

Three New Species of *Mimosa* L. (Leguminosae) from the Brazilian Cerrado Hotspot of Biodiversity

THAINARA POLICARPO MENDES¹, MARCELO FRAGOMENI SIMON², AND
MARCOS JOSÉ DA SILVA^{1,3}

¹ Programa de Pós-Graduação em Biologia Vegetal, Depto. de Botânica, Universidade Estadual Paulista “Júlio de Mesquita Filho”, Campus de Botucatu, Instituto de Biociências, 18618-970, Botucatu, SP, Brazil; e-mail: thainara.mendes@unesp.br

² Embrapa Recursos Genéticos e Biotecnologia, Parque Estação Biológica–PqEB, 70770–901, Brasília, DF, Brazil

³ Instituto de Ciências Biológicas, Depto. de Botânica, Laboratório de Filogenia Molecular de Plantas, Universidade Federal de Goiás, CP 131, 74001–970, Goiânia, GO, Brazil

Abstract. Three new species of *Mimosa* endemic to the Brazilian Cerrado biodiversity hotspot are described and illustrated. *Mimosa cavalcantina*, *M. gustavoii* and *M. venosa* are assigned to subser. *Polycephalae* for having its diagnostic morphology, including unarmed branches, leaves with a pair of pinnae, a fimbriate paleaceous calyx, and filaments shortly monadelphous at the base. We summarize geographic distributions, habitats, phenology, and conservation status for each of the new species, compare them with morphologically similar congeners, and discuss their systematic positions.

Keywords: Central Brazil, Mimosoid clade, Savanna, Taxonomy.

Mimosa L. has a pantropical distribution and is one of the most species-rich genera of the mimosoid clade of Leguminosae subfam. Caesalpinioideae. It comprises about 615 species (LPWG, 2021), the majority of which are restricted to the Americas, with only about 40 species in the Old World (Barneby, 1991). In Brazil, the genus is represented by 369 species, of which ca. 270 are endemic to the savannas and grasslands of the Brazilian Cerrado, a renowned center of plant endemism and recognized biodiversity hotspot (Dutra et al., 2020; Simon et al., 2011).

The taxonomy of *Mimosa* derives mainly from the works of George Bentham (i.e., Bentham, 1842, 1846, 1875 and 1876) and Rupert Barneby. The latter author provided the most comprehensive treatment of the New World species (Barneby, 1991), which he classified into five sections (*Batocaulon* DC., *Calothamnos* Barneby, *Habbasia* DC., *Mimadenia* Barneby, and *Mimosa* L.), 41 series and 37 subseries.

Among the subseries recognized by Barneby (1991), *Mimosa* sect. *Mimosa* ser. *Mimosa* subser. *Polycephalae* (Benth.) Barneby is the

most species-rich, with 19 species comprising 33 taxa, most of them endemic to the savannas and grasslands of the Brazilian Cerrado. This group can be recognized by subshrubby or shrubby habit with slender branches growing from woody underground structures (xylopodia), leaves with one pair of pinnae, haplostemonous flowers, a paleaceous calyx with fimbriated lobes, and stamens that are shortly monoadelphous at the base. Although the subseries is easily recognized, its species and infraspecific taxa, some of them known only from the type collection, are morphologically very similar to each other, making their delimitation often difficult and requiring additional taxonomic studies.

Subsequent to Barneby’s treatment (1991), the known diversity of *M.* subser. *Polycephalae* was increased by the descriptions of six new species: *M. demissa* Barneby (Barneby, 1997), *M. canastrensis* V.F.Dutra & F.C.P.Garcia, *M. chrysothrix* V.F.Dutra & F.C.P.Garcia and *M. decumbens* V.F.Dutra & F.C.P.Garcia (Dutra & Garcia, 2014), *M. brevicalyx* T.P.Mendes & M.J.Silva, and *M. pseudoracemosa* T.P.Mendes,

Marc.F.Simon & M.J.Silva (Mendes et al., 2021a,b).

Here, we provide descriptions for three additional new species of subser. *Polycephalae*, along with information on each species' geographic distribution, habitat, phenology, and conservation status.

Materials and Methods

The new species were described from herbarium specimens and living plants in the field. Comparisons with other species of *M.* subser. *Polycephalae* are based on analysis of more than 100 collections at the following herbaria: BHCB, BOTU, CEN, CEPEC, CESJ, EAC, PAMG, HEPH, HRCB, HTO, HUTO, IBGE, IFRV, INPA, MBM, MBML, SP, TEPB, UB, UFG and VIES (acronyms according to Thiers, 2021). We employ the morphological terminology of Barneby (1991) with the following exceptions: instead of using the inaccurate term “capitulum” (Barneby, 1991), we refer to the globose racemes of *Mimosa* as “glomerules” (Vidal & Vidal, 2003), and the term “rachilla” is used here for the secondary stalk that bears the leaflets (referred as “rachis” in Barneby, 1991). For terminology to describe trichome morphology and indumentum, we follow Jordão et al. (2020) and Radford et al. (1974), respectively. The new species were illustrated with the aid of a stereomicroscope (Atemi DV4, Carl Zeiss, Göttingen, Germany).

Assessments of the conservation status of the new species employed the IUCN Red List categories and criteria (IUCN, 2019) and recommendations of the IUCN Standards and Petitions Committee (2019). The parameters extent of occurrence (EOO) and area of occupancy (AOO) were estimated using the GeoCAT software (Bachman et al., 2011), The classification of vegetation types where the species occur follows Ribeiro & Walter (1998). Geographical distribution maps were produced using the software QGIS version 2.8.2 (Quantum GIS Development Team 2015).

The delimitation of phylogenetic species (sensu Eldredge & Cracraft, 1980; Nelson & Platnick, 1981; Cracraft, 1983, 1989) employs the diagnosability criterion of Nixon and Wheeler (1990), who consider a species as “the smallest aggregation of (sexual) populations or (asexual)

lineages diagnosable by a unique combination of character states”.

Results and Discussion

Mimosa cavalcantina T.P.Mendes, Marc.F.Simon & M.J.Silva, **sp. nov.** Type: Brazil, Goiás: Cavalcante, RPPN Serra do Tombador, 3 km S da sede, área conhecida como “campina”, 13°40'5”S, 47°49'0”W, 805 m, 31 Jan 2015 (fl, fr), *M. F. Simon* et al. 2527 (holotype: CEN; isotype: UFG). (Figs. 1 and 2,)

Diagnosis.—*Mimosa cavalcantina* resembles *M. flavocaesia* Barneby by erect subshrubby habit with slender stems growing from a woody base, hispid-setose indumentum, and the pinnae with 6–20 pairs of ovate leaflets with a thickened margin; however, it differs from that species in lacking paraphyllidia (vs. minute paraphyllidia in *M. flavocaesia*), the leaflets 1.4–2.2 × 0.5–0.9, glabrous on the adaxial surface and setulose on the abaxial surface, and brown when dry (vs. 19–27 × 10–16 mm, glabrous on both surfaces and glaucescent), the glomerules subglobose, solitary, and arising from the apex of a terminal or axillary peduncle (vs. globose and arranged in a bracteose racemose or paniculiform synflorescence), the ovary puberulent (vs. glabrous), the style glabrous (vs. pubescent), and the articles glabrous (vs. strigose).

Subshrubs 28–41 cm tall, erect; stems solitary or multiple (two), growing from a woody subterranean organ similar to a xylopodium, slightly striated, unarmed; indumentum hispid-setose, composed of setiform trichomes with bulbous base and papillose surface, brown, covering branches, abaxial surface of stipules, apicular projection of petiole, petiole, rachilla, leaflet margin, peduncle and replum. **Stipules** 6–11 × 1.1–2.3 mm, lanceolate, apex acute, surface adaxial glabrous, apparently hyphodromous, persistent. **Leaves** of uniform sizes, 10.2–17 cm long, ascending, well-spaced along the stems with the internodes between leaves 0.5–9.5 cm; petiole (excluding the pulvinus and apical projection) 1–5.1 cm long, cylindrical, channeled on the upper surface, striated, the pulvinus 1–2.1 mm long, dilated, the apical projection of the petiole 3–7 × 0.4–0.5 mm, filiform, acute at apex, persistent; pinnae in a single pair, each bearing 6–20 pairs of leaflets of uniform size, paraphyllidia absent, the secondary petiole 1–3 mm long, the rachilla (excluding the apical projection) 6–13.5 cm long, cylindrical, keeled on the upper surface, the interfoliolar segments 1.3–4 mm long, the apical projection of the rachilla 2.5–7 mm long; leaflets 1.4–2.2 × 0.5–0.9 cm, ovate, entire-margined,

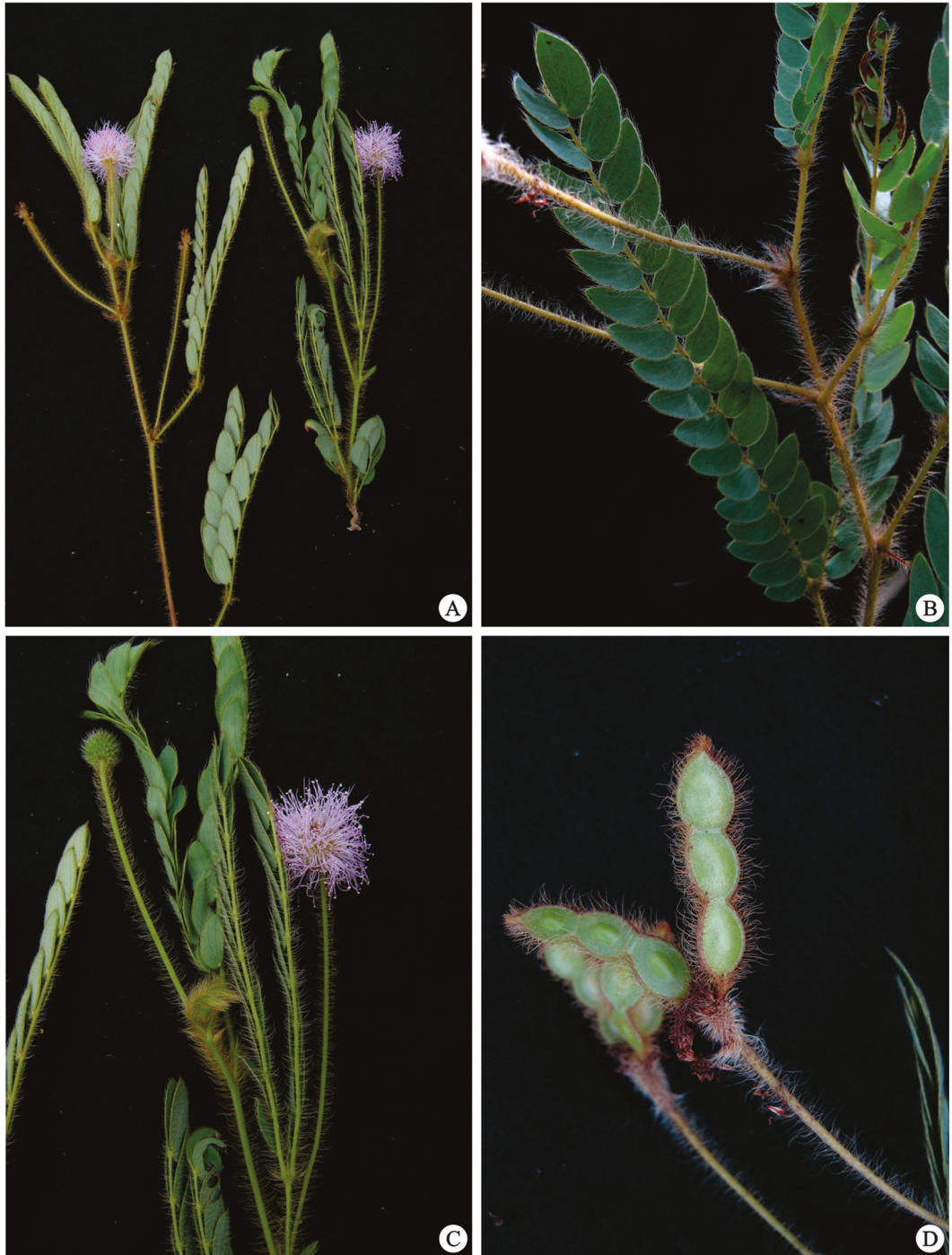


FIG. 1. *Mimosa cavalcantina*. **A.** Habit. **B.** Leaves. **C.** Inflorescence. **D.** Fruits. [From the type collection *M. F. Simon* et al. 2527; photo credits: Marcelo Simon].

