



Typifications in the genus *Cicendia* Adans. (Gentianaceae)

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Abstract

Nomenclatural types are confirmed for the majority of names associated with *Cicendia* Adanson (Gentianaceae); and a lectotype is here designated for *Cicendia stricta*.

Key words: *Cicendia*, Gentianaceae, lectotype, nomenclature, typification

Introduction

Cicendia Adanson (1763: 503) is a small genus of the family Gentianaceae. It consists of three species distributed in Europe and the New World (IPNI 2012; The Plant List 2013): *C. filiformis* (Linnaeus) Delarbre (1800: 29), *C. quadrangularis* (Lamarck) Grisebach (1838: 157), and *C. stricta* Grisebach (1862: 143). *Cicendia filiformis* has a Mediterranean and western European distribution. *Cicendia quadrangularis* is found in North America (California and Oregon) and South America (Peru, Uruguay, Brazil and Chile). Both *C. filiformis* and *C. quadrangularis* are also introduced in Australia (Adams 1996). *Cicendia stricta* is found in Central America (Costa Rica, Guatemala and Mexico). *Cicendias* are small, annual, glabrous ephemeral herbs. They generally grow in damp and open areas. The genus is easily distinguished by its small size and filiform habit.

During a study conducted on taxonomy of *Cicendia*, type material was reviewed. By examining the protologues and the original materials, nomenclatural types were confirmed or designated for the names associated with *Cicendia* according to *International Code of Nomenclature* (McNeill *et al.* 2012).

Materials and Methods

The digital photos of the original materials belonging to all published names (both accepted and synonyms) of *Cicendia* were either obtained from herbaria websites (G-DC, K and P-JU) or requested (GOET, MA and W). For the protologues, Botanicus Digital Library (<http://www.botanicus.org>), The Internet Archive (<https://archive.org>), The Biodiversity Heritage Library (<http://www.biodiversitylibrary.org>), Real Jardin Botánico Digital Library (<http://bibdigital.rjb.csic.es>), and Google Books (<http://books.google.com.tr>) were consulted.

Taxonomic treatment

Cicendia Adanson (1763: 503). ≡ *Microcala* Hoffmannsegg & Link (1820: 359), *nom. illeg.* ≡ *Franquevillia* Salisbury ex Gray (1821: 338), *nom. illeg.* ≡ *Cicendiola* Bubani (1897: 536), *nom. illeg.* Type:—*Cicendia filiformis* (L.) Delarbre (≡ *Gentiana filiformis* L.).

Notes: *Cicendia* was proposed by Adanson (1763) to accommodate a single species, *Gentiana filiformis*, citing the phrase name “*Centaurium palustre luteum minimum*” used by Linnaeus (1753: 232) and the Vaillant (1727) figure cited by Linnaeus, gave a full and direct reference to the Linnaean name, and provided his own diagnosis of the leaf, flower, calyx, corolla, stamen, stigma and seed of the genus (Fig. 1).

Notes: Grisebach (1862: 143) described *Cicendia stricta* from specimens collected in Guatemala and Costa Rica. These syntypes are at GOET and were gathered by Hermann Wendland (1825–1903) in 1857. The examples from Guatemala (*H. Wendland 120*) consist of three plants (GOET003994). Also mounted on this sheet is another specimen of *Cicendia stricta* collected in Mexico by Wilhelm Schaffner (1830–1882), his no. 292. The syntype specimens (*H. Wendland 673*) from Costa Rica consist of six plants mounted on two sheets (GOET003995, two plants; GOET003996, four plants).

