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Combretum nusbaumeri Jongkind & L. Gaut. (Combretaceae), a new species from Madagascar

Carel C. H. Jongkind & Laurent Gautier

Abstract

JONGKIND, C. C. H. & L. GAUTIER (2011). *Combretum nusbaumeri* Jongkind & L. Gaut. (Combretaceae), a new species from Madagascar. *Candollea* 66: 311-315. In English, English and French abstracts.

The new species *Combretum nusbaumeri* Jongkind & L. Gaut. (Combretaceae) that is endemic to north-eastern Madagascar is described and illustrated. It belongs in subgen. *Cacoucia* (Aubl.) Exell & Stace sect. *Calopyxis* (Tul.) Jongkind and is related to *Combretum evisceratum* (H. Perrier) Jongkind and *Combretum macrocalyx* (Tul.) Jongkind, two forest climbers that are also found in the same region. It differs quite markedly from them by the densely hairy receptacle and the style which is barely exerted.

Key-words

COMBRETACEAE – *Combretum* – Madagascar – Taxonomy – Conservation

Résumé

JONGKIND, C. C. H. & L. GAUTIER (2011). *Combretum nusbaumeri* Jongkind & L. Gaut. (Combretaceae), une nouvelle espèce de Madagascar. *Candollea* 66: 311-315. En anglais, résumés anglais et français.

Combretum nusbaumeri Jongkind & L. Gaut. (Combretaceae), une nouvelle espèce endémique du Nord-Est de Madagascar, est décrite et illustrée. Elle appartient au subgen. *Cacoucia* (Aubl.) Exell & Stace sect. *Calopyxis* (Tul.) Jongkind et est apparentée à *Combretum evisceratum* (H. Perrier) Jongkind et *Combretum macrocalyx* (Tul.) Jongkind, deux lianes forestières qu'on trouve dans la même région. Elle en diffère de manière frappante par son réceptacle densément velu et son style à peine exsert.

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Just over 15 years ago JONGKIND (1995) started a revision of the genus *Combretum* (*Combretaceae*) from Madagascar. Since that time a number of new *Combretum* species have been found on the island and *C. nusbaumeri* Jongkind & L. Gaut., described in this article, is one of these (Fig. 1). With its long campanulate, 5-merous upper receptacle, the absence of petals and its wingless fruits, it belongs without doubt to *Combretum* subgen. *Coucia* (Aubl.) Exell & Stace sect. *Calopyxis* (Tul.) Jongkind. Only a part of the sect. *Calopyxis* was revised by JONGKIND (1995), but the new species

happens to belong to this part. Within the section *Calopyxis* there are only few species with all 10 stamens clearly exerted like those of the new species, and with a comparatively large inflated disk. With this inflated lower part of the upper receptacle, which includes the disk, *Combretum nusbaumeri* resembles *C. evisceratum* (H. Perrier) Jongkind (Fig. 2) and *C. macrocalyx* (Tul.) Jongkind (PERRIER DE LA BÂTHIE, 1954: 19, Fig. IV, 7, 8 & 31, Fig. VII, 5-7), two forest species of wider distribution that are also found in north-eastern Madagascar, as is the new species (Fig. 3). However, the



Fig. 1. – *Combretum nusbaumeri* Jongkind & L. Gaut., field photos of the plant from which the type was collected (Nusbaumer & Ranirison 1521). **A, B.** Inflorescence. **C.** Fruits.

[Photos: L. Nusbaumer]



Fig. 2. – *Combretum evisceratum* (Tul.) Jongkind, flowers (Nusbaumer & Ranirison 1953).

[Photo: L. Nusbaumer]

distinction of these three species is easy based on flowering or fruiting material (see Table 1). The new species does not have long exserted stamens like *C. macrocalyx* and the upper receptacle is not clearly inflated like in *C. evisceratum*, its whole flower is also much more hairy than in the other two species. The fruits of the new species differ in being completely wing- or ridge-less and also conspicuously hairy.

The new species occurs in the Loky-Manambato (Daraina) area where vegetation consists is made up of ca. 12 forest blocks 800-6000 ha each, within a secondary grassland matrix that was deforested, presumably several centuries ago (GOODMAN & WILMÉ, 2006). Evergreen humid forest occurs on the two highest hills (ca. 1100 and 1200 m) and various types of semi-deciduous to dry forest occur in forest blocks at lower elevations. The new species comes from the Antsaharaingy forest block which is located North of the area, with a maximum elevation of 126 m, and on sandy soils, opposed to the sandstone substratum of the other forest blocks. It harbours the driest forest type of the area with a low canopy (6 to 8 m high), the tallest trees reaching a maximum of 12 m (GAUTIER & al., 2006).

