Flora Montiberica 53: 49-62 (18-XII-2012). ISSN: 1988-799X

NOMENCLATURAL TYPES OF IBERIAN IRISES (*IRIS* AND RELATED GENERA, *IRIDACEAE*)

Manuel B. CRESPO VILLALBA

CIBIO, Instituto de la Biodiversidad. Universidad de Alicante.
P.O. Box 99. E-03080 Alicante. E-mail: crespo@ua.es

ABSTRACT: Nomenclatural types are reported for seventeen taxa belonging to *Iris* and six related genera, which are accepted in the forthcoming treatment of *Iridaceae* for *Flora iberica*. Among them, 13 lectotypes and one neotype are designated for the first time, and three previous typifications are briefly commented. **Keywords:** *Iris*, *Chamaeiris*, *Juno*, *Limniris*, *Xiphion*, *Hermodactylus*, *Gynandriris*, nomenclature, typification, Iberian Peninsula.

RESUMEN: **Tipos nomenclaturales de lirios ibéricos (*Iris* y géneros relacionados, *Iridaceaae*)**. Se presentan los tipos nomenclaturales de 17 táxones pertenecientes a *Iris* y otros seis géneros relacionados, que se aceptan en el tratamiento de las *Iridaceae* para *Flora iberica*. De ellos, se designan por primera vez 13 lectótipos y un neótipo, y se comentan brevemente tres tipificaciones previas. **Palabras clave**: *Iris*, *Chamaeiris*, *Juno*, *Limniris*, *Xiphion*, *Hermodactylus*, *Gynandriris*, nomenclatura, tipificación, Península Ibérica.

INTRODUCTION

Iridaceae will be included in the forthcoming volume XX of *Flora iberica*. As a part of the editorial task, data on nomenclatural types will be reported for all accepted taxa in the family. Some of the species occurring in the Iberian Peninsula have already been typified, though many irises are still in need of typification.

Irises will be arranged in *Flora iberica* in seven genera, some of them being circumscribed in a narrower sense: *Iris* L., *Chamaeiris* Medik., *Juno* Tratt., *Limniris* (Tausch) Fourr., *Xiphion* Mill., *Hermodactylus* Mill., and *Gynandriris* Parl. (not included in *Moraea* Mill.). Many of these groups were treated at different ranks in *Iris* s.l. (cf. BAKER, 1892; DYKES, 1912; LAWRENCE, 1953; MATHEW, 1989; WILSON, 2011; among others), whereas others were accepted as separate genera (cf. PARLATORE, 1860; KLATT, 1864, 1866; BAKER, 1877; VALENTINE, 1980; RODIONENKO, 1961, 2005, 2007, 2009; MAVRODIEV, 2010; among others).

In any case, important morphological differences exist among those seven aggregates, which allow recognition of unique morphological syndromes for each genus. Furthermore, recent molecular studies by WILSON (2011) have shown that all those groups, as well as other extra-Iberian aggregates, are monophyletic. On this basis, a new arrangement of the whole 'Iris-flower' clade is being undertaken (CRESPO & MARTÍNEZ-AZORÍN, in prep.), and it will be ready for publication soon.

In the present contribution, types are indicated for all taxa accepted in *Flora*

iberica, according to the International Code of Botanical Nomenclature –ICBN– (McNEILL et al., 2006). Basionyms are grouped in the seven genera cited above, and every accepted name is marked in bold. For typification of Linnaean names, all information presented by JARVIS (2007) has been carefully checked.

RESULTS AND DISCUSSION

*The genus **Iris** L. (sensu stricto)*

1. **Iris germanica** L., Sp. Pl.: 38 (1753)
Ind. loc.: "Habitat in Germaniae editis"
Lectotypus [designated by B. MATHEW in JARVIS & al. (1993: 57)]: Herb. Clifford: 18, *Iris* 2 (BM 000557643)

The lectotype selected by MATHEW (1989) shows a scape with short branches, and it possibly comes from a plant smaller than usual, as suggested by DYKES (1912: 6). Nonetheless, it matches the concept widely accepted for this species and is an appropriate election.

The previous type designation of the sheet Herb. Linnaeus no. 61.6 (LINN; image available at www.linnean-online.org/804/) by LABANI & EL-GADI (1980: 7) is to be superseded, since it is a post-1753 accession and therefore is not original material for the name (JARVIS, 2007).