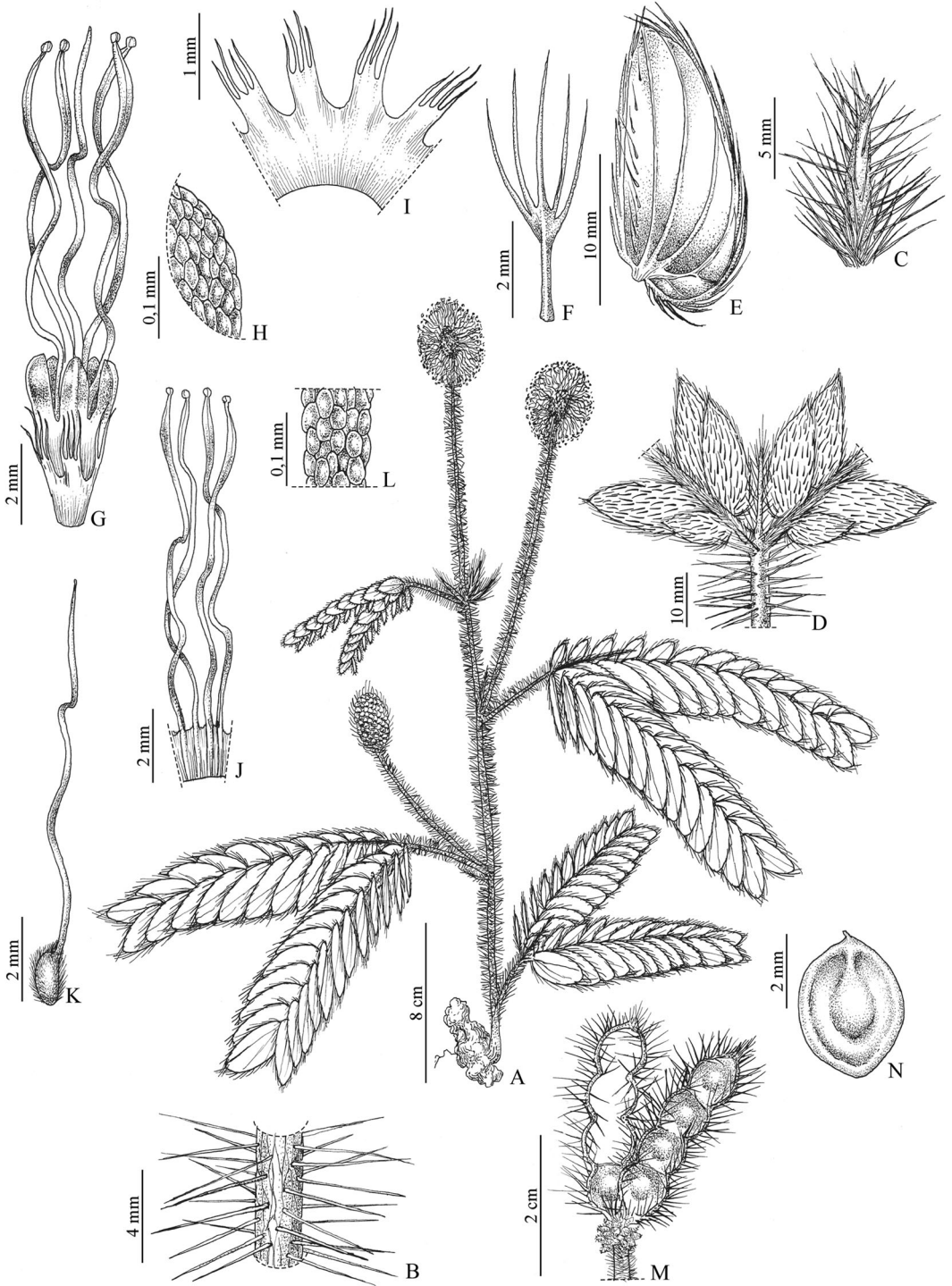


FIG. 2. *Mimosa cavalcantiana*. A. Habit. B. Detail of branch. C. Stipule. D. Apical projection of the petiole. E. Leaflets. F. Bract. G. Flower. H. Detail of the papillate surface of corolla lobes. I. Calyx. J. Androecium. K. Gynoecium. L. Detail of the papillate surface of style. M. Fruit. N. Seed. [Drawn from *M. F. Simon et al. 2527* by Cristiano Gualberto].

corneous, yellowish, the apex obtuse, mucronulate, the base obliquely semi-cordate, concolorous, glabrous on the adaxial surface, setulose on the abaxial surface; venation with 4–5 primary veins arising from the base, greenish, prominent on the abaxial surface, impressed on the adaxial surface. *Inflorescences* 8.5–11.5 cm long, terminal or axillary, bearing a solitary glomerule, the peduncle 4.2–10.4 cm long; bracts 2–3 mm long, spatulate, distally setulose, with 5–7 setulae 2–3.2 mm long, externally keeled, glabrous, persistent, covering the buds; glomerule 1–1.4 × 0.8–1 cm at pre-anthesis, 2–4 × 1.8–3 cm. (including filaments) at anthesis, subglobose. *Flowers* 4(5)-merous, 0.9–1.4 cm long; calyx 2.2–3.1 mm long, campanulate, paleaceous, tube 0.8–1.1 mm long, lobes 1.2–2 mm long, extending to the base of the corolla lobes, fimbriate; corolla 4–4.8 mm long, campanulate, tube 2.8–3.5 mm long, glabrous, lobes 0.7–1.3 mm long, cymbiform, dorsally keeled, glabrous and papillose; androecium 4(5)-merous, shortly monadelphous at base, the tube 1.3–2.1 mm long, free portion of stamens 7.4–10.6 mm long, exerted from corolla, papillose; anthers 0.7 mm long; ovary 0.7–1 mm long, puberulent, smooth; style 1–1.2 cm long, glabrous, papillose. *Craspedia* 2.9–3.5 × 0.6–0.8 cm, chartaceous, linear-oblong, base rounded, apex aristate, dark brown, sessile; articles 3 or 4, 0.8–1 × 0.6–0.8 cm, orbicular, glabrous; replum 3 mm thick, shallowly constricted, hispid-setose. *Seeds* 4–5 × 2.5–3 mm, ovoid, pleurogram present, light brown.

Etymology.— The specific epithet “*cavalcantina*” refers to the municipality of Cavalcante in Goiás, where the species was collected.

Phenology.— Collected with flowers and fruits in January, and with flowers in November and July.

Distribution and habitat.—The species is known only from the Private Natural Heritage Reserve (RPPN) Serra do Tombador, in the municipality of Cavalcante, located in the northern region of the Chapada dos Veadeiros in Goiás (Fig. 10A). It grows in “campo sujo” (Fig. 10B) and “campo limpo” on sandy and rocky soils, between 790 and 805 m elevation.

Preliminary conservation status.— Despite having a small Area of Occurrence (AOO=8 km²), *M. cavalcantina* can be classified here as Least Concern (LC) as it is known from the Serra do Tombador Reserve, an area protected by law,

where the species is locally abundant. We suspect that the known distribution of the species would be increased if collecting efforts were made in other places in the region with similar habitats.

Additional specimens examined (paratypes).—BRAZIL. Goiás: Cavalcante, RPPN Serra do Tombador, 3.9 km a SW da sede da reserva, 13°40'05"S, 47°48'04"W, 790 m, 25 Jul 2014 [fl], *M. F. Simon & L. M. Borges* 2490 (CEN, UFG); RPPN Serra do Tombador, ca. 0.6 km do trevo Minaçu – Cavalcante, sentido área da campina, 13°40'54"S 47°49'04"W, 805 m, 11 Nov 2014, [fl], *M. Mendoza* et al. 4374 (CEN); RPPN Serra do Tombador, 18 Nov 2013, [fr], *E. Gorgone-Barbosa* et al. 1032 (CEN, HRCB).

Within *M.* subser. *Polycephalae*, *M. cavalcantina* can only be confused with *M. flavocaesia* Barneby, with which it shares an erect subshrubby habit, vegetative parts with hispid-setose indument, lanceolate stipules with hypodromous venation, and pinnae with 6–20 pairs of leaflets. However, *M. cavalcantina* differs from that species in the absence of paraphyllidia, the leaflets glabrous on the adaxial surface and setulose on the abaxial surface (vs. glabrous on both surfaces in *M. flavocaesia*), with 4–5 primary veins (vs. 5–9 veins), the inflorescences terminal or axillary with a solitary, subglobose glomerule (vs. a bracteose racemose or paniculiform synflorescence with multiple globose glomerules), the ovary puberulent (vs. glabrous), the style glabrous (vs. pubescent), and the articles glabrous (vs. strigose) (Fig. 3). *Mimosa flavocaesia* occurs in the municipality of Alto Paraíso, 60 km SE from the type locality of *M. cavalcantina*.

