



## **Novelties in Combretum (Combretaceae) from Madagascar**

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# Novelties in Combretum (Combretaceae) from Madagascar

Carel C.H. Jongkind & Martin W. Callmänder

## Abstract

JONGKIND, C.C.H. & M.W. CALLMANDER (2023). Novelties in Combretum (Combretaceae) from Madagascar. *Candollea* 78: 139–146. In English, English and French abstracts. DOI: <http://dx.doi.org/10.15553/c2028v782a4>

The genus *Calopyxis* Tul. (Combretaceae) from Madagascar was included in *Combretum* Loeffl. as sect. *Calopyxis* (Tul.) Jongkind in 1995. However, several species names published in *Calopyxis* and used in the *Flore de Madagascar et des Comores* are still awaiting for a combination or a synonym link in *Combretum*. Three names published in *Calopyxis* are transferred here to *Combretum* resulting in two new combinations and a replacement name, i.e., *C. humberianum* (H. Perrier) Jongkind & Callm., *C. malifolium* (Bak.) Jongkind & Callm., and *C. calopyxis* Jongkind & Callm. *Calopyxis brevistyla* H. Perrier is placed into synonymy of *Combretum sphaeroides* (Tul.) Jongkind. Lectotypes are also designated here for *Calopyxis brevistyla* H. Perrier, *C. malifolia* Baker, *C. sphaeroides* Tul., and *C. velutina* Tul. Finally, a new species of *Combretum* is described from southwestern Madagascar: *C. sakoense* Jongkind & Callm.

## Résumé

JONGKIND, C.C.H. & M.W. CALLMANDER (2023). Nouveautés dans le genre Combretum (Combretaceae) à Madagascar. *Candollea* 78: 139–146. En anglais, résumés anglais et français. DOI: <http://dx.doi.org/10.15553/c2023v782a4>

Le genre *Calopyxis* Tul. (Combretaceae) de Madagascar a été inclus dans *Combretum* Loeffl. en tant que sect. *Calopyxis* (Tul.) Jongkind en 1995. Cependant, plusieurs noms d'espèces publiés dans *Calopyxis* et utilisés dans la *Flore de Madagascar et des Comores* sont toujours en attente d'une combinaison ou d'un lien de synonymie dans *Combretum*. Trois noms publiés dans *Calopyxis* sont transférés ici dans *Combretum*, ce qui donne lieu à deux nouvelles combinaisons et un nouveau nom, à savoir *C. humberianum* (H. Perrier) Jongkind & Callm., *C. malifolium* (Bak.) Jongkind & Callm. et *C. calopyxis* Jongkind & Callm. *Calopyxis brevistyla* H. Perrier est placée en synonymie de *Combretum sphaeroides* (Tul.) Jongkind. Des lectotypes sont également désignés ici pour *Calopyxis brevistyla* H. Perrier, *C. malifolia* Baker, *C. sphaeroides* Tul. et *C. velutina* Tul. Enfin, une nouvelle espèce du sud-ouest de Madagascar est décrite: *Combretum sakoense* Jongkind & Callm.

## Keywords

COMBRETACEAE – *Calopyxis* – *Combretum* – Madagascar – Endemic – Lectotypification – New species – Taxonomy

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## Introduction

The endemic genus *Calopyxis* Tul. from Madagascar was included in *Combretum* Loebl. as sect. *Calopyxis* (Tul.) Jongkind of subg. *Cacoucia* (Aubl.) Exell & Stace (JONGKIND, 1995). This section can be recognised by the combination of a terminal, racemose inflorescence, flowers in most species without petals and fruits never with thin, flat wings. Not all names in *Calopyxis* used in the *Flore de Madagascar et des Comores* by PERRIER DE LA BÂTHIE (1954) were dealt with in that publication in 1995. Several names still need to be transferred or synonymised in *Combretum*. The poor quality of several type specimens, including the lack of field data, made this a difficult problem. Recently an important part of this problem was solved thanks to the availability of online herbarium scans and ongoing botanical exploration in Madagascar.

