

NOTES ON BRAZILIAN *PACHIRA* (MALVACEAE: BOMBACOIDEAE):
A NEW COMBINATION AND LECTOTYPIIFICATION OF THREE BASIONYMS

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ABSTRACT

Bombax cearense, endemic to Brazil, is transferred to *Pachira* and the name is lectotypified. The basionyms of two other species of *Pachira* endemic to Brazil also are lectotypified.

KEY WORDS: Adolpho Ducke, *Bombacopsis*, *Bombax*, Brazil, *Rhodognaphalopsis*

RESUMO

Bombax cearense, uma espécie endêmica do Brasil, é transferida para *Pachira* e o nome é lectotipificado. Os basionimos de duas outras espécies de *Pachira* endêmicas do Brasil também são lectotipificados.

Pachira Aubl., the most species-rich genus of the Bombacoideae (Malvaceae), comprises about 50 species mainly distributed in northern South America (Fernández-Alonso 1998, 2003a,b,c; Carvalho-Sobrinho et al. 2014). A number of Neotropical *Pachira* taxa originally were described as *Bombax* L. before it was typified and restricted to the Paleotropics (Robyns 1961, 1963; Nicolson 1979). Morphologically *Pachira* differs from *Bombax* in having unarmed trunks, long staminal tubes, filaments organized in distinct phalanges, linear-oblong anthers, and striate seeds (Robyns 1963; Carvalho-Sobrinho et al. 2013, 2014).

Preparation of a taxonomic treatment of *Pachira* for the Flora of Brazil 2020 project (<http://floradobrasil.jbrj.gov.br>) revealed several names in *Bombax* that require transfer and/or lectotypification.

Pachira cearensis (Ducke) Carv.-Sobr. & Dorr, **comb. nov.** BASIONYM: *Bombax cearense* Ducke, Anais Acad. Brasil. Ci. 31: 301. 1959. TYPE: BRAZIL. Ceará: Serra de Maranguape, 5 Mar 1955, A. Ducke 2443 [RB 100376] (LECTOTYPE, **designated here**: RB [RB00534487]; ISOLECTOTYPES: MG [MG024502], K, RB [RB00534498], US [US01226599]).

Robyns (1963: 221) considered *Bombax cearense* to be a synonym of *Bombacopsis stenopetala* (Casar.) A. Robyns. However, Carvalho-Sobrinho et al. (2013) elected not to adopt this synonymy when they recognized *Pachira endecaphylla* (Vell.) Carv.-Sobr. and made *P. stenopetala* Casar. (\equiv *Bombacopsis stenopetala*) a heterotypic synonym. They noted that *Bombax cearense* appeared to be different but they did not resolve its identity then. *Bombax cearense* has the floral morphology typical of *Pachira* (including long staminal tubes, filaments organized in distinct phalanges, and linear-oblong anthers) and can be distinguished from *P. endecaphylla* by its narrower leaflets that are fewer in number (5–7 vs. 7–11) and with acute, aristate (vs. rounded to emarginate, non aristate) apices, and in the smaller capsules (up to 10 cm long).

Ducke (1959) cited only “Ducke 2442” when he described *Bombax cearense*: the collection number evidently incorrect because the only material of this species collected by Ducke and distributed by him is “Ducke 2443.” Several duplicates of “Ducke 2443” are labeled “*Bombax cearense* n. sp.” in Ducke’s hand and the locality and descriptive data on all of the duplicates match information in the protologue. The misnumbering is a correctable error (Turland et al. 2018; Art. 9.2).

Pachira feroensis (Ducke) W.S. Alverson, Novon 4:6. 1994. *Bombax feroense* Ducke, Arch. Jard. Bot. Rio de Janeiro 4:122. 1925. *Rhodognaphalopsis feroensis* (Ducke) A. Robyns, Bull. Jard. Bot. État Bruxelles 33:292. 1963. TYPE: BRAZIL. Pará: Faro, Campos do Tigre, 7 Oct 1915 (fl), A. Ducke s.n. [MG 15791 and RB 18091 p.p.] (LECTOTYPE, **designated here**: RB [RB00534484 p.p., flowers and leaves only excluding the immature fruit]; ISOLECTOTYPES: K [K000382336], RB [RB00534485 p.p., leaves only excluding the mature fruit], RB [RB00534499 p.p., flowers and leaves excluding the fruit and seeds], S [S-R-11281 p.p., flowers and leaves only excluding the fruit], U [U1376440 p.p., flowers only], US [US-01049913]).

In the protologue of *Bombax feroense*, Ducke (1925: 122–123) cited a specimen collected in flower on 7 October 1915 and one in fruit collected in January 1916. Both are *Ducke s.n.* and while he did not assign these specimens

a number in his own collecting series, he associated them with an institutional distribution number (“Herb. Amaz. Mus. Pará n. 15.791”). The composition of duplicates of this museum number varies: there are either two separate gatherings (flowers and fruit) on a single sheet or there are flowers alone. A second institutional distribution number (“10891”) not mentioned in the protologue was assigned to these syntypes by Rio de Janeiro (RB). Unfortunately, this latter number is not unique as it also was assigned to a different gathering of this species made at the type locality in June 1926.

Robyns (1963: 293) stated that the holotype was at RB (“Holotypus: *Ducke* s.n. (MG15791) (RB)”) and although we can correct “holotype” to “lectotype” (Turland et al. 2018; Art. 9.10), his lectotypification must be amended because the specimen chosen consists of two separate gatherings (Turland et al. 2018; Art. 9.17). Our lectotypification (second step) narrows Robyns’s lectotype to one of the two elements (i.e., the material collected in October 1915).

Specimens of *Bombax faroense* collected by Ducke in June 1926 are not type material because they were collected after the species name was published. Duplicates of this collection are found in several herbaria (G, K, P [P05273641], U [U1605651], US [US01223492]) and often mistaken as types.

Pachira tocatina (Ducke) Fern. Alonso, *Anales Jard. Bot. Madrid* 56:310. 1998. *Bombax tocatinum* Ducke, *Arch. Jard. Bot. Rio de Janeiro* 4:123. 1925. *Bombacopsis tocatina* (Ducke) A. Robyns, *Bull. Jard. Bot. État Bruxelles* 33:216. 1963. TYPE: BRAZIL. Pará: Alcobaça, Rio Tocantins, 19 Jul 1916 (fl), A. Ducke s.n. [RB 18092] (LECTOTYPE, **designated here**: RB [RB00537259]; ISOLECTOTYPES: K [K000382351], RB [RB00534502], RB [RB00537255], S [S-R-11285], US [US00101947]).

Robyns (1963: 217) stated that the type of *Bombax tocatinum* Ducke was “Brésil: Para: jul 1916, *Ducke* s.n. (RB 18092) (f, fl., holotypus RB, isotypi K, S, US)” and thereby selected a lectotype (Turland et al. 2018; Art. 9.10). There are, however, three sheets of this collection in Rio de Janeiro (RB), and although one was annotated as the holotype by Robyns the ICN (Turland et al. 2018; Art. 7.10) requires that a type designation be effectively published. The mere annotation of a herbarium sheet does not meet that requirement, hence our lectotypification (second step).

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