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Three New Brazilian Species in the Genus *Marcetia* (Melastomataceae, Melastomeae)

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ABSTRACT. Three new species of *Marcetia* are described and illustrated. *Marcetia semiriana* occurs only in Serra do Cipó, Minas Gerais. *Marcetia shepherdii*, collected in Maraú, at sea level, and *M. lychnophoroides*, from Chapada Diamantina, are both endemic to Bahia. The new species *Marcetia shepherdii* and *M. lychnophoroides*, together with *M. luetzelburgii* Markgraf, constitute a group of closely related species. They share in common subcoriaceous, fleshy, imbricate to subimbricate, revolute leaves. *Marcetia shepherdii* is distinguished by its rigid, erect branchlets, yellowish green leaves that are glabrous on the adaxial surface, unappendaged and broadly dilated connectives, linear-oblong thecae with a ventrally inclined pore, and a unique 2-locular ovary. *Marcetia lychnophoroides* has velutinous to sublanate branchlets, cinereous-green leaves that are densely puberulous-sericeous on the abaxial surface, unprolonged and inconspicuously bilobulate connectives, and a 3- or 4-locular ovary. *Marcetia semiriana* is very similar to *M. taxifolia* (A. Saint-Hilaire) DC., differing in the prostrate branches, long pedunculate flowers, and straight anthers.

Marcetia is a neotropical genus of 27 species largely endemic to Brazil. Except for the widespread *Marcetia taxifolia*, which has a bicentric distribution in eastern Brazil and northwestern South America (Colombia, Venezuela, and Guyana), all other species of *Marcetia* have restricted distributions. *Marcetia* species are usually shrubs or subshrubs that occur in campo rupestre in the Serra do Espinhaço, Minas Gerais, in the mountains of Goiás, and especially in the Chapada Diamantina, Bahia. Campo rupestre is an exclusively Brazilian complex mosaic of vegetation types characterized by extensive outcrops of highly acidic rocks, nutrient-poor soils, and local variations in topography, slope, aspect, and moisture regime. A few *Marcetia* species occur in both montane and littoral areas,

such as *M. ericoides* (Sprengel) O. Berg ex Cogniaux and *M. canescens* Naudin. *Marcetia shepherdii* is the only species in the genus that is endemic to coastal Bahia, where it occurs in the sandy vegetational formation commonly referred to as restinga. The genus *Marcetia* can be distinguished within the tribe Melastomeae mainly by the combination of tetramerous flowers and simple anthers that lack basally prolonged connectives (except in *M. shepherdii*) and, in some species, may have short ventral tuberculate appendages.

Three of the species studied in my taxonomic revision of *Marcetia* (Martins, 1989) are new. They are described and illustrated here.

Marcetia shepherdii A. B. Martins, sp. nov.

TYPE: Brazil. Bahia: Maraú, 4 km de Maraú, 12 Mar. 1977 (fl, fr), G. J. Shepherd, L. S. Kinoshita, J. B. Andrade & N. Taroda 4550 (holotype, UEC). Figure 1.

Haec species *Marcetiae luetzelburgii* affinis, sed ab ea foliis arcte adpressis sessilibus revolutis dense imbricatis internodia brevibus occultantibus, ramis basin versus nudatis, conspicue annulis foliorum delapsorum praeditis, lamina foliari supra glabra in sicco flavovirescenti, staminum filamentis ter longioribus, antheris apice rotundato ventraliter minute dehiscenti atque ovario biloculari difert.

