47 Caryophyllaceae

S *Alsinaceae.*
Text: V.V. Petrovsky & R. Elven. 2005 Pan-Arctic Flora, draft version

4701 Stellaria L., Sp. Pl. 421 (1753).

Notes. We have transferred to *Cherleria* (see there) the deviating species often named as *S. dicranoides* in recent literature.

470101 Stellaria media (L.) Vill., Hist. Pl. Dauphiné 3, 2: 615 (1789).

B *Alsine media* L., Sp. Pl. 272 (1753).
T Linnaean Herbarium 388.1 (LINN) lectotype, designated by Turrill, Fl. Trop. E. Africa, Caryophyll. 24 (1956). Described from Europe.
2n= *36–40–44 (4x, x = c.10–11).* – Peterson (1933, 1936 2n = 42 44); Löve & Löve (1956b Icel 2n = 42); Mulligan (1961 Can, 1984 2n = 40); Taylor & Mulligan (1968 BC 2n = 40); Löve (1970a Icel 2n = 40); Arohonka (1982 Finl 2n = 42); Halkka (1985 Finl. 2n = (38–)40. Very numerous more southern counts.

Not accepted: Deviating chromosome counts of 2n = 18 (Krasnikov & Schaulo 1990 S Sib Novosibirsk area) and 2n = 28 (Pal 1952 India) may belong to other species.
G Eurasian. ICE NOR RUS SIB* RFE* ALA* CAN* GRL*.
Notes. Well established, archaeophytic or possibly native on arctic seashores in the Atlantic European regions. In other arctic regions more recently introduced, much less frequent, and partly casual.

470102 Stellaria bungeana Fenzl in Ledeb., Fl. Ross. 1: 376 (1842).

T S Siberia: "Hab. prope Obdorsk, Altaica", leg. Gebler, Ledebour, Meyer & Bunge (LE); "in Davuria ad torrents Wydrinka, Solson allisque", leg. Turczaninov.
2n= *26 (2x).* – Probatova & Sokolovskaya (1984b NE As).
G E European – Asian. RUS.
Notes. Approaches the Arctic also along lower Ob R. in NW Siberia.

470103 Stellaria nemorum L., Sp. Pl. 421 (1753).

T Burser herbarium XIV (1): 69 (UPS) lectotype, designated by Jonsell & Jarvis, Nordic J. Bot. 14: 159 (1994). Described from Europe.

47010301 Stellaria nemorum L. subsp. *nemorum.*

2n= *26 (2x).* – Peterson (1935, 1936 Sweden); Lövkvist in Weimarck (1963 Sweden). Several more southern counts.
G European. NOR RUS.

470104 Stellaria holostea L., Sp. Pl. 422 (1753).

T Linnaean Herbarium 584.4 (LINN) lectotype, designated by Jonsell & Jarvis in Jarvis et al., Regnum Veget. 127: 91 (1993). Described from Europe.
2n= *26 (2x).* – Peterson (1935, 1936 Sweden); Rohweder (1937 NC Eur); Blackburn & Morton (1957 Brit); Sorsa (1962 Finl); Gadella & Kliphuis (1963 1971 W Eur); Arohonka (1982 Finl); Hollingsworth et al. (1992 Brit); Lövkvist & Hultgård (1999 Sweden). Several more southern counts.
G European – W Siberian. (RUS).
Notes. Borderline arctic? Mapped by Tolmachev (1976) from at least two sites inside the Arctic as delimited in NE European Russia. Mapped by Jalas & Suominen (1983, map 824) from the arctic parts of Malozemelskaya Tundra (map 824). Petrovsky: Still doubts about arctic

occurrence.

470105 Stellaria crassifolia Ehrh., Hannover. Mag. 22: 116 (1784).
T Described from Germany.
2n= *26 (2x).* – Peterson (1935, 1936 Sweden); Knaben (1950 Norw); Löve & Löve (1956b Icel, 1982 Hudson Bay); Zhukova et al. (1973 Wrangel I.); Zhukova & Petrovsky (1976 W Chuk). A few more southern counts.
G Nearly circumboreal/polar. ICE NOR RUS SIB RFE ALA CAN.
Notes. Elven: Polymorphic, and two eco-geographical varieties are described in N Europe: the inland swamp–mire var. *crassifolia* and the seashore var. *brevifolia* (Rafn) Fr. Even if Borgen & Often in Jonsell (2001) did not recognise distinct races, these two might deserve some recognition. There are also evident morphological differences between, e.g., North Atlantic and North Pacific plants.

470106 Stellaria humifusa Rottb., Skr. Kiøbenhavnske Selsk. Lærd. Elsk. 10: 447 (1770).
T Rottbøll (1770), Skr. Kiøbenhavnske Selsk. Lærd. Elsk. 10: 461, Tab. IV, No. XIV, lectotype, designated by Jonsell, Nordic J. Bot. 16: 6 (1996). Described from Scandinavia.
2n= *26 (2x).* – Flovik (1940 Svalb); Sørensen & Westergaard in Löve & Löve (1948 Grl); Löve & Löve (1956b Icel, 1982 Hudson Bay); Jørgensen et al. (1958 Grl); Mosquin & Hayley (1966 Melville I. 2n = c.24); Zhukova (1966 W Chuk); Hedberg (1967 Southampton I.); Taylor & Mulligan (1968 BC); Johnson & Packer (1968 NW Ala); Zhukova & Petrovsky (1972 NE As, 1976 W Chuk); Pojar (1973 BC); Zhukova & Tikhonova (1973 E Chuk); Packer & McPherson (1974 N Ala); Engelskjøn (1979 N Norw two counts); Chinnappa & Chmielewski (1987 W N Am); Dalgaard (1989 W Grl).
G Circumpolar. ICE NOR RUS SIB RFE ALA CAN GRL.
Notes. In Siberia only mapped from the Ob R. estuary by Malyschev & Peschkova (1993); obviously wrong as it also occurs in NE Taimyr and several places in NE Siberia.

470107–08 Stellaria calycantha **aggregate** (*S. borealis*, *S. calycantha*).
Notes. Elven: *Stellaria calycantha* (Ledeb. 1812) Bong. 1832 was described from E Siberia, *S. borealis* Bigelow 1824 from E North America. The group was investigated by Rabeler (1986) and Morton & Rabeler (1989). Their view was that *S. calycantha* is diploid (2n = 26) and distributed around the North Pacific including arctic parts of Chukotka and Beringian Alaska. *Stellaria borealis* is tetrapoid (2n = 52) and widely distributed from interior and northern Alaska eastwards through North America, Greenland and N Europe to N Urals. The two meet in W North America but not in Eurasia. The views of Rabeler and Morton have been followed for Europe by Chater & Heywood in Tutin et al. (1993), for Yukon Territory by Cody (1996), and for the Nordic area by Borgen & Often in Jonsell (2001). It is also followed for the Checklist but with some reservations.

Most workers before Rabeler (1986) applied the names differently. This makes the utilisation of earlier sources difficult, e.g., Hultén (1944, 1950, 1967, 1968a), Matzenko in Tolmachev (1971), Löve & Löve (1975), Porsild & Cody (1980), and Hultén & Fries (1986). In these works, the name *S. calycantha* has most often been applied opposite to how it was applied by Rabeler and Morton.

Perhaps more serious is that, in my opinion, the original material in LE available for typification of *Arenaria calycantha* Ledeb. is morphologically very close to the N European plant now considered as *S. borealis* but different from the Alaskan and Yukon plants now considered as *S. calycantha*. The same discrepancy is evident from the descriptions (and illustrations) in Cody (1996). We Europeans would recognise Cody's *S. calycantha* as our *S. borealis* whereas we would not recognise his *S. borealis* as anything we have. This matter is not yet resolved.

470107 Stellaria calycantha (Ledeb.) Bong., Mém. Acad. Imp. Sci. St.-Pétersbourg, sér. 6, Sci. Math. 2: 127 (1832).
B *Arenaria calycantha* Ledeb., Mém. Acad. Imp. Sci. St. Pétersbourg Hist. Acad. 5: 534 (1815).
T Siberia: "E Siberia orientali, Ochotsk", leg. Tiling. Type in LE.
2n= *26 (2x).* – Morton & Rabeler (1989) listed eight counts from Russian Far East, W Canada and NW USA (e.g., Taylor & Mulligan 1968 BC, Hartman 1971 W USA, Zhukova 1980 S Chuk).
Not accepted: Löve & Löve (1975) listed only 2n = 52 for their *S. calycantha* subsp. *calycantha* (*S. borealis* + *calycantha*) and omitted the 2n = 26 counts altogether. Obviously erroneous.
G Amphi-Pacific. RFE ALA.

470108 Stellaria borealis Bigelow, Fl. Boston., ed. 2, 182 (1824).
Notes. Considered by Morton & Rabeler (1989) as the widespread species, with two subspecies. This view is followed for the Checklist, but see comment above.

47010801 Stellaria borealis Bigelow subsp. ***borealis***.
S *S. calycantha* (Ledeb.) Bong. var. *isophylla* Fernald, Rhodora 16: 150 (1914); *S. calycantha* (Ledeb.) Bong. subsp. *interior* Hultén, Acta Univ. Lund., n. s., sect. 2, 40, 1: 648 (1944).
2n= *52 (4x).* – Morton & Rabeler (1989) listed c.50 counts from Alaska, Canada, W USA, Iceland, Finland and Sweden, e.g., Löve & Löve (1956b Icel, 1966b NE USA), and Hedberg (1967 Quebec); Dalgaard (1989 W Grl); Jonsell (2001 S Norw & N Sweden).
G North American – amphi-Atlantic. ICE NOR RUS ALA CAN GRL.

47010802 Stellaria borealis Bigelow subsp. ***sitchana*** (Steud.) Piper in Piper & Beattie, Fl. N.W. Coast 147 (1815).
B *S. sitchana* Steud., Nomencl. Bot., ed. 2, 2: 637 (1841); *S. sitchana* Steud. var. *bongardiana* (Fernald) Hultén, Fl. Aleut. Isl. 164 (1937) [basionym: *S. borealis* Bigelow var. *bongardiana* Fernald, Rhodora 16: 151 (1914)].
T Described from SE Alaska: Sitka.
2n= *52 (4x).* – Morton & Rabeler (1989) listed eight counts from Alaska and W Canada.
G Pacific American. ALA?
Notes. Uncertain as arctic. Present in W North America north to S Alaska and the Aleutian Is., probably not in the Arctic acc. to Morton & Rabeler (1989). Hultén (1968a) mapped an occurrence in arctic W Alaska: Seward Peninsula. Proposed treated by Morton & Rabeler (1989) as a subspecies of *S. borealis* and not of *S. calycantha*.

470109 Stellaria x alpestris Fr., Novit. Fl. Suec. Mant. 1: 10 (1832).
S *S. borealis* Bigelow x *S. longifolia* Muhl.
T Described from Scandinavia.
2n= *39 (3x).* – Jonsell (2001 Norw).
G N European? NOR RUS?
Notes. Elven: The hybrid occurs independent of (and often more frequent than) both its parents and partly produces seeds, at least in N Fennoscandia. Rabeler (1986) was reluctant to accept the name *S. alpestris* Fr. for this hybrid and rather assigned it as a synonym to *S. borealis* subsp. *borealis*. Type material (in UPS?) needs inspection.

470110 Stellaria alsine Grimm, Nova Acta Acad. Caes. Leop.–Carol. German. Nat. Cur. 3, app.: 313 (1767).

S *S. uliginosa* Murray, nom. inval., Prodr. Stirp. Gott. 55 (1770).
T Described from Germany.
2n= ***24–28.*** – Heitz (1926 2n = 24–26); Tischler (1934 C Eur 2n = 26–28); Peterson (1935 1936 Sweden); Rohweder (1939 NC Eur); Mattick in Tischler (1950 C Eur 2n = 26); Blackburn & Morton (1957 W Eur); Gadella & Kliphuis (1971 NW Eur); Findlay & McNeill (1973 C Eur); Pogan & Rychlewski (1980 C Eur); Löve & Löve (1982 Hudson Bay); Jonsell (2001 S Sweden). Several more southern counts.
G Amphi-Atlantic. (CAN?).
Notes. Borderline arctic? Mapped by Hultén & Fries (1986) from a few sites at SW Hudson Bay but perhaps misidentifications. However, the chromosome report of Löve & Löve (1982) is from Churchill at Hudson Bay, by us defined as borderline arctic. Morton in FNA 5 (2005) excluded occurrences in arctic Quebec, Ontario, and Manitoba (i.e., Hudson Bay).

470111 Stellaria graminea L., Sp. Pl. 422 (1753).
T Burser Herbarium XI: 111 (UPS) lectotype, designated by Jonsell & Jarvis, Nordic J. Bot. 14: 159 (1994). Described from Europe.
2n= *(1)* ***24 26*** *(2x).* – Peterson (1935 1936 Sweden); Rohweder (1937 1939 NC Eur); Tischler (1937 C Eur); Mattick in Tischler (1950 C Eur); Löve & Löve (1956b Icel); Parfenov & Dmitrieva (1987 E Eur 2n = 24); Jonsell (2001 Sweden & Finl). Several more southern counts.

(2) ***39–42*** *(3x).* – Gadella & Kliphuis (1967, 1971 W Eur); Harmaja (1992 Finl 2n = 40 42); Jonsell (2001 Sweden & Finl).

(3) ***52*** *(4x).* – Lövkvist in Weimarck (1963 Sweden); Taylor & Mulligan (1968 BC); Arohonka (1982 Finl); Mulligan (1984 Can); Uotila & Pellinen (1985 Finl); Harmaja (1992 Finl); Lövkvist & Hultgård (1999 Sweden & Finl); Jonsell (2001 Sweden & Finl). A few more southern counts.

(4) ***104*** *(8x).* – Lövkvist in Weimarck (1963 Sweden).
G European – W Siberian. ICE* NOR RUS.
Notes. Elven: A very complicated di/polyploid complex in which it might be possible, but probably not worth the effort, to describe several morphologically definable entities (see Kurtto in Jonsell 2001). The morphological differences are complex and autopolyploidy is probable.

470112–13 Stellaria palustris **aggregate** (*S. fennica, S. palustris*).
Notes. *Stellaria palustris* and *S. fennica* are treated by Nordic authors as two separate species. They are parapatric, differ ecologically, and are morphologically clearly definable in several characters in our area. See also Kurtto in Jonsell (2001) and Elven & Solstad (2000). *Stellaria fennica* has usually not been recognised by Russian authors.

470112 Stellaria palustris Ehrh. ex Hoffm., Deutschl. Fl. 1: 152 (1791).
S *S. glauca* With., Arr. Brit. Pl., ed. 3, 2: 420 (1796).
T Sweden: Uppsala, leg. Ehrhlich, Herbae Linnaeanae, Dec. 4, No. 35 (MW) lectotype, designated by Braun, Mitt. Florist. Kart. Sachsen–Anhalt 2: 10 (1997).
2n= ***c.100–c.182*** *(8–14x).* – Peterson (1936 Sweden 2n = c.130); Blackburn & Morton (1957 W Eur 2n = c.130); Sokolovskaya (1970 NE Rs 2n = c.100 possibly *S. fennica*); Gadella & Kliphuis (1971 W Eur 2n = 174–176 179 180–182); Dmitrieva (1985b E Eur 2n = c.180); Lövkvist & Hultgård (1999 S Sweden 2n = c.130).

Not accepted: A fairly recent chromosome count of 2n = 28 from Germany (Lippert & Heubl 1989) must belong to something else.
G Eurasian. RUS SIB.
Notes. The Russian and Siberian range may have been exaggerated due to inclusion of *S. fennica*, see comment below. Malyschev & Peschkova (1993) accepted no arctic Siberian occurrences (and neither did they recognise *S. fennica*).

470113 Stellaria fennica (Murb.) Perfil., Bot. Zhurn. SSSR 26: 152 (1941).
B *S. palustris* L. var. *fennica* Murb., Bot. Not. 1899: 206 (1899).
T N Finland: Sodankylä, 16.07.1882, leg. E.W. Blom (H 460885) lectotype, designated by Kurtto in Jonsell, Nordic J. Bot. 16: 6 (1996).
2n= See *S. palustris*.
G NE European – NW Siberian. (NOR) RUS SIB.
Notes. Two known sites in N Norway, just at the arctic boundary (Vadsø, see Elven & Solstad 2000). Specimens in LE from arctic N European Russia and NW Siberia.

The maps of Jalas & Suominen (1983) for N Russian parts of *S. fennica* and *S. palustris* are strange and might indicate that different morphological criteria have been applied by their Russian sources in these areas compared with Finland, Sweden (and Norway). The same is reflected in Tolmachev (1976, *'fennica'* there treated as a variety). The Russian range of *S. fennica* has been underestimated and that of *S. palustris* overestimated. A revision of the material is needed.

470114 Stellaria hebecalyx Fenzl in Rupr., Fl. Samojed. Cisural. 26 (1845).
S *S. ponojensis* Arrh., Bot. Not. 1888: 190 (1888).
T Described from N European Russia: the Archangelsk area, type in LE.
G NE European. NOR RUS.
Notes. Elven: Some of the northern and arctic Russian plants differ appreciably from the more southern ones. *Stellaria ponojensis* Arrh., based on plants from E Kola Peninsula, should be evaluated as a possible northern entity which differs from more southern *S. hebecalyx* s. str. in comparatively broad and very glaucous leaves, semi-prostrate growth, few- or one-flowered cymes, and differently shaped sepals. Both entities occur in arctic N Norway, the *'ponojensis'* type as probably native in sand-dune slacks, the *'hebecalyx'* s. str. type as a stable introduction.

470115 Stellaria umbellata Turcz. ex Kar. & Kir., Bull. Soc. Imp. Naturalistes Moscou 15: 173 (1842).
T SE Siberia: Burjat area, "In fonte alpis Nuchu-Daban", type in LE.
2n= *26 (2x).* – Zhukova (1967a W Chuk, 1980 S Chuk); Hartman (1971 W USA); Zhukova et al. (1973 Wrangel I.).
G C Asian – amphi-Beringian – Cordilleran. SIB? RFE ALA CAN.
Notes. Given by Malyschev & Peschkova (1993) from Siberia, N Yakutia, lower Olenek R., but uncertain whether arctic.

