

Typification of Linnaean plant names in *Caryophyllaceae*

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Lectotypes, neotypes and epitypes are designated by 20 specialists for 45 previously untypified Linnaean plant names belonging to the family *Caryophyllaceae*. These newly proposed types support the current usage of the names concerned. Earlier but ineffective or supersedable type statements are discussed.

KEYWORDS: *Caryophyllaceae*, Linnaean plant names, nomenclature, typification.

INTRODUCTION

As part of continuing research by the Linnaean Plant Name Typification Project at The Natural History Museum, London, all Linnaean names belonging to the family *Caryophyllaceae* have been investigated. Linnaeus validly published at the rank of species or variety 213 names now placed in this family. Effective typifications exist for 150 of these.

Each of the 63 untypified names was examined closely, relevant literature was searched for typifications, and details of all original elements were compiled. Specialists were then approached in order to establish choices of lectotype (or neotype where original material is lacking) to fix the current application of each name. Great care has been taken to try to ensure that all newly proposed types support the current usage of the names. Of the 63 untypified names, four (*Cerastium viscosum*, *C. vulgatum*, *Dianthus arboreus* and *Silene polyphylla*) have been recommended for rejection (Brummitt, 2000: 262; 2003: 797), seven present particular taxonomic difficulties, and for a further seven we were unable to find a specialist prepared to typify the name. However, 45 names are newly typified here.

There is insufficient space in the present work to include all details pertinent to each typification (e.g., full lists of original material), but further information on individual type designations is freely available from the editors of the paper. Moreover, information on other Linnaean names, whether already typified or not, is available on request (or see <http://www.nhm.ac.uk/botany/linnaean/> for Angiosperm and Gymnosperm names). The Project is always keen to collaborate with specialists in particular plant groups, from families down to genera or even single species, to establish choices of type or to identify cases where conservation or rejection proposals may be necessary to avoid nomenclatural disruption.

METHODS

The methods used for the present work have been described in detail by Turland & Jarvis (1997: 458–461) and will not be repeated in full. However, the following points may be helpful.

In selecting types for the present paper, wherever a choice was possible between specimens and illustrations, the most complete of the specimens has generally been chosen, except where such a choice would disrupt current usage, in which case an illustration supporting current usage has been chosen instead. All lectotype illustrations designated here have been carefully evaluated and if considered inadequate for the purpose of fixing the precise taxonomic application of the name, then a suitable epitype specimen (Art. 9.7) has been designated to remove ambiguity. For some names, the lectotype illustration is already adequately supported by a typotype or voucher specimen.

In situations where all potential sources of original material were checked but nothing relevant was found, then (and only then) have neotypes been designated. Both neotypes and epitypes have generally been chosen from among material originating from the geographical area given by Linnaeus in his statements of provenance (“Habitat in ...”) in the respective protologue.

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name (when different), the lectotype, any typotype or voucher specimen that supports a lectotype illustration, any epitype, and any explanatory notes. For each entry, the first name to be cited is the name being typified; any later recombinations are, of course, simultaneously typified. The currently accepted name in each entry is shown in bold italic typeface and is placed in square brackets if not homotypic with the name being typified.

Agrostemma flos-jovis L., Sp. Pl.: 436. 1 May 1753 ≡ ***Silene flos-jovis*** (L.) Greuter & Burdet – Lectotype (designated here by Greuter): [icon] “Licnide umbelliflora” in Zanoni, *Istoria Botanica*: t. 51. 1675.

Alsine segetalis L., Sp. Pl.: 272. 1 May 1753 ≡ ***Spergularia segetalis*** (L.) G. Don – Lectotype (designated here by Ratter): [icon] “Alsine segetalis, gramineis foliis unum latus spectantibus” in Vaillant, *Bot. Paris.*: t. 3, f. 3. 1727.

Arenaria biflora L., Syst. Nat., ed. 12: 312; Mant. Pl.: 71. 15–31 Oct 1767 – Lectotype (designated here by López González): *Vandelli 17*, Herb. Linn. No. 585.5 (LINN).

