



Novelties in Neotropical Sapindaceae II. Notes on *Averrhoidium*,
Serjania, and *Porocystis*

Pedro Acevedo-Rodríguez

Smithsonian Institution, Dept. of Botany, National Museum of Natural History, NHB-166,
Washington, D.C. 20560, U.S.A.

ABSTRACT. The study of recently collected specimens of neotropical Sapindaceae reveals the need for various taxonomic changes. *Matayba spondioides* Standley from Mexico is transferred to *Averrhoidium*; *Paullinia lachnocarpa* Benth. ex Radlk. (Chimborazoa lachnocarpa (Benth. ex Radlk.) H. Beck) from Ecuador is transferred to *Serjania* (therefore, *Chimborazoa* is reduced to the synonymy of *Serjania*); and *Toulisia acuminata* Radlk. from Amazonas, Brazil, is transferred to the closely related *Porocystis*.

RESUMEN. El estudio de especímenes de Sapindaceas neotropicales, recientemente coleccionados revela la necesidad de varios cambios taxonómicos. *Matayba spondioides* Standley de México es transferido al género *Averrhoidium*; *Paullinia lachnocarpa* Benth. ex Radlk. (Chimborazoa lachnocarpa (Benth. ex Radlk.) H. Beck) del Ecuador es transferido al género *Serjania* (como resultado el género *Chimborazoa* es reducido a sinonimia con *Serjania*); *Toulisia acuminata* Radlk. proveniente de Amazonas, Brasil, es transferido al género cercano *Porocystis*.

When Paul Standley described *Matayba spondioides* in 1927, he cast some doubt on whether the species belonged in this genus. He placed the new species in *Matayba* because "It appears to agree better with that [*Matayba*] than with any other American group of the family." Examination of the type material, as well as of a recent collection, reveals that this species belongs in *Averrhoidium* Baillon, a South American genus with two species,

A. gardnerianum Baillon from northeastern Brazil and *A. paraguayense* Radlk. from Paraguay. *Averrhoidium* is distinguished from *Matayba* by its 2-ovulate carpels (vs. 1-ovulate); by its unilocular (by abortion), tardily dehiscent capsules, with 1(–2) seeds per locule, and chartaceous to crustose pericarp (vs. 2–3-locular, early dehiscent capsules with 1 seed per locule, and coriaceous to woody pericarp); by its seeds with slightly fleshy testa, without arillode (vs. seeds with a woody testa with a basal arillode); and by its apetalous (or nearly so) flowers (vs. flowers with 5 well-developed petals). Because these characters (except for the flowers, which are unknown) are observable in *M. spondioides*, this species is herein transferred to *Averrhoidium*.

Averrhoidium spondioides (Standley) P. Acevedo-Rodríguez & M. S. Ferrucci, comb. nov.
Basionym: *Matayba spondioides* Standley, in R. S. Ferris, Contr. Dudley Herb. 1: 77. 1927.
TYPE: Mexico. Nayarit: María Madre Island (Tres Marias Islands), wooded slopes near the ocean below Balleto Point, 25 Oct. 1925 (fr), R. S. Ferris 5721 (holotype, CAS; isotype, US).

Additional specimen examined. MEXICO. Jalisco: La Huerta, Cumbres de Cuixmala, km 45 on road from Rancho Cuixmala to Cumbres I, 19°25'N, 104°58'W, 50 m, 25 Aug. 1988 (fr), R. Acevedo R. & J. L. Martínez 956 (US).

Chimborazoa H. Beck was described in 1992 to accommodate the odd-looking *Paullinia lachnocarpa* Benth. ex Radlk., whose schizocarpic fruits clearly differ from the septifragal capsules that characterize *Paullinia* L. Examination of fruiting

material available at that time showed *P. lachnocarpa* to be different from any of the remaining genera of Paullinieae. Thus, the new genus *Chimborazoa* was proposed by Beck (1992). However, examination of additional material of *C. lachnocarpa* showed that its immature fruits contain a proximal wing, similar to fruits of *Serjania* Miller. The only character used to differentiate this species from other species of *Serjania* is precisely the absence of mericarpic wings in mature fruits. The discovery of vestigial wings in young fruits of *P. lachnocarpa* definitively links this species with *Serjania*.

