

*STIGMAPHYLLON LANCEOLATUM* (MALPIGHIACEAE),  
A NEW SPECIES FROM ESPÍRITO SANTO, BRAZIL

CHRISTIANE ANDERSON<sup>1</sup>

**Abstract.** *Stigmaphyllon lanceolatum*, a new species of Malpighiaceae, is described from Espírito Santo, Brazil. It is distinctive in its abaxially sericeous, lanceolate laminas borne on relatively short petioles. The limb of the posterior petal bears a pair of basal, stout, gland-tipped fimbriae. The stamens are heteromorphic. All styles bear apical folioles. A brief discussion of *Stigmaphyllon* in Espírito Santo accompanies a key to the thirteen species recorded (and one expected) from that state.

**Keywords:** *Stigmaphyllon*, Malpighiaceae, Espírito Santo, Brazil

*Stigmaphyllon* Adr. Juss. is one of the wing-fruited genera of neotropical Malpighiaceae. Most species are woody vines with long-petioled, elliptical to cordate leaves and clusters of yellow, bilaterally symmetrical flowers arranged in compound inflorescences. The fruit is a schizocarp that splits into three samaras with a large dorsal wing. The genus is named for the lateral appendages, the folioles, borne on the styles of most species (Fig. 1F). *Stigmaphyllon* occurs in the West Indies and from southern Mexico to northern Argentina, except in Chile. One species, *S. bannisterioides* (L.) C. E. Anderson, also occurs in West Africa. A new species from Espírito Santo, *Stigmaphyllon lanceolatum* C. E. Anderson, is here added to the 91 species previously recognized (Anderson 1997, 2000).

***Stigmaphyllon lanceolatum*** C. E. Anderson, *sp. nov.* TYPE: BRAZIL. Espírito Santo: Santa Teresa, Rodovia Josil Espíndula, Km 19, 19°56'S, 40°36'W, ca. 655 m, 12 June 1984, J. M. Vimercat 185 (Holotype: MICH). Fig. 1.

*Liana. Laminae 6–10 cm longae, 2.3–4 cm latae, lanceolatae vel ellipticae, supra glabrae, subtus sericeae, margine eglanduloso vel rare stipitato-glanduloso. Petala limbo orbiculari vel suborbiculari, margine fimbriato-denticulato; petalum posticum limbo basaliter glanduloso-fimbriato. Stamina heteromorpha, antheris glabris; antherae sepalis antico-lateralibus*

*oppositae 2 loculis reductis instructae, antherae sepalis positico-lateralibus oppositae steriles. Styli glabri; stylus anticus ca. 3 mm longus, utroque foliolo ca. 1.5 mm longo, ca. 1.2 mm lato; styli postici ca. 3.5 mm longi, foliolo 1.8–2 mm longo latoque. Samara ignota.*

*Vine;* stems and branches sericeous and eventually glabrescent to glabrous. *Leaves* opposite; laminas 6–10 cm long, 2.3–4.0 cm wide, lanceolate to elliptical, apex acuminate, base acute or truncate or subcordate, adaxially very sparsely sericeous to glabrous but the hairs often retained on the costa and secondary veins, abaxially densely sericeous, especially so along the margin and major veins (trabecula 0.4–0.9 mm long, sessile or subsessile, straight or wavy); margin eglandular or rarely with a stipitate gland (ca. 0.3 mm in diameter, stalk ca. 0.3 mm long); petioles 0.5–3.0 cm long, densely sericeous, not confluent across the node, with a pair of prominent but sessile glands at the apex, each gland 1.0–1.6 mm in diameter; stipules ca. 1 mm long, ca. 0.6–0.8 mm wide, free, triangular, glabrous. *Flowers* 15–20(–25) per umbel or short pseudoraceme. Peduncles 5.5–13.0 mm long, pedicels 5.5–10.0 mm long, terete, both densely sericeous, peduncles 0.5–2.0 times as long as the pedicels. Bracts 1.5–2.0 mm long, 0.8–1.0 mm wide, triangular, apex acute, abaxially sericeous or the hairs concentrated along the midrib; bracteoles 1.3–1.5 mm long, 0.8–1.2 mm wide, oblong to ovate, apex obtuse, abaxially densely sericeous.

I thank William R. Anderson for his comments on the manuscript. Karin Douthit drew the handsome plate. I consulted the rich holdings of Malpighiaceae at MICH. This study was supported in part by a grant from the National Science Foundation to the University of Michigan (DEB-0543909).