Arenaria ciliata L., Sp. Pl.: 425. 1 May 1753 ≡ *Arenaria multicaulis* L., Syst. Nat. ed. 10, 2: 1034. May–Jun 1759, nom. illeg. – Lectotype (designated here by López González): [icon] “Alsine, serpillifolia, multicaulis & multiflora” in Seguiet, *Pl. Veron.*: t. 5, f. 2. 1745.

Note. – Gutermann (1975: 32–33) indicated that the name should probably be typified by the Seguiet plate but fell short of explicitly designating it as type, stating that the problem needed further study.

Arenaria fasciculata L., Syst. Nat. ed. 12, 2: 733. 15–31 Oct 1767 [= *Minuartia montana* L.] – Lectotype (designated here by McNeill): Herb. Linn. No. 585.50 (LINN).

Arenaria hispida L., Sp. Pl.: 425. 1 May 1753 – Lectotype (designated here by López González): Herb. Linn. No. 585.34 (LINN).

Arenaria montana L., Cent. I Pl.: 12. 19 Feb 1755 – Lectotype (designated here by López González): Herb. Linn. No. 585.19 (LINN).

Arenaria multicaulis L. – see *Arenaria ciliata* L.

Arenaria rubra L. var. *campestris* L., Sp. Pl.: 423. 1 May 1753 [= *Spergularia rubra* (L.) J. & C. Presl] – Lectotype (designated here by Ratter): Herb. Burser

NEW TYPIFICATIONS

The 45 new type designations are presented alphabetically in the following format: Linnaean name with full bibliographic reference, any earlier homonym (placed in square brackets), any later homotypic Linnaean name (recombination), the currently accepted

XIV(1): 79 (UPS).

Arenaria saxatilis L., Sp. Pl.: 424. 1 May 1753 – Lectotype (designated here by Lazkov): Herb. Linn. No. 585.29 (LINN).

Note. – Although Ikonnikov (1972) indicated that the type should be material from Linnaeus' herbarium marked as being from the Kamchatka peninsula, he did not formally choose a type. However, his suggestion is formalised here.

Arenaria triflora L., Mant. Pl. Alt.: 240. Oct 1771 – Lectotype (designated here by López González): Herb. Linn. No. 585.15 (LINN).

Cerastium latifolium L., Sp. Pl.: 439. 1 May 1753 – Lectotype (designated here by Bechi): Herb. Burser XI: 114 (UPS).

Note. – Möschl (1973: 156) indicated material in LINN as *typus* but did not distinguish between sheets 603.24 and 603.25. As these sheets bear material of different gatherings, Art. 9.14 does not apply.

Cerastium maximum L., Sp. Pl.: 439. 1 May 1753 – Lectotype (designated here by Lazkov): *Gmelin*, Herb. Linn. No. 603.22 (LINN).

Cerastium repens L., Sp. Pl.: 439. 1 May 1753 [= *Cerastium arvense* L.] – Lectotype (designated here by Bechi): [icon] “*Myosotis arvensis*, polygoni folio” in Vaillant, Bot. Paris.: t. 30, f. 5. 1727.

Note. – Khalaf & Stace (2001: 482) said that the name is “of uncertain application. No type specimen has been traced: the specimen in LINN is not a type” and is identifiable as *C. arvense*. They noted the occasional usage of *C. repens* in the sense of *C. tomentosum* L. and *C. biebersteinii* DC. The only extant original element is the Vaillant illustration, also identifiable as *C. arvense*, and its formal adoption as lectotype results in *C. repens* falling into the synonymy of *C. arvense*.

Cucubalus aegyptiacus L., Sp. Pl.: 415. 1 May 1753 ≡ *Silene aegyptiaca* (L.) L. f. – Neotype (designated here by Hosny): [Israel], Jerusalem, 17 Mar 1911, J.E. Dinsmore 618 (CAI).

Note. – Melzheimer (1988: 499) stated “*Typus*...Herb. Linn.” but this does not distinguish between sheets 582.8 and 582.10, both of which bear the epithet “*aegyptiacus*”. However, on sheet 582.8 this epithet has been deleted in favour of “5 *stellatus*” (written by Linnaeus), and the material is a good match for the protologue of *C. stellatus* L., of which it is designated as the lectotype elsewhere in this paper. Sheet 582.10 bears material received from Latour, lacks a *Species Plantarum*

number (i.e., “7”), and was received after 1753. Neither sheet is original material for *C. aegyptiacus*. Linnaeus mentioned Hasselquist in the protologue but as we have been unable to trace any of his material in either LINN or UPS, a neotype is designated here.