470116 Stellaria longifolia Muhl. ex Willd., Enum. Pl. 479 (1809).
S *S. diffusa* Willd. ex Schltdl., Ges. Naturf. Freunde Berlin Mag. Neuesten Entdeck. Gesammten Naturk. 7: 195 (1815).
T Described from E USA: Pennsylvania.
2n= *26 (2x).* – Peterson (1935 1936 Sweden); Mattick in Tischler (1950 C Eur); Hara (1952); Sorsa (1962 Finl); Hartman (1971 N Am); Löve & Löve (1982 C Can); Zhukova & Petrovsky (1987 NE Yakutia); MacDonald & Chinnappa (1988 Can); Morton & Rabeler (1989); Lövkvist & Hultgård (1999 Sweden).

Not accepted: A chromosome count of 2n = 104 from Siberia (Rostovtseva 1977) must belong to another species, possibly of the *S. longipes* complex.
G Circumboreal. NOR RUS SIB ALA? CAN GRL?

470117 Stellaria longipes Goldie, Edinburgh Philos. J. 6: 327 (1822), s. lat.
S See informally entered entities below.
T See below.

2n= For the collective species:

26–107 (2x–8x). – Flovik (1940 Svalb 2n = 104 *'crassipes'*); Böcher & Larsen (1950 Hudson Bay 2n = 52 two counts *'longipes'*, NW Grl 2n = 104 *'monantha'*); Knaben (1950 S Norw 2n = 104 *'crassipes'*); Böcher (1952 Grl 2n = 52 *'longipes'*); Jørgensen et al. (1958 Grl 2n = 104 *'crassipes'*; NW Grl 2n = 104 *'monantha'*); Zhukova (1965a E Chuk 2n = 36 *'edwardsii'*; 1967 NE As 2n = 72; 1968 NE As 2n = 84 *'laeta'*, W Chuk 2n = 52 *'monantha'*; 1980 S Chuk 2n = 78 *'laeta'*, S Chuk 2n = 72 *'ciliatosepala'*; 1990 NE As 2n = 62 as *S. laxmannii*); Mosquin & Hayley (1966 Ellesmere I. 2n = c.72 *'longipes'*, Ellesmere I. 2n = c.52 *'edwardsii'*, Ellesmere & Melville Is. 2n = c.72 c.78 *'laeta'*, Ellesmere & Melville Is. 2n = 52 76 *'monantha'*); Hedberg (1967 Ungava 2n = c.106 & N Ala Umiat 2n = c.105, *'longipes'* s. lat., Southampton I. 2n = c.104 *'crassipes'*); Johnson & Packer (1968 NW Ala 2n = 104 *'monantha'*); Knaben (1968 Ala 2n = 78 *'edwardsii'*); Mulligan & Porsild (1969 Yukon 2n = 104 *'longipes'* s. lat.; 1970 Yukon 2n = 78 *'laeta'*); Zhukova & Tikhonova (1971 W Chuk 2n = 72 *'ciliatosepala'*); Zhukova & Petrovsky (1971 Wrangel I. 2n = >100 *'edwardsii'*, Wrangel I. 2n = 84 *'laeta'*; 1972 Wrangel I. 2n = 72 *'peduncularis'*; 1975 W Chuk 2n = 52 *'laeta'*, 2n = 72 78 >100 *'ciliatosepala'*; 1976 W Chuk 2n = 72 78 >100 *'ciliatosepala'*, 2n = 52 *'monantha'*; 2n = 72 *'peduncularis'*; 1977 W Chuk 2n = 72 as *S. arenicola*, 2n = 52 *'longipes'*; 1980 W Chuk 2n = 52 *'monantha'*, 2n = 78 *'davurica'*; 1987 W & S Chuks 2n = 52 104 *'monantha'*, N Yakutia two counts of 2n = 104 *'peduncularis'*, N Yakutia 2n = 52 *'laeta'*); Hartman (1971 W USA 2n = 52 *'longipes'* s. str.); Philipp (1972 NW Grl 2n = 78 91 101 104–107 *'longipes'* s. lat.); Zhukova et al. (1973 Wrangel I. 2n = >80 100 *'edwardsii'*, 2n = c.80 >90 104 *'ciliatosepala'*, 2n = 78 *'peduncularis'*; 1977a Yakutia 2n = 104 *'ciliatosepala'*); Packer & McPherson (1974 N Ala 2n = c.91 *'laeta'*); Engelskjøn (1979 Svalb 2n = 104–106 *'crassipes'*); Petrovsky & Zhukova (1981 Wrangel I. 2n = 104 *'crassipes'*?, 2n = 72 c.80 104 *'edwardsii'*); Löve & Löve (1982 C Can 2n = 52 *'longipes'* s. str., Hudson Bay 2n = 91 *'edwardsii'*, C Can 2n = 104 *'monantha'*, C Can 2n = 78 *'stricta'*, Hudson Bay 2n = 52 *'subvestita'*); Chinnappa & Morton (1984 2n = 52 78 104 *'longipes'* s. str.); Antonova & Petrovsky (1986 N/NE As 2n = 52 *'longipes'*, 2n = 84 94 c.100 c.104 *'crassipes'*?, 2n = 78 *'davurica'*, 2n = >80 c.100 >100 103 104 *'edwardsii'*, 2n = 72 78 91 >100 104 *'ciliatosepala'*, 2n = >30 52 78 104 *'monantha*, N/NE As 2n = 72 78 104 *'peduncularis'*); Chinnappa & Chmielewski (1987 W N Am 2n = 52 78 104 *'longipes'* s. str.); MacDonald & Chinnappa (1988 Can 2n = 52 78 104 *'longipes'* s. str.); Cai & Chinnappa (1989 2n = 26 *'longipes'* s. str.); Jonsell (2001 Svalb 2n = c.104 nine counts *'crassipes'*).

The names associated with the counts probably do not mean much.

G Circumboreal/polar. NOR RUS SIB RFE ALA CAN GRL.

Notes. There are two very different approaches to this extraordinarily polymorphic polyploid complex:

(1) Hultén (1943), among others, described it as a nearly circumpolar complex of several parapatric to sympatric species. Porsild (1963) detailed this treatment for North America, Böcher et al. (1978) for Greenland, and Matzenko in Tolmachev (1971) and Antonova & Petrovsky (1986) did the same for Russian areas. The morphological differences among the entities accepted by these authors are mainly found in absence or presence of indumentum on plant parts (esp. sepals and stems), whether the plants are glaucous or not, leaf shape, whether the bracts in the inflorescence are hyaline or not, numbers of flowers in the inflorescence, length of peduncle, shape of sepals, and seed surface. These are considered as taxonomically important characters elsewhere in *Stellaria*. Several species have been accepted in most major floristic surveys until quite recently: Hultén (1968a Alaska), Porsild (1957 N Canada), Porsild & Cody (1980 N Canada), Böcher et al. (1978 Greenland), Chater & Heywood in Tutin et al. (1993 N Europe), Tolmachev (1971 N Russia & Siberia), and Hultén & Fries (1986 circumpolar area). Chater & Heywood took the second approach (see below) into consideration with the following comment: "The three species [i.e., *S. longipes*, *S. crassipes*, and *S. ciliatisepala*] ... are morphologically quite distinct in Europe, but not in North America, and a satisfactory

interpretation of the group cannot be made without further investigation throughout the range".

(2) From the 1970s onwards, Chinnappa and Morton have studied most aspects of the variation in morphology, cytology, reproduction, and isoenzymatic variation in the complex, especially in North America, see Chinnappa & Morton (1974, 1976, 1984, 1991) and Chinnappa (1985). These authors found (acc. to the summary of Borgen & Often in Jonsell 2001): "great phenotypic plasticity, low correlation between cytotype and morphology, and high fertility among cytotypes ... It seems therefore appropriate to treat the complex as one polymorphic species". They assumed the complex to be a polyploid reticulum based on several parental diploids, *S. longifolia* Muhl. ex Willd. probably one of them (see Cai et al. 1990). This approach was followed by Jonsell (2001) for the Nordic area and is currently being applied for N Canada by Brysting in Aiken et al. (2005, Flora of the Canadian Arctic Archipelago, in press) and by Morton in FNA 5 (2005).

The Chinnappa/Morton interpretation of the genetical situation in the complex is probably correct. However, arctic field botanists still tend to find it possible to recognise several entities, to assign the majority of the plants they find to them, and to name them. Some experimental work with several molecular markers on carefully selected and morphologically characterised material should be attempted before a final decision is reached as how to consider the complex. There is also a possible problem in duplicate naming of taxa on the North American and Russian side. We have decided to fully accept only a collective species for the Checklist but to enter the described entities informally, also as the circumpolar knowledge of the group is uneven. We have, however, merged a few entities where the synonymisation between Asian and North American names seems comparatively well supported.

Stellaria crassipes Hultén, Bot. Not. 1943: 261 (1943). – Described from N Sweden: Nissontjårro, leg. H. Smith, type probably in UPS. – 2n= *72–**104**–106*. – Probably broadly amphi-Atlantic (arctic). NOR RUS CAN GRL.
Notes. Hultén (1943) mapped this entity as amphi-Atlantic, from Ellesmere I. across Greenland and Svalbard east to Novaya Zemlya and Polar Ural. We have accepted that, even if many Russian and partly North American authors have accepted it from most arctic regions. Petrovsky commented that it occurs in Russian Far East, at least as common in Wrangel I. However, *S. crassipes* was not accepted for Russian Far East by Charkevicz (1996), nor for Siberia by Malyschev & Peschkova (1993).

Stellaria davurica Willd. ex Schltdl., Ges. Naturf. Freunde Berlin Mag. Neuesten Entdeck. Gesammten Naturk. 7: 195 (1815). Synonym: ?*S. laxmannii* Fisch. ex Ser. in DC, Prodr. 1: 397 (1824). – Described from SE Siberia: Dahuria, type in B. – 2n= *62 **78***. – NE Asian. RFE?
Notes. Petrovsky: *Stellaria laxmannii* is close to *S. davurica*, perhaps a synonym. The mainly boreal *S. davurica* is also close to *S. ciliatosepala*, and arctic records might belong to that species. Charkevicz (1996) did not accept Far East records for *S. davurica* and Malyschev & Peschkova (1993) mapped it as very southern in Siberia.

Stellaria edwardsii R.Br., Chlor. Melvill. 13 (1823). Synonym: *S. ciliatosepala* Trautv., Phaenog. Pfl. Hochnord. 52 (1847). – Described from N Canada: Melville I., type in BM. – 2n= ***36–104***. Löve & Löve (1975) listed about six different numbers under this name, one of c.52 from N America, the remaining of 72–104 from Russia/Siberia. – Perhaps nearly circumpolar (arctic). NOR? RUS SIB RFE ALA CAN GRL.
Notes. We here consider the North American *S. edwardsii* and the Eurasian *S. ciliatosepala* as conspecific. Hultén (1943) did not include *S. edwardsii* in his synonymy except for a variety (beta) mentioned in connection with *S. ciliatosepala*, var. *arctica*. Petrovsky commented that Löve's concept as to chromosome counts of *S. edwardsii* was

collective, including *S. ciliatosepala*. *Stellaria ciliatosepala* was described from N Siberia: Taimyr R, from 74°N to the mouth, type in LE. The question mark for Norway refers to Chater & Heywood's (1993) acceptance of this entity from Svalbard. As far as we know, only one taxon is present in Svalbard and that would most probably be *S. crassipes*.

Stellaria laeta Richardson in Franklin, Narr. Journey Polar Sea (Bot. App.) 738 (1823). Synonyms: *S. arctica* Schischk. in Kom., Fl. URSS 6: 418, 881 (1936); *S. ciliatosepala* Trautv. var. *arctica* (Schischk.) Hultén, Bot. Not. 1943: 258 (1943). – Described from NW Canada: NWT, "Barren Grounds NE of Great Bear Lake", type probably in BM. – 2n= *52–**c.72–84**–91?–104?* Löve & Löve (1975) listed four different numbers from arctic North America and Siberia: c.78 c.84 c.91 and c.104; – Amphi-Beringian – North American (arctic). RFE ALA CAN GRL.
Notes. Hultén (1943) considered this entity as mainly North American and mapped it only from one site on the Russian side, in E Chukotka. Charkevicz (1996) mapped it as scattered in Russian Far East. Sekretareva (1999) reported it from several regions from Yana–Kolyma eastwards but Malyschev & Peschkova (1993) did not accept it from Siberia.

Stellaria longipes Goldie, Edinburgh Philos. J. 6: 327 (1822), s. str. – Type: Canada: Ontario, Kingston, near Odessa, on natural prairie on limestone, 13.06.1972, leg. Morton NA5101 (E) neotype, designated by Chinnappa & Morton, Rhodora 93: 131 (1991). – 2n= ***26 52 78 104***. – Probably North American. ALA CAN GRL?
Notes. *Stellaria longipes* s. str. is probably a mainly boreal North American entity. Hultén (1943), however, accepted it as nearly circumboreal-polar, from NE European Russia eastwards through N Asia and North America to Greenland. Petrovsky commented that it occurs in Siberia but neither in European Russia nor in Russian Far East where it is replaced by *S. peduncularis*. Neither Malyschev & Peschkova (1993) nor Charkevicz (1996) reported it from Asian Russia. Asian occurrence therefore needs confirmation. The diploid chromosome count of Cai & Chinnappa (1989) might indicate that diploid *S. longipes* s. str. is part of the parentage of the complex.

Stellaria monantha Hultén, Bot. Not. 1943: 265 (1943). – Type: Alaska: Muir Glacier, 13.06.1899, leg. Kincaid (S) holotype. – 2n= ***52–104***. – Amphi-Beringian – North American (arctic). RFE ALA CAN GRL.
Notes. Mostly low-ploidal chromosome numbers are counted under this name in NE Asia and mostly high-ploidal ones in North America and Greenland. They might relate to different entities.

Stellaria peduncularis Bunge in Ledeb., Fl. Altaic. 2: 157 (1830). – Described from S Siberia, Altai, type in LE. – 2n= ***72–104***. – NE European – N Asian. RUS SIB RFE.
Notes. Hultén (1943) synonymised *S. peduncularis* with *S. longipes* s. str. According to Petrovsky this could be the best solution even in the narrow species approach; *S. peduncularis* is characterised by more or less hairy stems. However, typical Asian (*S. peduncularis*) and North American plants (*S. longipes* s. str.) are fairly different. For the Checklist we tentatively treat them as different.

Stellaria stricta Richardson, Bot. App., ed. 2, 15 (1823). – 2n= *78*. – North American. CAN.
Notes. A mainly boreal entity that reaches the Arctic east of the Mackenzie R. delta and around Hudson Bay.

Stellaria subvestita Greene, Ottawa Naturalist 15: 42 (1901). – 2n= *52.* – North American. CAN.
Notes. A mainly boreal entity that generally reaches the same Canadian arctic areas as the preceding one. Petrovsky considered this as perhaps related to *S. peduncularis* and stated that an analogous form is also known from W Chukotka. Elven finds it well different from *S. peduncularis*.

470118 Stellaria alaskana Hultén, Bot. Not. 1943: 264 (1943).
T Alaska: Alaska Range distr., Rapids, leg. Anderson 2222 (S) holotype.
G American Beringian. ALA.
Notes. Found in a few places in the southernmost arctic parts of Brooks Range (Cook & Roland 2002, also specimens from 2002 ALA). Status of this entity, as a distinct species or as a part of the *S. longipes* aggregate, is still uncertain. However, Mortin in FNA 5 (2005) gave good diagnostic characters vs *S. longipes* s. lat.

470119 Stellaria ruscifolia Pall. ex Schltdl., Ges. Naturf. Freunde Berlin Mag. Neuesten Entdeck. Gesammten Naturk. 7: 194 (1815).
T Described from E Siberia.
2n= For the collective species:
(1) ***26*** *(2x).* – Sakai (1934 Jap); Matveeva & Tikhonova in Bolkhovskikh et al. (1968); Zhukova & Petrovsky (1987a Magadan area).
(2) c.50. – Peterson (1935, 1936).
G Amphi-Pacific.
Notes. Subsp. *ruscifolia* reaches the Anadyr basin in Russian Far East but not the arctic parts.

47011901 Stellaria ruscifolia Pall. ex Schltdl. subsp. ***aleutica*** Hultén, Bot. Not. 1943: 269 (1943).
T SW Alaska: Aleutian Is., Unalaska, leg. Hultén 6707 (S) holotype.
2n= *26 (2x).* – Petrovsky PAF draft (primary source not given).
G American Beringian. (ALA).
Notes. Mapped by Hultén (1968a) as borderline arctic in the Norton Sound area, W Alaska.

470120 Stellaria eschscholtziana Fenzl in Ledeb., Fl. Ross. 1: 384 (1842).
S *S. ruscifolia* Pall. ex Schltdl. var. *eschscholtziana* (Fenzl) Hultén, Fl. Kamtchatka 2: 71 (1928).
T Russian Far East: "in Kamtschatka", leg. Rieder. Type in LE.
G Pacific Asian. RFE.

470121 Stellaria fischeriana Ser. in DC, Prodr. 1: 398 (1824).
S *S. florida* Fisch. ex DC., Prodr. 1: 399 (1824).
T Described from E Siberia: Yakutia, Aldan R.
2n= *(1)* ***26*** *(2x).* – Zhukova & Petrovsky (1975 1976 1977 W Chuk five counts, 1980 W Chuk five counts, 1987a, W Chuk two counts); Zhukova (1980 S Chuk); Antonova & Petrovsky (1986, NE As).
(2) >30. – Antonova & Petrovsky (1986, NE As).
(3) ***52*** *(4x).* – Zhukova & Petrovsky (1987a W Chuk).
(4) 72. – Zhukova (1966, 1969 Chuk); Antonova & Petrovsky (1986 W Chuk).
(5) 78 (6x). – Antonova & Petrovsky (1986 NE As).
G NE Asian. RFE.
Notes. Petrovsky: The high-ploidal plants from W Chukotka correspond morphologically to *S. fischeriana* but might be *S. ciliatosepala* with unusually much hairs on upper parts.

