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Willdenowia
Annals of the Botanic Garden and Botanical Museum Berlin

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Typification of the Linnaean name *Iris pumila* (*Iridaceae*)

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Abstract: The typification of the Linnaean name *Iris pumila* (*Iridaceae*) is discussed. Original material conserved in the Clifford Herbarium (BM), agreeing with the current usage of the name, is designated as the lectotype. An epitype is also designated in order to avoid any ambiguity in the taxonomic interpretation of the lectotype specimen and hence the application of the name.

Key words: epitype, *Iridaceae*, *Iris*, *Iris pumila*, lectotype, Linnaeus, nomenclature, typification

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Introduction

Iris pumila L. is one of the 18 names published under the genus *Iris* by Linnaeus in *Species plantarum* (1753). It is a rhizomatous perennial native to central and south-eastern Europe, from Austria to the Caucasus and the Ural Mountains, where it grows in dryish and grassy habitats. *Iris pumila* is a well-known garden plant, widely cultivated mostly for ornamental purposes, and it has given rise to many hybrids. This species is considered the type of *I.* ser. *Pumilae* Lawr., which comprises the dwarf bearded irises. It is easily distinguished from its relatives by the very short stem (1–5 cm tall, usually not longer than 1 cm); flowers solitary, on a very short pedicel (up to 2 cm long), and always with a long, slender perianth tube (to 9 cm long) closely sheathed by two narrow, scarious bracts up to 10 cm long. Basal leaves are 5–10 cm long at the flowering stage, subsequently growing to almost twice that size. Plants frequently vary greatly in flower colour in populations, especially in the Caucasus (Lipsky 1889; Gabrieljan 2001; as well as personal observations of the author), with the type form being purple (Linnaeus 1753). *Iris pumila* with yellow flowers was sometimes mistaken for *I. lutescens* Lam. (Lipsky 1889).

The name *Iris pumila* has consistently been accepted and widely used in the taxonomic literature (e.g. Lynch 1904; Dykes 1912; Webb & Chater 1980; Mathew 1989; Gabrieljan 2001; Alekseeva 2008). As far is known (see also Jarvis 2007), the name *I. pumila* has not yet been typified, and it is therefore considered part of the research on the nomenclature and Linnaean names of the genus *Iris* carried out by the author (see Boltenkov 2016). The goal of this paper is to contribute to the nomenclatural stability of *I. pumila* through typification.

Material and methods

For the typification of *Iris pumila*, I studied herbarium material and/or images deposited at BM, L and LINN (herbarium codes according to Thiers 2019+). To cor-

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roborate that *I. pumila* should be considered a species distinct from *I. lutescens*, I examined other specimens from Europe deposited at BAK, E, ERE, K, LE, MHA, MW, P and TBI. In addition, all relevant taxonomic literature was consulted. Furthermore, I conducted field work in Dagestan, Russian Federation, to evaluate variation of morphological features of *I. pumila*. A lectotype and epitype are designated in accordance with the relevant articles of the *International Code of Nomenclature for algae, fungi, and plants* (Turland & al. 2018). In the present paper, specimens are cited by barcode numbers following the herbarium codes.

Results and Discussion

Typification of *Iris pumila*

Linnaeus's protologue (1753: 38) of *Iris pumila* consists of a short diagnosis "IRIS corollis barbatis, caule foliis breviore unifloro", followed by two synonyms. The first polynomial synonym "Iris corollis barbatis, foliis caulem uniflorum superantibus" was cited from *Hortus Cliffortianus* (Linnaeus 1738: 19) and from Royen (1740: 17); the second "Chamaeiris minor, flore purpureo" was cited from Bauhin (1623: 33). The protologue also includes the provenance "Habitat in Austriae, Pannoniae", along with the habitat "collibus apricis [sunny hills]". No illustrations were provided in Bauhin (1623), Linnaeus (1738) or Royen (1740).

