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Taxonomic notes on *Pleiochiton* (Melastomataceae - Miconieae)

Notas taxonômicas em Pleiochiton *(Melastomataceae; Miconieae)*

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Abstract

Here we propose lectotypification for *Melastoma coccinea* and *Pleiochiton glaziovianum*, neotypification for *Clidemia suffruticosa*, new combinations for *C. blepharodes* and *C. parasitica* into *Pleiochiton*, and the synonymization of *C. suffruticosa* under *P. blepharodes.*

Key words: Atlantic Forest, *Clidemia blepharodes*, *Clidemia parasitica*, *Clidemia suffruticosa*, nomenclature, taxonomy.

Resumo

Neste trabalho são propostas lectotipificações para *Melastoma coccinea* e *Pleiochiton glaziovianum*, a neotipificação de *Clidemia suffruticosa*, novas combinações de *C. blepharodes* e *C. parasitica* em *Pleiochiton* e a sinonimização de *C. suffruticosa* sob *P. blepharodes*.

Palavras-chave: taxonomia, *Clidemia blepharodes*, *Clidemia suffruticosa*, *Clidemia parasitica*, Mata Atlântica, nomenclatura.

Introduction

Pleiochiton Naudin ex A.Gray belongs to the tribe Miconieae (Melastomataceae), which has nine endemic species to the Atlantic Forest. A brief revision of this genus has been published by Cogniaux (1891), in a monograph for the whole family. Afterwards, the genus has been treated only in a few regional floras (Wurdack 1962; Chiea 1990; Goldenberg *et al.* 2005; Reginato *et al.* 2009b). Recent anatomical and phylogenetic studies based on morphological and molecular data suggest that the genus can be regarded as monophyletic if a couple of species from *Clidemia* D.Don (*C. blepharodes* DC. and *C. parasitica* Triana) are included (Reginato *et al.* 2009a, 2010). Although *Pleiochiton* is resolved as monophyletic, it is immersed in a large clade mainly composed of species of *Leandra* Raddi (Reginato *et al.* 2010). Nevertheless, the monophyletic status of the large genera in the tribe (*Miconia* Ruiz & Pav., *Clidemia* and *Leandra*) is unclear, since these are very diverse and the results from molecular work are still incomplete due to insufficient molecular and taxonomic sampling (Michelangeli *et al.* 2004; Martin *et al.* 2008; Goldenberg *et al.* 2008).

There is a consensus within recent phylogenetic works on the tribe that generic realignments will be unavoidable in the future. Nonetheless, an additional benefit of transferring *Clidemia blepharodes* and *C. parasitica* to *Pleiochiton* now is that these species would be appropriately placed in *Pleiochiton*, even if the taxonomic status of the genus is changed in the future. On the other hand, a monograph containing all species of the *Pleiochiton* clade will be prepared (Reginato *et al.* in prep.). In this paper we provide two lectotypifications, one neotypification and a new synonym, and also the transferences in order to keep *Pleiochiton* monophyletic.

Material and Methods

This study is based on survey of the literature, herbarium material and high resolution images of types from the herbaria B, BR, C, K, M, NY, P, and PI.

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Results and Discussion

1. *Pleiochiton blepharodes* (DC.) Reginato, R.Goldenb. & Baumgratz, *comb. nov. Clidemia blepharodes* DC., Prodr. 3: 158. 1828. *Staphidium blepharodes* (DC.) Wawra, Bot. Ergebn. 21, tab. 38. 1866. *Melastoma blepharodes* Mart. *ex* DC., Prodr. 3: 158. 1828, *pro syn*. Type: BRAZIL. SÃO PAULO: *In sylvis Brasiliae prope Bananal et alibi, Provinciae Sebastianopolitana et S. Pauli*, *Martius s.n.* (holotype M!).

Melastoma bananalis Schrank *ex* DC., Prodr. 3: 158. 1828, *pro syn*.

