



**Citation:** Paulo J. Fernandes Guimarães, Diego Nunes Da Silva, Inara Montini Araújo, Rosana Romero (2022) A new species of *Pleroma* (Melastomataceae) from the Southern Espinhaço, Minas Gerais, Brazil. *Webbia. Journal of Plant Taxonomy and Geography* 77(2): 247-256. doi: 10.36253/jopt-13088

**Received:** May 9, 2022

**Accepted:** July 11, 2022

**Published:** December 15, 2022

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**Data Availability Statement:** All relevant data are within the paper and its Supporting Information files.

**Competing Interests:** The Author(s) declare(s) no conflict of interest.

**Editor:** Riccardo M. Baldini

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## A new species of *Pleroma* (Melastomataceae) from the Southern Espinhaço, Minas Gerais, Brazil

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**Abstract.** *Pleroma barbellatum* P.J.F.Guim., D.Nunes & I.M.Araújo a new species of Melastomataceae (Melastomateae) from the Espinhaço Range of Minas Gerais State, Brazil, is described and illustrated, and their affinities and diagnostic characters are here discussed. *Pleroma barbellatum* is closely related to *P. formosum*, *P. martiale*, and *P. riedelianum*. They share a similar habit and leaves that are alike in size and shape. However, they can be distinguished by differences in the trichomes of the branches, leaves and inflorescences, in addition to other characters related to the type of inflorescence and size of the bracteoles. We recommend a conservation status of Endangered for *P. barbellatum*.

**Keywords:** Campos rupestres, Diamantina Plateau, Espinhaço Meridional, Grão-Mogol, Melastomateae.

#### INTRODUCTION

*Pleroma* is a Neotropical genus of the tribe Melastomateae whose morphological characteristics are the extension of the connective beyond the thecae called pedoconnective, ovary apex with a persistent crown of erect trichomes surrounding the base of the style and cochleate seeds (Renner 1993; Guimarães et al. 2019; Veranso-Libalah et al. 2022). In Brazil there are 159 species of *Pleroma* distributed mainly in the Atlantic Forest with 105 species and Cerrado with 58 species, of which 4 are shared between these biomes (Guimarães 2022). The main features of *Pleroma* are the shrubby habit, rarely arboreal or herbaceous, flowers with 5 petals, purple to lilac or rarely white, anthers purple or pink, filaments with the frequent presence of trichomes

capitate-glandular, and deciduous sepals that are absent on hypanthia that envelop mature capsules (Guimarães et al. 2019).

The Espinhaço Range is a major center of plant diversity in eastern Brazil (Giulietti and Pirani 1988; Giulietti et al. 1997; Colli-Silva et al. 2019) that extends for more than 1200 km along the states of Bahia and Minas Gerais (Almeida-Abreu and Renger 2002), with a predominance of *campo rupestre* vegetation (Vasconcelos 2011; Alves et al. 2014). This imposing mountainous expanse is composed mainly of herbaceous, subshrubby and shrubby life forms (Colli-Silva et al. 2019), originating from the Cerrado, Caatinga and Atlantic Forest (Conceição et al. 2016), and can be divided into two physiographic domains known as Chapada da Diamantina (comprising the northern portion, in the state of Bahia) and Serra do Espinhaço (southern portion, Minas Gerais) (Danderfer and Dardenne 2002; Gontijo 2008). These domains were recognized and characterized by Colli-Silva et al. (2019), respectively, as Chapada da Diamantina and Southern Espinhaço provinces. Following the classification by Colli-Silva et al. (2019), the Southern Espinhaço is subdivided into three districts: Grão-Mogol, Diamantina Plateau, and Iron Quadrangle.

In the Southern Espinhaço, Melastomataceae stand out as one of the vascular plant families with the most endemic species in the province (Colli-Silva et al. 2019). While in Grão-Mogol and Diamantina Plateau districts, the family is one of the richest [e.g., Pirani et al. (2003, 2015); see also Paranhos (2020) for an updated list of Melastomataceae from the Diamantina Plateau]. However, the richness of the family in Grão-Mogol and Diamantina Plateau has increased significantly with 46 new species being described in the last 10 years (Supplementary file). Furthermore, floristic studies have contributed to the review of species occurrence and diversity within the provinces (e.g., Candido 2005; Martins et al. 2009; Araújo 2013; Paranhos 2020).

During a floristic study focused on Melastomataceae from Biribiri State Park, in the state of Minas Gerais (Araújo 2013), an enigmatic species of *Pleroma* was found, but initially identified as *Pleroma formosum* (Cogn.) P.J.F.Guim. & Michelang. When we examined specimens more closely, we confirmed that it is a new species endemic to the Southern Espinhaço, occurring in the Diamantina Plateau and Grão-Mogol districts, Minas Gerais, Brazil. We here describe, illustrate and compare this new species to morphologically similar species. In addition, notes on its geographic distribution and conservation status, photos of living specimens, and scanning electron microscopy (SEM) images are provided.

