



Re-establishment of the name *Pombalia*, and new combinations from the polyphyletic *Hybanthus* (Violaceae)

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Abstract

This paper introduces the re-establishment of *Pombalia* Vand., the earliest generic designation for the predominantly South American lineage of the polyphyletic *Hybanthus* Jacq. (Violaceae). Recent molecular-based phylogenies and ongoing morphological studies have resulted in the recognition of 41 species and one variety in this group, requiring their transfer to the currently monotypic *Pombalia*, as proposed here. The study also revealed the necessity to lectotypify 20 of the basionyms.

Introduction

Recent molecular-based phylogenetic studies (Tokuoka 2008, Wahlert *et al.* 2014) have provided consistent data supporting the polyphyly of the genus *Hybanthus* Jacq., strongly suggesting the segregation of nine different lineages as distinct genera. According to these studies, *Hybanthus s. str.* should be restricted to a few Mesoamerican species, and generic designations are readily available to be used for some of the remaining lineages, though most of the included taxa still require new combinations. This paper presents the re-establishment of the earliest available name for the largest *Hybanthus s.l.* segregate, *Pombalia* Vand., and the new combinations accordingly. This lineage comprises 42 taxa (41 spp. plus one variety), all of the New World, including the bulk of the American species of *Hybanthus s.l.* The transfer of so many species to *Pombalia*, a genus that is currently monotypic, requires its complete re-circumscription in order to encompass all the morphological diversity of the new group and, therefore, we provide in this paper a detailed and illustrated description of this lineage.

The new combinations proposed here result from molecular-based phylogenies (Tokuoka 2008, Paula-Souza 2009, Wahlert *et al.* 2014), complemented by ongoing morphological studies. In order to support such nomenclatural novelties, especially the re-establishment of *Pombalia* as a distinct segregate genus from *Hybanthus s.l.*, we present a resumed phylogeny of the Violaceae redrawn from Wahlert *et al.* (2014) (fig. 1). A further increase of the number of *Pombalia* species is to be expected as a consequence of detailed morpho-anatomical analyses and enlarged sampling of molecular studies, especially for taxa of Mesoamerica, where a great diversity of still poorly investigated species and genera is found. At this point, it is not our objective to provide a full nomenclatural revision of *Pombalia*, which will be presented in a series of forthcoming papers addressed to *Hybanthus* and its segregates. Instead, we limit ourselves to providing an updated circumscription of *Pombalia* and making the binomials available under their proper generic designation, indicating new synonyms, in order to allow usage of the correct names especially in local floras and checklists.

Historical background of the hybanthoid lineage *Pombalia*

The first records of hybanthoid violets are found in *Iter hispanicum*, written by a young Swedish naturalist, Linnaeus's pupil Pehr Löfling (1758). During his travels in the New World, he collected three Violaceae which he described in detail under the new genus name *Calceolaria* Löfl. (Löfling 1758: 183, 185), since rejected in favor of *Calceolaria* L. (Linnaeus 1770: 286). Löfling's three species belong to two distinct groups that we now consider as separate genera. One of them, for which Linnaeus (1763: 1327) validly published the binomial *Viola oppositifolia* L., is the first *Pombalia* species ever described.

39. *Pombalia verrucosa* (Paula-Souza) Paula-Souza, *comb. nov.* \equiv *Hybanthus verrucosus* Paula-Souza (2003: 503).—Type: BRAZIL. Bahia, Feira de Santana, Serra de S. José, Faz. Boa Vista, 12°15'S, 38°58'W", 24 May 1984, *Noblick 3260* (holotype ESA!; isotypes ALCB! CEPEC! HUEFS! K!).

40. *Pombalia verticillata* (Ortega) Paula-Souza, *comb. nov.* \equiv *Viola verticillata* Ortega (1797: 50). 1797.—Type (protologue): [CULTIVATED]. “Nova Hispanià, in Horto Reg. Matrit. è seminibus missis per D. Sessé” (lectotype C!, designated here by Paula-Souza).

According to Stafleu & Cowan (1981), Ortega's types are deposited at MA; however, personal searches in that herbarium failed to locate any specimen that could serve as type. The original specimen of *V. verticillata* found at C, which was a gift from Ortega to the Danish botanist Martin Vahl in a visit to him (Dr. Ib Friis, pers. comm.), is here selected as lectotype.

41. *Pombalia wrightii* (Urb.) H.E. Ballard & Paula-Souza \equiv *Hybanthus wrightii* Urb. (Urban 1908: 436).—Type: CUBA. s.d., *Wright s.n.* (*hb. pr. n. 332*) (lectotype GOET!, designated here by Paula-Souza).

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