(2483) Proposal to conserve the name *Scilla* (*Hyacinthaceae*) with a conserved type

Mario Martínez-Azorín & Manuel B. Crespo

dCARN (Depto. de Ciencias Ambientales y Recursos Naturales) & CIBIO (Instituto de la Biodiversidad), Universidad de Alicante, P.O. Box 99, 03080 Alicante, Spain
Author for correspondence: *Mario Martínez-Azorín, mmartinez@ua.es*

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(2483) ***Scilla*** L., Sp. Pl.: 308. 1 Mai 1753 [*Lil.* / *Asparag.*], nom. cons. prop.
Typus: *S. bifolia* L., typ. cons. prop.

Linnaeus (Sp. Pl.: 308. 1753) described *Scilla* to include eight species from the Mediterranean basin, Europe and SW Asia. This generic concept included a considerable variation in reproductive and vegetative characters. Subsequent authors restricted the Linnaean concept of the genus, and more recently Speta (in Phyton (Horn) 38: 1–141. Aug 1998; in Kubitzki, Fam. Gen. Vasc. Pl. 3: 261–285. 1998; in Stapfia 75: 139–176. 2001), based on morphological and molecular studies, placed the Linnaean species of *Scilla* in eight different genera belonging to three different subfamilies of *Hyacinthaceae* (vide Pfosser & Speta in Ann. Missouri Bot. Gard. 86: 852–875. 1999; Manning & al. in Edinburgh J. Bot. 60: 533–568. 2004). These subfamilies are currently widely accepted on the basis of clear morphological, molecular and biogeographic evidences. Of those eight genera recognized by Speta, *Cathissa* Salisb. (including *S. unifolia* L.) belongs to *Hyacinthaceae* subfam. *Ornithogaloideae* Speta; *Charybdis* Speta (including *S. maritima* L.) belongs to *Hyacinthaceae* subfam. *Urgineoideae* Speta; and the remaining genera, *Hyacinthoides* Heist. ex Fabr. (including *S. italica* L.), *Oncostema* Raf. (including *S. peruviana* L.), *Othocallis* Salisb. (including *S. amoena* L.), *Prospero* Salisb. (including *S. autumnalis* L.), *Scilla* L. (including *S. bifolia* L.) and *Tractema* Raf. (including *S. lilio-hyacinthus* L.) belong to *Hyacinthaceae* subfam. *Hyacinthoideae* Link. Alternatively, *Hyacinthaceae* are treated as *Asparagaceae* subfam. *Scilloideae* Burnett (e.g., by Chase & al. in Bot. J. Linn. Soc. 161: 135. 2009), and the subfamilies above are then reduced to the tribes *Ornithogaleae* Rouy, *Urgineeae* Rouy and *Hyacintheae* Dumort., although we favour the familial treatment. This large group of plants includes threatened species listed for conservation, and also widely cultivated plants with ornamental and medicinal value and high economic impact worldwide.

Lectotypification of *Scilla* has been widely attributed to Hitchcock (in Sprague, Nom. Prop. Brit. Bot.: 146. Aug 1929) on *Scilla bifolia* L. (vide Index Nominum Genericorum, 2016: http://botany.si.edu/ing/; Speta, l.c., 1998: 121). In this way, *Scilla* L. (s.str.) is applied to plants of *Hyacinthaceae* subfam. *Hyacinthoideae* with bracts minute or absent, no bracteoles, blue perigone segments (from almost free to fused up to 40% of their length), blue, ovoid ovary, and globose seeds with an elaiosome (Speta, l.c. 1998; Speta in Kubitzki, l.c.) and includes as synonyms the generic names *Genlisa* Raf. (Autik. Bot.: 57. 1840), *Adenoscilla* Gren. & Godr. (Fl. France 3: 187. ante Jun 1855), *Rinopodium* Salisb. (Gen. Pl.: 28. Apr–Mai 1866), all with *S. bifolia* as type, and *Chionodoxa* Boiss. (Diagn. Pl. Orient. ser. 1(5): 61. Oct–Nov 1844), with *S. luciliae* (Boiss.) Speta as type. It is worth mentioning that the earliest of these, *Genlisa* Raf., typified by Pennell (in Bull. Torrey Bot. Club 48: 93. 8 Mar 1921), has two

earlier parahomonyms, *Genlisia* Rchb. (Consp. Regn. Veg.: 60. Dec 1828–Mar 1829), an illegitimate name, and *Genlisea* A. St.-Hil. (Voy. Distr. Diam. 2: 428. 1833), a name in current use. No recommendation exists on whether these names should be treated as homonyms and parallels are ambiguous (McNeill in Taxon 63: 950–951. 2014).

Rafinesque (Fl. Tellur. 2: 13. Jan–Mar 1837) had previously published "*Skilla*" as what he considered the orthographically correct spelling for *Scilla* L. as follows: "13. *Skilla* L. mispelt *Scilla.* char vere. Petalis 6 sessilis planis, patulis caducis, Stam. 6 oppos. filiformis. stylo filif. stigma simplex. caps. 3 loc. polysp—Type *Sk. maritima* and all the sp. with filiform filaments as stated by L. but many sp. united that lack this good character." As Rafinesque (l.c. Jan–Mar 1837: 13) indicated more than one species as "Type", this is not an effective typification under Art. 10 of the *ICN* (McNeill & al. in Regnum Veg. 154. 2012). However, later, in the Preamble to volume 3 of the same work, Rafinesque (l.c. 3: 8. Nov–Dec 1837) wrote "since *Skilla maritima* type of *Skilla* has white flowers!". Thus Rafinesque explicitly cited *Scilla maritima* as type of the Linnaean generic name, a designation much earlier than Hitchcock's and one that must therefore be followed (Art. 10.5 of the *ICN*). This fact has important nomenclatural consequences affecting two generic names included in two different subfamilies, the name of one of those subfamilies, and also that of a tribe for those who place these species in *Asparagaceae* s.l.