<sup>1</sup>University of Michigan Herbarium, 3600 Varsity Drive, Ann Arbor, Michigan 48108-2228, U.S.A. Email: chra@umich.edu

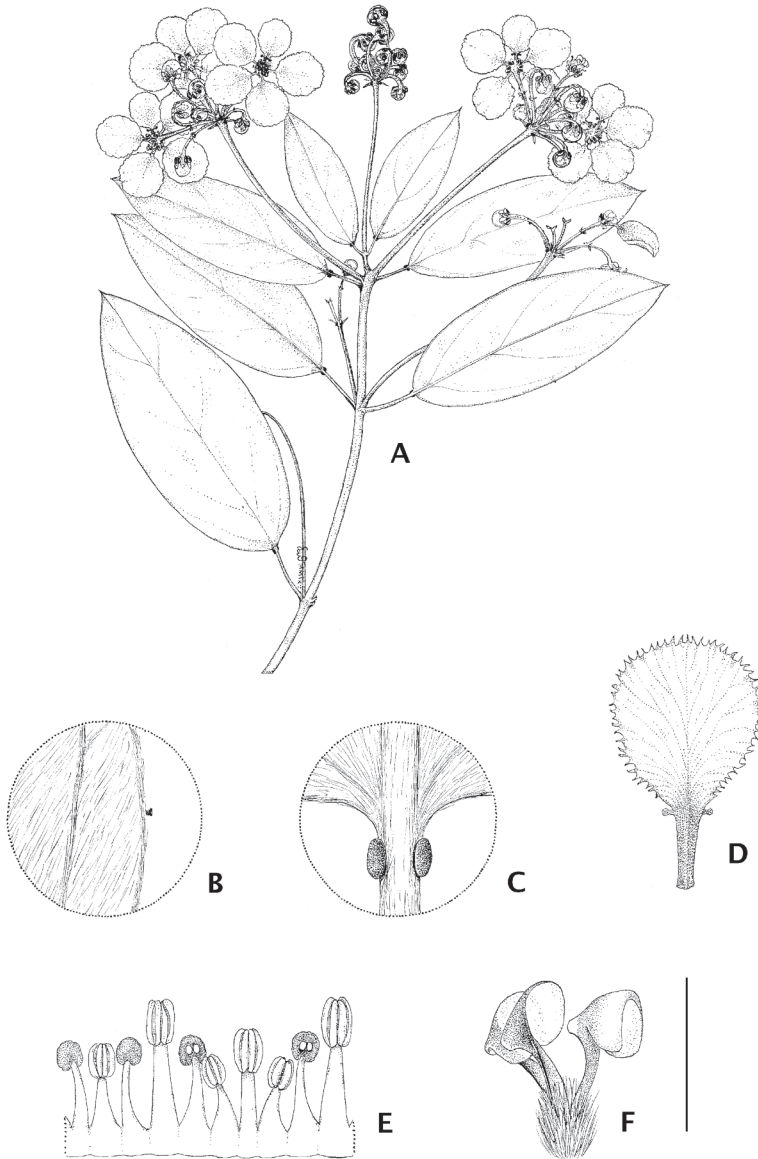


FIGURE 1. *Stigmaphyllon lanceolatum* C. E. Anderson. **A**, flowering branch; **B**, detail of abaxial leaf surface, showing dense vestiture on vein and along margin, and marginal gland; **C**, leaf base with petiole glands (abaxial view); **D**, posterior ("flag") petal; note pair of gland-tipped fimbriae at base of limb; **E**, androecium; stamen second from left opposes the posterior petal; **F**, gynoecium, anterior style at right. Scale bar equivalents: A, 4 cm; B, C, 4 mm; D, 8 mm; E, F, 4 mm. Based on: A, D-F, *J. M. Vimercat 185*, MICH; B, *H. Q. Boudet Fernandes 1186*, MICH; C, *V. Demuner 1040*, MICH.

*Sepals* 5, 2.5–3.0 mm long and wide, glands ca. 2 mm long, ca. 1 mm wide, abaxially sericeous but with a glabrous band along the ciliate margin. *Petals* 5, with the limb orbicular or suborbicular, glabrous, yellow; the 4 lateral petals: claw 2.0–2.5 mm long, limb 11–12 mm long and wide, margin denticulate-fimbriate, the teeth/fimbriae up to 0.3 mm long; posterior petal: claw 3.5–3.8 mm long, limb 10(–11) mm long and wide, margin denticulate-fimbriate, the teeth/fimbriae up to 0.4(–0.5) mm long, at base with a pair of stout, gland-tipped fimbriae. *Stamens* unequal, 10, those opposite the posterior-lateral petals (and the posterior styles) the largest, anthers of those opposite the lateral sepals with the connective enlarged, those opposite the anterior-lateral sepals with 2 reduced locules, those opposite the posterior-lateral sepals without locules; anthers glabrous. Stamen opposite anterior sepal: filament ca. 2.2 mm long, anther ca. 1.2 mm long; stamens opposite anterior-lateral petals: filaments ca. 1.8 mm long, anthers 0.8–1.0 mm long; stamens opposite anterior-lateral sepals: filaments ca. 2.5 mm long, connectives ca. 1 mm long, locules 0.1–0.2 mm long; stamens opposite posterior-lateral petals: filaments ca. 3 mm long, anthers ca. 1.2 mm long; stamens opposite posterior-lateral sepals: filaments ca. 2.5 mm long, connectives 0.8–1.0 mm long, locules absent; stamen opposite posterior petal always shorter than the adjacent two: filament ca. 2 mm long, anther ca. 1 mm long. *Ovary* tricarpellate, densely pubescent; styles 3, free to the base. Anterior *style* ca. 3 mm long, shorter than the posterior two, terete, glabrous, slightly incurved; each foliole ca. 1.5 mm long, ca. 1.2 mm wide, subsquare. Posterior styles ca. 3.5 mm long, terete, glabrous; folioles 1.8–2.0 mm long and wide, subsquare. *Samara* not seen.

