



**When the old guys knew better: The true identity of *Mimosa longepedunculata* and reestablishment of *M. tocantina* (Leguminosae, Mimosoideae)**

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**Abstract**

Megadiverse genera usually have a complex taxonomy. One factor influencing this complexity is concerned to synonyms, which are often numerous in widespread and morphologically variable species. In this article we examined the case of *Mimosa longepedunculata* and *M. tocantina*, two sympatric narrowly distributed species from central Brazil, considered to be synonyms in Barneby's monograph. We show that this was an inaccurate taxonomic decision related to a misinterpretation of the type specimens and, possibly, also to sampling biases in field works. The definition of each species is here clarified and *M. tocantina* is reestablished and considered a distinct species from *M. longepedunculata*, having *M. pseudosetosa* as a new synonym. A regional identification key for the species is provided together with data on distribution and habitat, flowering and fruiting, conservation status, etymology, and notes on morphology. Illustrations, pictures and a full description of *M. longepedunculata* are also presented.

**Keywords:** Ernst Ule, Fabaceae, Nomenclature, Paul Taubert, Rupert Barneby, Taxonomy

**Introduction**

*Mimosa* Linnaeus (1753: 516) is a megadiverse genus with more than 500 species (Barneby 1991, Luckow 2005). According to Berry *et al.* (2005), megadiverse genera have long been avoided by botanists because of their complex taxonomy, wide geographic range and large contingent. Nevertheless, Neotropical *Mimosa* were fully revised and monographed by Barneby (1991), and since then, several new taxa have been described (e.g., Dutra & Garcia 2012; Grings & Ribas 2013; Morales *et al.* 2013; Särkinen *et al.* 2011; Savassi-Coutinho *et al.* 2012; Silva *et al.* 2011; Simon *et al.* 2010). The genus is mainly distributed in the Neotropical region and has two major centers of diversity, being one in Mexico and the other in Central Brazil (Luckow 2005).

It is not uncommon for such “giant genera” to also have species with a large number of synonyms due to the description of the same taxonomic entities by different authors and with different names. Within *Mimosa*, this is observed in species showing large morphological variability associated with a wide distribution area, such as *M. pigra* Linnaeus (1755: 13–14), a weedy species that has 15 names under synonymy (Barneby 1991; treated as *M. pellita* Humb. & Bonpl. ex Willd. [1806: 1037–1038]). However, most species in the genus are microendemics; therefore, in the few cases where a list of synonyms does exist, it is usually very small.

Nonetheless, the congruence of such factors as large number of species, existence of synonyms, and classification mainly based on micro characters demands extra care when describing new taxa in *Mimosa* in order to avoid inaccurate conclusions. Here we relate how the scanty type collection of one species belonging to this giant genus led a skillful author such as Rupert Barneby to make a mistaken taxonomic decision.

*A mysterious plant*

Chapada dos Veadeiros is a mountainous complex in central Brazil ranging from 800 to 1650 m in elevation (Munhoz & Felfili 2006). It is located about 300 km to the north of Brasilia in the State of Goiás. Even though this high flat plain region is included in the Cerrado Domain, where savanna physiognomies prevail, its elevated areas are mostly covered by “campos rupestres”, a type of vegetation found elsewhere in Brazil on sandy to rocky soils, showing

We have stressed here that fieldwork is a crucial part of taxonomy. However, in the midst of a biodiversity crisis, systematists are mostly focused on punctual collections of particular groups, aiming specially for sampling genetic material. It seems that future development of taxonomy requires a shift in that practice to the execution of well-planned expeditions focused on general collections covering areas poorly or unevenly explored, which will allow us to frame a more comprehensive picture of the flora.

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