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Lectotypification of names in the genus *Cyperus s.l.* (Cyperaceae) occurring in tropical West Africa

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## Lectotypification of names in the genus *Cyperus s.l.* (Cyperaceae) occurring in tropical West Africa

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#### **ABSTRACT**

KEY WORDS
Africa,
Cyperaceae,
Mariscus,
Pycreus,
lectotypifications.

The names in the genus *Cyperus* L., viz *C. baikiei* C.B.Clarke ex Kük., *C. baronii* C.B.Clarke, *C. melas* Ridl., *C. nduru* Cherm., *C. reduncus* Hochst. ex Boeckeler, *C. tenuiculmus* Boeckeler, and *Mariscus albopilosus* C.B.Clarke and *Pycreus fallaciosus* Cherm. are lectotypified. Comments are made on the recent lectotypification of the names *C. mapanioides* C.B.Clarke and *P. scaettae* Cherm. and the authorship of the name *C. reduncus* is also discussed.

#### RÉSUMÉ

MOTS CLÉS
Afrique,
Cyperaceae,
Mariscus,
Pycreus,
lectotypifications.

Lectotypification des noms de Cyperus s.l. (Cyperaceae) d'Afrique de l'Ouest tropicale.

Les noms de Cyperus L., à savoir C. baikiei C.B.Clarke ex Kük., C. baronii C.B.Clarke, C. melas Ridl., C. nduru Cherm., C. reduncus Hochst. ex Boeckeler, C. tenuiculmus Boeckeler, et Mariscus albopilosus C.B.Clarke et Pycreus fallaciosus Cherm. sont lectotypifiés. Des commentaires sont faits sur la lectotypification récente des noms C. mapanioides C.B.Clarke et P. scaettae Cherm. et l'auteur du nom C. reduncus est également discuté.

#### INTRODUCTION

In a recent monographic study on Cyperaceae Juss. of tropical West Africa (Mesterházy et al. 2022), we attempted to present as much relevant information as possible for all taxa occurring in the study area, including details on type material. We repeatedly came to the conclusion that numerous taxa have not yet been typified. Although it was beyond the actual scope of the book to designate types, great care was taken to present the available information as accurately as possible, including, among others, the listing of syntypes in protologues. However, since the correct application of names is determined by means of nomenclatural types, the proper typification of these names is of the utmost importance: the type specimen is the objective basis to which a taxon name is permanently linked.

After the publication of the book and as a supplement to it, it was therefore decided to investigate a number of cases. However, it was not the intention and, moreover, impossible to look up and designate types for all untypified names encountered (many dozens of them). In this paper we discuss a number of taxa of the genus *Cyperus* L. s.l. (incl. *Mariscus* Vahl and *Pycreus* P.Beauv.).

#### MATERIAL AND METHODS

For the purpose of identifying type material, the original description, including the protologue and other potentially relevant information, of the taxon in question was consulted. Based on Stafleu & Cowan (1976-1988), we verified in which herbaria the specimens mentioned in the original description are likely kept. The online catalogues of the herbaria involved were then thoroughly scoured in search of the relevant specimens. The most important herbaria were (not exhaustive, many others were also consulted, depending on the case; see text and Thiers 2025 for herbarium acronyms): B, BM, BR, K, L, P, S.

The JACQ database (https://www.jacq.org/), the jointly administered herbarium management system and specimen database containing data from more than 40 mainly Central and Eastern European herbaria, was also consulted. In addition, JSTOR (https://www.jstor.org/) and GBIF, the Global Biodiversity Information Facility (https://www.gbif.org/), were also checked, two sources that provided a wealth of data. Finally, in the past years the authors have also seen relevant material in various physical herbaria, incl. BR, GENT, LISC, LISU and P.

#### RESULTS AND DISCUSSION

Two names awaiting typification at the time of the preparation of our monographic study were recently typified. Both deserve some explanation.

## Family CYPERACEAE Juss. Genus *Cyperus* L.

#### Cyperus mapanioides C.B.Clarke

Flora of Tropical Africa 8: 340 (Clarke 1901).

#### REMARKS

This name was lectotypified by Griffiths *et al.* (2022) based on the specimen *Hens 69* from L with an isolectotype at BR.

