

Taxonomic novelties in Central African grasses (Poaceae), Paniceae 2

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Background and aims – Within the framework of the renewed production of the *Flore d’Afrique centrale*, the grasses are being studied to accomplish their treatment. Taxonomic novelties, or other information not deemed appropriate in a Flora, are published in a series of separate papers of which this is the second.

Methods – Standard herbarium techniques have been applied to material from BR, BRLU, GENT, P and WAG. Some types were studied through the JSTOR Global Plant facility.

Key results – Novelties are presented for the genera *Anthephora*, *Cenchrus* (incl. *Pennisetum*) and *Setaria*. Three new combinations are made. Lectotypes are designated for five names. Ten names are treated as new synonyms of accepted species names, with explanations of the new taxonomic concepts applied.

Keywords – Africa; Burundi; Democratic Republic of the Congo; Flora; Gramineae; nomenclature; Rwanda; taxonomy.

INTRODUCTION

Within the context of the renewed efforts to finish the *Flore d’Afrique centrale* (Sosef 2016a), covering the Democratic Republic of the Congo (D.R. Congo), Rwanda and Burundi, the preparation of the grass treatment has started at the end of 2013. After publishing the general part on family characteristics and higher classification along with the first ten tribes (Sosef 2017), work on the two largest tribes, Andropogoneae and Paniceae (*sensu* Clayton & Renvoize 1986 and Watson & Dallwitz 1992, not *sensu* Soreng et al. 2015), is progressing. The necessary explanation to accompany taxonomic novelties discovered within the course of this work is deemed out-of-place in a Flora treatment. The novelties also deserve to be discussed in a broader context and be made available to a wider audience. Hence, they are being dealt with in a series of separate publications. The first of such articles, treating the Paniceae genera *Acroceras* Stapf, *Axonopus* P.Beauv., *Paspalum* L. and *Urochloa* P.Beauv. (incl. *Brachiaria* (Trin.) Griseb.) was published in 2016 (Sosef 2016b), where also a brief history of the taxonomic study of Central African grasses was provided. The present article is the second one on Paniceae and treats novelties in the genera

Anthephora Schreb., *Cenchrus* L. (incl. *Pennisetum* Rich.) and *Setaria* P.Beauv.

MATERIAL AND METHODS

All studies were performed using herbarium material and applying standard herbarium techniques (de Vogel 1987). Acronyms of institutes holding herbarium collections follow Thiers (continuously updated). The vast majority of material came from BR, with additions from BRLU, GENT, P and WAG. Types not available in one of these, were generally studied using the Global Plants facility (JSTOR 2000–2017).

RESULTS: TAXONOMIC NOVELTIES IN CENTRAL AFRICAN PANICEAE

Anthephora Schreb.

Anthephora cristata (Döll) Hack. ex De Wild. & T.Durand (De Wildeman & Durand 1901: 255). *Anthephora elegans* Schreb. var. *cristata* Döll (Döll 1877: 314). – Type: Brazil,

Pernambuco, *Forssell* s.n. (holotype: KR; isotype: US (fragm.)).

Antheophora elegans Schreb. var. *africana* Pilg. (Pilger 1901: 119). – Type: D.R. Congo, Stanley-Pool, June 1899, *Schlechter 12508* (lectotype: B [B100168252], **designated here**; isolectotypes: B [B100168251], BR [BR0000013591571], K [K000281098], P).

There has been some doubt about the correct publication place and date of *A. cristata*. The name was published without reference to the basionym of Döll and without description by De Wildeman & Durand (1900: 60; although the title page of that journal issue gives “1901” as the year of publication, at the bottom of the first page of the article the publication date is stated to be December 29th, 1900), and therefore has to be regarded as an invalidly published *nomen nudum* (Art. 38.1, Turland et al. 2018). The same name, validly published one year later by the same authors and with reference to the basionym, is therefore not to be regarded as a later homonym (Art. 53.1, Turland et al. 2018).

