

# A new species of *Callerya* (Leguminosae, Papilionoideae, Millettieae) from New Caledonia

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## ABSTRACT

**KEY WORDS**  
Leguminosae,  
Papilionoideae,  
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*Callerya*,  
New Caledonia,  
new species.

The genus *Callerya* is for the first time recorded from New Caledonia, and a new species from lowland sclerophyllous forest, *C. neocaledonica* I.C. Nielsen & Veillon, is described. It is characterised by its early caducous, filiform stipels, densely puberulous 2.5-5 cm long leaf rachis, 8-10 long and 6 cm wide panicles, the lower calyx teeth broadly triangular and the upper two forming an emarginate lip, and the two basal callosities of the standard.

## RÉSUMÉ

*Une nouvelle espèce de Callerya (Leguminosae, Papilionoideae, Millettieae) de Nouvelle-Calédonie.*

**MOTS CLÉS**  
Leguminosae,  
Papilionoideae,  
Millettieae,  
*Callerya*,  
Nouvelle-Calédonie,  
nouvelle espèce.

Le genre *Callerya* est signalé pour la première fois de Nouvelle-Calédonie et une nouvelle espèce des forêts sclérophylles de plaine est décrite : *C. neocaledonica* I.C. Nielsen & Veillon. Elle est caractérisée par ses stipelles filiformes rapidement caduques, le rachis foliaire très pubérulent et long de 2,5-5 cm, des panicules longs de 8-10 cm et larges de 6, les dents inférieures du calice largement triangulaires, les deux supérieures formant une lèvre émarginée, ainsi que par les deux callosités basales de l'étendard.

## INTRODUCTION

In 1992 the second author collected a large liana with blood-red sap in sclerophyllous forest near Dumbéa, New Caledonia. The specimen

could be referred to the genus *Callerya* Endl. by using the key in "Scala Millettiarum" (GEESINK 1984), but it could not be matched with any of the 19 species recognised by SCHOT (1994) in her revision of this south-east Asian and western

Pacific genus; neither was the genus *Millettia*, to which species of this alliance were referred before 1984 mentioned in earlier floristic accounts from New Caledonia (GUILLAUMIN 1936, 1948).

As it appears from the description below, the specimen possesses the characters of species which belong to the complex genera of the tribe Millettieae. The use of the key in "Scala Millettiarum" (GEESINK 1984) reveals that the material at hand should be referred to the genus *Callerya*, which was re-instated by R. GEESINK (*l.c.*) and revised by A. M. SCHOT (1994). The reasons for referring it to the genus *Callerya* are: woody climber with seven pinnately arranged, opposite leaflets, which have up to seven pairs of lateral veins, flowers in terminal panicles, the vexillary filament free, and the standard with two basal callosities. The persistence of the stipels, absent or caducous vs persistent, is an important diagnostic character in A. M. SCHOT's revision (1994: 9, 10) and in the generic delimitation within the Millettieae. As stated by A. M. SCHOT the true importance of that character can only be sorted out after a phylogenetic analysis of the paniculate species around *Millettia* s.s. Much more work is needed in particular on the mainland SE Asian species of this group before a stable classification can be established.

## DESCRIPTION

***Callerya neocaledonica*** I.C. Nielsen & Veillon, **sp. nov.**

*Species nova generis Calleryae characteribus sequentibus distinguibilis: stipulis filiformibus, stipellis praecociter caducis, rachide foliorum dense puberula, 2.5-5 cm longa, panicula c. 8-10 cm longa, c. 6 cm lata; dentibus inferioribus calycis late triangularibus, superioribus lobum emarginatum formantibus, vexillo basaliter callosifero.*

**TYPUS.** — *J.-M. Veillon 7466*, Nouvelle-Calédonie, Dumbéa, Nakutakoin, western slope of Pic Jacob, *c.* 150 m, 15 Jan. 1992 (fl.) (holo-, P; iso-, AAU, NOU).