In this new contribution on the genus *Combretum* in Madagascar, we propose to resolve the taxonomy and the nomenclature of several names previously placed in *Calopyxis*. Three names are transferred to *Combretum* resulting in one replacement name, *C. calopyxis* Jongkind & Callm., and two new combinations, *C. humbertianum* (H. Perrier) Jongkind & Callm. and *C. malifolium* (Baker) Jongkind & Callm. Furthermore, *Calopyxis brevistyla* H. Perrier is placed into synonymy with *Combretum sphaeroides* (Tul.) Jongkind. Lectotypes are designated here for *Calopyxis brevistyla* H. Perrier, *C. malifolia* Baker, *C. sphaeroides* Tul., and *C. velutina* Tul. A new species of *Combretum*, *C. sakoense* Jongkind & Callm., is also described.

After this publication, only *Calopyxis ambongensis* H. Perrier and *C. decaryana* H. Perrier are left without combination or synonym link in *Combretum*. Both are described from the dry vegetation on low altitudes and known only from their type specimens. They might represent extremes of *C. sphaeroides* and *C. longicollum* Jongkind, respectively, but more research in their area of origin is needed to solve their taxonomic position. With the replacement name, the two new combinations, and the new species published here, there are now 14 species known in *Combretum* sect. *Calopyxis*, all endemic to Madagascar (JONGKIND, 1995; JONGKIND & GAUTIER, 2011).

The results presented in this contribution are based on a morphological study of the herbarium material kept at BR, G, K, MO, P, and WAG. Online databases used for this study were from the Muséum national d'Histoire naturelle in Paris (SONNERAT, 2023), the Missouri Botanical Garden (TROPICOS, 2022), Global Plants on JSTOR [<https://plants.jstor.org>], and RECOLNAT [<https://www.recolnat.org>]. Photos of living plants were also studied on iNaturalist [[www.inaturalist.org](http://www.inaturalist.org)]. GeoCAT (BACHMAN & MOAT, 2012) was used to calculate area of occupancy [AOO] and extent of occurrence [EOO] in assessing the conservation status of the species.

## Taxonomic treatment

***Combretum calopyxis*** Jongkind & Callm., **nom. nov.**

= *Calopyxis eriantha* Tul. in Ann. Sci. Nat. (Paris) 6: 82. 1856 [not *Combretum erianthum* Benth.].

**Holotypus:** MADAGASCAR: “in monte Chasak”, s.d., fl., Bojer s.n. (P [P00390081]!).

= *Calopyxis velutina* Tul. in Ann. Sci. Nat. (Paris) 6: 87. 1856. **Lectotypus** (designated here): MADAGASCAR. **Reg. Analamanga [Prov. Antananarivo]:** “environ de Tananarivo”, s.d., fr., Goudot 1682bis (G [G00415915]!; isolecto-: G [G00415916, G00415923]!).

Scrambling *shrub*. Twigs velutinous, soon glabrous and very pale. *Leaves* with petiole 2–5 mm long, blade 1.2–4 × 0.9–2.5 cm, base rounded to cordate, apex acute to shortly acuminate, with 3–5 pairs of secondary veins with hairy domatia below. *Inflorescence* terminal, 1–2 cm long. *Flowers* almost sessile, lower receptacle c. 4 mm long, densely short hairy, upper receptacle c. 13 mm long, long campanulate, with scattered hairs outside, calyx lobes triangular, gradually bending outward starting from the top; stamens included or slightly exerted; style shortly exerted. *Fruit* almost sessile, c. 2 cm long, almost globose, slightly angular, velutinous.

*Notes.* – The holotype of *Calopyxis eriantha* in P, that was probably never very rich, has lost all its flowers and the provenance “in monte Chasak” could not be located. A richer specimen of this species, also collected by Wenceslas Bojer (1795–1856), is extant at K [K000413877]. This specimen might represent an isotype but only “Madagascar” is written on the sheet as location. Other material assigned here to this species has been collected not far from the capital Antananarivo and we suspect that Bojer’s collections are also from this area.

