A New Variety of *Miconia ceramicarpa* (Melastomataceae) from French Guiana

Claire V. Martin

Museum National d'Histoire Naturelle, Laboratoire de Phanérogamie, 16 rue Buffon, 75005 Paris, France. cvmartin@mnhn.fr

ABSTRACT. *Miconia ceramicarpa* (Melastomataceae) is commonly found in the tropical forest of French Guiana. A study of the taxonomy, vegetative architecture, and inflorescence structures showed the existence of an undescribed variety, *Miconia ceramicarpa* var. *crozieriae*.

RESUMÉ. *Miconia ceramicarpa* est abondamment rencontrée en forêt tropicale de Guyane française. Une étude de la taxonomie, de l'architecture végétative et des structures inflorescentielles a montré la présence d'une nouvelle variété, *Miconia ceramicarpa* var. *crozieriae*.

Key words: French Guiana, Melastomataceae, *Miconia*.

In the series *Flora of the Guianas*, the treatment of Melastomataceae subfamily Melastomoideae was prepared by Wurdack (in Wurdack et al., 1993). The author recognized 39 genera and 283 species, including 96 species of *Miconia* for the Guianas (Guyana, Suriname, and French Guiana) and 72 for French Guiana alone.

According to Wurdack (in Wurdack et al., 1993), *Miconia ceramicarpa* (DC.) Cogniaux is a subshrub 0.4 to 1 m tall, occurring in Venezuela, the Guianas, and the lower Amazon basin in Brazil. Wurdack recognized two varieties: *Miconia ceramicarpa* var. *ceramicarpa* (= var. *violacea* (DC.) Cogniaux), present throughout the range of the species, and variety *candolleana* Cogniaux (= var. *navioensis* Wurdack), known from French Guiana and Brazil (Amapá, Pará).

While conducting studies in various forest habitats in French Guiana, we were especially interested in the morphological variation of this species, which occupies an important place in the understory, particularly in sunny locations such as logging roads and forest gaps.

The vegetative architecture of *M. ceramicarpa*, following the concept of Hallé and Oldeman (1970) and Hallé et al. (1978), was examined by Dauchez (1977) and Cremers (1986). These studies showed considerable morphological diversity in this species with each variety showing a specific model.

Dauchez (1977) and Cremers (1986) described the architecture of *M. ceramicarpa* var. *ceramicarpa*. The structure is modular and three-dimensional, conforming to Leeuwenberg's model (Hallé & Oldeman, 1970): the modules are orthotropic, with a terminal inflorescence and apical relays (Fig. 1a–c).

The same authors (Dauchez, 1977; Cremers, 1986) described the architecture of *M. ceramicarpa* var. *candolleana* as mixed, monopodial, and modular, conforming to Fagerlind's model (Hallé & Oldeman, 1970): the primary axis (trunk) is orthotropic, monopodial with rhythmic growth, and produces lateral branches that are plagiotropic and modular by apposition. The modules have terminal inflorescences (Fig. 1d–h). It was already noted by Dauchez (1977) and Cremers (1986) that some other plants of *Miconia ceramicarpa* have a miniaturized architecture with a very contracted, short-lived trunk developing only one pair of plagiotropic branches (Fig. 1i, j). These plants do not conform to either of the currently recognized varieties and are therefore described here as new.

The new variety conforms with Fagerlind's model, as does variety *candolleana*, but with the primary axis completely reduced producing a single plateau at ground level (Fig. 1i, j). The pubescence is similar to that of *Miconia ceramicarpa* var. *ceramicarpa*, as is the general aspect of the leaves, although they are smaller.

The three varieties grow in similar ecological conditions and were often found to co-occur at the same sites in open areas in the forest (clearings, trails, etc.). They have the characteristics of pioneer plants.

