



The typification of *Veronica peregrina* (Plantaginaceae) reconsidered

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Veronica peregrina Linnaeus (1753: 14) was described in the protologue as “*Veronica floribus solitariis sessilibus, foliis lanceolato-linearibus glabris obtusis integerrimis, caule erecto*”, a phrase-name that was quoted directly from his previous treatment in *Flora suecica* (Linnaeus 1745: 6). Linnaeus (1753) stated about the origin of the plant: “*Habitat in Europae hortis, arvisque*” and also cited one synonym: “*Veronica terrestris annua, folio polygoni, flore albo*. Moris. Hist. 2. p. 322, sect. 3. t. 24. f. 19” (Morison 1680), based on material from England.

According to Linnaeus (1745), *Veronica peregrina* was a species that he had himself encountered in Uppsala: “*habitat in cultis & terra nuda Upsaliae, rarissima apud nos hodie plana, olim forte copiosior evasura*”. Freely translated, this means that the plant had been found in cultivations and on bare earth in Uppsala, where it was then very rare, but may have been more abundant earlier. The epithet “*peregrina*” chosen for the species means foreign (Stearn 1992), and shows that Linnaeus understood the species to be introduced in Sweden and Europe. Today, *V. peregrina* is regarded as a species of American origin that has gained a very wide distribution as an introduction not only in Europe, but also in many other parts of the world. In Sweden it is rare and mostly casual, and in the Uppsala region the first find after Linnaeus’ record from 1745 was made more than 200 years later, in 1971 (Nilsson 1971). Then, it was the pubescent form of the species that occurred as a weed in the Botanical Garden of Uppsala.

Three specimens of *Veronica peregrina* are found in LINN (Savage 1945): No. 26.65, annotated by Linnaeus with “*romana*” and “25”, but with “*peregrina eadem est*” later added in pencil by J.E. Smith, No. 26.66, annotated by Linnaeus as “*peregrina*” from “HU”, and No. 26.67, annotated by Linnaeus with “*acinifolia*” and “26”, but with “*certe non, V. peregrina est*”, later added in pencil by J.E. Smith. The abbreviation HU used by Linnaeus for No. 26.66 is an abbreviation for *Hortus Upsaliensis* (Stearn 1957), and means that this specimen was collected in Uppsala. Due to the extreme rarity of the species in Uppsala, this is almost certainly the plant that Linnaeus reported from there in *Flora suecica* (Linnaeus 1745). Not only are name and locality right, the specimen is also in good agreement with the phrase-name. Linnaeus had been appointed professor of medicine and botany at Uppsala University in 1741, and restored the old Botanic Garden (*Hortus Upsaliensis*) in 1742 (Stearn 1957). Therefore, No. 26.66 is likely to have been collected there by Linnaeus sometime between 1742 and 1745.

Conflicting typifications

Pennell (1935: 337) was the first to typify *Veronica peregrina* when stating: “Type, doubtless from Upsala and seen in the Linnean Herbarium now at London, is the glabrous subspecies now considered”. Pennell could not use the Savage numbers that were added to the sheets in 1941 (Savage 1945), but the only specimen this could possibly refer to is No. 26.66, the only specimen in LINN annotated as *V. peregrina* by Linnaeus, and furthermore the only specimen known to originate from Uppsala. The specimens No. 26.65 and No. 26.67, annotated by Linnaeus as *V. romana* and *V. acinifolia*, respectively, are of unknown origin and do not match Pennell’s specification. Pennell’s designation of a type therefore is unambiguous.

As for No. 26.65 in LINN, this was designated as lectotype of *Veronica romana* (Linnaeus 1753: 14) by Martínez-Ortega *et al.* (2001: 554). *Veronica romana* has “*foliis oblongis subdentatis*” in contrast to “*foliis lanceolato-linearibus ... integerrimis*” in *V. peregrina* according to Linnaeus (1753). No. 26.65 is a specimen with oblong, dentate leaves, matching the description by Linnaeus, and also has the relevant *Species plantarum* number, 25. As pointed out already by Pennell (1935), this specimen was the basis for Linnaeus’ diagnosis of *V. romana*, but he failed to call it type and therefore did not effect a typification (Jarvis 2007). The specimen falls within the variation of *V. peregrina* as was already obvious to J.E. Smith, when he annotated the sheet in London after he had purchased the Linnean Herbarium in 1784 (Stearn 1957).