Erect subshrub ca. 60 cm, compactly branched; branchlets rigid, subterete to inconspicuously quadrangular, moderately puberulous or nearly glabrous, at the base defoliating with age and with conspicuous leaf scars. Leaves opposite, sessile, appressed, densely imbricate and concealing the short internodes; blade lanceolate-ovate, 2.5–3 × 1 mm, fleshy-coriaceous, basally cordate, apically recurved and mucronulate, margins revolute, glabrous on the adaxial surface, glandular-pubescent abaxially, obscurely 1-nerved. Flowers 4-merous, subsessile, solitary in upper leaf axils resembling a terminal foliaceous spiciform inflorescence, becom-

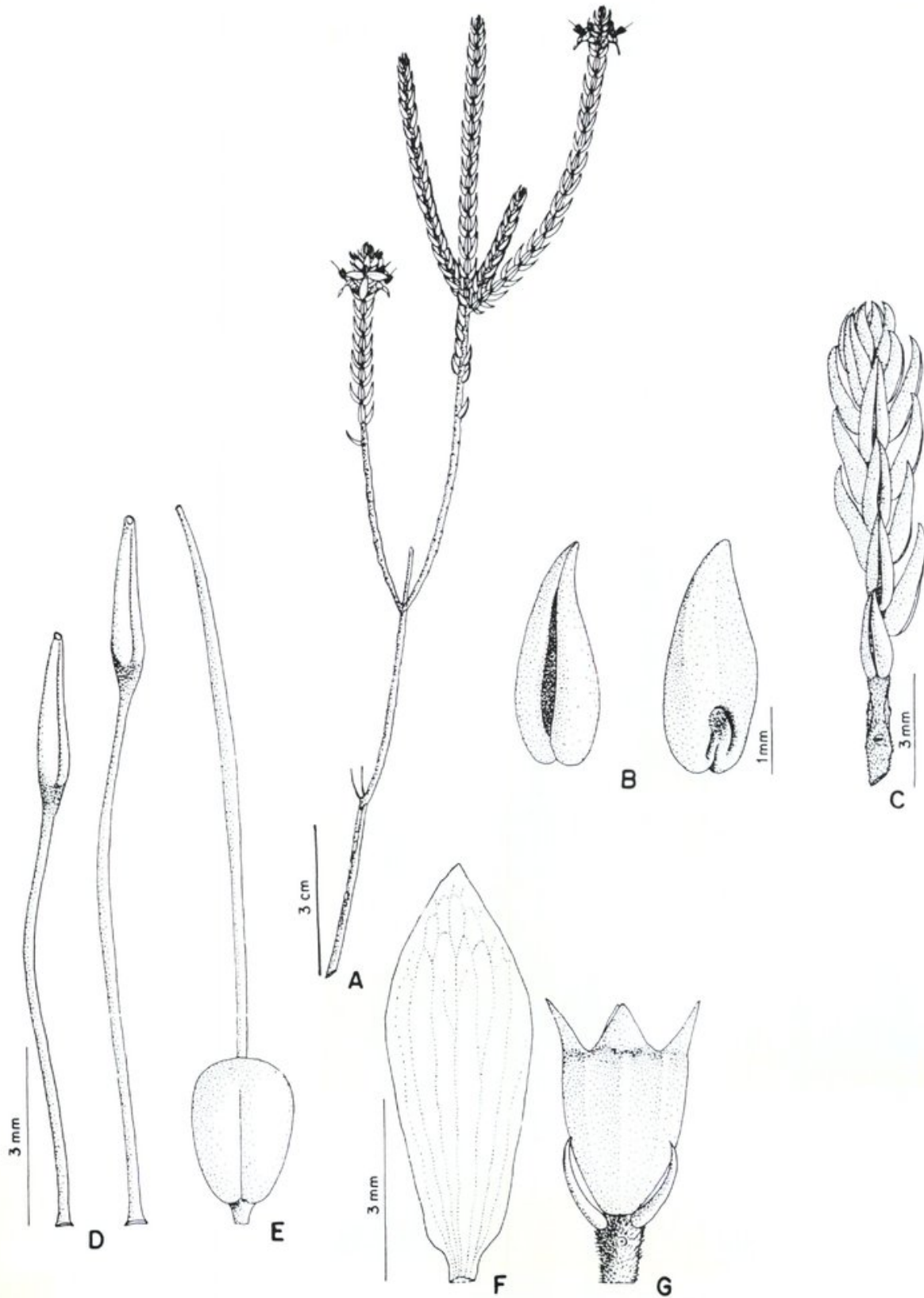


Figure 1. *Marcetia shepherdii* A. B. Martins. —A. Flowering branch. —B. Leaves, abaxial (left) and adaxial (right) surfaces. —C. Branchlet apex. —D. Antipetalous stamen (left) and antisepalous stamen (right). —E. Ovary and style. —F. Petal. —G. Hypanthium with bibracteolate pedicel and calyx. (A–G drawn from *Shepherd et al.* 4550.)

ing axillary by overtopping growth; bracteoles ca. 1 mm long, similar to the leaves; hypanthium campanulate, 2–2.5 mm long, glabrous; calyx lobes triangular, ca. 1 mm long, with acute to subrotund apex, glabrous, minutely glandular-ciliolate at the margins; petals obovate-oblong, 6–6.5 × 1.5–2 mm, pink to lavender, base shortly attenuate, apex acute; stamens subisomorphic, the antisepalous slightly longer; filaments 9–10 mm; thecae ca. 3.5 mm, linear-oblong, straight, with a small ventrally inclined pore, the connective shortly prolonged and broadly dilated below the thecae, ± continuous with the filament, unappendaged. Ovary superior, 2.5 mm long, glabrous, 2-locular; style 10–12 mm long, glabrous; stigma not expanded. Capsule elliptic, flattened, 2.5–3 mm long, enveloped by hypanthium and calyx; seeds cochleate, ca. 0.5 mm long, numerous, testa tuberculate.

This species is named after George J. Shepherd, Professor of Botany at UNICAMP (Universidade Estadual de Campinas), who collected the type and only known collection of this species.

