
A Contribution to the Nomenclature of Plantaginaceae: Typification of Thirteen Names Linked to the Flora of Argentina

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ABSTRACT. During preparation of the taxonomic treatment of Plantaginaceae for the Flora Argentina project, several names were identified as needing typification to stabilize their nomenclature. As a result, lectotypes are designated for the following 13 names: *Angelonia evitae* Descole & Borsini, *A. gardneri* Hook., *A. hassleriana* Chodat, *A. integerrima* Spreng., *A. salicariifolia* Bonpl., *Ourisia pratioides* Diels, *O. pygmaea* Phil., *Sibthorpia conspicua* Diels, *S. nectarifera* Wedd., *Veronica lepida* Phil., *V. peregrina* L. var. *laurentiana* Vict. & J. Rousseau, *V. polita* Fr., and *V. simpsonii* Phil. Furthermore, supporting information about the type material of a name already typified by Rossow (*O. fragrans* Phil.) is provided.

Key words: *Angelonia*, Flora Argentina, lectotypification, *Ourisia*, *Sibthorpia*, *Veronica*.

Molecular phylogenetic studies (Albach et al., 2005) have proven that the circumscription of the Plantaginaceae family differs from the traditional classifications. As a result, the family was greatly expanded to include 12 tribes with 92 genera and ca. 2000 species (Albach et al., 2005).

In the process of preparing the Plantaginaceae account for the Flora Argentina project (O'Leary et al., in prep.), it became evident that several names belonging to the genera *Angelonia* Bonpl., *Ourisia* Comm. ex Juss., *Sibthorpia* L., and *Veronica* L. remained untypified or needed clarification regarding their proper typification.

Angelonia is a New World genus comprising about 25 species (Albach et al., 2005). Barringer (1981) worked on a taxonomic revision of this genus for his doctoral thesis but type designations in that work were not effectively published (Art. 30.8 of the International Code of Nomenclature [ICN], McNeill et al., 2012). *Sibthorpia* is a small genus of five species occurring in Europe, Africa, and the New World (Hedberg, 1955). *Sibthorpia conspicua* Diels is native to southern Bolivia and northern Argentina and is here typified. Concerning the genus *Ourisia*, Meudt (2006) published the latest monograph in which almost all names are properly typified, although the tracing of species names related

to the Argentinian taxa revealed that three names remained untypified. In the case of the genus *Veronica*, several recent works have contributed to the resolution of nomenclature of widely distributed species (Martínez Ortega & Rico, 2001; Martínez Ortega et al., 2001; Sánchez Agudo et al., 2012). However, among the *Veronica* taxa included in the Flora Argentina, four names are yet untypified.

In line with this, the aim of the present work is to provide a contribution toward clarifying the nomenclatural status of names currently placed in Plantaginaceae.

MATERIALS AND METHODS

In order to resolve these typifications all of the protologues of the published taxa were studied. Type specimens have been analyzed from the images loaded on the JSTOR Global Plants database (<<https://plants.jstor.org/>>), from online access to herbaria G and P, and through digital images obtained by personal communication with herbarium curators from G, MT, SGO, and UPS. For the proposed typifications the rules of the ICN (McNeill et al., 2012) and suggestions published by McNeill (2014) were followed. Entries in this work are listed alphabetically. Where the accepted name is other than the one being typified, the accepted name is indicated in brackets.

RESULTS AND DISCUSSION

1. *Angelonia evitae* Descole & Borsini, Lilloa 23: 511. 1950. TYPE. Argentina. Misiones: San Ignacio, Gisella, 16 Feb. 1948, *G. J. Schwarz 5531* (lectotype, designated here, LIL [bc] LIL001486 image!; isolectotypes, K [bc] K000528884 image!, LIL [bc] LIL001485 image!, LIL [bc] LIL001487 image!).

Discussion. According to the protologue of *Angelonia evitae* (Descole & Borsini, 1950) the holotype of this species name is housed at LIL. Three duplicates from the collection *Schwarz 5531* were located there, and since the authors did not distinguish among them, they are syntypes. The sheet showing the best quality of

preservation of the important diagnostic features of the taxon is here selected as lectotype of the name (Art. 9.5 of the ICN; McNeill et al., 2012).