Mimosa cavalcantina also resembles *M. longipes* Benth. and *M. demissa* in having solitary glomerules and leaflets measuring 0.8–3.6 × 0.4–1.2 cm. However, it differs from *M. longipes* in taller stature (28–41 cm tall vs. 17–18 cm tall in *M. longipes*), apparently hypodromous stipules (vs. parallelodromous), ovate leaflets, with a setose abaxial surface and prominent veins on both surfaces and (vs. oblong or elliptical, with both surfaces glabrous and the veins prominent on abaxial surface but impressed on adaxial surface.), vegetative organs densely setose (vs. sparsely setose), inflorescences 8.5–11.5 cm long and subglobose glomerules (vs. 11.3–26.4 cm and globose), buds covered by bracts (vs. exposed), glabrous corolla lobes (vs. tomentose), papillose filaments and style (vs. smooth), craspedia with a densely setose replum

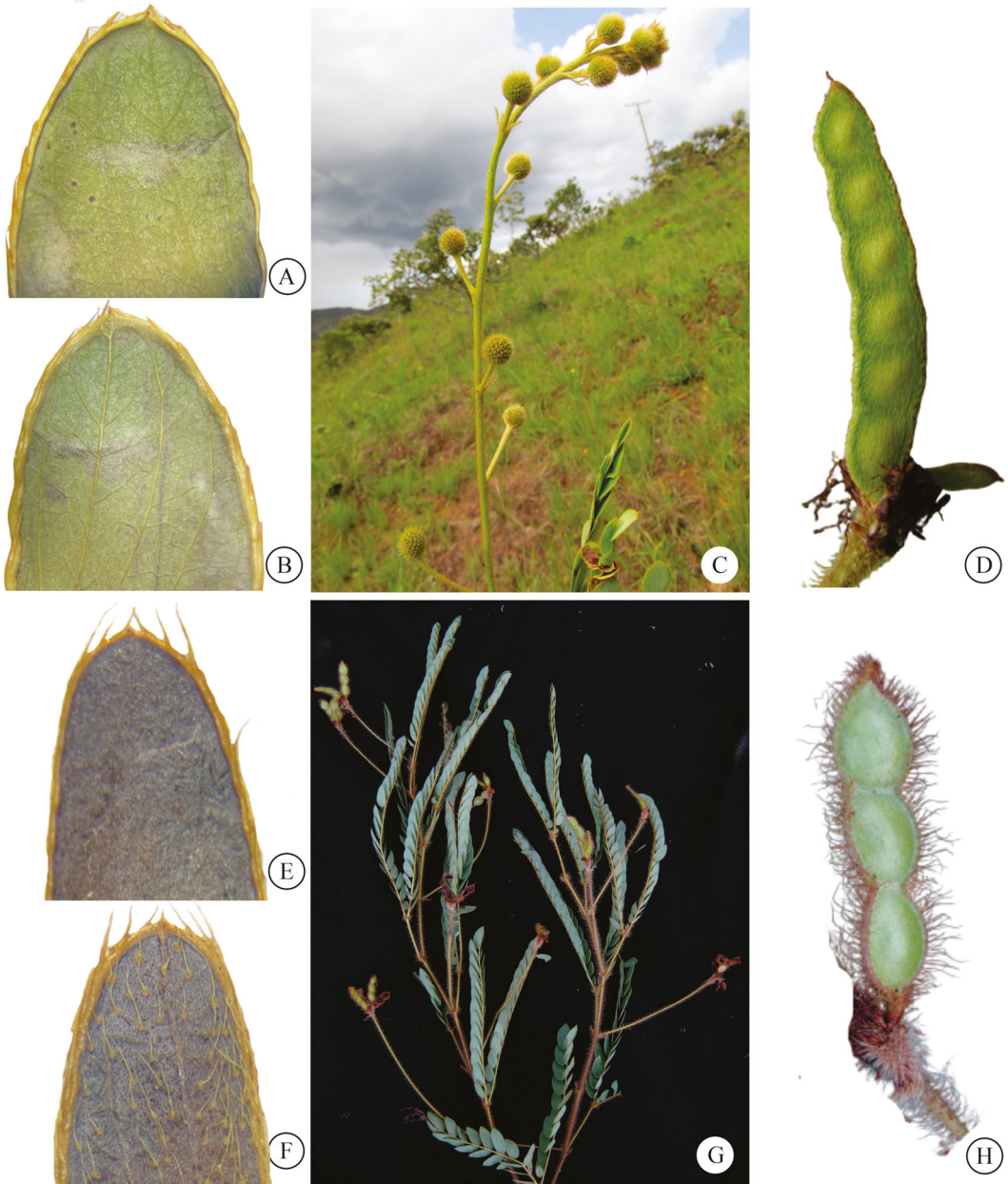


FIG. 3. Key diagnostic characters of *Mimosa cavalcantina* (A–D) and the closely related *M. flavocaesia* (E–H). A & E. Adaxial leaflet surface. B & F. Abaxial leaflet surface. C & G. Distribution of peduncles along the synflorescence. D & H. Fruit. [Photo credits: A–D by Thainara Mendes, from *T. P. Mendes 697*; E–H by Marcelo Simon, from *M. F. Simon et al. 2527*].

(vs. strigose) and glabrous articles (vs. strigose). It differs from *M. demissa* in taller stature (28–41 cm tall vs. 9–22.8 cm in *M. demissa*), broadly lanceolate, externally setose and apparently hypodromous stipules (vs. oval-lanceolate or deltoid, glabrous and parallelodromous), the

apicular projection of the petiole $3\text{--}7 \times 0.4\text{--}0.5$ mm (vs. $1\text{--}2 \times 0.1\text{--}0.2$ mm), pinnae with 6–20 pairs of leaflets (vs. 2–6 pairs), rachilla 6–13.5 cm long (vs. 2.8–4.5 cm long) with a projection of 2.5–7 mm (vs. 2–2.1 mm), ovate leaflets with 4–5 primary veins (vs. narrowly oblong,

ovate or elliptical and 5–8 primary veins), the corolla 4(5)-merous with densely papillose lobes (vs. always 5-merous and puberulent lobes), the androecium comprising 4 or 5 papillary stamens (vs. 6–7(8) smooth stamens), a puberulent ovary (vs. glabrous), papillose style (vs. smooth), sessile craspedia (vs. stipitate), and fertile distal article (vs. aborted).

Mimosa cavalcantina occurs in the municipality of Cavalcante (RPPN Serra do Tombador), while *M. demissa* seems to be a microendemic in the municipality of Alto Paraíso de Goiás, and *M. longipes* is distributed both in Cavalcante and Alto Paraíso de Goiás but is never sympatric with *M. cavalcantina*.

Mimosa cavalcantina, as well as *M. venosa* described below, add to the plant diversity of the highlands of Cavalcante in northern Goiás, a region of high endemism and source of a number botanical novelties in different plant families (e.g. Mendoza et al., 2016; São-Mateus et al., 2019; Simon et al., 2010).

Mimosa gustavoi T.P.Mendes, Marc.F.Simon & M.J.Silva, **sp. nov.**—Type: Brazil, Goiás: Campo Alegre de Goiás, margem da estrada vicinal, distante 20 km da BR-050, 17°31' 50"S, 47°42'09"W, 900 m, 12 Oct 2013 (fl), G. P. E. Rocha & R. E. Rocha 257 (holotype: CEN; isotypes: HUFU, UFG). (Figs. 4 and 5.)

Diagnosis.—*Mimosa gustavoi* resembles *M. uniceps* mainly by diminutive habit and the dimensions of the petiole, rachilla and leaflets; however, it differs from that species by the leaflets broadly lanceolate (vs. oblong), the stipules 5.2–11 × 1.2 mm (vs. 15–35 × 4–8 mm), and the craspedium 2–4-articulated, with the valves breaking transversely between the seeds (vs. not breaking transversely between the seeds).

Subshrubs 7–15 cm tall, erect, with one to three slightly striated, unarmed stems arising from a woody subterranean organ similar to a xylopodium; indumentum setose composed of setiform trichomes with a slightly bulbous base and papillose surface, covering branches, abaxial surface of stipules and apicular projection of the petiole, petiole, rachilla, paraphyllidia, margin of leaflets, peduncle, valve of articles and replum. **Stipules** 5.2–11 × 1.2 mm, lanceolate, adaxial surface glabrous, paralellodromous, persistent. **Leaves** 4.8–9.9 cm long, emerging from underground or from short aerial stems, ascending, with the internodes between leaves 5–9 mm long;

petioles (excluding the pulvinus and apical projection) 0.3–2.3 cm long, cylindrical, keeled above, striated, the pulvinus 0.5–1 mm long, dilated, the apical projection of petiole 3.2–9 × 0.3–0.4 mm, filiform, the apex acute, persistent; pinnae in a single pair, each bearing 10–21 pairs of leaflets of uniform size, the secondary petiole 1–2 mm long, the rachilla (excluding the apical projection) 4.2–7 cm long, cylindrical, keeled on the upper surface, the interfoliolar segments 2–3 mm long, the apical projection of the rachilla 2–5 mm long; paraphyllidia 0.8 × 0.6 mm, subulate, obtuse at apex; leaflets 0.5–1 × 0.2–0.4 cm, broadly lanceolate or oblong, margin slightly crenate, corneous, yellowish, the apex obtuse, mucronulate, the base oblique, concolorous, glabrous on both surfaces; venation with 3 or 4 primary veins arising from the base, greenish, prominent on the abaxial surface, impressed on the adaxial surface. **Inflorescences** 4.1–7.2 cm long, axillary to leaves congested on top of very short aerial branches, bearing solitary glomerules, the peduncle 3.5–6.5 cm long; **glomerules** 0.6–0.8 cm wide at pre-anthesis, 1.3 cm in wide (including filaments) at anthesis, globose; bracts 2–3 mm long, spatulate, distally setulose, with 5–7 setulae 2–3.3 mm long, externally keeled, and glabrous, persistent, covering the buds. **Flowers** 4-merous, 8–9 mm long; calyx 1.4–1.7 mm long, campanulate, paleaceous, tube 0.3–0.4 mm long, lobes 1.1–1.3, extending to 1/2 of corolla lobes, distally fimbriate; corolla 2.2–3.2 mm long, infundibuliform, tube 1.2–2 mm long, glabrous, lobes 1–1.2 mm long, cymbiform, externally keeled and puberulent, smooth; androecium 4-merous, monadelphous, free portion of stamens 5–5.5 mm long, exerted from corolla, papillose; anthers 0.6 mm long; ovary 0.4–0.5 mm long, glabrous; style 6–7 mm long, papillose. **Craspedia** 0.9–2.3 × 0.4–0.6 cm, chartaceous, narrowly oblong or linear-oblong, base obtuse, apex obtuse and aristate, brown, sessile; valves with 2–4 articles 4–7 × 5–6 mm, compressed, quadrangular or oblong; replum 0.1–0.2 mm. **Seeds** 2.3 × 3 mm, orbicular, pleurogram present, opaque.

Etymology.— The specific epithet honors the botanist Gustavo P. E. Rocha who collected the type specimen and provided information about the species.

Phenology.— Found with flowers from January to March and fruits in June.

Distribution and habitat.—So far known only from the municipality of Campo Alegre de Goiás,



FIG. 4. *Mimosa gustavoi*. A. Habit. B. Woody subterranean organ similar to a xylopodium. C. Glomerule. D. Fruits. [Photo credits: A, D by Thainara Mendes, B by João Bringel, C by Gustavo Rocha].

