# NOVITATES GABONENSES 64. A NEW SPECIES OF CAMPYLOSPERMUM (OCHNACEAE) FROM COASTAL GABON

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### **SUMMARY**

A curious new species of *Campylospermum*, *C. paucinervatum*, from coastal Gabon is described including some comments on its ecology and its relationship within the genus. The high botanical diversity of Loango National Park is noted.

Key words: Ochnaceae, Campylospermum, Africa, Gabon, taxonomy.

### INTRODUCTION

In 2005, during fieldwork in the Loango National Park in coastal Gabon, the second and third author, along with R. Niangadouma of the National Herbarium of Gabon (LBV), made two collections of a peculiar *Campylospermum*. When, in 2006, it was shown to the first author in Wageningen he could not match it with any species present in the recently published Checklist of Gabonese vascular plants (Sosef et al., 2006) nor with any other described in the works of Farron (1965, 1985) and Bamps & Farron (1967) and concluded it must represent a new species. A search through the Gabonese material of the family at WAG and MO revealed two other collections of the same species, both from coastal regions further south.

Recently, various botanical expeditions to the Loango National Park have shown that, in addition to being a remarkable site for vertebrate wildlife, it is also of significant botanical interest illustrated by the recent discovery of several species new to science, such as *Berlinia razzifera* MacKinder & Wieringa ined., *Cassipourea maritima* Breteler ined., *Anthonotha* spec. nov. and now a new species of *Campylospermum*. It is highly likely that several other new species with restricted distributions remain to be discovered. All this confirms the rightful attribution of the status of National Park to this area by the authorities in Gabon. The zone is acknowledged by IUCN as a critical site for conservation. Moreover, Loango is a Ramsar site and has recently been proposed as a World Heritage Site (http://www.operation-loango.com/loango\_national\_park\_gabon. html).

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This new species of *Campylospermum* is easily recognized by its comparatively small, narrowly elliptical leaves with no or very few secondary veins and dense parallel tertiary venation as well as its short inflorescences. Upon first glance, the tertiary venation is reminiscent of leaves found in the genus *Rhabdophyllum*, for which the first author is finalizing a revision, but the perpendicular cross-veins connecting them reveal that it does not fit there. The species seems most closely related to *Ouratea dusenii* Engl. & Gilg (for which no valid combination within the genus *Campylospermum* exists yet). It differs in having fewer secondary veins, an apiculate leaf tip, a distinct marginal vein and an even shorter inflorescence with less flowers per cymule. The narrow leaves and lack of secondary veins are also reminiscent of *C. lecomtei* (Tiegh.) Farron from the Democratic Republic of Congo, but the material is clearly distinct from this species due to its less narrow leaves, shorter and broader (non-linear) stipules and much shorter inflorescence.

A closer look at the seeds revealed accumbent, strongly unequal cotyledons, with the reduced cotyledon external, rendering our species a member of the section *Monelasmum* (Tiegh.) Farron rather than section *Bisetaria* (Tiegh.) Farron in which *C. lecomtei* is the only species (Farron, 1968).

### DESCRIPTION

## **Campylospermum paucinervatum** Sosef, spec. nov. — Fig. 1, 2; Map 1

Campylospermi lecomtei affinis, sed ab eo differt stipulis foliisque minus angustis, 0–2(–5) nervis secundariis, nervis tertiariis numerosis venuloso-hinoideis et inflorescentiis usque ad 1.5 cm longis. — Typus: D.J. Harris, K. Armstrong & R. Niangadouma 8338 (holo WAG; iso E, K, LBV, MO), Gabon, Ogooué-Maritime Province, Loango National Park, Nick's camp, by Louri lagoon, c. 12 km south of Iguela. S 2° 00', E 9° 23', altitude 10 m, 3 May 2005.