- 2. *Angelonia gardneri*** Hook., Bot. Mag. 66: pl. 3754. 1839. TYPE: Brazil. “[R]ather dry, open places in the province of Pernambuco,” s.d., *G. Gardner 1086* (first-step lectotype, designated by Souza & Giulietti [2009: 182], K; second-step lectotype, designated here, K [bc] K000528893 image!; isolectotypes, E [bc] E00326107 image!, E [bc] E00326108 image!, E [bc] E00326109 image!, G [bc] G00356446 image!, G [bc] G00356447 image!, GH [bc] 00077889 image!, K [bc] K000528894 image!, K [bc] K000528895 image!, MO [bc] 503844 image!, NY [bc] NY00067828 image!, NY [bc] NY00067829 image!, P [bc] P00584241 image!, P [bc] P00584242 image!, P [bc] P00584243 image!, S-04-3189 image!, US [bc] US00121978 image!).

Discussion. Souza and Giulietti (2009: 182) designated a specimen housed at K as the lectotype of *Angelonia gardneri* and also referred to isolectotypes housed at herbaria G and P. Three sheets linked to *A. gardneri* were located at K, which can be certainly considered original material. Given that Souza and Giulietti (2009) made no distinction as to which of the three sheets might be intended to be the lectotype, their statement must be considered as a first-step lectotypification (Art. 9.17 of the ICN; McNeill et al., 2012). In order to narrow this earlier designation, the most complete specimen is here selected as a second-step lectotype. Additional isotypes were also found, which are currently housed at herbaria E, G, MO, NY, P, S, and US.

- 3. *Angelonia hassleriana*** Chodat, Bull. Herb. Boissier sér. 2, 1: 404. 1901. TYPE: Paraguay. Iyatimi [Ygatimi], Sep. 1898–1899, *E. Hassler 4743* (lectotype, designated here, G [bc] G00229919 image!; isolectotypes, BM [bc] BM000098433 image!, G [bc] G00229920 image!, G [bc] G00229921 image!, GH [bc] GH00077890 image!, K [bc] K000528886 image!, MPU [bc] MPU018187 image!, NY [bc] NY00067831 image!, P [bc] P00584247 image!, P [bc] P00634446 image!, S-04-3193 image!, UC [bc] UC944848 image!).

Discussion. In the protologue of *Angelonia hassleriana*, Chodat (1901) cited four syntypes collected by Émile Hassler and Benedict Balansa in Paraguay. Three gatherings were made by Hassler near Ygatimi (4743), Tacuaral (3453), and Itacurubí (989), while the remaining collection was made by Balansa in Paraguairí (2147). The plant material of both collectors is housed mainly at G, where Chodat worked (Stafleu & Cowan, 1979). Thirteen sheets corresponding to the syntypes cited by Chodat were located at G. The gathering *Hassler 4743* is preferred over the others since it is a good specimen and duplicates of this collection are

widespread in numerous herbaria. The G duplicate of *Hassler 4743* was also selected by Barringer (1981) as the preferable lectotype, but that designation was not effectively published.

- 4. *Angelonia integerrima*** Spreng., Syst. Veg. [Sprengel] 4(2): 235. 1827. TYPE: [Brazil]. Rio Grande, s.d., *F. Sellow s.n.* (first-step lectotype, designated by Souza & Giulietti [2009: 161], K; second-step lectotype, designated here, K [bc] K000528906 image!; isolectotypes, B [bc] B100248813 image!, BR [bc] BR542159 image!, BR [bc] BR542224 not seen, E [bc] E00570191 image!, HAL [bc] HAL0115355 image!, HAL [bc] HAL0115356 image!, K [bc] K000528904 image!, LE not seen, M [bc] M0175552 image!, M [bc] M0175553 image!, NY [bc] NY00067833 image!).