## MATERIALS & METHODS

Beentje (2016) was adopted for general morphological terminology. We emphasize that the term trichome barbellate is adopted here following Beentje (2016), but in Wurdack (1986) this same trichome is described as “elongated moderately roughened hairs”. The stamen dimetrisism index (SDI) was used to measure to the difference (or not) in the length between the antesealous and antepetalous stamens (Melo et al. 2021). The morphological characteristics of the species that are compared to the new species were obtained from Guimarães (1997, 2022) and personal observations by the same author. The herbaria acronyms follow Index Herbariorum (Thiers 2022). The SEM images are based on herbarium specimens and taken with a EVO® 10 Zeiss microscope. The geographic distribution map was prepared using ArcGIS 10.5 (<https://www.arcgis.com/features/index.html>). The conservation status follows IUCN (2012, 2022) guidelines and criteria. The area of occupancy (AOO) and extent of occurrence (EOO) were calculated using the software GeoCAT (Bachman et al. 2011), with a user-defined cell width of 2 km.

## TAXONOMIC TREATMENT

*Pleroma barbellatum* P.J.F.Guim., D.Nunes & I.M.Araújo, **sp. nov.** (Figures 1, 2, and 3).

Type: Brazil. Minas Gerais: Diamantina, Serra do Espinhaço, ca. 14 km SW of Diamantina on road to Gouveia, 1300–1360 m, 05 Feb. 1972 (bud, fl.), W.R. Anderson, M. Stieber & J.H. Kirkbride, Jr. 35497 (holotype RB! barcode 01352109; isotypes MO herbarium number 3273401, NY! barcode 01404497, SP! barcode SP043387, UB! barcode UB0120844, US! barcode 01918515).

### Diagnosis

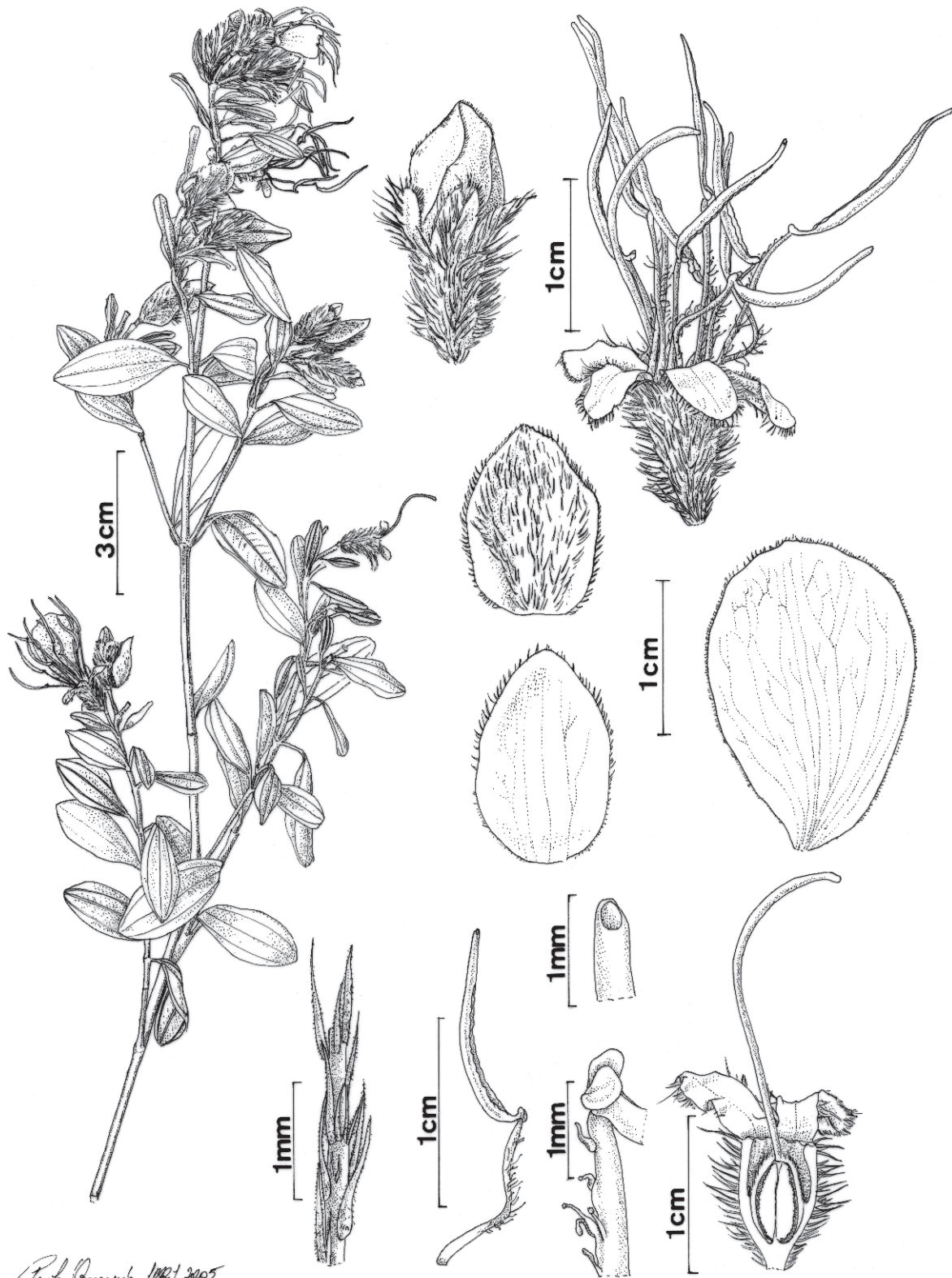
A shrub or tree 1–2 m or 2–3 m tall, is readily recognized by its barbellate and eglandular trichomes (on the branches, petioles, leaf blade surfaces, pedicels, bracts and bracteoles, hypanthia, outer surface and margins of sepals, and base of style), oblong, elliptic or lanceolate leaf blades 15–44 × 6.5–13.5 mm, with strigose indumentum on the adaxial surface, and obtuse, rounded or cuneate base, terminal cyme inflorescences 3–5 cm long with up to 5 flowers or flowers solitary and terminal, campanulate hypanthia covered by a strigose bristly indumentum, and ensiform sepals 4–6 × 1.5–2.5 mm. *Pleroma barbellatum* is similar to *Pleroma formosum* (Cogn.) P.J.F.Guim.

