

# A New Species of *Beilschmiedia* (Lauraceae) from Guerrero, Mexico

Francisco G. Lorea Hernández

Departamento de Biología, Facultad de Ciencias, UNAM, Ciudad Universitaria, Circuito Exterior, 04510 México, D.F., Mexico. Current address: Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166-0299, U.S.A.

**ABSTRACT.** *Beilschmiedia angustielliptica* is described and illustrated. Morphologically this species is easy to recognize because of its long, reticulate (but not foveolate) lanceolate leaves, its glabrous anthers, and its glabrate ovary. So far, this species is known only from the central mountains of Guerrero, Mexico.

**RESUMEN.** Se describe e ilustra *Beilschmiedia angustielliptica*. Entre las otras especies del género esta nueva especie es fácil de reconocer por sus hojas grandes, lanceoladas, reticuladas (pero no foveoladas), sus anteras glabras, y su ovario glabrado. Hasta ahora esta especie sólo se conoce de las montañas centrales de Guerrero, México.

Extensive collections carried out during the last ten years in Guerrero, Mexico, under the auspices of the "Flora del Estado de Guerrero" project, organized by the Laboratorio de Plantas Vasculares (Facultad de Ciencias, UNAM), have resulted in more complete collections for several formerly poorly known families in that state. For example, about a dozen species of Lauraceae were previously reported from Guerrero (Standley, 1922; Allen, 1945). Today, the assembled material represents more than 35 species. Several collections belong to undescribed species in different genera. A new species of *Beilschmiedia* is here described.

The Latin American species of *Beilschmiedia* were last revised more than 50 years ago by Kostermans (1938), who recognized 15 neotropical species in the genus. Currently, the increase in collections suggests the merger of some names, but also the recognition of new species, so the actual number of taxa is around 10–20 species (van der Werff, 1991).

In Mexico there exist about eight species of *Beilschmiedia*. For a time, only *B. mexicana* (Mez) Kostermans was recognized as occurring in the country (Kostermans, 1938; Allen, 1945). Several

Mexican specimens of *Beilschmiedia* have been annotated in herbaria as *B. pendula* (Swartz) W. B. Hemsley, implying the presence of this species in the region. But *B. mexicana* is suspected to be a synonym of *B. pendula* (Burger & van der Werff, 1990). Early in the second half of this century *B. riparia* F. Miranda was described from Chiapas (Miranda, 1953) as a distinct species with pilose and subcoriaceous leaves; this species is now known from the tropical semideciduous forests in Guerrero, Oaxaca, and Chiapas. Besides *B. pendula*, *B. riparia*, and the newly described species, several collections from different places in Mexico indicate the presence of at least five other taxa, some of them conspecific with or related to species known in Mesoamerica, namely: *B. anay* (S. F. Blake) Kostermans, *B. hondurensis* Kostermans, and *B. ovalis* (S. F. Blake) C. K. Allen.

Until a thorough revision of the American species of *Beilschmiedia* is done, I present the following provisional key to separate the Mexican species.

## KEY TO THE MEXICAN SPECIES OF *BEILSCHMIEDIA*

- 1a. Leaf undersurface glabrous, rarely some straight appressed hairs on main veins.
  - 2a. Leaf undersurface finely reticulate (cancellate), minor veins evenly thickened forming areolae 0.1–0.3 mm diam., no or almost no free veinlets.
    - 3a. Leaves stiff coriaceous, rather thick, obtuse to acute . . . . . *B. aff. mexicana*
    - 3b. Leaves chartaceous, acute to long acuminate . . . . . *B. mexicana*
  - 2b. Leaf undersurface roughly reticulate, minor veins unevenly thickened, then areolae usually 1.0 mm diam. or larger and appearing with several free veinlets.
    - 4a. Secondary veins in 14–18 pairs, leaves narrowly elliptic . . . . .  
. . . . . *B. angustielliptica*
    - 4b. Secondary veins in 8–10 pairs, leaves elliptic . . . . . *B. hondurensis*
- 1b. Leaf undersurface pubescent, if hairs only on main veins, these not straight appressed.