Antheophora elegans var. *africana* was published citing four specimens, *Buchholz 1875*, *Dinklage 464*, *Dewèvre 120* and *Schlechter 12508* which are to be regarded as syntypes. Since the author worked at B, the lectotype should preferably be located there. All except the *Schlechter* specimen are not present at B and were presumably lost during the 1943 fire. At B, there are two sheets of *Schlechter 12508*, one of which has no spikelets left, the other with a few spikelets in an envelope glued onto the sheet. The latter is here selected as the lectotype, with several duplicates elsewhere.

Cenchrus L.

Recent molecular and morphological studies have resulted in the merger of the genera *Cenchrus* L., *Pennisetum* Rich., *Beckeropsis* Fig. & De Not., *Odontelytrum* Hack. and *Kikyuochoa* H.Scholz (Donadio et al. 2009, Chemisquy et al. 2010, Veldkamp 2014). *Cenchrus* had about 22 species, *Pennisetum* some 80, while the other three genera were monotypic. The oldest name being *Cenchrus*, a fair number of names have already been recombined in that genus, notably by Morrone (in Chemisquy et al. 2010). However, some additional combinations related to central African taxa are useful (in the case of the widely cultivated crop *C. americanus*) or necessary (in the case of the re-instatement of *P. nodiflorum* as a distinct species). These are provided below. Lectotypes are assigned where appropriate.

Cenchrus americanus (L.) Morrone (in Chemisquy et al. 2010: 128).

This is the well-known and widely cultivated Bulrush millet or Pearl millet. Its complicated nomenclature led to the acceptance of the name *Pennisetum glaucum* (L.) R.Br. for this species, with *P. americanum* (L.) Leeke treated as a synonym (see Clayton & Renvoize 1982 for a brief but clear review of the problem). However, in *Cenchrus* the epithet *glaucus* is already occupied (*C. glaucus* Mudaliar & Sundararaj = *C. ciliaris* L.) and hence the epithet *americanum* is the next available one and rightfully used by Morrone for the new combination.

This highly variable species is thought to belong to a complex of three taxa that frequently hybridize: *C. americanus*, *C. sieberianus* (Schltdl.) Verloove and *C. violaceus* (Lam.) Morrone; see Andrews & Kumar (2006) for an overview. Brunken (1977), who made a detailed study of the group, recognized these three taxa as subspecies of *P. americanum*. He considered the latter two taxa to be the wild forms and/or relatives of the cultivated *C. americanus* and his taxonomy is still widely used in Pearl millet crop science, where also their synonyms at subspecific level, respectively *P. americanum* subsp. *stenostachyum* (A.Braun & Bouché) Brunken and *P. americanum* subsp. *monodii* (Maire) Brunken, are regularly encountered in recent literature, for example in the authoritative Patil (2016) publication. However, while at species level the new combinations are available in *Cenchrus*, they are not for those who want to recognize the taxa at the level of subspecies. Regarding the existence of frequently occurring (partly) fertile hybrids between the three taxa, a recognition at subspecific level is probably more appropriate. Hence, to support further research related to the crop Pearl millet and for example gene banks holding accessions of *C. americanus* and its wild relatives, the correct names in *Cenchrus* for the two wild subspecies are provided below.

In several databases and literature sources, one may encounter the subspecific names *Pennisetum glaucum* (L.) R.Br. subsp. *sieberianum* (Schltdl.) Stapf & C.E.Hubb. and *Pennisetum glaucum* (L.) R.Br. subsp. *violaceum* (Lam.) A.Rich. Being older names at subspecies level, the epithets would have priority over the ones proposed below. However, both names were never validly published in the works referred to by the various sources and have thus not been taken into account.

Cenchrus americanus (L.) Morrone subsp. *stenostachyus* (Klotzsch ex A.Braun & Bouché) Sosef, **comb. nov.**

Penicillaria stenostachya Klotzsch ex A.Braun & Bouché, *Index Seminum in Horto Botanico Berolinensi anno ... collectorum, Appendix 1855: 25*. 1855 (Braun & Bouché 1855). – *Pennisetum stenostachyum* (Klotzsch ex A.Braun & Bouché) Stapf & C.E.Hubb. (Stapf & Hubbard 1933: 270), non Peter. – *Pennisetum americanum* (L.) Leeke subsp. *stenostachyum* (Klotzsch ex A.Braun & Bouché) Brunken (Brunken 1977: 173). – Type: Senegal, prope Laybar, 1830, *Leprieur* in Hb. Kunth (holotype: B [B100167886]).