& Michelang., but is readily distinguished by shorter leaf blades 15–44 mm long (*versus* 40–55 mm long in *P. formosum*), cyme inflorescences (*vs.* thyrsoids), 1–5 flowers per inflorescence (*vs.* 35–58 flowers per inflorescence), bracteoles 10–17.5 × 6.5–10 mm (*vs.* 4–6 × 1.4–2 mm), sepals 4–6 mm long (*vs.* 2.5–2 mm long).

#### Description

Shrub 1–2 m tall or treelet 2–3 m tall, with branching bi- or trichotomic; branches covered by a strigose indumentum of barbellate trichomes 0.3–0.8 mm long, eglandular, brownish yellow; internodes 5–13 mm long; distal branches quadrangular, light green, beige or brownish yellow; proximal branches circular, grey or dark greyish brown, sometimes with galls in the dichotomy (see Figure 3D). Leaves decussate, isomorphic in size per node, chartaceous, petiolate; hypostomatic; covered by a strigose indumentum of trichomes that are thick and stiff adaxially and pilose with trichomes elongated and fine abaxially; venation acrodromous, 3-nerved basal + one outer pair suprabaasal, midrib and first pair of veins callous and second pair inconspicuous (on the abaxial surface); petiole canaliculate or flat, (1.2–)2–3 mm long, trichomes barbellate, (0.4–)1–1.2 mm long, brownish yellow (when dry); blades oblong, elliptic or lanceolate, 15–44 × 6.5–13.5 mm; abaxial surface light green, but the ribs turn clearer (when fresh) or brownish yellow (when dry), trichomes barbellate, 0.3–0.8(–1.5) mm long and adnate to the leaf surface for ½–⅔ of their length, eglandular; adaxial surface dark green (fresh material) or dark brown (dry material), trichomes barbellate, 0.1–0.8(–1) mm long, eglandular, and inconspicuous trichomes capitate-glandular; base obtuse, rounded or cuneate; margin entire and slightly revolute, trichomes 0.3–0.8 mm long; apex obtuse or acute. Inflorescences terminal cyme 3–5 cm long with 3–5 flowers or flowers terminal and solitary, erect; peduncle, rachis and pedicel quadrangular, covered by a strigose indumentum strigose of barbellate and eglandular trichomes; peduncles 4–5 mm long, trichomes 0.3–0.5 mm long; pedicels 1.5–2 mm long, trichomes 0.8–1.2 mm long; bracts and bracteoles caducous, sometimes persistent; bracts 2, oblong, ca. 12 × 2.5 mm, base and apex obtuse, margins entire and flat, 3-nerved, abaxial surface light green, covered by a strigose indumentum of barbellate trichomes 0.8–1.2 mm long, eglandular, adaxial surface dark green, covered by a strigose indumentum from the middle to the apex (⅔ of the blade), but the basal portion (⅓ of the blade) is glabrous or with sparse barbellate trichomes 0.3–0.8 mm long, eglandular; petiole flat, ca. 1 mm long; bracteoles 2, elliptic or ovate, 10–17.5 × 6.5–10 mm, concave, ses-