The original material of *Calopyxis velutina* was cited as “Gudotii Herb., ap. Lessertum” in the protologue (TULASNE, 1856). Three specimens collected by Jules Prosper Goudot (1803–1861) numbered 1682bis are deposited at G. The best-preserved material, including fruits, is designated here as the lectotype.

Some of the specimens cited as *Calopyxis eriantha* by PERRIER DE LA BÂTHIE (1954) belong to a species with conspicuously larger leaves, found on lower elevations in the drier southwest of Madagascar. This species still lacked a name and is described here as *Combretum sakoense* Jongkind & Callm. (see below under this species).

The illustration of *Calopyxis eriantha* presented by PERRIER DE LA BÂTHIE (1954: fig. IV.1–5) is a mixture of several other species: fig. IV.1–3 is based on *Humbert 11534*, which is cited here under *Combretum sakoense*; fig. IV.4, based on *Cours 3964*, corresponds to *C. longicollum* Jongkind; fig. IV.5, based on *Perrier 15038*, is *C. coursianum* (H. Perrier) Jongkind. *Cours*

3964 was collected in forêt d'Ambanjabe (district de Marovoay) and not near Lac Alaotra (PERRIER DE LA BÂTHIE, 1954: 20).

*Combretum calopyxis* can be recognised by the small leaves (blade 1.2–4 × 0.9–2.5 cm), the 1–2 cm long inflorescence with almost sessile flowers, and a long campanulate upper receptacle (c. 13 mm long) with the stamens not, or only slightly, exserted.

*Additional specimens examined.* – MADAGASCAR. **Reg. Itasy [Prov. Antananarivo]:** bords de l'Ikopa, vers Mararano, 9.XI.1969, fl., *Chauvet* 462 [P05292315, P06603058]; Soavinandriana, 26.XII.1959, fr., *J. Peltier & M. Peltier* 1690 (P [P06603076]).

***Combretum humbertianum*** (H. Perrier) Jongkind & Callm., **comb. nov.** (Fig. 1A, B).

= *Calopyxis humbertiana* H. Perrier in *Ann. Mus. Colon. Marseille*, sér. 6, 9–10 & sér. 7, 1: 19. 1953.

**Holotypus:** MADAGASCAR. **Reg. Ihorombe [Prov. Fianarantsoa]:** vallée d'Ihohy, [22°24'S 46°04'E], 800–1000 m, 29–30.X.1924, fl., *Humbert* 2981 [not 2982] (P [P00048142]!; iso-: P [P00048143]!, WAG [WAG0000470]!).

*Liana.* Twigs with peeling bark. *Leaves* glabrous except for the hairy domatia, petiole 5–7 mm long, blade 3.5–10 × 2–5 cm. *Inflorescence* 4–5.5 cm long, on the twigs below the leaves or terminal. Flower glabrous outside except for the petals, reddish, bracts c. 5 × 2 mm, pedicel c. 5 mm long, lower receptacle c. 5 mm long, upper receptacle including calyx lobes 18–22 mm long, petals (always?) present, c. as long as calyx lobes; stamens c. 1 cm exserted; style c. 1.5 cm exserted. *Fruit* glabrous, broadly ellipsoid with a stipe-like part about ½ the length of the fruit.

*Conservation status.* – *Combretum humbertianum* has an estimated EOO of 3,531 km<sup>2</sup>, an AOO of 16 km<sup>2</sup>, and five locations with respect to the most serious plausible threat of illegal logging and agriculture. Even though, it occurs within the protected areas of Midongy du Sud, it is threatened by ongoing degradation or destruction of its habitat due to shifting agriculture, illegal logging and wood harvesting; all of which will result in inferred continuing decline in its habitat quality. Based on current information, *C. humbertianum* is therefore assessed as «Vulnerable» [VU B1ab(iii)+B2ab(iii)] according to IUCN Red List Categories and Criteria (IUCN 2012).