Woody liana, 8 cm in diameter at base, the young shoots pubescent, glabrescent; bark grey, rough, the inner reddish coloured by a very sticky red mucilage. Stipules filiform, acute, *c.* 3 mm long, early caducous. Leaves: rhachis 2.5-5 cm

long, densely puberulous, stipels not observed, petiolules *c.* 2 mm long, densely puberulous; leaflets 7, elliptic to obovate-elliptic, 2-6.2 cm long, 1-2.8 cm wide, apex rounded to obscurely acuminate, upper surface glabrous except for a few hairs on midrib and ciliate along the margin, lower surface with scattered appressed hairs, venation densely reticulate on both surfaces, secondary nerves (5-)7 pairs, marginal arches near margin, variable. Inflorescences of terminal panicles on leafy lateral shoots, main axis *c.* 8-10 cm long, densely puberulous, lateral branches up to 3 cm long, pedicel *c.* 0.7 cm long, bract ovate, 1.2 mm long, cuspidate, densely sericeous, early caducous, bracteoles on top of pedicel, filiform, 1-1.2 mm long, densely sericeous, early caducous. Flowers violet: calyx broadly cup-shaped, densely sericeous, tube 3 mm long, oblique, three lower teeth *c.* 1.2 mm long, broadly triangular, upper lip slightly emarginate. Petals violet, clawed. Standard blade reflexed, sub-circular in outline, 14 mm long and 16 mm wide, auricled, emarginate, densely sericeous outside, and with two callosities inside at base, nectar guides present (yellow), claw 1-1.2 mm long; wings semi-pandurate, *c.* 15 mm long, exceeding the keel with 1 mm, ciliate along the upper margin, lower auricle indistinct, upper auricle *c.* 2.5 mm deep; keel *c.* 14 mm long, blade semi-pandurate, 10-10.5 mm long ciliate along the upper margin, claw 3.5-4 mm long, upper auricle present, lower absent; stamens *c.* 12 mm long, tube *c.* 10-11 mm long; disc *c.* 0.5 mm high, indistinctly lobed, surrounding the base of the ovary; anthers dorsifixed; ovary sessile, *c.* 8 mm long, sericeous, style curved, *c.* 5 mm long, stigma minute and capitate. Pod not observed. — Fig. 1.

**FIELD NOTES.** — Liana, at base 8 cm in diameter, with blood-red sap, which is visible in the old parts only. Inflorescence terminal or axillary, consisting of flower-rich panicles. Standard with yellow spot, flowers violet becoming white after anthesis.