sile, base rounded or obtuse, margin entire and revolute, apex obtuse, reddish or pinkish, inner surface glabrous, outer surface covered by a strigose indumentum entirely or only in the central portion from the base to the apex, white (fresh material) or brownish yellow (dry material), trichomes barbellate, 0.3–1 mm long, eglandular. Flowers 5-merous, diplostemonous; hypanthium campanulate, ca. 6 × 3–3.5 mm, outer surface light green, covered by a bristly strigose indumentum, white (when fresh) or brownish yellow (when dry), trichomes barbellate, 1.8–2 mm long, eglandular, mixed with inconspicuous gland-tipped trichomes, brownish yellow (when dry), the glands inconspicuous; sepals 5, ensiform, 4–6 × 1.5–2.5 mm, inner surface glabrous and reddish or pink, outer surface light green, covered by a strigose indumentum, white (when fresh) or brownish yellow (when dry), trichomes barbellate, 1–2.8 mm long, eglandular, margin flat with a hispid indumentum of barbellate trichomes 0.3–0.5(–1) mm long, eglandular; petals 5, obovoid, 11–17 × 6–8 mm, purple, the margins ciliate, white, trichomes capitate-glandular, 0.3–0.8 mm long, apex rounded, inner and outer surfaces glabrous; stamens 10, isometric or subdimetric in length (SDI = 0.07–0.15), subisomorphic, filaments filiform, erect, lilac with a white base, indumentum pilose from base to ⅓ of the total length, white, trichomes capitate-glandular, appendages ventrally bituberculate, glabrous, lilac, dorsal appendages absent or present, when present calcarate, ca. 0.1 × 0.1 mm, glabrous, pedoconnectives slightly curved, lilac with a white base, anthers oblong, slightly curved, ventral surface rugulose, apex attenuate with a small ventral pore, purple or lilac with white apex; antesealous stamens (larger) 5, 17–28 mm long, filaments 9–13 mm long, trichomes 0.3–2 mm long, ventral appendages 0.2–0.3 × 0.2–0.3 mm, pedoconnectives 1–3 mm long, anthers 7–12 mm long; antepetalous stamens (smaller) 5, 14.8–20.5 mm long, filaments 7.5–10 mm long, trichomes 0.3–0.5(–1) mm long, ventral appendages ca. 0.2 × 0.2 mm, pedoconnectives 0.3–0.5 mm long, anthers 7–10 mm long; ovary ovoid, 4–5.5 × 2.5–3 mm, light green, apical half with a puberulous indumentum of eglandular trichomes 0.5–1 mm long, 5-locular, pluriovulate, axile placentation; style filiform, ca. 15 mm long, straight or sigmoid, terete, glabrous or subglabrous with barbellate trichomes, erect and terete, purple or lilac with a white apex, stigma punctiform, white. Fruit a loculicidal capsule covered by the persistent globose hypanthium, capsule ovoid, ca. 6.2 × 4 mm, brownish, 5-locular; seeds elongate-cochleate, ca. 1 × 0.5 mm, brownish, testa tuberculate, cells of testa isodiametric; hilum terminal and elongate.



**Figure 1.** *Pleroma barbellatum* P.J.F.Guim., D.Nunes & I.M.Araújo. (a) Flowering branch. (b) Barbellate trichomes on the branch. (c) Floral bud. (d) Outer surface of bracteole. (e) Inner surface of bracteole. (f) Flower with petals removed. (g) Petal. (h) Antesealous stamen. (i) Detail of the trichomes on the filament. (j) Anther apex. (k) Flower in longitudinal section. From W.R. Anderson *et al.* 35497 (at RB).

### Etymology

The specific epithet, *barbellatum*, refers to shortly barbed trichomes (see Beentje 2016) that are easily observed on branches, leaves, pedicels, bracts and bracteoles, hypanthia, outer surface and margins of sepals, and base of the style (see Figures 1B and 2).

### Distribution and habitat

*Pleroma barbellatum* is endemic to the state of Minas Gerais, Brazil, where it occurs mainly in the Espinhaço Range, between 950–1400 m elevation around the city of Diamantina, including Datas, Gouveia and São Gonçalo do Rio Preto. It also occurs further north in Grão-Mogol, about 200 km away from Diamantina (Figure 4). Outside the Espinhaço Range towards southwest, *P. barbellatum* was also been collected in São Gonçalo do Abaeté, about 250 km away from Diamantina (Figure 4). This species has been found in the Cerrado, in *campos rupestres*, on steep rocky slopes with extensive outcrops (Figures 3A and 3B), as well as along the borders of gallery forests, preferably in sandy or fine gravel soils.

### Conservation status

Based on distributional data of *Pleroma barbellatum*, the AOO is restricted to 68 km<sup>2</sup> and the AOO is equal to 34,283 km<sup>2</sup>. To date, the species has only been collected in *campos rupestres*, especially along the southern portion of the Espinhaço Range (Figure 4), which is threatened by activities such as mining, fires, and agricultural activities (Verdi et al. 2015). *Pleroma barbellatum* occurs only in one Conservation Unit (UC), the Biribiri State Park. Even within the limits of this UC, its long-term survival is directly affected by the degradation of natural resources, areas of swidden and pasture, mineral extraction, damming of streams, accumulation of garbage, bushfires, transmission lines, exotic vegetation, excessive trails and disorderly tourism (STCP Engenharia de Projetos 2004). In view of this panorama, we recommend a conservation status of Endangered [EN B2b(iv)].

### Taxonomic notes

In nature, *Pleroma barbellatum* attracts attention by its showy reddish bracts and bracteoles that subtend a characteristic hypanthium covered with a strigose bristly indumentum and leaves which range from oblong, elliptic or lanceolate reaching 15–44 mm long. The leaf blades are covered above with a strigose indumentum composed of barbellate trichomes 0.3–0.8(–1.5) mm long, which are adnate to the blade for  $\frac{1}{2}$ – $\frac{2}{3}$  of their length. The abaxial surface of the leaf is covered with