*Notes.* – *Combretum humbertianum* was previously included in *C. macrocalyx* (Tul.) Jongkind (JONGKIND, 1995: 195). At that time no important differences could be found between the two species. Recently, the fruits of *C. humbertianum* were collected for the first time; they are almost circular in cross-section (Fig. 1B) and not sharply angular like those of *C. macrocalyx*

(Fig. 1C). Also, the inflorescence bracts of *C. humbertianum* are more conspicuous and seem to be less deciduous than those of *C. macrocalyx*.

*Combretum macrocalyx* is restricted to northern Madagascar, whereas *C. humbertianum* is found in the southern highlands in the Ihorombe Region.

*Additional specimens examined.* – MADAGASCAR. **Reg. Ihorombe [Prov. Fianarantsoa]:** Midongy-Sud NP, between Didsaka village and Ranom-ena, 23°38'47"S 47°03'46"E, 12.XI.2011, fl., *Davis et al.* 4805 (K); Ihosy-montée de l'Ihorombe km 621, 13.XI.1959, *J. Peltier & M. Peltier* 1324 (P, WAG [WAG.1487488]); Fkt. Longoza, rivière Efanôla, 22°34'59"S 46°42'23"E, 922 m, fl., fr., 7.XII.2016, *Rakotoavao et al.* 7221 (MO, P [P00860480], TAN); dans la vallée de la Menarahaka, à l'E d'Ihohy, [22°32'S 46°29'E], 19.XII.1968, fl., *Service Forestier* 28478 (P [P06603141], WAG [WAG.1487498]).

***Combretum malifolium*** (Baker) Jongkind & Callm., **comb. nov.**

= *Calopyxis malifolia* Baker in *J. Linn. Soc., Bot.* 22: 474. 1887.

**Lectotypus** (designated here): MADAGASCAR: “Central Madagascar”, fl., *Baron* 4847 (K [K000413875]!). **Syntypi:** ibid. loco, fl., *Baron* 4709 (BM [BM000902263] image!, K [K000413873]!); ibid. loco, fl., *Baron* 4846 (K [K000413874]!).

*Leaves* nearly glabrous, blade 3–7 × 2–4 cm, with hairy domatia. *Inflorescence* c. 2.5 cm long. *Flowers* 5-merous, with a stipe < 1 mm long; lower receptacle c. 4 mm long, densely appressed short hairy; upper receptacle gradually widening to the mouth, 9–12 mm long including the calyx lobes, with scattered hairs outside, more densely hairy inside, edge of calyx lobes densely very short hairy; stamens and style exserted about as far as the length of the calyx lobes. *Fruit* unknown.

*Notes.* – *Calopyxis malifolia* was described by BAKER (1887) based on three collections by Richard Baron (1847–1907). As always with Baron, the collection locality is rather vague, and no other specimen could be found yet belonging to this species. *Baron* 4846 is designated here as the lectotype because it is the best-preserved original material among the syntypes.

*Combretum malifolium* differs from all other species in the sect. *Calopyxis* by the combination of an upper receptacle 9–12 mm long (including calyx lobes) that is gradually widening to the mouth, with clearly but shortly exserted stamens (exserted about as far as the length of the calyx lobes).

***Combretum sakoense*** Jongkind & Callm., **sp. nov.** (Fig. 2, 3).

**Holotypus:** MADAGASCAR. **Reg. Atsimo-Andrefana [Prov. Toliara]:** Beza Mahafaly Reserve, near Betsiky, Parcelle 1, 23°39'S 44°38'E, 21.X.1987, fl., *Phillipson* 2423 (MO-3683347!); iso-: BR [BR0000017370240]!, K, P [P05239818]!, TAN, WAG [WAG.1977404]!).