2. *Iris florentina* L., Syst. Nat. ed. 10: 863 (1759) ["florentin."]
[**Iris germanica** var. **florentina** (L.) Dykes, Genus Iris: 164 (1912)]
Ind. loc.: "Habitat [in Europa australi-Carniola.] Sp. Pl. ed. 2: 55 (1762)"
Neotypus (hic designatus): K 000524326

In the protologue, LINNAEUS (1759) did not include any element useful for typification of this name. The original diagnostic phrases "*I. corollis barbatis, caule foliis altiore subbifloro, floribus sessilibus*" was reproduced later without changes in the second edition of *Species plantarum* (LINNAEUS, 1762), together with synonymy, geographic distribution and a short diagnosis comparing it with *I. germanica*. Among synonyms, Linnaeus cited the figure no. 154 of MILLER (1757), which the latter author named *Iris orientalis* Mill. in the eighth edition of his celebrated *Gardeners' Dictionary* (1768). This taxon corresponds to *Chamaeiris orientalis* (Mill.) M.B. Crespo, and has *I. ochroleuca* L. in synonymy. Nonetheless, as suggested by DYKES (1912) and MATHEW (1989), Linnaeus surely intended to describe a white-flowered bearded iris (*Iris* sect. *Iris*) related to *I. germanica* L., as deduced from the diagnosis and the rest of pre-Linnaean polynomials he added in 1762. Therefore, KER GAWLER (1803) interpreted *I. florentina* as a variant of *I. germanica* with pearl-white flowers, and brought accurate descriptions and illustrations for both taxa. From that time, his concept has been adopted widely to represent the true 'Florentine iris'.

However, the original Linnaean concept of *I. florentina* was wider than it is now accepted by botanists, and probably also included *I. albicans* Lange. It can be deduced from synonyms explicitly mentioned in the second edition of *Species plantarum* (e.g. BAUHIN, 1671; RAY, 1688), as well as those indirectly associated (e.g. DODOENS, 1583; BAUHIN, 1658; CLUSIUS, 1601; among others). Furthermore, the final part of the diagnosis in the protologue of *I. florentina* (*floribus sessilibus*) could be argued to fit more properly *I. albicans*.

This fact would explain that *I. florentina* had sometimes been regarded to include *I. albicans*, a species that differs from the Linnaean taxon by its sessile or almost sessile pure-white flowers, and the unbranched or very shortly branched scape (Figs. 1 & 2). Studies by DYKES (1910, 1912) contributed decisively to normalize circumscription of both names.

Flora Montiberica 53: 49-62 (18-XII-2012). ISSN: 1988-799X

Consequently, the sheet K 000524326 (Fig. 1) is designated as neotype of *Iris florentina*, a specimen that was collected in 1957 and labelled as being "the *Iris florentina* of the Bot. Mag. t. 671 (1803)". It most likely came from the living collections at Kew ('H.K.' – *Herbaceous Kewensis*; WALSINGHAM, pers. comm.), and possibly could have been related to plants from which the illustration of KEW GAWLER (1803) was drawn. This specimen allows maintaining current usage of that name as it was for more than 100 years, though usually treated as *I. germanica* var. *florentina* (L.) Dykes.

Fig. 1. Neotype of *Iris florentina* L. (© Royal Botanic Gardens, Kew).

3. **Iris albicans** Lange in Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn ser. 2, 1: 76 (1860)
[*I. florentina* var. *albicans* (Lange) Baker in J. Linn. Soc., Bot. 16: 146 (1877) ≡ *I. florentina* subsp. *albicans* (Lange) K. Richt., Pl. Eur. 1: 255 (1890) ≡ *I. germanica* subsp. *albicans* (Lange) O. Bolòs & Vigo, Fl. Països Catalans 4: 158 (2001)]

Ind. loc.: "E tuberibus ad oppidum Almeria lectis in hort. bot. Hafn. floruit 8 Jun. 1858. Ulterius observanda!"

Lectotypus (hic designatus): "Culta in hort. bot. hafn. 8 jun. 1858… e tuberibus in Hispania lectis. Joh. Lange" (C, s.n.!)

Rhizomes of this species were collected near Almería (SE of Spain) on December 1851 (cf. LANGE, 1866: 19, tab. XXXIII), and they were grown later in the Botanical Garden of Copenhagen. Flowers were obtained for the first time in 1858, and plants still bloomed in following years, as said in the protologue.

A sheet exists at C that is regarded as the type of Lange's species. That collection is probably the only extant original material, and it matches perfectly the protologue. A label with Lange's handwriting is attached, together with another more recent one suggesting that the sheet could be the true type material of the name (HANSEN, pers. comm.).

However, it is not possible to ascertain if the cited collection was the only element on which the description was based. Lange's plants flowered at C several times prior to publication of the new species, and maintained their morphological features unchanged (cf. LANGE, 1860, 1866). Any of those materials could have been used for that purpose.