Cucubalus pumilio L., Syst. Nat., ed. 12, 2: 309; Mant. Pl.: 71. 15–31 Oct 1767 ≡ *Saponaria pumila* Janchen ex Hayek – Lectotype (designated here by Chater): Herb. Linn. No. 582.23 (LINN).

Note. – See Gutermann (1975: 44–45) on the correct name for this taxon.

Cucubalus reflexus L., Sp. Pl.: 416. 1 May 1753 [= *Silene nocturna* L.] – Lectotype (designated here by Talavera): Herb. Linn. No. 582.22 (LINN).

Note. – Chater & al. (1993: 217) stated that the name probably relates to a cleistogamous variant of *S. nocturna* subsp. *nocturna*. Study of the original elements, and the designation of a lectotype here, confirms this identification and synonymy.

Cucubalus sibiricus L., Syst. Nat., ed. 10, 2: 1031. May–Jun 1759 ≡ *Silene sibirica* (L.) Pers. – Lectotype (designated by Lazkov, 1998: 93): [icon] “*Viscago foliis imis petiolatis ovatis, floribus paniculatis, petalis emarginatis*” in Haller, Brev. Enum. Stirp. Hort. Gott. 1: t. 1. 1743 – Epitype (designated here by Lazkov): Herb. Linn. No. 582.16 (LINN).

Cucubalus stellatus L., Sp. Pl.: 414. 1 May 1753. ≡ *Silene stellata* (L.) Ait. f. – Lectotype (designated here by Rabeler): Herb. Linn. No. 582.8 (LINN).

Dianthus diminutus L., Sp. Pl. ed. 2, 2: 587. 1–20 Sep 1762 [= *Petrorhagia prolifera* (L.) Ball & Heywood] – Lectotype (designated here by Ball): [icon] “*Caryophyllus sylvestris minimus*” in Tabernaemontanus, New vollk. Kräuterb.: 290. 1664. – Epitype (designated here by Ball): [Germany], Lübeck, Jul 1901, G. Kjellberg s.n. (BM).

Dianthus glaucus L., Sp. Pl.: 411. 1 May 1753. [= *Dianthus deltoides* L.] – Lectotype (designated here by Jonsell): Herb. Linn. No. 581.12 (LINN).

Dianthus monspeliacus L., Syst. Nat., ed. 10, 2: 1029. May–Jun 1759 ≡ *Dianthus monspessulanus* L., Amoen. Acad. 4: 313. Nov 1759. [= *Dianthus hyssopifolius* L.] – Lectotype (designated here for both names by Bernal Cid): Herb. Linn. No. 581.17 (LINN).

Note. – Rickett (1955: 60) and Nordenstam (1961: 278) both noted that *D. monspessulanus* did not feature in *Centuria I Plantarum* (Linnaeus, 1755a) and was a new

addition in the later version of that thesis published in the *Amoenitates Academicæ* (November 1759). Both *D. monspessulanus* and Linnaeus's earlier (May–June 1759) *D. monspeliacus* have very similar diagnoses. Sheet 581.17 (LINN) bears material from Seguier annotated “*monspeliensis* A” by Linnaeus, the “A” associating the material with *D. monspeliacus* (species “A” in *Syst. Nat.*, ed. 10, 2: 1029), and Seguier is mentioned in the prologue of *D. monspessulanus* (“Habitat Monspeli. Sauvages; Veronae. Seguier”). Partly because there has been some usage of *D. monspessulanus* (by e.g., Greuter & al., 1984: 199; Tutin & Walters, 1993: 238), it seems preferable to treat these two as independent, though homotypic, names (rather than orthographic variants).

There have been difficulties in the interpretation of *Dianthus hyssopifolius* L. and its relationship with *D. superbus* L. *Dianthus hyssopifolius* was published in the thesis *Centuria I Plantarum* (Linnaeus, 1755a: 11) but was replaced by *D. superbus* L. (1759, non 1755) in a later version (Linnaeus, 1759: 272). *Dianthus superbus* L. (Linnaeus, 1755b), however, first appeared as a name for a Swedish species and is quite clearly different from *D. hyssopifolius*. *Dianthus superbus* L. (1759, non 1755) is therefore illegitimate.