Miconia ceramicarpa var. **crozieriae** Cremers & C. V. Martin, var. nov. TYPE: French Guiana. Montsinéry, Piste de Saut Léodate, PK 25, 50 m, 19 Mar. 2000, *C. V. Martin 283* (holotype, P; isotypes, B, BBS, BM, BR, BRG, CAY, G, HAMAB, INPA, K, MG, MO, NY, U, US). Figures 2, 3.

A *Miconia ceramicarpa* var. *ceramicarpa* et *Miconia ce-*

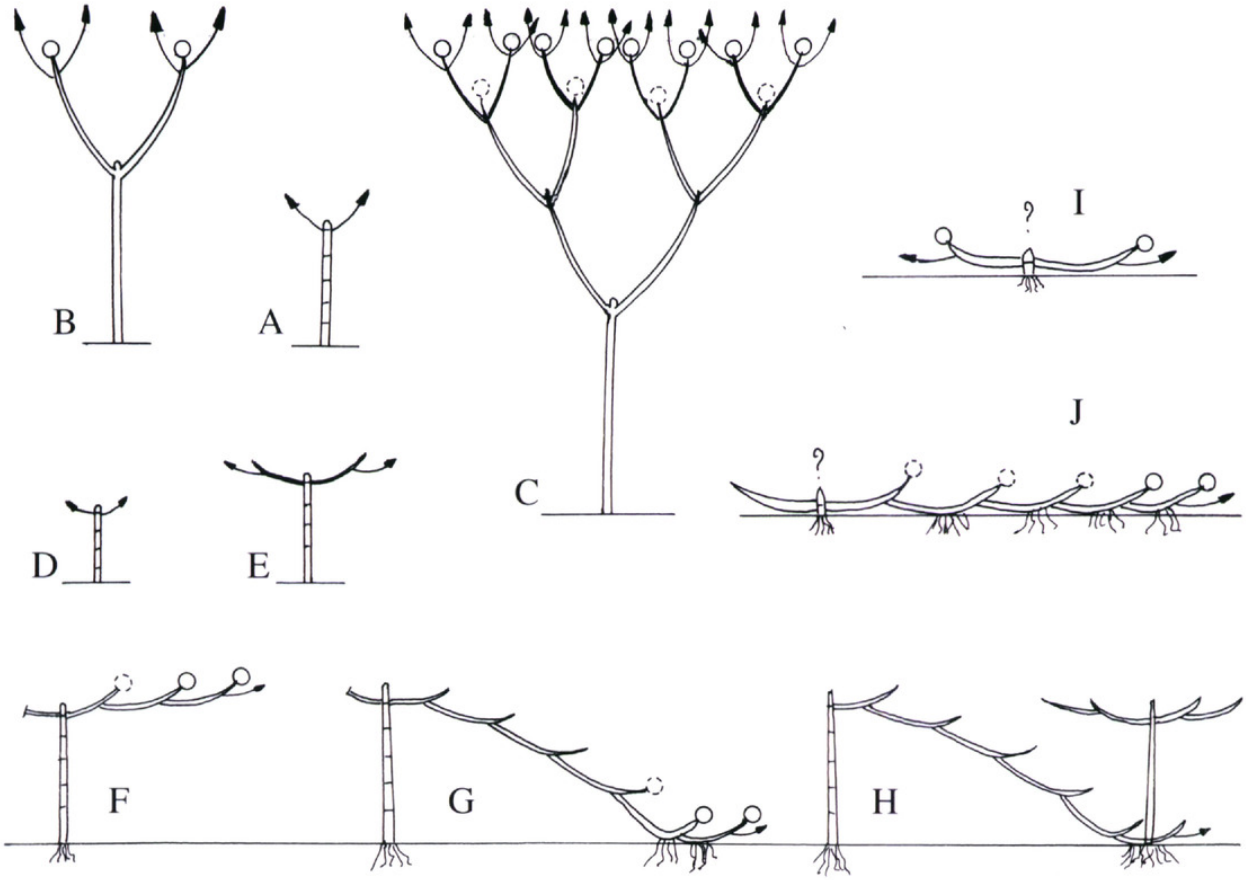

Figure 1. Vegetative architecture. *Miconia ceramicarpa* (DC.) Cogniaux. —A–C. Variety *ceramicarpa*, Leeuwenberg's model. —D–H. Variety *candolleana* Cogniaux, Fagerlind's model. —I, J. Variety *crozierae* Cremers & C. V. Martin, Fagerlind's model with primary axis very contracted or not developed.