Therefore, the sheet at C (Fig. 2) is selected as the obligate lectotype of *I. albicans*.

4. **Iris lutescens** Lam., Encycl. 3(1): 297 (1789)

Ind. loc.: "Cette *Iris* croît en France, en Allemagne, &c. aux lieux montagneux & pierreux: on la cultive au Jardin du Roi, où elle fleurit au moins de Mai"

Lectotypus (hic designatus): "*Iris pumila lutea* - tube de la cor. couvert et de la longeur de la spathe" (P-LAM 00382910).

A sheet exists in Lamarck's herbarium at P (image available at www. lamarck.cnrs.fr/herbier.php; liasse no. 80, page no. 7) that bears 4 flowering stems plus several unattached leaves, fitting well the original description of *I. lutescens*. No direct reference to that binomial is found on that collection, though it is a Lamarckian handwriting with both the polynomial '*Iris pumila lutea*' and a short sentence on features of spathes and corolla tube, which match perfectly the protologue (cf. LAMARCK, 1789). This element is selected as the obligate lectotype of the species, which otherwise is not native to Germany, contrarily to the indication in the protologue.

The genus ***Chamaeiris*** *Medik.*

5. *Iris graminea* L., Sp. Pl.: 39 (1753)
[**Chamaeiris graminea** (L.) Medik. in Hist. & Commentat. Acad. Elect. Sci. Theod.-Palat. 6: 418 (1790)]

Ind. loc.: "Habitat in Austria ad radices montium"

Lectotypus (hic designatus): Herb. Clifford: 19, *Iris* 10 (BM 000557648)

Several materials exist among the Linnaean collections that are relevant for typification of this name (cf. JARVIS, 2007). The sheet Herb. Linnaeus no. 17.9 (S; image available at linnaeus.nrm.se/botany/fbo/i/iris/irisgra.html.en) includes two fragments fitting the original description and the current concept of this species, but they are post-1753 accessions from Alstroemer, and are ineligible as type.

The sheet Herb. Linnaeus no. 61.15 (LINN; image available at www. linnean-online.org/813/), which corresponds to num. 4 of Amman's collection, bears

Flora Montiberica 53: 49-62 (18-XII-2012). ISSN: 1988-799X

number '13' of *Species plantarum*, but it is indeed *Iris ruthenica* Ker Gawl., as SALISBURY (in sched.) and DYKES (1912: 6) indicated. Besides, the sheet no. 61.16 (LINN; image available at www.linnean-online.org/814/) also includes material of this species with the annotation '*graminea*' in Linnaeus fil. handwriting, it being not original material and hence not suitable for typification.

Finally, the sheet BM 000557648 includes two fragments that match the protologue. It corresponds to Herb. Clifford: 19, *Iris* 10 (image available at www.nhm.ac.uk/research-curation/research/projects/clifford-herbarium/search/), and it is designated here as the lectotype of *I. graminea*, which is also the type species of genus *Chamaeiris* Medik. (cf. CRESPO, 2011: 65).

Fig. 2. Lectotype of *Iris albicans* Lange (© Herbarium C, Statens Haturhistoriske Museum, Copenhagen).

6. *Iris reichenbachiana* Klatt in Linnaea 34: 613 (1866)
[**Chamaeiris reichenbachiana** (Klatt) M.B. Crespo in Flora Montiber. 49: 68 (2011)]

Ind. loc.: "Hab. Alger, dans les prairies, leg. Bové. – Herb. Reg. Berol."

Lectotypus (hic designatus): Herbier de Mauritanie. Alger, dans les prairies. N. Bové. Mai 1837 (CGE 12660!), as "*Iris spuria* L." [holotype missing at B]

KLATT (1866) explicitly cited in the protologue that the holotype was housed at B. Now it seems to be missing at Berlin (VOGT, pers. comm.), though fortunately several isotypes of Bové's collection are found in European herbaria (e.g. C, CGE, G, K, P). Among them, we designate the sheet CGE 12660 (Cambridge University) as lectotype (ICBN, art. 9.9), since it is well conserved and bears a completely developed flower (Fig. 3).

7. *Iris foetidissima* L., Sp. Pl.: 39 (1753)
[**Chamaeiris foetidissima** (L.) Medik. in Hist. & Commentat. Acad. Elect. Sci. Theod.-Palat. 6: 418 (1790), "foetida"]

Ind. loc.: "Habitat in Gallia, Anglia, Hetruria"

Lectotypus (hic designatus): [icon in] Dodoens, Stirp. Hist. Pempt.: 247 (1583), "*Spatula foetida*"

Among the elements cited in the protologue (LINNAEUS, 1753), four are relevant for typification of this name. First, the sheet Herb. Clifford 19, *Iris* 10 (BM 000557648) corresponds indeed to *I. graminea* as said before, and was probably included by error, it being not appropriate as the type. Secondly, the sheet Herb. Linnaeus no. 61.8 (LINN; image available at www.linnean-online. org/ 806/) includes a single flower of the true *I. foetidissima*, and it is annotated "HU/8/ *Iris foetidissima*". Most probably, DYKES (1912: 50) indirectly referred to that collection, though it cannot be accepted as a valid typification according to the ICBN (McNeill et al., 2006).