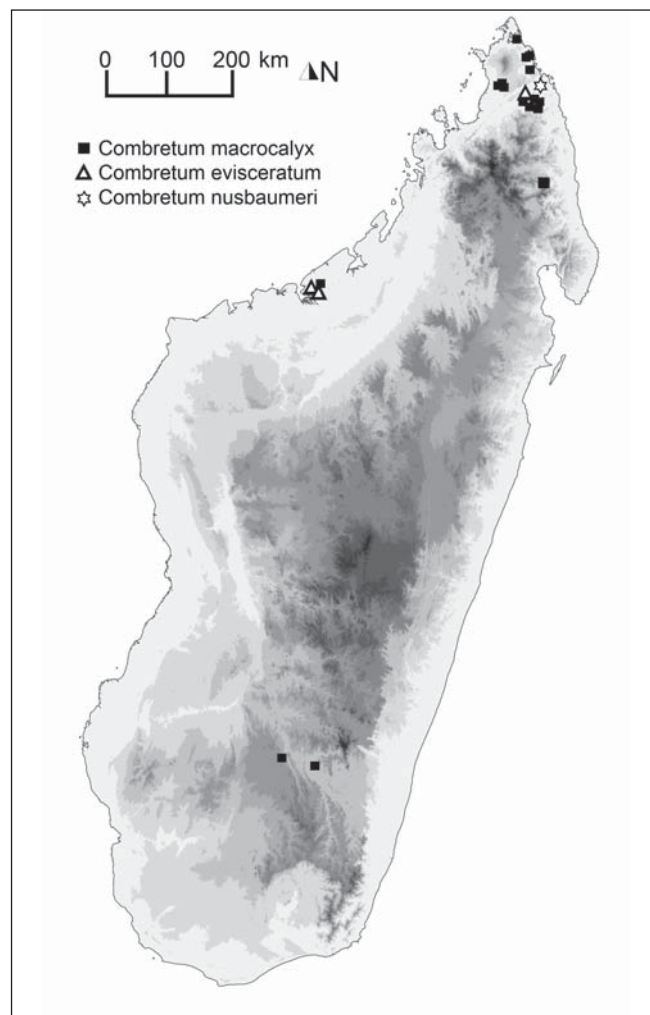


Fig. 3. – Distribution of *Combretum macrocalyx* (Tul.) Jongkind (black squares), *C. evisceratum* (H. Perrier) Jongkind (white triangle) and *C. nusbaumerii* Jongkind & L. Gaut. (white star), with shading representing elevation.

***Combretum nusbaumeri* Jongkind & L. Gaut., spec. nova**
(Fig. 1)

Typus: MADAGASCAR: Antsiranana (Diego Suarez), sous-préfecture de Vohémar, commune rurale de Daraina, forêt d'Antsaharaingy (12°55'S 49°40'E), 85 m, 1.III.2005, Nusbaumer & Ranirison 1521 (holo-: WAG; iso-: G; TEF).

Frutex volubilis vel liana, Combretum eviscerati affinis sed receptaculo albo dense pubescenti campanulato apicem versus non constricto, stylo vix exserto et fructus subgloboso costato (non alato) dense pubescenti ita in sectione transversali globoso (non stellato) notabilis.

Table 1. – Principal differences between *Combretum nusbaumeri* Jongkind & L. Gaut., *C. evisceratum* (H. Perrier) Jongkind and *C. macrocalyx* (Tul.) Jongkind.

	<i>C. evisceratum</i>	<i>C. nusbaumeri</i>	<i>C. macrocalyx</i>
Distal portion of upper receptacle shape	campanulate to urceolate	campanulate	campanulate to trumpet-shaped
receptacle colour and pubescence	pink, to greenish towards mouth, glabrous	white, densely hairy	red to orange or white, almost glabrous
Style	clearly exerted, extending beyond anther position	included or barely exerted; hardly reaching anther position	clearly exerted, extending beyond anther position
Fruit shape	5 winged (wings 5 mm broad); section star-shaped	almost spherical, with 5 costulae, section circular	section pentagonal, with 5 narrow wings (1 mm broad)
Fruit pubescence	glabrous	densely tomentose	glabrous

Description. – Twining climber several meters long. Twigs pubescent. *Leaves* opposite; petiole 5-10 mm long, densely hairy; lamina elliptic, 5-20 cm × 3-8 cm, with 5-10 pairs of main lateral nerves, densely pilose on both sides, base cordate, apex acute to shortly acuminate. *Inflorescence* a terminal, few-flowered bracteate raceme. *Bracts* linear, ca 12 × 1.5 mm, cream-coloured to pale brown, hairy. *Flowers* borne in pairs at each raceme node, white except for the brownish anthers, sessile or almost so; lower receptacle ca 4 mm long, completely covered with a very dense indumentum of 1 mm long whitish hairs; upper receptacle ca 2 cm long, with an inflated lower part including the disk, and a long campanulate upper part with 5 broad triangular lobes on top, densely white hairy outside with ascending 1 mm long hairs, mostly glabrous on the inside except for a patch of dense hairs at the edge of the disk and a few hairs on the inside of the calyx lobes; stamens 2-seriate, glabrous, attached to the upper receptacle some distance above the disk, ca. 5 mm exerted in living plant but only ca 1 mm in dry specimen; anthers 1.5-2 mm long; style hairy on lower 2/3, barely exerted from the receptacle. Fruit subglobose, unwinged but with 5 ridges, almost sessile, ca 1.5-2 cm in diameter, densely tomentose with whitish hairs.

Habitat and distribution. – Forest on sandstone about 6-8 m high with some emergents reaching 10-12 m. Only known from the type locality. The species has been seen in two other places in the same forest while conducting vegetation surveys. The species has never been encountered in any of the vegetation surveys conducted in the other forests of the area.

Conservation status. – With only two collections known, an AOO of 9 km² (calculation following CALLMANDER & al., 2007) and only one subpopulation, situated within an «Aire protégée à statut temporaire», the species is assigned a preliminary status of «Critically Endangered» (CR B2ab(i, iii, iv)) (UICN, 2001).

Etymology. – The species is named in honour of Louis Nusbaumer, who enthusiastically performed field work at Loky-Manambato together with his colleague Patrick Ranirison.

Through their numerous collections and hard work in the field they made a significant contribution to the better understanding of flora and vegetation in the northern part of the Madagascar.

Additional specimens examined. – **MADAGASCAR:** Antsir-anana (Diego Suarez), sous-préfecture de Vohemar, commune rurale de Daraina, forêt d’Antsaharaingy, 70 m, *Ranirison 719* (G, TEF, WAG).

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