

# Novitates Gabonenses 53. A curious new species of *Dichapetalum* (Dichapetalaceae) from Gabon

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## KEY WORDS

Dichapetalaceae,  
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new species.

## ABSTRACT

*Dichapetalum petaloideum* from SW Gabon is described and illustrated. The new species is aberrant in having very unusual entire, thick, hairy petals, which are closed in bud.

## RÉSUMÉ

*Novitates Gabonenses 53. Une espèce nouvelle remarquable de Dichapetalum (Dichapetalaceae) du Gabon.*

## MOTS CLÉS

Dichapetalaceae,  
*Dichapetalum*,  
Gabon,  
nouvelle espèce.

*Dichapetalum petaloideum* du Sud-Ouest du Gabon est décrit et illustré. L'espèce nouvelle est aberrante par ses pétales étranges, qui sont entiers, poilus, épais et fermés dans le bouton.

## INTRODUCTION

The botanical exploration of Gabon continues to yield new species especially of families that are well represented in the country like the Dichapetalaceae. Since the publication of the family treatment for the *Flore du Gabon* (BRETELER 1991), seven new species have been published (BRETELER 1993, 1995, 2003a, b). The new species of *Dichapetalum* described hereafter is very aberrant in having thick, entire, hairy petals, quite different from the usual appearance of these organs.

## *Dichapetalum petaloideum* Breteler, sp. nov.

*Dichapetali crassifolii* Chodat *optime affine de folio inflorescentiaque, sed singulatim in genere petalis indivisis crassis valvatis et pilosis.*

TYPE. — *Wieringa & van Nek 3284*, Gabon, Echira, ± 2°3'S, 9°48'E, alt. ± 30 m, fl. 25 Nov. 1994 (holo-, WAG; iso-, BR, C, G, K, LBV, LISC, MA, MO, MPU, NY, P, UPS, US).

Liana at least 12 m long. Branches and branchlets with a pale-grey, powdery indumentum, glabrescent with age. Stipules early caducous,

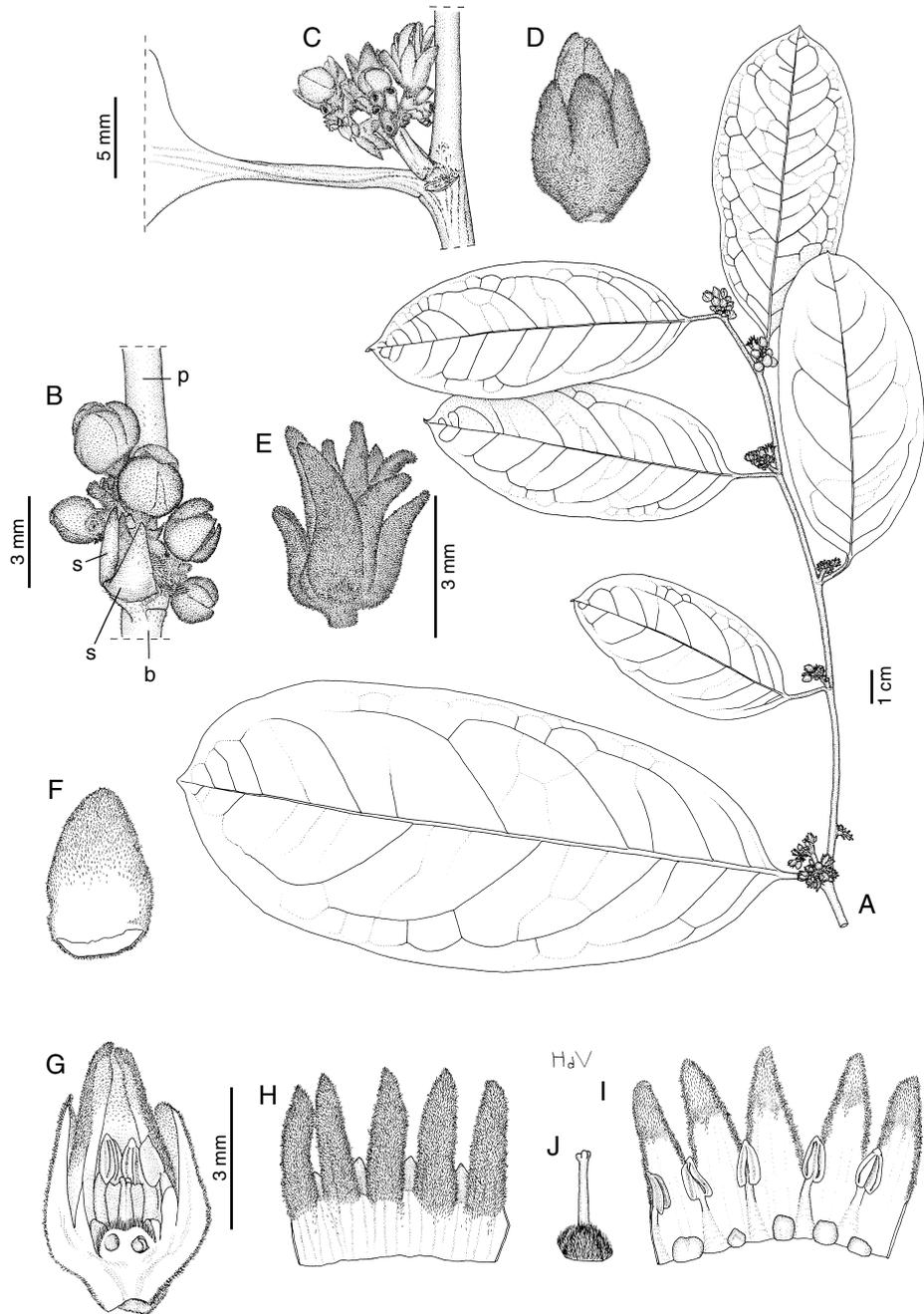


FIG. 1. — *Dichapetalum petaloideum* Breteler: **A**, flowering branch; **B**, apex of branchlet (b) with inflorescence in leaf axil (p, petiole) showing stipules (s); **C**, leaf axil with inflorescence; **D**, flower bud; **E**, open flower; **F**, sepal inside; **G**, flower cut lengthwise; **H**, flower tube from outside; **I**, flower tube from inside; **J**, pistil. *Wieringa & van Nek 3284*. Drawing by H. DE VRIES.