Fig. 1. – *Combretum humbertianum* (H. Perrier) Jongkind & Callm.: A. Flowers; B. Fruits. *Combretum macrocalyx* (Tul.) Jongkind: C. Fruits. [A–B: Rakotovoao 7221; C: Reg. DIANA, Prov. Antsiranana, Fkt. Ivovona, <https://www.inaturalist.org/observations/28665139>] [Photos: A–B: C. Rakotovoao; C: F. Rakotoarison]

*Combretum sakoense* Jongkind & Callm. resembles *C. calopyxis* Jongkind & Callm., but it differs from that species by a shorter (8–9 mm long vs. c. 13 mm long), hairier upper receptacle, and by larger leaves (6–11.5(–14) × 4–6(–12) vs. 1.2–4 × 0.9–2.5 cm).

Shrub up to 3 m high or liana. Leaves opposite; petiole 7–12 mm long, pubescent; blade ovate to elliptic, 6–11.5(–14) × 4–6(–12) cm, first pubescent on both sides, later glabrous except for the venation below, 5–8 pairs of secondary veins, venation impressed above, prominent below, base rounded to acute, apex mostly acute, sometimes shortly acuminate. Inflorescence a single short spike at the end of a shoot of the same season, peduncle 4–6 mm long. Flower 5-merous, sessile, greenish; bracts c. 3 × 1 mm, leaf-shaped, pubescent; lower receptacle 3–4 mm long, densely hairy; upper receptacle long urceolate-infundibuliform, including calyx lobes 8–9 mm long, outside less densely hairy than lower

receptacle, inside with scattered hairs more dense at base and edge; constriction between upper and lower receptacle short; calyx lobes triangular, c. 2 mm long; petals absent; stamens conspicuously 2-seriate, sometimes one series slightly exserted; filaments white, shorter than anthers; anthers c. 0.8 mm long, pale yellow; style green, slightly exserted, lower half pubescent. Fruit sessile, 15–22 mm long, almost globose to slightly angular, velutinous.

*Distribution, ecology and phenology.* – *Combretum sakoense* is known from dry spiny bush and rupicolous forests (sensu GAUTIER et al., 2018) in southwestern Madagascar between 50 to 200 m of elevation. The new species grows mainly on limestone. It has been collected in flower from October to February and in fruit in January and February.