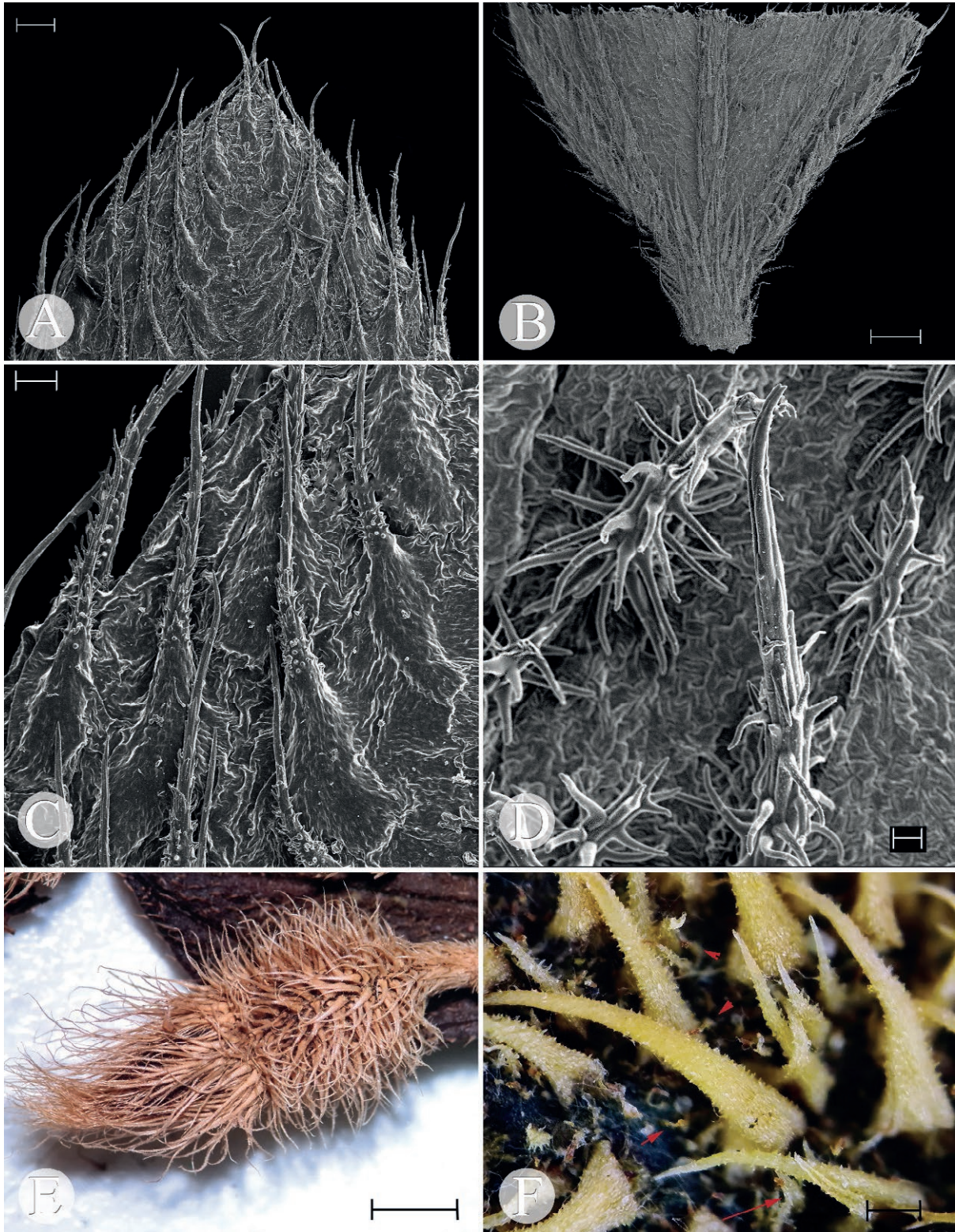
barbellate trichomes 0.1–0.8(–1) mm long and inconspicuous capitate-glandular trichomes.

This new species is most closely related to *Pleroma formosum* which has a similar size of about 1 m tall, in having lanceolate leaves 40–45 mm long with five nerves. Both species have leaf blades covered with barbellate trichomes (see the figures 2I and 3I in Guimarães et al. 1999). On the contrary, *P. formosum* has smaller bracteoles (4–6 mm long vs. 10–17.5 mm long) and the trichomes on the hypanthium are not bristled. In addition, *P. formosum* has two elongated ventral appendages on the connectives (vs. bituberculate ventral appendages), that are narrower and longer than those observed in *P. barbellatum*. Finally, *P. formosum* has a thyrsoid inflorescence with 35–58 flowers (vs. cyme with up to 5 flowers or flowers solitary) (Table 1).

Another related species is *P. martiale* (Cham.) Triana due to the shrubby habit with 0.7–1.5(–3) m tall and leaves with 25–43 mm long. On the other hand, *P. martiale* has shorter bracteoles that are 3–5 mm long (vs. 10–17 mm long) subtending a strigose hypanthium with smooth non-bristly trichomes and smooth trichomes on branches, surfaces of leaf blades, and hypanthia (vs. barbellate) (Table 1). *Pleroma riedelianum* is also a shrub 1.2–3 m tall with leaves that are 25–30 mm long. Bracteoles are also evident but only 6–8 mm long (vs. 10–17 mm long), and the hypanthia indumentum is equally strigose but the trichomes are smooth and not bristly (Table 1). The absence of barbellate trichomes on the leaves on both surfaces and on the hypanthia rules out the possibility of considering them the same species. The closest species to *P. riedelianum* is *P. martiale* due to the morphology of the leaves and hypanthia, being distinguished from it mainly by the size of the bracteoles and the indumentum on the filament (Table 1).