Between the remaining two elements, the plate of "*Spatula foetida*" in DODOENS (1583: 247) is a good choice for lectotype of *I. foetidissima*. It is comparatively more accurate and complete than those of "*Spatula foetida*, plerisque *Xyris*" in BAUHIN & CHERLER (1651: 731): a fruiting specimen on the upper part of the cited page, and a flowering one on the lower.

With regard to the combination in *Chamaeiris*, Medikus referred it as "*Ch. foetida*", though he cited the basyonym as "*I. foetida* L." and linked it to the same Linnaean synonym: '*Spatha foetida* Dodon. p. 245' (DODONAEUS, 1583). As discussed by CRESPO (2011), it should be treated as an orthographic error without nomenclatural consequences, and the combination should undoubtedly be attributed to Medikus.

*Genus **Juno** Tratt.*

8. *Xiphion planifolium* Mill., Gard. Dict. ed. 8: nº 4 (1768)
[**Juno planifolia** (Mill.) Asch. in Bot. Zeitung (Berlin) 22: 114 (1864) ≡ *Iris planifolia* (Mill.) Durand & Schinz, Consp. Fl. Afr. 5: 669 (1894)]

Ind. loc.: "The forth sort [*Xiphion planifolium*] grows naturally in Spain and Portugal"

Lectotypus (hic designatus): [icon in] J. Bauhin & Cherler, Hist. Pl. 2: 703 (1651), "*Iris bulbosa latifolia flore caeruleo & candido*"

No herbarium material of this taxon is currently found among Miller's collections at OXF, in Oxford University (S.K. MARNER, pers. comm.). In the protologue, however, reference is explicitly made to "*Iris bulbosa latifolia, flore caeruleo* J.B. 2 703", which refers to BAUHIN & CHERLER (1651: 703). These authors described the species under the name "*Iris bulbosa latifolia, flore caeruleo & candido*", including a good drawing that fits well the current concept of that name,

Flora Montiberica 53: 49-62 (18-XII-2012). ISSN: 1988-799X

and they also brought additional reference to Clusius's "*Iris bulbosa latifolia, sive I*" (cf. CLUSIUS, 1601: 210), which represents Miller's taxon too. Therefore, the cited drawing in Bauhin & Cherler, which depicts a plant occurring in Portugal and southern Spain, is here selected as the lectotype of the name.

Genus ***Limniris*** *(Tausch) Rchb.*

9. *Iris pseudacorus* L., Sp. Pl.: 38 (1753) [**Limniris pseudacorus** (L.) Fuss, Fl. Transsilv.: 636 (1866) ≡ *Xiphion pseudacorus* (L.) Schrank, Fl. Monac. 1, tab. 9 (1811) ≡ *Limnirion pseudacorus* (L.) Opiz, Seznam: 59 (1852), nom. inval. ≡ *Xyridi-*

Fig. 3. Lectotype of *Iris reichenbachiana* Klatt (© Herbarium CGE, Cambridge University).

on pseudacorus (L.) Klatt in Bot. Zeitung (Berlin) 30: 500 (1872) ≡ *Pseudo-iris palustris* Medik. in Hist. & Commentat. Acad. Elect. Sci. Theod.-Palat. 6: 417 (1790), nom. illeg., syn. subst. ≡ *I. lutea* Lam., Fl. Fr. 3: 496 (1779), nom. illeg., syn. subst.]

Ind. loc.: "Habitat in Europa ad ripas paludum fossarum"

Lectotypus (hic designatus): Herb. Linnaeus no. 61.7 (LINN)

Three elements are relevant for typification of this name. First, the description and plate of "*Acorus adulterinus*" in BAUHIN (1653: 633) correspond to this species, though the latter illustrates an atypical specimen with unbranched stems. Secondly, the specimen Herb. Clifford: 19, *Iris* 6 (BM 000557646; image available at www.nhm.ac.uk/research-curation/research/projects/clifford-herbarium/search/) includes only a one-flowered lateral branch of an inflorescence, which matches the current concept of the species. Finally, the sheet Herb. Linnaeus no. 61.7 (LINN; image available at www.linnean-online.org/805/) bears a more complete and representative fragment, and is a good choice as lectotype.