Lainz & Muñoz Garmendia (1987) clarified the typification of *D. hyssopifolius* and they, and Bernal & al. (1990), have treated it and *D. monspeliacus* as synonymous. The typifications published here for both *D. monspeliacus* and *D. monspessulanus* formalise this position.

Dianthus monspessulanus L. – see *D. monspeliacus* L.

Gypsophila altissima L., Sp. Pl.: 407. 1 May 1753 – Lectotype (designated here by Lazkov): Herb. Linn. No. 579.10 (LINN).

Note. – Barkoudah (1962: 68) stated that Herb. Linn. sheets 579.10, 11 and 12 “are [the] only authentic specimens”. This statement does not effect typification.

Gypsophila rigida L., Sp. Pl.: 408. 1 May 1753 [= *Petrorhagia saxifraga* (L.) Link] – Lectotype (designated here by Jonsell): Herb. Linn. No. 579.24 (LINN).

Herniaria fruticosa L., Cent. I Pl.: 8. 19 Feb 1755. – Lectotype (designated here by Chaudhri): *Loefling 186a*, Herb. Linn. No. 312.4 (LINN).

Note. – Chaudhri (1968: 386) stated “Type: Spain: Herb. Linnaeus 312/3–4 (LINN)”. This did not distinguish between the two cited sheets, the material of which does not appear to be part of a single gathering (so Art. 9.14 does not apply). A Loefling collection is now designated as the lectotype.

Holosteum cordatum L., Sp. Pl.: 88. 1 May 1753. = *Drymaria cordata* (L.) Roem. & Schult. – Lectotype (designated here by Burger): [icon] “*Alsine americana nummulariae folio*” in Hermann, *Parad. Bat.*: t. 11. 1698.

Note. – Fawcett & Rendle (1914: 175) stated “Type in Herb. Linn.” and Turrill (1956: 11) made a similar statement. Later, Mizushima (1957: 70) explicitly chose Herb. Linn. No. 109.1 as lectotype and was followed by both Duke (1961: 251) and Smith (1981: 274). However this sheet, as noted by Howard (1988: 211), is a post-1753 addition to the Linnaean herbarium and consequently cannot be considered original material, eligible for lectotypification, for the name.

Illecebrum alsinifolium L., *Syst. Nat.*, ed. 12, 2: 188; *Mant. Pl.*: 51. 15–31 Oct 1767. [= *Polycarpon tetraphyllum* (L.) L.] – Lectotype (designated here by Amich): Herb. Linn. No. 290.28 (LINN).

Illecebrum cymosum L., Sp. Pl.: 206. 1 May 1753. = *Chaetonychia cymosa* (L.) Sweet – lectotype (designated here by Soriano Martín): Herb. Linn. No. 290.12 (LINN).

Illecebrum paronychia L., Sp. Pl.: 206. 1753. [= *Paronychia argentea* Lam.] – Lectotype (designated here by Chaudhri): Herb. Clifford: 41, *Herniaria* 2, fol. B (BM).

Note. – Chaudhri (1968: 211) stated “Lectotype: Hort. Cliff. 41, Linnaeus Herb. 290/14 (LINN!)”. However, this includes three separate collections (two at BM, one at LINN) which are not part of a single gathering, so his statement is not an effective typification.

Lychnis sibirica L., Sp. Pl.: 437. 1 May 1753. – Lectotype (designated here by Lazkov): *Gmelin*, Herb. Linn. No. 602.5, excluding lower, left specimen (LINN).

Minuartia campestris L., Sp. Pl.: 89. 1 May 1753. – Neotype (designated here by López González): Herb. Linn. No. 113.5 (LINN).

Minuartia dichotoma L., Sp. Pl.: 89. 1 May 1753. – Lectotype (designated here by López González): Herb. Linn. No. 113.1 (LINN).

Ortegia dichotoma L., *Mant. Pl. Alt.*: 174. Oct 1771. [= *Ortegia hispanica* L.] – Lectotype (designated here by Amich): [icon] “*Ortegia dichotoma*, axillis ramorum unifloris” in Allioni, *Stirp. Descr. Misc. Taurinensia*: t. 4, f. 1. 1766.