triangular, 3-4 mm long, *c.* 2 mm wide, tomentellous outside,  $\pm$  glabrous inside. Leaves: petiole subterete, grooved above, 7-14 mm long, indumentum as on branchlets; lamina coriaceous, shiny, obovate to oblong-elliptic, 2-2.5 times as long as wide, (8-)9-15(-17)  $\times$  (2-)4-7(-8) cm, cuneate to rounded and sometimes unequal-sided at base, acute to shortly acuminate at apex, the acumen subacute, < 5 mm long; midrib and the 5-8 pairs of main lateral nerves  $\pm$  plane above, prominent beneath; leaf surface glabrous both sides except for the extension of the petiole indumentum on the midrib, especially so beneath; glands  $\pm$  small,  $\pm$  well dispersed, mainly on the lower surface.

Inflorescence glomerate to very shortly (up to 5 mm) pedunculate, sometimes arranged on short, leafless, axillary shoots, up to 2 times distinctly branched, up to *c.* 25-flowered, with a powdery to tomentellous indumentum; bracts and bracteoles  $\pm$  broadly triangular-ovate, acute, up to 1 mm long, tomentellous; pedicels 1-2 mm long, articulated at or near the apex; sepals pale-green, imbricate,  $\pm$  stiff, erect, slightly concave, shortly united at base, ovate-triangular, 3-3.5  $\times$  2 mm, tomentellous outside as well as on the upper part inside; petals white to cream-coloured, entire, firm, valvate in bud, at base laterally united with the alternating filaments in a *c.* 1 mm long tube,  $\pm$  flat, lanceolate, 3-4  $\times$  1 mm, the free parts tomentellous outside as well as on the apical part inside; stamens *c.* 2 mm long, the filaments white, almost completely adnate to the adjacent petals, glabrous; anthers *c.* 1 mm long,  $\pm$  ovoid in outline; staminodes (disc glands) subquadrate,  $\pm$  flat, *c.* 0.3  $\times$  0.3 mm, glabrous; pistil 1.5-2 mm

long; ovary depressed globose, 3-locular, velutinous-tomentellous; style white, glabrous, *c.* 1 mm long, 3-lobed apically. Fruits unknown. — Fig. 1.

**HABITAT AND DISTRIBUTION.** — Rain forest in SW Gabon. Only known from the type locality.

**DISCUSSION.** — The indumentum of the petals of African *Dichapetalum* species varies from completely absent or with only a few hairs just below the lobes outside, which is quite common, to hairy on the upper part outside (e.g., *D. reticulatum* Engl., *D. trichocephalum* Bretelet) to pubescent both sides (e.g., *D. pierrei* Pellegr., *D. rudatisii* Engl.). In all these instances, however, the petals are thin, and, as a rule, bilobed and bicuculate. They never show characteristics like those of *D. petaloideum*, which are firm, entire,  $\pm$  flat and lanceolate in outline. By its vegetative parts and its inflorescence the new species resembles *D. crassifolium* Chodat very much. The latter has also entire or nearly entire petals, but they are thin and  $\pm$  glabrous.

Although of staminodial nature, like all the petals in Dichapetalaceae (BRETELER 1973: 25), those of *D. petaloideum* seem to function like true petals in showing protective aspects (Fig. 1D), hence its epithet *petaloideum*: having a floral envelope resembling petals. The flower tube looks like a true corolla tube with the filaments adnate to it. However, it is composed of 10 elements, five petals and five filaments, the latter filling the gaps between the former (Fig. 1H, I).

To identify *D. petaloideum* with BRETELER's (1986) Key II: Central African Species (p. 22) it seems best to make use of its aberrant characters. Preceding couplet 1 add a new couplet 0 as follows:

- Petals firm, entire, lanceolate,  $\pm$  flat ..... **D. petaloideum**  
 — Petals thin, as a rule bilobed and bicuculate apically ..... 1

For the *Flore du Gabon* (BRETELER 1991: 30) the same preceding couplet is proposed:

- Pétales fermes, entiers, lancéolés,  $\pm$  plans ..... **D. petaloideum**  
 — Pétales minces, habituellement bilobés et bicuculés au sommet ..... 1

**NOTES.** — On my request Dr W. PUNT investigated the pollen of *D. petaloideum*. His conclusion (pers. comm.) is that the pollen of this species shows advanced characteristics as of the *D. heudelotii*-group in the *D. heudelotii*-

type (PUNT 1975). According to PUNT the pollen does not show any character which indicates that another classification for this species, e.g., in a separate, new genus, might be justified.

Cuts of the branches of the holotype show some traces of an exudate as seen in *D. crassifolium* Chodat (BRETELER 1978: photograph 3).

Boiling flower material of *D. petaloideum* soon rendered the water reddish brown. The same happened to the alcohol (60%) in which this boiled material was preserved.

### Acknowledgements

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