Calyptranthera viridiflava Ammann, L. Gaut. & Klack. (Apocynaceae s.l., Secamonoideae), a new species from Madagascar

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Abstract

AMMANN, M., L. GAUTIER & J. KLACKENBERG (2011). Calyptranthera viridiflava Ammann, L. Gaut. & Klack. (Apocynaceae s.l., Secamonoideae), a new species from Madagascar. *Candollea* 66: 281-284. In English, English and French abstracts.

A new species of *Calyptranthera (Apocynaceae* s.l.*, Secamonoideae), Calyptranthera viridiflava* Ammann, L. Gaut. & Klack., is described, illustrated and compared to related species. *Calyptranthera viridiflava* was collected in the Ampasindava peninsula in northwestern Madagascar.

Key-words

APOCYNACEAE – SECAMONOIDEAE – Calyptranthera – Madagascar – Taxonomy

Résumé

AMMANN, M., L. GAUTIER & J. KLACKENBERG (2011). Calyptranthera viridiflava Ammann, L. Gaut. & Klack. (Apocynaceae s.l., Secamonoideae), une nouvelle espèce décrite de Madagascar. *Candollea* 66: 281-284. En anglais, résumés anglais et français.

Une nouvelle espèce de *Calyptranthera (Apocynaceae* s.l.*, Secamonoideae), Calyptranthera viridiflava* Ammann, L. Gaut. & Klack., est décrite, illustrée et comparée aux espèces affines. *Calyptranthera viridiflava* a été recoltée dans la presqu'île d'Ampasindava au Nord-ouest de Madagascar.

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Introduction

During a floristic inventory conducted in the Ampasindava peninsula, a virtually unprospected area in NW Madagascar, a specimen representing a new species of the Malagasy endemic genus *Calyptranthera* Klack. *(Apocynaceae, Secamonoideae)* was discovered. The inventory project was conducted by the Conservatoire et Jardin botaniques de la Ville de Genève (G) in collaboration with the Département de Biologie et Ecologie Végétale (DBEV) of University of Antananarivo and the Missouri Botanical Garden (MO).

The genus *Calyptranthera* was described by KLACKENBERG (1996) based on a species previously known as *Toxocarpus caudiclava* Choux. Beside the single specimen of the type, several unidentified specimens of *Apocynaceae* in the Muséum national d'Histoire naturelle in Paris turned out to belong to this new genus, and a revision with a morphologic and phylogenetic discussion of five species was presented one year later (KLACKENBERG, 1997). In the following years five additional taxa were described (KLACKENBERG 1998, 2000, 2007), mostly from new collections from northern Madagascar. Fruit material (follicles) of *Calyptranthera* has only been observed in *C. gautieri* Klack. (KLACKENBERG, 1998). All but two species are distributed in eastern Madagascar. Exceptions are *C. gautieri*, which was discovered around 500 m altitude while conducting an inventory of Manongarivo massif (GAUTIER, 2002), and the new species described below, from the Ampasindava peninsula.

The lower elevations of Manongarivo mountains as well as the Ampasindava peninsula belong to the phytogeographic domain of Sambirano (HUMBERT, 1955). This small domain, although wedged into the drier western part of Madagascar, is characterized by lowland humid forest, a vegetation type otherwise restricted to the east coast of the island, and is in fact by its floristic composition phytogeographically more closely related to the eastern rain forests than to the adjacent deciduous forests along the west coast.

Calyptranthera viridiflava Ammann, L. Gaut. & Klack., **spec. nova** (Fig. 1, 2)

Typus: MADAGASCAR. Province de Diego-Suarez/Antsiranana: sous-préfecture d'Ambanja, presqu'île d'Ampasindava, commune rurale d'Ampôpô, forêt de Bongomihiravavy, 13°45'54''S 48°04'21''E, 9.XII.2010, *Ammann, Tahinarivony & Madiomanana MYA 170* (holo-: G!; iso-: S!, TEF).

Species haec corolla plerumque flava et coronae lobis filiformibus Calyptrantherae sulphureae similis sed differt corolla magis viridula et brunneole maculosa et lobis non nisi prope basin pubiscentibus, corona aurantiaca necnon antherae connectivo basaliter distincte piloso. A C. sulphurea et C. gautieri differt corolla viridiflava et fere glabra.

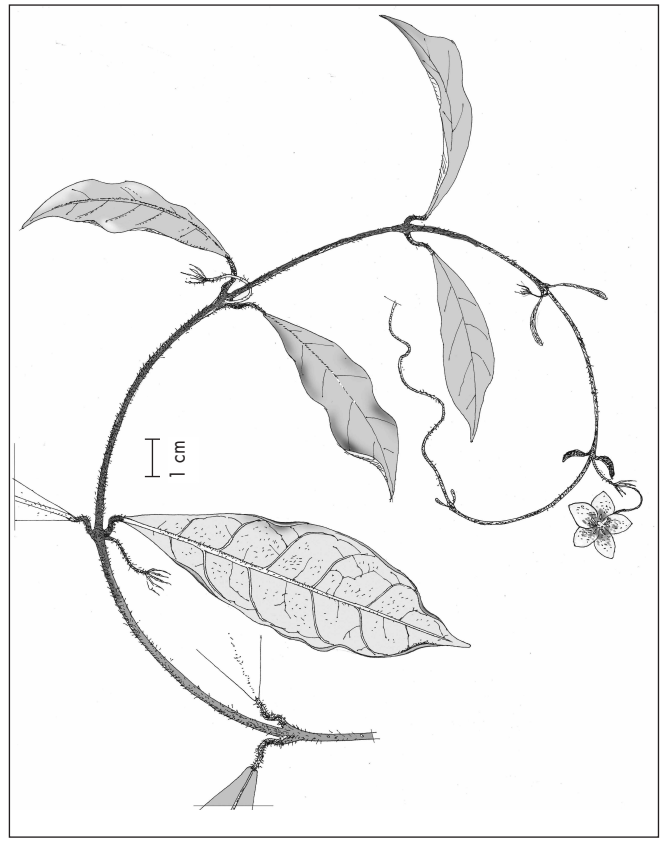


Fig. 1. – *Calyptranthera viridiflava* Ammann, L. Gaut. & Klack. Part of flowering shoot. [*Ammann & al. MYA 170,* G] [Drawing Cyrille Chatelain]