Genus ***Xiphion*** *Tourn. ex Mill.*

10. *Iris xiphium* L., Sp. Pl.: 40 (1753)
[*I. coronaria* Salisb., Prodr. Stirp. Chap. Allerton: 45 (1796), nom. illeg., syn. subst. ≡ *Xiphion angustifolium* Tourn. ex Klatt in Linnaea 34: 569 (1868), nom. illeg., syn. subst. = **Xiphion vulgare** Mill., Gard. Dict. ed. 8: nº 2 (1768)]

Ind. loc.: "*Habitat in* Hispania"

Lectotypus (hic designatus): Herb. Clifford: 20, *Iris*: 12 (BM 000557649)

As argued by BAKER (1877, 1892) and DYKES (1912: 214-215), the original Linnaean concept of *I. xiphium* also included *Xiphion latifolium* Mill. [*Iris latifolia* (Mill.) Voss]. In fact, as evidenced by EHRHART (1792: 139-141), variety "*β Iris bulbosa caeruleo-violacea* Bauh. pin. 40" in the Linnaean protologue corresponds to *X. vulgare*, whereas the synonym "*Iris bulbosa latifolia caule donata* Bauh. pin. 38" appears to belong to *X. latifolium* (see below for further discussion on that taxon).

Nonetheless, when MILLER (1768) synonymised "*Iris bulbosa, flore caeruleo violaceo* C.B.P. 38" to his *X. vulgare* (even with a wrong page citation of Bauhin's Pinax), the circumscription of the latter name was restricted and clearly separated from *X. latifolium*, in a sense that has remained until today. Accordingly, the sheet Herb. Clifford: 20 *Iris*: 12 (BM 000557649; image available at www.nhm.ac.uk/research-curation/research/projects / clifford-herbarium / search/) in which a fragment is found fitting well the current concept of *I. xiphium* (*Xiphion vulgare*), is designated as lectotype to maintain the traditional use of the Linnaean name.

11. *Iris lusitanica* Ker Gawl. in Bot. Mag. 18, tab. 679 (1803)
[***Xiphion vulgare*** var. ***lusitanicum*** (Ker Gawl.) Baker in Gard. Chron. ser. 2, 5: 559 (1876) ≡ *X. sordidum* Sol. ex Salisb. in Trans. Hort. Soc. London 1: 303 (1812) ["*Xiphium*"], nom. illeg., syn. subst. ≡ *X. lusitanicum* (Ker Gawl.) Alef. in Bot. Zeitung (Berlin) 21: 297 (1863) ≡ *Iris xiphium* var. *lusitanica* (Ker Gawl.) Foster, Bulb. Iris.: 65 (1892)]

Ind. loc.: " in rich spots, as well as on rocky hills, near the Tagus above Lisbon".

Lectotypus (hic designatus): [icon in] Clus., Rar. Pl. Hist. 1: 212 (1601), "*Iris bulbosa flavo flo[re], sive V*"

This taxon was described and illustrated by KER GAWLER (1803: tab. 679), who appeared to be certainly disappointed, from individuals with yellow-flowers tinged with violet-blue, which can be interpreted as transitional to *Xiphion vulgare* var. *vulgare* (whose flowers are basically bluish or lilac-blue). Nonetheless, as

Flora Montiberica 53: 49-62 (18-XII-2012). ISSN: 1988-799X

he mentioned, from the beginning of the XIX century the name *Iris lusitanica* was applied by horticulturists to full yellow-flowered plants growing in the central-western Iberian Peninsula (from the Portuguese Estremadura to the Spanish Extremadura).

Yellow-flowered plants from the surroundings of Lisbon had already been illustrated by CLUSIUS (1601: 212) as "*Iris bulbosa flavo flo. sive V*" and had also been described accurately under the name "*Iris bulbosa IIII, sive lutea*" in the same work. Therefore, that illustration is a good choice for lectotype, since it is cited explicitly in Ker Gawler's protologue, and allows maintaining the traditional use of the name, it being favoured here as a variety in *X. vulgare*.

12. *Iris filifolia* Boiss., Voy. Bot. Espagne 2: 602, t. 170 (1842)
[**Xiphion filifolium** (Boiss.) Klatt in Linnaea 34: 571 (1866)]

Ind. loc.: "In rupestribus calcareis arenosis regionis montanae, *Sierra de Mijas* suprà *Alhaurin* loco *Cruz de Mendoza* dicto, *Sierra Bermeja* in latere meridionali. Alt. 3000'-4000'. Fl. Maio"

Lectotypus [designated by BURDET & al. (1982: 383)]: G-BOISS 00164601

This species was described from Sierra de Mijas and Sierra Bermeja (Málaga), in southern Spain. The type material is conserved in Boissier's herbarium at G. BURDET & al. (1982) selected collections from Mijas for lectotype designation, it being a good choice. They are mounted on two sheets that are labelled 'Type' and are numbered together G 00164601. The one bearing a barcode label includes two flowering plants, of which that on the right side was chosen as lectotype.