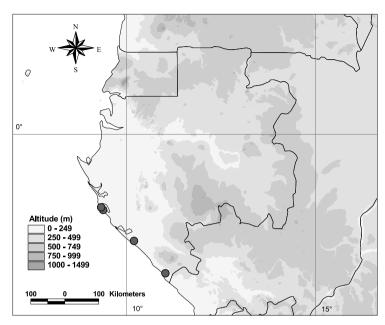
Shrub-like treelet of up to 2 m high. Young twigs markedly, longitudinally furrowed. Leaves: stipules caducous, narrowly triangular; petiole 0-2 mm long; leaf blade leathery, narrowly elliptical, 3–9.5 by 0.7–2.1 cm, attenuate at base, apex apiculate, margin entire in the lower half to lower third, distal part with distant small teeth, upper surface glossy dark green, lower surface slightly paler, venation prominent on both surfaces (in sicco), the midrib markedly so; secondary veins absent or only 1-2(-5), branching off in the lower part of the leaf and strongly curved upwards to form a prominent marginal vein which runs just inside the margin of the blade; tertiary veins closely spaced and parallel, joined by perpendicular cross-veins. *Inflorescence* terminal, without or with few paired bracts at the base, composed of 1-3 short racemes of up to 1.5 cm long; cymules with 1 (or 2) flower(s), each cymule with a persistent, small, triangular to narrowly triangular bract of up to 1 mm long at its base. Flowers with a 7-12 mm long pedicel, articulating at 1-3 mm from the base; sepals narrowly elliptic-ovate, c. 5 by 2 mm, rounded at apex, yellowish green, in fruit expanding to c. 6 mm and bright red; petals broadly spathulate, 6–8 by 3.5–5 mm (larger measurements taken from photos), bright yellow; stamens 10, c. 4 mm long; style c. 4 mm long. Fruit: receptacle ± globose, bright red; drupelets only 1 or 2 well-developed per receptacle, ± globose, 5-6 mm diam., black. Seed: cotyledons accumbent, strongly unequal with the reduced cotyledon external.



Fig. 1. Flower on short inflorescence of  $Campylospermum\ paucinervatum\ Sosef.$  Photo by D.J. Harris.



Fig. 2. Twig of *Campylospermum paucinervatum* Sosef showing leaves with few secondary veins and red sepals and receptacle of infructescence. Photo by D.J. Harris.



Map 1. Collecting localities of Campylospermum paucinervatum Sosef in Gabon.

Distribution — Coastal Gabon.

Ecology — Growing at edge or in understory of forest patches in forest-savannah mosaic; on sandy soil. Altitude 5–40 m. Associated species in the forest patches: *Microberlinia brazzavillensis* A. Chev., *Dialium eurysepalum* Harms, *Newtonia duparquetiana* (Baill.) Keay, *Cassipourea maritima* Breteler ined., *Erythroxylum emarginatum* Thonn. and *Diospyros rabiensis* Breteler.

#### Additional material:

Harris, Armstrong & Niangadouma 8781 (E, LBV, MO, WAG), Gabon. Ogooué-Maritime Province, Loango National Park, c. 1.5 km southeast of Iguela lodge, 21 May 2005, alt. 10 m; Stone, Walters, Nzabi & Mboumbore 3293 (MO), Gabon, Nyanga Province, Mabamba Plain, c. 4 km from Kwassa camp, 14 May 2001, alt. 5 m; Wieringa & Van de Poll 1372 (LBV, WAG), Gabon. Nyanga Province, 16 km ESE of Gamba airport, 9 August 1992, alt. 40 m.

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### REFERENCES

- Bamps, P. & C. Farron. 1967. Ochnaceae. Flore du Congo, du Rwanda et du Burundi. Jardin Botanique National de Belgique, Bruxelles.
- Farron, C. 1965. Les genres Rhabdophyllum van Tiegh. et Campylospermum van Tiegh. (Ochnaceae) en Afrique tropicale (Note préliminaire). Bull. Jard. Bot. État 35: 389–405.
- Farron, C. 1968. Contribution à la taxinomie des Ourateeae (Ochnaceae) d'Afrique. I. Partie générale. Candollea 23: 177–228.
- Farron, C. 1985. Les Ouratinae (Ochnaceae) d'Afrique continentale. Cartes de distribution et clés de détermination de tous les genres et espèces. Bot. Helv. 95: 59–72.
- Sosef. M.S.M., J.J. Wieringa, C.C.H. Jongkind, G. Achoundong, Y. Azizet Issembé, D. Bedigian, R.G. van den Berg, F.J. Breteler, M. Cheek, J. Degreef, R.B. Faden, P. Goldblatt, L.J.G. van der Maesen, L. Ngok Banak, R. Niangadouma, T. Nzabi, B. Nziengui, Z.S. Rogers, T. Stévart, J.L.C.H. van Valkenburg, G. Walters & J.J.F.E. de Wilde. 2006. Check-list des plantes vasculaires du Gabon / Checklist of Gabonese vascular plants. Scripta Bot. Belg. 35: 1–438.