Jarvis (2007) did not accept Pennell’s typification of *Veronica peregrina*, as “he did not distinguish between sheets 26.66

and 26.67”. Instead, he accepted the designation of No. 26.67 as lectotype proposed by E. Fischer (1997: 116). According to Fischer, who was apparently unaware of Pennell’s earlier typification, this sheet in the Linnaean herbarium “seems to be the only original material” of *V. peregrina*. In contrast, No. 26.67 was regarded as original material of *V. acinifolia* (Linnaeus 1762: 19) by Martínez-Ortega *et al.* (2001: 554). However, the lectotype of *V. acinifolia* is the illustration of “*Veronica minor; annua, Clinopodii minoris folio*” in Vaillant (1727: 201, t. 33, f. 3). This was designated by M.A. Fischer (1972: 415) and fixed the application of this name in its traditional sense to a species in Europe and Asia distinct from *V. peregrina*.

The lectotypification of *Veronica peregrina* with No. 26.67 by E. Fischer (1997), apart from by Jarvis (2007), has been accepted also by, for example, Martínez-Ortega *et al.* (2009) and IPNI (2022). However, in Wunderlin *et al.* (2022), it is the lectotypification by Pennell (1935) with No. 26.66 that is accepted. Therefore, there are today two different typifications of *V. peregrina* in use. An additional matter is that No. 26.67 was designated as lectotype for this name already by Nilsson (1971: 394), who stated “HB. LINN, Savage nr 26.67, lectotypus” for *V. peregrina*, without giving any arguments for the choice. In any case, this typification predates that of Fischer (1997).

The reason for the choice of No. 26.67 as lectotype by Nilsson (1971) and Fischer (1997) must be that this sheet, despite the annotation “*acinifolia*” by Linnaeus also has the number 26 in his handwriting, i.e., the number of *Veronica peregrina* in *Species plantarum*. In contrast, No. 26.66 has the annotation “*peregrina*” by Linnaeus, but no number. However, as pointed out by Savage (1945: 11), inconsistencies in species numbers in LINN may occur; for example, Linnaeus “sometimes wrote the species number only on an added sheet”. Accordingly, in the case of *V. peregrina*, No. 26.66 is the original sheet from *Hortus Upsaliensis*, collected several years before the existence of *Species plantarum*, whereas No. 26.67 is a sheet that was added later. Why, Linnaeus confusingly annotated No. 26.67 as both “*acinifolia*” and “26”, we cannot know. The most likely explanation is that he changed his mind about the identity of the specimen.

Another matter, not mentioned by previous authors, is that No. 26.67 is in conflict with the phrase-name in the protologue that states “*caule erecto*” for *Veronica peregrina* (Linnaeus 1753). The single plant in No. 26.67 lacks basal parts and fully developed leaves, is mounted in a horizontal position, and appears to be decumbent with ascending branches. In contrast, the single plant in No. 26.66 is erect with well-developed leaves, in agreement with the phrase-name. The only discrepancy is that the leaves, which are entire to finely and sparsely toothed, are described as “*integerrimis*”. Plants of *V. peregrina* are usually erect as No. 26.66, but may also be decumbent with ascending branches as No. 26.67.

Stearn (1957: 126) stressed the importance of the phrase-names when typifying names of Linnaean species: “Linnaeus based the phrase-name nearly always on a specimen ... seen by him”, and “the phrase-name is ... likely to give a significant indication of his intent; certainly he would never have chosen an element disagreeing with the phrase-name to typify his species”. Further, “when Linnaeus repeated unchanged in the *Species Plantarum* a phrase-name he had introduced earlier, e.g. in ... *Flora Suecica* ... it is ... necessary to ascertain ... on what element or elements that phrase-name was based and to select a type from this earlier material if available”. No. 26.66 is such an early element that is in good agreement with the phrase-name and therefore is as close as one can get to an ideal lectotype for *Veronica peregrina*.