13. **Xiphion latifolium** Mill., Gard. Dict. ed. 8: nº 3 (1768)
[*Iris latifolia* (Mill.) Voss, Vilm. Blumengärtn. ed. 3, 1: 982 (1895)]

Ind. loc.: Not explicitly mentioned.

Lectotypus (hic designatus): [icon in] Besler, Hort. Eystett. 2 [Classis Aestiva], Ord. 4, fol. 9, fig. 1 (1613), "*Iris bulbosa, Anglica, flore coeruleo*"

In the protologue, MILLER (1768) refers directly to '*Xiphion latifolium, caule donatum, flore caeruleo*. Tourn. Inst. R. H. 363'. This polynomial was published by TOURNEFORT (1719) in connection with "*Iris bulbosa, latifolia, caule donata, flore coeruleo C. B. Pin.* 38. *Iris bulbosa, Anglica, flore coeruleo Eyst.*" Among all those elements, the central illustration in *folio 9* of *Ordo 4*, *Classis Aestiva*, of *Hortus Eystettensis* (BESLER, 1613) corresponds to the latter polynomial and is a good match for *Xiphion latifolium*. It is suitable for lectotype. All those synonyms, including Miller's binomial, were referred to in the protologue of *Iris xiphioides* Erhr., this latter name being therefore illegitimate.

It is worth mention that the collection Herb. Linnaeus no. 61.28 (LINN; image available at http://www.linnean-online.org/826/), which is labelled "*Iris sp.*" and annotated "similis spuriae, flos albus", really corresponds to *X. latifolium*.

14. *Iris boissieri* Henriq. in Bol. Soc. Brot. 3: 183 (1885)
[**Xiphion boissieri** (Henriq.) Rodion., Rod Iris: 201 (1961)**]**

Ind. loc.: "Estrada romana (J.H.); Barrozão (Moll.); Ponte feia (M. Fer.). Junho e julho. Port. – Gerez (600 m a 900 m). Area geogr. – Portugal"

Lectotypus (hic designatus): Herbario do Jardim Bot. da Universidade de Coimbra. Serra do Gerez: Barrozão, alt. 950 m, junho 1884, *A. Moller* (COI s/n).

Three specimens from COI (Universidade de Coimbra) were explicitly cited in the protologue of this name. Those collected by J. Henriques and A. Moller have been studied and both are suitable for typification. The third one appears to be not extant in Coimbra.

Fig. 4. Lectotype of *Iris boissieri* Henriq. (© Herbarium COI, Universidade de Coimbra).

The sheet from Barrozão (Serra do Gerez), which was harvested in June of 1884 by Moller, at about 950 m altitude, is selected here as the lectotype of this name (Fig. 4). It includes two individuals that are a perfect match with the protologue and show all diagnostic features of this remarkable species. It is endemic to north-western Iberian Peninsula and is currently threatened with extinction.

15. *Iris serotina* Willk. in Willk. & Lange, Prodr. Fl. Hispan. 1: 141 (1861) [**Xiphion serotinum** (Willk.) Soják in Čas. Nár. Muz. Praze, Rada Přír. 150(3-4): 140 (1982) ≡ *X. vulgare* var. *serotinum* (Willk.) Baker in J. Linn. Soc., Bot. 16: 122 (1877) ≡ *I. variabilis* subsp. *serotina* (Willk.) K. Richt., Pl. Eur. 1: 258 (1890)]

Ind. loc.: "In graminosis apricis in latere bor. cacuminis calc. Cerro Javalcon [sic] pr. Jaen ad alt. c. 3500'"

Lectotypus (hic designatus): COI 00048439

In Willkomm's herbarium at COI, a sheet is found (nº 00048439; image available at www.uc.pt/en/herbario_digi tal / willkomm_herbarium / herb_on_line) that includes original material of this species, and fits the protologue. It was collected in "Sierra de Jaén, in graminosis lateris occidentalis cacuminis Cerro Jabalcón, 20-VIII-45" [sic] by Willkomm himself. Although it was first supposed to be *Iris filifolia* Boiss. with doubt, the identification was later corrected to "*Iris xiphium* L. var. ?", and finally the sentence "Species nova ! / *Iris serotina* mihi" was annotated on the label. It is hence designated as the obligate lectotype of the name.