Clarke (1894: 568) came up with the new name Cyperus mapanioides but without a proper description (nomen nudum). The name was later validated by Clarke himself (1901-1902: 340). He merely cited two collections: "Afr. occ.: Congo, Hens 7, 69". Frans Hens (1856-1928) was a painter, who was the first Belgian to collect plant samples in Congo (in 1887 and 1888). His name was not mentioned by Stafleu & Cowan (1976-1988), from which it can be deduced that he was a rather unimportant collector. However, several hundred Hens specimens are kept in BR, including both specimens cited by Clarke. Duplicates of both are preserved at K and L, with Hens 7 moreover also located at BM. The Hens 69 gathering (both the BR, K and L accessions) shows very young specimens with an inflorescence that is hardly exserted from the upper leaf sheath. Hens 7 from BR (the source herbarium), in turn, shows a complete specimen (in the K collection the roots are missing) with a mature inflorescence. The collection was annotated by Clarke on 11 December 1894.

It is clear that this latter collection, *Hens 7*, which is also kept in several large public herbaria, would have served better for a possible lectotypification. This collection was already (ineffectively) referred to as such in our monographic study (Mesterházy *et al.* 2022).

#### Genus Pycreus P.Beauv.

#### Pycreus scaettae Cherm.

Revue de Zoologie et de Botanique africaines 24: 295 (Chermezon 1934).

ACCEPTED NAME (POWO 2025). — Cyperus scaettae (Cherm.) Reynders, Phytotaxa 166: 42 (Larridon et al. 2014).

#### REMARKS

This name was already lectotypified by Larridon *et al.* (2014) – i.e. prior to the publication of Mesterházy *et al.* (2022) and was therefore overlooked by us – based on the collection *H. Scaetta 58M* from BR with an isolectotype at K.

Out of the five syntypes cited by Chermezon (1934) in the protologue only the two *Scaetta* gatherings (58M and 2418) seem to be extant. Both were mentioned as possible types in Mesterházy *et al.* (2022). The designation by Larridon *et al.* (2014) is therefore plausible.

Fig. 1. — Lectotype of *Cyperus baikiei* C.B.Clarke ex Kük. (specimen K000321312).

#### **NEW TYPIFICATIONS**

### Family CYPERACEAE Juss. Genus *Cyperus* L.

## *Cyperus baikiei* C.B.Clarke ex Kük. (Fig. 1)

Repertorium specierum novarum regni vegetabilis 21: 325 (Kükenthal 1925).

ACCEPTED NAME (POWO 2025). — Cyperus tonkinensis var. baikiei (C.B.Clarke ex Kük.) S.S.Hooper, Kew Bulletin 26: 577 (Hooper 1972).

LECTOTYPE. — Nigeria • Collected on the Niger; IV.1865; *W.B. Baikie s.n.*; lectotype (here designated): K[K000321312] • Same data; Isolectotype: B [B 10 0166379].

#### Remarks

The name Cyperus baikiei was mentioned by Clarke (1894: 550) in the Conspectus Floræ Africæ, indicating its origin ("Afr. occ.-bor.: Sierra Leone, Scott Elliott [sic] 5676. Afr. occ. : Bas Niger") but without a description or diagnosis (nomen nudum). Kükenthal (1925: 325), who validated the name, provided the following collection details: "Trop. Westafrika: Senegambien, Ufer des Bani (A. Chevalier no. 1086!); Sierra Leone, zwischen Bumban und Port Lokko (Scott-Elliot no. 5676!); Niger (Baikie!)". The Chevalier collection, that should be in P (Stafleu & Cowan 1976-1988), could not be traced. The latter two gatherings are preserved at K. The Scott-Elliot gathering, to which was already referred by Clarke, comprises a complete but young individual, with the inflorescence barely exserted from the upper leaves (barcode K000321313). The third syntype, the Baikie collection that is preserved at K, bears three complete specimens, two of which with a mature inflorescence (barcode K000321312). A duplicate of the Baikie collection is preserved at B (B 10 0166379); it was annotated by G. Kükenthal in 1923.

