DERMATOPHYLLUM, THE CORRECT NAME FOR CALIA (FABACEAE)

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ABSTRACT

The generic name Dermatophyllum Scheele (1848) is recognized as the correct name for what have been known as Calia Terán & Berland. (1832; non Calea L. (1763) and Agastianis Raf. (1838), nom. illeg. Five new combinations are required: Dermatophyllum arizonicum, Dermatophyllum gypsophilum, Dermatophyllum gypsophilum subsp. guadalupense, Dermatophyllum secundiflorum, and Dermatophyllum purpusii.

KEY WORDS: Agastianis, Calea, Asteraceae, Calia, Dermatophyllum, Fabaceae southwestern USA, Mexico

The genus Dermatophyllum Scheele was erected in 1848 with a single species, D. speciosum Scheele. This genus is being recognized here as a segregate of the larger, paraphyletic genus Sophora, comprising Sophora sect. Calia (Terán & Berland.) Rudd (Rudd 1972) (= Sophora sections Arizionatae Tsoong and Agastianis (Raf.) Tsoong [Tsoong & Ma 1981]). It is considered distinct from Sophora sensu stricto by the following suite of characters: woody habit; thick, coriaceous leaflets; blue, violet or white flowers; calyx with obvious teeth or lobes; flattened to terete legumes; and a geographically restricted range. This distinction is supported by molecular data (Heenan et al. 2004; Lewis et al. 2005; Pennington et al. 2001; Wojciechowski et al. 2004), where Calia falls into a separate clade from Styrpholobium and other Sophora species. Four species are being recognized in Dermatophyllum, a genus ranging from the southwestern USA (Arizona, New Mexico, Texas) south into México (Chihuahua, Coahuila, Hidalgo, Nuevo León, Oaxaca, San Luis Potosí, Sonora, Tamaulipas, Zacatecas). Resurrection of this generic name followed a debate about the availability of Calia Terán & Berland. for this genus.

In early 2010, a question on the status of the parahomonyms Calea L. (1763; Asteraceae) and Calia Terán & Berland. (1832; Fabaceae) was submitted to the Nomenclature Committee for Vascular Plants for a ruling whether these two generic names are confusable. By a majority vote, the Committee concluded that these two names are confusable and that Calia is to be treated as a later homonym (Brummitt, 2011: 231–232). The Committee’s voting was approved by the Eighteenth International Botanical Congress, held at Melbourne, Australia, in July 2011.
One reason for this matter being so long overlooked is that Calea, a large genus with some 110 species, is confined to warm parts of America (Mabberley 2008). On the other hand, Calia is a genus of four species and was long considered to be a synonym of Sophora L. until Yakovlev (1967) resurrected the name. Three recent works accept Calia (Sousa & Rudd 1993; Lewis & al. 2005; Mabberley 2008). Furthermore, Wojciechowski et al. (2004) placed Calia in its own clade and demonstrated its distinctiveness from Sophora. In fact, USDA-GRIN (2011) lists two of the five species to be economically important in the USA: Calia arizonica (S. Watson) Yakovlev and Calia secundiflora (Ortega) Yakovlev (also in Mexico).

Perhaps unaware of the existence of Calia, Rafinesque (1838) published the generic name Agastianis Raf., but as this name is itself superfluous and an illegitimate substitute for the nomenclaturally rejected name Broussonetia Ortega (1798), its adoption is not possible without a formal act of conservation. Alternatively Dermatophyllum Scheele (1848), which has been recognized as a taxonomic synonym of Calia (Rudd 1972; Lewis & al. 2005), can be used. Accordingly, the following new combinations are required.


Typification of *Sophora arizonica* S. Watson rests on a specimen at GH with label data stating that the specimen (a single stem, mounted on a sheet with E. Palmer 65 and J.M. Bigelow 33) was collected at White Cliff Creek and Cactus Pass. Since the holotype specimen has both names on a single label and only a single stem, it is not possible to separate the locations, and the specimen at NY (which is labeled “White Cliff Creek” and “January 29”) is best considered an isotype, following McManus (1976). Torrey (1857) originally identified this collection as *Sophora speciosa* (Scheele) Benth.


*Dermatophyllum speciosum* Scheele, Linnaea 21: 459. 1848. Sophora speciosa (Scheele) Benth., Boston J. Nat. Hist. 6: 178. 1850. **Type: USA. Texas.** Comal Co.: near New Braunfels [“Neubraunfels”], sin. dat., F. Roemer s.n. (lectotype: MO!, designated here, the original material seen by Scheele was destroyed during the Second World War).


EXCLUDED SPECIES:


Rudd (1972) speculated that *Sophora conzattii* was not best placed in the genus *Sophora*. The species was moved to *Calia* by Yakovlev (1967) but was later transferred to *Styphnolobium* (Sousa 1990; Sousa & Rudd 1993). Chromosome counts by Palamino et al. (1993) further support the placement of *St. conzattii* (*2n = 28*) in *Styphnolobium*, with *St. japonicum* (*2n = 28*), and differentiating it from *Dermatophyllum secundiflorum* (*2n = 18*).

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**LITERATURE CITED**


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