Leandra punicea Raddi, Melast. bras.: 48, tab. II, fig. 3. 1828 (= Mem. Mat. Fis. Soc. Ital. Modena 20(1): 156, tab. II, fig. 3. 1829). Type: BRAZIL. Rio de Janeiro: "specie rarissima ritrovata sulle montagne d'Estrella", *Raddi s.n.* (holotype PI!), *syn. nov.*

Melastoma coccinea Vell., Fl. Flum. Text p. 174. 1829, Ic. 4, tab. 136. 1831. Type: BRAZIL. RIO DE JANEIRO: illustrated in Fl. Flum., 4, tab. 136 (Lectotype, designated here) *nom. illegit.*, *non Melastoma coccinea* Rich., Act. Soc. Hist. Nat. Par. 1: 109, 1792 (*Charianthus alpinus* (Sw.) R.A. Howard), *nec Melastoma coccinea* Vahl, Eclog. Am. 1: 48. 1796-1807 (*Charianthus purpureus* D.Don, fide Penneys & Judd 2005), *syn. nov.*

Clidemia scandens Gardner *in* Hook., Lond. Journ. Bot. 2: 346. 1843. Type: BRAZIL. *Gardner 392* (holotype K!; isotype NY!), *syn. nov.*

Adelobotrys lindeni Naudin, Belg. Hort. 15: 98. 1865, *syn. nov.* (fide Cogniaux 1891).

Clidemia suffruticosa Triana, Trans. Linn. Soc. London 28: 135. 1871. Type: without locality and date, *Sellow 1677* (holotype B, destroyed). Neotype: BRAZIL. SÃO PAULO: Santo André, Alto da Serra, 4 Mar 1918, *Hoehne 1601* (NY!, designated here), *syn. nov.*

The similarity between epiphytic *Clidemia* from eastern Brazil and species of *Pleiochiton* has been mentioned before (Wurdack 1962; Goldenberg *et al.* 2005). The transfer of *C. blepharodes* and *C. parasitica* into *Pleiochiton* is supported by recent anatomical and phylogenetic studies, since the status of *Pleiochiton* as a monophyletic group can only persist if the epiphytic species of *Clidemia* are included in this group (Reginato *et al.* 2009a, 2010). It is clear that *C. blepharodes*, *C. parasitica* and all species of *Pleiochiton* share molecular and morphological synapomorphies (epiphytic habit, succulent roots) and clearly belong to a high supported monophyletic group.

Cogniaux (1886-1888) placed all three epiphytic species close to each other in the key of *Clidemia* in section *Staphidium*. He distinguished *C. suffruticosa* from *C. blepharodes* based on the glandulose-hirsute indument, leaves setulose on both surfaces, with acute apex and conspicuous transversal veins, while the latter has been described as having glabrous stems and leaves sparsely setose on both surfaces, acuminate leaves and inconspicuous transversal veins. Among the collections analyzed during the studies on *Pleiochiton* (Reginato 2008), only *Hoehne 1601* (NY) and *Hoehne s.n.* (SP 3605, SPF 72028) approaches the type of *C. suffruticosa*, in so far what is possible to observe in the picture of the type. The original specimen was destroyed in Berlin. The former was chosen here as the neotype.

Pleiochiton blepharodes is the most widespread species of the genus, and its distribution overlaps the distribution of all remaining species. It also presents more morphological variability than the other species (Reginato 2008). Regarding the diagnostic characters described by Cogniaux (1886-1888), the leaf apex in *P. blepharodes* ranges from shortly to clearly acuminate and often acute in broader leaves, and the conspicuousness of the transversal veins also varies, being less visible in thicker leaves. Since the morphological descriptions and the analysis of the type did not show any diagnostic character distinguishing both species, *C. suffruticosa* is synonymized here under *P. blepharodes*.

The other synonyms (*Melastoma coccinea*, *Clidemia scandens*, *Adelobotrys lindeni* and *Leandra punicea*) previously suggested for *C. blepharodes* by Cogniaux (1891), are also accepted here. For detailed information about *L. punicea* see Goldenberg & Baldini (2002).

2. *Pleiochiton glaziovianum* Cogn. *in* Mart., Eichler & Urban, Fl. bras. 14(4): 426. 1888. Type: BRAZIL. RIO DE JANEIRO: "Habitat in prov. Rio de Janeiro", *Glaziou 2998* (Lectotype BR, high resolution image in UPCB!, designated here; duplicates C!, P!).

Pleiochiton glaziovianum was described based on two syntypes. The first one was chosen here as the lectotype (*Glaziou 2998*). The second one (*Miers s.n.*) clearly belongs to *P. roseum*, a species described by the same author a few years later based on another specimen (Cogniaux 1891).

3. *Pleiochiton parasiticum* (Triana) Reginato, R.Goldenb. & Baumgratz, *comb. nov*. *Clidemia parasitica* Triana, Trans. Linn. Soc. London 28: 135. 1871. Type: BRAZIL. "In Brasiliae", *Herb. Imp. Vind. 1169* (holotype K; isotype NY!).

This new combination is justified for the same reasons shown for *Pleiochiton blepharodes* (see above).

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