470122 ***Stellaria jacutica*** Schischk., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 8: 184 (1940).
T Siberia: NE Yakutia, Indigirka R. basin, 67°N, Momsky reg., Teguron R., 05.07.1935, leg. V. Scheludyakova (LE) holotype.
2n= *26 (2x).* – Yurtsev & Zhukova (1972 NE Yakutia).
G N Asian. SIB.

4702 ***Cerastium*** L., Sp. Pl. 437 (1753).
S *Dichodon* Bartl. in Rchb., Nomencl. 205 (1841).
Notes. Elven: *Dichodon* (as subgenus) is represented by the first or by some authors the three first species. There is molecular support for recognition of the *'Dichodon'* group, including *C. cerastoides* and the non-arctic *C. dubium* (Bastard) Guépin, as a distinct segregate, at least a subgenus (Scheen et al. 2003). There is no support for the suggestion of Löve & Löve (1975, 1976) to also include the *'Strephodon'* group with *C. dahuricum* and *C. maximum* in *Dichodon*.

The basic chromosome number in this genus is disputed. Most current authors consider x = 18 to be basic, but the occurrence of a few counts of 2n = 54 (then triploid) indicate that x = 9 may be the basic number and that diploids are unknown or may be extinct. The number 2n = 38, found in the *Dichodon* group and in *C. dahuricum* and *C. maximum* is then either diploid (x = 19) or aneuploid from 2n = 36. In the phylogeny of Scheen et al. (2003), *Dichodon* is the sister group of the other *Cerastiums*. Following the current usage, we consider the basic numbers to be x = 18 and 19.

470201 ***Cerastium cerastoides*** (L.) Britton, Mem. Torrey Bot. Club 5: 150 (1894).
B *Stellaria cerastoides* L., Sp. Pl. 422 (1753).
S *Dichodon cerastoides* (L.) Rchb., Icon. Fl. Germ. Helv. 5: f. 4915 (1841); *C. trigynum* Vill., Prosp. Hist. Pl. Dauphiné 48 (1779).
T N Sweden. Linnaean Herbarium 584.8 (LINN) lectotype, designated by Jonsell & Jarvis, Nordic J. Bot. 14: 159 (1994).
2n= *34 **38** 40 (2x).* – Böcher (1938a 2n = 40); Sørensen & Westergaard in Löve & Löve (1948 Grl); Böcher & Larsen (1950 Grl 2n = 34 38); Löve & Löve (1956b Icel); Jørgensen et al. (1958 Grl); Dalgaard (1988 W Grl). Several more southern counts.
G Broadly amphi-Atlantic & C Asian. ICE NOR RUS CAN GRL.

470202 ***Cerastium maximum*** L., Sp. Pl. 439 (1753).
S *Dichodon maximum* (L.) Á.Löve & D.Löve, Bot. Not. 128: 507 (1976).
T Described from Siberia.
2n= *38 (2x).* – Brett (1952 Ala, 1955); Söllner (1952, 1954); Packer (1964 NW Can); Zhukova (1966 NE As); Zhukova & Tikhonova (1971 Chuk); Zhukova et al. (1973 N Sib); Löve & Löve (1975c N Sib); Dawe & Murray (1979 Ala); Petrovsky & Zhukova (1981 Wrangel I.). Some more southern counts.
G NE European – N Asian – amphi-Beringian. RUS SIB RFE ALA CAN.

470203 ***Cerastium davuricum*** Fisch. ex Spreng., Pl. Min. Cogn. Pug. 2: 65 (1815).
S *Dichodon davuricum* (Fisch. ex Spreng.) Á.Löve & D.Löve, Bot. Not. 128: 507 (1976).
T Described from SE Siberia: Transbaikal.
2n= *38 (2x).* – Fischer (1944); Söllner (1950, 1954); Brett (1952, 1955); Löve & Löve (1975c N Sib).
G E European – N/C Asian. RUS (SIB).
Notes. Elven: In Siberia as borderline arctic along lower Ob and Jenisei rivers, see the map by

Malyschev & Peschkova (1993).

470204 Cerastium arvense L., Sp. Pl. 438 (1753).
S ?*C. strictum* L., Sp. Pl. 439 (1753).
T Sweden: Skåne. Linnaean Herbarium 603.9 (LINN) lectotype, designated by Ugborogho, Phyton (Buenos Aires) 35: 177 (1977).
2n= For the collective species:
(1) 36 (2x). – Jalas in Tutin et al. (1993 for subsp. *suffruticosum*, secondary report).
(2) c.64. – Dobes & Hahn (1997 C Eur).
(3) 72 (4x). – Ugborogho (1972 Ontario as subsp. *arvense*); Löve & Löve (1975c Sweden subsp. *arvense*, 1976b); Jalas in Tutin et al. (1993 for subsp. *arvense* and subsp. *molle*, secondary report); Jonsell (2001 Sweden subsp. *arvense*). Numerous more southern counts.
(4) 90 (5x). – Ugborogho (1973 N Am).
(5) 108 (6x). – Jalas in Tutin et al. (1993 for subsp. *suffruticosum*, secondary report).
Notes. Elven: A very widespread and polymorphic species, distributed throughout temperate, alpine and southern arctic regions in the northern hemisphere and south to southernmost South America. Two main ploidal levels are known, diploids and tetraploids. Jalas in Tutin et al. (1993) separated the European material on six subspecies, among them the diploidal subsp. *strictum* Gaudin in C and S European mountains and the tetraploidal subsp. *arvense* throughout Europe. However, chromosome counted NE Russian plants are diploids as are the other counted arctic and northern plants. Löve & Löve (1975) treated the two ploidal levels as species, the diploids as *C. strictum* Haenke and the tetraploids as *C. arvense* L. s. str. (described from C European mountains). Morton in FNA 5 (2005) accepted two subspecies in North America, an introduced subsp. *arvense* (tetraploid) and a native subsp. *strictum* (diploid). Morphological criteria for separation of the subspecies are given by both Jalas and Morton. It is not yet sufficiently documented that the widespread North American (and Russian–Siberian) plant is the same as the comparatively restricted European mountain plant Jalas (and originally Gaudin) considered by the name *'strictum'*.

Conclusion: The native northern diploid is accepted as a subspecies and the name *'strictum'* is tentatively applied for it.

47020401 Cerastium arvense L. subsp. ***strictum*** Gaudin, Fl. Helv. 3: 245 (1828).
S *C. arvense* L. var. *taimyrense* Tolm., Fl. Arct. URSS 6: 49 (1971); *C. strictum* Haenke, non L. (1753).
T Described from Switzerland.
2n= *36 (2x).* – Taylor & Mulligan (1968 BC); Sokolovskaya (1970 NE Rs); Zhukova & Petrovsky (1971, 1981 Wrangel I.); Ugborogho (1972 Ontario); Löve & Löve (1982 C Can). Numerous more southern counts.
G Nearly circumboreal. RUS SIB RFE CAN GRL.

470205–12 Cerastium alpinum **aggregate** (?*C. aleuticum*, *C. alpinum*, *C. arcticum*, *C. beeringianum*, *C. fischerianum*, (*C. gorodkovii*), *C. jenisejense*, *C. nigrescens*, *C. regelii*).
Notes. An arctic–alpine polyploid complex for which two main evolutionary models have been proposed. Hultén (1956 and elsewhere) viewed it as "a case of worldwide introgressive hybridization" whereas Böcher (1977) viewed it as "a mature polyploid complex". Several studies in recent years have supported Böcher's model, at least for the North Atlantic regions, see Brysting & Hagen (1999), Brysting (2000), Brysting & Borgen (2000), and Brysting & Elven (2000). The entities here recognized as species are morphologically separable in several characters. However, the name *'C. alpinum'* has frequently and until quite recently been used in a very collective meaning in North America and Greenland, e.g., by Bay (1992) in Greenland, and older records are therefore often difficult to assign to the species we currently recognise.

Sequence data (Scheen et al. 2003) indicate that this aggregate has developed recently (probably Pleistocene) and with little genetic divergence yet. There are also some unresolved arctic entities. These are entered informally below.

470205 Cerastium alpinum L., Sp. Pl. 438 (1753).
T N Sweden. Lapland Herbarium 192 (LAPP) lectotype, designated by Jonsell & Jarvis, Nordic J. Bot. 14: 156 (1994). The typification assigns the name to the common N European mountain plant that for a long time has been considered as *C. alpinum* s. str. The description of Linnaeus (1753) also included *'lanatum'*.
Notes. Elven & Grundt: Three subspecies – all described from Europe – reach the Arctic in the North Atlantic regions: Subsp. *alpinum*, subsp. *glabratum* which is, e.g., glabrous to subglabrous and often somewhat purplish pigmented, and subsp. *lanatum* which differ from subsp. *alpinum* by, e.g., distal leaves of vegetative shoots elliptic to rounded vs spathulate, leaves lanate with dense apical tuft of crisp hairs vs no or few apical crisp hairs, stems densely lanate with few or no glandular hairs (except for pedicels) vs hairy with mixture of non-glandular and glandular hairs, and sepals elliptic and subacute vs lanceolate and acute (see Jonsell 2001). See Jonsell (2001) and Grundt et al. (2000) for discussions. These entities seem to encompass the major variation in mainland Europe (incl. Russia) and Iceland, and they are most probably results of eco-geographical diversification. Hultén (1956) assigned also the arctic plants in Svalbard, Greenland and NE North America to subsp. *lanatum*. The majority of these plants differ, however, much from the C and N European plants to which the name subsp. *lanatum* belongs (described from C Europe). Some plants from S Greenland and mainland North America correspond better with European subsp. *lanatum*. Morton in FNA 5 (2005) accepted subsp. *alpinum* and subsp. *lanatum* for North America (incl. Greenland), but with slightly different characters and with subsp. *alpinum* as the more northernly distributed of the two (largely corresponding to Hultén's concept of arctic *'lanatum'*). Morton's subsp. *lanatum* probably corresponds with the European and type concept, whereas his subsp. *alpinum* corresponds with the more high-arctic plants that Europeans now are reluctant to accept as subsp. *alpinum*. A fourth, arctic entity (probably subspecies) may therefore be present in NE Canada, Greenland, Svalbard, and Jan Mayen. This entity is accepted below.

A triploid chromosome count from Chibiny Mts in Murman area (2n = c.54, Sokolovskaya & Strelkova 1960, referred by Löve & Löve 1975 as *C. hyperboreum*) deviates from the very numerous tetraploid counts of this species. The voucher specimen (if any) should be inspected before this count is accepted.

47020501 Cerastium alpinum L. subsp. ***alpinum***.
2n= *72 (4x).* – Böcher (1938b); Löve & Löve (1944b NW Eur, 1956b Icel); Brett (1950, 1952); Söllner (1950, 1952, 1954); Blackburn & Morton (1957 NW Eur); Engelskjøn & Knaben (1967 S Norw); Engelskjøn (1979 N Norw); Borgen & Elven (1983 N Norw); Brysting et al. (2000 N Eur).
G N European. ICE NOR (mainland) RUS.
Notes. Brysting & Elven: North American and Greenland plants are here excluded from subsp. *alpinum*, see the next.

47020502 Cerastium alpinum L. **unnamed subspecies**
S *C. alpinum* L. subsp. *lanatum* sensu Hultén (1956), non (Lam.) Ces. (1844); *C. alpinum* L. subsp. *alpinum* sensu Morton in FNA 5 (2005).
2n= *72 (4x).* – Böcher (1938 Grl); Jørgensen et al. (1958 Grl); Hedberg (1967 Baffin I.); Löve & Löve (1982 Hudson Bay, perhaps this entity); Jonsell (2001 Svalb).
G Amphi-Atlantic (arctic). NOR (Jan Mayen, Svalbard) CAN GRL.
Notes. Brysting & Elven: At least the majority of the plants in Svalbard, Jan Mayen, Greenland

and Canada belongs to the unnamed entity. We regard, however, this entity as more restricted in North America than done by Morton in FNA 5 (2005).

47020503 Cerastium alpinum L. subsp. ***lanatum*** (Lam.) Ces. in Cataneo, Notizie Naturali e Civili su la Lombardia (1844).
B *C. lanatum* Lam., Encycl. 1: 680 (1785).
S *C. alpinum* L. var. *lanatum* (Lam.) Hegetschw. (1825).
T Lamarck s.n. (P-LA) lectotype, designated by Boscaiu et al., Willdenowia 27: 41 (1997). Described from SC Europe.
2n= *72 (4x).* – Löve & Löve (1944b NW Eur, 1956b Icel); Böcher & Larsen (1950 W Grl, stated to be "extremely lanate"); Brett (1950); Söllner (1952, 1953b, 1954); Böcher (1977a); Nikolov (1991 SE Eur); Brysting et al. (2000 NW Eur); Jonsell (2001 Icel).
G European – amphi-Atlantic. ICE NOR RUS? CAN GRL.
Notes. The question mark for European Russia is due to doubts about occurrence in Murman area. The subspecies occurs as frequent straight up to the border river on the Norwegian side and is expected to occur at least in Rybachi Peninsula. We also regard this subspecies as more restricted in North America than does Morton in FNA 5 (2005).

47020504 Cerastium alpinum L. subsp. ***glabratum*** (Hartm.) Á.Löve & D.Löve, Acta Horti Gothob. 20, 4: 141 (1956).
B *C. glabratum* Hartm., Handb. Skand. Fl. 180 (1820).
S *C. alpinum* L. var. (b) *glabrum* Wahlenb., Fl. Lapp. 136 (1812).
T N Norway. Vahl (1790), Fl. Dan. 6, 17, Fig. 979, lectotype, designated by Jonsell, Nordic J. Bot. 16: 5 (1996).
2n= *72 (4x).* – Löve & Löve (1956b Icel); Böcher (1977 N Norw); Borgen & Elven (1983 N Norw); Brysting et al. (2000 NW Eur).
G N European. ICE NOR RUS.
Notes. Wahlenberg's var. *glabrum* is the priority name if the entity is treated as a variety. Varietal treatment is an alternative as this entity occurs within the range of subsp. *alpinum*, differs mainly in one morphological character, and has a partly different ecology.

470206 Cerastium nigrescens (H.C.Watson) Edmondston ex H.C.Watson, Cybele Brit., Suppl. 1: 81 (1860).
B *C. latifolium* L. var. *nigrescens* H.C.Watson, Cybele Brit. 1: 233 (1847).
T Shetland: Baltasound, 08.1844, leg. Edmondston, herb. H.C. Watson H221/90 10 (K) lectotype, designated by Brummitt et al., Watsonia 16: 295 (1987).
Notes. Brysting & Elven: *Cerastium nigrescens* is now well documented (see references listed under the aggregate) to be clearly and consistently different, both in morphology and molecular markers, from the truly arctic plants, *C. arcticum* s. str. They are both allopolyploids but probably with at least partly different parentages, and they deserve status as two distinct species. *Cerastium nigrescens* reaches the Arctic in Iceland and possibly in SW Greenland. The plants that reach the Arctic belong to var. *laxum*. The treatment as varieties is appropriate because the type of the species (var. *nigrescens*) belongs to a very local Shetland serpentine plant, an ecotype that should not be given higher rank.

47020601 Cerastium nigrescens (H.C.Watson) Edmonston ex H.C.Watson var. ***laxum*** (Lindblad) Brysting & Elven, Taxon 49: 212 (2000).
B *C. latifolium* L. var. *laxum* Lindblad, Physiogr. Sällsk. Tidskr. 1: 334 (1838).
S *C. arcticum* auct. plur., non Lange (1880).
T C Norway: Sør-Trøndelag, "Dovre, Kongsvold, ad Södra Nystubäck infra terminum betulinum", 07.1837, leg. Lindblad (O) lectotype, designated by Brysting & Elven, Taxon 49:

212 (2000).
2n= ***108 (6x).*** – Borgen & Elven (1983 N Norw 2n = c.108); Brysting (1999 Norw, Icel & Brit., also with references to previous reliable counts). Some more southern counts.

Not accepted: A chromosome count of 2n = 90 (Knaben & Engelskjøn 1967 S Norw) probably belongs to the hybrid *C. alpinum* x *nigrescens* which is frequent in the mountains (Oppdal) from where the counted plants came.
G Atlantic European (& S Greenland?). ICE GRL?
Notes. Widely distributed also in Fennoscandian mountains, but non-arctic.

470207 Cerastium arcticum Lange, Fl. Dan. 17, 50: 7, t. 2963 (1880).
S *C. nigrescens* (H.C.Watson) Edmondston ex H.C.Watson subsp. *arcticum* (Lange) P.S.Lusby in Brummitt et al., Watsonia 16: 295 (1987); *C. arcticum* Lange var. *procerum* (Lange) Hultén, Svensk Bot. Tidskr. 50: 451 (1956); *C. arcticum* Lange var. *vestitum* Hultén, Svensk Bot. Tidskr. 50: 453 (1956); *C. hyperboreum* Tolm., Skr. Svalbard Nordishavet 34: 6 (1930).
T W Greenland: Upernivik, leg. J. Vahl (UPS) lectotype, designated by Hultén, Svensk Bot. Tidskr. 50: 459 (1956).
2n= *(1) 54 (3x).* – Böcher & Larsen (1950 N Grl a single count as *C. alpinum*).

(2) ***108*** *(6x).* – Sørensen & Westergaard in Löve & Löve (1948 Grl); Holmen (1952 Grl); Jørgensen et al. (1958 Grl); Engelskjøn (1979 Svalb 2n = 108–112); Brysting (1999 Grl & Svalb and with references to previous reliable counts).