Now included within *Hyacinthaceae* subfam. *Urgineoideae*, which is generally characterised by the bracts being spurred, at least the basal ones, the genus *Urginea* was described by Steinheil (in Ann. Sci. Nat., Bot., sér. 2, 1: 322, t. 14. 1834) to include species previously placed in *Scilla*, including *Scilla maritima* L. (as *U. scilla* Steinh.) and six other species with variable morphology and distribution, currently placed in *Tenicroa* Raf., *Urginea* Steinh. and *Charybdis* Speta. Soon after his description of *Urginea*, Steinheil (in Ann. Sci. Nat., Bot., sér. 2, 6: 276. 1836) described the genus *Squilla* Steinh. to segregate *Scilla maritima* (≡ *U. scilla*) from *Urginea*. He justified morphologically and orthographically this new segregation from other apparently allied groups such as *Ornithogalum* L., *Stellaris* Fabr. and *Scilla* L. (pro parte). Based on morphological and molecular studies, Speta (l.c., 1998: 58) published the new name *Charybdis* Speta to replace *Squilla* Steinh., since he considered the latter to be a mere orthographic variant of *Scilla* L. ('*Skilla* Raf.', orth. var.), and therefore a later illegitimate homonym. The species of *Charybdis* form a monophyletic group with a distinct morphology and biogeography that supports its acceptance as a good genus, as has become the case in the last decades by many authors working on *Hyacinthaceae* (cf. Speta, l.c. 1998: 58; Conti & al., Annot. Checkl. Italian Vasc. Fl.: 77. 2005; Bacchetta & al. in Phytotaxa 69: 16–26. 2012; Ali & al. in J. Integr. Pl. Biol. 55: 950–964. 2013), although others (e.g., Manning & al., l.c.) include them in an expanded *Drimia* Jacq. ex Willd. (Sp. Pl. 2: 165. 1799). However, even if Speta's view, not shared by its author Steinheil, that *Squilla* should be treated as a homonym of *Scilla* is accepted, *Charybdis* is still an illegitimate name under Art. 52 as it was superfluous when published, its type being Rafinesque's previously designated type of *Scilla* L., a typification that was probably unknown to Speta (l.c. 1998: 58). This makes *Charybdis* unavailable for use regardless of the outcome of this conservation proposal. Martínez-Azorín & Crespo (in Taxon 65: 1437–1438. 2016) have requested a binding decision as to whether or not *Scilla* L. and *Squilla* Steinh. should be considered sufficiently alike to be confused. Under the current typification of *Scilla* this is unimportant, as it would merely determine whether *Squilla* was an orthographic variant or an illegitimate replacement name for *Scilla*. However, if this conservation proposal is accepted, treating *Squilla* as not confusable with *Scilla* will leave the former name usable for the current concept of *Charybdis*.

Having to accept Rafinesque's (l.c. Nov–Dec 1837) first typification of *Scilla* L. by *S. maritima* L. threatens the nomenclatural stability not only of two widely used generic names but also the application of the name tribus *Scilleae* Bartl. (Ord. Nat. Pl.: 50. Sep 1830), which would replace tribus *Urgineeae* Rouy (Fl. France 12: 330, 424. Nov 1910), currently in use in *Asparagaceae*. Furthermore, *Scilla* (s.str.) would be applied to those species of *Hyacinthaceae* subfam. *Urgineoideae* (which would become subfam. *Scilloideae*) currently placed in *Charybdis*, the latter including about 10 taxa that would require transfer to the generic name *Scilla* in its "new" circumscription. For those, such as Manning & al. (l.c.), who include almost all the subfamily *Urgineoideae* in *Drimia*, all 100 or so species would have to be transferred to *Scilla*.

Perhaps even more serious, the traditional and widely used generic name *Scilla* (as typified by *S. bifolia*, belonging to subfam. *Hyacinthoideae*), includes in a wide sense around 80 species (The Plant List, 2016: http://www.theplantlist.org/tpl1.1/search?q=Scilla) or, in a more restricted concept, 30 species (Speta, l.c. 1998: 1–141), and all would require relocation and new combinations, either in *Genlisa* or *Chionodoxa*, depending on whether or not the former is considered confusable with its parahomonyms.

In summary, following Rafinesque's typification, the well-established name *Scilla* will have to be applied in a sense that is contrary to its traditional usage, and applied to plants currently placed in a different subfamily. Furthermore, the current *Asparagaceae* tribus *Urgineeae* would be replaced by *Asparagaceae* tribus *Scilleae*, currently a synonym of *Asparagaceae* tribus *Hyacintheae*. This solution would not favour the goal of nomenclatural stability enunciated in the *Melbourne Code*; certainly, it would create unnecessary instability for the names of a subfamily or of a tribe, depending on family delimitation, and of two genera currently well-established and with high economic importance. To avoid this, we formally propose to conserve *Scilla* with a conserved type (Art. 14.9 of the *ICN*), following Hitchcock's (l.c.) typification on *Scilla bifolia* L., which will maintain current usage of *Scilla*. Unfortunately, the quite recently published *Charybdis* is unavailable for use without conservation, but, depending on the outcome of the parallel request for a binding decision, the name *Squilla* may be available for the species included in it. Acceptance of the present proposal will surely minimize future confusion for taxonomists, conservationists and horticulturists.

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