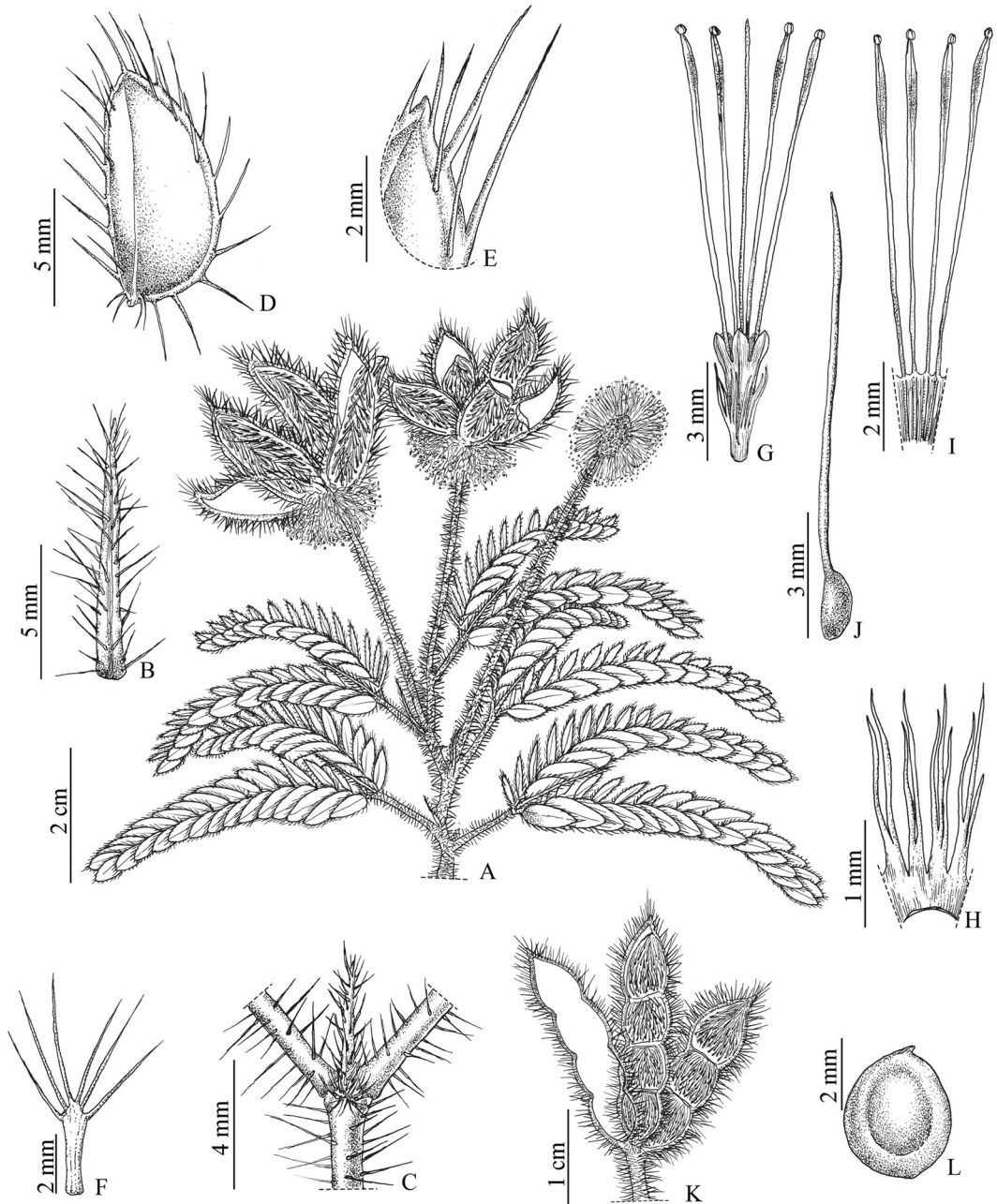


FIG. 5. *Mimosa gustavoi*. A. Habit. B. Stipule. C. Apical projection of the petiole. D. Leaflet. E. Detail of leaflet margin. F. Bract. G. Flower. H. Calyx. I. Androecium. J. Gynoeecium. K. Fruit. L. Seed. [Drawn from T. P. Mendes 555 by Cristiano Gualberto].

Goiás state (Fig. 10A), where it grows in “cerrado ralo” (Fig. 10C), “campo limpo” (Fig. 10D), “cerrado rupestre”, and “campo sujo”, in sympatry with *Vellozia* sp., on sandy-clay soils with the

presence of quartz, between 880 and 950 m elevation.

Preliminary conservation status.—*Mimosa gustavoi* has an estimated Extent of Occurrence

(EOO) of 83.3 km² and Area of Occupancy (AOO) of 16 km², and is found in a small number of locations. In addition, areas close to where the species grows suffer from strong anthropogenic pressures, such as expanding monocultures and pastures. According to landuse data provided by the platform MapBiomas BRAZIL, the municipality of Campo Alegre de Goiás experienced a decline in the area of natural vegetation from 47,252 ha to 26,839 ha and an increase in the area occupied by agriculture from 12,560 ha to 75,967 ha between the years of 1985 and 2020. Considering the loss of vegetation cover, the species is likely to have experienced decline in AOO and EOO, and this trend of habitat loss is expected to persist in the future. Therefore, *M. gustavo* can be classified as Endangered (EN) based on criterion B1ab(i, ii, iii) and B2ab(i, ii, iii).

Additional specimens examined (paratypes).—BRAZIL. Goiás: Campo Alegre de Goiás, 17°32'56"S, 47°43'00"W, 892 m, 23 Sep 2009 (fl), *L. A. Dambrós* et al. 373 (CEN, IBGE); GO-020, ca. 17.5 km L do trevo BR-050, mais 100 m à esquerda, 17°19'08"S, 47°37'19"W, 950 m, 27 Mar 2015 (fl), *M. Mendoza* et al. 4981 (CEN, UFG); Rodovia GO-213 a 13.2 km a leste da BR 050, 17°23'58"S, 47°41'58"W, 880 m, 16 Nov 2016 (fl), *G. Pereira-Silva & J. B. A. Bringel 16866* (CEN); Margem da GO-213, a 13 km de Campo Alegre, 17°33'05"S, 47°41'44"W, 813 m, 04 Jul 2015 (fr), *G. P. E Rocha & W. S. Carmo 366* (CEN); Rodovia GO-213, km 18 a leste da BR 050, 17°31'30"S, 47°40'54"W, 900 m, 16 Nov 2016 (fl), *G. Pereira-Silva & J. B. A. Bringel 16,874* (CEN); GO-213, ca. 13 km leste de Campo Alegre de Goiás, 17°32'58.4"S, 47°42'1"W, 890 m, 08 Jun 2019 (fr), *T. P. Mendes 555* (UFG, BOTU), 556, (UFG, BOTU), 557 (UFG, BOTU).

Among the species of *Mimosa* subser. *Polycephalae*, *M. gustavo* may be confused with *M. demissa*, *M. longipes*, *M. pumilio* Barneby and *M. uniceps* Barneby, all of which share with *M. gustavo* reduced habit with clustered leaves growing from a very short aerial stem, long petioles, and inflorescences on solitary peduncles emerging from the base of the plant amongst the foliage (Fig. 6). However, *M. gustavo* can be distinguished from the first three species by its shorter petioles and longer glomerules, and from *M. uniceps* by stipule size, leaflet shape, and by having sessile fruits with articulated craspedia (Fig. 6) Moreover, *M. gustavo* is endemic to the municipality of Campo Alegre de Goiás in south-eastern Goiás, while the others species are endemic to the Chapada dos Veadeiros region in

northern Goiás or in the municipality of Diamantina in Minas Gerais (*M. longipes*). These and other distinguishing characters of these species are presented in Table 1.

Mimosa venosa T.P.Mendes, Marc.F.Simon & M.J.Silva, **sp. nov.**—Type: Brazil, Goiás: Cavalcante, RPPN Serra do Tombador, 3 km da sede, área conhecida como “campina”, 13°40'51"S, 47°49'06"W, 805 m, 31 Jan 2015 (fl), *M. F. Simon* et al. 2533 (holotype: CEN; isotype: UFG). (Figs. 7 and 8.)

Diagnosis.—*Mimosa venosa* resembles *M. thermarum* by the subshrubby and erect habit with leaves well-spaced along the stems, and by the glomerules arranged in a bracteose racemose synflorescence; it differs from that species by the petiole 3–6 mm long (vs. up to 1 mm in *M. thermarum*), the trichomes with a papillate external surface (vs. barbellate), the indumentum on the vegetative parts and synflorescence axes setose (vs. lanate), paraphyllidia present (vs. absent), the leaflets oblong or oval-oblong with conspicuous secondary venation (vs. narrowly oblong without secondary venation), the corolla 2.7–2.9 mm long (vs. 3–4.5 mm long) and the stamen filaments smooth-surfaced (vs. papillate).

Shrubs ca. 1.2 m tall, erect; solitary or multiple (two) stems growing from same base, striated, unarmed; indumentum setose composed of setiform trichomes with bulbous base and papillose surface, yellowish, covering branches, abaxial surface of stipules, apicular projection of the petiole, paraphyllidia, petioles, rachilla, margin and surface of leaflets, and peduncles. *Stipules* 5.1–7.5 × 0.3–0.8 mm, linear-lanceolate, adaxial surface glabrous, apparently veinless, persistent. *Leaves* ascending, decreasing in size towards branch tips, the proximal leaves 4.5–9.6 cm long, the distal ones 1.1–3.3 cm, internodes between leaves 1.5–2.7 cm long; petiole (excluding the pulvinus and apical projection) 3–6 mm long, cylindrical, keeled above, striated, the pulvinus 1.1–4 mm long, dilated, the apical projection of the petiole 3–6.2 × 0.2–0.6 mm, filiform, acute at apex; pinnae in a single pair, each bearing (12–) 23–26 pairs of leaflets decreasing in size from base to apex of the pinna, the secondary petiole 1–2 mm long, the rachilla (excluding the apical projection) 4–9.5 cm long, cylindrical, keeled on the upper surface, the interfoliolar segments 2–5 mm long, the apical projection of rachilla 0.9–4 mm long; paraphyllidia 0.4–0.7 × 0.1 mm, subulate, obtuse at apex; leaflets 0.4–1.3 × 0.2–0.6 cm, oblong or narrowly oblong, discolorous,

