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Three New Species of *Serjania* (Sapindaceae) from South America

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Abstract. The new species **Serjania chacoensis** from Bolivia and Brazil, **Serjania souzana** from Bolivia, Brazil, and Peru, and **Serjania paranensis** from the state of Paraná, Brazil, all belonging to *Serjania* sect. *Serjania*, are described, illustrated and contrasted to their putatively closest relatives.

Resumen. Las tres nuevas especies **Serjania chacoensis** de Bolivia y Brasil, **Serjania souzana** de Bolivia, Brasil y Perú, y **Serjania paranensis** del estado de Paraná en Brasil, todas pertenecientes a *Serjania* sección *Serjania* son aquí descritas, ilustradas y contrastadas con los que se estiman ser sus parientes más cercanos.

The Neotropical genus *Serjania* Miller is currently estimated (Acevedo-Rodríguez, unpublished data) to contain about 230 species, but this number is expected to rise as new species are being discovered every year. *Serjania* is the largest genus in the ubiquitous Neotropical tribe Paullinieae (sensu Kunth 1821), which is almost exclusively comprised of woody or (less often) herbaceous climbers. *Serjania* can be distinguished from most other genera of Paullinieae (sensu Acevedo-Rodríguez 1993a; i.e., *Cardiospermum*, *Houssayanthus*, *Paullinia*, and *Urvillea*) by its schizocarpic fruits with winged mericarps and distal cocci. *Lophostigma* has fruits similar to those of *Serjania*, but its pollen grains are strikingly different. In *Serjania*, the pollen is oblate or peroblate and hemi-trisyncolporate, in *Lophostigma* it is prolate or prolate-spheroidal, and 2(3)-heterocolpate [2 colpi diorate and a third (when present) simple] (Acevedo-Rodríguez 1993b; Ferrucci and Anzótegui 1993). In the absence of fruits, pollen grains are very useful in differentiating *Serjania*, *Houssayanthus*, *Cardiospermum*, and *Urvillea* from *Paullinia*. Although all of these genera have oblate or peroblate grains, those of the first group are hemi-trisyncolporate while those of *Paullinia* are triporate (Muller and Leenhouts 1976; Ferrucci and Anzótegui 1993; Acevedo-Rodríguez 1993a). *Houssayanthus* has the same type of pollen as *Serjania*, but its schizocarps have a central coccus surrounded by a wing throughout its extension (Hunziker 1978).

Pollen morphology in *Serjania* has so far proven to be of limited taxonomic value. Although particularly useful in differentiating *Serjania* from *Lophostigma* and *Paullinia*, it has not been useful in differentiating *Serjania* from other genera in the tribe Paullinieae, nor in contributing to an infrageneric classification of *Serjania* (van der Ham and Tomlik 1994). Pollen grains of the three new species were available for this study and therefore their descriptions are provided. Although the study of pollen morphology of the new species does not seem to contribute much to their taxonomy, the results are presented in the hope that these data will be useful to the overall taxonomy of Sapindaceae.

The species of *Serjania* have been classified into sections based on fruit morphology, particularly shape and texture of the locule, width of the partitioning wall, and the presence of a crest or wing around the locule. Radlkofer (1875, 1931) recognized 12 sections, but his classification is untenable as there were no qualitative characters defining some of them. In 1993, Acevedo-Rodríguez (1993a) partially revised the genus and proposed a classification consisting of only six sections based on more clearly delimited fruit characters. The three new species of *Serjania* that are herein described, seem to belong to *Serjania* sect. *Serjania*, characterized by the presence of mericarps with globose, woody locules and wide partitioning walls.

Materials and Methods

Herbarium specimens were studied and measured to generate morphological descriptions. Pollen grains were obtained from anthers of herbarium specimens and prepared for light microscopy following Erdtman (1966). These were mounted in glycerine jelly, studied, and deposited in the pollen collection at CTES herbarium (Holmgren et al. 1990).

Polar axis and equatorial diameter were measured on fifteen pollen grains per species using light microscopy. Pollen terminology fallows that of Erdtman (1966) and Punt et al. (1994).

The SEM micrographs of leaf epidermis were made from herbarium specimens rehydrated and fixed in FAA, then dehydrated and critical point dried before gold coating. The material was studied and photographed with a JEOL 5800 LV scanning electron microscope. The epidermis of *Serjania souzana* was studied with the aid of SEM as it has unusual translucent reddish or brown dots and glandular hairs.

Taxonomic Treatment

Serjania chacoensis Ferrucci & Acev.-Rodr., sp. nov.- TYPE: BOLIVIA. Santa Cruz: Cerro San Miguel, foothills, 19°18′S, 60°39′W, 450 m, 9 Mar 1989 (fl),