Conclusion

My conclusion is that the lectotypification of *V. peregrina* made by Pennell (1935) is effective and unambiguous and should be followed, whereas the later typifications by Nilsson (1971) and Fischer (1997) have no standing. The result is as follows:

Veronica peregrina Linnaeus (1753: 14)

Type:—SWEDEN. *Hortus Upsaliensis*, C. Linnaeus s.n. in Herb. Linn. No. 26.66 (LINN! lectotype, designated by Pennell 1935).

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References

- Fischer, E. (1997) Notulae ad Floram Germanicam II. Typifications of Linnean names of Scrophulariaceae occurring in Germany. *Feddes Repertorium* 108: 111–117.
<https://doi.org/10.1002/fedr.19971080110>
- Fischer, M.A. (1972) Neue Taxa, Chromosomenzahlen und Systematik von *Veronica* subsect. *Acinifolia* (Römpf) Stroh. *Oesterreichische Botanische Zeitschrift* 120: 413–437.

<https://doi.org/10.1007/BF01324625>

- IPNI (2022) *International Plant Names Index*. The Royal Botanic Gardens, Kew, Harvard University Herbarium & Libraries and Australian National Botanic Gardens. Available from: <https://www.ipni.org/> (accessed 31 August 2022)
- Jarvis, C. (2007) *Order out of chaos. Linnaean plant names and their types*. The Linnean Society, London, 1016 pp.
- Linnaeus, C. (1745) *Flora suecica*. Salvius, Stockholm, 419 pp.
- Linnaeus, C. (1753) *Species plantarum*, vol. 1. Salvius, Stockholm, 560 pp.
- Linnaeus, C. (1762) *Species plantarum*, ed. 2, vol. 1. Salvius, Stockholm, 784 pp.
- Martínez-Ortega, M.M., Cafferty, S. & Rico, E. (2001) Typification of some specific names in *Veronica* L. (Scrophulariaceae) described by C. Linnaeus and N.J. Jacquin. *Taxon* 50: 551–556.
- Martínez-Ortega, M.M., Sánchez Agudo, J.Á. & Rico, E. (2009) *Veronica*. In: Benedí, C., Rico, E., Güemes, J. & Herrero, A. (Eds.) *Flora iberica*, vol. 13. Real Jardín Botánico, Madrid, pp. 360–434.
- Morison, R. (1680) *Plantarum historiae universalis oxoniensis*, vol. 2. Sheldonian Theatre, Oxford, 619 pp.
- Nilsson, Ö. (1971) *Veronica peregrina* L. (Scrophulariaceae) i Skandinavien. *Svensk Botanisk Tidskrift* 65: 393–398.
- Pennell, F.W. (1935) The Scrophulariaceae of eastern temperate North America. *Monographs, Academy of Natural Sciences of Philadelphia* 1: 1–650.
- Savage, S. (1945) *A catalogue of the Linnaean Herbarium*. The Linnean Society, London, 225 pp.
- Stearn, W.T. (1957) An introduction to the *Species plantarum* and cognate botanical works by Carl Linnaeus. In: Linnaeus, C. (Ed.) *Species plantarum*. A facsimile of the first edition 1753. The Ray Society, London, pp. 1–176.
- Stearn, W.T. (1992) *Botanical Latin*, ed. 4. David & Charles, Newton Abbot, 546 pp.
- Vaillant, S. (1727) *Botanicon parisiense*. Verbeek & Lakeman, Leiden and Amsterdam, 205 pp.
- Wunderlin, R.P., Hansen, F., Franck, A.A. & Essig, F.B. (2022) *Atlas of Florida plants*. Institute of Systematic Botany, University of South Florida, Tampa. Available from: <http://florida.plantatlas.usf.edu/> (accessed 31 August 2022)