With regard to the type locality, although WILLKOMM (1861) cited 'Cerro Javalcón', his collection most probably came from Cerro Javalcruz, a site located south of Jaén city.

Genus ***Hermodactylus*** *Mill.*

16. *Iris tuberosa* L., Sp. Pl.: 40 (1753) [**Hermodactylus tuberosus** (L.) Mill., Gard. Dict. ed. 8 [sine num.] (1768), "tuberosa"]

Ind. loc.: "*Habitat in* Arabia & Oriente"

Lectotypus (hic designatus): Herb. A. van Royen No. 904.138-304 (L 0052830)

Among the elements cited in the protologue, two herbarium sheets are available for typification (cf. JARVIS, 2007). On the one hand, Herb. Burser III: 3 (UPS) bears two flowered fragments and some unconnected leaves, as well as a vegetative shoot. On the other, L 0052830 (Fig. 5) from A. van Royen's herbarium bears two well preserved flowering stems fitting the traditional concept of the species, though the rootstock is lacking. This latter sheet is selected here as lectotype.

17. *Iris sisyrinchium* L., Sp. Pl.: 40 (1753) [**Gynandriris sisyrinchium** (L.) Parl., Nuov. Gen. Sp. Monocot.: 52 (1854) ≡ *Moraea sisyrinchium* (L.) Ker Gawl. in Ann. Bot. (König & Sims) 1: 241 (1804)]

Ind. loc.: "Habitat in Hispania, Lusitania"

Lectotype [designated by P. Goldblatt in Bot. Not. 133: 254-255 (1980)]: [icon in] Clus., Rar. Pl. Hist. 1: 216 (1601), "*Sisyrinchium majus"*

The lectotype designated by GOLDBLATT (1980) depicts a plant with leaves shorter than the scape, which occurred in the surroundings of Lisbon and Cádiz. Although that morphological feature is unusual in this species and perhaps designation of Clusius's "*Sisyrinchium minus"* would have been better, the chosen lectotype fits well into the overall traditional concept of the Linnaean species, and there is no doubt about the application of the name.

Acknowledgements

I am grateful to Robert Vogt (B), Hans Vilhelm Hansen and Oleg Seber (C), Christine Bartram (CGE), Fátima Sales (COI), Agathe Gautschi and Laurent Gautier (G), Paul Wilkin and Lesley Walsingham (K), Gerard Thijsse (L), and Mats Hjertson (UPS), for kindly sending information and/or digital images of type material conserved at the cited herbaria. Félix Muñoz Garmendia (Real Jardín Botánico de Madrid, CSIC) is also thanked for interesting discussion on typification of some taxa. This research was partly supported by *Flora iberica* project, parts VIII & IX (CGL2008-02982-C03 and CGL2011-28613-C03-01), from the Spanish Government.

Fig. 5. Lectotype of *Iris tuberosa* L. (© Herbarium L, Nationaal Herbarium Nederland, Leiden University).

REFERENCES

BAKER, J.G. (1877) Systema Iridacearum. *J. Linn. Soc., Bot.* 16: 61-180.

BAKER, J.G. (1892) *Handbook of the Irideae*. G. Bell & sons. London.

BAUHIN, C. (1623) *Pinax theatri botanici*. Typ. Ludovici Regis. Basileae.

BAUHIN, C. (1658) *Theatri botanici*. König. Basileae.

BAUHIN, J. & J.H. CHERLER (1651) *Historia plantarum universalis*, 2. Typ. Caldoriana. Edobruni.

BESLER, B. (1640) *Hortus Eystettensis*, 2. Nürnberg.

BURDET, H.M., A. CHARPIN & F. JACQUEMOUD (1982) Types nomenclaturaux des taxa ibériques décrits par Boissier ou Reuter. II. Iridacées à Potamogetonacées. *Candollea* 37: 381-395.

CLUSIUS, C. (1601) *Rariorum Plantarum Historia*. Ch. Plantini. Antuerpiae.

CRESPO, M.B. (2011) *Chamaeiris*, an earlier name for *Xyridion* (*Iridoideae, Iridaceae*). *Flora Montiber.* 49: 60-71.

DODOENS, R. (1583) *Stirpium Historiae Pemptades Sex sive libri XXX*. Ch. Plantini. Antuerpiae.

DYKES, W.R. (1910) Notes on irises. Certain white-flowered species. *Gard. Chron.* ser. 3, 48: 209-210.

DYKES, W.R. (1912) *The genus Iris*. Cambridge University Press. Cambridge.

EHRHART, J.F. (1792) *Beiträge zur Naturkunde*, 7. Hannover & Osnabrück.