(3) c.130. – Brysting (1999 SW Grl, possibly an aneuploid number found in several plants in one population).

Not accepted: Mosquin & Hayley (1966) reported the chromosome counts of 2n = c.72 c.83 and c.98 for this species from N Canada: Ellesmere & Melville Is., indicating some hybridisation between (probably) *C. arcticum* and *C. beeringianum.*
G Broadly amphi-Atlantic (arctic). NOR RUS CAN GRL.
Notes. Brysting & Elven: A morphologically and genetically heterogeneous high polyploid, but the intricate system of subspecific categories presented by Hultén (1956) – and his hypothesis of widespread introgression – is not supported by subsequent investigations (Brysting 1999, Brysting et al. 2000). Neither are the subspecies proposed by Böcher (1977) supported. At present it is best treated as one variable species that reaches eastwards from Banks I. in NW Canada across Greenland and Svalbard at least to Novaya Zemlya in NE European Russia.

The varieties of Hultén represent morphologically fairly different plants, but intermediates are very frequent and the pattern appears as a continuum. However, the revised opinion of *C. beeringianum* (see below) may result in transfer one of these varieties (var. *sordidum*) to the 'Arctic Dwarf' entity within *C. beeringianum.*

470208 Cerastium beeringianum Cham. & Schltdl., Linnaea 1: 62 (1826).
T W Alaska: "Sin. Kotzebue" [Kotzebue Sound], 1816, leg. Chamisso (B) holotype? [isotype? in LE]. See note below as to possible typification problems.
2n= *72 (4x).* – Söllner (1952, 1954 Yukon); Zhukova (1965a E Chuk, 1968 NE As, 1980 S Chuk); Johnson & Packer (1968 NW Ala); Mulligan & Porsild (1969 1970 Yukon); Zhukova (1969 Wrangel I., as subsp. *bialynickii*, 'Arctic Dwarf', 1980 S Chuk); Ugborogho (1972 Yukon); Zhukova & Petrovsky (1972 Wrangel I. 2n = c.70); Zhukova et al. (1977a Yakutia); Löve & Löve (1982 Hudson Bay).

It is probable that some of the counts from Chukotka, Alaska, and Yukon, refer to var. *grandiflorum.*
G Nearly circumpolar. NOR (Svalbard)? RUS SIB RFE ALA CAN GRL.
Notes. Brysting, Petrovsky & Elven: This species is fairly well separated morphologically from *C. arcticum* (and the more distant *C. alpinum*), at least in the Canadian Arctic where all three

meet. Its range compared with Hultén (1956) must be extended to NW Greenland (specimens in O) and perhaps to Svalbard (also specimens in O). The investigated material consists of at least three morphological types, two of which were recognised as varieties by Hultén (1956):

(a) The comparatively small-flowered var. *beeringianum* occurs more or less throughout the range but is absent from the northernmost parts and rare or more or less absent from interior Alaska and Yukon and from the lowlands around the Bering Strait. Note that the species itself was described from the Kotzebue area in NW Alaska, where the type variety (var. *beeringianum*) is rare whereas var. *grandiflorum* is frequent. A thorough inspection of type material is needed before names can be assigned with certainty to the varietal entities.

(b) The large-flowered var. *grandiflorum* replaces var. *beeringianum* in the narrowly Beringian regions around the Bering Sea and Strait in S and E Chukotka, W and C Alaska and into NW Canada. Hultén proposed that var. *grandiflorum* could be a result of introgression between the N Pacific *C. fischerianum* and *C. beeringianum* var. *beeringianum*. This hypothesis was supported by Morton in FNA 5 (2005). Var. *grandiflorum* is, however, morphologically quite homogeneous throughout a large area where *C. fischerianum* is absent and 'typical' *C. beeringianum* rare. There are indications in annotated herbarium vouchers that many Russian authors have considered this race as *'beeringianum'* s. str., whereas they have considered most material of both var. *beeringianum* and the 'Arctic Dwarf' as *C. bialynickii*.

(c) The northern arctic plants – both in Siberia, Russian Far East, Canada, and NW Greenland – differ in dwarf growth and very compact inflorescences and with comparatively few transitions to var. *beeringianum*. Very tentative investigations (Scheen unpubl.) indicate some molecular differences from var. *beeringianum* and Morton in FNA 5 (2005) reported it (as *C. bialynickii*) as hexaploid (2n = 108).

In recent Russian literature and identifications (in LE), and by Morton in FNA 5 (2005) for North America, this entity is named as *C. bialynickii* and treated as a separate species. The name *'bialynickii'* is, however. not applicable for it. The material available for typification of *C. bialynickii* (in LE, from Dikson in Taimyr) is not significantly different from *C. beeringianum* var. *beeringianum* (as currently understood). For our purpose, this entity is informally named as 'Arctic Dwarf'. Morton in FNA 5 (2005) also synonymised Hultén's *C. arcticum* var. *sordidum* with his *'C. bialynickii'*, i.e., the 'Arctic Dwarf'. Var. *sordidum* is a dwarfish plant known from Greenland, Svalbard, and Franz Joseph Land and interpreted by Hultén (1956) as a possible hybrid between *C. arcticum* and *C. regelii*. We disagree with the *C. regelii* hybridisation hypothesis (we find no similarity between var. *sordidum* and the quite common hybrid). We agree that the North Atlantic dwarf plants are very similar to the 'Arctic Dwarf' and that this might be a high-arctic circumpolar race of *C. beeringianum*. If *C. arcticum* var. *sordidum* is transferred to *C. beeringianum* 'Arctic Dwarf', the range of the species also includes most of N Greenland, Svalbard, and Franz Joseph Land, and the entity becomes high-arctic circumpolar. This is the range given by Morton (2005, as *C. bialynickii*).

As for the nomenclature of subspecific entities, much depends on an evaluation of the type of *C. beeringianum*. If it belongs to the large-flowered Beringian entity, this will be *'beeringianum'* s. str. and var. *grandiflorum* Hultén a synonym for it. For the entity currently considered as var. *beeringianum*, the name *'bialynickii'* is available and it has partly been applied for it in Russian works. For the 'Arctic Dwarf', the name *'sordidum'* may be available for a subspecific entity.

These three entities are comparatively major, parapatric entities, and treatment as varieties is not appropriate. A formal recognition as subspecies (or species) must, however, wait for a more thorough combined morphological and molecular analysis comparable to that done for *C. alpinum* and *C. arcticum–nigrescens*. They are therefore entered informally and unranked below.

Cerastium beeringianum Cham. & Schltdl. taxon ***beeringianum***. Synonyms: *C.*

beeringianum Cham. & Schltdl. var. *beeringianum*; *C. bialynickii* Tolm., Trudy Bot. Muz. 21: 81 (1927); *C. beeringianum* Cham. & Schltdl. subsp. *bialynickii* (Tolm.) Tolm., Fl. Arct. URSS 6: 45 (1971). – Nearly circumpolar. RUS SIB RFE ALA CAN.

Cerastium beeringianum Cham. & Schltdl. taxon ***grandiflorum***. Synonym: *C. beeringianum* Cham. & Schltdl. var. *grandiflorum* (Fenzl) Hultén, Fl. Aleut. Isl. 165 (1937). – Amphi-Beringian. RFE ALA.

Cerastium beeringianum Cham. & Schltdl. taxon **"Arctic Dwarf"**. Synonym: ?*C. arcticum* Lange var. *sordidum* Hultén, Svensk Bot. Tidskr. 50: 456 (1956); *C. bialynickii* auct., non Tolm. (1927); *C. beeringianum* Cham. & Schltdl. subsp. *bialynickii* auct. – Circumpolar (arctic). NOR? RUS? SIB RFE ALA CAN GRL.
Notes. Uncertainties for Norway and Russia concern the *'sordidum'* plants, see comments above.

470209 Cerastium aleuticum Hultén, Svensk Bot. Tidskr. 30: 520 (1936).
T SW Alaska: Aleutian Is., Atka, 13.07.1932, leg. E. Hultén 6554 (S) holotype.
G American Beringian (endemic). ALA?
Notes. According to Hultén (1968a) this species is restricted to non-arctic Aleutian Popof, Kodiak, and Pribilof Is. Morton in FNA 5 (2005: 77) also included arctic St. Lawrence I. We would like to see a confirmation of that record.

470210 Cerastium fischerianum Ser. in DC., Prodr. 1: 419 (1824).
T Russian Far East: Kamtchatka, leg. Merk (G-DC) holotype. Type specimen shown by Hultén, Fl. Kamtchatka 4: 249 (1930).
2n= *72 (4x).* – Sokolovskaya (1960 Sakhalin 2n = c.72).
G Amphi-Pacific. RFE ALA.
Notes. Morton in FNA 5 (2005) indicated a possible merger of *C. fischerianum* and *C. beeringianum* as subspecies. He also reported a chromosome number of 2n = 66 (in addition to 2n = 72).

470211 Cerastium regelii Ostenf., Skr. Vidensk.-Selsk. Christiania 1909, Math.-Naturvidensk. Kl. 8: 10 (1910).
S *C. regelii* subsp. *caespitosum* (Malmgr.) Tolm., Fl. Arct. URSS 6: 41 (1971) [basionym: *C. alpinum* L. var. (gamma) *caespitosum* Malmgren, Öfvers. Förh. Kongl. Svenska Vetensk.-Akad. 19: 242 (1862), described from Svalbard].
T N Canada: King William Land, 31.07.1904, leg. Lindström (O) lectotype, designated by Jonsell, Nordic J. Bot. 16: 6 (1996).
2n= *72 (4x).* – Flovik (1940 Svalb); Holmen (1952 Grl); Zhukova (1966 NE As); Hedberg (1967 Cornwallis I. 2n = c.72); Engelskjøn (1979 Svalb).
Not accepted: Böcher (1977a 2n = 82–86), a *C. arcticum* x *regelii* hybrid?
G Circumpolar (arctic). NOR RUS SIB RFE ALA CAN GRL.
Notes. Elven: Tolmachev (1971) and others have indicated a subspecific division into a subsp. *regelii* in North America, Russian Far East, and NE Siberia and a subsp. *caespitosum* (Malmgr.) Tolm. in N Europe and NW Siberia. Both the types and other specimens from the type areas of *'regelii'* s. str. (N Canada) and *'caespitosum'* (Svalbard) have been compared and found to be nearly identical. This subspecific division is impossible to uphold, at least with these two names and the reported ranges. For *C. jenisejense*, see below.

470212 Cerastium jenisejense Hultén, Svensk Bot. Tidskr. 50: 473 (1956).
T N Siberia: Jenisei, "Nikandrovskij ostrov 70°20' n.lat.", 20.08.1876, leg. H.W. Arnell (S

G-7175) holotype.
2n= *72 (4x).* – Zhukova (1973 N/NE As, 1980 S Chuk, 1982 E Chuk); Sokolovskaya (1970 N Rs); Zhukova & Petrovsky (1972 Wrangel I.); Zhukova et al. (1973 Wrangel I.); Packer & McPherson (1974 N Ala).

Note the two Wrangel I. counts. The species is not accepted from Wrangel I. by Charkevicz (1996).
G Probably N Eurasian. RUS SIB RFE ALA? CAN?
Notes. Elven: Records of *C. jenisejense* from North America must be critically evaluated. We have seen no plants from there that resemble the Siberian plants very much.

Elven & Petrovsky: *Cerastium jenisejense* Hultén is reported as a boreal and low-arctic entity from N European Russia throughout Siberia and Russian Far East (and by some authors Alaska and NW Canada). Heide et al. (1990) cultivated high-arctic *C. regelii* s. str. and low-arctic *C. jenisejense* under uniform conditions and found the difference reported (flowering vs gemmae production, growth form and branching, hairiness) to be phenotypic responses to day length. We have seen the same reaction in cultivating *C. regelii* in greenhouse (except for the hairiness). This densely pulvinate arctic plant becomes a profusely branched mat of very long, straggling shoots in the greenhouse. We are, however, not yet certain that these results can be generalised to cover the entire variation, and the greenhouse plants are only superficially similar to *C. jenisejense* as it appears in nature. In N Siberia and Chukotka, *C. jenisejense* occurs as a boreal to low-arctic entity, together with *C. beeringianum* but not with *C. regelii*, and we have observed no intermediates between *C. jenisejense* and *C. regelii* there. It is distinctive both morphologically and ecologically. We therefore tentatively accept *C. jenisejense* as a separate species. See, however, Morton in FNA 5 (2005) who considered *C. jenisejense* (and = *C. gorodkovii*) as synonyms of *C. regelii*.

The NW North American plants differ in many aspects and have partly been treated by Hultén as an additional variety of *C. beeringianum*, var. *glabratum*. However, they also differ much from that species. They are informally entered here under Hultén's name:

> ***Cerastium beeringianum*** Cham. & Schltdl. var. ***glabratum*** Hultén, Svensk Bot. Tidskr. 50: 481 (1956). – Type: N Canada, Nunavut, Prince Patrick I., Mould Bay, leg. MacDonald 96 (CAN) holotype. – American Beringian. ALA CAN.
> **Notes.** Elven: Morton (FNA draft, but not in FNA 5 2005) accepted *C. gorodkovianum* Schischk. in Kom., Fl. URSS 6: 883 (1936), as a species separate from *C. regelii* but stated that "the 2 taxa may simply be growth forms of the same species". He included in *C. gorodkovianum* some characteristic, creeping, almost glabrous and bulbiliferous plants found mainly in southern and western arctic parts of Canada and Alaska. These plants were treated by Hultén (1956) as *C. beeringianum* var. *glabratum* and considered by him as hybrids between *C. beeringianum* and *C. regelii*. He reported them from Alaska: Cape Krusenstern, and Canada: Baffin I. (several places), Southampton I., Rankin Inlet, Prince Charles I., and Prince Patrick I. Field observations from arctic NW Canada (Banks I., Anderson River area) do not support Hultén's hybrid hypothesis. The plants are not intermediate in any way, especially not in their slender, creeping habit. The name *C. gorodkovianum* is, however, not appropriate for this plant (or for *C. regelii* as indicated by Morton 2005). The type of *C. gorodkovianum* is from N Russia: N Urals, basin of Ljapina R., tributary to N Sosva, upper Manja R., 27.06.1927, leg. V.B. Sochava (LE) holotype. The type specimen is very different from the North American plants indicated by Morton as *C. gorodkovianum* and is, in my opinion, closer to *C. beeringianum* and *C. fontanum*. It is stoloniferous but with a *'fontanum'* type of leaves, inflorescences, and hairiness.

470213 Cerastium fontanum Baumg., Enum. Stirp. Transsilv. 1: 425 (1816).

T Romania: Transsylvania, "Fogarasser Alpen, am Zirnaflusse", 07.1851, leg. P.J.F. Schur (E) neotype, designated by Wyse Jackson, Nordic J. Bot. 20: 531 (2001).
Notes. Elven: Several names have been in use for this species. The name *C. caespitosum* Gilib. (1782) must be rejected because binary nomenclature was not consistently applied in 'Fl. Lit. Inch.' (acc. to Stafleu & Cowan). When also the Linnaean *C. vulgatum* (illegitimate) is rejected, the oldest valid name for the collective species seems to be *C. fontanum*. See Wyse Jackson (1992, 1995).

A polymorphic species. At least two distinct races, here treated as subspecies, reach the Arctic in the N Atlantic regions: Subsp. *fontanum* as native in arctic N Europe and Greenland, and subsp. *vulgare* as anthropochorous.

47021301 Cerastium fontanum Baumg. subsp. ***fontanum.***
S *C. fontanum* Baumg. subsp. *scandicum* Gartner, Feddes Repert. Beih. 113: 68 (1939).
2n= *140* ***144*** *(8x).* – Böcher (1938b Scand); Löve & Löve (1956b Icel); Arohonka (1982 Finl); Numerous more southern counts.

Not accepted: The counts of Taylor & Mulligan (1968 BC 2n = 140 144), Mulligan (1984 Can 2n = 144), and Shildneck & Jones (1986 E N Am 2n = 72). The subspecies is not yet accepted for mainland North America.
G Amphi-Atlantic. ICE NOR RUS GRL.
Notes. Elven: Even if this race is not regularly recognized in Russian floras, it must be frequent in parts of European Russia. Mapped as such for Kola Peninsula by Fl. Murmansk. Obl. 3 and reported eastwards to Kanin Peninsula.

47021302 Cerastium fontanum Baumg. subsp. ***vulgare*** (Hartm.) Greuter & Burdet, Willdenowia 12: 37 (1982).
B *C. vulgare* Hartm., Handb. Skand. Fl. 182 (1820).
S *C. vulgatum* L. (1762), nom. illegit., non L. (1755); *C. caespitosum* Gilib., nom. illegit., Fl. Lit. Inch. 2: 159 (1782), first validated by Asch., Fl. Brandenburg 1, 1: 102 (1860); *C. triviale* Link, Enum. Hor. Berol. Alt. 1: 433 (1821); *?C. holosteoides* Fr., Novit. Fl. Svec. 4: 52 (1817).
T Sweden: Gästrikland, "Gefle" [Gävle], 1833, leg. C.J. Hartman (UPS) neotype, designated by Wyse Jackson, Nordic J. Bot. 15: 562 (1995).
2n= *(1) c.110.* – Heitz (1926); Tischler (1934 NC Eur).
(2) 126. – Hagerup (1944a NW Eur).
*(3) 133–****144****–152 (8x).* – Gustafsson (1946a NW Eur); Brett (1952 1955 NW Eur 2n = 136–152); Löve & Löve (1956b Icel); Löve & Chennaveeraiah (1959); Lövkvist in Weimarck (1963 Sweden); Taylor & Mulligan (1968 BC); Ugborogho (1972 Ontario); Lövkvist & Hultgård (1999 S Sweden 2n = 144 six sites, 2n = >133 one site). Numerous more southern counts.
G Eurasian. ICE*? NOR RUS CAN* GRL*.
Notes. Possibly an archeophyte in N Norway and N Russia; more recently introduced elsewhere. The name *'holosteoides'* may refer to a different entity (subspecies), see Nilsson in Jonsell (2001).