According to Jarvis (2007: 594), the only extant potential original material for the name *Iris pumila* are a herbarium specimen in the Linnaean Herbarium (in LINN) and two specimens in the Clifford Herbarium (in BM). In LINN, there is a sheet (No. 61.1!; numbering following Savage 1945; image available at http://linnean-online.org/798/) bearing the annotation "6 *pumila*" written by Linnaeus. Because "6" refers to the species number that appears in the protologue of *I. pumila* (Linnaeus 1753: 38), the specimen on sheet LINN No. 61.1 can be considered a pre-1753 addition to Linnaeus's herbarium and, therefore, is acceptable as original material for the name (see Jarvis 2007). This sheet represents the above-ground part of a single plant, consisting of basal leaves and an unbranched flower stem c. 5 cm tall. The stem has a cauline leaf, two short, slightly broadened bracts (3.5 cm long), and two terminal flowers, one of which has pedicels to 1.5 cm long and a short perianth tube. As confirmed in the present study, the specimen on sheet LINN No. 61.1 is not identifiable as *I. pumila*, and belongs instead to *I. lutescens*. The latter species differs from *I. pumila* in its evident stem (to 20 cm long), with 1 or 2 larger flowers, shorter perianth tube (2–3.5 cm long), much broader and less membranous bracts (3–5.5 cm long) and also in its distribution (Webb & Chater 1980). In fact, some authors (e.g. Baker 1876; Dykes 1912; Lynch 1904) carefully studied the LINN specimen and found it to be *I. chamaeiris* Bertol., a synonym of *I. lutescens* according to Mathew (1989: 24), which had been confused with *I. pumila* by Linnaeus. All things considered, it seems that Linnaeus had a different, wider concept of *I. pumila*. This is corroborated by later annotations by Linnaeus on the reverse side of the sheet, which raise some doubt as to the identity of the plant: "Iris foliis ensiformibus, corollis barbatis, caule bifloro. ?Iris humilis, flore luteo. T. Dod.". Alekseeva (2008) indicated LINN No. 61.1 as "Typus", but this was not an effective designation of type, because the typification statement did not include the phrase "designated here" or an equivalent (Turland & al. 2018: Art. 7.11).

In the Clifford Herbarium, there are two sheets (Herb. Clifford: 19, *Iris* 5, BM 000557644! and BM 000557645!; images available at https://doi.org/10.5519/0022031), which are not annotated by Linnaeus as *I. pumila* but were studied by him (Jarvis 2007). One of these (BM 000557644) represents five above-ground parts including basal leaves and 1-flowered stems. This specimen has a label with a hand-written annotation "Iris humilis, flore atropurpureo. Iris biflora". The first part of this is Boerhaave's (1720: 125) polynomial cited in *Hortus Cliffortianus* (Linnaeus 1738) as a synonym of "Iris corollis barbatis, foliis caulem multiflorum superantibus", which in turn is cited as a synonym of *I. biflora* L. in *Species plantarum* (Linnaeus 1753: 38). However, a curator has written in pencil beside the label: "Label incorrect". Also, this specimen is annotated with the number "20", which is the number of Boerhaave's (l.c.) polynomial. The other sheet (BM 000557645), not bearing an original label, bears three parts presumably from the same plant: one stem with a flower and two fragments of floral organs.

The Joachim Burser Herbarium (in UPS) was used by Linnaeus to interpret the application of Bauhin's names (Savage 1935; Jarvis 2007), but it does not contain any specimens of *Iris* (Juel 1923). The Adriaan van Royen Herbarium (in L) was also studied by Linnaeus (Jarvis 2007). In this herbarium, there is a specimen (L 0222373 [digital image!]) collected by his successor, David van Royen. Although this specimen is accompanied by a label with Linnaeus's handwriting "*Iris pumila* L. Sp. 2. 56 [Linnaeus 1762: 56]; 6 Roy. lb! 17 [Royen 1740: 17]", it is a post-1753 addition to the collection and is not therefore original material for the name.

The specimen in the Clifford Herbarium (BM 000557644) is the obvious choice of lectotype for *Iris pumila* because it is the best representative original material available and corresponds with the current use of the name (e.g. Webb & Chater 1980; Mathew 1989; Gabrieljan 2001; Alekseeva 2008). However, the specimen is not sufficiently detailed to provide a precise application of the name because it lacks the underground part. Therefore, in order to avoid any ambiguity in the taxonomic interpretation of the type, an epitype is designated here. The epitype selected is a well-prepared specimen (LE 01043814!; Fig. 1) that belongs to a gathering with duplicates in several herbaria. It was collected in Hungary, the precise geographical area indicated by Linnaeus in his