Sterile plants of *Marcetia shepherdii* closely resemble *M. luetzelburgii* Markgraf. *Marcetia shepherdii* has rigid, erect branchlets, while in *M. luetzelburgii* the branchlets are more flexuous. The leaves, which are superficially similar in these two species, are much more appressed in *M. shepherdii* than in *M. luetzelburgii*. In *M. shepherdii* they are glabrous on the upper surface and yellowish green. Useful morphological characters in distinguishing these two species can be also found in the stamens and ovary. *Marcetia shepherdii* has much longer filaments (9–10 mm) than *M. luetzelburgii* (2–3 mm). In the new species the connectives are unappendaged, shortly prolonged, broadly dilated below, and the thecae are linear-oblong and rounded at the apex, with a small ventrally inclined pore. Its ovary is 2-locular, a unique feature in this genus where the usual condition is a 4- to 3-locular ovary. In contrast, *Marcetia luetzelburgii* has linear-triangular thecae with a beaked, dorsally inclined apex, a staminal connective that is barely prolonged with ventral appendages, and a 3-locular ovary.

The distribution of *Marcetia shepherdii* is apparently confined to Maraú, Bahia. The only available specimen was collected at sea level, on a "mata de restinga" border. The species may be rare as only one specimen has been collected. However, this coastal region of Bahia, which is experiencing widespread destruction, is still poorly known botanically.

Marcetia lychnophoroides A. B. Martins, sp. nov. TYPE: Brazil. Bahia: Caeté-Açu, Cachoeira Glass, 30 June 1983 (fl), *L. Paganucci de Queiroz* 702 (holotype, HUEFS; isotypes, ALCB, SP). Figure 2.

Haec species ad *Marcetiam shepherdii* et *M. luetzelburgii* foliis confertis crasse coriaceis satis revolutis accedit, autem ab ambabus non solum foliis longioribus et habitu robustiore, sed etiam antherarum connectivorumque forma maxime distincta.