4703 Sagina L., Sp. Pl. 128 (1753).
S *Spergella* Rchb. in Mössler, Handb. Gewächsk., ed. 2, 1: lxv (1827).

470301 Sagina saginoides (L.) H.Karst., Deut. Fl. 6: 539 (1882).
B *Spergula saginoides* L., Sp. Pl. 441 (1753).
S *S. linnaei* C.Presl, Reliq. Haenk. 2: 14 (1831).
T Linnaean Herbarium 604.6 (LINN) lectotype, designated by Crow, Rhodora 80: 25 (1978). Described from France and Siberia.

2n= *22 (2x).* – Löve & Löve (1956b Icel); Knaben & Engelskjøn (1967 Norw); Packer (1968 Alberta); Crow (1978 2n = c.22 22). Several more southern counts.
G Disjunctly circumpolar – alpine. ICE NOR RUS SIB RFE ALA CAN GRL.

470302 Sagina procumbens L., Sp. Pl. 128 (1753).
T Séguier, Tabula 5, Fig. 3 in Plantae Veronenses 1: 421 (1745) lectotype, designated by Jonsell & Jarvis in Jarvis et al., Regnum Veg. 127: 83 (1993). Described from Europe.
2n= *22 (2x).* – Löve & Löve (1956b Icel); Taylor & Mulligan (1968 BC); Gadella & Kliphuis (1971 Icel); Crow (1978 N Am). Several more southern counts.
G Amphi-Atlantic – European – W Siberian. ICE NOR RUS* CAN* GRL.
Notes. Native in NW Europe and Greenland. Not given as native by Sekretareva (1999) for arctic Russia and therefore treated as introduced (but stable) for two Russian regions.

470303 Sagina x normaniana Lagerh., Kongel. Norske Vidensk. Selsk. Skr. (Trondheim) 1898, 1: 4 (1898).
S *S. procumbens* L. x *S. saginoides* (L.) H.Karst.
T Norway: Material from N Norway, Tromsø, collected by Lagerheim, cultivated in Lund, 28.06.1898, leg. Holmberg (LD) lectotype, designated by Nilsson in Jonsell, Nordic J. Bot. 16: 6 (1996).
G N European. NOR.
Notes. Elven: Occurs independent of its parents and reaches the Arctic at least in N Norway. The hybrid reproduces both vegetatively (more efficiently than the parents) and to some degree by seeds. See also Karlsson in Jonsell (2001).

470304 Sagina subulata (Sw.) C.Presl, Fl. Sicul. 158 (1826).
B *Spergula subulata* Sw., Kongl. Vetensk. Acad. Nya Handl. 10: 45 (1789).
T S Sweden: Halland, leg. P. Osbeck (BM) lectotype, designated by Crow, Rhodora 80: 51 (1978).
2n= *22 (2x).* – Löve & Löve (1956b Icel); Findlay & McNeill (1973 NC Eur). Several more southern counts.

Not accepted: Some old chromosome counts of 2n = 18 (Rohweder 1936 1939 NC Eur) may represent another number or more probably slight miscounts.
G European. ICE.

470305 Sagina nodosa (L.) Fenzl, Vers. Darstell. Alsin., tab. ad 18 (1833).
B *Spergula nodosa* L., Sp. Pl. 440 (1753).
T Linnaean Herbarium 604.4 (LINN) lectotype, designated by Crow, Rhodora 80: 25 (1978). Described from Europe.
2n= For the collective species:

(1) 20–24. – Wulff (1937b NC Eur, must be subsp. *nodosa*).

(2) 44. – Löve & Löve (1956b Icel, not included by Löve & Löve 1975, only subsp. *borealis* accepted from Iceland).

(3) c.52. – Jonsell (2001 S Sweden, subsp. *nodosa*).

(4) ***56*** *(8x, x = 7).* – Blackburn in Tischler (1938 W Eur, subsp. *nodosa*); Blackburn & Morton (1957 W Eur, subsp. *nodosa*); Gadella & Kliphuis (1967 1973 1976 W Eur, subsp. *nodosa*); Crow (1978 N Am); Lövkvist & Hultgård (1999 S Sweden, subsp. *nodosa*).
Notes. Two subspecies are proposed by Crow (1978), applied for North America by Crow in FNA 5 (2005), and accepted also for NW Europe after revision of the Nordic materials by Karlsson in Jonsell (2001). Subsp. *nodosa* is characterised by rosette leaves and stems often erect and stems with glandular hairs, longer than in subsp. *borealis*, and many-flowered with few or no bulbils. Subsp. *borealis* is characterised by rosette leaves and stems shorter and often prostrate, and stems

glabrous and few-flowered but with numerous bulbils. Both subspecies occur in the southern parts of NW Europe but only subsp. *borealis* is recognised from the northern and arctic parts. According to Crow (1978, 2005), subsp. *nodosa* is mainly European and has been introduced in North America, whereas subsp. *borealis* is mainly North American and Greenlandic and i N Europe only found in the glaciated parts. Inspected N Russian and Siberian plants, e.g., along Jenisei R. (S) and Lena R. (2004, O) also belong to subsp. *borealis*. All N Russian and Siberian records are here tentatively entered under that subspecies.

Subsp. *nodosa* is non-arctic in Europe but proposed to reach the Arctic as introduced in Canada (Hudson Bay). However, Crow in FNA 5 (2005) excluded arctic occurrences.

47030501 Sagina nodosa (L.) Fenzl subsp. ***borealis*** G.E.Crow, Rhodora 80: 28 (1978).
T E Canada: Quebec, Gaspé County, 19.08.1905, leg. Collins & Fernald 75 (MSC) holotype.
2n= ***56*** *(8x).* – Gadella & Kliphuis (1968 Icel); Löve (1970a Icel); Löve & Löve (1975c Icel, 1982 C Can); Lövkvist & Hultgård (1999 N Norw within range of only subsp. *borealis*).
G Broadly amphi-Atlantic. ICE NOR RUS SIB CAN GRL.

470306 Sagina nivalis (Lindblom) Fr., Novit. Fl. Suec. Mant. 3: 31 (1842 July).
B *Spergula saginoides* L. var. *nivalis* Lindblom, Physiogr. Sällsk. Tidskr. 1: 328 (1838).
S *S. intermedia* Fenzl in Ledeb., Fl. Ross. 1: 339 (1842 October); *Spergella intermedia* (Fenzl) Á.Löve & D.Löve, Bot. Not. 128: 508 (1976).
T C Norway: Sør-Trøndelag, Oppdal, Kongsvold, 18.09.1839, leg. Lindblom (LD) neotype, designated by Nilsson [as 'lectotype'] in Jonsell, Nordic J. Bot. 16: 6 (1996).
2n= *(1)* ***56.*** – Johnson & Packer (1968 NW Ala); Löve (1970a); Packer & McPherson (1974 N Ala); Löve & Löve (1975c N Icel); Petrovsky & Zhukova (1983 NE As).

(2) 84–c.88. – Löve & Löve (1948 NW Eur, 1956b Icel 2n = 88); Blackburn & Morton (1957 NW Eur 2n = 84); Crow (1978 N Am 2n = c.88).

Löve & Löve (1975) listed only chromosome counts of 2n = 56 for this species, but as seen from the list above three counts around 2n = 84–88 were known to them before 1975, two of the counts their own. The only possibility for confusion is with *S. caespitosa* which has these high numbers. Crow in FNA 5 (2005) accepted both 2n = 56 and 88.
G Circumpolar. ICE NOR RUS SIB RFE ALA CAN GRL.

470307 Sagina caespitosa (J.Vahl) Lange in Rink, Grønland 2: 133 (1857).
B *Arenaria caespitosa* J.Vahl, Fl. Dan. 13, 39: t. 2289 (1840).
S *Spergella caespitosa* (J.Vahl) Á.Löve & D.Löve, Bot. Not. 128: 508 (1976).
T Greenland, leg. Vahl (C) lectotype, designated by Crow, Rhodora 80: 57 (1978).
2n= *(1)* ***84.*** – Löve & Löve (1975c N Icel, 1982 Hudson Bay).

(2) ***88.*** – Knaben in Löve & Löve (1948 Norw); Knaben (1950 Norw); Löve & Löve (1965b Icel).

Not accepted: Löve & Löve (1944b) reported a chromosome count of 2n = 100 from Scandinavia, omitted by Löve & Löve (1975).
G Amphi-Atlantic. ICE NOR CAN GRL.

4704 Minuartia L., Sp. Pl. 89 (1753).

S *Alsinanthe* (Fenzl) Rchb., Icon. Fl. Germ. Helv. 5: 29, t. 209 (1841); *Tryphane* (Fenzl.) Rchb., Icon. Fl. Germ. Helv. 5: 28, t. 205 (1841); *Wierzbickia* Rchb., Icon. Fl. Germ. Helv. 5: 28, t. 205 (1841); *Lidia* Á.Löve & D.Löve, Bot. Not. 128: 510 (1976); *Porsildia* Á.Löve & D.Löve, Bot. Not. 128: 509 (1976).
Notes. *Minuartia* is here kept in its collective meaning, except that *Cherleria* is accepted as a separate genus. The segregate genera of Reichenbach and Löve & Löve are not accepted for the

Checklist. However, Nepokroeff et al. (2001 abstract) indicated that *Minuartia* is not monophyletic, a suggestion that does not surprise us.

470401 Minuartia verna (L.) Hiern, J. Bot. 37: 320 (1899).
B *Arenaria verna* L., Mant. Pl. 72 (1767).
S *Tryphane verna* (L.) Rchb., Icon. Fl. Germ. Helv. 5: 28, t. 205 (1841).
T Described from Europe.
Notes. A polymorphic species. The arctic material is tentatively assigned to the type subspecies.

47040101 Minuartia verna (L.) Hiern subsp. ***verna***.
2n= *(1) **24** (2x, x = 12).* – Blackburn & Morton (1957); Favarger (1959a, 1962a, 1967, 1973a); Halliday in Löve & Löve (1961d); Majovsky et al. (1970b C Eur). Many later southern counts.

(2) 26 (2x, x = 13). – Findlay & McNeill (1973 C Eur); Humphries (1978 C Eur).

*(3) **48** (4x, x = 12).* – Quézel (1957); Favarger (1962b); Favarger et al. (1979 NW Africa); Franzen & Gustavsson (1983 SE Eur); Majovsky & Uhrikova (1985 C Eur).

There are also some counts of higher chromosome numbers of 2n = 78 (6x, x = 13?) by Hara (1952) and Rohweder (1936, 1939) and of 2n = c.120 (10x, x = 12) by Rohweder in Tischler (1938) in this species. In view of the large morphological and chromosomal variation we should only accept counts from arctic areas, but there are none that we are aware of.
G Eurasian. RUS SIB RFE.

470402 Minuartia rubella (Wahlenb.) Hiern, J. Bot. 37: 321 (1899).
B *Alsine rubella* Wahlenb., Fl. Lapp. 128 (1812).
S *Arenaria rubella* (Wahlenb.) Sm., Engl. Fl. 4: 267 (1828).
T N Norway: Troms. "*Alsine rubella*, Norska Nordland på Lyngentind", 11.07.1807, leg. Wahlenberg (UPS) holotype.
2n= *(1) **24** (2x, x = 12).* – Packer (1961, 1964 NW Can); Favarger (1962 Norw & Can); Mosquin & Hayley (1966 Mackenzie Distr.); Hedberg (1967 Baffin I.); Johnson & Packer (1968 NW Ala); Mulligan & Porsild (1969, 1970 Yukon); Engelskjøn & Knaben (1971 Norw), Löve & Löve (1975c Icel for both *'rubella'* and *'propinqua'*, 1982 C Can). Zhukova et al. (1977 Yakutia); Halliday in Engelskjøn (1979 Norw); Zhukova & Petrovsky (1980 W Chuk); Zhukova (1982 S Chuk); Petrovsky & Zhukova (1983 NE As); Dalgaard (1989 W Grl).

*(2) **26** (2x, x = 13?).* – Sørensen & Westergaard in Löve & Löve (1948 Grl); Löve & Löve (1956b Icel); Jørgensen et al. (1958 Grl); Zhukova (1966 Wrangel I.); Petrovsky & Zhukova (1983 NE As).
G Circumpolar – alpine. ICE NOR RUS SIB RFE ALA CAN GRL.
Notes. Glabrous plants – var. *propinqua* (Richardson), basionym: *Arenaria propinqua* Richardson in Franklin, Narr. Journey Polar Sea (Bot. App.) 738 (1823) – occur scattered in otherwise normal populations and do not seem to deserve taxonomic recognition.

470403 Minuartia stricta (Sw.) Hiern, J. Bot. 37: 320 (1899).
B *Spergula stricta* Sw., Kongl. Vetensk. Acad. Nya Handl. 20: 235 (1799).
S *Arenaria stricta* (Sw.) Michx., Fl. Bor.-Amer. 1: 274 (1803); *Alsinanthe stricta* (Sw.) Rchb., Icon. Fl. Germ. Helv. 5: 29, t. 209 (1841); *Arenaria stricta* (Sw.) Michx. var. *uliginosa* (Schleich.) B.Boivin, Natural. Canad. 93: 642 (1966).
T N Sweden: Lule Lappmark, leg. Swartz (S) holotype.
2n= *(1) 22 (2x, x = 11?).* – Blackburn & Morton (1957 W Eur).

(1) 26 (2x, x = 13). – Sørensen & Westergaard in Löve & Löve (1948 Grl); Jørgensen et al. (1958 Grl); Zhukova (1967 Chuk); Löve & Löve (1971 W N Am).

*(2) **30** (2x, x = 15).* – Favarger (1967); Engelskjøn & Knaben (1971 S & N Norw); Löve

& Löve (1975c Icel, 1982 Hudson Bay); Yurtsev & Zhukova (1982 NE Yakutia).

Elven: Vouchers behind the chromosome counts of 2n = 22 and 26 should be inspected before these numbers are fully accepted. Misidentifications (with glabrous *M. rubella*) are possible.

G Circumpolar – alpine. ICE NOR RUS SIB RFE ALA CAN GRL.

470404 Minuartia dawsonensis (Britton) House, Amer. Midl. Natural. 7: 132 (1921).

B *Arenaria dawsonensis* Britton, Bull. New York Bot. Gard. 2: 169 (1901).

S *Arenaria stricta* (Sw.) Michx. subsp. *dawsonensis* (Britton) Maguire, Amer. Midl. Natural. 46: 510 (1951); *Arenaria stricta* (Sw.) Michx. var. *dawsonensis* (Britton) Scoggan, Fl. Canada 1: 51 (1978); *Alsinanthe stricta* (Sw.) Rchb. subsp. *dawsonensis* (Britton) Á.Löve & D.Löve, Taxon 31: 122 (1982).

T Described from NW Canada: Yukon Terr., Dawson.

2n= *(1) **30** (2x).* – Favarger (1967); Löve & Löve (1982 C Can).

(2) 60 (4x). – Knaben (1968 C Ala).

G North American. ALA CAN.

Notes. *Minuartia dawsonensis* is similar in many aspects to *M. stricta* and has sometimes been synonymised with it. It is accepted as a separate species in most recent studies of *Minuartia*. McNeill (1962) even assigned it to a separate sect. *Sclerophylla* Mattf.

***470405–06 Minuartia rossii* aggregate** (*M. elegans*, *M. rossii*).

Notes. Maguire (1958) treated *'rossii'* and *'elegans'* as subspecies. Wolf et al. (1979) argued against this and for rank as species based on morphology, cytology and phytogeography. They stated that the two differ in several independent characters. A molecular analysis is still lacking. Most of the morphological differences between *M. rossii* and *M. elegans* are such as are to be expected between a southern seed-reproducing and a northern, mainly bulbil-reproducing, part of the same taxon. However, *M. rossii* keeps its special characters also when cultivated under favourable conditions. They are accepted as two species for the Checklist as they are by Rabeler et al. in FNA 5 (2005).

470405 Minuartia rossii (R.Br. ex Richardson) Graebn. in Asch. & Graebn., Syn. Mitteleur. Fl. 5, 1: 772 (1918).

B *Arenaria rossii* R.Br. ex Richardson in Franklin, Narr. Journey Polar Sea (Bot. App.) 738 (1823).

S *Alsinanthe rossii* (R.Br. ex Richardson) Á.Löve & D.Löve, Bot. Not. 128: 509 (1976).

T N Canada: "British North America" [probably Kent Peninsula], 1819–1822, leg. Richardson (BM) holotype?

2n= *(1) **58**.* – Zhukova (1966 Wrangel I.); Zhukova & Petrovsky (1972 Wrangel I.); Zhukova et al. (1973 Wrangel I.).

*(2) **60** (4x).* – Löve & Löve (1975c Melville I., 1982 Hudson Bay); Wolf et al. (1979 Cornwallis I. & Ala Prudhoe Bay).

G Amphi-Beringian – North American – amphi-Atlantic (arctic). NOR RFE ALA CAN GRL.

470406 Minuartia elegans (Cham. & Schltdl.) Schischk. in Kom., Fl. URSS 6: 508 (1936).

B *Arenaria elegans* Cham. & Schltdl., Linnaea 1: 57 (1826).

S *Arenaria rossii* R.Br. subsp. *elegans* (Cham. & Schltdl.) Maguire, Rhodora 60: 47 (1958); *Alsinanthe elegans* (Cham. & Schltdl.) Á.Löve & D.Löve, Bot. Not. 128: 509 (1976).

T Russian Far East: E Chukotka, "Sinus Sti Laurentii", leg. Chamisso & Eschscholtz (LE) holotype?

2n= *(1) **30** (2x).* – Packer (1964 Yukon, 1968 Alberta as *M. rossii*); Wolf et al. (1979 NW Can & Ala six counts).