The latter Kew specimen is designated as the lectotype of the name *Cyperus baikiei*.

## *Cyperus baronii* C.B.Clarke (Fig. 2)

Journal of the Linnean Society, Botany 20: 289 (Clarke 1883).

LECTOTYPE. — Madagascar • I.1882; *R. Baron 695*; lectotype (here designated): K[K000362679]) • Same data; Isolectotypes: BM[BM000922483], P[P00450551].

#### REMARKS

Clarke (1883: 289) cited two collections in his protologue of the species: "Madagascar centralis. *Baron nn. 484*, 695". Out of these two syntypes only *Baron* 695 is found in various online herbaria (e.g. K, P, and BM). The specimen preserved at P (P00450551) only comprises two inflorescences and a leaf. The specimens preserved at Kew (K000362679) and BM

(BM000922483), in contrast, represent complete specimens bearing roots, stems, leaves and an inflorescence and could both serve for lectotypification purposes. The Kew specimen is the better specimen and was verified by Clarke himself; it is here designated as lectotype for this species.

#### Cyperus melas Ridl.

Transactions of the Linnean Society of London, Botany 2: 127 (Ridley 1884).

LECTOTYPE. — Angola • Mutollo Sobata de Guinga cum Irideis pusillis et Xyrideis; I.1857; *F. Welwitsch 6914*; lectotype (here designated): LISU[LISU224753] • Same data; Isolectotypes: BM[BM000922518, lower three specimens, the upper belong to *Welwitsch 6913*], MPU[MPU028173].

#### REMARKS

Ridley (1884: 127) cited three syntypes in the protologue of this species, all from the Welwitsch herbarium: Angola, Pungo Andongo, in paludosis prope Lombe [...], Mar. 1857, n° 6913; Mutollo Sobata de Guinga [...], Jan. 1857, n° 6914 and Huilla, in pascuis editis ad Morro de Lopollo versus Empalanca, [...], Apr. 1860, nº 6871. A fourth collection, Welwitsch 7154, was also considered to be a syntype by Hoenselaar et al. (2010). The label bears the same details as Welwitsch 6914 (Mutollo, Jan. 1857). However, because this collection number was not mentioned in the protologue, it is not a syntype and therefore cannot be selected as a lectotype. The three Welwitsch collections mentioned in the protologue all are preserved in LISU and BM, where Welwitsch's Angola specimens are located (respectively his first and second set; see Stafleu & Cowan 1976-1988), with duplicates deposited in many other herbaria. After a legal dispute, the main set was assigned to the Lisbon herbarium (LISU), the secondbest set to the Natural History Museum in London (BM) (Albuquerque et al. 2020). All three collection numbers in LISU - with Welwitsch 6914 even being represented by two separate sheets - are eligible for lectotypification purposes. All these collections were also seen and cited by Kükenthal (1935-1936) in his world monograph. Welwitsch 6913 (barcode LISU224752) is represented by six entire specimens, nearly all of them quite mature and with the majority of the glumes already fallen. As a result, the verification of any floral characteristics (e.g. number, color and size of the stamens) may no longer be possible. Welwitsch 6871 (barcode LISU224756) only shows a single entire plant. It was studied by one of us (AM) at LISU and it belongs to Cyperus capillifolius A. Rich. [syn.: Pycreus capillifolius (A.Rich.) C.B.Clarke]. Welwitsch 6914 is left; it is represented by two almost identical sheets (LISU224753 and LISU224754). Both sheets contain several specimens, nine and six respectively, collected at both the flowering and fruiting stage. The first sheet includes both young and mature specimens; it is therefore best suited for lectotypification.



Fig. 2. — Lectotype of  $\it Cyperus\ \it baronii\ C.B. Clarke$  (specimen K000362679).



Fig. 3. — Isolectotype of Cyperus tenuiculmis Boeckeler (specimen BR0000006595869).



Fig. 4. — Lectotype of Mariscus albopilosus C.B.Clarke (specimen K000362622).

#### Cyperus nduru Cherm.

Archives de Botanique, Mémoires 7: 18 (Chermezon 1931).