### Additional specimens examined (Paratypes)

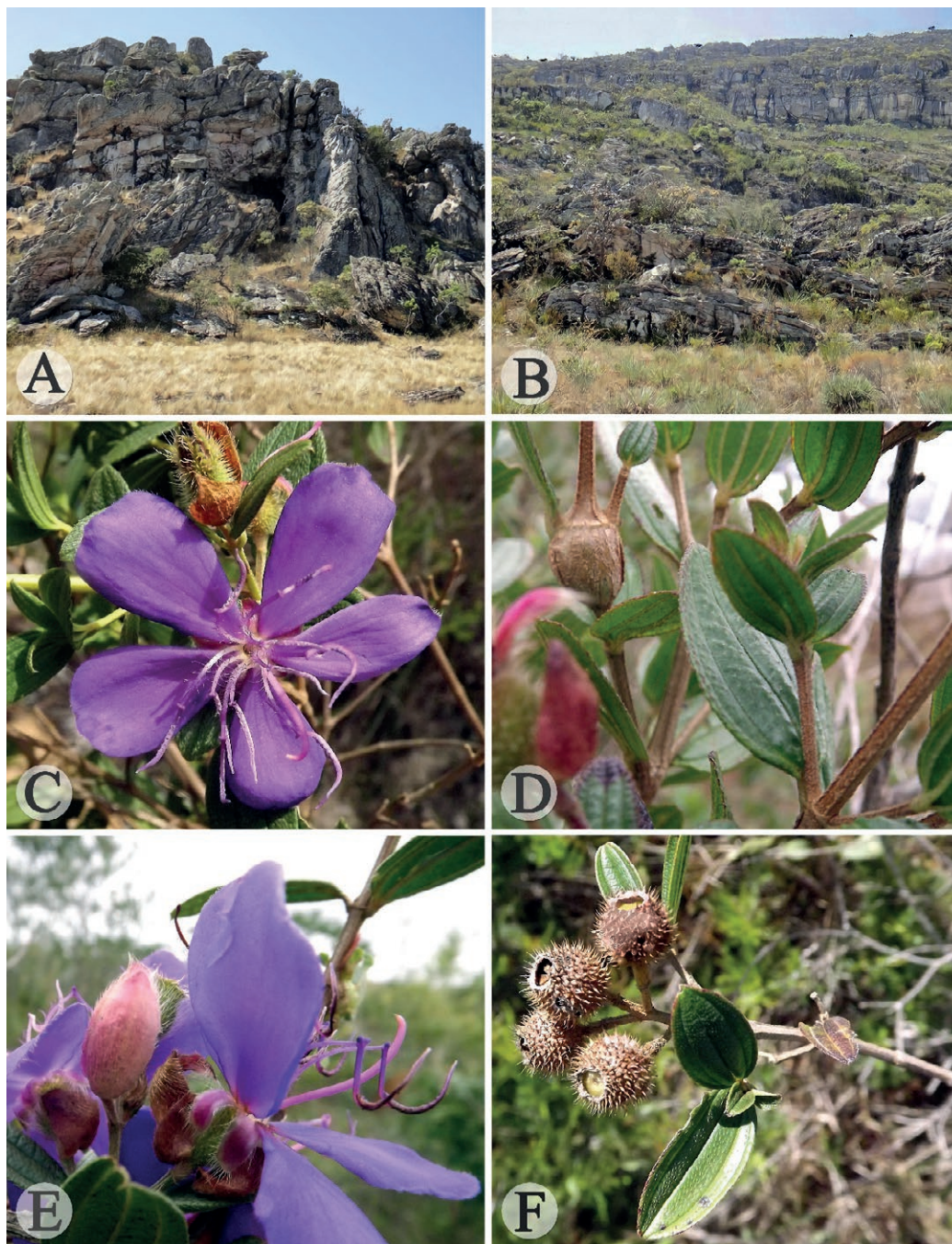
**BRAZIL:** Minas Gerais: [Datas], Serra do Espinhaço, ca. 18 km by road SW of Diamantina on road to Curvelo, 1400 m, 10 Apr. 1973 (bud, fl.), W.R. Anderson et al. 8513 (MO herbarium number 3274512, UB! barcode UB0120843, US! barcode 01918607). Diamantina, Parque Estadual do Biribiri, Alto da Jacuba, 18°11'46"S, 43°35'14"W, 28 Feb. 2016 (fr.), J.E.Q. Faria 5398 (HDJF! herbarium number 3382, HUFU! barcode HUFU00072698, RB! barcode 01306989, UB! barcode UB0120845); Parque Estadual do Biribiri, "Alto da Jacuba", próximo à "Casa dos ventos", 15 Jan. 2013 (bud, fl.), I.M. Franco 1194 (HUFU! barcode HUFU00068485); P.E. Biribiri, "Alto da Jacuba", 18°08'32.2"S, 43°36'32.2"W, 1382 m, 14 Mar. 2012 (bud, fl., fr.), I.M. Araújo et al. 261 (HUFU! barcode HUFU00067348);