Discussion. In the protologue of *Angelonia integerrima*, Sprengel (1827) cited as type material a Sellow collection from Rio Grande, Brazil. The only sheet annotated by Sprengel and including complete label data was lodged at B (B photo neg. 12350, F [bc] F0BN012350, F image!) and it was destroyed by the bombing of the herbarium in 1943. Souza and Giulietti (2009) designated a Sellow sheet at K as lectotype, indicating the provenance as “Brasil. Rio Grande do Sul,” which must have been taken from the protologue as none of the surviving apparent duplicates of this collection have detailed locality data. There are two duplicates at K, and Souza and Giulietti did not mention a barcode or any other means of distinguishing between them. Therefore, their statement must be considered as a first-step lectotypification. The duplicate at K that shows the best quality of preservation of the diagnostic features of the taxon is here selected as a second-step lectotype (Art. 9.17 of the ICN; McNeill et al., 2012). The sheet on which K000528906 is mounted also contains material from two collections by Tweedie, which are separately barcoded. (The second sheet at K, K000528904, also includes separately barcoded material collected by Tweedie, and it is not equally evident to which fragments the labels apply.) Barringer (1981) attempted to select an LE duplicate as type, though the designation was not effectively published; he did not mention seeing other duplicates, although he annotated several as isotypes.

- 5. *Angelonia salicariifolia*** Bonpl., Pl. Aequinoct. 2(14): 92–94, pl. 108. 1809 [1812]. TYPE: Venezuela. Caracas, s.d., *F. W. A. Humboldt & A. Bonpland 5765* (first-step lectotypification, designated by Souza & Giulietti [2009: 181], P; second-step lectotypification, designated here, P [bc] P00136152 image!; isolectotypes, P [bc] P00136151 image!, P [bc] P00136153 image!).

Discussion. Souza and Giulietti (2009) lectotypified *Angelonia salicariifolia* on a specimen of apparent

original material lodged at P and also referred to an isoelectotype kept there. After examination of material, a third duplicate was located at P. Souza and Giulietti did not indicate a sheet number, barcode, or any reference to distinguish the material, nor did they mark any of the specimens as lectotype. The specimen barcoded P00136151 has an “isotype” sticker, and the others have no sticker. Therefore, Souza and Giulietti’s designation must be considered as a first-step typification. To narrow that earlier designation, the most complete specimen is here selected as a second-step lectotype (Art. 9.17 of the ICN; McNeill et al., 2012).

6. *Ourisia fragrans* Phil., *Linnaea* 33: 211. 1864.

TYPE: Chile. Cordillera de Ranco, ca. 5000–5500 ft., Feb. 1861, *R. Pearce s.n.* (lectotype, designated by Rossow [1986: 253], SGO-56366 image!; isoelectotypes, K [233] [bc] K000533523 image!, PH [bc] PH00017712 image!, SGO-43063 image!).

Discussion. The original material of *Ourisia fragrans*, as referred by Philippi (1864) in the protologue, was collected by Richard Pearce in “Cordillera de Ranco,” Chile. There are two sheets of apparent original material, which agree with the diagnosis and cited locality, at SGO. Rossow (1986) stated “Lectotypus (SGO 056366),” thereby effectively designating a lectotype. Meudt (2006: 70) incorrectly referred to this sheet as a holotype. The putative isotype at SGO, no. 43063, has no indication of the date of collection but is probably a duplicate of the same collection and was presumably studied by Philippi since it was housed in his herbarium and annotated, in his hand, as “*Ourisia fragrans*.” A duplicate of the type collection was also found at PH. Additionally, there is a sheet at K, annotated “*Ourisia* sp. Cord. Ranco 5000 ft.,” bearing material that agrees with the diagnosis. Although this specimen, numbered 233, has neither a reference to date nor an annotation by Philippi, it is probably a duplicate of the same collection.

7. *Ourisia pratioides* Diels, *Bot. Jahrb. Syst.* 37: 428.

1906 [= *Ourisia pulchella* Wedd., *Chlor. Andina* 2: 116. 1860]. TYPE: Peru. Huánuco: Prov. Huamalés, mtns. of SW Monzón, 3300–3400 m, 21 Oct. 1903, *A. Weberbauer 3724* (holotype, B†, photos: F [bc] F0bn012413 image!, GH not seen; lectotype, designated here, PH [bc] PH00017717 image!).