Penicillaria sieberiana Schltdl. (von Schlechtendal 1852: 565). – *Pennisetum sieberianum* (Schltdl.) Stapf & C.E.Hubb. (Stapf & Hubbard 1933: 270). – *Cenchrus sieberianus* (Schltdl.) Verloove (Verloove 2012: 78). – Type: Egypt, prope Syene, *Sieber* s.n. (lectotype: B [B100167891], **designated here**; isolectotype: B [B100167894], L [L.1303770]).

Cenchrus americanus (L.) Morrone subsp. *monodii* (Maire) Sosef, **comb. nov.**

Pennisetum chudeaui Maire subsp. *monodii* Maire, *Bulletin du Muséum d'Histoire Naturelle, sér. 2 3: 253*.

1931 (Maire 1931). – Type: Mali, Izelilene, lisière Adrar des Ifoghas, 1 Dec. 1927, *Monod* 347 (lectotype: P [P00137139]).

Panicum violaceum Lam. (Lamarck 1791: 169). – *Pennisetum violaceum* (Lam.) Rich. (in Persoon 1805: 72). – Type: Senegal, 1789, *Roussillon* s.n. (holotype: P (in Hb. Lamarck); isotype: MPU [MPU024574]).

Cenchrus geniculatus Thunb. (Thunberg 1794: 24). – *Panicum geniculatum* (Thunb.) Thunb., non Lam. (Thunberg 1813: 388). – *Pennisetum geniculatum* (Thunb.) Leeke, non (Poir.) J.Jacq. (Leeke 1907: 4). – Type: South Africa, s.d., s. loc., *Thunberg* s.n. (holotype: UPS).

Pennisetum thunbergii Kunth. (Kunth 1829: 50). – *Cenchrus thunbergii* (Kunth) Morrone, nom. illeg. (in Chemisquy et al. 2010: 129). – Type: South Africa, s.d., s. loc., *Thunberg* s.n. (holotype: UPS [S09-10632]), **synon. nov.**

Cenchrus geniculatus was published by Thunberg in 1794, who transferred it to *Panicum* in 1813, resulting in an illegitimate name since the name was already occupied by a species described from Guadeloupe in 1798 (*Panicum geniculatum* Lam.), now called *Setaria parviflora* (Poir.) Kerguelen. In 1829, Kunth wanted to transfer *C. geniculatus* to *Pennistum* and probably correctly saw the name *P. geniculatum* was already occupied by *Pennisetum geniculatum* (Poir.) J.Jacq., published in 1820, and thus provided the new name *Pennisetum thunbergii* Kunth based on the same type specimen. In 1907, Leeke, apparently unaware of the name *Pennisetum geniculatum* (Poir.) J.Jacq., transferred *Cenchrus geniculatus* to *Pennisetum*, creating the illegitimate name *P. geniculatum* (Thunb.) Leeke, non (Poir.) J.Jacq. Finally, Chemisquy et al. (2010) pointed out that all *Pennisetum* had to be lumped into *Cenchrus* but instead of restoring the oldest name available for the species in *Cenchrus*, they published the new combination *Cenchrus thunbergii* (Kunth) Morrone, hence an illegitimate name (Art. 52.1, Turland et al. 2018). Here, the oldest and thus correct name for the species in *Cenchrus* has been restored.

Cenchrus macrourus (Trin.) Morrone (in Chemisquy et al. 2010: 128). – *Pennisetum macrourum* Trin. (Trinius 1826: 64). – Types: South Africa, Cape of Good Hope, *Schwartz* s.n. (syntype: not found); South Africa, Cape of Good Hope, *Link* s.n. (syntype: not found).

Pennisetum mildbraedii Mez (Mez 1917: 52). – *Cenchrus mildbraedii* (Mez) Morrone (in Chemisquy et al. 2010: 128). – Type: Rwanda, NO-Kiwu, Sabyino-Kahinga Sattel, Bergwiesen im Bambuwald, 25–2600 m, Nov. 1907, *Mildbraed* 1763 (holotype: B [B100167840]), **synon. nov.**

Pennisetum kisantuense Vanderyst (Vanderyst 1925: 685). – Type: D.R. Congo, Kisantu (Inkisi), Jul. 1914, *Vanderyst* 4650 (lectotype: BR [BR0000005867134], **designated here**).