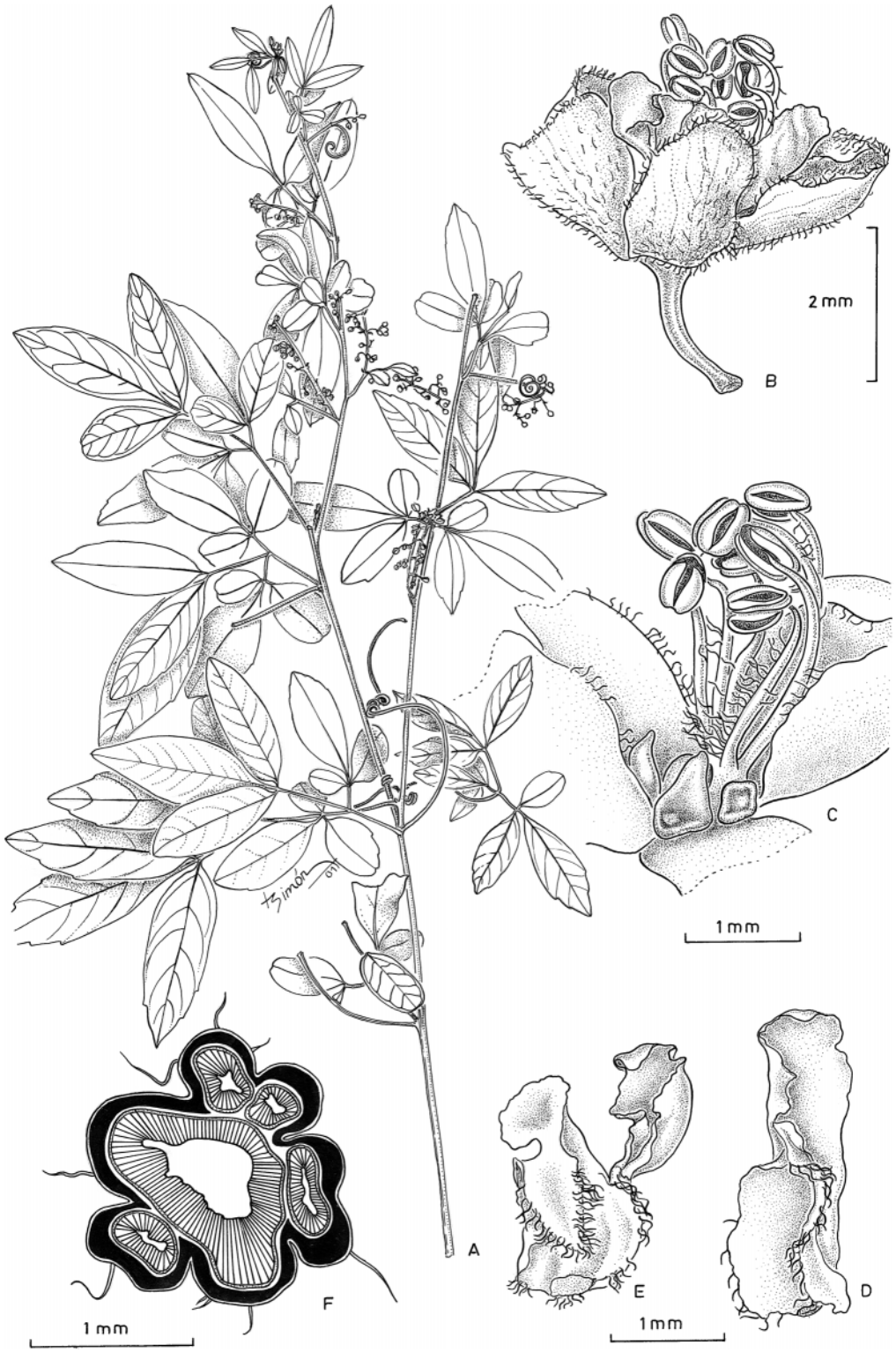


FIG. 1. *Serjania chacoensis*. A. Flowering branch. B. Staminate flower. C. Staminate flower with petals removed, showing nectary glands. D. Lateral petal with adnate appendage. E. Central petal with adnate appendage. F. Cross section of stem. (all from *Ramella & Mereles 2602,* CTES).

TABLE 1. Diagnostic characters and distribution of *S. chacoensis* and similar species.

Characters	*S. chacoensis*	*S. caracasana*	*S. sphaerococca*	*S. aculeata*	*S. nei*	*S. adenophylla*
Stem	obtusely and sharply 7-angular; 1(3–4) peripheral vascular cylinders	sub-terete; (3) 5–8 peripheral vascular cylinders	sub-terete; 8 peripheral vascular cylinders	sub-terete; 3 peripheral vascular cylinders; aculeate	sub-terete; 3–5 peripheral vascular cylinders	obtusely 8-angular; 6 peripheral vascular cylinders
Leaves	biternate	biternate or 5–(3)-foliolate	biternate	biternate or 5-foliolate	5-foliolate	5-foliolate
Stipules	caducous	persistent	persistent	persistent	persistent	persistent
Leaflets	abaxially pubescent, brown laticifers	abaxially glabrous or pubescent	abaxially barbate at veins angle	abaxially barbate at veins angle	abaxially pubescent	abaxially barbate at veins angle
Flower	3–3.5 mm long	5–8.5 mm long	5 mm long	3.5 mm long	6 mm long	2.75–3 mm long
Central nectary glands	ovoid, acute at apex	ovoid, obtuse at apex	ovoid, obtuse at apex	ovoid, acute at apex	ovoid, obtuse at apex	ovoid, obtuse at apex
Lateral nectary glands	rounded	sub-elliptic	rounded	rounded	ovoid, obtuse at apex	ovoid, acute at apex
Geographic distribution	Brazil and Bolivia	from Mexico to N Argentina	Peru and Bolivia	Brazil and Bolivia	Bolivia	Brazil and Bolivia

Ramella L. and F. Mereles 2602 (holotype: CTES!). Figs. 1, 4 A-C.

A *S. caracasana* (Jacq.) Willd. caulibus costis prominentibus, stipulis caducis, floribus minoribus, glandulis nectariferis centralibus ovatis acutis differt.