Discussion. Diels (1906) described *Ourisia pratioides* based on a Weberbauer collection from Peru. The author indicated in the protologue that the material used for the diagnosis was studied at B. Unfortunately this element is no longer extant because it was destroyed in the Allied bombing of Berlin in 1943. A duplicate is

present at PH, and it is here selected as lectotype of the name.

8. *Ourisia pygmaea* Phil., *Linnaea* 29: 27. 1857.

TYPE: Chile. Los Lagos: Cerro del Doce de Febrero, a 500 pies de altura, s.d., *F. Fonck 44* (lectotype, designated here, SGO-56379 image!; isoelectotypes, PH [bc] PH606359 image!, SGO-43059 image!).

Discussion. The protologue of *Ourisia pygmaea* (Philippi, 1857) includes a direct reference to a collection by Francisco Fonck in Chile, in “Cerro del doce de Febrero.” Two duplicates of this collection are found at SGO. Meudt (2006: 86) stated that SGO-56379 was the holotype while SGO-43059 and a duplicate at PH were isotypes. Meudt’s (2006) use of the term “holotype” is an error that cannot be corrected to “lectotype” under Art. 9.9 (McNeill et al., 2012) since her work was published after 2001; therefore, the requirements of Art. 7.10 are not met (McNeill et al., 2012; McNeill, 2014). The duplicate showing the best quality of preservation of the important diagnostic features of the taxon is here selected as lectotype of the name.

9. *Sibthorpia conspicua* Diels, *Bot. Jahrb. Syst.* 37:

428. 1906. TYPE: Bolivia. Toldos at Bermejo, 26 Nov. 1903, *K. Fiebrig 2249* (holotype, B†, B photo neg. 12363, F [bc] F0BN012363 image!; lectotype, designated here, BM [bc] BM000953450 image!; isoelectotypes, GH [bc] GH00091741 image!, GH [bc] GH00091742 image!, HBG [bc] HBG512032 image!, K [bc] K000533485 image!, L [bc] L2807157 image!, M [bc] M0146966 image!, S-04-3431 image!, U [bc] U0006767 image!, US [bc] US00122548 image!).

Discussion. In describing *Sibthorpia conspicua*, Diels (1906) cited a Fiebrig collection from Bolivia that he examined at B. This material is no longer extant there due to the bombing of Berlin during World War II, but there is an extant photograph. Nine duplicates of the type collection in agreement with the diagnosis and the locality cited in the protologue were located at GH, K, L, M, S, U, and US. The duplicate that shows the best quality of preservation of the important diagnostic features of the taxon is here chosen as lectotype of the name.

10. *Sibthorpia nectarifera* Wedd., *Chlor. Andina* 2:

111, t. 60B. 1859 [= *Sibthorpia repens* (Mutis ex L.) Kuntze, *Revis. Gen. Pl.* 3(2): 239. 1898]. TYPE: Bolivia. La Paz: Sorata, 1856, *G. Mandon s.n.* (lectotype, designated here, P [bc] P03436307 image!).

Discussion. The protologue of *Sibthorpia nectarifera* (Weddell, 1858–1861 [1859]) includes a brief diagnosis and a detailed illustration. Weddell indicated that his diagnosis was based on material collected by Mandon in

Bolivia ("Cordillère de Sorata"). Weddell's own herbarium is mainly kept at P (Staffleu & Cowan, 1988), and therefore the material he used to describe the species should be located there. After consultation of the general collection at P, two gatherings made by Mandon and associated with the name *S. nectarifera* were found.

The labels on the sheets of the first collection, *Mandon 471*, read "*Sibthorpia nectarifera*" [unknown handwriting] and refer to the locality of collection as "Viciniis Sorata; Lacatia, pampa de Chiliata, Paracollo." There are duplicates of *Mandon 471* currently lodged at herbaria K, MPU, and NY, and sheets from these last two (MPU and NY) are referred to in sched. as isotypes. However, the location on the labels does not exactly match that cited in the protologue; hence, it is not certain that *Mandon 471* is original material.