Erect much-branched shrub 1–1.3 m; branchlets subterete to obscurely quadrangular, densely covered with velutinous to sublanate or sericeous trichomes, cinereous to canescent, glabrescent and defoliating with age at the base, the leaf scars conspicuously alveolate. Leaves opposite, sessile, subappressed and densely imbricate; blade lanceolate-ovate, 8–10 × 2–2.5 mm, cinereous-green, subcoriaceous to fleshy coriaceous, base rounded to subcordate, apex shortly blunt-acuminate, margins totally revolute, sparsely puberulous and obscurely striolate on the adaxial surface, densely puberulous-sericeous abaxially, 1-nerved. Flowers 4-merous, subsessile, solitary, in upper leaf axils, resembling terminal foliaceous spiciform inflorescences, pedicels ca. 0.5 mm; bracteoles naviculate, 3–4 × 1 mm, similar to the leaves, the margins strongly revolute; hypanthium oblong-campanulate, ca. 4 mm long, moderately puberulous; calyx lobes linear to narrowly triangular, ca. 4 × 1 mm, apex acuminate, puberulous beneath; petals obovate, 7–8.5 × 3–4 mm, lavender, base attenuate, apex subabruptly acute; stamens slightly dimorphic in size, antisepalous ca. 9 mm, antipetalous ca. 8 mm; thecae 4–4.5 mm long, linear-oblong with a small ventrally inclined pore, the connective not or slightly prolonged and inconspicuously bilobulate ventrally at base; ovary oblong, 3- or 4-locular, superior, glabrous; style 15 mm, glabrous; stigma not expanded. Capsule 4–5 mm long, enveloped by the tardily caducous hypanthium and calyx; seeds cochleate, ca. 0.6 mm long, numerous, testa tuberculate.

Marcetia lychnophoroides belongs to an informal group of species that includes *M. shepherdii* and *M. luetzelburgii*. All of these species share subcoriaceous to fleshy, densely imbricate, one-nerved leaves with margins that are uniformly revolute. Distinguishing characters of the new species include its velutinous to sublanate branchlets, longer leaves, anthers, and connectives.

Marcetia lychnophoroides differs notably from *M. shepherdii* in its 3- or 4-locular ovary, and unprolonged or slightly prolonged connective that is minutely bilobulate at the base. In *M. shepherdii* the