Climbing shrub, pubescence of whitish or yellowish brown hairs intermixed with scanty minute glandular hairs. Stems obtusely angled, deeply furrowed, pubescent or puberulous, becoming glabrous with age; cross section of stem with a central, large, obtusely triangular vascular cylinder, and 1 or 3–4 peripheral, asymmetric, elliptic-flattened vascular cylinders of different sizes (but much smaller than the central vascular cylinder). Stipules triangular, caducous, ca. 1.25 mm long, puberulous along abaxial surface, margins glandular-pubescent. Leaves biternate; petioles pubescent, 1–4.5 cm long, canaliculate adaxially; rachis pubescent, bicanaliculate or marginate, the primary rachis 1.6–1.9 cm long, the secondary rachis 3–11 mm long; petiolules of terminal leaflets 5–6 mm long; leaflets 1.1–4.6 × 0.8–1.7 cm, discolorous, sub-chartaceous, adaxially pilose, with dark translucent dots, abaxially pubescent, with dark laticifers, the venation semicraspedodromous, the margins entire or dentate-serrate, with 2–6 glandular teeth on the distal ½-⅓ of the blade; distal leaflets narrowly ovate, oblong or narrowly oblong, with long-attenuate base and obtuse, mucronulate apex; lateral leaflets ovate or oblong, with an obtuse, rounded or sometimes asymmetrical base, and rounded or retuse, glandular apex. Thyrse axillary, simple, pubescent; axis 4-angled, 0.7–3.5 cm long; rachis angular, striate, pubescent, with a pair of tendrils at base; bracts ovate-triangular, pubescent; bracteoles similar to the bracts but smaller; cincinni alternate, 0.2–1.5 mm long, 3–6-flowered; pedicels 1.5–4.5 mm long, articulate on the lower ⅓. Sepals 5, the outer 2 ovate, cucullate, 1.5–2 mm long, glabrous with ciliate margins; inner sepals ca. 3 × 1–1.25 mm, oblong, nearly concave, abaxially covered with curly hairs, margins with glandular hairs; petals white, ca. 3 × 1–1.25 mm, obovate, unguiculate, adaxially sparsely glandular, the apex rounded, the margins minutely erose or sub-crenate; appendages of central petals ca. 1.7 mm long, hood-shaped, the apex fleshy, subentire, yellow; appendages of lateral petals ca. 1.5 mm long, asymmetric; nectary 4-glandular, glabrous, the central glands ovoid, acute at apex, the lateral glands rounded; torus slightly enlarged, glabrous; fertile stamens (of staminate flowers) 3–3.5 mm long, the filaments terete, puberulent; non-functional stamens (of pistillate flowers) ca. 2.25 mm long, the filaments slightly flattened, glabrous; gynoecium ca. 2.25 mm long, the ovary obovate-trigonous, glandular pubescent, stigmatic branches 3; non-functional gynoecium (of staminate flowers) ca. 0.75 mm long, glabrous. Fruits ovate in outline, brown, charta-