ramicarpa var. *candolleana* primario axe, reducto habitu differt. A typo apposita sympodialibus ramulis differt. A var. *candolleana* orthotropa reiteratione carente in secondare stratis axibus, glabro abaxiali limbo praeter nervos, sparso tenui indumento, praecipue differt.

Creeping herb, (10–)15–20(–30) cm tall; primary axis not seen, but probably short and ephemeral; plagiotropic axis prostrate on the ground, rooting at nodes, sympodial by apposition; stems, veins, inflorescences, and hypanthium covered with sparse, fine, appressed pubescence. Leaves opposite, decussate, with dorsiventral leaf dimorphism; larger leaves with petiole 1–2.5 cm long, lamina 7.5–10.5 × 2.5–4.5 cm, oval to elliptic, apex acuminate, base acute to obtuse, margin finely dentate and ciliate, pubescence between and on the veins adaxially, only on the veins abaxially, main veins 3 with branching point 0.2–1.8 cm from base or less often 5 with branching 0.1–0.5 cm from base; smaller leaf similar but with petiole 0.2–1 cm long, lamina 3.5–7 × 1.5–2.5 cm; glandular hairs 30–50 μm visible only with the SEM on the abaxial and adaxial leaf surface. Inflorescence a raceme (0.8–)2–4.5(–5.5) cm long; bracts persistent. Flowers 5-merous, sessile; hypanthium 2–3 mm long; calyx oblate, lobes not projecting, 0.2–0.3 mm; corolla white to pink, petals elliptic to obovate, 1–2.5 mm long, glabrous; stamens isomorphic, glabrous; anthers 2 mm long, dehiscing by a pore; style slightly pilose at base; stigma slightly enlarged at apex. Fruits red, becoming blackish blue and fleshy at maturity, 10 × 6 mm; seeds 0.4 mm long.

In order to facilitate identification of material of *Miconia ceramicarpa*, the following key has been prepared.

KEY TO THE VARIETIES OF *MICONIA CERAMICARPA*

1. Prostrate herbs, 0.15–0.2 m tall; stems plagiotropic; pubescence sparse, short, appressed . . . . . var. *crozieriae*
1′. Shrubs or subshrubs, 0.5–2 m tall; stems orthotropic or plagiotropic; pubescence dense or sparse, appressed or erect 2
2. Shrubs 1–2 m tall; all stems orthotropic, erect; pubescence sparse, short, appressed . . . . . var. *ceramicarpa*
2′. Subshrubs 0.5–1 m tall; main stem orthotropic, lateral shoots plagiotropic, sympodial by apposition, decumbent, rooting at nodes and reiterating; pubescence dense, appressed or erect . . . . . var. *candolleana*