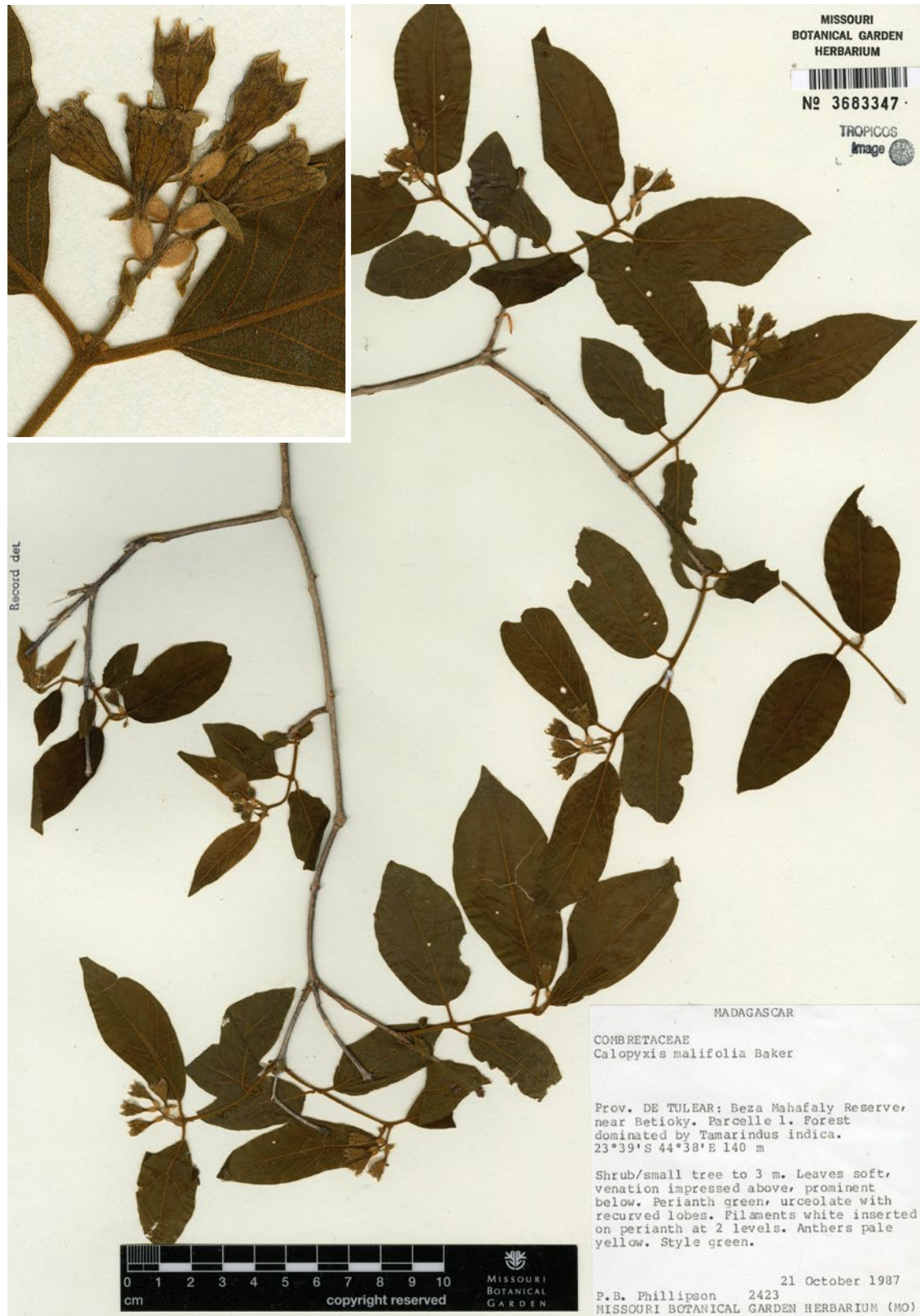


Fig. 2. – Holotype of *Combretum sakoense* Jongkind & Callm. at MO with a close-up of its inflorescence.  
[Phillipson 2423, MO-3683347] [© Missouri Botanical Garden, St. Louis]



Fig. 3. – *Combretum sakoense* Jongkind & Callm.: A. Leaves; B. Fruits.

[Rakotoarisoa & Mamy SNGF 4060, K, TAN, TEF; <https://www.inaturalist.org/observations/12949066>] [Photo: S.E. Rakotoarisoa]

**Conservation status.** – *Combretum sakoense* is known from 13 localities, five of which are encompassed within the protected areas network (Amoroni'I Onilahy, Beza Mahafaly, and Ranobe). With an EOO of c. 23,170 km<sup>2</sup> and an AOO of 52 km<sup>2</sup>, *C. sakoense* is therefore assessed as “Least Concern” [LC] due to its wide distribution in the southwestern region and number of localities.

**Notes.** – This species differs from all other species of *Combretum* sect. *Calopyxis* by the sessile flowers with a conspicuously hairy lower receptacle, an upper receptacle clearly longer than wide, with stamens that are not or hardly exerted, and a comparatively short constriction between the lower and upper receptacle.

Several of the older specimens of *Combretum sakoense* were cited by PERRIER DE LA BÂTHIE (1954: 18–20) as *Calopyxis eriantha*.

**Additional specimens examined.** – MADAGASCAR. Reg. Atsimo-Andrefana [Prov. Toliara]: Befandriana-Sud, [22°06'30"S 43°54'30"E], 150 m, 7.XII.1961, fl., Appert 38 (G, WAG, Z); falaises calcaires du Fiherenana, [22°57'30"S 44°19'00"E], I.1962, y.fr., Bosser 15814 (P [P05239827, P05239828]); Distr.