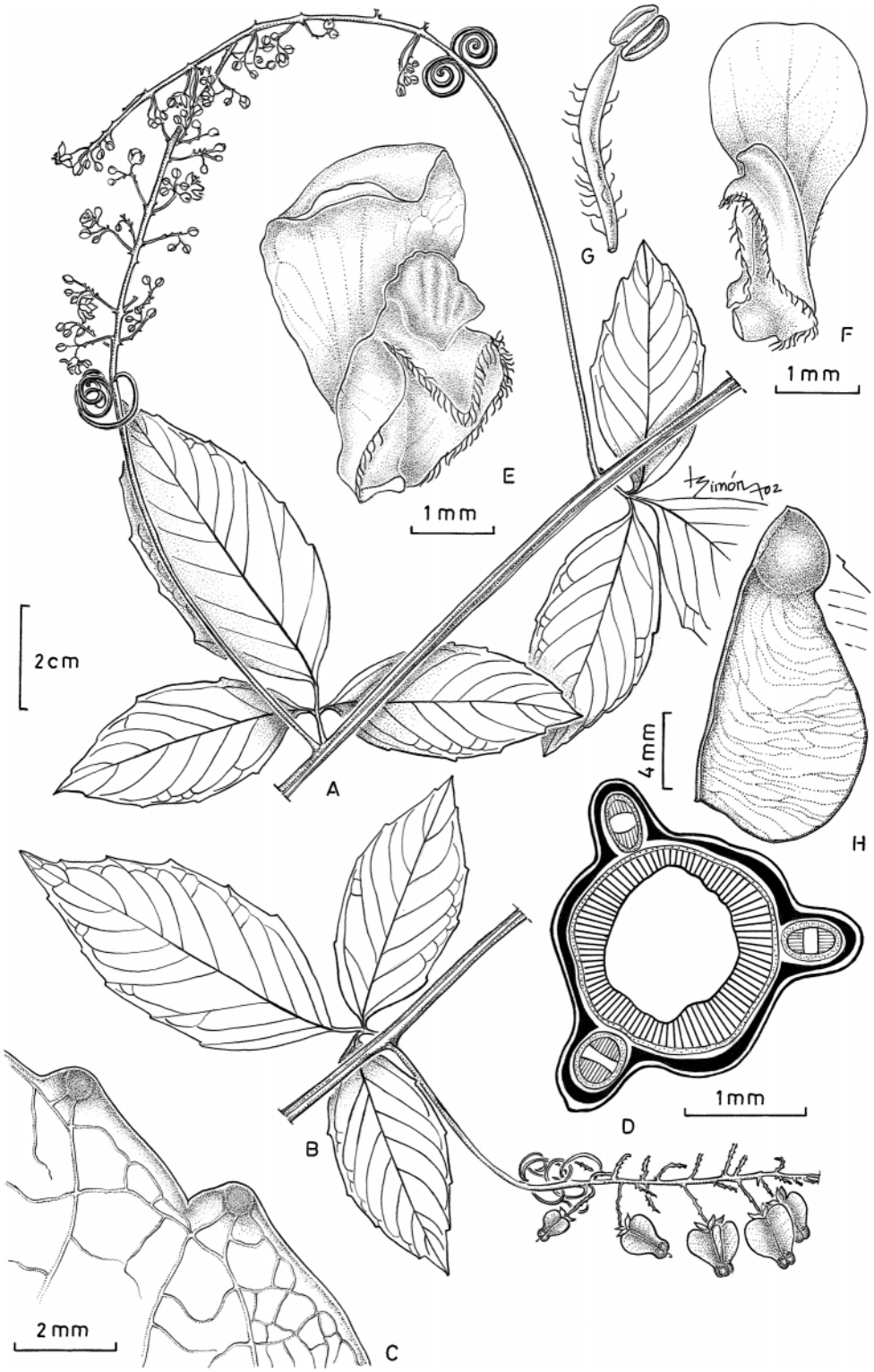


FIG. 2. *Serjania souzana*. A. Flowering branch. B. Branch with immature fruits. C. Abaxial surface of leaflet showing two glandular teeth. D. Cross section of stem. E. Central petal with adnate appendage. F. Lateral petal with adnate appendage. G. Stamen from staminate flower. H. Mericarp. (A, C-G, from *Nave et al. 1683,* CTES; B, from *Souza et al. 18473*; H, from *Alban Castillo & Foster 6916* (F).

TABLE 2. Diagnostic characters and distribution of *S. souzana* and *S. rekoi*.

Characters	*S. souzana*	*S. rekoi*
Petals	obovate, with glandular hairs on both surfaces	spatulate, glabrous
Appendages of central petals	entire or emarginate	emarginate to bifid
Central nectary glands	ovoid	oblong
Staminal filaments	glabrous or pilose	villose
Fruit cocci	chartaceous	woody
Epicarp	glandular hairs, rare besides pubescent with simple hairs	glabrous
Endocarp	glabrous	lanose
Geographic distribution	Brazil, Bolivia and Peru	Mexico

ceous, ca. 17 × 17 mm, cocci 10 mm wide, spherical, nearly smooth, dark brown, epicarp and endocarp glabrous. Seeds ovoid, smooth, dark brown, ca. 4.5 mm long, attached near the base of the locule; abaxial cotyledon curved, adaxial cotyledon biplicate.

Pollen heteropolar, hemi-trisyncolporate, peroblate or oblate, polar axis 25.2–28.8 μm, equatorial diam. 54.6–55.2 μm.

Etymology. The specific epithet refers to the currently known habitat of the species.

Geographical Distribution and Ecology. Known only from the department of Santa Cruz, Bolivia and the state of Mato Grosso do Sul, Brazil, occurring in dry and semi-deciduous forests.

Additional Specimens Examined. BOLIVIA. Santa Cruz: Prov. Chiquitos, San José, airport, 300 m, 17°47′S, 60°47′W, 26 Apr 1980 (fl), *Krapovickas & Schinini 36540* (CTES); from San José to Salinas de San José, between Quebrada de Tucavaca and Cerros de San Miguelito, Jul 1994 (fl), *Navarro 2342* (CTES).

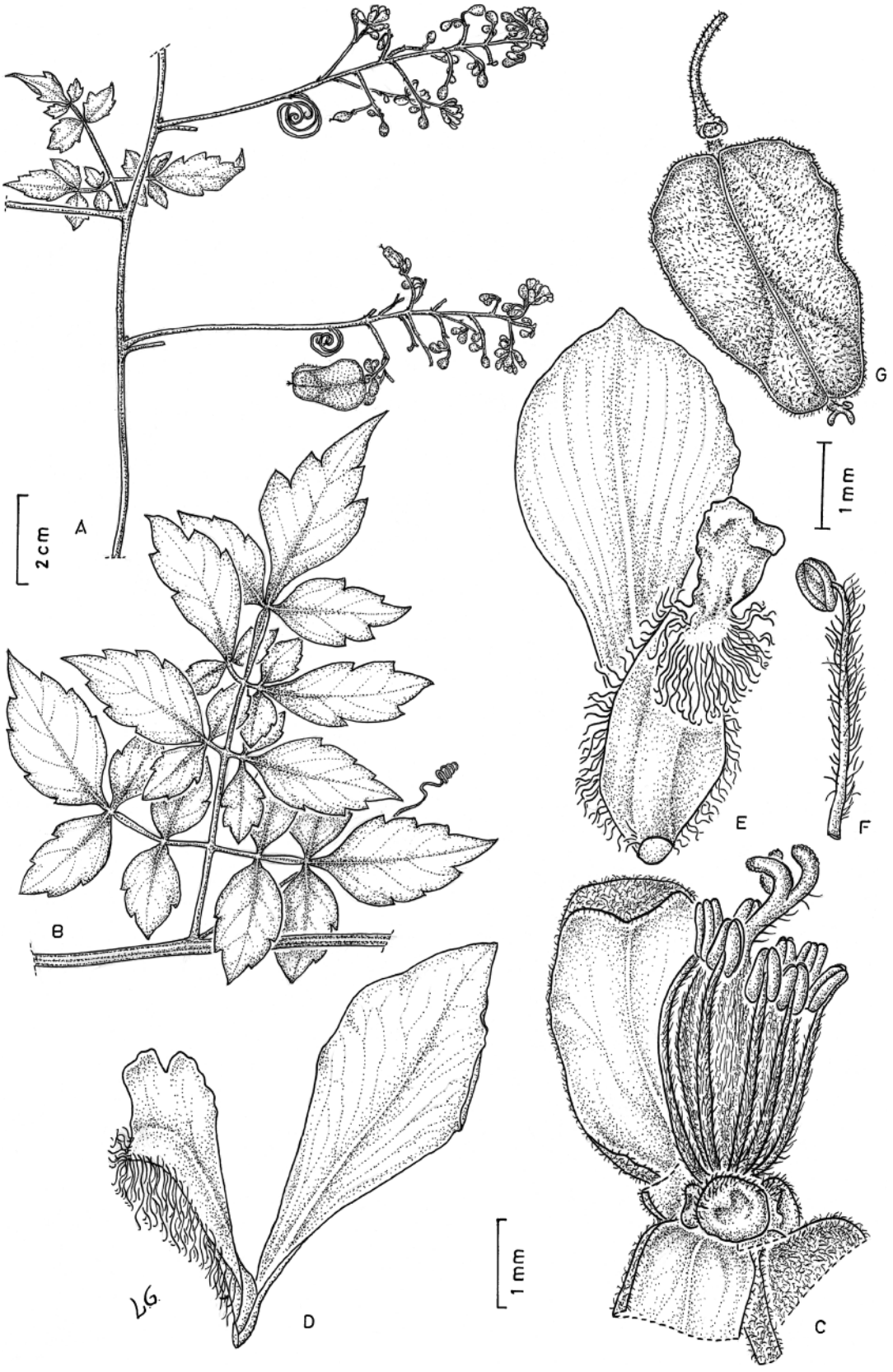
BRAZIL. Mato Grosso do Sul: Ladário, Faz. São João, 200 m, deciduous forest, 19° 11′21.2″S, 57° 31′43.9″W, 16 Jun 2001 (fl, fr), *Damasceno Junior & Velasques 2452* (COR, CTES); Faz. São Sebastião do Carandá, 120 m, 19°04′45.5″S, 57°30′88.7″W, 28 Jun 2002 (fr), *Damasceno Junior & Gonçalves 2458* (COR, CTES).