**Phenology:** collected in flower in May and July.

**Distribution:** known only from the region of Santa Teresa, collected in thickets and along streams.

**Additional specimens examined:** BRAZIL. Espírito Santo: Santa Teresa, Estação Biológica da Caixa d'Água, 30 May 1985, *H. Q. Boudet*

*Fernandes 1186* (MICH); Santa Teresa, 25 de Julho, Alto de Julião, 7 May 1986, *H. Q. Boudet Fernandes 1953* (MICH); Mpio. Santa Teresa, Estação Biológica de Santa Lúcia, 11 May 2000, *V. Demuner 1040* (MICH); Mpio. Santa Teresa, Santo Henrique, 11 May 2006, *L. Kollmann 9060* (MICH).

*Stigmaphyllon lanceolatum* is characterized by laminas that are lanceolate, acute to truncate to slightly cordate at the base, and borne on relatively short petioles (to 3 cm long). The lamina is abaxially sericeous; the vesture is particularly dense along the margin and on the major veins. The margin is eglandular or rarely bears a stipitate gland (Fig. 1B). The posterior (“flag”) petal has a pair of stout, gland-tipped fimbriae at the base of the limb (Fig. 1D). As in the majority of species, the stamens are heteromorphic and glabrous. Anthers of stamens opposing the lateral sepals have the connective enlarged. Those of stamens opposing the anterior-lateral sepals bear two reduced locules; those of stamens opposing the posterior-lateral sepals lack locules (Fig. 1E).

*Stigmaphyllon* is surprisingly diverse in Espírito Santo, which is not as well-collected as the adjacent states of Rio de Janeiro and Bahia, and also eastern Minas Gerais; future fieldwork may add additional species to the 13 now recorded. All but the shrubby *S. paralias* Adr. Juss. are vines. In addition to *S. lanceolatum*, two distinctive species are known only from Espírito Santo, *S. crenatum* C. E. Anderson, the only species with crenate laminar margins, and *S. glabrum* C. E. Anderson, with pinnately lobed, glabrous laminas. Three species (*S. alternifolium* Adr. Juss., *S. gayanum* Adr. Juss., and *S. lalandianum* Adr. Juss.) found in Rio de Janeiro have their northern limit in Espírito Santo; only one species (*S. blanchetii* C. E. Anderson) from Bahia has its southern limit there. Six species (*S. auriculatum* (Cav.) Adr. Juss., *S. ciliatum* (Lam.) Adr. Juss., *S. paralias*, *S. salzmännii* Adr. Juss., *S. saxicola* C. E. Anderson, and *S. tomentosum* Adr. Juss.) occur in both Bahia and Rio de Janeiro, as does *S. acuminatum* Adr. Juss., which should be expected in Espírito Santo and is included in the key presented below.