The second collection preserved at P is labeled "*Sibthorpia nectarifera* Wedd. Chloris / Bolivia - Cordillère de Sorata / Mandon 1856" in Weddell's handwriting. Therefore, this specimen studied and annotated by Weddell is certainly original material, and it is here selected as lectotype of the name.

11. *Veronica lepida* Phil., Anales Univ. Chile 91: 110. 1895 [= *Veronica anagallis-aquatica* L., Sp. Pl. 1: 12. 1753]. TYPE: Chile. Valparaíso: "Habitat ad Vicum Cartajena (haud procul a Valparaiso)," Feb. 1895, *F. Albert s.n.* (lectotype, designated here, SGO-43156 image!; isolectotypes, SGO-56419 image!, SGO-56420 image!).

Discussion. In describing *Veronica lepida*, Philippi (1895) cited a collection from Cartagena, near Valparaíso, Chile, although he did not include a reference to collector. According to Muñoz Pizarro (1960: 124) there are three sheets lodged at SGO that appear to be original material for the name. These duplicates all bear original labels annotated by Philippi with the identification of *V. lepida* and agree with the diagnosis and the locality cited in the protologue. The sheet showing the best quality of preservation of the important diagnostic features of the taxon is here selected as lectotype of the name.

12. *Veronica peregrina* L. var. *laurentiana* Vict. & J. Rousseau, Contr. Inst. Bot. Univ. Montreal 36: 46. 1940 [= *Veronica peregrina* L., Sp. Pl. 1: 14. 1753]. TYPE: Canada. Berther-en-bas (comté de Montmagny), zone intercotidale, 7 Aug. 1935, *J. Rousseau 46003* (lectotype, designated here, MT-00117383 image!; isolectotype, MT-00215943 image!).

Discussion. In describing *Veronica peregrina* var. *laurentiana*, Marie-Victorin and Rousseau (1940) cited the collection *Rousseau 46003* lodged at MT as type. There are two duplicates at MT, which are therefore

syntypes. The sheet showing the best quality of preservation of the important diagnostic features of the taxon is here selected as lectotype of the name.

13. *Veronica polita* Fr., Novit. Fl. Suec. 5: 63. 1819. TYPE: Sweden. Scania: Lund, 1818, *E. M. Fries s.n.* (lectotype, designated here, UPS-V-103159 image!; isolectotype, UPS-V-156001, image!).

Discussion. According to the protologue of *Veronica polita*, Fries (1819) based the description of this species on a collection he made in Scania, southern Sweden. Fries's herbarium was acquired by UPS in 1882 (Staffleu & Cowan, 1976), so the material he used to describe *V. polita* should be lodged there. Two sheets studied and annotated by Fries were located at UPS; both are in full agreement with the diagnosis and locality cited in the protologue and are presumed to be original material. The sheet that shows the best quality of preservation of the important diagnostic features of the taxon is here selected as lectotype of the name.

14. *Veronica simpsonii* Phil., Anales Univ. Chile 43: 526. 1873 [= *Veronica elliptica* G. Forst., Fl. Ins. Austr. 3. 1786]. TYPE: Chile. Aysén: Río Aysén, Jan. 1871, *E. Simpson s.n.* (lectotype, designated here, SGO-56264 image!; isolectotype, SGO-43164 image!).

Discussion. Philippi (1873) based the diagnosis of *Veronica simpsonii* on a collection by Enrique Simpson in "Río Aysén," Chile. In the protologue, Philippi clearly noted that the plant material was not adequate to confirm its correct generic placement. Later, Philippi (1895) received a set of plant material better than what he had previously studied, which allowed him to assert that *V. simpsonii* corresponded well to the species *V. elliptica*. Pennell (1921) regarded this taxon as a synonym of *Hebe elliptica* (G. Forst.) Pennell based on the description provided by Philippi (1873), although he did not refer to the type material and may have overlooked Philippi's (1895) statement concerning the identity of *V. simpsonii*. As noted by Muñoz-Pizarro (1960: 124) there are two sheets lodged at SGO that appear to be original material. Both specimens were annotated by Philippi and agree with the diagnosis. The sheet showing the best quality of preservation of the important diagnostic features of the taxon is here selected as lectotype of the name.

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