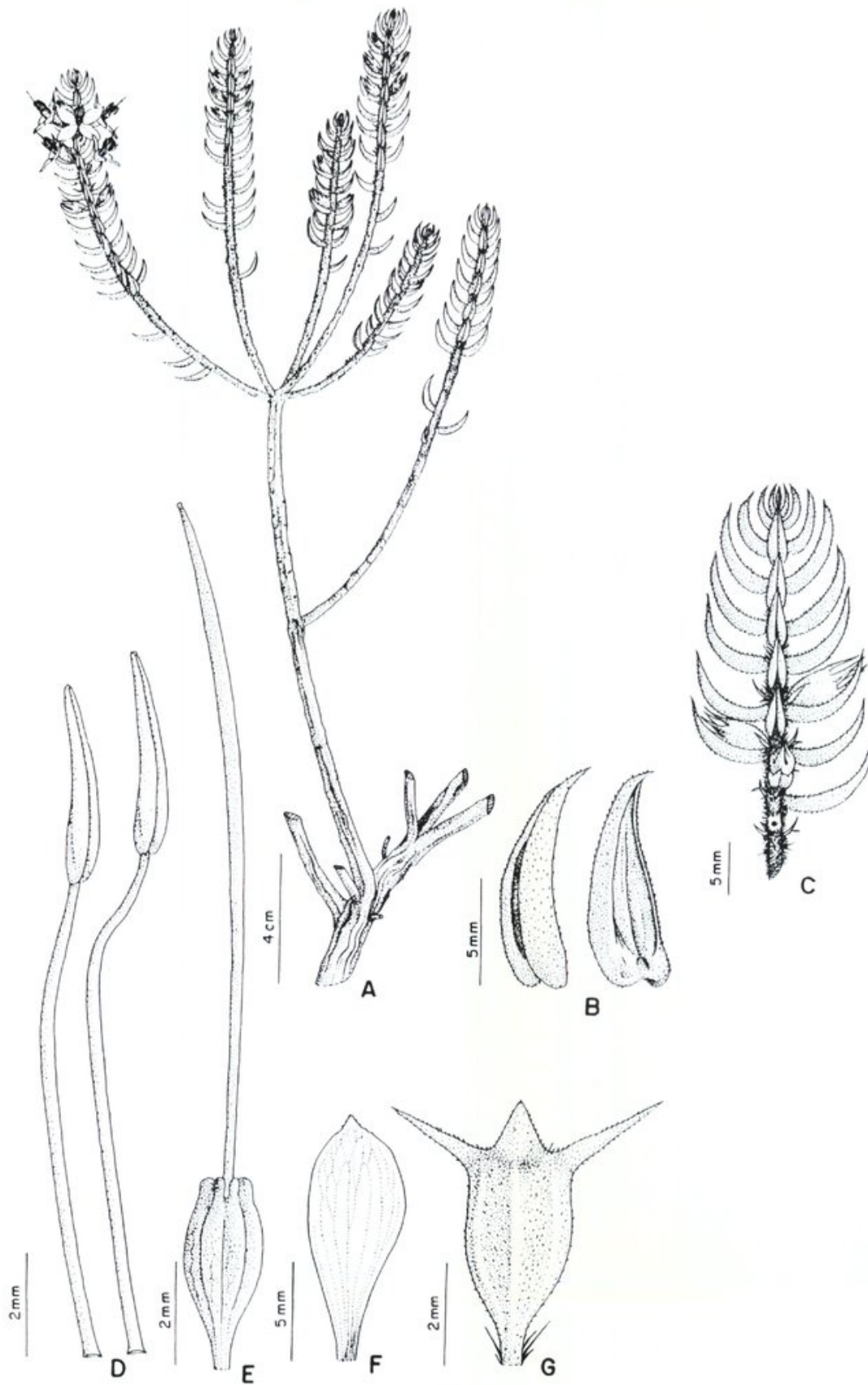


Figure 2. *Marcetia lychnophoroides* A. B. Martins. —A. Flowering branch. —B. Leaves, abaxial (left) and adaxial (right) surfaces. —C. Branchlet apex. —D. Antipetalous stamen (left) and antisepalous stamen (right). —E. Ovary and style. —F. Petal. —G. Hypanthium and calyx. (A–G drawn from Paganucci de Queiroz 702.)