Cenchrus macrourus is a highly variable species characteristic of lake and river shores. Where many of its forms were previously recognized as distinct species, notably Clayton & Renvoize (1982) brought together the reticulum of local seg-

regates into a single species, a view generally followed by others.

Cenchrus mildbraedii, endemic to Uganda and adjacent Rwanda, is highly similar in habit (coarse rhizomatous perennial with erect culms, sheaths coriaceous and glabrous, the lower ones flabellate), inflorescence (peduncle scabrid or puberulous below the spike-like terminal inflorescence), involucre with some 10 to 20 bristles of which only the longest is overtopping the single spikelet, and the strongly reduced lower and upper glumes. *Cenchrus mildbraedii* would be distinct from the widespread *C. macrourus* due to its much shorter lower lemma, $\frac{1}{2}$ to $\frac{2}{3}$ of the length of the spikelet, where that of *C. macrourus* is between $\frac{3}{4}$ of the length of the spikelet and full length of the spikelet. The type material of *C. mildbraedii* was studied in detail, as well as highly similar material collected in 1929 on the type locality, the saddle between the Sabyinyo and Gahinga volcanoes (*Humbert* 8636, 2 sheets at BR, [BR0000005866847, BR0000005866908]). It turned out that although both glumes are highly reduced, the lower lemma is in fact almost as long as the spikelet. This error probably has its origin in the protologue itself, where Mez published an otherwise highly detailed description in which he stated “gluma I. minutissima vix reperienda,; gluma II. item quam maxime diminuta sed quam praecedens paullo longiore,; gluma III. item valde diminuta, 1–3 mm longa, squamiformi, apice rotundata, 0–1-nervia” [freely translated: lowest glume very minute, hardly visible,; upper glume also reduced though a little longer than the one preceding,; glume 3 also very much diminished, 1–3 mm long, scale-like, apex rounded, 0–1-veined]. In Paniceae, glume 3 is generally seen as the lemma of the lower floret. However, it seems that Mez either miscalculated the number of elements in the spikelet or misinterpreted the spikelet structure, because when comparing with the type material, the description of glume III clearly relates to the upper glume in this case. This observational error has been copied by Stapf & Hubbard (1934), Robyns (1934), Clayton & Renvoize (1982) and finally even in the otherwise high quality Grassbase web-service (Clayton et al. 2006–) and thus remained uncorrected for almost a century.

Pennisetum kisantuense was published rather obscurely, since it was only mentioned in the key of Vanderyst (1925: 685). No specimens were cited, but several collected by Vanderyst carry the name of the species in his handwriting. Clayton & Renvoize (1982: 690) indicated *Vanderyst* 5030 at K as one of several syntypes, and hence this cannot be seen as a formal lectotypification. Unfortunately, no duplicates of *Vanderyst* 5030 are present at BR. Hence, I deemed it better to select a syntype which I have been able to study in detail (*Vanderyst* 4650, Kisantu (Inkisi), Jul. 1914), accompanied by a detailed pencil drawing made by H el ene Durand.

Cenchrus nodiflorus (Franch.) Zon (van der Zon 2019: 214). – *Pennisetum nodiflorum* Franch. (Franchet 1895: 363). – Type: D.R. Congo, Moyen Congo, Stanley pool, roches de N’tamo, 8 Jul. 1888, *Hens* B-32 (lectotype: P [P00442930]; isolectotypes: BR [BR0000005871049], G [G00022556, G00022557], L [L0822667], P [P00442929]).