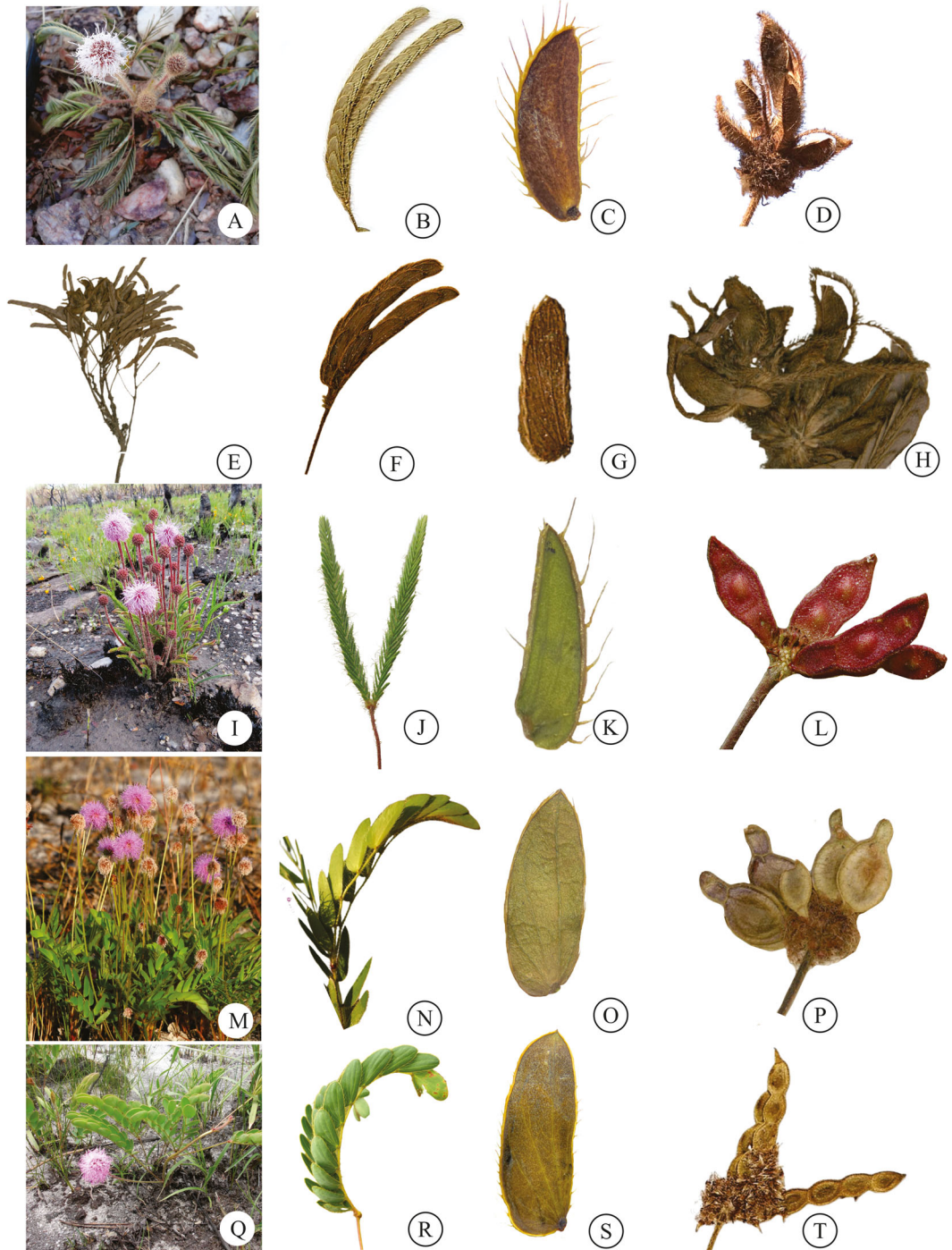


FIG. 6. Key diagnostic characters of species of *M.* subser. *Polycephalae* with dwarf habit, *M. gustavoi* (A–D), *M. uniceps* (E–H), *M. pumilio* (I–L), *M. demissa* (M–P), *M. longipes* (Q–T). A, E, I M & Q. Habit. B, F, J, N & R. Leaf. C, G, K, O & S. Leaflet. D, H, L, P & T. Fruit. [Photo credits: A, I, M and N by Marcelo Simon; B–D, J–L, R and S by Thainara Mendes; A–D from G. Pereira-Silva & J. B. A. Bringel 16866 and T. P. Mendes 555; E–H from H. S. Barneby et al. 22524; I–L from M. F. Simon et al. 3187 and T. P. Mendes 629; M–P from M. L. Fonseca 552 and J. M. Mendoza F. 5128; Q–T from M. N. Rissi 537 and T. P. Mendes, K. M. Macedo & P. A. G. Jesus 671.

TABLE 1. COMPARATIVE CHARACTERS BETWEEN *M. GUSTAVOI* AND RELATED SPECIES.

Characters	<i>Mimosa gustavoi</i>	<i>Mimosa demissa</i>	<i>Mimosa longipes</i>	<i>Mimosa pumilio</i>	<i>Mimosa uniceps</i>
Indumentum	Setose	Strigose	Setose	Setose	Setulose
Size and indument of the stipule	5.2–11 × 0.12 mm, abaxial surface indumented and adaxial surface glabrous	2.5–7 × 0.1–0.2 mm, glabrous on both surfaces	6–12 × 1.5–3 mm abaxial surface indumented and adaxial surface glabrous	4–16 × 1–0.9 mm, glabrous on both surfaces	15–35 × 4–8 mm, abaxial surface indumented and adaxial surface glabrous
Petiole	0.3–2.3 cm long	4–15.3 cm long	4.2–7.7 cm long	3.1–11 cm long	(1–) 1.3–3 cm long
Pairs of leaflets	10–21	2–6	7–18	(9–) 15–50	(4–) 7–12 (–20)
Leaflet size	5–10 × 2–4 mm	10–34 × 0.4–12 mm	8–36 × 5–11 mm	3.5–8 × 0.5–2.3 mm	5.5–7.5 × 1.6–2.2 mm
Leaflet shape	Widely lanceolate	Narrow-oblong, oval or elliptical	Oblong or elliptical	Linear, narrow-oblong or lanceolate	Oblong
Length of glomerules at anthesis	2–5.2 cm	5.8–11 cm	11.3–26.4 cm	10.8–15.9 cm	unknown
Aspect of the glomerules before anthesis	Bracts concealing the flower-buds (conelike)	Bracts shorter than the flower-buds (moriform)	Bracts shorter than the flower-buds (moriform)	Bracts concealing the flower-buds (conelike)	Bracts concealing the flower-buds (conelike)
Fruit	Sessile	Stipitate	Sessile	Stipitate	Shortly stipitate
Craspedia	2–4-articulated, all articles are fertile	2-articulated, distal article aborted	3–4-articulated, all articles are fertile	1–4-articulated, all articles are fertile	Not articulated
Indumentum of the craspedium	Articles and replum setose	Articles glabrous and replum puberulent	Articles and replum setose	Articles and replum pubescent	Articles and replum setulose
Geographic distribution	Endemic to Campo Alegre de Goiás, Goiás, Brazil	Endemic to Alto Paraiso de Goiás, Goiás, Brazil	Endemic to Northern region of the state of Goiás, Brazil	Endemic to Chapada dos Veadeiros National Park, Goiás, Brazil	Endemic to Diamantina, Minas Gerais, Brazil

the margin entire, corneous, yellowish, the apex obtuse, mucronulate, the base subcordate; venation with 2–4 primary veins arising from the base, secondary veins evident, reticulate, greenish on both surfaces, prominent on the abaxial surface and impressed on the adaxial surface. *Synflorescences* racemose, 10–20 cm long, terminal, lax, bearing 6–12 glomerules, the peduncles (axes terminating at glomerules) 1–2.5 cm long; glomerules 6–7 mm wide at pre-anthesis, 1.8–2.5 cm in wide (including filaments) at anthesis, globose, the bracts 1.8–2.2 mm long, linear-spatulate, distally setulose, with 5–7 setulae 2–3.2 mm long., externally keeled and setulose, persistent, not covering the flower buds. *Flowers* 4-merous, 9–10 mm

long; calyx 1.5–2 mm long, campanulate, paleaceous, tube 0.6–1 mm long, glabrous, lobes 0.9–1.2 mm long, extending to the bases of the corolla lobes, distally fimbriate; corolla 2.7–2.9 mm long, funneliform, tube 1.5–1.8 mm long, glabrous, lobes 1.1–1.2 mm long, cymbiform, externally keeled and puberulent, smooth; androecium isostemonous, shortly monadelphous at base, free portion of stamens 6.3–9.4 mm long, exerted from corolla, glabrous, smooth; anthers 0.4–0.5 mm long; ovary 0.5–0.8 mm long, glabrous, smooth; style 8.2–9 cm long, glabrous. Fruit and seeds unknown.

Etymology.— The specific epithet “*venosa*” alludes to the conspicuously evident secondary veins of the leaflets. (Fig. 9)

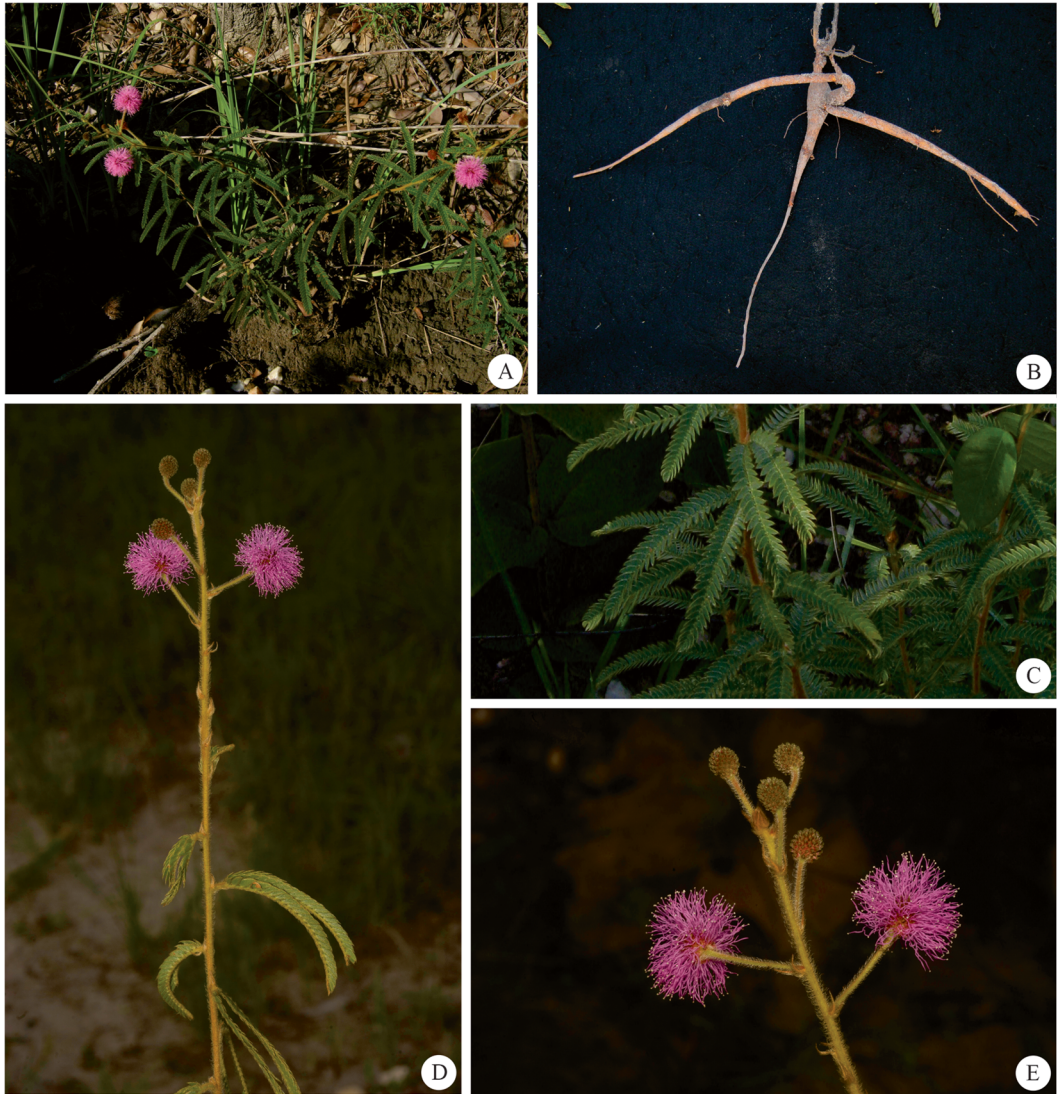


FIG. 7. *Mimosa venosa* A. Habit. B. Woody subterranean organ similar to a xylopodium. C. Leaves. D. Synflorescence. E. Glomerules. [From the type collection *M. F. Simon* et al. 2533; photo credits: A–C by Marcelo Simon, D–E by Moises Mendoza].