(2) ***60*** *(4x).* – Johnson & Packer (1968 NW Ala as *M. rossii*); Löve & Löve (1975b N Ala); Wolf et al. (1979 W USA, W Can, NW Can & Ala); Zhukova (unpubl. E Chuk).

G Amphi-Beringian – Cordilleran. RFE ALA CAN.

Notes. Arctic Canada is added due to finds (O, GBG) during the TNW expedition of 1999.

Wolf et al. (1979) interpreted tetraploid *M. elegans* as an autotetraploid, which might imply that *M. rossii* could be an allotetraploid with one diploid genome from *M. elegans* and one from another species.

470407 Minuartia macrocarpa (Pursh) Ostenf., Meddel. Grønland 37: 226 (1920).

B *Arenaria macrocarpa* Pursh, Fl. Amer. Sept. 1: 318 (1814).

S *Wierzbickia macrocarpa* (Pursh) Rchb., Icon. Fl. Germ. Helv. 5: 30, t. 211 (1841).

T Described from Alaska: "On the north-west coast of America", leg. Nelson.

2n= ***42 44 46 48*** *(2x).* – Zhukova (1966 Wrangel I. 2n = 44, 1967 Chuk 2n = 46, 1980 S Chuk 2n = 46); Knaben (1968 Ala 2n = 48); Johnson & Packer (1968 NW Ala 2n = 46); Zhukova & Petrovsky (1972 Wrangel I. 1976 W Chuk 2n = 48, 1977 W Chuk 2n = 46, 1978 W Chuk 2n = 46); Probatova & Sokolovskaya (1995 NE As 2n = 42–44).

G N Asian – amphi-Beringian. RUS SIB RFE ALA CAN.

470408–10 Minuartia arctica **aggregate** (*M. arctica, M. obtusiloba, M. yukonensis*).

Notes. Elven & Murray: Several authors have confused *M. arctica* and *M. obtusiloba*, as evident from the very different criteria given for the entities in many flora treatments. Also Hultén (1968a, 1968b) seems to have had only a vague concept of them. In the Alaskan material in S (where Hultén's plants are deposited) there are only a very few collections from Cape Prince of Wales and Seward Peninsula annotated and accepted by Hultén as *M. obtusiloba*. Löve & Löve (1975) synonymised *M. yukonensis* with *M. obtusiloba* (as *Lidia obtusiloba*). *Minuartia yukonensis* is also part of this aggregate even if it differs morphologically more from *M. obtusiloba* than from *M. arctica*. North American authors currently consider these as three clearly separate species, see Rabeler et al. in FNA 5 (2005).

470408 Minuartia arctica (Steven ex Ser.) Graebn. in Asch. & Graebn., Syn. Mitteleur. Fl. 5, 1: 772 (1918).

B *Arenaria arctica* Steven ex Ser. in DC., Prodr. 1: 104 (1824).

S *Lidia arctica* (Steven ex Ser.) Á.Löve & D.Löve, Bot. Not. 128: 510 (1976).

T Described from N Siberia.

2n= *(1)* ***26*** *(2x).* – Krogulevich (1976, 1978 S Sib).

(2) ***39?*** *(3x).* – Zhukova et al. (1973 N Sib 2n = 38).

(3) ***52*** *(4x).* – Johnson & Packer (1968 NW Ala 2n = c.52); Packer & McPherson (1974 N Ala); Löve & Löve (1975c Yukon); Zhukova et al. (1977a Yakutia).

(4) ***c.80*** *(6x?).* – Mulligan & Porsild (1969 Yukon); Zhukova et al. (1977 NE Sib); Murray & Kelso (1997 W Ala 2n = 80 c.80).

The vouchers behind some of the counts of the very different chromosome numbers should perhaps be checked again, especially as the reported range is about the same as for the easily confused *M. obtusiloba*.

G N/C Asian – amphi-Beringian. RUS SIB RFE ALA CAN.

470409 Minuartia obtusiloba (Rydb.) House, Amer. Midl. Naturalist 7: 132 (1921).

B *Alsinopsis obtusiloba* Rydb., Bull. Torrey Bot. Club 33: 140 (1906) [based on *Arenaria obtusa* Torr., Ann. Lyc. Nat. Hist. New York 2: 170 (1827), non All. (1785)].

S *Arenaria obtusiloba* (Rydb.) Fernald, Rhodora 21: 14 (1919); *Lidia obtusiloba* (Rydb.) Á.Löve & D.Löve, Bot. Not. 128: 510 (1976).

T Described from W USA: "On the higher parts of the Rocky Mountains".

2n= *(1) 26 (2x).* – Wiens & Halleck (1962 Rocky Mts); Hartman (1971 W USA); Löve & Löve (1975c W USA); Zhukova & Petrovsky (1975 1976 1980 W Chuk); Zhukova (1982 E Chuk).

(2) c.52 (4x). – Hartman (1971 W USA 2n = c.52); Packer & McPherson (1974 N Ala 2n = c.52).

(3) 78 (6x). – Hartman (1971 W USA).

See *M. arctica.*

G Amphi-Beringian – Cordilleran. RFE ALA CAN.

470410 Minuartia yukonensis Hultén, Ark. Bot., n. s., 7, 1: 52 (1968).

S *Lidia yukonensis* (Hultén) Á.Löve & D.Löve, Bot. Not. 128: 510 (1976); *M. laricifolia* auct., non (L.) Schinz & Thell. (1907).

T NW Canada: Yukon Terr., near mouth of Klondike R, leg. Calder & Billard 3359, indicated as holotype.

G American Beringian. ALA CAN.

Notes. Elven: Also here Hultén's concept of the taxon seems to have been confused (at least in his annotated specimens in S). We should therefore not rely too much on his map (Hultén 1968a). Hultén's report (1968a) from E Chukotka is not confirmed by Russian authors.

470411 Minuartia biflora (L.) Schinz & Thell., Bull. Herb. Boissier, sér. 2, 7: 404 (1907).

B *Stellaria biflora* L., Sp. Pl. 422 (1753).

S *Lidia biflora* (L.) Á.Löve & D.Löve, Bot. Not. 128: 510 (1976); *Arenaria sajanensis* Willd. ex Schltdl., Ges. Naturf. Freunde Berlin Mag. Neuesten Entdeck. Gesammten Naturk. 7: 200 (1815).

T N Sweden. Linnaean Herbarium 584.11 (LINN) lectotype, designated by Jonsell & Jarvis, Nordic J. Bot. 14: 159 (1994).

2n= *26 (2x).* – Löve & Löve (1956b Icel); Zhukova (1966 NE As, 1980 S Chuk); Knaben & Engelskjøn (1967 S Norw); Hedberg (1967 Southampton I.); Packer (1968 Alberta); Engelskjøn (1979 N Norw); Dalgaard (1989 W Grl).

G Circumpolar – alpine. ICE NOR RUS SIB RFE ALA CAN GRL.

470412 Minuartia groenlandica (Retz.), Ostenf., Meddel. Grønland 37: 226 (1920).

B *Stellaria groenlandica* Retz., Fl. Scand. Prodr., ed. 2, 107 (1795).

S *Arenaria groenlandica* (Retz.) Spreng., Syst. Veg. 2: 402 (1825); *Porsildia groenlandica* (Retz.) Á.Löve & D.Löve, Bot. Not. 128: 509 (1976).

T Described from Greenland.

2n= *20 (2x).* – Favarger (1962a); Löve & Löve (1965a, 1966b NE USA); Weaver (1970 E USA).

G E North American. CAN GRL.

4705 Cherleria L., Sp. Pl. 425 (1753).

470501 Cherleria dicranoides Cham. & Schltdl., Linnaea 1: 63 (1826).

S *Stellaria dicranoides* (Cham. & Schltdl.) Fenzl in Ledeb., Fl. Ross. 1: 395 (1842); *Arenaria dicranoides* (Cham. & Schltdl.) Hultén, Acta Univ. Lund., n. s., sect. 2, 40, 1: 688 (1944); *Arenaria chamissonis* Maguire, Amer. Midl. Naturalist 46: 498 (1951).

T Russian Far East: E Chukotka, St. Lawrence Bay, leg. Chamisso, Eschscholtz. Type in LE.

2n= *26 (2x).* – Johnson & Packer (1968 NW Ala); Yurtsev & Zhukova (unpubl. E Chuk).

G Amphi-Beringian (arctic). RFE ALA.

Notes. Murray & Elven: This species is treated as a *Stellaria* in most recent sources (incl.

reluctantly by Morton in FNA 5 2005) but is an obvious misfit in that genus. According to McNeill (pers. comm. to Murray): "it is not a *Stellaria*; it rather belongs in the *Cherleria* group (where it originally was described), i.e., in *Minuartia* s. lat.". The *Cherleria* group is distinct and is now fairly widely accepted as a genus in Europe (from where it was described). We prefer to accept *Cherleria* rather than to make a new (and probably short-lived) combination within *Minuartia*.

4706 ***Honckenya*** Ehrh., Neues Mag. Aerzte 5: 193 (1783).

Notes. The genus name was originally spelled *'Honkenya'* by Ehrhardt, even if it was given in honour of G.A. Honckeny. It may be a borderline case for 'correction' according to the ICBN. Kurtto in Jonsell (2001) and Wagner in FNA 5 (2005) applied *'Honckenya'*.

470601 ***Honckenya peploides*** (L.) Ehrh., Neues Mag. Aerzte 5: 206 (1783).
B *Arenaria peploides* L., Sp. Pl. 423 (1753).
T Linnaean Herbarium 585.1 (LINN) lectotype, designated by Jonsell & Jarvis, Nordic J. Bot. 14: 156 (1994). Described from N Europe.
2n= For the collective species:
(1) 48. – Rohweder (1936 1937 1939 W–NW Eur subsp. *peploides*); Tischler (1937 NC Eur subsp. *peploides*); Rohweder in Maude (1939 Brit subsp. *peploides*).
*(2) 64–**68**–70.* – Rohweder in Maude (1939 Brit 2n = 64 subsp. *peploides*); Kapoor (1972 E Can 2n = 66 probably subsp. *robusta*); Probatova & Sokolovskaya (1981 NE As 2n = 68–70 perhaps subsp. *major*). Numerous more southern counts, esp. for subsp. *peploides*.
Notes. Two races are recognised as subspecies in the Arctic. In addition, subsp. *peploides* occurs in non-arctic NW Europe and subsp. *robusta* (Fernald) Hultén in non-arctic NE North America.

47060101 ***Honckenya peploides*** (L.) Ehrh. subsp. ***diffusa*** (Hornem.) Hultén ex V.V.Petrovsky in Tolm., Fl. Arct. URSS 6: 71 (1971).
B *Arenaria peploides* L. var. *diffusa* Hornem., Fors. Oecon. Plantel., ed. 3, 1: 501 (1821).
S *H. diffusa* (Hornem.) Á.Löve, Bot. Not. 103: 39 (1950).
T Described from Greenland.
2n= *66–**68**–70 (4x).* – Flovik (1940 Svalb 2n = 66); Löve (1950 Icel 2n = 66, 1970a); Löve & Löve (1956b Icel 2n = c.70, 1982 Hudson Bay); Malling (1957); Sokolovskaya & Strelkova (1960 Kolguev 2n = 68–70); Zhukova (1965a E Chuk, 1966 Wrangel I., 1972 2n = 70, 1973 Chuk, 1982 E Chuk); Johnson & Packer (1968 NW Ala as *'peploides'* s. lat. but within the distribution of *'diffusa'*); Zhukova et al. (1973 Wrangel I. 2n = 66); Packer & McPherson (1974 N Ala); Murray & Kelso (1997 W Ala).
Not accepted: Löve (1950) reported the chromosome number of 2n = c.40 from Iceland. It was omitted by Löve & Löve (1975).
G Circumpolar. ICE NOR RUS SIB RFE ALA CAN GRL.

47060102 ***Honckenya peploides*** (L.) Ehrh. subsp. ***major*** (Hook.) Hultén, Fl. Aleut. Isl. 171 (1937).
B *Arenaria peploides* L. var. (b) *major* Hook., Fl. Bor.-Amer. 1: 102 (1831).
S *H. oblongifolia* Torr. & A.Gray, Fl. N. Amer. 1: 176 (1838).
T Described from NW USA: Washington, "De Fuca's Straits".
2n= *68–70 (4x).* – Taylor & Mulligan (1968 BC); Sokolovskaya (1968 Koryak 2n = 68–70 as *'peploides'*); Probatova & Sokolovskaya (1981a NE As 2n = 68–70 as *'peploides'*).
G Amphi-Pacific. ALA.

*4707 **Wilhelmsia*** Rchb., Consp. Regn. Veg. 206 (1828).

S *Merckia* Fisch. ex Cham. & Schltdl., Linnaea 1: 59 (1826), non *Merkia* Borkh. (1792).

Notes. McNeill (1960) argued that *Wilhelmsia* Rchb. 1828 is the valid name of the genus because *Merckia* Cham. & Schltdl. 1826 is antedated by *Merkia* Borkh. 1792 (Jungermanniales). This has been confirmed by ICBN.

The superficial similarity between the Beringian endemic genus *Wilhelmsia* and *Honckenya* is now supported by molecular evidence (Nepokroeff et al. unpubl., see Wagner in FNA 5 2005).

*470701 **Wilhelmsia physodes*** (Fisch. ex Ser.) McNeill, Taxon 9: 10 (1960).

B *Arenaria physodes* Fisch. ex Ser. in DC., Prodr. 1: 413 (1824).

S *Merckia physodes* (Fisch. ex Ser.) Fisch. ex Cham. & Schltdl., Linnaea 1: 59 (1826).

T Russian Far East: "Kamtschatka", leg. Merk. Type in LE and/or G-DC.

2n= *(1) **50–60**.* – Packer & McPherson (1974 N Ala); Zhukova (1980 S Chuk).

*(2) **66 68**.* – Zhukova (1967 Chuk 2n = 66); Mulligan & Porsild (1969 Yukon 2n = 66); Zhukova et al. (1977a Yakutia 2n = 68); Dawe & Murray (1981a C Ala 2n = 66).

*(3) **70 72**.* – Zhukova (1966 Chuk 2n = 72); Murray & Kelso (1997 W Ala 2n = 70).

*(4) **100–110**.* – Johnson & Packer (1968 NW Ala).

G Amphi-Beringian. SIB RFE ALA CAN.

*4708 **Arenaria*** L., Sp. Pl. 423 (1753).

Notes. See *Eremogone* below.

*470801 **Arenaria humifusa*** Wahlenb., Fl. Lapp. 129 (1812).

T N Sweden: "*Arenaria humifusa*, Luleå-fjällen på sidan av Lill-Tokin", 31.07.1807, leg. Wahlenberg (UPS) lectotype, designated by Moberg & Nilsson, Nordic J. Bot. 11: 295 (1991).

2n= ***40** 44 (4x).* – Horn in Löve & Löve (1948 N Norw) and in Engelskjøn (1979 N Norw); Halliday in Löve & Löve (1961d); Hedberg (1967 Southampton I.); Knaben & Engelskjøn (1967 N Norw 2n = 44); Löve & Löve (1975c N Sweden, 1982 Hudson Bay).

G North American – amphi-Atlantic. NOR RUS CAN GRL.

Notes. McNeill (1962) cited the author combination as '(Sw.) Wahlenb.'. However, there is no reference to Swartz in Wahlenberg's publication, and a specific Wahlenberg type has been designated.

*470802 **Arenaria longipedunculata*** Hultén, Bot. Not. 119: 313 (1966).

T N Alaska: Northern foothills of Brooks Range, Umiat, 23–29.07.1960, leg. E. Hultén (S G-7144) holotype.

2n= ***80** (8x).* – Löve & Löve (1975c N Ala Umiat the type site).

Hartman et al. in FNA 5 (2005) also reported (secondarily) 2n = 40 (4x).

G Amphi-Beringian – Cordilleran. RFE ALA CAN?

*470803 **Arenaria norvegica*** Gunnerus, Fl. Norveg. 2: 144 (1772).

T N Norway: Nordland, Steigen, Laskestad, 30.07.1770, leg. Gunnerus (TRH) holotype.

Notes. Subsp. *norvegica* in the Arctic. There is also a subsp. *anglica* G. Halliday in the British Isles.

*47080301 **Arenaria norvegica*** Gunnerus subsp. ***norvegica***.

2n= ***80** (8x).* – Horn in Löve & Löve (1948 Norw) and in Engelskjøn (1979 Norw); Böcher & Larsen (1950 Icel); Löve & Löve (1956b Icel); Blackburn & Morton (1957 NW Eur); Halliday (1958, 1960 NW Eur); Engelskjøn & Knaben (1971 Norw 2n = 78-80); Gadella & Kliphuis (1971

Icel).
G Atlantic European. ICE NOR.

470804 Arenaria pseudofrigida (Ostenf. & O.C.Dahl) Juz. ex Schischk. & Knorring in Kom., Fl. URSS 6: 537 (1936).
B *A. ciliata* L. subsp. *pseudofrigida* Ostenf. & O.C.Dahl, Nyt Mag. Naturvidensk. 55: 217 (1917).
S *A. ciliata* auct., non L. (1753).
T NE Norway: Finnmark, Vardø, Persfjord, 23.08.1917, leg. O.C. Dahl (O) lectotype, designated by Jonsell, Nordic J. Bot. 16: 5 (1996).
2n= ***40 (4x).*** – Horn in Löve & Löve (1948 NE Norw) and in Engelskjøn (1979 NE Norw & Svalb); Sørensen & Westergaard in Löve & Löve (1948 Grl); Jørgensen et al. (1958 Grl).
G Amphi-Atlantic (arctic). NOR RUS GRL.
Notes. The rank of this entity – as a separate species or as a subspecies of *A. ciliata* – is disputed. The opinion of Jonsell (2001) is followed for the Checklist: "*A. pseudofrigida* is in many recent works regarded as a subspecies of *A. ciliata* L., which is primarily a species of Central European mountains (described from C & SW Europe) but variously circumscribed. Taken widely, some local tetraploid taxa in the W and N of Europe (among those *A. pseudofrigida*) are included on subspecies level. Since the relations between the many local European taxa in the complex are far from clear, a narrow species concept is preferred here."