KEY TO THE SPECIES OF *STIGMAPHYLLON* OF ESPÍRITO SANTO, BRAZIL

- 1a. Margin of lamina crenate; petioles rudimentary, up to 2 mm long . . . . . *S. crenatum*  
 1b. Margin of lamina entire; petioles evident and more than 2 mm long . . . . . 2  
 2a. Laminas abaxially glabrous or (*S. salzmannii*) with some very sparsely scattered T-shaped hairs . . . . . 3  
 2b. Laminas abaxially pubescent, the hairs evenly distributed . . . . . 6  
 3a. Styles without folioles; larger laminas pinnately lobed . . . . . *S. glabrum*  
 3b. Styles bearing folioles; laminas not lobed or (*S. salzmannii*) sometimes 2–3-lobed . . . . . 4  
 4a. Laminas with stipitate glands borne abaxially adjacent to the margin; pedicels pubescent, terete; anthers pubescent . . . . . *S. salzmannii*  
 4b. Laminas eglandular or bearing filiform glands along the margin; pedicels glabrous, distally expanded; anthers glabrous . . . . . 5  
 5a. Laminas broadly ovate or cordate, the base deeply auriculate and the basal lobes usually overlapping, the margin fringed with filiform glands; samara lenticular, i.e., the nut laterally compressed . . . . . *S. ciliatum*  
 5b. Laminas triangular, ovate, elliptical, hastate, or sagittate, the base truncate to cordate, the margin eglandular or with scattered filiform/sessile glands; samara with the nut ovoid or spheroid . . . . . *S. auriculatum*  
 6a. Laminas abaxially sericeous, the hairs sessile or subsessile, appressed . . . . . 7  
 6b. Laminas abaxially abundantly pubescent with T-shaped hairs, the trabecula (i.e., the cross-piece) straight to crisped or curled (the vesture never appressed) . . . . . 9  
 7a. Shrub; stipules commonly fused across the node into a bifid structure; peduncles rudimentary, up to 0.2 times as long as the pedicels; petioles 0.4–1.5 cm long; dorsal wing of samara reduced to a triangular crest 1.3–2.0 mm long . . . . . *S. paralias*  
 7b. Vine; stipules free; peduncles evident, 0.5–2.0 times as long as the pedicels; petioles 0.5–6.5 cm long; dorsal wing of samara 3.5–5.5 cm long (*S. lalandianum*; samara of *S. lanceolatum* unknown) . . . . . 8  
 8a. Styles with only a lateral lip or tiny folioles less than 1 mm long and wide; anthers of all stamens varying only slightly in size, none greatly modified; limb of posterior (“flag”) petal erose . . . . . *S. lalandianum*  
 8b. Styles with well-developed folioles, ca. 1.5–2.0 mm long and wide; anthers varying in size and shape, those opposing the lateral sepals with the connective enlarged and bearing 0–2 reduced locules; limb of posterior (“flag”) petal fimbriate-denticulate and with a pair of stout, gland-tipped fimbriae at the base . . . . . *S. lanceolatum*  
 9a. Anterior style with only a lateral lip up to 0.3 mm wide; anthers of stamens opposing the lateral sepals equally as long as the connective or slightly shorter, the connective not greatly enlarged; limb of posterior (“flag”) petal erose . . . . . *S. acuminatum*  
 9b. Anterior style with well-developed folioles, each foliole 1.0–2.3 mm long; anthers of stamens opposing the lateral sepals with the connective enlarged and bearing 0–2 locules; limb of posterior (“flag”) petal fimbriate and/or denticulate (sometimes erose or erose-denticulate in *S. blanchetii* and *S. saxicola*) . . . . . 10  
 10a. Mature laminas adaxially velutinous and/or with T-shaped hairs; petioles with a pair of glands borne at the apex or up to 0.7 mm below the base of the lamina . . . . . *S. gayanum*  
 10b. Mature laminas adaxially glabrate to glabrous; petioles with a pair of glands borne at the apex . . . . . 11  
 11a. Margin of petals digitate-fimbriate (fimbriae parallel-sided and obtuse at apex); nut of samara 4–7 mm long, with a row of 5–7 winglets on each side . . . . . *S. alternifolium*  
 11b. Margin of petals erose to denticulate to fimbriate, the teeth/fimbriae tapered from the base to an acute apex; nut of samara 6.5–12.0 mm long, with 1–3 winglets on each side, often also with spurs/crests or only ridges/tubercles . . . . . 12  
 12a. Laminas with stipitate marginal glands, to 0.4 mm long, borne abaxially adjacent to the margin; trabeculas of abaxial vesture straight or slightly wavy, adjacent ones touching but not entwined, each hair readily discernible, the vesture never matted or tomentose; anthers pubescent . . . . . *S. blanchetii*  
 12b. Laminas with sessile marginal glands, borne abaxially adjacent to the margin, or glands absent; trabeculas of abaxial vesture crisped to curled, the adjacent ones usually overlapping and entwined, forming a matted or tomentose vesture, each hair not readily discernible; anthers glabrous or sometimes sparsely pubescent . . . . . 13  
 13a. Limb of anterior-lateral petals 8–9 mm in diameter, limb of posterior petal 6.0–7.5 mm in diameter; dorsal wing of samara 3.5–4.5 times as long as wide (5.5–6.2 cm long, 1.3–1.8 cm wide) . . . . . *S. saxicola*  
 13b. Limb of anterior-lateral petals 11–15 mm in diameter, limb of posterior petal 9–11 mm in diameter; dorsal wing of samara 2.0–2.5 times as long as wide (3.5–5.0 cm long, 1.5–2.0 cm wide) . . . . . *S. tomentosum*

## LITERATURE CITED

- ANDERSON, C. 1997. Monograph of *Stigmaphyllon* ———. 2000. *Stigmaphyllon hispidum* (Malpighiaceae), a new species from Bahia, Brazil. *Novon* 10: 107–109.