Sagina erecta L., Sp. Pl.: 128. 1 May 1753. = *Moenchia erecta* (L.) Gaertn. – Lectotype (designated

here by Strid): Herb. Linn. No. 177.3 (LINN).

Saponaria lutea L., Sp. Pl., ed. 2, 1: 585. 1–20 Sep 1762. – Lectotype (designated here by Phitos): [icon] “*Lychnis floribus umbellatis ochroleucis, petalis ovatis, filamentis nigris*” in Allioni, Rar. Ped. Stirp.: t. 5, f. 2. 1755.

Saponaria ocymoides L., Sp. Pl.: 409. 1 May 1753. – Lectotype (designated here by Phitos): Herb. Linn. No. 580.8 (LINN).

Silene antirrhina L., Sp. Pl.: 419. 1 May 1753. – Lectotype (designated here by Rabeler): Herb. Linn. No. 583.42 (LINN).

Silene crassifolia L., Sp. Pl., ed. 2, 1: 597. 1–20 Sep 1762. – Neotype (designated here by Cupido): [South Africa], Western Cape, Strandfontein, sand dunes, 21 Dec 1941, *Compton 12781* (NBG).

Silene virginica L., Sp. Pl.: 419. 1 May 1753. – Lectotype (designated here by Rabeler): *Clayton 423* (BM).

Note. – Although Howard & Staples (1983: 521) noted the existence of material in LINN, they did not indicate any of it as the type.

Spergula laricina L., Sp. Pl.: 441. 1 May 1753. ≡ *Minuartia laricina* (L.) Mattf. – Lectotype (designated here by Lazkov): *Gmelin*, Herb. Linn. No. 604.5 (LINN).

Stellaria arenaria L., Sp. Pl.: 1196. 1 May 1753. ≡ *Arenaria hispanica* Sprengel – Lectotype (designated here by López González): Herb. Linn. No. 581.14 (LINN).

Stellaria dichotoma L., Sp. Pl.: 421. 1 May 1753. – Lectotype (designated here by Lazkov): *Amman*, Herb. Linn. No. 584.2 (LINN).

Stellaria radians L., Sp. Pl.: 422. 1 May 1753. – Lectotype (designated here by Lazkov): *Gmelin*, Herb. Linn. No. 584.3 (LINN).

Velezia rigida L., Sp. Pl.: 332. 1 May 1753. – Lectotype (designated here by Strid): *Loefling 307*, Herb. Linn. No. 326.1 (LINN).

Note. – Although Ghazanfar & Nasir (1986: 120) indicated material in LINN and UPS as syntypes (incorrectly, as neither collection was explicitly cited in the protologue), the specimens do not form part of a single collection (Art. 9.14) so their statement cannot be interpreted as a formal typification.