Although a perfectly sound species, *Pennisetum nodiflorum* Franch. was not mentioned by Lebrun & Storck (1995),

implying it was already regarded as a synonym by another authoritative work. According to me, and my colleague Ton van der Zon (van der Zon 2019), that is an error. The latter recently published the correct name for the species in the genus *Cenchrus*, but it seems appropriate to add some explanation on the confusion of names. The species was treated as a synonym of *P. divisum* (J.F.Gmelin) Henrard (= *C. divisus* (J.F.Gmelin) Verloove, Govaerts & Buttler; Verloove et al. 2014) by the African Plant Database (2019), which is based on Lebrun & Storck (1995). That database correctly regards *P. dichotomum* (Forssk.) Delile as a synonym of *P. divisum*. However, Robyns (1934) gave *P. dichotomum* Klatt, non Delile as a synonym of *P. nodiflorum*. That same year, Stapf & Hubbard (1934) cited *P. dichotomum* Klatt ex Durand & De Wildeman below *P. nodiflorum*, referring to Durand & De Wildeman (1897: 91) where these authors erroneously cited the specimen *Hens B-32*, now chosen as the lectotype of *C. nodiflorus* by van der Zon (2019), below *P. dichotomum* (Forssk.) Delile. Possibly, this situation has caused confusion and the error to occur. Otherwise, *C. nodiflorus* has sufficient diagnostic morphological features, and is characteristic of rapids in the Congo River, from Kinshasa to Kisangani (D.R. Congo), see Léonard (1994).

Cenchrus nodiflorus has a superficial resemblance (many swollen nodes, relatively short inflorescences, upper glume with 5 to 7 nerves, at least $\frac{2}{3}$ as long as the spikelet) to *C. divisus* but is a much coarser species. The plants are up to 2.5 m high, with leaves up to 40 cm long, all bristles of the involucre glabrous (scabrous) and spikelets 3.5–4.5 mm long, while *C. divisus* reaches up to 1.5 m, with leaves up to 15 cm long, internal bristles plumose, and spikelets 6.5–8.5 mm long.

The epithet would translate to “with knotty flowers” and is often used for species having their flowers in tight glomerules. Since this does not really apply to this species, but rather its culms with swollen nodes are a fairly striking feature, one wonders if Franchet may have made a mistake and wanted to name it ‘*nodiferum*’? This is not overly clear from the protologue though, and it is certainly not a correctable error in the sense of the *International Code of Nomenclature for algae, fungi, and plants* (Art. 60, Turland et al. 2018). So, this rather strange epithet is the correct one to be used for this species.

Cenchrus trachyphyllus (Pilg.) Morrone (in Chemisquy et al. 2010: 129). – *Pennisetum trachyphyllum* Pilg. (Pilger 1901: 122). – Type: Tanzania, Kwai, 1600 m, Oct. 1899, *Albers 170* (lectotype: B [B100167977], **designated here**).

Pilger (1901) cited five syntypes for this species, *Albers 170* & *363*, *Stuhlmann 9087* and *Holst 3253* & *5003*. He worked at B and all three collectors deposited their collections there, hence the lectotype should preferably be located in that herbarium. Most of the cited material has perished during the World War II fire, but at least *Albers 170* has survived and hence it was chosen here as the lectotype. *Holst 3253*, not in B but with duplicates at K and M would have been the other option, but since it is unsure whether Pilger has seen that material, it seems best to stick with the *Albers 170* specimen, which shows all characteristic features of the species.

Setaria P.Beauv.

Setaria barbata (Lam.) Kunth (Kunth 1829: 47). – *Panicum barbatum* Lam. (Lamarck 1791: 171). – Type: Mauritius, s.d., *Commerson 136* in Hb Lamarck (lectotype: P-LA [IDC microfiche 6207, fiche 689/17]; isolectotypes: L [L0050094], US (fragm.)).

Panicum bongaense Pilg. (Pilger 1902: 44). – *Setaria bongaensis* (Pilg.) Mez in Mildbraed (1922: 20). – Type: Republic of the Congo, Sanga, Bongo, Jul. 1899, *Schlechter 12647* (lectotype: BR [BR0000008799685]; isolectotypes: AMD [AMD.122510], BR [BR0000008801463], G [G00022453], K [K000281921], L [L0821516], P [P00442200], US [US01117902], WAG [WAG0001546]), **synon. nov.**

Panicum thollonii Franch. (Franchet 1895: 43). – *Setaria thollonii* (Franch.) Stapf (Stapf 1927: 267). – Type: Republic of the Congo, fleuve Congo, bancs de sable, Sept. 1887, *Thollon 826* (lectotype: P [P00442223]; isolectotypes: K [K000281919], P [P00442222], SI (photo)), **synon. nov.**

