



## A synopsis of the neotropical genus *Schnella* (Cercideae: Caesalpinioideae: Leguminosae) including 12 new combinations

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### Abstract

The genus *Bauhinia sens. lat.* formerly accommodated numerous species that have now been transferred to one of several segregate genera. One of those genera, *Schnella*, includes all neotropical liana species with tendrils. This study comprises a summary of the taxonomic and nomenclatural history of *Schnella*, and presents a list of names accepted under *Schnella*, including 12 new combinations. We recognise here a total of 53 taxa including 47 species. Distribution details for each taxon are given, illustrated with a map showing numbers of taxa within the TDWG regions of the neotropics. Within *Schnella*, there exist two morphologically and palynologically distinguishable groups of species. Further work, including a molecular-based study, will be needed to discover whether those two species groups are congeneric.

**Key Words:** Fabaceae, *Bauhinia*, *Phanera*, lianas

### Context of the tribe Cercideae

The family Leguminosae consists of c. 19, 500 species (LPWG 2013a), in c. 750 genera, of which a few species provide some of the world's most important cash crops, such as *Arachis hypogaea* Linnaeus (1753: 741) (peanut), *Cicer arietinum* Linnaeus (1753: 738) (chickpea), *Glycine max* Merrill (1917: 274) (soya bean) and *Medicago sativa* Linnaeus (1753: 778) (alfalfa). The Legume family encompasses all major biomes (Schrire *et al.* 2005), and the ability of many of these species to fix atmospheric nitrogen into a form in the soil that is accessible to plants, via symbiotic associations with soil-living bacteria (Sprent *et al.* 2013), ensures that legumes are an integral part of many natural and agricultural ecosystems (LPWG 2013a).

Historically the legume family has been understood to consist of three subfamilies; Caesalpinioideae, Mimosoideae and Papilionoideae. Recent molecular evidence, however, indicates that the Mimosoideae and Papilionoideae are nested within a paraphyletic Caesalpinioideae and therefore the number of subfamilies recognised is set to increase (LPWG 2013b). Recent phylogenies have suggested that tribe Cercideae is the sister group to the rest of the Leguminosae, whereas previously there has been uncertainty as to whether this position belonged to the Cercideae, Detarieae or *Duparquetia* Baillon (1865: 189) (LPWG 2013a).

Wunderlin *et al.* (1987) circumscribed the Cercideae to include 5 genera; *Cercis* Linnaeus (1753: 374), *Adenolobus* (Harvey ex Bentham & Hooker f. 1865: 576) Torre and Hillcoat (1955: 37), *Griffonia* Baillon (1865: 188), *Brenierea* Humbert (1959: 1599) and a pantropical and diverse *Bauhinia* Linnaeus (1753: 374) *sens. lat.*, which had previously been segregated into as many as 26 genera (Wunderlin 1976a). One of those genera, *Schnella* Raddi (1820: 32), accommodated all of the neotropical liana species of *Bauhinia sens. lat.*

### A history of *Schnella*

*Schnella* has a complex history, its generic circumscription having been redefined many times by various authors.

*Schnella vulpina* (Rusby) Trethowan & R. Clark *comb. nov.*

*Bauhinia vulpina* Rusby *Mem. New York Bot. Gard.* 7: 257. 1927. Type:—Bolivia, Huachi, O. E. White 956 (holotype NY, isotypes BKL, NY, US).

**Distribution:**—Endemic to Bolivia (18).

### Excluded names

*Schnella caudigera* (S. F. Blake) Pittier, *Supl. Pl. Usual. Venez.* 37. 1939. = *Bauhinia petiolata* (de Candolle) Triana var. *caudigera* (S. F. Blake) Wunderlin, *Sida* 22(1): 115. 2006.

### Doubtful or poorly known names

*Schnella emarginata* Klotzsch, *Faun. Fl. Brit.-Guian.*: 1210. 1848. The name has not been seen in any recent treatments since its publication, and cannot be confidently placed anywhere in the above list.

*Schnella heterophylla* (Kunth) Pittier, *Cat. Fl. Venez.* 1: 362. 1945. The name has not been seen in any recent treatments since its publication and thus cannot be confidently placed anywhere in the above list.

*Schnella macrophylla* (Poiret) Grisebach *Abh. Königl. Ges. Wiss. Göttingen* 7: 210. 1857. The name has not been seen in any recent treatments since its publication and thus cannot be confidently placed anywhere in the above list.

*Schnella mutisii* Britton & Killip, *Ann. New York Acad. Sci.* 35: 162. 1936. Described as a Colombian species, the name is not included in recent works from Colombia (Gradstein in prep., Quiñones 2005).

*Schnella nigra* Britton & Killip, *Ann. New York Acad. Sci.* 35: 162. 1936. Described as a Colombian species, the name is not included in recent works from Colombia (Gradstein in prep., Quiñones 2005).

*Schnella nitida* Britton & Killip, *Ann. New York Acad. Sci.* 35: 164. 1936. Described as a Colombian species, the name is not included in recent works from Colombia (Gradstein in prep., Quiñones 2005).

*Schnella trinitensis* Britton, *nom. ined.* R. O. Williams in *The Flora of Trinidad and Tobago* (1931) placed the name as a synonym of *Bauhinia cumanensis* [= *Schnella glabra* (Jacq.) Wunderlin] despite indicating that the name wasn't published correctly. IPNI incorrectly lists the name as *Schnella trinitensis* Britton ex R. O. Williams.

*Schnella umbriana* Britton & Killip, *Ann. New York Acad. Sci.* 35: 162. 1936. Described as a Colombian species, the name is not included in recent works from Colombia (Gradstein in prep., Quiñones 2005). Wunderlin (1976) suggested this name belongs within *S. guianensis*, although no formal synonymy has been published.

*Schnella versicolor* Britton, *nom. ined.* Name appears on two specimens labelled as 'type coll.' and 'Isotypus', from BC and COL respectively, from the collection E. P. Killip & J. Cuatrecasas 38969. The name was never validly published. The two specimens have subsequently been determined as '*Bauhinia* aff. *guianensis* Aubl.' by R.P. Wunderlin, 1973.

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