GOLDBLATT, P. (1980) Systematics of *Gynandriris* (*Iridaceae*), a Mediterranean-southern African disjunct. *Bot. Not.* 133: 239-260.

IPNI (2012) *The International Plant Names Index*. Published on the Internet < www.ipni.org>. Royal Botanic Gardens, Kew. [accessed 10-July-2012].

JARVIS, C.E. (2007) *Order out of chaos: Linnaean plant names and their types*. The Linnean Society of London & the Natural History Museum.

JARVIS, C.E., F.R. BARRIE, D.M. ALLAN & J.L. REVEAL (1993) A list of Linnaean generic names and their types. *Regnum Veg.* 127: 1-100.

KER GAWLER, J.B. (1803) *Iris lusitanica*. *Bot. Mag.* 18, tab. 679.

KLATT, F.W. (1864) Revisio Iridearum. *Linnaea* 32: 689-784.

KLATT, F.W. (1866) Revisio Iridearum (conclusio). *Linnaea* 34: 537-739.

LABANI, R.M. & A. EL-GADI (1980) *Flora of Libya* 81 (*Iridaceae*). Al Faateh University. Tripoli.

LANGE, J.M.C. (1860) Pugillus plantarum imprimis Hispanicarum (pars I). *Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn* ser. 2, 1: 1-82 (1860)

LANGE, J.M.C. (1866) *Descriptio iconibus illustrata plantarum novarum vel minus cognitarum*, fasc. 3. Klein. Hauniae.

LAWRENCE, G.H.M. (1953) A reclassification of the genus *Iris*. *Gentes Herb.* 8(4): 346-371.

LINNAEUS, C. (1753) *Species plantarum*. Salvii. Holmiae.

LINNAEUS, C. (1759) *Systema Naturae*, ed. 10. Salvii. Holmiae.

LINNAEUS, C. (1762) *Species plantarum*, ed. 2. Salvii. Holmiae.

MATHEW, B. (1989) *The Iris*, ed. 2. London.

MAVRODIEV, E.V. (2010) Is there an alternative treatment of including genus *Belamcanda* to the genus *Iris* (Iridaceae)? In: SHMAKOV, A.I. (ed.), *Problems of Botany of South Siberia and Mongolia* (Proceedings of the 9th International Scientific and Practical Conference, October 2010): 148-155. Barnaul.

McNEILL, J., F.R. BARRIE, H.M. BURDET, V. DEMOULIN, D.L. HAWKSWORTH, K. MARHOLD, D.H. NICOLSON, J. PRADO, P.C. SILVA, J.E. SKOG, J. H. WIERSEMA & N.J. TURLAND (eds.) (2006) *International Code of Botanical Nomenclature (Vienna Code). Adopted by the Seventeenth International Botanical Congress Vienna, Austria, July 2005*. [Regnum Veg. 146]. Koeltz Scientific Books, Königstein, Germany.

MILLER, P. (1757) *Figures of the most beautiful, useful, and uncommon plants described in the Gardeners Dictionary, exhibited on three hundred copper plates*, vol. 2. Rivington & al. London.

MILLER, P. (1768) *The Gardeners' Dictionary*, ed. 8. Rivington & al. London.

PARLATORE, F. (1860) *Flora italiana*, 3(2). Le Monnier. Firenze.

RAY, J. (1688) *Historia plantarum generalis*, 2. M. Clark. London.

RODIONENKO, G.I. (1961) *Rod Iris L.* Academy of Sciences of the USSR. Moscow [translated into English as 'The genus *Iris* L.' by British Iris Society, London. 1987].

RODIONENKO, G.I. (2005) On the independence of the genus *Xyridion* (*Iridaceae*). *Bot. Zhurn. (Moscow & Leningrad)* 90(1): 55-59.

RODIONENKO, G.I. (2007) On the independence of the genus *Limniris* (*Iridaceae*). *Bot. Zhurn. (Moscow & Leningrad)* 92(4): 547-554.

RODIONENKO, G.I. (2009) A new system of the genus *Iris* (*Iridaceae*). *Bot. Zhurn. (Moscow & Leningrad)* 94(3): 423-435.

TOURNEFORT, J.P. (1719) *Institutiones rei herbariae*, ed. 3, 1. Typ. Regia. Paris.

VALENTINE, D.H. (1980) Iridaceae. In: TUTIN, T.G. & al. (eds.), *Flora europaea* 5: 86-102. Cambridge University Press. Cambridge.

WILSON, C. (2011) Subgeneric classification in *Iris* re-examined using chloroplast sequence data. *Taxon* 60(1): 27-35.

(Recibido el 7-VIII-2012)