Suffrutescent twiner c. 2 m long with abundant milky latex. Branches and younger leaves densely covered by more or less straight to bent often retrorse rather stiff reddish hairs, glabrescent. Leaves opposite, coriaceous, shining green above, paler below, usually revolute at the very margin; blade 9-13 × 3-4.2 cm, elliptic to somewhat obovate, cuneate at base, acuminate at apex, with reddish bent hairs beneath, glabrescent above or sometimes with few remaining hairs especially along the midrib; margins entire; venation pinnate and looped, reticulate; midrib when dry distinctly impressed above and raised beneath; primary veins curved, diverging at 70° to 90° from the midrib; secondary veins grossly reticulate, slightly raised on both sides when dry; petiole distinct, 0.5-1.2 cm long, with dense reddish hairs. Inflorescences extra-axillary, shorter than the adjacent leaves, hairy; cyme with few or one flower at the time on a c. 8-12 mm long peduncle; pedicels c. 1.5-2 cm long; bracts and bracteols narrow, 3-4 mm long. Flowers pentamerous, actinomorphic. Calyx lobes united only at the very base, 3-4 × 1 mm, much longer than the corolla tube, narrowly triangular, acute, with long reddish hairs outside, glabrous inside. Corolla elliptic in bud, contorted with the left lobe margin overlying, not



Fig. 2. – Flower of *Calyptranthera viridiflava* Ammann, L. Gaut. & Klack.
[Photo by M. Ammann]

twisted, with the lobes fused at the base only into a short tube, greenish yellow with small brown dots which disappear towards the centre, and with each petal at the very base with purplish brown coalescent dots bounded by yellow ridges (corolline corona); tube c. 0.7 mm long; lobes c. 8-10 mm × 4-6 mm, elliptic, bluntly acute at apex, rotate, glabrous except for a patch of dense, white, long and wavy hairs on the inside at base. Stamens in a column inserted at the base of the corolla tube; staminal column in total c. 4.9 mm high; filaments broad with horny margins (anther wings) and with a cup-like projection below (pollinium entrance), basally coalescent into a short cylinder; anthers with connectives excluded c. 1.4 mm long; connectives much prolonged into five filiform erect appendages grouped together below in a column but free above, c. 3.5 mm long, with long hairs dorsally at base and between thecae. Corona lobes erecto-patent, filiform, slightly hook-shaped at apex, c. 2-3 mm long, glabrous, orange, shorter than the prolonged connectives. Pollinaria not seen. Style narrow and cylindric at lower half but conical below the style head; style head with a discoid lower part that abruptly narrows into the style and with an upper narrower and shortly projecting part. Fruits unknown.

Distribution and habitat. – Calyptranthera viridiflava is only known from the type locality in the Ampasindava peninsula in northwestern part of Madagascar, and found in dense humid forest at 450 m altitude. It was tangled in leafs of a *Dypsis pinnatifrons* Mart., 7 m off the ground. It was collected in flower in early December (Fig. 2).

Taxonomic discussion. – A striking feature of *C. viridiflava* is the colour of its flowers. The corollas in *Calyptranthera* are generally reddish, from pale rose or almost white to lavender and purple or dull brown. In contrast, *C. viridiflava* has together with only one more species, *C. sulphurea* Klack., yellow to greenish yellow flowers. *Calyptranthera sulphurea*, which is known from Daraina in northeastern Madagascar, is the species that shows closest affinity with *C. viridiflava*, not only by its colour but also by its filiform corona lobes and structure of the androecium. However, although both have basically yellow flowers the colour pattern of the flowers differs significantly. In *C. viridiflava* the corolla is more greenish yellow and most of the petal lobes are covered with brownish dots. In contrast, the petal lobes in *C. sulphurea* are mostly uniformly yellow and brownish dots are in this species confined to the base of the corolla lobes. Furthermore, in *C. viridiflava* both thecae and the prolonged appendages of the connectives are uniformly greenish (vs. thecae vivid brown in contrast to the clearly yellow connectival appendages in *C. sulphurea*), the corona lobes are orange (vs. brown), the connectives are covered by long hairs between the thecae (vs. papillate) and the petals are glabrous except for a small patch of long wavy hairs at base (vs. hairy all over inside in *C. sulphurea*). Finally, the staminal column of *C. viridiflava* is much longer than that of *C. sulphurea*. *Calyptranthera villosa* Klack., a second species from Daraina, is similar to *C. viridiflava* by the hairy connectives and filiform somewhat hook-shaped corona lobes. It is easily distinguished, however, by the brownish pink and villous petal lobes. *Calyptranthera viridiflava* is together with *C. gautieri* the only species of the eleven hitherto described taxa of *Calyptranthera* that are distributed in western Madagascar. Both were described from Sambirano phytogeographical domain at some 50 km from each other, but seem not to be very closely related and are easily distinguished by several characters. In addition to its greenish yellow flowers (in *C. gautieri* brownish dark red), *C. viridiflava* differs also by its glabrous petal lobes (vs. whole lobe hairy inside), hairy anthers (vs. glabrous) and by its filiform corona lobes (vs. spathulate in *C. gautieri*).

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