# ON THE IDENTITY OF STERCULIA LAXIFLORA RUSBY (MALVACEAE: STERCULIOIDEAE)

# L.J. DORR

Department of Botany National Museum of Natural History, MRC-166 Smithsonian Institution P.O. Box 37012, Washington, DC 20013-7012, USA dorrl@si.edu

#### **J.G. CARVALHO-SOBRINHO** Programa de Pós-Graduação em Botânica

Universidade Estadual de Feira de Santana Av. Transnordestina, s/n, Novo Horizonte, 44036-900 Feira de Santana, BA, Brazil jef.sobrinho@gmail.com

# ABSTRACT

The name *Sterculia laxiflora* Rusby (Malvaceae: Sterculioideae) is based on a mixture of more than one taxon: a several-flowered inflorescence of *Erythropsis pallens* (Wall. ex King) Ridl. (Malvaceae: Sterculioideae) and bark and leaves of *Pachira aquatica* Aubl. (Malvaceae: Bombacoideae). The several-flowered inflorescence that forms part of one of the two syntypes is selected as the lectotype of the name *S. laxiflora*.

*Sterculia laxiflora* Rusby (Malvaceae: Sterculioideae) was described from material "collected by Miguel Bang in Bolivia, without number, locality or date" (Rusby 1920). As far as can be determined, only three other authors have accepted this name (Foster 1958; Gentry 1976; Villegas Coimbra 1993) and they apparently did so without examining type material or identifying additional specimens that could be assigned to this species. Taylor (1989), who revised the American species of *Sterculia* L., excluded *S. laxiflora* from that genus and considered it to be a species of *Cola* Schott & Endl. (Malvaceae: Sterculioideae). Although she equivocated in her dissertation as to whether or not *S. laxiflora* represented *C. nitida* (Vent.) Schott & Endl. or *C. acuminata* (P. Beauv.) Schott & Endl., she annotated the syntype material as *C. acuminata*.

Two specimens in the herbarium of the New York Botanical Garden comprise the syntype material of *Sterculia laxiflora*. One of the two is sterile and consists of part of a digitately compound leaf and several detached leaflets (NY 00222371!) whereas the other consists of a piece of bark, a digitately compound leaf, and a several-flowered fragment of an inflorescence in a packet (NY 00222372!) (Fig. 1A). Examination of this type material leads us to conclude that the inflorescence and flowers represent *Erythropsis pallens* (Wall. ex King) Ridl. (Malvaceae: Sterculioideae) and that the bark and leaves represent *Pachira aquatica* Aubl. (Malvaceae: Bombacoideae). This is somewhat surprising as otherwise there is no record of the Asian genus *Erythropsis* Lindl. ex Schott & Endl. in cultivation in Bolivia or South America.

The only Neotropical collection of *Erythropsis pallens* that we have found is a specimen gathered in the botanical gardens of Trinidad (*J.W. Hart 3557*, US-2 sheets!) (Fig. 1B). The collection was made in 1889, which establishes that the species was introduced into Trinidad by that year but how much earlier is unknown. The species is not listed in Prestoe's (1870) catalog, unless it is masquerading as "*Sterculia* sp." from the East Indies.



Figure 1. A. Lectotype of *Sterculia laxiflora*, *Bang s.n.* (NY 00222372 pro parte). B. Fragment of an inflorescence from a specimen of *Erythropsis pallens* cultivated in Trinidad, *J.H. Hart 3557* (US).

It is unclear how Miguel Bang acquired material of *Erythropsis pallens*, if in fact he did. According to Rusby (1893), Bang was trained as a gardener by the Royal Botanic Gardens, Kew, and sent out ca. 1883 to South America to collect living orchids. While his route to Bolivia is unknown, it is possible that it included a stopover in Trinidad to visit the botanical gardens, which also had strong ties to Kew. However, one cannot discount the possibility that the mixture is entirely the fault of Bang's subsequent patron H.H. Rusby, who oversaw the labeling and processing in New York of the herbarium specimens that Bang sent to him from Bolivia. Irrespective of what transpired, the name *Sterculia laxiflora* is based on a mixture and by choosing the several-flowered inflorescence fragment as the lectotype, the Rusby name becomes a synonym of a species in a different genus of Malvaceae albeit in the same subfamily.

ERYTHROPSIS PALLENS (Wall. ex King) Ridl., Bull. Misc. Inform. Kew 1934: 215. 1934. Sterculia pallens Wall. ex King, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 60: 73. 1891. Firmiana pallens (Wall. ex King) Kosterm., Pengum. Balai Besar Penjel. Kehut. Indonesia 54: 16. 1956.
LECTOTYPE (see comments below): India. Uttrakhand: Gurhwal [= Garhwal], s. d. (fl), H. Falconer 289 (K 000380107 (fls) as image!; isolectotypes: BO, CAL, L, P 06737162 (fls) as image!).