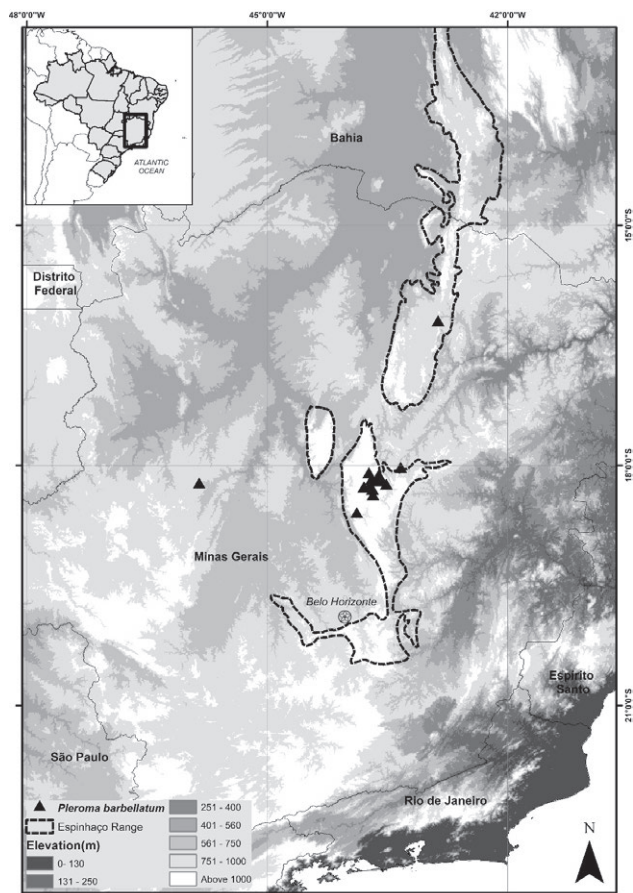
**Figure 2.** Images of *Pleroma barbellatum* P.J.F.Guim., D.Nunes & I.M.Araújo. SEM: (a) Adaxial leaf surface [bar = 300  $\mu$ m]. (b) Adaxial leaf surface [bar = 1 mm]. (c) Adaxial leaf surface [bar = 100  $\mu$ m]. (d) Abaxial leaf surface [bar = 20  $\mu$ m]. Macro photography: (e) Floral bud [bar = 3.5 mm]. (f) Hypanthium with barbellate trichomes and capitulate-glandular trichomes at red arrows [bar = 0.25 mm]. A–D: From W.R. Anderson *et al.* 35497 (at RB); E–F: From A.C. Brade 13756 (at RB).

P.E. Biribiri, Salto do Mocotó, próximo ao Rio do Biribi, 18°08'38.8"S, 43°36'44.5"W, 1065 m, 13 Mar. 2012 (fl., fr.), *I.M. Araújo et al.* 239 (HUFU! barcode HUFU00067346, RB! barcode 01460890); Parque Estadual do Biribiri, 18°11'24"S, 43°37'36"W, 1108 m,

18 May 2011 (fl.), *I.M. Araújo et al.* 91 (HUFU! barcode HUFU00067344, RB! barcode 01460881); Parque Estadual do Biribiri, 18°12'59"S, 43°37'24.4"W, 1172 m, 21 Sep. 2010 (fr.), *A.R. Rezende et al.* 45 (HUFU! barcode HUFU00067349, RB! barcode 01460893); estrada



**Figure 3.** Environments and living specimens of *Pleroma barbellatum* P.J.F.Guim., D.Nunes & I.M.Araújo. (a) Rocky outcrop of *campo rupestre* in Biribiri State Park. (b) Steep rocky slopes with extensive outcrops in Biribiri State Park. (c) Flower. (d) Leaf blades and gall. (e) Detail of bracts. (f) Fruits. Living specimens from *I.M. Araújo et al.* 261. Photos: I.M. Araújo.



**Figure 4.** Map showing the geographical distribution of *Pleroma barbellatum* P.J.F.Guim., D.Nunes & I.M.Araújo (black triangles).

para Biribiri, ca. 4 km aquém de Biribiri, 18°10'13.3"S, 43°36'53.8"W, 950 m, 23 Jan. 2007 (bud, fl.), *J.R. Pirani et al.* 5690 (K! barcode K001072465, HUFU! barcode HUFU00067347, SPF! barcode SPF00179063); estrada vicinal entre Sopa e São João da Chapada, sentido Diamantina - São João da Chapada, 18°11'57"S, 43°42'11"W, 1304 m, 07 Feb. 2015 (bud, fl., fr.), *C.N. Fraga et al.* 3633 (MBML! barcode MBML00038817, NY, RB! barcode