4709 Eremogone Fenzl, Vers. Darstell. Alsin. 13, tab. ad 18 (1833).
Notes. *Eremogone* is increasingly accepted as a genus separate from *Arenaria*, i.e., by Hartman et al. in FNA 5 (2005), based on preliminary molecular evidence by Nepokroeff et al. (2001 abstract). We happily accept this division for the Checklist.

470901 Eremogone capillaris (Poir.) Fenzl, Vers. Darstell. Alsin. 37 (1833).
B *Arenaria capillaris* Poir. in Lam., Encycl. 6: 380 (1804).
S *Arenaria nardifolia* auct., non Ledeb. ex Hook. (1830).
T Described from E Siberia. Petrovsky: There might be problems with the type, perhaps confusion with *E. formosa.*
2n= ***22 (2x).*** – Zhukova (1966 Wrangel I.); Packer (1968 Alberta); Zhukova & Petrovsky (1980 W Chuk, 1987a NE As); Krasnikov (1990).
G NE Asian – amphi-Beringian. SIB? RFE ALA CAN
Notes. Subsp. *capillaris* in the Arctic. For Siberia, Malyschev & Peschkova (1993) reported this species from Kharaulakh (Tiksi bay). The record needs confirmation.

470902 Eremogone formosa (Fisch. ex DC.) Fenzl, Vers. Darstell. Alsin. 37 (1833).
B *Arenaria formosa* Fisch. ex DC., Prodr. 1: 402 (1824).
S *Arenaria capillaris* auct., non Poir. (1804).
T Described from SE Siberia; Dahuria. Type in LE.
2n= ***44 (4x).*** – Zhukova et al. (1973 Kolyma).
G N/C Asian. SIB.
Notes. Petrovsky: Confirmed from arctic Taimyr. Elven: Also from arctic lower Lena R.

470903 Eremogone procera (Spreng. ex Hornem.) Rchb., Icon. Fl. Germ. Helv. 5: 33 (1841).
B *Arenaria procera* Spreng. ex Hornem., Hort. Bot. Hafn. 1: 424 (1813).
2n= For the collective species:
(1) 22 (2x). – Majovsky et al. (1974 C Eur).
(2) 44 (4x). – Malakhova (1990 Sib).

G C–E European – Asian.

47090301 Eremogone procera (Spreng. ex Hornem.) Rchb. subsp. ***polaris*** (Schischk.) V.V.Petrovsky & Elven comb. nov.
B *Arenaria polaris* Schischk. in Kom., Fl. URSS 6: 526, 887 (1936).
S *Arenaria stenophylla* Ledeb. subsp. *polaris* (Schischk.) Seliv.-Gor., Areal 1: 36 (1952); *Eremogone polaris* (Schischk.) Ikonn., Novosti Sist. Vyssh. Rast. 10: 137 (1973); *Arenaria procera* Spreng. ex Hornem. subsp. *polaris* (Schischk.) Govaerts, World Checklist Seed Plants 1, 1: 9 (1995); *Arenaria procera* Spreng. ex Hornem. subsp. *glabra* (F.N.Williams) Holub, Preslia 28: 94 (1956); *Arenaria graminifolia* auct., non Schrad., Hort. Gott. 1: 5 (1809), p. p., nec Ard. (1764).
T Described from N Siberia: Taimyr, Dudypta R.
2n= ***110*** *(10x).* – Favarger (1972).
G N Asian. RUS SIB.
Notes. Elven: Note the indicated difference in ploidal levels between subsp. *polaris* and the more southern European and Siberian plants.

470904 Eremogone tschuktschorum (Regel) Ikonn., Novosti Sist. Vyssh. Rast. 10: 140 (1973).
B *Arenaria tschuktschorum* Regel, Bull. Soc. Imp. Naturalistes Moscou 35, 1: 254 (1862).
T Russian Far East: E Chukotka, "... prope Nischni-Kalinsk", 1833, leg. Scharipoff (LE) holotype.
2n= ***22*** *(2x).* – Zhukova (1966 NE As); Yurtsev & Zhukova (1972 NE As); Zhukova & Petrovsky (1975 W Chuk, 1987a NE As); Zhukova et al. (1977a NE Yakutia).
G Asian Beringian. RFE.

4710 Moehringia L., Sp. Pl. 359 (1753).

471001 Moehringia lateriflora (L.) Fenzl, Vers. Darstell. Alsin., tab. ad 18, 38 (1833).
B *Arenaria lateriflora* L., Sp. Pl. 423 (1753).
T Linnaean Herbarium 585.6 (LINN) lectotype, designated by Jonsell & Jarvis, Nordic J. Bot. 14: 156 (1994). Described from Siberia.
2n= ***48*** *c.52 (4x).* – Sokolovskaya (1960b Sakhalin 2n = c.52); Zhukova (1967a W Chuk); Hartman (1971 W USA); Löve et al. (1971 Rocky Mts, 1982 C Can).
G Circumboreal. RUS SIB RFE ALA CAN.

471002 Moehringia macrophylla (Hook.) Fenzl, Vers. Darstell. Alsin., tab. ad 18 & 38 (1833).
B *Arenaria macrophylla* Hook., Fl. Bor.-Amer. 1: 102 (1831).
2n= *(1) 24 (2x).* – Gervais et al. (1999 E Can).
(2) 48 (4x). – Löve & Löve (1982 C Can).
G North American. CAN.

4711 Spergularia (Pers.) J.Presl & C.Presl, nom. cons., Fl. Cech. 94 (1819).
B *Arenaria* L. sect. *Spergularia* Pers., Syn. Pl. 1: 504 (1805).

471101 Spergularia salina J.Presl & C.Presl, Fl. Cech. 95 (1819).
S *Spergula marina* (L.) Bartl. & H.L.Wendl., Beitr. Bot. 2: 64 (1825).
2n= ***36*** *(4x).* – Nordenskiöld in Löve & Löve (1942b NW Eur); Löve & Löve (1956b Icel); Lövkvist in Weimarck (1963 Sweden); Gervais et al. (1997b E Can); Lövkvist & Hultgård (1999 Sweden). Numerous more southern counts.

A diploid chromosome number of 2n = 18 was reported by Löve & Löve (1982) for *'Spergella marina'* from Canada: Manitoba, Delta. It is uncertain what this count refers to, but diploid counts for plants named as *Spergularia marina/salina* have also been reported from Spain (Björkqvist et al. 1969) and Egypt (Amin 1973).

G Circumboreal? NOR CAN.

Notes. Jonsell: The priority of *S. salina* J.Presl & C.Presl 1819 vs *S. marina* (L.) Bartl. & H.L.Wendl. 1825 is based on Rauschert (1983). He showed that *Alsine marina* All. 1785 is not based on *Arenaria rubra* L. var. *marina* L., Sp. Pl. 423 (1753), and that the epithet *'marina'* therefore has no priority at species level before *'salina'* for this species.

471102 Spergularia canadensis (Pers.) G.Don, Gen. Hist. 1: 426 (1831).

B *Arenaria canadensis* Pers., Syn. Pl. 1: 504 (1805).

T Described from E Canada: Quebec, "ad ostium fluminis S. Laurentii".

2n= *36 (4x).* – Hartman & Rabeler in FNA 5 (2005 secondary report).

G Atlantic & Pacific North American. CAN GRL.

Notes. Böcher et al. (1978) reported occurrence in W Greenland. Scoggan (1978) reported no arctic Canadian occurrences, only sites north to non-arctic James Bay. Hartman & Rabeler in FNA 5 (2005) included (arctic) Nunavut but omitted (forgot?) Greenland. They also divided the species on two major races, treated as the eastern var. *canadensis* that reaches the Arctic and the western var. *occidentalis* R.Rossbach, Rhodora 42: 116 (1940), that reaches north to S Alaska. This raceis also tetraploid: Taylor & Mulligan (1968 BC); Pojar (1973 BC).

4712 Silene L., Sp. Pl. 416 (1753).

S *Oberna* Adans., Fam. Pl. 2: 255, 583 (1763); *Otites* Adans., Fam. Pl. 2: 255 (1763); *Melandrium* Röhl., Deutschl. Fl., ed. 2, 2: 37 (1812); *Xamilenis* Raf., Autik. Bot. 24 (1840); *Gastrolychnis* (Fenzl) Rchb., Icon. Fl. Germ. Helv. 5: t. 206 (1841); *Wahlbergella* Fr., Bot. Not. 1843: 143 (1843); *Sofianthe* Tzvelev, Novosti Sist. Vyssh. Rast. 33: 97 (2001); *Minjaevia* Tzvelev, Novosti Sist. Vyssh. Rast. 33: 102 (2001).

Notes. Elven & Petrovsky: Molecular and cladistic analyses of the genera of subfam. *Silenoideae* – summarised by Oxelman et al. (2001) – have confirmed some long-time suspicions. Both the traditional genera *Lychnis* and *Silene* are artificial (polyphyletic or paraphyletic). There is one major monophyletic *'Silene'* branch which includes most of traditional *Silene* and also the previous segregates of, e.g., *Melandrium* and *Gastrolychnis*, and the *Lychnis sibirica* group. Other branches are, according to these authors, best interpreted as segregate genera. In an arctic context this only concerns *Viscaria* with *V. alpina. Lychnis* s. str. with *L. flos-cuculi* does not seem to be stable anywhere in the Arctic, and *Atocion* with, e.g., the northern *A. rupestris* = *Silene rupestris* does not reach the Arctic.

Morton in FNA 5 (2005) did not accept this view and treated *Silene* very collectively, also including *Lychnis* and *Viscaria.*

Tzvelev (2001 and in comment) followed the opposite course and proposed to split the main *Silene* branch and the *Lychnis/Viscaria* branch(es) in the treatment of Oxelman et al. into several genera, of which the following might be relevant for the Arctic and neighboring parts: *Steris* Adans. (*S. alpina* = *Viscaria alpina*); *Xamilenis* Raf. (*X. acaulis* = *Silene acaulis*); *Coccyganthe* (Rchb.) Rchb. (*C. flos-cuculi* = *Lychnis flos-cuculi*); *Sofianthe* Tzvelev (*S. sibirica, S. samojedorum* and *S. villosula,* = *Silene linnaeana* s. lat.); *Melandrium* Röhl. (*M. dioicum* = *Silene dioica*); *Gastrolychnis* (Fenzl) Rchb. (the *'Gastrolychnis'* group); *Minjaevia* Tzvelev (*M. rupestris* = *Atocion rupestre* = *Silene rupestris*); *Silene* s. str. (*S. tatarica, S. pauciflora, S. repens*); *Oberna* Adans. (*O. behen* = *Silene vulgaris* + *S. uniflora*); and *Otites* Adans. (*O. polaris* = *Silene polaris*).

Here we have chosen to follow the opinion of Oxelman et al., i.e., inclusion of both the

Gastrolychnis group and the *Lychnis sibirica* group within one of the two major branches of *Silene*. This branch also contains, e.g., the *Anotites* group with *S. menziesii*, the *Melandrium* group, and the *Oberna* group with *S. vulgaris* and *S. uniflora*. The other major branch contains, e.g., *S. acaulis*. We shouldn't rely on molecular evidence alone, but these results are supported by morphology and confirm with much previous supposition. The major changes have been anticipated in several 'pre-molecular' studies, for *Gastrolychnis* by, e.g., Chowdhuri (1957) and Bocquet (1969), for the *Lychnis sibirica* group by, e.g., Voroschilov (1985). One very recent result in support of a wide *Silene* is presented by Popp et al. (2003). These authors show, by a convincing molecular and phylogenetic analysis, that one part of *Gastrolychnis* represents a separate lineage whereas another – and equally important – part consists of taxa developed from at least two hybridisation events between the first lineage and the *Silene linnaeana* (*Lychnis sibirica*) lineage, see below.

471201 Silene tatarica (L.) Pers., Syn. Pl. 1: 497 (1805).
B *Cucubalus tataricus* L., Sp. Pl. 415 (1753).
T Linnaean Herbarium 582.15 (LINN) lectotype, designated by Jonsell & Jarvis, Nordic J. Bot. 14: 156 (1994). Described from S Russia ("Tataria").
2n= ***24 (2x).*** – Blackburn (1928); Blackburn & Boult (1930); Rohweder (1939); Damboldt & Phitos (1968); Degraeve (1980a).
G E European. RUS.
Notes. Also present in N Norway, but as non-arctic.

471202 Silene paucifolia Ledeb., Fl. Ross. 1: 306 (1842).
S *S. schamarensis* Turcz. subsp. *pauciflora* (Ledeb.) Zuev in Malyschev & Peschkova, Fl. Sibir. 6: 64 (1993).
T Described from N Siberia: "Hab. in Sibiriae arcticae arenosis ad oceanum glacialem (Pallas in herb. Willd.)".
2n= ***24 (2x).*** – Zhukova et al. (1973 Polar Ural); Löve & Löve (1975c N Rs); Krogulevich (1976 N Sib); Zhukova (1982 NE Yakutia); Rostovtseva & Khanminchun (1984 Sib).
G NE European – NW Siberian. RUS SIB.
Notes. *Silene schamarensis* Turcz., Fl. Baical.-Dahur. 1: 207 (1842), was described from SE Siberia: Irkutsk reg., Khamar-Daban Khrebet.

471203 Silene stenophylla Ledeb., Fl. Ross. 1: 306 (1842).
S *S. graminifolia* auct., non Otth in DC. (1824).
T Described from Siberia: "Hab. in Sibiriae" (Tilesius).
2n= ***24 (2x).*** – Zhukova (1966 Yakutia); Zhukova & Tikhonova (1971 W Chuk); Zhukova (1982 E Chuk).
G NE Asian. SIB RFE.

471204 Silene repens Patrin ex Pers., Syn. Pl. 1: 500 (1805).
S *S. purpurata* Greene, Pittonia 2: 229 (1892); *S. repens* Patrin ex Pers. subsp. *purpurata* (Greene) C.L.Hitchc. & Maguire, Univ. Wash. Publ. Biol. 13: 21 (1947).
T Described from Siberia: "prope lacum Baikal".
2n= ***(1) 24 (2x).*** – Kruckeberg (1960b); Zhukova & Petrovsky (1972 Wrangel I.); Löve & Löve (1975c N Rs); Krogulevich (1976, 1978 S Sib); Dawe & Murray (1979 Ala, 1980 C Ala); Zhukova (1980 S Chuk).
(2) 48 c.50 (4x). – Kruckeberg (1960b); Sokolovskaya (1963 Kamtch 2n = c.50); Krasnoborov et al. (1980 S Sib 2n = c.40-48); Krasnikov (1990); Wang & Chang (1992 China?); Probatova & Sokolovskaya (1995 NE As).
G Eurasian – amphi-Beringian. RUS SIB RFE ALA CAN.

Notes. The arguments by Hultén (1968b) and by Morton in FNA 5 (2005) for not to recognize a separate subsp. *purpurata* on the North American side are convincing and are followed here. There seems to be two ploidal levels, but only the 2n = 24 plants are documented from the Arctic.

471205 Silene polaris Kleopow in Kom., Fl. URSS 6: 890 (1936).
S *S. otites* (L.) Wibel subsp. *polaris* (Kleopow) Á.Löve & D.Löve, Bot. Not. 114: 52 (1961); *Otites polaris* (Kleopow) Holub, Folia Geobot. Phytotax. 5: 437 (1970).
T Described from NE European Russia: Mezen & Pinega rivers.
2n= *24 (2x).* – Löve & Löve (1975c N Rs).
G E European – W Siberian. (SIB).
Notes. Given by Sekretareva (1999) as borderline arctic for lower Jenisei, uncertain whether left or right bank or both. Malyschev & Peschkova (1993) gave the sites as Dudinka (right bank, borderline) and Eremilovskoe village.

471206–07 Silene vulgaris **aggregate** (*S. uniflora, S. vulgaris*).
Notes. *Silene uniflora* and *S. vulgaris* are related but a merger, e.g., as subspecies, is not consistent with current morphological and molecular evidence.

471206 Silene vulgaris (Moench) Garcke, Fl. N. Mitt.-Deutschland, ed. 9, 64 (1869).
B *Behen vulgaris* Moench, Methodus 709 (1794) [based on *Cucubalus behen* L., Sp. Pl. 414 (1753)].
S *Oberna behen* (L.) Ikonn., Novosti Sist. Vyssh. Rast. 13: 119 (1976).
T Linnaean Herbarium 582.4 (LINN) lectotype, designated by Aeschimann & Bocquet, Candollea 38: 204 (1983). Described from N Europe.
Notes. Introduced and stable in the Arctic, as subsp. *vulgaris*. Several other, more southern subspecies.

47120601 Silene vulgaris (Moench) Garcke subsp. ***vulgaris***.
2n= *24 (2x).* – Löve & Löve (1944b 1961d NW Eur, 1956b Icel); Mulligan (1957 Can); Lövkvist in Weimarck (1963 Sweden); Laane (1969a Norw); Al-Bermani et al. (1993 Brit); Lövkvist & Hultgård (1999 Sweden). Numerous more southern counts.
There are also numerous southern chromosome counts of 2n = 48 but we assume that they refer to other subspecies.
G European – W Siberian. NOR* RUS*.

