
Rubiacearum Americanarum Magna Hama Pars XIII. A New Species of *Schradera* (Schraderaeae) from Mesoamerica

Charlotte M. Taylor

Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166-0299, U.S.A.
charlotte.taylor@mobot.org

ABSTRACT. The new species *Schradera obtusifolia* C. M. Taylor (Rubiaceae) from Costa Rica and Panama is described and illustrated. This has previously been confused with *S. costaricensis* Dwyer, which also has obtuse to rounded leaf apices.

Key words: Costa Rica, Panama, Rubiaceae, *Schradera*.

Schradera Vahl (Schraderaeae; Robbrecht, 1993) is a tropical genus of succulent, lianescent, epiphytic shrubs that climb by adventitious roots. This genus is distinguished by its habit, which is unusual in the Rubiaceae, together with its interpetiolar, relatively large, ligulate to elliptic stipules that are quickly caducous, its terminal capitate inflorescences with the heads usually surrounded by a well-developed involucre, its truncate, usually tubular calyx limb, its succulent, salverform, white corollas with the tubes often rather stout, its corolla lobes five to six, valvate, triangular in cross section, and apically prolonged beyond the contact zone into a terminal appendage, its bilocular ovaries with axile placentas bearing numerous ovules, and its fleshy fruits with numerous seeds embedded in the pulp. The flowers are distylous and apparently nocturnal with a sweet fragrance similar to that of gardenias. At least some species have markedly different leaf forms in the juvenile and reproductive stages (e.g., *S. vahlii* Steyermark, pers. obs., Puerto Rico).

The corolla lobes are unusual in form in *Schradera*. These corolla lobes have been referred to as valvate plus, variously, "hooded" (Puff et al., 1993), with an appendage (Steyermark, 1974), or with a cucullate tooth (Steyermark, 1963). The corolla lobes of *Schradera* are typically very fleshy and flattened to triangular in cross section. They are valvate in bud with the margins of adjacent lobes in contact along part or most of their length, but at the apex they are typically prolonged into another portion that is not in contact with the other lobes. Enlargements or prolongations of the abaxial or apical portion of valvate corolla lobes are found in some other Neotropical Rubiaceae, in both diurnal

and nocturnal flowers (e.g., *Palicourea cornigera* C. M. Taylor, *Rudgea tayloriae* Aymard, Dorr & Coello, *Psychotria cornigera* Benthams, *Faramea uncinata* C. M. Taylor). The function of these structures is unknown.

Schradera was long treated as a Neotropical genus of about 30 species and placed in the tribe Schraderaeae together with the genus *Lucinaea* DC. of southeastern Asian and the southwestern Pacific islands. More recently Puff et al. (1993) reviewed this tribe in detail and concluded that no morphological differences separate *Schradera* from *Lucinaea*, and therefore these are better combined. The name *Schradera* Vahl was published in 1796 and consequently has priority over *Lucinaea* DC., published in 1830. (*Schradera* Vahl is conserved against *Schradera* Heister ex Medicus, published in 1791.) Puff et al. (1993) formally synonymized *Lucinaea* under *Schradera*, but did not make combinations in *Schradera* for any of species of *Lucinaea*. Subsequently Puff et al. (1998) studied some of the paleotropical species of *Schradera* and published new combinations for these, but the rest of the paleotropical species and all of the Neotropical species are poorly known. In the Neotropics *Schradera* is found from Costa Rica to Peru, through Venezuela to the Guianas and eastern Brazil, and in the Antilles from Hispaniola though the Lesser Antilles to Trinidad. For the Neotropics *Schradera* has only been treated floristically for a few regions, notably by Steyermark (1963).

The following new species was discovered during preparation of the Rubiaceae for *Flora Mesoamericana*. *Schradera* is difficult to study in large part because of its sporadic collection, as with most epiphytes, due to its habit, with the flowers usually produced in the forest subcanopy and canopy. Once collected, specimens are usually difficult to interpret because of their succulent tissues, which often make poor specimens. Thus the range of variation generally found within an individual species in supposedly taxonomically informative characters such as number of flowers per inflorescence head, corolla size, or peduncle length is not yet clear.