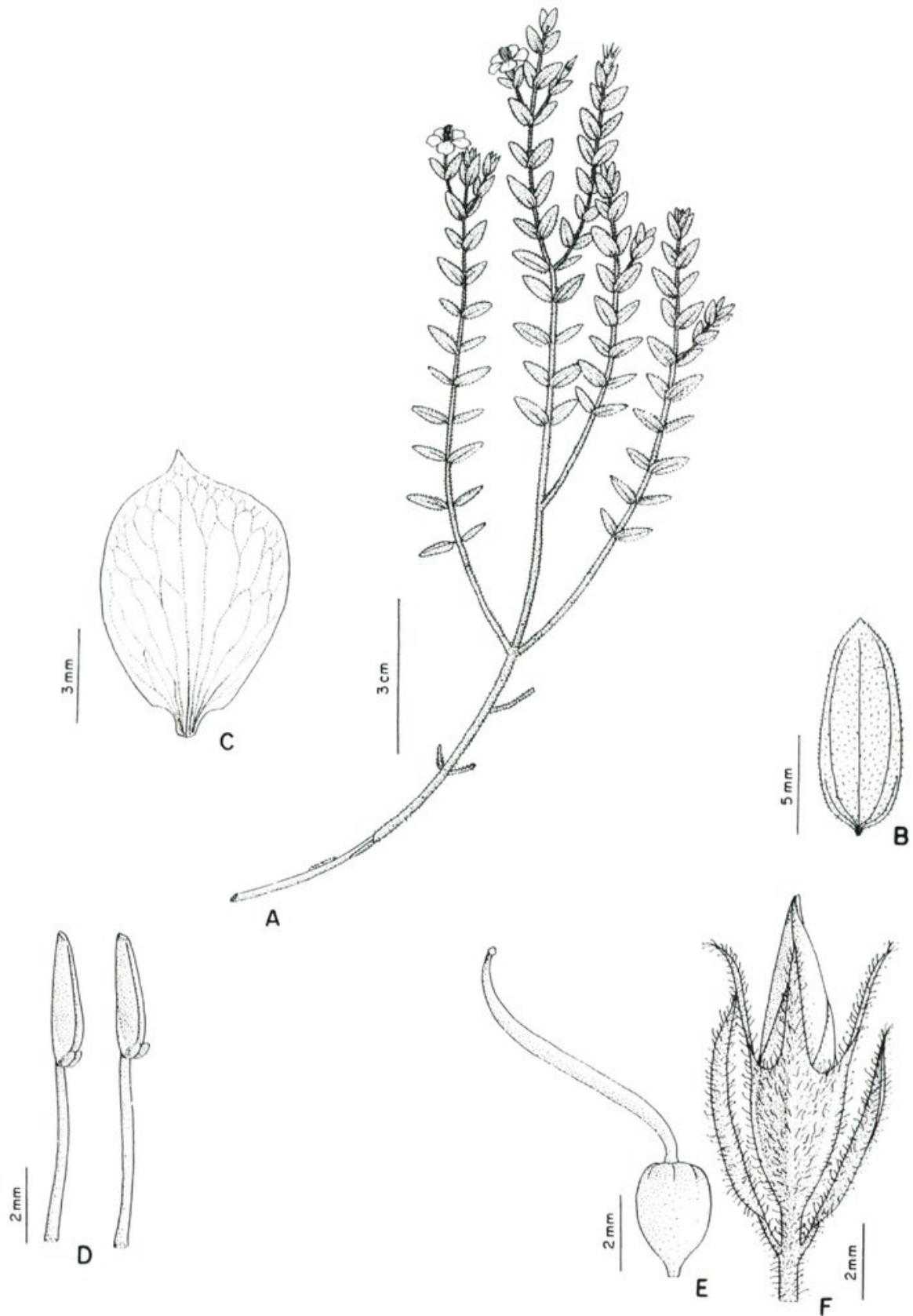


Figure 3. *Marcetia semiriana* A. B. Martins. —A. Flowering branch. —B. Leaf, adaxial surface. —C. Petal, adaxial surface. —D. Antipetalous stamen (left) and antisepalous stamen (right). —E. Ovary and style. —F. Bud showing hypanthium with bibracteolate pedicel and calyx. (A–F drawn from Daniel & Hensold 2294.)

ovary is 2-locular with the connective consistently prolonged. The two species also differ markedly in distribution and habitat. *Marcetia shepherdii* is presently known only from the restinga vegetation, at sea level, while *M. lychnophoroides* is endemic to the campos rupestres on the higher mountains of Chapada Diamantina, in interior Bahia. *Marcetia lychnophoroides* differs from *M. luetzelburgii* by its longer anthers that are linear and lacking the tubular dorsally inclined apex that characterizes *M. luetzelburgii*.

The epithet *lychnophoroides* emphasizes the similarity of sterile individuals of this species to some species in the genus *Lychnophora* Martius (Asteraceae). The Greek words *lychnis* for lamp, *phorus* for bearing, and *oides* for resembling were joined to describe the branching habit of the plant, which looks like a candelabra.

Paratypes. BRAZIL. Bahia: Barra da Estiva, 9 km ao sul da cidade, estrada para Ituaçu, 13°24'S, 14°13'W, 19 Oct. 1988 (fr), R. M. Harley 26925 (UEC); Palmeiras, próximo a Cacté-Açu, Cachoeira da Fumaça (Glass), 11 Oct. 1987 (fr), Paganucci de Queiroz 1955 (ALCB, CEP-PEC, F. HBR, HUEFS, K, NY, RB, SP, UEC, US).