Phenology.— Collected with flowers from January to March.

Distribution and habitat.— Recorded in the municipalities of Cavalcante and São Salvador do Tocantins, belonging respectively to Goiás and Tocantins states (Fig. 10A). It grows in “campo sujo” (Fig. 10E) on sandy soils or yellowish-red cambisols with laterite and gravel, between 350 and 805 m elevation.

Preliminary conservation status.— *Mimosa venosa* has an estimated Extent of Occurrence

(EOO) of 452,903 km² and Area of Occupancy (AOO) of 12 km². It occurs in a region of low human impact, which includes the protected area RPPN Serra do Tombador, where the type specimen was collected. Therefore, we classify the species as Least Concern (LC).

Additional specimens examined (paratypes).—**BRAZIL.** **Goiás:** Cavalcante, pela estrada a 1.5 km S da balsa que atravessa o reservatório Cana Brava, 13°32'23”S, 48°03'03”W, 354 m, 02 Feb 2015 (fl), *M. F. Simon* et al. 2583 (CEN, UFG). **Tocantins:** São Salvador do Tocantins, Estrada

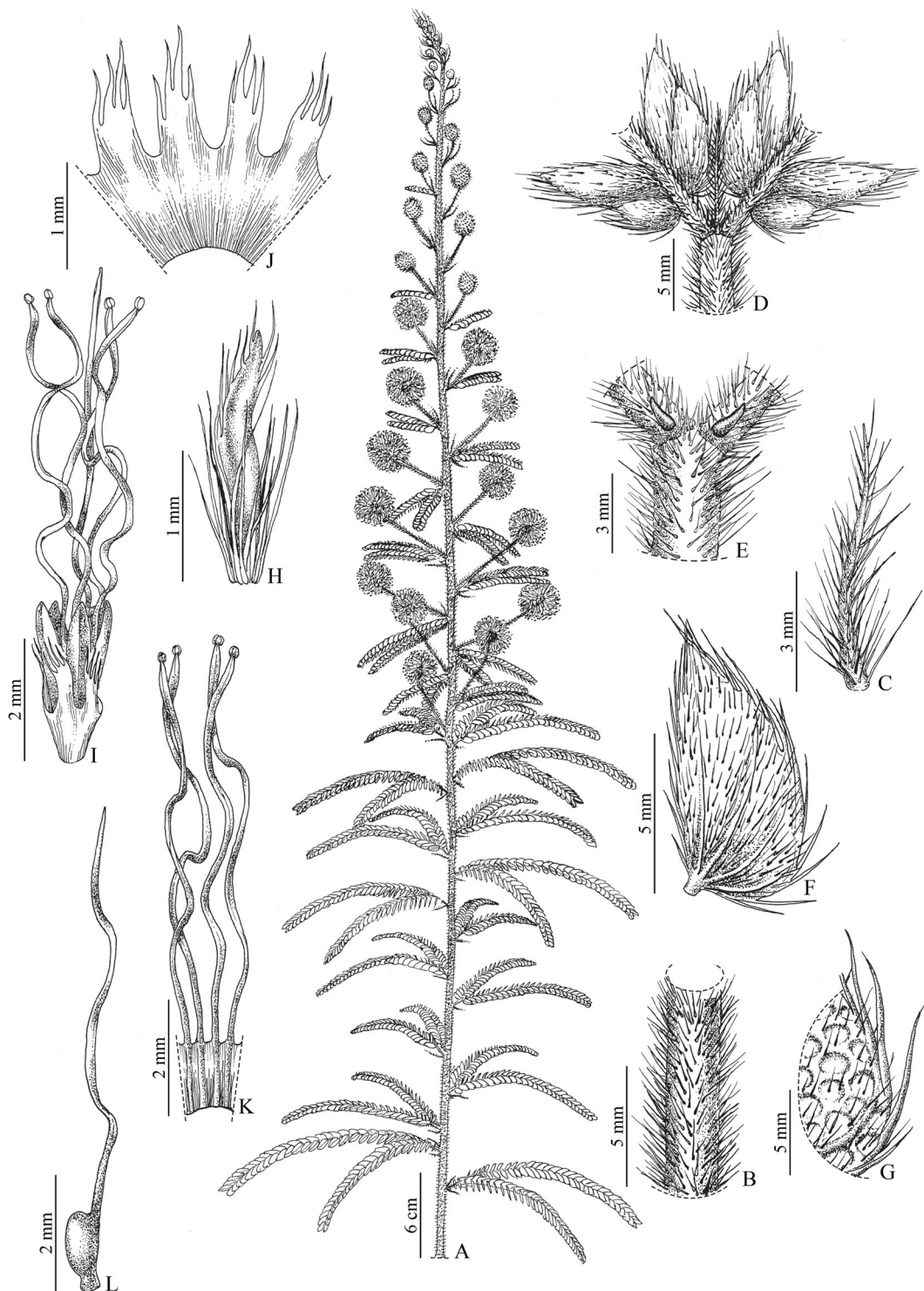


FIG. 8. *Mimosa venosa*. A. Flowering stem. B. Detail of stem indumentum. C. Stipule. D. Apical projection of the petiole. E. Paraphyllidia. F. Leaflet. G. Detail of leaflet margin. H. Bract. I. Flower. J. Calyx. K. Androecium. L. Gynoecium. [Drawn from *M. F. Simon et al. 2533* by Cristiano Gualberto].

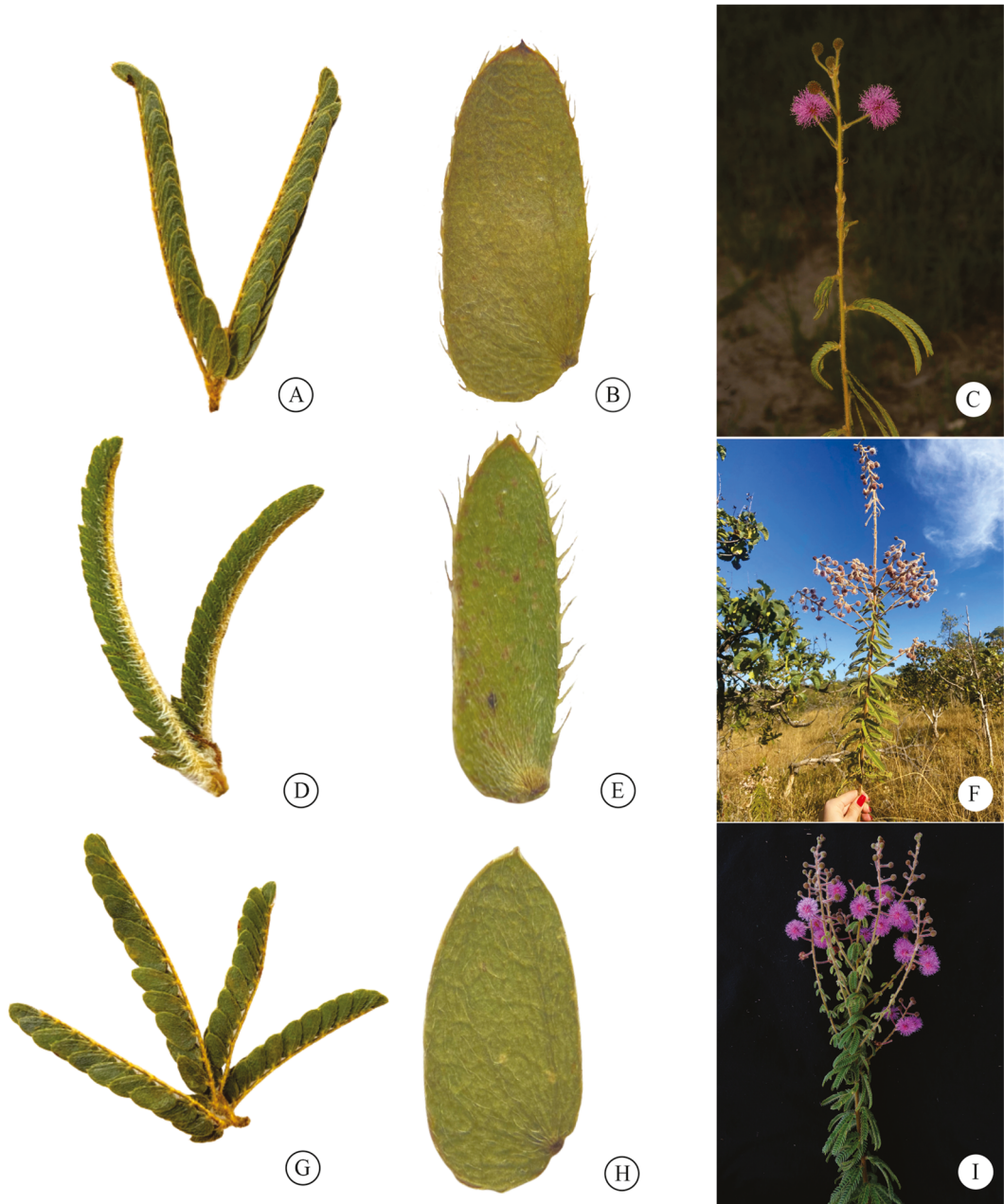


FIG. 9. Key diagnostic characters of *M. venosa* (A–C), *M. thermarum* (D–F) and *M. vestita* (G–I). **A, D & G.** Leaves. **B, E & H.** Leaflets. **C, F & I.** Synflorescence. [Photo credits: A–C by Marcelo Simon, from *M. F. Simon et al. 2533*; D–F by Thainara Mendes, from *T. P. Mendes & I. S. Santos 707*; G–I by Marcelo Simon, from *M. F. Simon et al. 769*;].

de acesso ao córrego Mutum (Faz. São Jorge), 12°48'10"S, 48°16'40"W, 350 m, 25 Mar 2007 (fl), *G. Pereira-Silva & G. A. Moreira 11,524* (CEN, UFG).

Mimosa venosa morphologically resembles *M. thermarum* Barneby and *M. vestita* Benth.