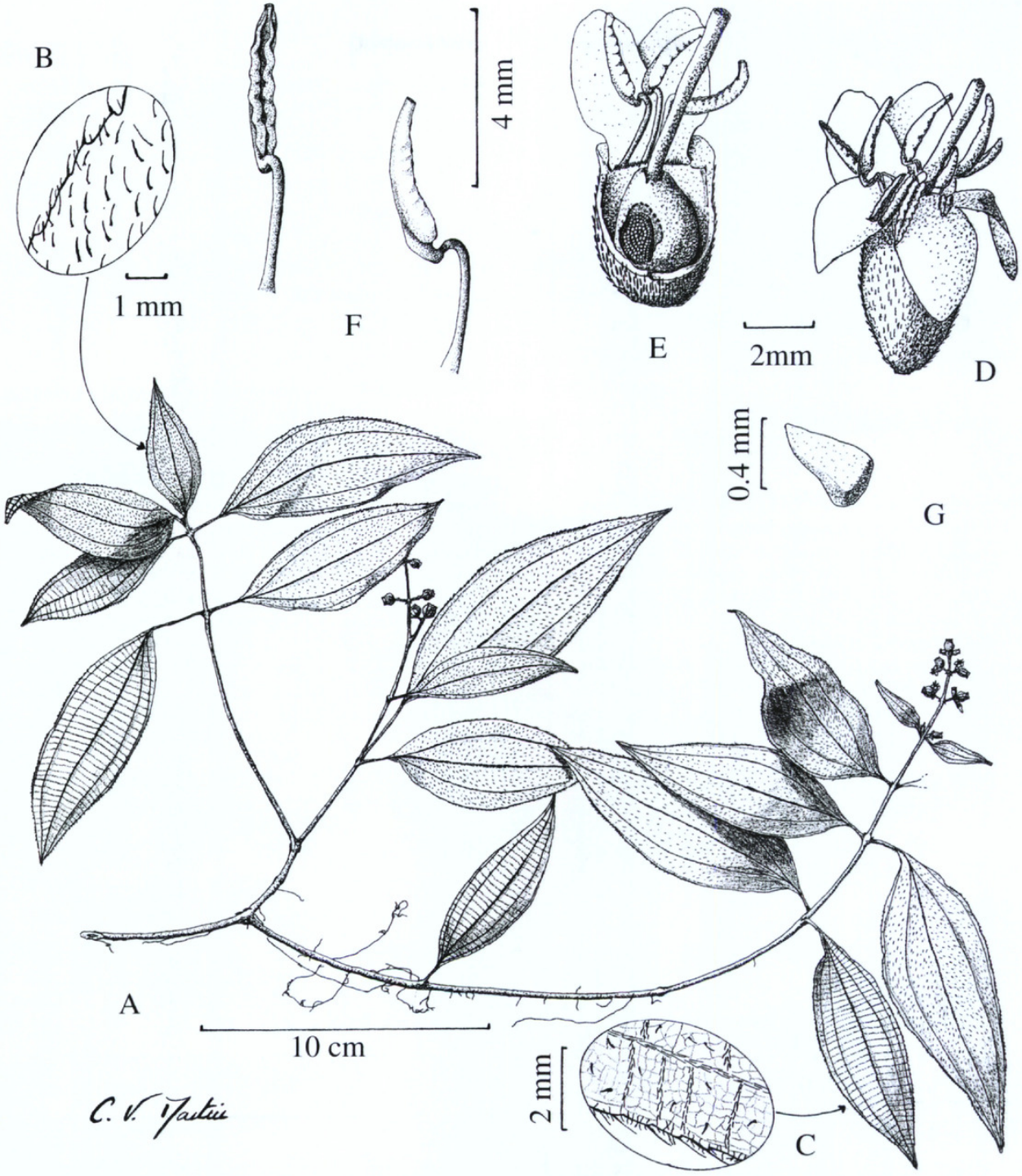

Figure 2. *Miconia ceramicarpa* (DC.) Cogniaux var. *crozierae* Cremers & C. V. Martin. —A. Habit. —B. Detail of leaf (adaxial surface). —C. Detail of leaf (abaxial surface). —D. Flower. —E. Flower and hypanthium, partly dissected with view of the stamens, style, and ovary. —F. Stamens, lateral view (left), ventral view (right). —G. Seed. (A–G from the holotype, *C. V. Martin 283.*)

This variety is named in honor of Françoise Crozier for her work with the collections at the new "Herbier de Guyane" (Cayenne), since its opening in 1995.