Setaria kwamouthensis Vanderyst (Vanderyst 1925: 682). – Type: D.R. Congo, Kwamouth, Sept. 1914, *Vanderyst 4619* (lectotype: BR [BR0000021862878], **designated here**; isolectotype: BR [BR0000021862861]), **synon. nov.**

Setaria gracilipes C.E.Hubb. (Hubbard 1949: 362). – Type: Nigeria, Ogoja prov., Ikom Distr., British Ogbokum, 8 May 1946, *Jones & Onochie FHI 18878* (holotype: K [K000281952]; isotypes: FHI [FHI0018878-0], SI (photo), US), **synon. nov.**

The name *Panicum thollonii*, later correctly transferred to *Setaria*, has been treated as a distinct species by for example Stapf & Hubbard (1930) and Robyns (1934). Later, it was regarded as a synonym of *S. homonyma* (Steud.) Chiov. by Clayton (1989), followed by many others such as van der Zon (1992) and Morrone et al. (2014), although Webster (1993) regarded it as a name with unknown status. Morrone et al. (2014) designated the lectotype from amongst two syntypes (*Thollon 826* and *Hens 62*). However, after studying this type material at BR and P, it showed that it deviates in important characters from true *S. homonyma*. The most striking feature is that often the lower leaf blades sit on a slender pseudopetiole up to 5 cm long. Additional diagnostic characters distinguishing it from *S. homonyma* are: leaf blades flat, only slightly plicate towards the base, inflorescence axis and rachis scabrous and upper glume covering about $\frac{4}{5}$ of the upper lemma which is finely transversely rugulose. *S. homonyma* has leaf blades without pseudopetioles, that are plicate throughout their length, its inflorescence axis and often also its rachis are pilose (rarely glabrous), while the upper glume completely covers the upper lemma which is more prominently transversely rugose. The characteristics fit within the variation of *S. barbata*, where the distinction of folds in the leaf blade is highly variable, and where the leaf blade is sometimes contracted into a long pseudopetiole. I could not find any reasons to separate this widespread form of *S. barbata* into a distinct taxon, since the variation in the above-mentioned characters appears to be continuous.

Two other names, previously treated as synonyms of *S. seriata* Stapf (*S. gracilipes* C.E.Hubb., see also the discussion on *S. kagerensis* below) and of *S. homonyma* (Steud.) Chiov. (*Panicum bongaensis* Pilg.), the types of which show high similarity with the type of *S. thollonii*, are also to be regarded as synonyms of *S. barbata* rather than of the other two species.

Setaria kwamouthensis was treated as a synonym of *S. thollonii* by Robyns (1934) but was placed amongst the doubtful and excluded names by Morrone et al. (2014). Two syntypes (*Vanderyst 4607 & 4619*) were located at BR. Since the first was collected at Lekanu, and the second at Kwamouth, the latter was chosen as the lectotype.

Setaria kagerensis Mez (Mez 1917: 58). – Type: Tanzania, am Kagera, 8 Apr. 1891, *Stuhlmann 1946* (holotype: B [B100168820]; isotype: K [fragm., K000281859]).

Setaria microprolepis Stapf (Stapf & Hubbard 1930: 849). – Type: Angola, Golungo Alto, Cungulungulo, Montalegra, Feb. 1855, *Welwitsch 7176* (holotype: BM [BM000923244]; isotypes: K (fragm.), LISU [LISU226393]), **synon. nov.**

Setaria seriata Stapf (Stapf & Hubbard 1930: 853). – Type: D.R. Congo, Katanga, M’Pueto, Mar. 1896, *Deschamps s.n.* (holotype: BR [BR000008801166]; isotype: K [fragm., K000281918]), **synon. nov.**