Figure 1. *Beilschmiedia angustielliptica* Lorea-Hernández. —A. Branchlet with inflorescence. —B. Branchlet with fruit. —C. Detail of inflorescence last divisions. —D. Open flower (ovary removed). —E. Lateral and abaxial views of a third whorl stamen. —F. Staminode. —G. Ovary. —H. Adaxial and lateral views of an external stamen.

5a. Hairs on undersurface straight and appressed ..... *B. aff. pendula*

5b. Hairs on undersurface straight to curly, erect or loosely appressed.

6a. Hairs curly, erect to loosely appressed ..... *B. ovalis*

6b. Hairs straight and erect.

7a. Leaf blades widely elliptic to oblanceolate; widest leaves 11–14 cm ..... *B. aff. anay*

7b. Leaf blades elliptic, widest leaves 5–8.5 cm ..... *B. riparia*

***Beilschmiedia angustielliptica*** Lorea-Hernández, sp. nov. TYPE: Mexico. Guerrero: Mpo. Atoyac de Alvarez, aprox. 2 km S to El Molote, on the trail to El Edén, 1580 m, 19 May 1993 (fl, fr), F. Lorea & L. Lozada 5540 (holotype, FCME; isotype, MO). Figure 1.

Arbores parvae (7–8 m altae). Folia opposita vel subopposita, lamina (7–)11–18(–24.5) × (1.5–)2.5–4.5(–5.5) cm, anguste elliptica, aliquantum oblanceolata, basi apiceque acuta vel acuminata, utrinque glabra, margine interdum leviter undulata, nervis lateralibus subtus prominentibus, costa supra complanata, subtus valde prominenti ac in sicco manifeste rubiginosa. Inflorescentiae 2.5–5.5(–9.5) × 1.5–3 cm, paniculatae, axillares in ramulos aphyllas breves crebiter positae, vel terminales; axibus puberulis vel tomentosus. Flores hermaphroditi, 2.2–2.7 mm longi, tepalis sex, ovatis vel late ovatis, erectis, abaxialiter pro parte maxima puberulis, adaxialiter praecipue basi puberulis, margine glabris; staminibus novem, 1.1–1.4 mm longis, antheris glabris, eis verticillorum primi et secundi complanatis, late ovatis, eis verticilli tertii pyramidalibus, filamentis omnino pilosis vel tomentosus; staminodiis fere sessilibus, apice triangularibus, basi truncatis vel subcordatis, ovario 0.7–0.85 mm longo, pyriformi, glabrato; hypanthio tomentoso. Fructus 3–3.5 × ca. 1.7 cm, ellipticus, anthracinus.

Low trees (7–8 m), young branches compressed to flattened, yellow-golden puberulent to tomentose, bark reddish brown, glabrous and light brown with rather smooth bark when older, buds densely tomentose. Leaves opposite, a few subopposite, petioles (0.5–)0.7–1.3(–1.8) cm, slightly canaliculate, puberulent, soon glabrous, blades (7–)11–18(–24.5) × (1.5–)2.5–4.5(–5.5) cm, narrowly elliptic, some oblanceolate, base and apex acute or acuminate, chartaceous, glabrous on both surfaces, sparsely puberulous when young, margin sometimes slightly undulate, veins on upper and lower surface slightly elevated, secondaries in 14–18 pairs, ascending, prominent on lower surface, midvein flattened on upper surface, very prominent and distinctly reddish brown when dry on lower surface. Inflorescences 2.5–5.5(–9.5) × 1.5–3 cm, axillary, close to each other on short aphyllous branchlets, or terminal, paniculate, pedunculate, peduncle 0.6–2.5(–4.5) cm, major axes 2.5–5.5 mm, puberulent to tomentose, flower pedicels (2–)2.6–3.6(–4.2) mm, puberulent, bibracteolate close to the base or not, bracteoles minute and soon falling. Flowers hermaphroditic, 2.2–2.7 mm long, tepals six, 1.5–1.7 × 1–1.3 mm, ovate to widely ovate, erect, outside puberulent for most of the central area, inside mainly on the base, margins glabrous, stamens nine, 1.1–1.4 mm long, anthers of first and second whorls 0.7–0.8 mm long, flattened, widely ovate, thecae introrse, anthers of third whorl 0.5–0.6 mm long, pyramidal, thecae extrorse-lateral, all filaments pilose to tomentose, anthers glabrous, connectives protruding beyond the anther cells, apparently glandular, glabrous, glands