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References

- Adams, L.G. (1996) Gentianaceae. In: Wilson, A. (Ed.) *Flora of Australia*, vol. 28. CSIRO, Melbourne, pp. 72–103.
- Adanson, M. (1763) *Familles des Plantes*, vol. 2. Chez Vincent, Paris, 640 pp.
<http://dx.doi.org/10.5962/bhl.title.271>
- Biodiversity Heritage Library (2014) Biodiversity Heritage Library. Available from: <http://www.biodiversitylibrary.org/> (accessed 9 January 2014).
- Botanicus Digital Library (2014) Botanicus Digital Library, Missouri Botanical Garden, St. Louis, USA. Available from: <http://www.botanicus.org/> (accessed 5 February 2014).
- Bubani, P. (1897) *Flora pyrenaea per ordines naturales gradatim digesta*, vol. 1. Ulricus Hoeplius, Mediolani (Milan), 551 pp.
<http://dx.doi.org/10.5962/bhl.title.326>
- Caruel, T. (1884–1886) *Flora italiana*, vol. 6. Tipografia dei succesori Le Monnier, Firenze, 971 pp.
- Delarbre, A. (1800) *Flore de la ci-devant Auvergne*, ed. 2, vol. 1. Landriot & Rousset, Riom & Clermont, 507 pp.
- Díaz Lifante, Z. & Valdés, B. (2014) Lectotypification of *Gentiana filiformis* and *Gentiana pusilla* (Gentianaceae). *Taxon* 63: 417–422.
<http://dx.doi.org/10.12705/632.3>
- Farr, E.R., Leussink, J.A. & Stafleu, F.A. (Eds.) (1979) *Index nominorum genericorum (plantarum)*, vol. 1. Regnum Vegetabile 100. Boh Scheltema & Holkema & Dr. W. Junk, Utrecht & The Hague, 1896 pp.
- Google Books (2014) [Online database] Available from: <http://books.google.com.tr/> (accessed 22 March 2014).
- Gray, S.F. (1821) *Natural arrangement of British plants*, vol. 2. Baldwin, Cradock and Joy, London, 757 pp.
- Grisebach, A.H.R. (1838) *Genera et species Gentianearum adjectis observationibus quibusdam phytogeographicis*. J.G. Cottae, Stuttgartiae et Tubingae, 364 pp.
<http://dx.doi.org/10.5962/bhl.title.51527>
- Grisebach, A.H.R. (1845) Gentianaceae. In: Candolle, A.P. de & Candolle, A.L.P.P. de (Eds.) *Prodromus systematis naturalis regni vegetabilis*, vol. 9. Fortin, Masson et Sociorum, Paris, pp. 39–141.
- Grisebach, A.H.R. (1862) *Notes on Coutoubea volubilis*, Mart., and some other Gentianeae of tropical America. *Journal of the Proceedings of the Linnean Society, Botany* 6: 140–146.
<http://dx.doi.org/10.1111/j.1095-8312.1862.tb01221.x>
- Hoffmannsegg, J.C. von & Link, H.F. (1820) *Flore Portugaise ou description de toutes les plantes qui croissent naturellement en Portugal*, vol. 1. C.F. Amelang, Berlin, 458 pp.
- Hooker, W.J. & Arnott, G.A.W. (1834) Contributions towards a flora of South America and the islands of the Pacific. *Journal of Botany* 1: 276–296.
- Internet Archive (2013) Internet Archive. San Francisco, California, USA. Available from: <https://archive.org/> (accessed 18 December 2013).
- International Plant Names Index (2012) International Plant Names Index. Available from: <http://www.ipni.org/> (accessed 12 January 2014).
- Lamarck, J.B. (1788) *Encyclopedie methodique. Botanique*, vol. 2. Panckoucke, Paris, 774 pp.
- Larrañaga, D.A. (1923) *Escritos de don Dámaso Antonio Larrañaga: Los publica el Instituto Histórico y Geográfico del Uruguay*, vol. 2. Imprenta Nacional, Montevideo, 400 pp.
- Linnaeus, C. (1753) *Species plantarum*, vol. 2. Salvius, Stockholm, 1200 pp.

- Loiseleur-Deslongchamps, J.L.A. (1827) Sur les plantes à ajouter à la Flore de France. *Mémoires de la Société Linnéenne de Paris* 6: 396–432.
- McNeill, J., Barrie, F.R., Buck, W.R., Demoulin, V., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Marhold, K., Prado, J., Prud'homme Van Reine, W.F., Smith, G.F. Wiersema, J.H. & Turland, N.J. (2012) *International code of nomenclature for algae, fungi, and plants (Melbourne Code)*. Koeltz Scientific Books, Melbourne, 140 pp.
- Persoon, C.H. (1805) *Synopsis plantarum, seu Enchiridium botanicum, complectens enumerationem systematicam specierum hucusque cognitarum, vol. 1*. C.F. Cramerum, Parisiis et J.G. Cottam, Tubingae, 546 pp.
<http://dx.doi.org/10.5962/bhl.title.638>
- Real Jardin Botánico Digital Library (2014) [Online database] Available from: <http://bibdigital.rjb.csic.es/> (accessed 19 March 2014).
- Schmidt, F.W. (1796) Kritifche Betrachtung der Enzianen. *Archiv für die Botanik* 1(1): 3–23.
- Schultes, J.A. (1814) *Österreichs Flora, Ein Handbuch auf botanischen Excursionen, ed. 2, vol. 1*. C. Schaumberg und Compagnie, Wien, 700 pp.
- Stafleu, F.A. and Cowan, R.S. (1976) *Taxonomic literature, ed. 2, vol. 1*. Bohn, Scheltema & Holkema, Utrecht, 1136 pp.
- The Plant List (2013) *The Plant List Version 1.1*. Available from: <http://www.theplantlist.org/> (accessed 24 February 2014).
- Vaillant, S. (1727) *Botanicon parisiense*. Jean & Herman Verbeek et Balthazar Lakeman, Leiden & Amsterdam, 205 pp.
- Willdenow, C.L. von (1798) *Species plantarum, editio quarta*. Tomus I. Pars II, G.C. Nauk, Berolini, 1070 pp.