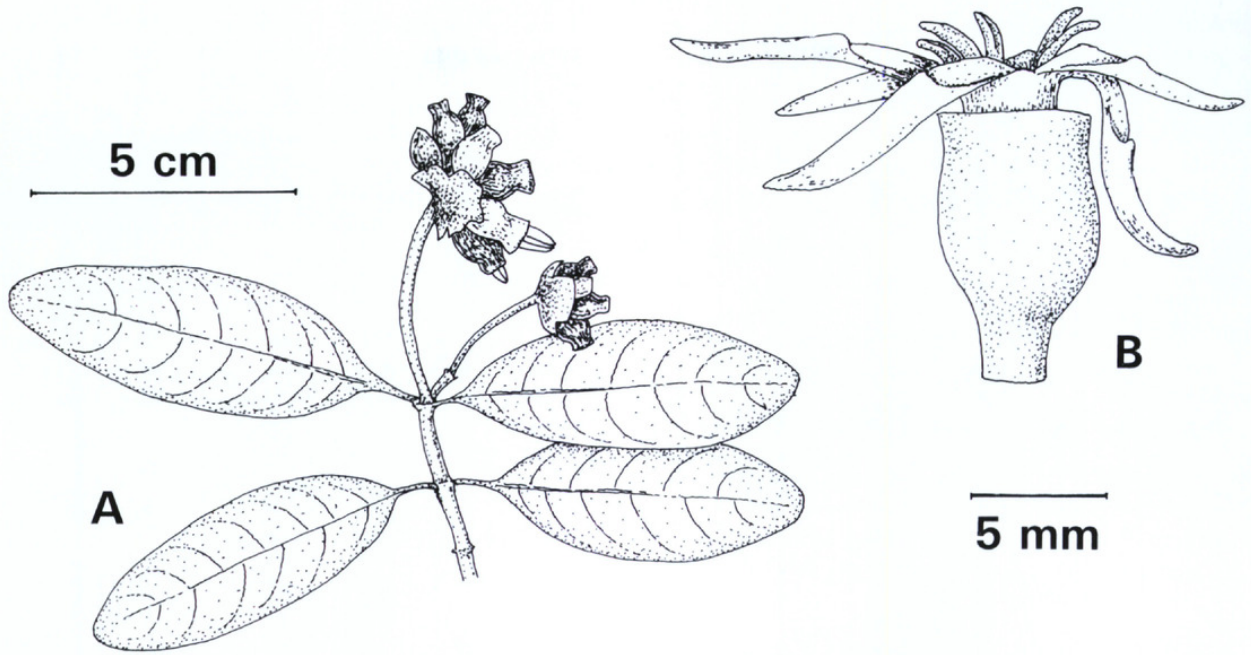


Figure 1. *Schradera obtusifolia* C. M. Taylor, based on G. Herrera 3325. —A. Flowering branch. —B. Flower at anthesis.

***Schradera obtusifolia* C. M. Taylor, sp. nov.**

TYPE: Costa Rica. Limón: cantón Talamanca, Alto Urén, siguiendo el camino entre la Quebrada Chaho y Croriña, 9°21'N, 82°59'W, 700 m, 23 July 1989, G. Herrera 3325 (holotype, CR; isotype, MO-3844960). Figure 1.

Haec species a *Schradera costaricensis* Dwyer inflorescentia 5- ad 10-flora, calycis limbo 5–6 mm longo atque corollae tubo 8–10 mm longo ac lobulis 10–12 mm longis distinguitur.

Glabrous shrubs or lianas. *Leaves* elliptic-oblong, 4–8.5 × 1.5–3.5 cm, at apex obtuse to rounded, at base obtuse, drying subcoriaceous; secondary and higher-order venation not visible; petioles 5–20 mm long; *stipules* interpetiolar, caducous, ligulate to elliptic, ca. 15 mm long, obtuse to rounded. *Inflorescences* terminal; peduncles 1 to 3, 1–4 cm long, each bearing one head; heads hemispherical to subglobose, 1.5–2.5 cm diam. (not including corollas), 5- to 10-flowered; involucre continuous, 8–9 mm long, truncate though sometimes splitting along the margins and appearing irregularly lobed; *flowers* with hypanthium ellipsoid to subglobose or turbinate, 5–6 mm long, glabrous; calyx limb tubular, 5–6 mm long, truncate, glabrous; corollas salverform, white, carnosae, glabrous externally and internally, tube 8–10 mm long, lobes 5, linear, 10–12 mm long, at apex with prolongation 3–6 mm long beyond contact zone, acute, triangular to somewhat flattened in cross section; anthers ca. 3 mm long, partially exserted; styles and stigmas not seen. *Fruits* not seen.