(*M.* subser. *Hirsutae* (Benth.) Barneby) by the erect shrubby habit, leaves well-spaced along the stems, and glomerules arranged in synflorescences (Fig. 9C, F and I). With *M. thermarum* it also shares leaves with one pair

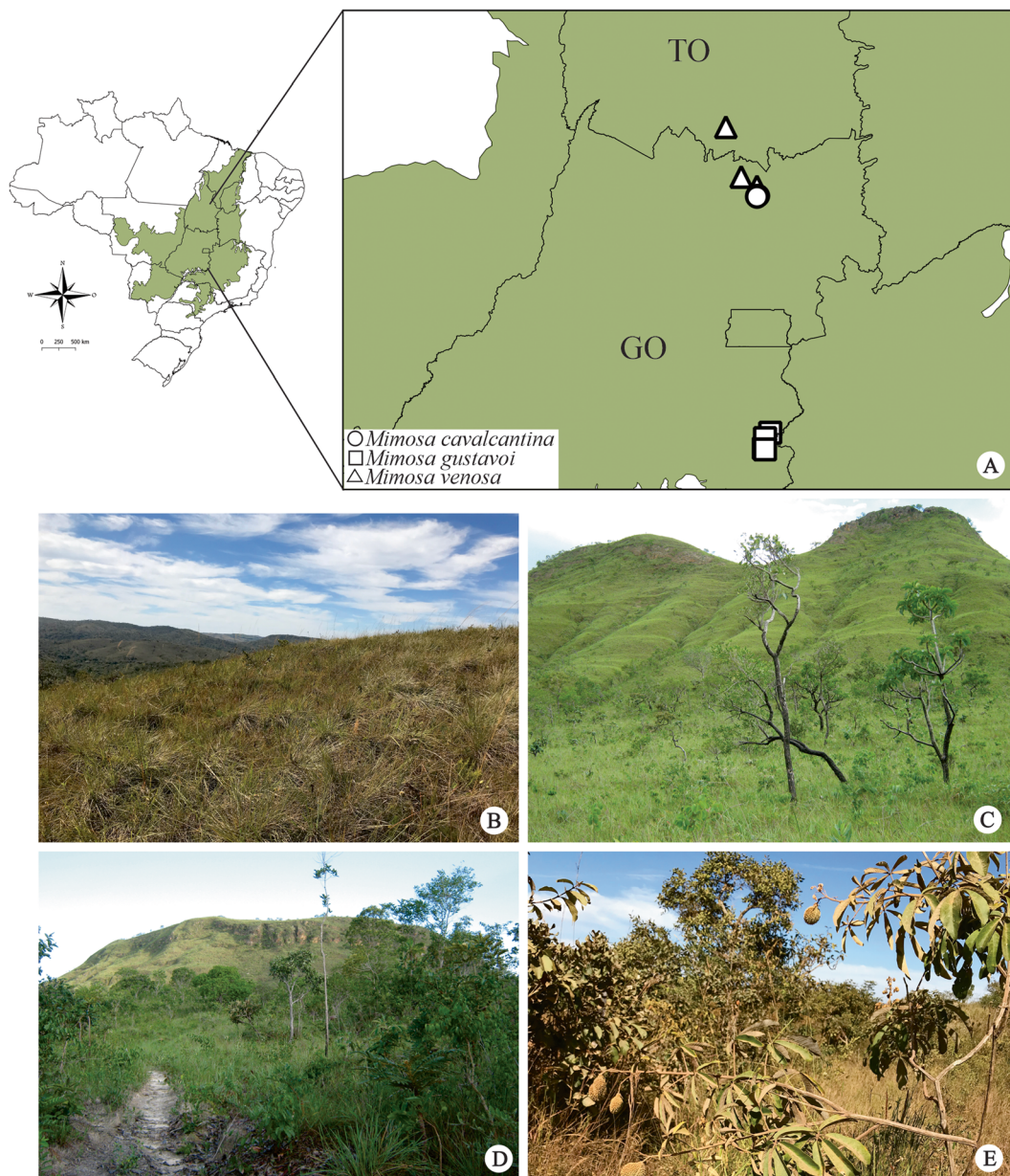


FIG. 10. Map of the geographic distribution and habitats of occurrence of the studied species. **A.** Geographic distribution (GO=Goiás, TO=Tocantins). **B.** “Campo limpo” (*M. gustavoi*, Campo Alegre de Goiás-GO). **C.** “Campo sujo” (*M. cavalcantina*, Cavalcante-GO). **D.** “Campo sujo” (*M. venosa*, Cavalcante-GO). **E.** “Cerrado ralo” (*M. gustavoi*, Campo Alegre de Goiás-GO). [Photo credits: B and E by Thainara Mendes; C and D by Marcelo Simon].

of pinnae (Fig. 9A and D), 12–37 pairs of leaflets per pinnae, leaflets 4–13 × 2–6 mm and oblong to narrowly oblong (Fig. 9B and E), synflorescences bracteose and racemose (Fig. 9C and F), and corolla lobes puberulent. With *M. vestita*, it also

shares setose indumentum and leaflets with prominent secondary veins.

However, it differs from *M. therrmarum* (Fig. 9D–F, compare with Fig. 9A–C) by having a longer petiole (3–6 mm vs. less than 1 mm in

M. thermanum), setose indumentum on vegetative parts and synflorescence axes formed by setiform trichomes with a bulbous base (vs. densely lanate on vegetative parts and covered by barbellate trichomes on synflorescences), longer interfoliolar segments (2–5 mm vs. 1–1.2 mm), paraphyllidia present (vs. absent), differently shaped leaflets (oblong or oval-oblong vs. narrowly oblong), shorter bracts (1.8–2.2 mm vs. 2.4–3.1 mm) and corolla (2.7–2.9 mm vs 3–4.5 mm) and stamen filaments with a smooth surface (vs. papillose surface).

It differs from *M. vestita* (Fig. 9G–I) by the leaves less densely arranged on the stems, with one pair of pinnae (vs. mostly two pairs but sometimes one-paired in small distal leaves), generally longer petioles (3–6.2 mm long vs. (1.5–) 2–5 mm) and rachillae (4–9.5 cm vs. 1.8–4.2 cm), with (12–) 23–26 pairs of leaflets per pinna (8–17 pairs), the leaflets oblong or oval-oblong (vs. ovate), and the synflorescence bracteose-racemose and 10–20 cm long (vs. pyramidal-paniculiform and 30–39.5 cm long). Finally, while *M. venosa* and *M. vestita* are sympatric in northern Goiás, *M. thermanum* occurs in Minas Gerais.

Mimosa venosa also resembles *M. radula* Benth. var. *imbricata* (Benth.) Barneby by the leaves regularly distributed along the stems, sessile leaflets of 0.4–1.5 × 0.2–0.6 cm and bracteose-racemose synflorescences; however, it can be distinguished from that species by setose indumentum (vs. lanose in *M. radula* var. *imbricata*), leaves with (12–)23–26 pairs of leaflets (vs. 9–16 pairs), the peduncles 1–2.5 cm long (vs. 2.3–4.7 cm), the bracts not covering the flower buds (vs. covering), and the free portion of stamen filaments glabrous (vs. puberulent).

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conservation units; Alessandra Fidelis (UNESP Rio Claro) and her team of students for sharing the discovery of *M. cavalcantina* with us, and the managers of RPPN Serra do Tombador for support during fieldwork; Gustavo Rocha, João Bringel, Moises Mendoza and Glocimar Pereira-Silva for providing valuable collections, field information and photographs of *M. gustavoii*; the curators of the herbaria mentioned above for permission to access the collections; Cristiano Gualberto for the illustrations; and Leonardo Borges and Valquíria Dutra for their careful reviews of the manuscript.

Declarations

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendices

APPENDIX 1 SPECIMENS EXAMINED OF *MIMOSA*

DEMISSA, *M. FLAVOCAESIA*, *M. LONGIPES*, *M. PUMILIO*,
M. RADULA VAR. *IMBRICATA*, *M. UNICEPS*, AND
M. VESTITA.

Mimosa demissa.—BRAZIL. Goiás: Alto Paraíso de Goiás: Rod. GO-12, 5 km S de Alto Paraíso, 27 Sep 1975 (fr), *G. Hatschbach & R. Kummrow 37217* (MBM); ibd., GO-118, ca. 5 km do trevo GO-237, sentido São Gabriel, mais 7.5 km sentido fazenda Cogumelo, à esquerda da estrada, 14°11'21"S, 47°33'58"W, 1250 m, 06 Dec 2015 (fl, fr), *J. M. Mendoza F. 5128* (CEN); ibd., estação SANEAGO, a 1 km da entrada para o Vale da Lua, 14°9'55"S, 47°46'23"W, 1070 m, 13 Dec 2019, *T. P. Mendes & R. C. Sodré 388* (BOTU), 389 (BOTU); ibd., estação SANEAGO, a 1 km da entrada para o Vale da Lua, 14°9'55"S, 47°46'23"W, 1070 m, 27 Apr 2020, *T. P. Mendes & R. C. Sodré 496* (BOTU); ibd., estação SANEAGO, a 1 km da entrada para o Vale da Lua, 14°9'55"S, 47°46'23"W, 1070 m, 13 Mar 2021, *T. P. Mendes, K. M. Macedo & P. A. G. Jesus 682* (BOTU).

Mimosa flavocaesia.—BRAZIL. Goiás: Alto Paraíso de Goiás: Chapada dos Veadeiros, 19 Dec 1967 (fl), *A. P. Duarte 10,742* (NY); ibd., Chapada dos Veadeiros, Alto Paraíso (formerly Veadeiros), 1000 m, 21 Mar 1969 (fl, fr), *H. S. Irwin, R. R. dos Santos, R. Souza & S. F. Fonseca 24827* (NMNH, NY, UB, US); ibd., ca. 20 km S de Alto Paraíso on highway GO-12, 1000 m, 19 Feb 1975 (fl), *W. R. Anderson 11472* (MBM, NY); ibd., Vila do Moinho, 12 km NE de Alto Paraíso, 14°04'19"S, 47°28'04"W, 930 m, 15 Nov 2017 (fr), *M. F. Simon, L. M. Borges, E. James, J. M. Mendoza F. & M. T. L. Oliveira 3193* (CEN, RB); ibd., Vila do Moinho, 12 km NE de Alto Paraíso, 14°04'19"S, 47°28'04"W, 930 m, 30 Apr 2018 (fr), *M. F. Simon & L. B. S. Jordão 3230* (CEN, RB); ibd., Cerca de 19 km sul de Alto Paraíso de Goiás pela GO-118, 14°17'19.0"S, 47°30'52.0"W, 1060 m, 15 Dec 2019, *T. P. Mendes & R. C. Sodré 401* (BOTU); ibd., Cerca de 11.3 km de Alto Paraíso de Goiás, estrada que dá acesso à Vila do Moinho, 14°04'21"S, 47°28'04.5"W, 850 m, 16 Nov 2020 (fr), *T. P. Mendes 636* (BOTU); ibd., Cerca de 11.3 km de Alto Paraíso de Goiás, estrada que dá acesso à Vila do Moinho, 14°04'21"S,

47°28'04.5"W, 850 m, 14 Mar 2021 (fr), *T. P. Mendes 697* (MBM) 698 (UFG) 699 (BOTU).