Observations. This species is vegetatively similar and perhaps most closely related to *S. caracasana* (Jacq.) Willd., a species with a wide distribution throughout tropical America. They both have biternate leaves with similar leaflet morphology and stems with several peripheral vascular cylinders. *Serjania chacoensis* differs by having obtusely angled stems with 1 or 3–4 peripheral vascular cylinders, caducous stipules, smaller flowers (3–3.5 mm long), and acute central nectary glands. *Serjania caracasana*, in contrast, has sub-terete stems, with 5–8 peripheral vascular cylinders, persistent stipules, larger flowers (5–8.5 mm long), and obtuse central nectary glands. *Serjania chacoensis* also shares several morphological characters with *S. sphaerococca* Radlk., *S. aculeata* Radlk., *S. neei* Acev.-Rodr., and *S. adenophylla* Ferrucci (stems with 3–8 peripheral vascular cylinders, and abaxially glabrous or puberulent leaflets with translucent dots) and therefore also may be closely related to these species. *Serjania chacoensis* is placed in *Serjania* section *Serjania*, because of its similarity to these species, all of which are also believed to belong to this section. Table 1 summarizes the main differences between *S. chacoensis* and these putatively related species.

Serjania souzana Ferrucci & Acev.-Rodr., sp. nov.-TYPE: BRAZIL. Mato Grosso: Município Itaúba, disturbed margin of Telles Pires River, 11°05′59″S, 55°18′50″W, 20 Jul 1997 (fl), *Nave A. G., F. R. Dário, R. F. Lopes and D. F. Bertani 1683* (holotype: ESA!; isotype: CTES!). Figs. 2, 4 D-E, 5.

A *S. rekoi* Standl. floribus minoribus et pubescentibus, endocarpo glabro differt.

Climbing shrub, pubescence of minute, orangish, glandular hairs, the stems, petioles, and inflorescences sometimes also containing short, curly hairs. Stems pubescent, 6-ribbed, three of which are more prominent; cross section of stem with a central, large, nearly terete vascular cylinder, and 2–3 smaller, peripheral, elliptic vascular cylinders of similar size. Stipules triangular or ovate-triangular, persistent, 0.5–2 mm long, with simple and glandular hairs along margins, sometimes pilose. Leaves trifoliolate; petioles pubescent, 0.4–2.3 cm long, subterete, striate, adaxially canaliculate; petiolules of terminal leaflets 1–5 (22) mm long, those of lateral leaflets 1–2 (6) mm long; leaflets narrowly ovate or oblong, 4.8–12.1 × 2.1–5.5 cm, slightly discolorous, chartaceous or sub-coriaceous, adaxially glabrous and lustrous, with translucent or reddish brown dots, abaxially glandular-pubescent, the venation semicraspedodromous, the apex acute or less often obtuse, glandular-mucronate, the margins cartilaginous, dentate-serrate, with 6–13 glandular teeth; distal leaflets with a rounded, cuneate or attenuate base and obtuse, mucronulate apex; lateral leaflets with an acute or rounded base. Thyrse axillary, simple, glandular-pubescent or glandular-pubescent and mixed with short, curly hairs; axis 4-angled, with 4 reddish brown striae, 4–15 cm long; rachis angled, striate, pubescent, 2.8–8.5