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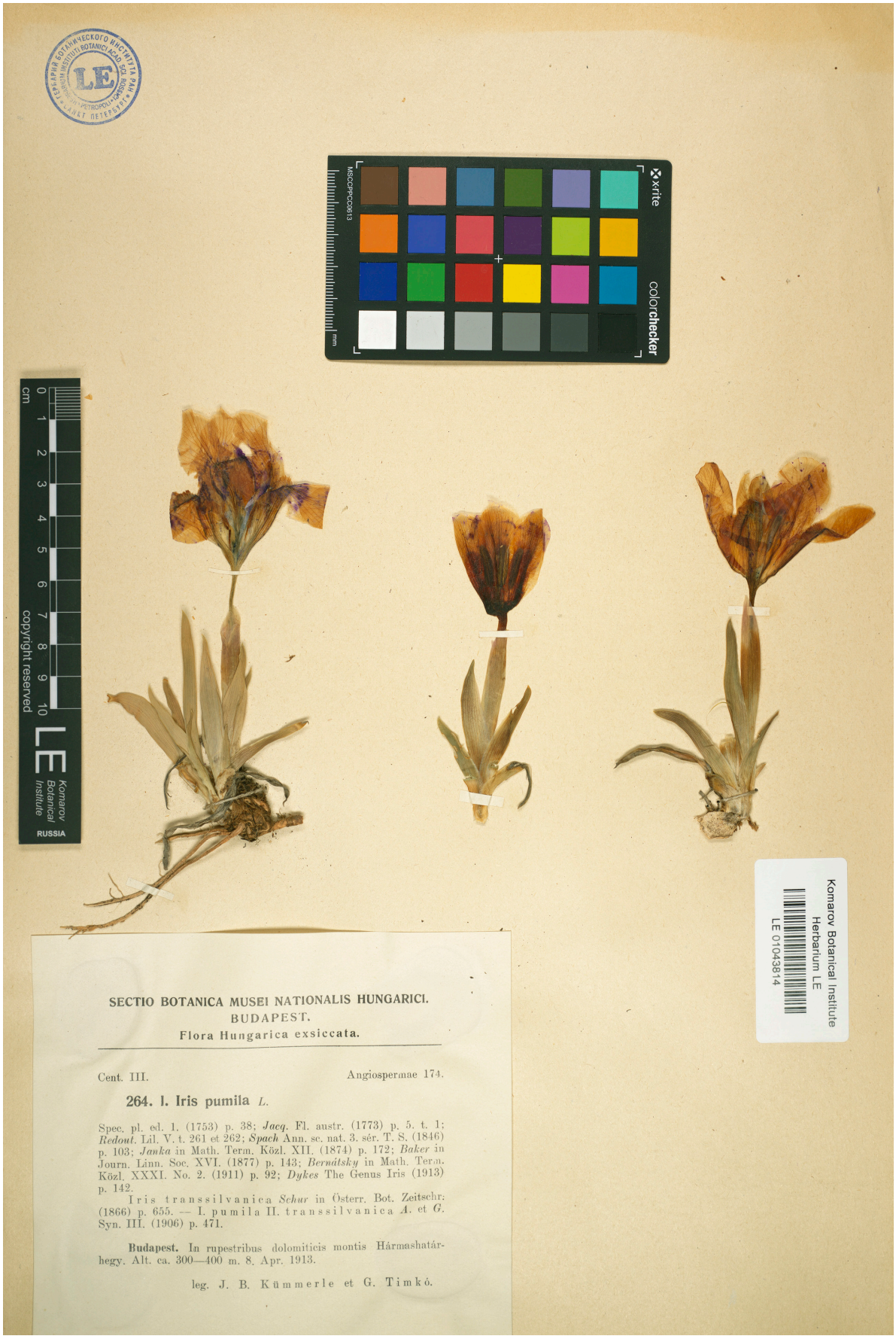


Fig. 1. Epitype of *Iris pumila*: specimen LE 01043814.

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statement of provenance. Plants of this gathering agree with the protologue and comply with the traditional concept (e.g. Baker 1876; Lynch 1904; Dykes 1912) and current use of the name *I. pumila*.

Iris pumila L., Sp. Pl.: 38. 1753. – **Lectotype (designated here):** Herb. Clifford: 19, *Iris* 5 (BM 000557644! [image available at https://doi.org/10.5519/0022031]). – **Epitype (designated here):** [Hungary, Central Hungary Region], Budapest, in rupestribus dolomiticis montis Hármashatár-hegy, 300–400 m, (fl.), 8 Apr 1913, *J. B. Kümmerle & G. Timkó s.n.*, Exs. No. 264 (LE 01043814! [Fig. 1]; isoepitypes: L 1472769 [digital image! available at http://data.biodiversitydata.nl/naturalis/specimen/L.1472769], P, W).

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