According to the revision of the Old World species of *Setaria* by Morrone et al. (2014), the presumed annual species *S. seriata* appears to be a rare but relatively widespread species, occurring from Ivory Coast to Zambia, with *S. gracilipes* C.E.Hubb. as a synonym. Upon closer examination of the holotype specimen of *S. seriata*, the leaf morphology and spikelet structure proved highly similar to that of the perennial species *S. kagerensis*. Both have plicate but comparatively narrow leaf blades, a paniculate inflorescence with spikelets in \pm unilateral racemes, a lower glume of up to $\frac{1}{3}$ of the length of the spikelet while the upper glume is $\frac{4}{5}$ or more of this length, and a smooth to papillose upper lemma and palea. In the protologue, Stapf remarked that the species was “probably annual”, because the only material available consisted of an inflorescence and a single leaf. Later, Clayton (1989) erroneously treated the annual *S. gracilipes* C.E.Hubb. as a synonym of *S. seriata*, which was probably the start of a complicated confusion of names and mixing of species descriptions (see also above, the discussion below *S. barbata*). This situation is now clarified, at least for Central Africa.

Setaria microprolepis Stapf has long been treated as a synonym of *S. homonyma* (Steud.) Chiov., probably because of its presumed transversely rugose upper lemma and an upper glume \pm equalling the spikelet. However, *S. homonyma* is an annual species with narrowly elliptic leaf blades, while the type material of *S. microprolepis* shows a perennial plant with linear leaves. Upon closer inspection the upper lemma was not rugose, as mentioned in the protologue, but only papillose. Both features then referred the material to *S. kagerensis*.

In its present circumscription, *S. kagerensis* has a distribution centred in East Africa, occurring from Sudan and

Ethiopia to eastern D.R. Congo, Rwanda, Burundi, Uganda, Kenya and Tanzania, with a single record from Angola and a doubtful record from Zambia.

Setaria nigrirostris (Nees) T.Durand & Schinz (Durand & Schinz 1894: 774). – *Panicum nigrirostre* Nees (Nees von Esenbeck 1841: 55). – Type: South Africa, in altioribus ad Omsamwubo, locis graminosis, alt. 1000, 11 Feb. 1832, *J.F. Drège 4254* (holotype: B†; isotypes: P [P00442213], S [S14-19805]).

Panicum acromelaenum Hochst. (Hochstetter 1855: 198). – *Setaria acromelaena* (Hochst.) T.Durand & Schinz (Durand & Schinz 1894: 772). – Type: Ethiopia, Agow, Dscha Dscha, s.d., *Schimper* in Hb. Buchinger 1514 (in the protologue erroneously cited as #1513) (holotype: STR; isotypes: BR [BR000008266385], L [L.1340544], W [W0021507]), **synon. nov.**

Setaria abyssinica Hack. var. *annua* Chiov. (Chiovenda 1908: 311). – Type: Eritrea, Saraè, Terammi, alt. 1900 m., 9 Oct. 1902, *Pappi 569* (holotype: FT [FT000304]; isotypes: G [G00022649], K [fragm., K000281908]), **synon. nov.**

For several decades, authors have been more or less copying the same remark about the weakness of the distinction between *S. acromelaena* and *S. nigrirostris* (incl. *S. incrassata* (Hochst.) Hack.; see for example Clayton & Renvoize 1982: 527; Cope 1995: 234; Phillips 1995: 238). Most authors stated the first is the annual counterpart of the second. The recent revision by Morrone et al. (2014) stated the same, but gave an additional difference, namely the fact that *S. acromelaena* would have a sparsely to densely pilose inflorescence axis mixed with the dense short-hispid indumentum, while that of *S. nigrirostris* only bears a short-hispid indumentum. The latter difference does, unfortunately, not hold, since for example the specimens *Bos 9081* from Ethiopia and *Comité Spécial du Katanga 10* from south-eastern D.R. Congo clearly represent annual plants but without any pilose hairs on the axis. I have argued before (Sosef 2016b, on the distinction between *Urochloa mosambicensis* (Hack.) Dandy and *U. trichopus* (Hochst.) Stapf) that in grasses annual habit alone cannot be used as a taxonomic distinctive character at species level, and hence the two taxa are to be united and their names to be regarded as synonyms.

Setaria abyssinica Hack. var. *annua* Chiov. has been rightfully regarded as a synonym of *S. acromelaena* and is hence now also synonymous with *S. nigrirostris*. The type information has been updated.

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