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LITERATURE CITED

- Barkoudah, Y.** 1962. A revision of *Gypsophila*, *Bolanthus*, *Ankyropetalum* and *Phryna*. *Wentia* 9: 1–203.
- Bernal, M., Lainz, M. & Muñoz Garmendia, F.** 1990. *Dianthus* L. Pp. 426–462 in: Castroviejo, S., Lainz, M., López González, G., Montserrat, P., Muñoz Garmendia, F., Paiva, J. & Villar, L. (eds.), *Flora Iberica* 2. Real Jardín Botánico, C.S.I.C., Madrid.
- Brummitt, R. K.** 2000. Report of the Committee for Spermatophyta: 49. *Taxon* 49: 261–278.
- Brummitt, R. K.** 2003. Report of the Committee for Spermatophyta: 53. *Taxon* 51: 795–799.
- Chater, A. O., Walters, S. M. & Akeroyd, J. R.** 1993. *Silene* L. Pp. 191–218 in: Tutin, T. G., Burges, N. A., Chater, A. O., Edmondson, J. R., Heywood, V. H., Moore, D. M., Valentine, D. H., Walters, S. M. & Webb, D. A. (eds.), *Flora Europaea*, ed. 2, vol. 1. Cambridge Univ. Press, Cambridge.
- Chaudhri, M. N.** 1968. A revision of the Paronychiinae. *Meded. Bot. Mus. Herb. Riksuniv. Utrecht* 285: 1–440.
- Duke, J. A.** 1961. A preliminary revision of *Drymaria cordata* L. *Ann. Miss. Bot. Gard.* 48: 173–268.
- Fawcett, W. & Rendle, A. B.** 1914. *Flora of Jamaica*, 3(1). British Museum, London.
- Ghazanfar, S. H. & Nasir, Y. J.** 1986. *Velezia*. Pp. 119–120 in: Nasir, E. & Ali, S. I. (eds.), *Flora of Pakistan*, vol. 175. Pangraphics, Islamabad.
- Greuter, W., Burdet, H. M. & Long, G.** 1984. Med-Checklist 1. Conservatoire et Jardin botaniques, Genève.
- Gutermann, W.** 1975. Notulae nomenclaturales 1–18 (Zur Nomenclatur einiger Arten der mitteleuropäischen Flora). *Phyton (Austria)* 17: 31–50.
- Howard, R. A.** 1988. *Flora of the Lesser Antilles*, vol. 4. Harvard Univ., Jamaica Plain, Massachusetts.
- Howard, R. A. & Staples, G. W.** 1983. The modern names for Catesby's plants. *J. Arnold Arb.* 64: 511–546.
- Ikonnikov, S. S.** 1972. Notula de *Arenaria saxatilis* L. *Novosti Syst. Vysch. Rast.* 9: 155–156. [In Russian.]

- Khalaf, M. K. & Stace, C. A.** 2001. The distinction between *Cerastium tomentosum* L. and *C. biebersteinii* DC. (Caryophyllaceae) and their occurrence in the wild in Britain. *Watsonia* 23: 481–491.
- Lainz, M. & Muñoz Garmendia, F.** 1987. *Dianthus hyssopifolius* L. Cent. Pl. I: 11 (1755). *Anal. Jard. Bot. Madrid* 44: 571–572.
- Lazkov, G. A.** 1998. A synopsis of Section Holopetalae of the genus *Silene* (Caryophyllaceae). *Bot. Zhurn.* 83(5): 89–95.
- Linnaeus, C.** 1755a. *Centuria I Plantarum*. Uppsala.
- Linnaeus, C.** 1755b. *Flora Suecica*, ed. 2. Stockholm.
- Linnaeus, C.** 1759. *Amoenitates Academicae*, 4: 261–296. Stockholm.
- Melzheimer, V.** 1988. *Silene*. Pp. 341–510 in: Rechinger, K. H. (ed.), *Flora Iranica*, vol. 163. Akademische Druck- u. Verlagsanstalt, Graz.
- Mizushima, M.** 1957. A revision of *Drymaria cordata* Willd. (Critical studies of Japanese plants 3). *J. Jap. Bot.* 32: 69–81.
- Möschl, W.** 1973. Über die Cerastien Österreichs. *Mitt. Verein Steierm.* 103: 141–170.
- Nordenstam, B.** 1961. Notes on some Linnaean dissertations. *Bot. Notiser* 114: 276–280.
- Rickett, H. W.** 1955. Notes on the Linnaean dissertations. *Lloydia* 18: 49–60.
- Smith, A. C.** 1981. *Flora Vitiensis Nova*, vol. 2. Pacific Tropical Botanic Garden, Hawaii.
- Turland, N. & Jarvis, C. E.** (eds.). 1997. Typification of Linnaean specific and varietal names in the Leguminosae (Fabaceae). *Taxon* 46: 457–485.
- Turrill, W. B.** 1956. Caryophyllaceae. Pp. 1–38 in: Turrill, W. B. & Milne Redhead, E. (eds.), *Flora of Tropical East Africa*. Crown Agents, London.
- Tutin, T. G. & Walters, S. M.** 1993. *Dianthus* L. Pp. 227–246 in: Tutin, T. G., Burges, N. A., Chater, A. O., Edmondson, J. R., Heywood, V. H., Moore, D. M., Valentine, D. H., Walters, S. M. & Webb, D. A. (eds.), *Flora Europaea*, ed. 2, vol. 1. Cambridge Univ. Press, Cambridge.