LECTOTYPE. — Central African Republic • Oubangui, Bambari; XII.1920; *C. Tisserant 332*; lectotype (here designated): P[P00569082].

#### REMARKS

In the protologue of this species Chermezon (1931) cited two gathering numbers, *Tisserant 332* collected in Bambari in December 1920 and *Tisserant 332bis* collected in Région de la Waka in March 1928. These collection numbers are represented by five sheets in P (P00569082, P00569083, P00569084, P00569085 and P00569086). Duplicates of *Tisserant 332* and *332bis* are moreover located in BR (BR0000005572489 and BR0000005571833, respectively).

All collections from Bambari that were collected in December 1920 (i.e. Tisserant 332), are better developed than those of March 1928; the latter show younger specimens with poorly developed inflorescences. Tisserant 332 therefore is preferred for typification purposes. According to the Paris herbarium catalogue it is represented by two sheets: P00569082 and P00569083. However, the latter sheet – although numbered as '332' - was made in December 1928 and is thus in fact referable to *Tisserant 332bis*. The confusing numbering has also led to dates and collection numbers being mixed up in BR, until corrections were made by P. Bamps. Nonetheless, the *Tisserant* 332 collection in BR (BR0000005572489) bears a mixture of confusing elements: it was allegedly collected in Bambari, indeed shows mature specimens with well-developed inflorescences but is dated (or was merely annotated?) 30 December 1928. No further dates are discernible on this specimen.

In short, only the P collection P00569082 unequivocally dates from December 1920; it is here designated as the lectotype for this name. Due to the confusion surrounding the numbering of the other Tisserant collections, no isolectotypes are selected.

#### Cyperus reduncus Hochst. ex Boeckeler

Linnaea 35: 580 (Boeckeler 1868).

LECTOTYPE. — Ethiopia [most likely Abyssinia] • 19.IX.1838; W. Schimper (ex Herb. Hochstetterii); lectotype (here designated): TUB[TUB007289] • Same data; Isolectotype: M[M0107056].

#### REMARKS

Hochstetter coined this name (date unknown), but apparently only on a herbarium label and without a formal description, as was often the case with Hochstetter names (it supposedly was a *nomen nudum*). This can at least be deduced from Boeckeler (1868: 580) who added "in sched." (*in schedula*, i.e. on a label) after the name *Cyperus reduncus* and validated it. In his protologue of this species, Boeckeler referred to "Abyssinia" and "Schimper", without further indications. The herbarium of G.W. Schimper was preserved in B (partly destroyed) and in P, with numerous duplicates in other herbaria (Stafleu & Cowan 1976-1988). However, neither B nor P actually con-

tain specimens of *C. reduncus* that were collected by Schimper in Abyssinia. Hoenselaar's assumption (Hoenselaar *et al.* 2010) that the (holo-) type is located in B is therefore incorrect (it can be assumed that, if it ever existed, the collection was destroyed during World War II). In the C.F. Hochstetter herbarium, now incorporated at TUB (Stafleu & Cowan 1976-1988), a specimen is preserved that bears a label: "In Abyssinia legit et paucula. Specimina misit W. Schimper"; it is dated "19 Sept [18]38". The collection represents a complete plant showing all diagnostic features typical for the species. It corresponds with the information provided in the protologue by Boeckeler l.c. and was collected well before Boeckeler l.c. validated *C. reduncus* as a new species and thus can be considered as original material. This collection is here designated as the lectotype for this name.

Interestingly, at S there is an undated historical collection, originating from the area where the type material also comes from ("in uliginosis prope Gapdiam") (S13-17060). It may be original material, even if no collector is listed and no date is mentioned. After the name *Cyperus reduncus* Hochst. follows an extensive description of the species so that it could be assumed that it concerns Hochstetter's original collection, based on a Schimper specimen (in which case the name would have been validly published by Hochstetter and a validation by Boeckeler was superfluous). However, the handwriting does not correspond to that of Hochstetter (compared with examples of his handwriting presented by Steinberg 1973). Moreover, Hochstetter's herbarium is located in TUB, as far as known without duplicates in S. Considering the doubt that surrounds this collection, it is better not to take it into account for typification purposes.