Sterculia laxiflora Rusby, Descr. S. Amer. Pl., 56. 1920. LECTOTYPE (designated here): Bolivia. S. loc., s. d. (fls), M. Bang s.n. (NY 00222372 several-flowered inflorescence only!).

Sterculia pallens Wall. ex Voigt, Hort. Suburb. Calcutt., 105. 1845, nom. nud.

Sterculia wallichii Falc. ex Brandis, Forest Fl. N.W. India, 34. 1874, nom. nud., pro syn.

Sterculia pallens Wall. ex Hochr., Bull. Inst. Bot. Buitenzorg 19: 22. 1904, nom. nud.

The name *Sterculia pallens* Wall. ex King was lectotypified in two stages. First, Ridley (1934: 215) selected *Falconer 289* as "type" from among the original material cited by King (1891: 73), who associated the specimens of *S. fulgens* Wall. ex Mast. from "Tropical Western Himalaya" that were listed by Masters (1874: 360) with his new species. Among these specimens was a collection by Falconer from Garhwal. Kostermans (1956: 19) then narrowed down Ridley's selection by stating that the type of "*Erythropsis pallens* Ridley" was the sheet of *Falconer 289* "conserved in the Kew Herbarium that consists of flower-bearing branches only." In doing this, Kostermans (1956: 19) effectively excluded another sheet (K 000380108 as image!) of the same collection that consists of leaves alone.

Stearn in Blatter and Millard (1954: 79) attempted to make the combination *Firmiana pallens*, but Stearn failed to clearly indicate the basionym and his combination in *Firmiana* is not validly published (McNeill et al. 2012; Art. 41.5). The combination *F. pallens* must be attributed to Kostermans (1956: 16), who cited *Sterculia pallens* in synonymy.

# ACKNOWLEDGEMENTS

We thank Barbara Thiers (NY) for lending the syntype material of *Sterculia laxiflora* and for granting permission to publish Figure 1A, an image that belongs to the C.V. Starr Virtual Herbarium (http://sciweb.nybg.org/VirtualHerbarium.asp). We also thank Ingrid Pol-yin Lin (US) for photography of specimens and Rose Gulledge (US) for making the plate.

# LITERATURE CITED

- Blatter, E. and W.S. Millard. 1954. Some Beautiful Indian Trees (ed. 2). The Bombay Natural History Society, Bombay.
- Foster, R.C. 1958. A catalogue of the ferns and flowering plants of Bolivia. Contr. Gray Herb. 184: 1–223.
- Gentry, A.H. 1976. A new Panamanian *Sterculia* with taxonomic notes on the genus. Ann. Missouri Bot. Gard. 63: 370–372.
- King, G. 1891. IV. Materials for a flora of the Malayan Peninsula. J. Asiatic Soc. Bengal, Pt. 2, Nat. Hist. 60: 38–140.
- Kostermans, A.J.G.H. 1956. The genus *Firmiana* Marsili (Stercul.). Pengum. Balai Besar Penjel. Kehut. Indonesia 54: 1–33.
- McNeill, J., F.R. Barrie, W.R. Buck, V. Demoulin, W. Greuter, D.L. Hawksworth, P.S. Herendeen, S. Knapp, K. Marhold, J. Prado, W.F. Prud'homme van Reine, G.F. Smith, J.H. Wiersema, and N.J. Turland (eds.). 2012. International Code of Nomenclature for algae, fungi, and plants (Melbourne Code). Regnum Veg. 154: 1–240. Koeltz Scientific Books, Königstein, Germany.

- Masters, M.T. 1874. Sterculiaceae. Pp. 353–379, <u>in</u> J.D. Hooker, The Flora of British India, Vol. 1. L. Reeve & Co., London.
- Prestoe, H. 1870. Catalogue of plants cultivated in the Royal Botanical Gardens, Trinidad, from 1865 to 1870. The Chronicle Printing Office, Port-of-Spain, Trinidad.
- Ridley, H.N. 1934. *Firmiana* and *Erythropsis*. Bull. Misc. Inform. Kew 1934: 214–217. doi: 10.2307/4111665
- Rusby, H.H. 1893. On the collections of Mr. Miguel Bang in Bolivia. Mem. Torrey Bot. Club 3: 1–67.
- Rusby, H.H. 1920. Descriptions of three hundred new species of South American plants. Published by the author, New York.
- Taylor, E.L. 1989. Systematic studies in the tribe Sterculieae: A taxonomic revision of the Neotropical species of *Sterculia* L. (Sterculiaceae). Ph.D. diss., Harvard University, Cambridge, Massachusetts.
- Villegas Coimbra, M. 1993. Sterculiaceae. Pp. 766–772, in T.J. Killeen, E. García, and S.G. Beck (eds.), Guía de Árboles de Bolivia. Herbario Nacional de Bolivia, [La Paz] & Missouri Botanical Garden, St. Louis.