irregularly round, 0.4–0.5 mm, staminodes 0.4–0.6 mm long, almost sessile, apex triangular, acute, base truncate or subcordate, adaxial face plane, abaxial face convex and tomentose in the middle, ovary 0.7–0.85 mm long, pyriform, glabrate, style 0.4–0.5 mm long, stigma apical, oblique, hypanthium 0.5–0.8 mm, tomentose. Fruit 3–3.5 × 1.7 cm, when mature, elliptic, black, smooth, and shiny.

*Beilschmiedia angustielliptica* is well distinguished morphologically from other species in America by its narrow, elliptic leaves conspicuously reticulate (but not foveolate), and glabrous anthers. The general appearance of leaf reticulation in *B. hondurensis* suggests some similarity with *B. angustielliptica*, but the former has more or less abruptly acuminate, short elliptic leaves and the ovary is glabrous, whereas in *B. angustielliptica* the leaves are long lanceolate and the ovary is sparsely pilose. So far, *B. angustielliptica* is known only from mesophyllous mountain forests in Guerrero, where the canopy is dominated by *Quercus* spp., *Magnolia schiedeana* D. F. L. v. Schlechtendal, *Pinus strobus* L. var. *chiapensis* M. Martínez, *Persea americana* P. Miller, *Licaria* aff. *triandra* (Swartz) Kostermans, *Alchornea latifolia* Swartz, *Cinnamomum* sp., *Prunus* sp., and *Pouteria* sp.

*Paratypes.* MEXICO. Guerrero: Mpo. Atoyac, El Molote, 1630 m, (fr), A. Núñez 1159 (FCME); Mpo. Tecpan, km 16 on the road from El Porvenir to San Antonio de Las Tejas, 1360 m, 7 m tree, (fl), G. Lozano 227 (FCME).

*Acknowledgments.* This paper was carried out with support of a scholarship from DGAPA (Universidad Nacional Autónoma de México), and partial support for fieldwork from the Missouri Botanical Garden. I thank Henk van der Werff for critical comments on the manuscript, and Roy Gereau for having called my attention to some recommendations of the Code of Botanical Nomenclature, and for checking the Latin description. The illustration was drawn by John Myers.

#### Literature Cited

- Allen, C. K. 1945. Studies in the Lauraceae. VI. Preliminary survey of the Mexican and Central American species. *J. Arnold Arbor.* 26: 280–434.
- Burger, W. C. & H. van der Werff. 1990. Lauraceae. *In:* W. Burger (editor), *Flora Costaricensis*. Fieldiana, Bot. n.s. 23: 1–138.
- Kostermans, A. J. G. H. 1938. Revision of the Lauraceae V. *Recueil Trav. Bot. Néerl.* 35: 834–931.
- Miranda, F. 1953. Plantas nuevas o notables de la flora de Chiapas. *Anales Inst. Biol. Univ. Nac. México* 24: 69–96.
- Standley, P. C. 1922. Lauraceae. *In:* Trees and shrubs of Mexico. *Contr. U.S. Natl. Herb.* 23(2): 286–298.
- Werff, H. van der. 1991. A key to the genera of Lauraceae in the New World. *Ann. Missouri Bot. Gard.* 78: 377–387.