Marcetia semiriana A. B. Martins, sp. nov. TYPE: Brazil. Minas Gerais: Santana do Riacho, rocky slopes in the vicinity of Alto dos Palácios along the road from Chapeu do Sol to Conceição do Mato Dentro in the Serra do Cipó, elev. ca. 1200–1400 m, 14 Feb. 1982 (fl, fr), T. Daniel & N. Hensold 2294-CFCR 3700 (holotype, SPF; isotypes, CAS, UEC). Figure 3.

Haecc species primo aspecto *Marcetiae taxifoliae* similis sed ab ea caule prostrato, floribus longe pedunculatis, staminum filamentis stylisque brevioribus et antheris rectis differt.

Lax or diffuse subshrub 15–20 cm tall; branches subquadrangular, flexuous, prostrate, the young branchlets, leaf blades on both surfaces, hypanthium, and calyx lobes sparsely puberulous-glandular. Leaves sessile; petiole 0.7–1.2 mm long; blade oblong-elliptic 6–10 × 2–6 mm, membranous, flat, base subrounded-obtuse, apex obtuse short-acuminate, margins glandular-ciliolate, 3- to 5-nerved. Flowers 4-merous, solitary in upper leaf axils; pedicels ca. 1 mm long; peduncles 4–5 mm long; bracteoles 4–5 × 1.5–2 mm, similar to the leaves, obscurely 3-nerved; hypanthium narrowly campanulate, 2–3 mm long; calyx lobes oblong-lanceolate to tri-

angular, 2.5–3 × 0.5–0.8 mm; petals broadly ovate to elliptic 7–8 × 5–6 mm, lavender to pink, base attenuate, apex obtuse-apiculate usually with a single gland-tipped hair; stamens isomorphic with straight anthers, thecae oblong, 2–3 mm long, with a small ventral-terminal pore, the connective slightly prolonged, ventrally minutely bilobulate at the base; ovary elliptic, 2.5 mm long, superior to slightly attached to the hypanthium at the base, 4-locular, glabrous; style 6–7 mm, glabrous; stigma not expanded. Capsule 3.5–4 mm, covered by the persistent hypanthium and calyx; seeds cochleate, 0.4 mm long, numerous, testa tuberculate.

Marcetia semiriana is named for my friend and colleague João Semir, Professor of Botany at UNICAMP, who was my initial mentor in my studies of the Melastomataceae.

Marcetia semiriana can be confused with flat-leaved specimens of *M. taxifolia*, the only species in the genus that grows sympatrically with *M. semiriana*. The widespread *M. taxifolia* is quite variable, and several forms can be distinguished on the basis of foliage characters alone. None display the prostrate habit, long peduncles, shorter filaments and style, or smaller straight anthers of *M. semiriana*. *Marcetia hatschbachii* A. B. Martins, endemic to Grão-Mogol in Minas Gerais, resembles *M. semiriana*, but can be separated by a few constant characters. Of these the most significant are features similar to those distinguishing *M. semiriana* from *M. taxifolia*. In addition, *M. hatschbachii* is distinguished from *M. semiriana* by the ventral location of the anther pores and the petiole leaves.

Paratypes. BRAZIL. Minas Gerais: Município de Santana do Riacho, Val da Lagoa, 22 Feb. 1986 (fl, fr), Chukr et al. s.n., CFSC 9624 (SPF); Serra do Cipó, Km 132, 24 Apr. 1950 (fl, fr), Duarte 2647 (US); Rodovia Belo Horizonte-Alto do Palácio, caminho para a Cachoeira, 16 Jan. 1988 (fl), V. L. Menezes & P. Morales s.n., CFSC 10852 (SPF, UEC).

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