

AN UNUSUAL NEW SPECIES OF *PHYLLANTHUS* (EUPHORBIACEAE) FROM COLOMBIA

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Abstract. A new species, *Phyllanthus mutisianus*, is described on the basis of a collection from Colombia made by the expedition of José Mutis. It is distinguishable from all other neotropical species of *Phyllanthus* by virtue of the distinctive leaf venation and very long fruiting pedicels. The type specimen lacks mature flowers, but the vegetative morphology, inflorescence, and fruiting structures suggest placement in subgenus *Xylophylla*, section *Elutanthos*.

Keywords: Euphorbiaceae, *Phyllanthus*, subgenus *Xylophylla*, section *Elutanthos*, Colombia, Mutis.

According to the recent compilation of Govaerts et al. (2000), *Phyllanthus* is the third largest genus in the Euphorbiaceae, with over 800 species. About one fourth of the species are confined to the neotropics, but many remain poorly known. The only comprehensive revisions of the American species since that of Müller Argoviensis (1866, 1873) are those of the West Indian species by Webster (1956–58) and the species of the Guayana Highlands by Jablonski (1967). During my study of the neotropical species during the past four decades, a number of new taxa have been described (Webster, 1966, 1967; Webster and Proctor, 1984; Webster and Huft, 1988), and additional species and supraspecific taxa have been delineated (Webster, ined.).

One of the most remarkable species encountered during this protracted study of the neotropical species of *Phyllanthus* is a specimen from the U. S. National Herbarium collected in Colombia by members of the expedition headed by José Mutis (Fig. 1). It consists of two twigs that have the appearance of deciduous branchlets, one with two fruiting pedicels. The large caudate-acuminate leaves are unusual in that the proximal three of the four or five major laterals are concentrated in the lower half of the blade. Even more striking are the remarkably long (16–17 cm) and slender fruiting pedicels, these are among the

most elongated in any neotropical *Phyllanthus*, being matched only by the Brazilian *P. cladotrichus* Müll. Arg. (synonymized with *P. ramosus* Vell. by Govaerts et al., 2000).

Because of the lack of mature flowers, it is challenging to determine the affinities of this very striking species. The flowers are produced on axillary bisexual inflorescences with a terminal (central) pistillate flower and paired lateral repeatedly branched staminate dichasia (Fig. 2). Unfortunately, the staminate inflorescences bear only very immature flowers (attempts to extract pollen were unsuccessful), and the pistillate flowers are represented only by the fruiting pedicel, persistent sepals, columella, and fragments of immature fruits. The repeatedly branched staminate dichasium is unusual in contrast to the glomerular or thyrsoid disposition in most species of *Phyllanthus*. However, some species of sect. *Elutanthos* Croizat, such as *P. grandifolius* L., have thyrsoid inflorescences in which the ultimate units (Fig. 3) resemble the inflorescence of the Colombian plant. This resemblance strongly suggests a possible relationship, and it appears that *P. mutisianus* may prove to be a very aberrant species of sect. *Elutanthos*.

A search was made to identify other possible candidate genera for the new species among neotropical taxa of subfamily



FIG. 1. Photograph of the holotype of *Phyllanthus mutisianus* (Mutis 1290, US 1561418).

Phyllanthoideae. The elongated slender fruiting pedicels suggest a possible affinity with *Meineckia*, but the seeds in the Mutis specimen, although immature, have a smooth testa very different from the arcuate seeds with foveolate testa found in *Meineckia*. Furthermore, in all species of *Meineckia* the staminate flowers are borne in condensed glomerules quite unlike the branching dichasia of the Mutis plant.

Phyllanthus mutisianus G. L. Webster, sp. nov. (Figs. 1, 2).

TYPE: COLOMBIA: without locality, Mutis 1902 (HOLOTYPE: US 1561418!; ISOTYPE, MA).

Ab aliis speciebus sect. *Elutanthos* differt pedicellis ♀ longissimis, foliis magnis cuspidato-acuminatis; a *P. cladotricho* differt floribus ♀ solitariis, floribus ♂ in dichasiis pedunculatis.

