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Neotypification of the Linnaean name *Iris variegata* (Iridaceae)

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Abstract: The typification of the Linnaean name *Iris variegata* (Iridaceae) is discussed. Because no original material of the name is known to exist, a neotype is designated. To facilitate further detection and identification of the species, supporting illustrations of the neotype specimen and the living plant in habitat are provided.

Key words: Iridaceae, *Iris variegata*, Linnaeus, neotype, nomenclature, typification

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Introduction

Iris variegata L. is a rhizomatous perennial species mainly native to SC Europe (Hungary, SE Czech Republic, S Slovakia, Austria, SW Germany, Croatia and Serbia), and also to E Europe (W Ukraine) and SE Europe (S Romania, Bulgaria and Albania). It usually grows on dry, rocky slopes, in open woods, at forest edges and in forest-steppe meadows. It can be readily recognized by its flowers with inner perianth segments yellow and outer perianth segments yellow-white, variegated with brown to purple (from which the specific epithet is derived; Fig. 1). It is commonly cultivated as an ornamental plant and is rich in garden forms related to the Miniature Tall Bearded group of irises, with some of them naturalized in Europe (Lynch 1904; Lenz 1978). It is suggested that *I. germanica* L. and its allied species originated from *I. variegata* (Dykes 1912; Webb & Chater 1980; Mathew 1989). The basic

karyotype of *I. variegata* appears to be similar to that of the other species of bearded irises with a chromosome count of $2n = 24$ (Simonet 1932; Karihaloo & al. 1993).

As a result of the research on the Linnaean names of the genus *Iris* carried out by the first author (Boltenkov 2016, 2019; Boltenkov & Crespo 2019), it was found that the name *I. variegata* remains untypified and it is, therefore, investigated here. The goal of this study is to contribute to the stability of scientific nomenclature of *I. variegata* through typification.

Material and methods

For the typification of *Iris variegata*, we consulted herbarium specimens deposited at BM, L, LINN, MW and UPS (herbarium codes according to Thiers 2020+). Other collections (H and SBT) were studied using the online

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Fig. 1. A living plant of *Iris variegata* in habitat at Ódörög, Bakony Mountains, Hungary. – Photographed on 2 June 2019 by László Kulcsár.



Fig. 2. Neotype of *Iris variegata*: the specimen BP HNHM-TRA 00085001.

herbarium databases. To study the distribution of *I. variegata* in Europe, specimens deposited at BM, BP, CGE, E, K, LE and P (digital images) were examined, and relevant literature was reviewed. Some digital images were obtained from the source herbaria: BRNU, P and W. The neotype is designated in accordance with the *Shenzhen Code* (Turland & al. 2018).

Results and Discussion

The protologue of *Iris variegata* (Linnaeus 1753: 38) consists of a diagnostic phrase name “IRIS corollis barbatis, caule subfolioso longitudine foliorum multifloro”, repeated from Royen (1740: 17) and also cited via *Hortus upsaliensis* (Linnaeus 1748: 16), followed by two polynomial synonyms cited from *Hortus cliffortianus* (Linnaeus 1738: 19, “Iris corollis barbatis, caule [foliis] altitudine caulis multiflori”) and Bauhin (1623: 31, “Iris latifolia pannonica, colore multiplici”) with an indication of the geographical origin “Habitat in Hungaria”. No illustrations (which would have been original material) were provided by any of these authors.

As Dykes (1912) rightly pointed out, the indication of this taxon in the Pre-Linnaean literature (e.g. Bauhin 1623; Royen 1740) is based on the collections of Carolus Clusius. In his work, Clusius (1583: 245–247) provided information about the distribution of this species, to which he applied the polynomial “Iris varia caulifera”, noting that the plants were discovered in territories of modern Austria (Stamphenin [Stampfen], Manderstorf [Mannersdorf], and Entzestorf) and W Hungary (Sopronio [Sopron]) and were brought into cultivation in Europe. Based on this information, we can hypothesize that *Iris variegata* comes not only from Hungary, as indicated in the protologue, but also from Austria. The species was found probably both in the Leitha hills (Leitha-Gebirge), Austria, and the Harka hill (close to Sopron), Hungary, where *I. variegata* is still common. There is an informative illustration in Clusius’s work (1583: 246) which, nevertheless, is not original material for the name, because it was not cited in the protologue (Linnaeus 1753), i.e. Linnaeus did not associate it with the taxon (Turland & al. 2018: Art. 9.4(a)).