## *Cyperus tenuiculmis* Boeckeler (Fig. 3)

Linnaea 36: 286 (Boeckeler 1870).

LECTOTYPE. — India • 1832; *Wallich 3321*; lectotype (here designated): K[K000592514] • Same data; Isolectotypes: BR[BR0000006595869], G[G00191594], P[P00587067].

#### REMARKS

Boeckeler (1870: 286) based his description of Cyperus tenuiculmis primarily on Wallich 3321. In addition, he referred to gatherings from Sierra Leone (Afzelius s.n.), Nupe [Nigeria] (Barter 1573), East India (Hook. & Thoms. s.n.), Batavia [Indonesia] (Jungh. s.n.), Ceylona [Sri Lanka] (Thwaites 807) and Luzon [Philippines] (Haenke s.n.; Meyen s.n.). The gathering Wallich 3321 is preserved in several herbaria, several of which are accessible online (e.g. BR, G, K, and P). The Paris specimen was annotated as isotype by Kern while revising Cyperus for Flora Malesiana. P. Van der Veken did the same for the specimen held in BR. The Wallich herbarium is incorporated in K (initially as K-W) with further material in numerous other herbaria. His type specimens, however, are mainly at K (Stafleu & Cowan 1976-1988). The Wallich 3321 specimen (K000592514) is here designated as lectotype for C. tenuiculmis.

#### Genus Mariscus

#### Mariscus albopilosus C.B.Clarke (Fig. 4)

Flora of Tropical Africa 8 (3): 394 (Clarke 1901-1902).

ACCEPTED NAME (POWO 2025). — Cyperus albopilosus (C.B.Clarke) Kük., Botaniska Notiser 1934: 69 (Kükenthal 1934).

LECTOTYPE. — Malawi • Zomba; XII.1896; Whyte s.n.; lectotype (here designated): K[K000362622].

#### REMARKS

Clarke (1901-1902: 394) cited two gatherings in his protologue of the species: "Mozamb. Dist. British Central Africa: Nyasaland; Mount Malosa, 4000-6000 ft., Whyte! Mount Zomba, 4000-6000 ft., Whyte!". According to Browning & Gordon-Gray (1993) both are preserved in K (barcodes K000362622 and K000362656). Images of both unnumbered collections are available on the internet via JSTOR. They are very similar, annotated by both Clarke and Kükenthal and could both serve for (lecto-)typification purposes. The Whyte collection from Mount Zomba (K000362622) was already cited as 'holotype' (erroneously so) by Hoenselaar et al. (2010); it is here designated as lectotype for this name.

#### Genus Pycreus P.Beauv.

#### Pycreus fallaciosus Cherm.

Archives de Botanique, Mémoires 7 (4): 7 (Chermezon 1936).

ACCEPTED NAME (POWO 2025). — Cyperus flavescens subsp. fallaciosus (Cherm.) Lye, Sedges & Rushes, Éast African Natural History Society 3: 2 (Haines & Lye 1983).

LECTOTYPE. — Senegal • Bord du Marigot de Mansadella (N. de Dienoudiella); 29.V.1934; Herbier du Sénégal, voyage 1933-1934; J. Trochain 3545; lectotype (here designated): P[P00573042] • Same data; Isolectotype: BR[BR0000013495794].

#### REMARKS

Chermezon (1936) cited two Trochain collections in the protologue of Pycreus fallaciosus, both from [bord du] Marigot de Mansadella (N. de Dienoudiella) [Senegal], May 1934, Tro*chain 3538* and *3545*. Both collections are kept in P, where the Trochain herbarium and types are located (Stafleu & Cowan 1976-1988). Duplicates are deposited in BR. Trochain 3545 represents a complete specimen with roots, flowers and fruits, whereas *Trochain 3538* only bears three stems (no roots), two of them in flower/fruit, a third with a young inflorescence that hardly emerges from the upper leaf sheath. Both collections were seen by J. Raynal in June 1970 who included this species in P. flavescens (L.) P. Beauv. ex Reich.

Trochain 3545 is the most representative out of the two syntypes and it was already annotated (informally) as lectotype for this name, possibly by J. Raynal. It is here designated as lectotype.

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