It seems at first that the loss of the mericarpic wing in *P. lachnocarpa* would be sufficient grounds for describing it as a distinct genus, perhaps on the assumption that a different fruit morphology should result in a different dispersal mode. Therefore, it would be a character with biological significance. In evaluating whether this phenomenon merits generic recognition or not, I noted that a few other species of *Serjania* (*S. cissoides* Radlkofer, *S. heterii* Ferrucci, and *S. macrococca* Radlkofer) can contain mericarps with vestigial wings or lack them altogether.

The recognition of *Chimborazoa* (which is based on the loss of the mericarpic wing) requires that the aforementioned species of *Serjania* be transferred to *Chimborazoa*. However, these species do not seem to be closely related, as they differ greatly in many morphological features, suggesting that the loss of mericarpic wings has occurred along different lineages in *Serjania*. Therefore, *Chimborazoa* as currently circumscribed would result in a polyphyletic taxon.

Since the recognition of *Chimborazoa* would result in an artificial taxon, it should be regarded as a synonym of *Serjania*, necessitating the transfer of *P. lachnocarpa* to *Serjania*.

Serjania lachnocarpa (Bentham ex Radlkofer) P. Acevedo-Rodríguez, comb. nov. Basionym: *Paullinia lachnocarpa* Bentham ex Radlkofer, Monogr. Paullinia 124. 1895–1896. *Chimborazoa lachnocarpa* (Bentham ex Radlkofer) H. Beck, Brittonia 44: 308. 1992. TYPE: Ecuador. Andes, 1857–1859 (fl, fr), *Spruce 6011* (lectotype, designated by Beck (1992: 308), K; isoelectotypes, C, F, G, GH, M, NY—2, P, S—2).

Additional specimen examined. ECUADOR. **Bolívar:** Sicoto, along road from Guaranda to San Pablo de Atenas, cloud forest, 1°50'S, 79°05'W, 2200–2450 m, 28 Aug. 1987 (fr), V. Zak & J. Jaramillo 2545 (US).

Porocystis Radlkofer belongs to the tribe Sapin-

deae along with six other genera, including *Toulicia* Aublet, its closest relative. *Porocystis* and *Toulicia* have similar habit and floral morphologies and can only be distinguished by their fruits and embryos. Whereas both genera have schizocarpic, membranous to chartaceous fruits, and embryos with fleshy cotyledons, they differ in other respects. *Toulicia* has mericarps that are samaroid, containing a distal, slightly flattened cocci and a proximal wing. In addition, the embryos of *Toulicia* have a curved, external cotyledon and a plicate internal one. *Porocystis*, on the other hand, has mericarps with a large, central, inflated or slightly flattened coccus that are wingless. Both cotyledons of the embryos in *Porocystis* are straight.

Porocystis has two species, of which the fruits are well known. In contrast, *Toulicia* has 14 species, but fruits are known for only 7 of them. The placement in *Toulicia* of species for which fruits are not known awaits confirmation, because it is possible that some of them might belong in *Porocystis*. Examination of fruiting material of *Toulicia acuminata* Radlkofer reveals that this species is better placed in *Porocystis*. Therefore, a new combination and a description of the fruits are herein provided.

Porocystis acuminata (Radlkofer) P. Acevedo-Rodríguez, comb. nov. Basionym: *Toulicia acuminata* Radlkofer, in Mart., Fl. Bras. 13(3): 505. 1900. SYNTYPES: Brazil. Amazonas: Manaus, in forest, Apr. 1882 (fl), *Schwacke 4001* (GOET); s.d. (fl), *Glaziou 13631* (B destroyed?).

Fruits schizocarpic, 2- or 3-carpellate, broadly obovate in outline, chartaceous, reticulate-veined, minutely tomentose; mericarps slightly inflated, 3.2–3.4 × 2.6–2.8 cm, with dorsal suture compressed into a narrow wing; endocarp glabrous. Seed (immature) bean-shaped and tomentose.

Additional specimens examined. BRAZIL. **Amazonas:** Rio Cuieiras, 5 km upstream, igapó forest, 5 Apr. 1974 (fl), Campbell, D. G. et al. P21847 (US); Rio Cuieiras, 28 Apr. 1975 (fr), Carreira L. 57 (INPA).

Acknowledgments. I thank John Pruski (US) and Mark T. Strong (US) for reviewing the manuscript, and R. Laurie Robbins for valuable comments.

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Acevedo-Rodríguez, Pedro. 1998. "Novelties in Neotropical Sapindaceae II. Averrhoidium, Serjania, and Porocystis." *Novon a journal of botanical nomenclature from the Missouri Botanical Garden* 8, 105–106.

<https://doi.org/10.2307/3391975>.

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