There is a specimen in the Linnaean Herbarium at LINN (Herb. Linn. No. 61.5!; image available at <http://linnean-online.org/803/>), but it lacks the relevant species number – “4” – from *Species plantarum*. The specimen is therefore suggested to be a post-1753 addition to Linnaeus’s herbarium and consequently cannot be original material for the name (see Jarvis 2007: 46–47). The Royen phrase name refers to the specimens in the Adriaan van Royen Herbarium (L), but there is no original material associated with this name there. According to Savage (1935), the Burser Herbarium in UPS is important for Linnaeus’s interpretation of Bauhin’s polynomials, but that herbarium does not contain any specimens

associated with *Iris* names (Juel 1923). No specimens referring to *I. variegata* were found in the Clifford Herbarium (BM) either, although there is an explicit reference to the dedicated published work, *Hortus cliffortianus* (Linnaeus 1738), in the protologue. There is no further original material in any of the other herbaria known as having Linnaean specimens (C. Jarvis, pers. comm.).

According to the results of our research, no original material for *Iris variegata* is known to exist. For this reason, a neotype may be designated (Turland & al. 2018: Art. 9.8, 9.13). We designate a specimen in BP as the neotype of *I. variegata*. This is a recent, well-prepared specimen; it matches the description in the protologue and is also consistent with the traditional concept and current application of the name *I. variegata* (e.g. Lynch 1904; Dykes 1912; Webb & Chater 1980; Mathew 1989). The choice is also congruent with the provenance indicated in the protologue.

***Iris variegata* L., Sp. Pl.: 38. 1753. – Neotype (designated here):** [Hungary, Central Hungary Region], Pest m[egye], Dunabogdány, Csódi-hegy, bokorerdőben, (fl.), 20 May 2002, Z. Barina & D. Pifkó 1404 (BP HNHM-TRA 00085001! [Fig. 2]).

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References

- Bauhin C. 1623: Pinax theatri botanici. – Basel: Ludovici Regis.
- Boltenkov E. V. 2016: Neotypification of the Linnaean name *Iris aphylla* (Iridaceae). – Phytotaxa **273**: 141–143.
- Boltenkov E. V. 2019: Typification of the Linnaean name *Iris pumila* (Iridaceae). – Willdenowia **49**: 147–150.

- Boltenkov E. V. & Crespo M. B. 2019: (2717) Proposal to reject the name *Iris biflora* (Iridaceae). *Taxon* **68**: 1118–1119.
- Clusius C. 1583: *Rariorum aliquot stirpium, per Pannoniam, Austriam, & vicinas quasdam provincias observatarum historia*. – Antverpiae: Christophori Plantini.
- Dykes W. R. 1912: *The genus Iris*. – Cambridge: Cambridge University Press.
- Jarvis C. E. 2007: *Order out of chaos: Linnaean plant names and their types*. – London: Linnean Society of London and the Natural History Museum.
- Juel H. O. 1923: *Studien in Burser's Hortus siccus*. – Nova Acta Regiae Soc. Sci. Upsal., ser. 4, **5(7)**: 1–144.
- Karihaloo V., Karihaloo J. L. & Koul A. K. 1993: Structural heterozygosity in *Iris variegata* L. – *Caryologia* **46**: 77–85.
- Lenz L. W. 1978: Review of taxa of the genus *Iris*. – Pp. 8–42 in: Warburton B. & Hamblen M. (ed.), *The world of irises*. – Wichita: Publisher's Press.
- Linnaeus C. 1738: *Hortus cliffortianus*. – Amsterdam: Salomon Schouten.
- Linnaeus C. 1748: *Hortus upsaliensis*. – Holmiae: Laurentii Salvii.
- Linnaeus C. 1753: *Species plantarum*. – Holmiae: Laurentii Salvii.
- Lynch R. I. 1904: *The book of the iris*. – London & New York: J. Lane.
- Mathew B. 1989: *The Iris*, ed. **2**. – London: Batsford Ltd.
- Royen A. van 1740: *Florae leydensis prodromus*. – Leiden: Samuelem Luchtmans.
- Savage S. 1935: *Studies in Linnaean synonymy*. 1. Caspar Bauhin's 'Pinax' and Burser's herbarium. – *Proc. Linn. Soc. London* **148**: 16–26.
- Simonet M. 1932: *Recherches cytologiques et génétiques chez les Iris*. – *Bull. Biol. France Belgique* **105**: 255–444.
- Thiers B. 2020+ [continuously updated]: *Index herbariorum: a global directory of public herbaria and associated staff*. New York Botanical Garden's virtual herbarium. – Published at <http://sweetgum.nybg.org/science/ih/> [accessed 10 Feb 2020].
- Turland N. J., Wiersema J. H., Barrie F. R., Greuter W., Hawksworth D. L., Herendeen P. S., Knapp S., Kusber W.-H., Li D.-Z., Marhold K., May T. W., McNeill J., Monro A. M., Prado J., Price M. J. & Smith G. F. (ed.) 2018: *International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017*. – Glashütten: Koeltz Botanical Books [= *Regnum Veg.* **159**].
- Webb D. A. & Chater A. O. 1980: *Iris* L. – Pp. 87–92 in: Tutin T. G., Heywood V. H., Burges N. A., Moore D. M., Valentine D. H., Walters S. M. & Webb D. A. (ed.), *Flora europaea* **5**. – Cambridge: Cambridge University Press.

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