Paratypes. FRENCH GUIANA. Kourou, *Acevedo-Rodriguez 4910* (CAY, US); Saül, *Allorge 385* (P); Belizon, *Aubreville 295* (P); Saül, *Aumeeruddy 60* (CAY); Cacao, *Cremers 5534* (CAY, P, US); Montagne de Kaw, *Cremers 5681* (CAY, P, US); Fl. Mana, *Cremers 7497* (BR, CAY, P, US); Crique Kapiri, *Cremers 11566* (CAY, US); Savane-Roche Quatorze Juillet, *Cremers 12255* (CAY, P, US); Saül, *Descoings 20526* (CAY, P); Montagne de Kaw, *Granville 212, 213* (CAY, P); Rivière Ouaqui, *Granville 1752* (CAY, P); Layon des Emerillons, *Granville 2269* (CAY, P); Nord du Massif des Emerillons, *Granville 3942* (CAY); Saül, *Granville 4452* (CAY, P); Rivière Ouaqui, *Granville 4930* (CAY); Montagne Bellevue de l'Inini, *Granville 8142* (CAY, P, U); Trois Sauts, *Grenand 975* (CAY, P); Layon

Figure 3. SEM. *Miconia ceramicarpa* (DC.) Cogniaux var. *crozierae* Cremers & C. V. Martin. Seeds. (From the holotype, *C. V. Martin 283.*)

Régina-Kaw, *Hequet 620* (CAY); Montagne de Kaw, *Hoff 5550* (CAY, P, US); Montagne de Kaw, *Jansen-Jacobs 5214* (CAY, P, U); Trois-Sauts, *Lescure 530* (CAY, P); route de Belizon, *Martin 41* (CAY); Piste Saut Léodate, *Martin 383* (B, BBS, BM, BRG, CAY, G, HAMAB, INPA, K, MG, MO, NY, P, U, US); Saül, *Mori 15628, 18340* (CAY, NY); Fleuve Oyapock, *Oldeman-T 847* (CAY, P); Fleuve Maroni, *Petibon 114* (P); Saül, *Philippe 26919* (CAY, NY); Kourou, *Hb. L. C. Richard* (P); Rivière Arataye, *Riera 699* (CAY, P); Rivière Inini, *Sastre 3963* (CAY, P); Trois-Sauts, *Sastre 4653* (CAY, P); Rivière Arataye, *Sastre 5716* (CAY, P); Maripasoula, *Schnell 11518, 11567, 11657, 11685, 11699* (P), Rivière Ouaqui, *Schnell 11903* (P). BRAZIL. **Amapá:** *Lourteig 1792* (P). **Pará:** *Jobert 102* (P); Benevides, *Poisson s.n.* (P). **Rio de Janeiro:** *Glaziou 9825* (P).

Acknowledgments. I thank all those who helped me in this study, especially Mr. Sanip in the field, J. Florence with the Latin diagnosis, C. Feuillet and P. P. Lowry for the English translation, and many thanks to Georges Cremers for his continuous support and irreplaceable help.

Literature Cited

Cremers, G. 1986. Architecture végétative et structures inflorescentielles de quelques Melastomataceae guyanaises. ORSTOM Paris coll. Travaux et Documents n°199; 1–248.

Dauchez, B. 1977. De quelques *Melastomataceae* en Guyane. Montpellier, DEA de Botanique Tropicale.

Hallé, F. & R. A. A. Oldeman. 1970. Essai sur l'architecture et la dynamique de croissance des arbres tropicaux. Masson & Cie Ed., Monographie 6: 1–178.

———, ——— & P. P. Tomlinson. 1978. Tropical Trees and Forests. An Architectural Analysis. Springer Verlag, Berlin.

Wurdack, J. J., T. Morley & S. Renner. 1993. Melastomataceae. *In:* A. R. A. Görts-van Rijn (editor), Flora of the Guianas, ser. A, 13. 99: 1–425.