Distribution, habitat, and phenology. In wet forests at 250–800 m, Costa Rica and western Panama; collected in flower in June, July, and October.

This new species is similar to and apparently allopatric with *Schradera costaricensis* Dwyer. Both of these species are notable for their obtuse to rounded leaf apices; the species epithet of *S. obtusifolia* refers to this character. Dwyer, Burger, and Taylor (Burger & Taylor, 1993) combined all of the obtuse- to rounded-leaved plants into a single Costa Rican species, but with more collections now available two species can be distinguished among these plants. The type of *S. obtusifolia* was in fact cited there as a paratype of *S. costaricensis*. *Schradera costaricensis* differs from *S. obtusifolia* by its heads with 20 to 40 flowers, its calyx limbs 3–5 mm long, and its corollas with the tubes 8–9 mm long and the lobes 4–5 mm long. *Schradera costaricensis* is found in the Cordillera Tilarán of northern Costa Rica, while *S. obtusifolia* is found in the Cordillera Talamanca of southern Costa Rica through western Panama. These mountain ranges are not continuous and are floristically distinct (Haber, 2000).

Paratypes. COSTA RICA. **Limón:** camino de Fila Dimat (casa de Hermógenes Pereira) hasta Soki pasando por la quebrada, L. D. Gómez et al. 23853 (F, MO). PANAMA. **Bocas del Toro:** E 1.5 mi. off road from divide to Chiriquí Grande, D'Arcy 16382 (MO).

Acknowledgments. I thank the curators of CR and F for access to specimens and information; R. E. Gereau for preparation of the Latin diagnosis; J. Sánchez (CR) for very helpful comments; E. Rob-

brecht and P. De Block for excellent reviews and significant help improving the manuscript; T. Wachter, R. Foster, and the Andrew Mellon Foundation through a grant to the Field Museum of Natural History for support for travel to that institution; and R. Magill and O. M. Montiel for their significant facilitation of this work.

Literature Cited

Burger, W. C. & C. M. Taylor. 1993. Flora Costaricensis: Family #202. Rubiaceae. Fieldiana, Bot. n.s. 33: 1–333.
Haber, W. A. 2000. Plants and vegetation. Pp. 39–70 in

N. M. Nadkarni & N. T. Wheelwright (editors), Monteverde, Ecology and Conservation of a Tropical Cloud Forest. Oxford Univ. Press, New York.
Puff, C., L. Andersson, U. Rohrhofer & A. Igersheim. 1993. The tribe Schradereae (Rubiaceae) reexamined. Bot. Jahrb. Syst. 114: 449–479.
———, J. Greimler & R. Buchner. 1998. Revision of *Schradera* (Rubiaceae–Schradereae) in Malesia. Blumea 43: 287–335.
Robbrecht, E. 1993. Genera Rubiacearum. Opera Bot. Belg. 6: 173–196.
Steyermark, J. A. 1963. *Schradera*. Mem. New York Bot. Gard. 10: 259–278.
———. 1974. *Schradera*. In: T. Lasser (editor), Flora de Venezuela 9(1): 429–443.



Taylor, Charlotte M. 2003. "Rubiacearum Americanarum Magna Hama Pars XIII. A new species of *Schradera* (Schraderaeae) from Mesoamerica." *Novon a journal of botanical nomenclature from the Missouri Botanical Garden* 13, 220–222. <https://doi.org/10.2307/3393525>.

View This Item Online: <https://www.biodiversitylibrary.org/item/14673>

DOI: <https://doi.org/10.2307/3393525>

Permalink: <https://www.biodiversitylibrary.org/partpdf/25155>

Holding Institution

Missouri Botanical Garden, Peter H. Raven Library

Sponsored by

Missouri Botanical Garden

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.