A
2 cm
B
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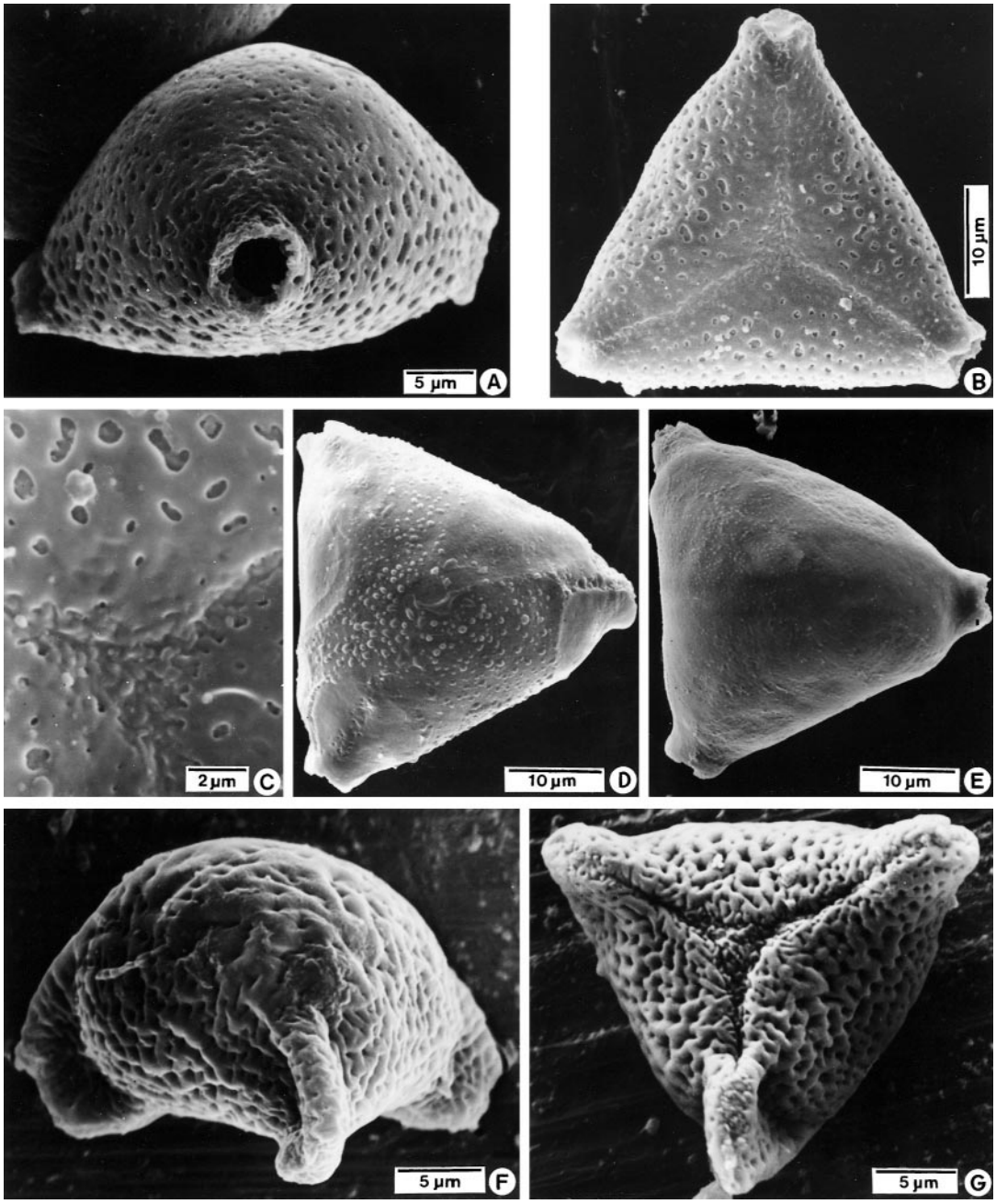

FIG. 4. SEM micrographs of *Serjania* pollen. A-C. *S. chacoensis*. A. Equatorial view. B. Proximal polar view. C. Detail of syncolpate aperture. D-E. *S. souzana*. D. Proximal polar view. E. Distal polar view. F-G. *S. paranensis*. F. Equatorial view. G. Proximal polar view. (A-C, from *Ramella & Mereles 2602*, CTES; from D-E, *Nave et al. 1683*, CTES; from F-G, *Hatschbach 8755*, MBM).

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FIG. 3. *Serjania paranensis*. A. Flowering branch. B. Branch with leaf. C. Pistillate flower, with removed petals, showing nectary glands, non-functional stamens and gynoecium. D. Lateral petal with adnate appendage. E. Central petal with adnate appendage. F. Stamen of pistillate flower. G. Immature fruit. (*Hatschbach 8755*, MBM).

TABLE 3. Diagnostic characters and distribution of *S. paranensis* and similar species.

Characters	*S. paranensis*	*S. eriocarpa*	*S. cissoides*	*S. hebecarpa*	*S. chaetocarpa*	*S. mansiana*
Indumentum	ferruginous-pubescent	ochraceous pubescent	yellowish to ferruginous hirsute or pubescent	glabrous to whitish or yellowish pubescent	ferruginous-hirsute	shortly brunneo-pubescent
Leaves	4-jugate	3-foliolate	3-foliolate	3-foliolate	3-foliolate	3-foliolate
Stipules	0.75–1.5 mm long, deciduous	6–8 mm long, deciduous	1.5–2 mm long, persistent	0.6–1.5 mm long, persistent	7.5–10 mm long, persistent	1–1.5 mm long, deciduous
Leaflets	narrowly ovate or ovate	ovate	widely ovate	narrowly ovate to widely ovate	ovate	ovate
Bracts	triangular, 1 mm long	filiform, 5 mm long	ovate-triangular, 1.5–2 mm long	ovate-triangular, 0.75–2.5 mm long	subulate, 4–6.5 mm long	ovate-triangular, 1.5–2 mm long
Nectary glands	4-glandular	2-glandular	4-glandular	4-glandular	4-glandular	4 glandular
Geographic distribution	Brazil	Paraguay and Brazil	Brazil, Paraguay and Bolivia	Brazil, Paraguay, Bolivia, Argentina and Uruguay	Brazil and Bolivia	Brazil and Bolivia