01202829, UPGB herbarium number 88378); estrada Sopa - São João da Chapada, 02 Feb. 2017 (bud, fl., fr.), *R. Pacifico* 334 (HUEM! barcode 000015512, RB! barcode 01394204, SPF barcode SPF00231834, UPGB herbarium number 98036); estrada Sopa - São João da Chapada, 18°06'47.1"S, 43°44'03.8"W, 10 Feb. 2017 (fl., fr.), *R. Pacifico* 350 (HUEM! barcode 000015566, SPF! barcode SPF00231857, UPGB herbarium number 98035); estrada para Extração, ca. 9 km S de Diamantina, 18°15'27"S 43°30'59"W, 1241 m, 11 Jan. 2003 (bud, fl.), *L.P. de Queiroz et al.* 7623 (HUEFS! barcode HUEFS000144643); Serra do Espinhaço, ca. 12 km S.W. of Diamantina, 1350 m, 23 Jan. 1969 (bud, fl.), *H.S. Irwin et al.* 22471 (NY! barcode 00941884, UB! barcode UB0120842, US! barcode 01906485); Serra do Espinhaço, ca. 15 km E of Diamantina, 1100 m, 20 Mar. 1970 (fr.), *H.S. Irwin et al.* 27984 (NY! barcode 00941892, UB! barcode UB0120839, US! barcode 01906484); Serra do Espinhaço, ca. 20 km S.W. of Diamantina, 1200 m, 20 Jan. 1969 (bud, fl.), *H.S. Irwin et al.* 22307 (CAS herbarium number 573142, NY! barcode 00941882, UB! barcode UB0120840, US! barcode 01906487); Serra do Espinhaço, ca. 20 km S.W. of Diamantina, 1300 m, 21 Jan. 1969 (bud, fl.), *H.S. Irwin et al.* 22397 (NY! barcode 00941883, UB! barcode UB0120841, US! barcode 01906486); Serra do Mendanha, 28 Nov. 1937, (bud, fl.), *Mello Barreto* 10058 (HB! herbarium number 24879 [2 sheets], Jardim Botânico de Belo Horizonte [not found at BHCB] herbarium number 23098, RB! barcode 00231478); s.l., 1400 m, Jun. 1934 (bud, fl.), *A.C. Brade* 13756 (RB! barcode 00231052); s.l., 17 Jan. 1947 (bud, fl.), *D. Romariz* 0101 (RB! barcode 00231862); s.l., 21 Jan. 1947 (bud, fl., fr.), *D. Romariz* 0118 (RB! barcode 00231869); Gouveia, Contagem, vale do Ribeirão da Contagem ao longo da estrada para Prata, a ca 4 km E da BR-259 (Rod. Gouveia-Curvelo), 18°36'51"S, 43°53'07"W, 1108 m, 22 Jan. 2004 (bud, fl.), *J.R. Pirani et al.* 5235 (K! barcode K001072464, SPF! barcode SPF00168490); Grão-Mogol, Torre Telemig, 1000 m, 12 Jun. 1990 (fl., fr.), *G. Hatschbach et al.* 54175 (MBM! herbarium number 137956, US! barcode 01906482); São

**Table 1.** Main characters that distinguish *Pleroma barbellatum* P.J.F.Guim., D.Nunes & I.M.Araújo and relative species.

|  | <i>P. barbellatum</i> | <i>P. formosum</i> | <i>P. martiale</i>    | <i>P. riedelianum</i> |
|--|-----------------------|--------------------|-----------------------|-----------------------|
| Leaf blade (mm)  | 15–44 × 6.5–13.5      | 40–55 × 13–20      | 25–43 × 9–16          | 25–30 × 9–13          |
| Trichome surface on branches, both sides of leaf blade and inflorescence | Barbellate            | Barbellate         | Smooth                | Smooth                |
| Inflorescence  | Cyme                  | Thyrsoïd           | Dichasium or Thyrsoïd | Cyme                  |
| Number of flowers per inflorescence                                      | Solitary or up to 5   | 35–58              | 3 or 7–19             | Solitary or up to 5   |
| Bracteoles (mm)  | 10–17.5 × 6.5–10      | 4–6 × 1.4–2        | 3–5 × 1.5–2           | 6–8 × 3–5             |
| Sepal length (mm)  | 4–6                   | 2.5–2              | ca. 4                 | ca. 4                 |



Gonçalo do Abaeté, Rod. BR-365, 30 km S of the intersection with BR-040, 3 Apr. 1992, *G. Hatschbach et al.* 56457 (MBM! herbarium number 151290); S. Gonzalo do Abaete [São Gonçalo do Abaeté], Rod. BR 365, km 261, 20 Mar. 1980 (bud, fl.), *G. Hatschbach* 42815 (MBM! herbarium number 65479, US! barcode 01918512); Felisberto Caldeira [São Gonçalo do Rio Preto], Curtidor, 16 Feb. 1973 (bud, fl.), *G. Hatschbach & Z. Ahumada* 31654 (MBM, NY! barcode 00941955, US! barcode 01906483); [without informed municipality], between Beribiry [Biri-biri] and Diamantina 02 Apr. 1892 (bud, fl.), *A.F.M. Glaziou* 19302 (BR!, C!, K! barcode K001072463, P!, R! barcode R000009290).

#### ACKNOWLEDGMENTS

We are grateful to Paulo Ormino for the beautiful illustration, Rafael da Silva Ribeiro (Núcleo de Computação Científica e Geoprocessamento do Jardim Botânico do Rio de Janeiro) for preparing the geographic distribution map, Laboratório de Botânica Estrutural do Jardim Botânico do Rio de Janeiro for preparing the samples for SEM study, staff of the Centro Nacional de Biologia Estrutural e Bioimagem (CENABIO/UFRJ) for providing SEM images, Talvanis Lorenzetti Freire for discussions about inflorescences, Marcelo L. Brotto (MBM herbarium), Regina Célia de Oliveira and Jéssica Pinheiro (UB) for providing images of the specimens, and the staff of the herbaria visited. PJFG is grateful to Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) for a postdoctoral fellowship grant (Process n° 563541/2010-5). DNS is grateful to Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (Process n° 88887.602283/2021-00 – Finance Code 001) and Conselho Nacional de Desenvolvimento Científico e Tecnológico (Process n° 141121/2022-0) for the Ph.D. student fellowship granted IMA is grateful to CNPq for a master fellowship grant (Process n° 132306/2011-5 – Finance Code 001). RR is also grateful to CNPq (Protax, proc. 562290/2010-9) and Universidade Federal de Uberlândia for financial support for field expeditions to Diamantina, Minas Gerais State.

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