

teem 1–2 mm long, awns erect, filiform, from the upper 0.7-0.8 th of the lemma, 20-43 mm long. Apical sterile florets 2-4 mm long, awned. Anthers 1.25-3 mm long. Caryopsis 5-6 mm long. 2n = 20 (Tateoka, 1969).

Distribution. Remarkably disjunct. Africa, Reunion, and then Malesia: Java (Cerimai, Hyiang, Ijen, Merapi, Tengger, Welirang), Lesser Sunda Isl. (Lombok), Philippines (Luzon).

Habitat. *Casuarina* forest, grass wildernesses, always in light shade, locally common, 1600-2500 m alt.

Leaf anatomy. A description and illustrations of the leaf epidermis is given by Palmer and Tucker (1983).

Notes. Merrill [Philip. J. Sci. 30 (1926) 390] reported the occurrence in Luzon. From his words it is obvious that there was no type material in PNH.

2. Koordersiochloa sanjappae (Kabeer & V.J. Nair) Veldk., comb. nov.

Streblochaete sanjappae Kabeer & V.J. Nair, Bull. Bot. Surv. India 47 ('2005', 2006) 137. - Type: *Kabeer 114021* (MH, holo; CAL). After the original description.

Culms caespitose, decumbent, up to 0.65 m long, stolons present. **Leaf-sheaths** scabrous. **Ligules** 3-5 mm long. **Blades** drooping, linear, 8-15 cm by 4-6 mm, apex acuminate. **Panicle** contracted, linear, nodding, ca. 11 cm long. **Spikelets** usually paired, oblong to lanceolate, 15-20 mm long, rachilla internodes ca. 2 mm long, callus elongated, ca. 2 mm long, pubescent; pungent. **Glumes** apex acuminate to shortly aristate; lower glume ca. 9.5 mm long; upper glume ca. 12.5 mm long, ca. 1.2 times as long as the lemma. **Fertile lemmas** 2-4, lanceolate, ca. 10.5 mm long, 7- or 9-nerved, teeth 3-4 mm long, awns 29-35 mm long. **Anthers** 1-2 mm long. **Caryopsis** ca. 3.4 mm long.

Distribution. India (Tamil Nadu, Nilgiris).

Habitat. Forest floor along the margins of evergreen forests, ca. 1240 m alt.

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the illustration by Merrill (1917).

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Fig. 1. *Koordersiochloa longiarista* (A. Rich.) Veldk. A. Habit. B. Inflorescence. C. Spikelet. D. Lemma and floret. E. Stamen. F. Pollen. G. Pistil. H. Fruiting lemma. J. Lemma. K. Palea. L. Caryopsis. M. Apex of caryopsis. N. Starch grains. *Koorders 40846* [Merr., Philipp. J. Sci. C. Bot. 12 (1917) t. 1]. With the kind permission of the Philippine Journal of Science.

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1. Please change the existing word in p. 213, LINE 7 on ABSTRAK (written in Bahasa Indonesia version) with the following:

Keberadaan dua jenis terakhir melampaui distribusi yang sebelumnya hanya diketahui di **barat** garis Wallace.

2. Please change the existing epithet name in p, 214, COLUMN 1, LINE 40 on Key to the species of *Marantaceae* in Sulawesi number 5.a. after *Phrynium*:

.....*longispicum*

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Reinwardtia is a scientific journal on plant taxonomy, plant ecology, and ethnobotany. Manuscript intended for a publication should be written in English represent an article which has not been published in any other journal or proceedings. Every manuscript will be sent to two blind reviewers.

Two printed copies (on A4 paper) of the manuscript of not more than 200 pages together with an electronic copy prepared on Word Processor computer program using Time New Romance letter type and saved in Rich Text File must be submitted.

For the style of presentation, authors should follow the latest issue of *Reinwardtia* very closely. Title of the article should be followed by authors name and mailing address in one-paragraphed English abstract of not more than 250 words. Keywords should be given below each abstract. On a separated paper, author(s) should send the preferred running title of the article submitted.

Taxonomic identification key 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 the type specimens area deposited should be presented in the long form that is name of taxon, authors name, year of publication, abbreviated journal or book title, volume, number and page.

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