cm long, with a pair of tendrils at base; bracts ovate-triangular, 0.5–1.2 mm long, glandular-pubescent at margins and sparsely so abaxially; bracteoles triangular-subulate, smaller than the bracts; cincinni alternate, many-flowered, 3–5 mm long; pedicels 2–3.5 mm long, articulate on the lower ⅓. Sepals 5, cucullate, the outer 2 ovate, 2.5–3.5 mm long, glabrous or puberulous; inner sepals ca. 3–4 × 2–2.5 mm, obovate, tomentose, sometimes with glandular pubescent margins; petals white, 2.5–5.5 × 1.25–2.5 mm, obovate, unguiculate, sparsely glandular on both surfaces, the apex rounded, the margins entire; appendages 2–3 mm long, those of central petals hood-shaped, with fleshy, entire or emarginate apex, those of lateral petals asymmetric; nectary 4-glandular, glabrous, the central glands ovoid, obtuse at apex, the lateral glands rounded or elliptical; torus slightly enlarged, glabrous or pubescent at the insertion of stamens; stamens 2–3.25 mm long, the filaments terete, glabrous or pilose; pistillode ca. 1 mm long, glandular-pubescent; pistillate flowers not seen; style and stigmatic branches of similar length in young fruits. Fruits ovate in outline, reddish tinged, chartaceous, ca. 19 × 18 mm, cocci 6–8 mm wide, spherical, smooth, dark brown, narrowly cristate on lower half, epicarp sparsely covered with minute glandular hairs, sometimes mixed with simple hairs, endocarp glabrous. Seed ovoid, smooth, dark brown, ca. 4 mm long, basally attached.

Pollen heteropolar, hemi-trisyncolporate, oblate or less often peroblate, psilate with nano-granules, verrucose, or perforate; polar axis 19.2–31.2 μm, equatorial diam 43.2–57.6 μm.

Etymology. The specific epithet honors Dr. Vinicius Castro Souza, Brazilian botanist, who is currently studying the flora of the states of Mato Grosso and São Paulo.

Geographical Distribution and Ecology. Known from the lowlands (200–500 m) of Brazil (Mato Grosso), Bolivia (La Paz and Santa Cruz), and Peru (Madre de Dios) occurring in gallery and humid forests, and in shrubby savannas.

Additional Specimens Examined. BOLIVIA. La Paz: Prov. Abel Iturralde, along Tuichi River, 14°27′S, 67°52′W, 500 m, seasonal forest, 9 Jul 1997 (fl), *Beck 24238* (CTES, LPB). Santa Cruz: Prov. Velasco, Parque Nacional Noel Kempff Mercado, Pampa Grande de Bella Vista, seasonally flooded savanna with clayish soils, 13°42′10.7″S, 61°31′58.1″W, 180 m, 11 Aug 1995 (fl, fr), *Guillén et al. 3898* (CTES, USZ); Prov. Guarayos, 12 km S of Perseverancia, 14°40′S, 62°36′W, 250–300 m, evergreen seasonally flooded forest, 29 Jun 1992 (fl), *Vargas et al. 1530* (CTES, USZ).

BRAZIL. Mato Grosso: Município Vila Bela da Sma. Trinidade, 18 Aug1997 (fl), *Hatschbach et al. 66984* (CTES, MBM, US); Município Porto dos Gaúchos, along Rio Arinos, forest, 15 Aug 1997 (fl, fr), *Nave et*

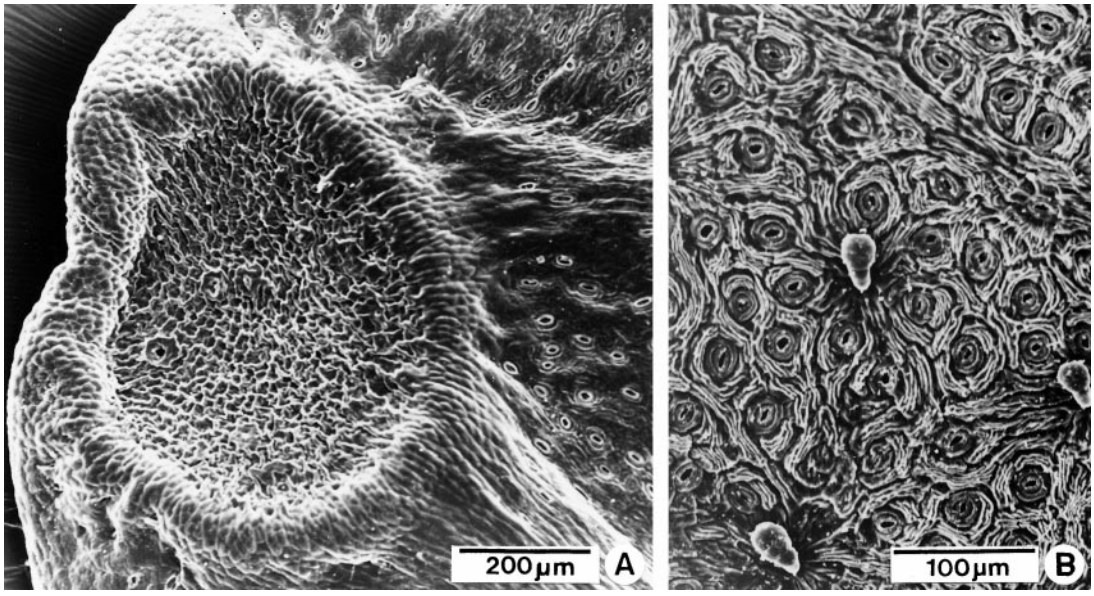

FIG. 5. SEM micrographs of *Serjania souzana* abaxial surface of leaflet. A. Detail of the tooth showing subapical glandular surface. B. Detail of the epidermis showing glandular hairs, stomata, and cuticular stria. (A, from *Hatschbach et al. 66984* CTES; B, from *Souza et al. 18473,* CTES).

al. 1869 (CTES, ESA); Município São José do Rio Claro, Fazenda Arinos, 13°52′S, 56° 30′W, gallery forest, 14 Jun 1997 (fl), *Souza et al. 18176* (CTES, ESA); Município Aripuanã, old Aripuanã-Castanheira road, vic. of Serra Morena, 10°17′–10°19′S, 59°12′–59°18′W, shrubby savanna on sandy soils, 9 Jul 1997 (fr), *Souza et al. 18473* (CTES, ESA).

