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Nomenclatural notes on *Varronia* (Boraginaceae *s.l.*) in Brazil

Notas nomenclaturales sobre Varronia (Boraginaceae s.l.*) en Brasil*

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Abstract

Typifications and new combinations are provided for Boraginaceae *s.l.* from Brazil in advance of the List of Species of the Brazilian Flora. *Varronia leucomalla* (Taub.) Borhidi is lectotypified, and is presented *Varronia mayoi* (Taroda) M. Stapf is presented as a new combination. Additionally, the identity of *Varronia glandulosa* (Fresen.) Borhidi and *Varronia striata* (Fresen.) Borhidi is discussed, and the names for these species are reestablished.
Key words: *Cordia*, typification, new combination.

Resumen

Tipificaciones y nuevas combinaciones son provistas para Boraginaceae *s.l.* de Brasil como un avance de la lista para el Catálogo de la Flora del Brasil. *Varronia leucomalla* (Taub.) Borhidi es lectotipificada y la nueva combinación *Varronia mayoi* (Taroda) M. Stapf es presentada. Adicionalmente, la identidad de *Varronia glandulosa* (Fresen.) Borhidi y *Varronia striata* (Fresen.) Borhidi son discutidas y reestablecidos los nombres como válidos para estas especies.
Palabras claves: *Cordia*, tipificación, nueva combinación.

Introduction

Browne (1756) recognized *Varronia* for two species from Jamaica, and the genus was accepted and used by several early authors. However, the most modern authors have treated *Varronia* as a section or subgenus of *Cordia* L., although some such as Borhidi *et al.* (1988) recognized *Cordia*, *Gerascanthus* P. Browne, and *Varronia* P. Browne as different. Studies subsequent have not recognized *Varronia* at the generic level, and most have treated it as a section of *Cordia* (e.g., Johnston 1930; Taroda & Gibbs 1986; Miller 1988; Estrada 1995). Recent efforts to examine generic limits within Boraginaceae (Gottschling *et al*. 2005; Miller & Gottschling 2007) it has become evident that *Varronia* is sister to the rest of *Cordia*, and should be recognized at the generic level. *Varronia* comprises about 100 neotropical species of multistemmed shrubs with condensed inflorescences and evenly serrate leaves. There are about 30 species of *Varronia* in Brazil, which occur in a variety of habitats from forests, to "cerrado" and "caatinga" vegetation. The purpose of the present study is provided typifications and new combinations for *Varronia* from Brazil in advance of the List of Species of the Brazilian Flora. We also reestablished two species in *Varronia*.

Material and Methods

Most of the required combinations exist, either through the work of early authors, or from the recent nomenclatural review of Borhidi *et al*. (1988) and Miller (2007). However, the correct names from some taxa has not been clarified, including new combinations and typifications. This paper is based on the examination of the relevant taxonomic literature, and the study of herbaria materials in B, BR, CEPEC, K, M, MO, NY, and P. Protologues have always been compared with specimens.

Results and Discussion

Varronia leucomalla (Taub.) Borhidi is lectotypified, and a new combination, *Varronia*

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mayoi (Taroda) M. Stapf is presented. Also, *Varronia glandulosa* (Fresen.) Borhidi and *Varronia striata* (Fresen.) Borhidi are reestablished.

Varronia glandulosa (Fresen.) Borhidi, Acta Bot. Hung. 34(3-4): 391. 1988. *Cordia glandulosa* Fresen., *in* Mart., Eichl. & Urban, Fl. bras. 8: 19. 1857. *Lithocardium glandulosum* (Fresen.) Kuntze, Revis. Gen. Pl. 2: 977. 1891. Type: BRAZIL. BAHIA: "in sepibus ad Villam Ilheos", XII, fl., *C.F.P. Martius s.n.* (holotype M!).