***Mimosa longipes*.—BRAZIL. Goiás:** Alto Paraíso de Goiás: 4 km NE da Vila do Moinho, em estrada que leva ao topo da serra, 14°03'19"S, 47°26'50"W, 1012 m, 15 Nov 2017 (fl), *M. F. Simon, L. M. Borges, E. James, J. M. Mendoza F. & M. T. L. Oliveira 3197* (CEN, RB). Cavalcante: May 1865, *W. J. Burchell 7802* (K, L, P) 783A-2 (L, K); ibd., Estrada saindo da balsa do "Porto dos Paulistas" (balsa sobre o rio Tocantins) para o Buracão, HU Curral de Pedra, à cerca de 2,8 km do rio Carmo, 13°23'14"S, 48°06'41"W, 395 m, 08 Nov 2000 (fl), *B. M. T. Walter, G. P. Silva, J. B. Pereira & P. A. Salles 4615* (CEN); ibd., comunidade kalunga Engenho II, trilha para cachoeira Santa Bárbara, 13°33'51"S, 47°28'35"W, 1048 m, 20 Sep 2009 (fl), *J. E. Q. Faria, L. Z. O. Campos & R. C. Martins 650* (CEN, HUEG, UB); ibd., Reserva Natural Serra do Tombador, 26 Jul 2012, *M. N. Rissi 537* (CEN, HUEFS); ibd., estrada entre Cavalcante e Minaçu, 77 km de Cavalcante, 13°38'06"S, 47°48'06"W, 806 m, 24 Jul 2014 (fl), *M. F. Simon & L. M. Borges 2467* (CEN). Niquelândia: Estrada Niquelândia Uruaçu, ca. 25km de Uruaçu, 12 Sep 1998 (fl), *V. C. Souza, L. Capellari Jr., J. P. Souza & F. F. Mazine 21,564* (RB). Terezina de Goiás: ao longo da GO-118, ca. 27 km sul de Terezina de Goiás, 13°54'19.0"S, 47°21'43.0"W, 734 m, 06 Nov 2021, *T. P. Mendes 632* (BOTU). Uruaçu: Estrada de terra da GO-237 para a fazenda Ponte Alta (Ouro Fino, etc.), cerca de 5 km da GO-237, 06 Feb 1996 (fl), *B. M. T. Walter, S. C. S. Xavier, R. V. Nunes & A. B. Sampaio 2993* (CEN); ibd., estrada de terra da GO-237 para a fazenda Ponte Alta, cerca de 3 km da GO-237, 14°34'03"S, 48°57'27"W, 806 m, 12 Mar 2021, *T. P. Mendes, K. M. Macedo & P. A. G. Jesus 671* (BOTU). S.loc., Central, Sep/Oct 1844 (fr), *M. A. Weddell 2770* (K, P).

***Mimosa pumilio*.—BRAZIL. Goiás:** Alto Paraíso de Goiás: Parque Nacional Chapada dos Veadeiros, Vereda, Córrego dos Ingleses, 14°08'07"S, 47°45'00"W, 1120 m, 27 Sep 1995 (fl), *T. S. Filgueiras & F. C. A. Oliveira 3248* (NY, RB); ibd., Parque Nacional da Chapada dos Veadeiros, Região da Serra do Pouso Alto, 26 Oct 2012 (fl, fr), *R. C. Sodrê & M. J. Silva 249* (UFG); ibd., PNCV, Campo limpo, 1.6 km a partir do Rio Preto em direção ao Morro Peito de Moça, 03 Aug 2013 (fl), *M. J. Silva et al. 5228* (UFG), 5229 (UFG); ibd., GO-239, ca. 12,7 km de Alto Paraíso de Goiás, e entrando, ca. 4,6 km sentido Mulungú, 14°07'46"S, 47°38'19"W, 1211 m, 13 Sep 2014 (fl), *J. M. Mendoza F., A. Amaral-Santos & T. S. Reis 4406* (CEN); ibd., Parque Nacional Chapada dos Veadeiros, ca. 4.2 km sentido N do acampamento de guarda parques São Jorge, 14°08'08"S, 47°45'56"W, 1157 m, 06 Dec 2015 (fl), *J. M. Mendonça, A. Amaral-Santos & T. K. M. Arquelão 5139* (CEN); ibd., Parque Nacional Chapada dos Veadeiros, porteira 25 km W de Alto Paraíso em direção a S. Jorge, 200 m N, 14°07'55"S, 47°43'45"W, 1195 m, 14 Nov 2017 (fl), *M. F. Simon, L. M. Borges, E. James, J. M. Mendoza F. & M. T. L.*

Oliveira 3187 (CEN, RB); ibd., ao longo da GO-239, ca. 26 km de Alto Paraíso de Goiás, 14°07'55"S, 47°43'45"W, 13 Dec 2019, *T. P. Mendes 391* (BOTU); ibd., ao longo da GO-239, ca. 26 km de Alto Paraíso de Goiás, 14°07'55"S, 47°43'45"W, 1204 m, 15 Nov 2020 (fr), *T. P. Mendes 629* (BOTU), 630 (BOTU); s.loc., Sep 1892, *E. H. G. Ule 762* (R).

***Mimosa radula* var. *imbricata*.—BRAZIL. Distrito Federal:** Brasília: ao Córrego Cariru, 15°52'12"S, 47°46'48"W, 1000m, 06 Feb 1981 (fl), *J. H. Kirkbride Jr. 3745* (NY); ib., APA Gama – Cabeça de Veado Árie do córrego do Cedro. Região Administrativa do Núcleo Bandeirante, SMPW Quadra 26 entre o Conj. 3 e a Associação dos Empregados da EMBRAPA, 15°54'48"S, 47°57'50"W, 1050 m, 29 Apr 2003 (fl), *M. L. Fonseca & D. Alvarenga 4623* (FURB, HEPH); ibd., Estação Ecológica do Jardim Botânico de Brasília. Beira da estrada 100% próximo a torre, 15°46'47"S, 47°55'47"W, 18 Feb 2014 (fl), *A. C. A. Soares, M. S. Oliveira, K. Garay & T. V. G. Hermeto 182* (HEPH); ibd., Parque Nacional de Brasília (PNB), 15°37'41"S, 48°02'31"W, 1268 m, 06 Mar 2012 (fl), *M. R. V. Zanatta & J. S. Silva 1237* (UB); ibd., Reserva Biológica da Contagem (REBIO), 15°40'10"S, 47°52'01"W, 1219 m, 05 Mar 2012 (fl), *M. R. V. Zanatta & T. R. B. Melo 1221* (UB); Reserva Ecológica do IBGE. RA-XVI (Lago Sul); ibd., Entre a sede e a guarita, 15°57'05"S, 47°52'10"W, 1100 m, 19 Feb 2004 (fl), *M. A. Silva, M. R. L. Sabbag & B. T. P. M. Góes 5698* (UB). Goiás: Água Fria de Goiás: 7 km by road S of São João da Aliança. Serra Geral do Paraná, 14°46'48"S, 47°30'W, 1100 m, 22 Mar 1973 (fl), *W. R. Anderson 7645* (MBM, NY, US). Campo Alegre de Goiás: Rod. BR-050, 17°37'59"S, 47°46'42"W, 23 Jan 1988 (fl), *G. Hatschbach 51777* (MBM, NY, US). Cristalina: ao longo da BR-050, 7 km ao sul do entroncamento com a BR-040. Fragmento próximo à rodovia, 16°48'16"S, 47°39'18"W, 1167 m, 20 Sep 2016, [fl], *M. F. Simon & R. C. Pires 2990* (CEN). Minas Gerais: Ouro Preto: Estrada para Rodrigo Silva, 20°22'54"S, 43°37'32"W, 17 Apr 2008 (fl), *V. F. Dutra & J. L. Silva 616* (VIC).

***Mimosa thermarum*.—BRAZIL. Goiás:** Caldas Novas: Caldas Novas, 27 Feb 1974, *E. P. Heringer 13,129* (UB); ibd., Near Caldas Novas, 11 Jul 1987 (fl), *S. Tsugaru & Y. Sano B-130* (NY); ibd., Parque Estadual da Serra de Caldas Novas, 17°46'26"S, 48°43'58"W, 917 m, 30 Jul 2008 (fl), *T. N. Moura, H. N. Barbosa, I. A. R. Pereira & J. O. V. Iglesias 317* (CEN); Corumbaíba, margem esquerda do Rio Corumbá, 1,5 km a montante do eixo da barragem; próximo a Foz do Córrego Gameleira, 25 May 1993 (fl), *H. G. P. Santos et al. 6* (CEN, NY); ibd., Parque Estadual da Serra de Caldas Novas, 17°46'26"S, 48°43'58"W, 917 m, 23 Jul 2021 (fl, fr), *T. P. Mendes & I. S. Santos 707* (BOTU, UFG). Rio Quente: Serra de Caldas, 17°46'31"S, 48°44'41"W, 730 m, 10 Jul 2014 (fl, fr), *M. F. Simon 2563* (CEN).

***Mimosa uniceps*.—BRAZIL. Minas Gerais:** Serra do Espinhaco, ca. 20 km SW of Diamantina, 1300 m, 23

Jan 1969 (fr), *H. S. Irwin, R. G. P. Santos, R. Souza & S. F. Fonsêca 22524* (MO, NY, R, UB, US).

***Mimosa vestita*.—BRAZIL. Goiás:** Cavalcante: Estrada entre sede da RPPN Serra do Tombador e Cavalcante, 9 km E da sede da reserva, 13°38'09"S, 47°40'45"W, 980 m, 01 Feb 2015 (fl), *M. F. Simon 2569* (CEN); ibd., Vila Engenho, caminho para cachoeira Santa Bárbara, 13°31'59"S, 47°28'59"W, 1070 m, 12 Oct 2002 (fl), *M. F. Simon 448* (HUEFS); ibd., Balsa da Coterra (rio Tocantins) vila Veneno km 3, 13°47'51"S, 47°27'30"W, 32 m, 13 Dec 2000 (fl), *G. Pereira-Silva & J. B. Pereira 4490* (VIES); ibd., ao longo da estrada Cavalcante – Colinas do Sul, 13°48'58"S, 47°15'37"W, 800 m, 22 Mar 2006 (fl), *M. F. Simon 769* (CEN, HUEFS, UB). Colinas do Sul: ao longo da GO-132, 25 km ao norte de Colinas do Sul, em direção a Minaçu, 13°56'14"S, 48°03'57"W, 539 m, 26 Jan 2019 (fl), *M. Morales 2206* (CEN). Minaçu: Entrada que liga o canteiro

de obras aos Ava Canoeiro, cerca de 7 km da estrada central do canteiro, 540 m, 19 Nov 1991 (fl), *B. M. T. Walter et al. 756* (CEN, UB); ibd., Estrada entre a UHE de Serra da Mesa e Minaçu, km 3, 13°46'00"S, 48°16'59"W, 500 m, 10 Jun 1999 (fl, fr), *M. F. Simon 285* (UB); ibd., Estrada Usina Serra da Mesa – Minaçu, km 2, 13°31'59"S, 48°13'12"W, 25 Nov 1998 (fl), *M. F. Simon 85* (INPA, UB); Sem Município, Goiaz from the forca WSW about 2 m Caminho de Nene, 21 Feb 1828, [fl], *W. J. Burchell 6739* (Herbário Virtual da Flora Brasiliensis, Universidade de Brasília); Rodovia Goiania – Brasília, 27 Jan 1969 (fl), *H. F. L. Filho 773* (IAC); ibd., as Lages to Rio Moquem, 14°30'S, 48°07'59"W, s. dat. (fl), *W. J. Burchell 7834* (Herbário Virtual da Flora Brasiliensis, Universidade de Brasília); St Brizida to Rio Palma, 12°28'00"S, 47°07'59"W, s. dat. (fl), *W. J. Burchell 8122* (Herbário Virtual da Flora Brasiliensis, Universidade de Brasília).