PERU. Madre de Dios: Río Heath, National Sanctuary Pampas del Heath, 12°57′S, 68°53′W, open, seasonally flooded savanna, 200 m, 14 Jun 1992 (fl, fr), *Alban Castillo & Foster 6916* (F).

Observations. *Serjania souzana* seems to belong to *Serjania* section *Serjania* because of its fruit with wings differentiated from a globose coccus, and partitioning walls not projecting beyond the coccus walls (Acevedo-Rodríguez 1993a). It seems to be closely related to the Mexican endemic *Serjania rekoi* Standl. because of their similarity in vegetative characters, including pubescence, trifoliolate leaves, leaflets with cartilaginous margins, and stems with three peripheral vascular cylinders surrounding a central one. However, *S. souzana* differs from the latter by its obovate petals with minute glandular hairs on both surfaces (vs. spatulate and glabrous); appendages of central petals subentire or emarginate (vs. emarginate to bifid); central nectary glands ovoid (vs. oblong); staminal filaments glabrous or pilose (vs. villose); fruit cocci chartaceous (vs. woody); epicarp with glandular and sometimes simple hairs (vs. glabrous); and endocarp glabrous (vs. lanose). Table 2 summarizes these differences. It is interesting to note that the distributional disjunction between these two putative closely related species is mirrored by the distribution of other members of Sapindaceae (Acevedo-Rodríguez 1993a; Ferrucci and Acevedo-Rodríguez 1998; Acevedo-Rodríguez and Ferrucci 2002; Acevedo-Rodríguez 2003) suggesting a common biogeographical history.

Serjania paranensis Ferrucci & Acev.-Rodr., sp. nov.-TYPE: BRAZIL. Paraná: Município Campo Mourão, Rio da Vargem, forest margin, 5 Feb 1962 (fl, fr), *Hatschbach, G. 8755* (holotype: MBM!). Figs. 3, 4 F-G.

A *S. eriocarpa* Radlk. foliis quadrijugis, foliolis proximalibus 5-partitis, distalibus simplicibus, aliis 3-foliolatis, stipulis triangularibus ad 1.5 mm longis, caducis, bracteis triangularibus ad 1 mm longis differt.

Climbing shrub, densely ferruginous-pubescent. Stems nearly terete, weakly 6-ribbed, pubescent; cross section of stem with a single vascular cylinder. Stipules triangular, villose, caducous, 0.75–1.5 mm long. Leaves imparipinnate, 4-jugate, lower pair of juga 5-pinnate foliolate; petioles densely pubescent, 0.8–2.1 cm long, adaxially canaliculate; petiolules to 8 mm long in terminal leaflets; leaflets narrowly ovate or ovate, 1.6–5 × 1.1–2.4 cm, sub-chartaceous, adaxially pilose, especially along midvein, abaxially pubescent, the venation craspedodromus, the margins inciso-dentate or dentate-serrate, with 4–7 obtuse teeth; distal leaflets with an attenuate base and acuminate, mucronate apex; lateral leaflets with an acute or obtuse base, and acute or obtuse apex. Thyrse axillary or terminal, densely pubescent; axis 4-angled, 3.5–5 cm long; rachis striate,

3.5–5 cm long, with a pair of tendrils at base; bracts triangular, ca. 1 mm long, pubescent; bracteoles similar but smaller than the bracts; cincinni alternate, many-flowered, ca. 9 mm long; pedicels 3.5–4 mm long, articulate on the lower ¼. Sepals 5, the outer two oblong or ovate, 3.5–4 mm long, pubescent; inner sepals ca. 5 mm long, obovate or ovate, cucullate, lanose, with ciliate margins; petals white, 5–6.4 × 1.8–2.6 mm, obovate, unguiculate, sparsely glandular adaxially, the apex apiculate, the margins entire; appendages 3.4–4.7 mm long, those of central petals hood-shaped, with fleshy, entire apex, those of lateral petals asymmetrical; nectary 4-glandular, pubescent, the central glands circular, the lateral glands elliptical, smaller than the central ones; torus pubescent; staminate flowers: stamens 3.25–4 mm long, the filaments terete, villose; pistillode ca. 0.75 mm long, villose; style longer than the stigmatic branches; pistillate flowers: gynoecium ca. 4.5 mm long, the ovary obovate-trigonous, villose, the style longer than the stigmatic branches. Immature fruits ferruginous-villose, the locules slightly swollen, cuneate at base, lanate within. Seed basally attached.

Pollen heteropolar, hemi-trisyncolporate, oblate or less often peroblate; polar axis 19.2–28.8 μm, equatorial diam. 37.2–45.6 μm.

Etymology. The specific epithet refers to the state of Paraná, where the type was collected.

Geographical Distribution and Ecology. Known only from the type collection.

Observations. *Serjania paranensis* seems to belong to *Serjania* section *Serjania* because of its overall similarity to *S. eriocarpa*, a species currently placed in *S.* section *Serjania*. Both species share the presence of a single vascular cylinder, similar pubescence, similar inflorescences and flowers, and deciduous stipules. However, *S. paranensis* has several distinctive characters, such as imparipinnate, 4-jugate leaves with a 5-foliolate lower pair of juga and short triangular stipules, while *S. eriocarpa* has trifoliolate leaves and filiform, elongated stipules. *Serjania paranensis* also resembles *S. cissoides* Radlk., *S. hebecarpa* Benth., *S. chaetocarpa* Radlk., and *S. mansiana* Mart., but is differentiated by the characters presented in Table 3.

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