Johnston (1930) recognized *Cordia glandulosa* as synonym of *C. multispicata* Cham. based on characteristic of the leaves. According Johnston (1930), the material he saw it had the lower surface of the leaves denser and paler indumenta. He considered this pale form most striking variation, and supported the idea that it was not enough to be considered as different taxon. However, I revised this material, including *Blanchet 877*, which also was checked by Johnston (1930). I agree with Fresenius when he described *C. glandulosa* as a new species due that its abundant glandular indumentum in the leaves and calyx external surface, which it not present in *C. multispicata.* This species is easily recognized by its axillary spicate inflorescences with the base of the peduncle adnate to the petiole, and the filiform calyx lobes, while *C. glandulosa* has the peduncle free, and the acute calyx lobes. Both species occur in Brazil, but the latter is restricted to northern Brazil. Therefore, we treat as belonging to two different species.

Varronia leucomalla (Taub.) Borhidi, Acta Bot. Hung. 34(3-4): 385. 1988. *Cordia leucomalla* Taub., Bot. Jahrb. Syst. 15(38): 14. 1893. Type: BRAZIL. RIO DE JANEIRO: Laranjeiras, 1871, fl., *A.F.M. Glaziou 4146* (holotype B, destroyed; lectotype designated here P00634016!; isolectotypes K!, P00634015!, P00634017!)

Four specimens of *Glaziou 4146* were found, one at K, and three at P. We select one of the duplicates deposited in P as lectotype, which it is closest agreement with the protologue.

Varronia leucomalla is distinctive and easily recognized from other *Varronia* species by the subglobose capitate inflorescences to shortly clavate, and the whitish, floccose hairs on the undersurface of the leaves and young stems. *Varronia leucomalla* is closely related to *V. leucomalloides* (Taroda) J.S. Mill. (= *C. leucomalloides* Taroda) sharing the lower surface of the leaves whitish-floccose, and stem and calyx with fine, whitish hairs. However, *V. leucomalloides* differs of *V. leucomalla* by its axillary inflorescences and smaller leaves (less than 5 cm). *Varronia leucomalla* has terminal inflorescences and leaves more than 8 cm. Both species are endemics to Brazil, however *V. leucomalla* is known only from Rio de Janeiro, and *V. leucomalloides* from Alagoas, Bahia, Ceara, and Paraíba states.

Varronia mayoi (Taroda) M. Stapf, *comb. nov*. *Cordia mayoi* Taroda, Notes Roy. Bot. Gard. Edinburgh 44: 129. 1986. Type: BRAZIL. BAHIA: "1.5 km de São Inácio sob rodovia a Gentio de Ouro", 24.II.1977, fl., *R.M. Harley et al. 18983* (holotype CEPEC; isotypes K!, MO!, NY!, P!)

Cordia mayoi was described as a new species of *Cordia* subgen. *Varronia* by Taroda & Gibbs (1986), which is characterized by its multistemmed shrubs with condensed inflorescences, and pollen grains 3-porates. Miller & Gottchling (2007) reestablished *Varronia* genus to include all *Cordia* species with these morphological characters. Later, we examined the type material, and now we are proposing a new combination for this taxon.

Varronia mayoi is characterized by its ovate leaves, calyx with acuminate teeth, sericeous villosulous indumentum, and tubular-cylindrical corolla, ca. 12 mm long. *Varronia mayoi* is known only from Bahia, Brazil.

Varronia striata (Fresen.) Borhidi, Acta Bot. Hung. 34(3-4): 387. 1988. *Cordia striata* Fresen. *in* Mart., Eichl. & Urban, Fl. bras. 8: 23. 1857. *Lithocardium striatum* (Fresen.) Kuntze, Revis. Gen. Pl. 2: 977. 1891. Type: BRAZIL. BAHIA: in silvis aphyllis (catingas) et in campis, *Prince Maximilian s.n.* (holotype M; isotype BR!).

Johnston (1930) said "I have seen no authentical material of *Cordia striata*", however he considered *C. striata* as synonym of *C. leucocephala*. The type specimens studied of the both species shown that V. *striata* can be recognized by its filiform calyx lobes and corolla between 1.8 to 2 cm long, whereas that *V. leucocephala* (Moric.) J.S. Mill. (= *C. leucocephala* Moric.) has acute calyx lobes and corolla larger, ca. 3 cm long.

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