Betioky, vallée de la Sakoa, [23°42'00"S 44°43'00"E], 21.X.1940, fl., Decary 15973 (P [P05239829]); ibid. loco, 22.X.1940, fl., Decary 16024 (P [P05292294, P05292300, P05292310]); ibid. loco, 22.X.1940, fl., Decary 16032 (P [P05292311, P06603050, P06603052]); Ankazoabo, [22°18'S 44°31'E], 30.X.1940, fl., Decary 16253 (P [P05292313]); rte. de Behompy, [23°15'S 43°52'E], fr., Dequaire 27573 (P [P05239831], WAG [WAG0296991]); vallées du Mangoky et de l'Isahaina, aux env. de Beroroha, [21°41'S 45°10'E], X.1933, fl., Humbert 11339 (P [P05239841]); basse vallée de Fiherenana, [23°06'S 44°02'E], 50–200 m, II.1933, fl., Humbert 11534 (P [P05239837, P05239838]); gorges de Fiherenana, entre Beantsy et Anjamala, [23°12'S 43°56'E], I.1947, fr., Humbert 19874 (P [P05239833]); vallée de l'Onilahy, près de Tongobory, vallon d'Andranolahy, [23°31'S 44°09'E], 5.II.1947, fr., Humbert 20156 (P [P05239834]); ibid. loco, 5.II.1947, fr., Humbert 20168 (P [P05239835, P05239836]); env. de Tulear, gorge du Fiherenana, [23°18'S 43°43'E], 16.III.1960, fr., Keraudren 761 (P [P05239754, P05239756]); ibid. loco, II.1962, y.fr., Keraudren 1342 (P [P06603042, P06603043]); la Sakoa, [23°42'00"S 44°43'00"E], VIII.1925, fl., Perrier de la Bâthie 17358 (P [P05239822]); Beza Mahafaly Reserve near Betioky, 23°39'S 44°38'E, 17.X.1987, fl., Phillipson 2369 (MO, P [P05239817], TAN); Prov. de Tulear, 20.XI.1921, fl., Poisson 351 (P [P05239819]); Atsimo-Andrefana, Beroroha, Fkt. Betorabato, 21°40'30"S 44°59'37"E, 18.I.2011, fr., Razakamalala 6086 (MO, P [P00842786], TAN); env. des charbonnages de la Sakoa, [23°46'S 44°34'E], 21.II.1949, fr., Service Forestier 488 (P [P05239820]).



*Combretum sphaeroides* (Tul.) Jongkind in Bull. Mus. Natl. Hist. Nat., B, Adansonia 17: 196. 1995 (Fig. 4).

= *Calopyxis sphaeroides* Tul. in Ann. Sci. Nat. (Paris) 6: 86. 1856.

**Lectotypus** (designated here): **MADAGASCAR. Reg. Melaky [Prov. Mahajanga]:** Ambongo, 17.II.1841, fl., fr., *Pervillé 667* (P [P00048129]!; isolecto-: G [G00008891 fragm.]!, P [P00048128, P06603069, P06603077, P06603078]!).

= *Calopyxis brevistyla* H. Perrier in Ann. Mus. Colon. Marseille, sér. 6, 9–10 & sér. 7, 1: 20. 1953, **syn. nov.** **Lectotypus** (designated here): **MADAGASCAR. Reg. Boeny [Prov. Mahajanga]:** près du Mt. Tsiton-draina, Boeny, X.1899, fl., fr., *Perrier de la Bâthie 964* (P [P05239859]!; isolecto-: K, MO, P [P05239858]!, TAN). **Syntypi:** Tsitampiky, 19.X.1930, fl., *Decary 8187* (P [P05239842, P05239843]!); sine loco, s.d., *Leandri 280bis* (P [P05239845]!); Majunga, X.1924, fl., *Perrier de la Bâthie 16792* (P [P05239854]!); Ambato-Boéni, Bevazaha (RN n° 7), 16.X.1947, *Réserves Naturelles 1102* (P [P05239849]!); ibid. loco, 16.X.1948, *Réserves Naturelles 1166* (P [P05239850]!); ibid. loco, 1.X.1948, *Réserves Naturelles 1155* (P [P05239851]!); Ankarafantsika, RN n° 7, s.d., *Service Forestier 21* (P [P05239857]!); ibid. loco, s.d., *Service Forestier 21A* (MO, P [P05239856]!); Ste. Marie de Marovoay, Ankarafantsika, RN n° 7, s.d., *Service Forestier 43* (P [P05239852, P05239853]!).