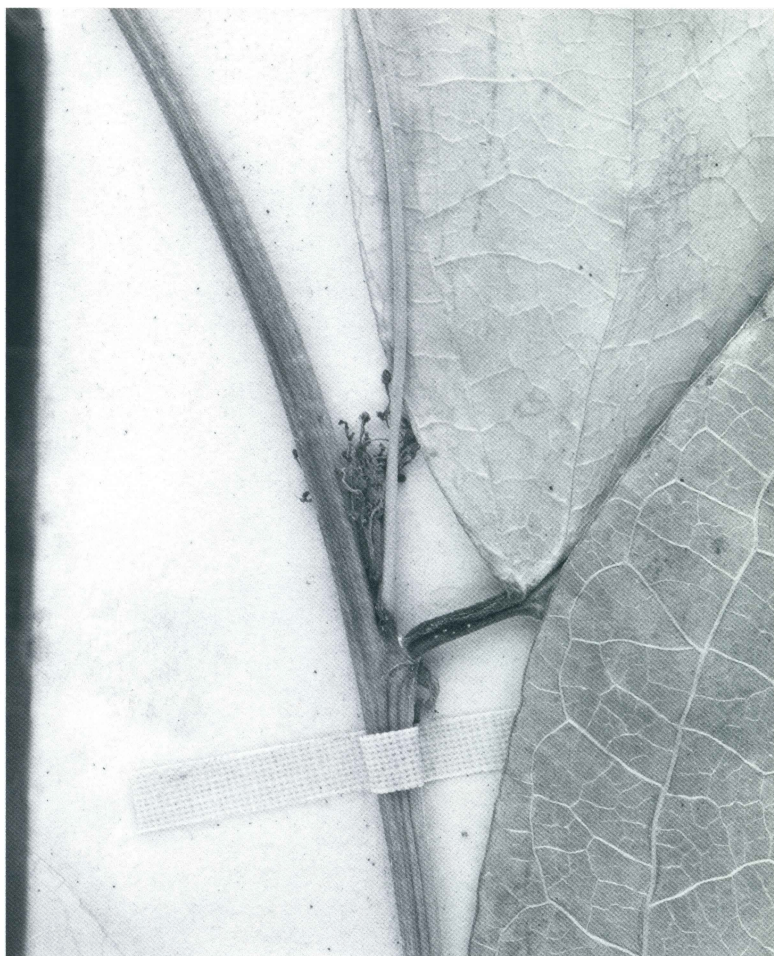


FIG. 2. Close up of bisexual glomerules with a central pistillate pedicel and paired dichasia of *Phyllanthus mutisianus* (Mutis s.n, US.). $\times 2$.

Glabrous shrub or tree; branchlets terete, somewhat angled, 19–25 cm long \times 2 mm thick, with c. 5 leaves; leaf blades chartaceous, elliptic, 12–25 cm long, 5–9.5 cm broad, caudate-acuminate (acumen 3–4 cm long), with 3 main vein pairs (of the 4 or 5) arching from proximal half; midrib slightly sunken adaxially, midrib and laterals strongly raised abaxially, veinlets prominent; petioles 4–5 mm long; stipules scarious, entire, lanceolate, 4–7 mm long, 2–2.5 mm broad. Flowers axillary, in bisexual or staminate cymes, the pistillate flower solitary, the staminate several on branches

of a pedunculate dichasium 6–8 mm long with slender axes (0.1–0.2 mm thick). Staminate flowers [observed only in bud]: pedicel 2–3 mm long, sepals 4, elliptic, c. 0.7 mm long; disk apparently of 4 segments; stamens 2, filaments free, anthers dehiscing longitudinally. Pistillate flowers [observed only in fruit]: pedicel terete, smooth, 16–17 cm long, c. 0.5 mm thick; sepals 5 (?), c. 2.5 mm long; disk patelliform. Fruits seen only as thin-walled valves 10–11 mm long; columella 4 mm long \times 1.5 mm thick; seeds [immature] trigonous, smooth, pale brown, c. 5.5–6 mm long.



FIG. 3. Close up of bisexual glomerules with a central pistillate pedicel and paired dichasia of *Phyllanthus grandifolius* (Webster et al. 11268, DAV). $\times 2$.

DISTRIBUTION AND HABITAT: The species is known only from the type collection, which lacks data except for the indication that it is from Colombia. In the enumeration of Mutis specimens of Blanco y Fernández de Caleyá (1991), *Mutis 1902* is not listed, but localities of Mutis collections overall are summarized (in addition to the Bogotá area) as including Tolima (cabecera Mariquita) and Chocó, as well as collections in Ecuador by Caldas.

It is highly appropriate to name this striking plant in honor of the celebrated

“father of Colombian botany,” José Mutis y Bosio (1782–1806). Despite its very unusual features, *Phyllanthus mutisianus* may be tentatively referred to subgenus *Xylophylla* on the basis of its resemblances to species of sect. *Elutanthos*. In the unpublished revision of the neotropical species of *Phyllanthus* (Webster, ined.), it does not easily fit into any section. More complete material is required to determine whether it can be accommodated within sect. *Elutanthos*, or should be assigned to a new section.

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LITERATURE CITED

- Blanco y Fernández de Caleyá, P. 1991. *Plantae Mutisianae*. *Fontqueria* 31: 153–222.
- Govaerts, R., D. G. Frodin, and A. Radcliffe-Smith. 2000. World Checklist and Bibliography of Euphorbiaceae. Kew: Royal Botanic Gardens.
- Jablonski, E. 1967. Euphorbiaceae [in] *Botany of Guayana Highland—Part VII*. *Mem. N. Y. Bot. Gard.* 17: 80–190.
- Müller, J. 1866. Euphorbiaceae [except Euphorbiae], in A. De Candolle, *Prodromus systematis naturalis regni vegetabilis* 15(2): 189–1286. Paris: Victor Masson.
- . 1873. *Phyllanthus*, in F. von Martius (ed.), *Flora Brasiliensis* 11(2): 23–76. Fleischer, Leipzig.
- Webster, G. L. 1956–58. A monographic study of the West Indian species of *Phyllanthus*. *J. Arnold Arb.* 37: 91–122, 217–268, 340–359; 38: 51–80; 170–198, 295–373; 39: 49–100, 111–212.
- . 1966. A new species of *Phyllanthus* from Central America. *Brittonia* 18: 336–342.
- . 1967. A remarkable new *Phyllanthus* (Euphorbiaceae) from Central America. *Ann. Missouri Bot. Gard.* 54: 194–198.
- , and M. J. Huft. 1988. Revised synopsis of Panamanian Euphorbiaceae. *Ann. Missouri Bot.* 75: 1087–1144.
- , and G. R. Proctor. 1984. A new species of *Phyllanthus* (Euphorbiaceae) from the Cayman Islands. *Rhodora* 86: 121–125.