**DISTRIBUTION.** — New Caledonia.

**HABITAT AND ECOLOGY.** — Phtanite rocks, soil dark brown. Sclerophyllous forest on slope. Altitude *c.* 150 m.

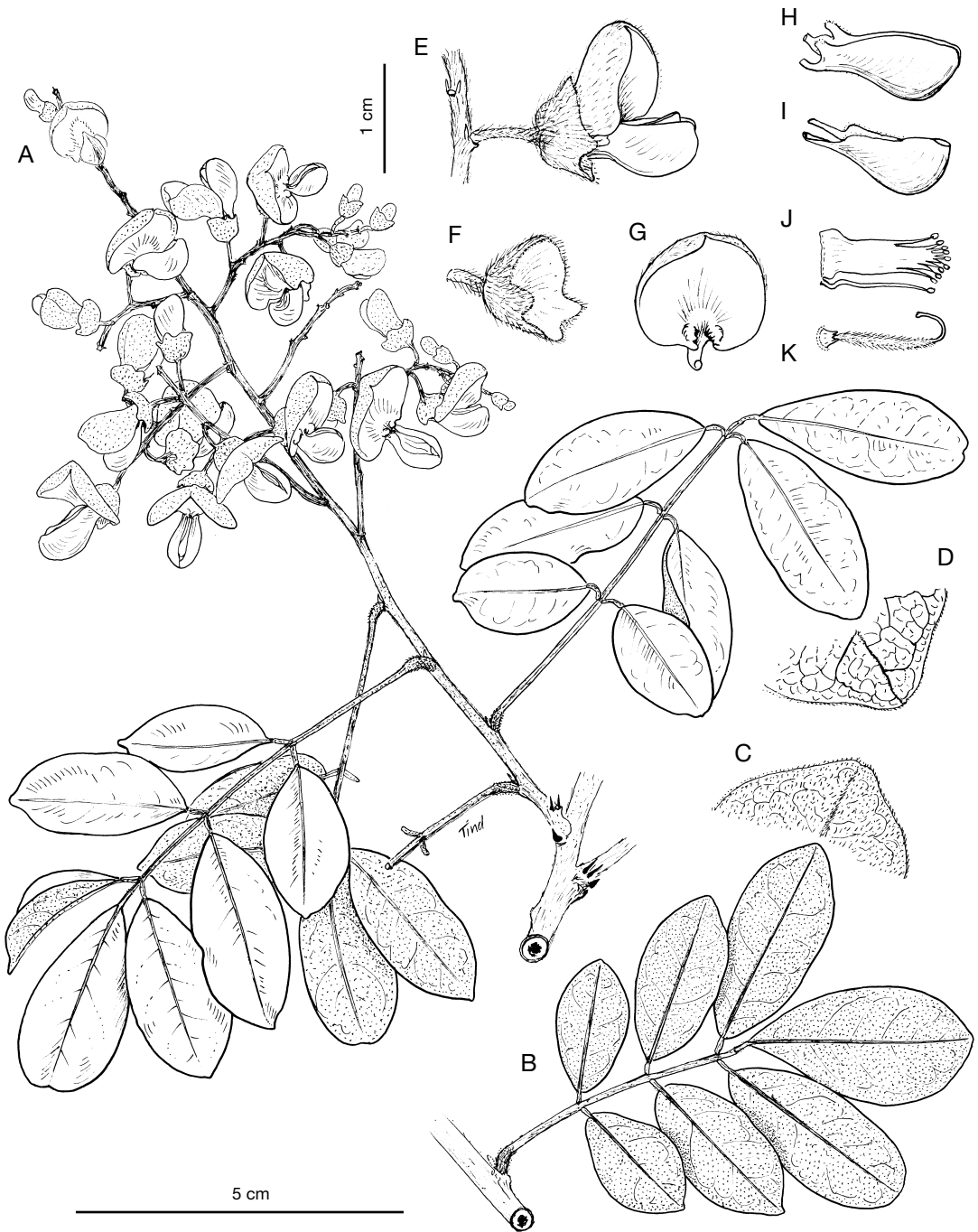


FIG. 1. — *Callerya neocaledonica* I.C. Nielsen & Veillon: A, flowering branch; B, leaf, abaxial surface; C, abaxial surface of leaflet; D, adaxial surface of leaflet; E, flower; F, calyx; G, standard; H, wings; I, keel; J, androecium; K, gynoecium. J.-M. Veillon 7466 (P).

NOTES. — The species has not yet been collected with fruits. It is a good match of *Callerya australis*. The specimen shares the facies of *Callerya australis* (Endl.) Schot (syn. *Pterocarpus australis* Endl., *Millettia australis* (Endl.) Benth.) which is distributed in New Guinea, Norfolk Island, Rarotonga, and Australia (Queensland) (VERDCOURT 1979). *C. neocaledonica* differs from *C. australis* in the following characters: stipules filiform (narrowly triangular in *C. australis*), stipels early caducous, if present not to be observed in mature leaves (persistent in *C. australis*) rhachis of leaves shorter 2.5-5 cm vs 9-15 cm, leaflets 7 vs 7-13, panicle *c.* 8-10 by *c.* 6 cm vs terminal panicles 16-30 cm long. Lower calyx teeth broadly triangular and the upper two forming an emarginate lip vs calyx teeth all triangular acute/acuminate, basal callosities in standard present vs absent.

A collection, *McKee 45807*, Dumbéa, south-west slope of Pic aux Chèvres, sclerophyllous forest on steep slope, *c.* 100 m (12 May 1992), sterile (AAU; NOU; P) probably belongs to this genus. It has up to 19 leaflets, that are smaller than in the present species, but as it is sterile it is not possible to decide upon its affinity at present.

PARATYPE. — *J.-M. Veillon 7086*, New Caledonia, Nakutakoin, south-west slope of Pic Jacob; more or

less sclerophyllous forest on steep slope; large, robust liana, with blood-red, liquid latex, ster., 11 Aug. 1989 (AAU, NOU, P).

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### REFERENCES

- GEESINK R. 1984. — Scala Millettiearum. *Leiden Bot. Ser.* 8: 1-131.
- GUILLAUMIN A. 1936. — Matériaux pour la flore de la Nouvelle-Calédonie, XL. Révision des Légumineuses. *Bull. Soc. Bot. France* 83: 294-311.
- GUILLAUMIN A. 1948. — *Flore analytique et synoptique de la Nouvelle-Calédonie. Phanérogames*. Larose, Paris.
- SCHOT A. M. 1994. — A revision of *Callerya* Endl. (including *Padbruggea* and *Whitfordiodendron*) (Papilionaceae: Millettieae). *Blumea* 39: 1-40.
- VERDCOURT B. 1979. — A manual of New Guinea Legumes. *Bot. Bull. Dep. Forests Papua New Guinea* 11: 1-645.

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