*Shrub.* Twigs first densely appressed hairy, soon glabrous. *Leaves* petiole 4–12 mm long; blade 1.5–5(–9.5) × 1–2.5(–4) cm, with hairy domatia and often with a few hairs on the larger veins below. *Inflorescence* terminal, up to 2.5 cm long. *Flowers* stipitate; receptacle greenish, sometimes tinged red; lower receptacle appressed short hairy; upper receptacle cupuliform to campanulate, up to 6 × 6 mm, almost glabrous outside, hairy inside, pale green, often with reddish; petals absent; stamens included to shortly exerted, up to 2 mm long; style not or hardly exerted. *Fruit* globose to obovoid, up to 1.7 cm in diam., glabrous, green to reddish or brownish, with a short but distinct stipe up to 4 mm long.

*Conservation status.* – *Combretum sphaeroides* has a very wide distribution from Mahajanga in the North-West to close to Toliara in the South. This species has an estimated EOO above the threshold for the “Vulnerable” status under Criterion B1 of the IUCN Red List Categories and Criteria (IUCN, 2012), i.e., 20,000 km<sup>2</sup> and is known from several protected areas, among them Ankarafantsika, Namoroka, and Bemaraha. We therefore consider *C. sphaeroides* as “Least Concern” [LC] due to its wide distribution in Madagascar and number of localities.



**Fig. 4.** – Flowering branch of *Combretum sphaeroides* (Tul.) Jongkind. [Reg. Sofia, Prov. Mahajunga, SW Mampikony, <https://www.inaturalist.org/observations/64589856>] [Photo: F. Rakotoarison]

*Notes.* – TULASNE (1856: 87) wrote in his protologue of *Calopyxis sphaeroides* “teste Bernerio in Herb. Boivin (n° 667)”. This shows that *C. sphaeroides* was based on collections from Auguste Pervillé (?–c. 1868) that were sent in 1846 by Alphonse C.J. Bernier (1802–1858) to Louis Hyacinthe Boivin (1808–1852). The type collection, *Pervillé 667*, collected in 1841 around Ambongo near Majunga, was misinterpreted by PERRIER DE LA BÂTHIE (1953, 1954) as *Boivin 667* from Nosy Bé. Five specimens of *Pervillé 667* are deposited at P and the best-preserved material is designated here as the lectotype (P [P00048129]).

Several specimens collected near the type locality of *Combretum sphaeroides*, and that are morphologically very similar to that type, were cited by PERRIER DE LA BÂTHIE (1953, 1954) under *Calopyxis brevistyla*. Perrier de la Bâthie described differences in the leaves, but recent collections, such as *Jongkind 3489* [WAG.1971892] from Tsingy de Bemaraha, show these different leaf shapes on one single branch. Therefore, we consider *C. brevistyla* as a synonym of *Combretum sphaeroides*.



The flowers of *Combretum sphaeroides* are usually 5-merous but exceptions are not rare. TULASNE (1856) did describe the flowers as 5–6-merous, and according to PERRIER DE LA BÂTHIE (1953, 1954) they are 3–4-merous.

Among the numerous syntypes of *Calopyxis brevistyla*, the best-preserved specimen of *Perrier de la Bâthie 964* (P [P05239859]) is designated here as the lectotype because it combines flowers and fruits and has detailed field notes.

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