471207 Silene uniflora Roth, Ann. Bot. (Usteri) 10: 46 (1794).
S *Oberna uniflora* (Roth) Ikonn., Novosti Sist. Vyssh. Rast. 13: 120 (1976); *S. maritima* With., Arr. Brit. Pl., ed. 3, 2: 414 (1796); *S. vulgaris* (Moench) Garcke subsp. *maritima* (With.) Á.Löve & D.Löve, Bot. Not. 114: 52 (1961); *S. maritima* With. subsp. *islandica* Á.Löve & D.Löve, Acta Horti Gothob. 20, 4: 183 (1956); *Oberna behen* (L.) Ikonn. subsp. *littoralis* (Rupr.) Tzvelev, Novosti Sist. Vyssh. Rast. 32: 183 (2000).
2n= *24 (2x).* – D.Löve (1942a Icel); Löve (1950 Icel); Löve & Löve (1956b Icel, 1961d NW Eur); Aaberge (1962 Norw four counts, both coastal and alpine populations); Lövkvist in Weimarck (1963 Sweden); Findlay & McNeill (1973 Icel *'islandica'*); Engelskjøn (1979 Norw); Arohonka (1982 Finl); Cobon & Murray (1983 1983a Brit); Lövkvist & Hultgård (1999 Sweden). Several more southern counts.
G Atlantic European. ICE NOR RUS.
Notes. The entity that reaches the Arctic in N Norway and on the Murman coast is subsp. *uniflora*. The Icelandic plants differ from the other NW European ones and have been described as *S. maritima* With. subsp. *islandica* Á.Löve & D.Löve. Their status is still insufficiently

known, but they are worthy of a note and inclusion in synonymy as above.

471208 Silene dioica (L.) Clairv., Man. Herbor. Suisse 145 (1811).
B *Lychnis dioica* L., Sp. Pl. 437 (1753).
S *Melandrium dioicum* (L.) Coss. & Germ., Syn. Anal. Fl. Paris 28 (1845); *Melandrium rubrum* (Weigel) Garcke, nom. illegit., Fl. N. Mitt.-Deutschland, ed. 4, 55 (1858); *Melandrium rubrum* (Weigel) Garcke subsp. *lapponicum* Simmons, Ark. Bot. 6: 6 (1907); *S. dioica* (L.) Clairv. subsp. *lapponica* (Simmons) Tolm. & Kozhanch. in Tolm., Fl. Arct. URSS 6: 101 (1971); *Melandrium dioicum* (L.) Coss. & Germ. subsp. *lapponicum* (Simmons) Tzvelev, Novosti Sist. Vyssh. Rast. 33: 98 (2001).
T Linnaean Herbarium 602.6 (LINN) lectotype, designated by Talavera & Muños Garmendia, Anales Jard. Bot. Madrid 45: 453 (1989). Described from Europe.
2n= *24 (2x)* – Meurman (1925a 1925b Finl); Nygren (1949b, 1957b, 1957c Scand); Löve & Löve (1956b Icel); Sorsa (1963c Finl); Laane (1967 NE Norw, 1969a Norw); Zhukova (1967b cultiv. pl., probably N Rs); Engelskjøn & Knaben (1971 Norw); Findlay & McNeill (1973 Sweden); Arohonka (1982 Finl); Halkka (1985 Finl); Lövkvist & Hultgård (1999 Sweden). Numerous more southern counts.
G European. ICE* NOR RUS.

***471209–11 Silene linnaeana* aggregate** (*S. linnaeana, S. samojedora, S. villosula*).
Notes. Petrovsky & Elven: *Lychnis sibirica* L. s. lat. is transferred to *Silene* because of the evidence of Oxelman et al. (2001). The group consists of three entities. Oxelman et al. (2001) accepted two species as *S. linnaeana* and *S. samojedora* but did not consider the third entity, *'villosula'*. Tzvelev (2001) treated the same three entities as species of the genus *Sofianthe*. All three entities reach or border on the Arctic.

471209 Silene linnaeana Vorosch. in A.K.Skvortsov, Florist. Issl. v Razn. Raionakh SSSR 167 (1985).
B Based on *Lychnis sibirica* L, Sp. Pl. 437 (1753).
S *Sofianthe sibirica* (L.) Tzvelev, Novosti Sist. Vyssh. Rast. 33: 97 (2001).
T Described from Siberia.
G N Asian. (SIB).
Notes. Elven: *Silene linnaeana* s. str. is specifically given from N Yakutia, Chekurovka village (in AO), by Malyschev & Peschkova (1993). This site is north of the arctic boundary as proposed by the Russians but slightly south of the arctic forest limit in the Lena R. valley.

471210 Silene samojedora (Sambuk) Oxelman, Nordic J. Bot. 20: 516 (2001).
B *Lychnis sibirica* L. var. *samojedorum* Sambuk, Izv. Akad. Nauk SSSR, ser. 7, Otd. Fiz.–Mat. Nauk 22: 47 (1928).
S *Sofianthe samojedorum* (Sambuk.) Tzvelev, Novosti Sist. Vyssh. Rast. 33: 97 (2001).
T Described from NE European Russia: Pechora R. estuary.
2n= *24 (2x).* – Bocquet & Favarger (1971); Zhukova & Petrovsky (1975 1980 W Chuk).
G NE European – N Siberian. RUS SIB RFE.

471211 Silene villosula (Trautv.) V.V.Petrovsky & Elven comb. nov.
B *Lychnis ajanensis* Regel var. *villosula* Trautv., Acta Horti Petrop. 10: 498 (1887).
S *Lychnis sibirica* L. subsp. *villosula* (Trautv.) Tolm., Trudy Polyarn. Komiss. 8: 118 (1932); *Sofianthe villosula* (Trautv.) Tzvelev, Novosti Sist. Vyssh. Rast. 33: 97 (2001); *Lychnis ajanensis* auct., non Regel (1861).
T Siberia: N Yakutia, "Sibiria arctica, ostia fl. Lena, Tonoldo [??]", leg. Köl. [Koelreuter?] 4711, Herb. Trautv. (LE).

2n= *24 (2x).* – Zhukova & Tikhonova (1971 W Chuk); Zhukova & Petrovsky (1972 Wrangel I.); Zhukova et al. (1973 Taimyr & Kolyma, 1977 Yakutia); Zhukova (1982 Kolyma).
G NE Asian. SIB RFE.

***471212–15, 16–18 Silene uralensis* and *S. involucrata* aggregates.**
Notes. Petrovsky & Elven: The arctic parts of the *'Gastrolychnis'* group are here treated as two aggregates, the *S. uralensis* and the *S. involucrata* aggregates. This is also in agreement with recent molecular evidence (Popp et al. 2003) demonstrating that the *S. uralensis* aggregate is a primary lineage whereas the *S. involucrata* aggregate is a result of at least two hybridisation and polyploidisation events between the *S. uralensis* lineage and the *S. linnaeana* lineage.

***471212–15 Silene uralensis* aggregate** (*S. soczaviana, S. uralensis, S. violascens, S. wahlbergella*).
Notes. Petrovsky & Elven: Compared with the *S. involucrata* aggregate (below), the *S. uralensis* aggregate is characterised by broad-winged seeds and comparatively little exerted petals, usually lilac or pale violet. Morton in FNA 5 (2005) treated the arctic parts of this aggregate as one species (*S. uralensis*) with three subspecies. For the Checklist, we prefer to treat it as four species. The tetraploid *Silene soczaviana* s. lat. (incl. Morton's *S. uralensis* subspp. *porsildii* and *ogilviensis*) and the diploid *S. violascens*, are comparatively distinct. The Scandinavian diploid *S. wahlbergella* is also fairly distinct and now often accepted. The main problems are connected with the infraspecific variation in the remaining diploid, by us considered as *S. uralensis*.

471212 Silene wahlbergella Chowdhuri, Notes Roy. Bot. Gard. Edinburgh 22: 237 (1957).
B Based on *Lychnis apetala* L., Sp. Pl. 437 (1753).
S *Melandrium apetalum* (L.) Fenzl in Ledeb., Fl. Ross. 1: 326 (1842); *Wahlbergella apetala* (L.) Fr. in Lindblom, Bot. Not. 1843: 9 (1843); *S. uralensis* (Rupr.) Bocquet subsp. *apetala* (L.) Bocquet, Candollea 22: 26 (1967); *Gastrolychnis apetala* (L.) Tolm. & Kozhanch. in Tolm., Fl. Arct. URSS 6: 113 (1971).
T N Sweden: Lapland. Linnaean Herbarium 602.9 (LINN), proposed as holotype by Bocquet (1967), designated as lectotype by Jonsell & Jarvis, Nordic J. Bot. 14: 158 (1994). Linnaeus (1753) described the species from "Alpibus Lapponicis, Sibiricus". The typification reserves the name *'apetala'* for the Scandinavian ("Lapponicis") plant.
2n= *24 (2x).* – Blackburn in Tischler (1931 Scand); Löve & Löve (1942a Sweden); Nygren (1949b Scand); Knaben & Engelskjøn (1967 S & N Norw); Bocquet & Favarger (1971 Scand).
G N European (Fennoscandia). RUS.
Notes. A fairly frequent Fennoscandian mountain plant that only reaches the Arctic in NW Russia: Rybachi Peninsula. *Silene wahlbergella* is distinctly allopatric from the other entities of the aggregate, incl. all races of *S. uralensis*. It is characterised by calyx not very strongly inflated, always longer than broad, petals usually fully inserted in the calyx and not visible (a difference from all others of the aggregate), capsule long (17–21 mm), and stems hairy but mostly not very glandular. Bocquet (1967, 1969) considered this as *S. uralensis* subsp. *apetala*. Kurtto in Jonsell (2001) considered it as a separate species, *S. wahlbergella*. We accept Kurtto's arguments for rank as species: No intermediacy, several separating characters, and full geographical separation. Its name as a subspecies is subsp. *apetala*, as a species it is *Silene wahlbergella* (based on and homotypic with Linnaeus' *Lychnis apetala*).

471213 Silene uralensis (Rupr.) Bocquet, Candollea 22: 26 (1967).
B *Gastrolychnis uralensis* Rupr., Verbr. Pfl. Ural 30 (1850).
T NE European Russia: "Westfusse des Ural im 67 1/2° in der Nähe des Flusses Porotsch-jadyr", 23–24.07.1848, leg. Ruprecht (LE) holotype. Illustrated in Rupr., Fl. Bor.-Ural. tab. 1 fig. 2 (1854).

2n= For the collective species:

24 (2x). – Löve & Löve (1975b, 1982 Hudson Bay as *Gastrolychnis apetala uralensis*); Krogulevich (1976 N Sib, 1984 Sib); Zhukova & Petrovsky (1987a NE As).

Not accepted: A chromosome count of 2n = 48 (Mulligan & Porsild 1970 Yukon, as *Melandrium apetalum*) probably belongs to *S. soczaviana* subsp. *macrosperma* or *'ogilviensis'*.

Notes. Tzvelev (2000) recognised the diploid parts of *S. uralensis* s. lat. as a series of species, whereas most other authors have considered it as one polymorphic species with two or more subspecies. The circumscription of the species is also disputed. Bocquet (1967) included the tetraploid *'macrosperma'* entity as a subsp. *porsildii*, also followed by, e.g., Morton in FNA 5 (2005) which also included a tetraploid subsp. *ogilviensis*. We consider *'macrosperma'* and probably also *'ogilviensis'* as closely related to *S. soczaviana*, an entity kept as a separate species by Bocquet (but not by Morton). The ploidal difference from *S. uralensis* also supports status as a separate species. Bocquet also included *S. wahlbergella*, which we keep apart, in his *S. uralensis*.

Five main specific or subspecific epithets are relevant in the diploid part of the complex: (1) *'apetala'* L. 1753 as species in *Lychnis*, described from N Sweden and referring to *S. wahlbergella* above; (2) *'uniflora'* Ledeb. 1815 as species in *Lychnis*, described from S Siberia: Transbaicalia; (3) *'uralensis'* Rupr. 1850 as species in *Gastrolychnis*, described from N Urals; (4) *'arctica'* Th.Fr. 1870 as variety in *Wahlbergella*, 1944 as subspecies in *Melandrium*, described from Svalbard; and (5) *'attenuata'* Farr 1904 as species in *Lychnis*, described from NW North America. The two earliest epithets – *'apetala'* and *'uniflora'* – are inapplicable at species level in *Silene* due to homonymy (predated by *S. apetala* Willd. 1799 and *S. uniflora* Roth 1794). The earliest name available for application within *Silene* for the collective species is *S. uralensis*, as made clear by Bocquet (1967).

The infraspecific structure is much more disputed. For arctic Russia, Kozhanchikov & Tolmachev in Tolmachev (1971) considered one species – *Gastrolychnis apetala* – without subdivisions. For Alaska and Yukon, Hultén (1968a) named one entity – *Melandrium apetalum* subsp. *arcticum* – mapped it as circumpolar, and considered Scandinavian subsp. *apetalum* (now *S. wahlbergella*) as different. Böcher et al. (1978) accepted the same entity and name for Greenland as did Porsild & Cody (1980) for arctic Canada. These authors accepted, however, a second Cordilleran entity: *M. apetalum* subsp. *attenuatum*. Morton in FNA 5 (2005) considered a *S. uralensis* subsp. *uralensis* including *'arctica'* and *'attenuata'*. For Europe, Chater et al. in Tutin et al. (1993) applied *Silene uralensis* subsp. *uralensis* (circumpolar) and subsp. *apetala* (Scandinavian). For the Nordic area, Kurtto in Jonsell (2001) applied *Silene uralensis* (circumpolar) and *S. wahlbergella* (Scandinavian). The monographer – Bocquet (1967, 1969) – accepted *Silene uralensis* with four northern subspecies. Subsp. *uralensis* occurred throughout the circumpolar range except for two areas: Fennoscandia with subsp. *apetala* and Svalbard with subsp. *arctica*. As mentioned, Bocquet also included the *'macrosperma'* entity in C Alaska in *S. uralensis* as a subsp. *porsildii*.

A molecular study of this complex is under way (B. Oxelman and collaborators), but results are not yet available. Waiting for these, we have to rely on morphology and chromosome numbers. Our proposals here are as follows:

(a) The amphi-Beringian *'macrosperma' / 'porsildii'* and the North American *'ogilviensis'*, both tetraploid, are also morphologically different from the others (and not only by their large and large-winged seeds), without observed intermediates, and very close to the NE Asian *S. soczaviana*. Ecologically, these are mostly plants of dry scree and cliffs whereas most of the others prefer damp to wet habitats (even mires). We propose acceptance of *S. soczaviana* as a separate species and a transfer of *'macrosperma'* to it as a variety, for reasons given below. As for *'ogilviensis'*, we have little information.

(b) We can not accept Bocquet's opinion that *'arctica'* is a local Svalbard endemic whereas the other high-arctic plants are subsp. *uralensis*. The *'arctica'* entity is characterised by the very strongly inflated calyx, especially in fruit when it becomes almost globular or broader than long,

petals much exerted, capsule short (up to 15 mm), and upper parts of stems distinctly and often predominantly with glandular hairs. We have compared the Svalbard plants (*'arctica'*) with plants from northern arctic Russia (LE, Petrovsky & Elven), Greenland (O, Elven), arctic Canada and arctic Alaska (CAN DAO, Elven; ALA, Murray & Elven). We can find no differences whatsoever among these high-arctic circumpolar plants and consider them as one unusually homogeneous entity. They differ from the plants of the Urals (*'uralensis'* s. str., incl. the type which we have inspected), and also from more southern arctic and alpine plants in NE Asia and NW North America. The only epithet relevant for this entity is *'arctica'*.

(c) The main problems are the extent (morphological and geographical) of *'uralensis'* s. str. and the variation in NW North America. The *'uralensis'* entity is characterised by the calyx being not very strongly inflated and usually longer than broad even in fruit, capsule short (up to 15 mm), petals slightly exerted (much less so than in the circumpolar entity), but stems hairy as in the circumpolar entity. Tzvelev (2000) proposed that the epithet *'uniflora'* might have priority for this plant within *Gastrolychnis* (but not in *Silene*) and that *G. uniflora* (based on *Lychnis uniflora*) should replace *G. uralensis*. We have inspected the type of *Lychnis uniflora* (S Siberia: Transbaical, LE) and rather interpret it as a small-grown *S. violascens* (see below).

The Urals plants (*'uralensis'*) and the more arctic ones (our *'arctica'*) have been assumed to be the same by almost all authors from Bocquet (1967) to and including Tzvelev (2000), Kurtto in Jonsell (2001), and Morton in FNA 5 (2005). We have compared a large material (LE, O) from the zone of contact from the Urals through Yugorskii Peninsula and Vaigach to Novaya Zemlya and have come to a different conclusion. We see two morphological entities. The *'uralensis'* entity is clearly definable and the only one collected in mainland NE Russia (Polar Ural, Yugorskii Peninsula) and N Siberia (Yamal–Gydan area and at least eastwards to Lena R.). The *'arctica'* entity is equally distinct and the only one collected on Novaya Zemlya. On Vaigach Island, between the Russian mainland and Novaya Zemlya, both entities occur and are distinct. No intermediates were found in the large material in LE. The same seems to be the situation in other regions where they meet.

Another and unsolved question is how widely distributed the *'uralensis'* entity is. The NW North American material is also morphologically tentatively divisible into parts. Murray & Elven have looked superficially at Alaskan material (ALA) and see three morphological and eco-geographical groups of plants: (i) North coast arctic tundra plants corresponding to the arctic circumpolar entity (*'arctica'*). (ii) Mire and marsh plants resembling the *'uralensis'* entity in, e.g., indumentum, comparatively narrow calyx and not very much exerted petals. This groups is the most widespread in arctic W and N Alaska and in N Yukon. The question is then whether the *'uralensis'* s. str. entity should be extended to cover boreal–alpine plants from NE Russia to North America. Morton in FNA 5 (2005) extended it across all of North America and Greenland, but this may be due to his inclusion of *'arctica'*. (iii) Mountain plants, mainly in scree and cliffs, corresponding to *'attenuata'* as described. Morton in FNA 5 (2005) discussed this entity and was sceptical to it as a distinct taxon.

We now see the variation in this complex as one major and circumpolar arctic tundra entity and some northern boreal and alpine entities, the latter with disjunct ranges but mostly more or less overlapping (parapatric) with the circumpolar arctic entity. Here we have chosen acceptance of two subspecies (subspp. *uralensis* and *arctica*) and informal entry of the *'attenuata'* entity (as *'Lychnis attenuata'*) pending further investigations. However, we have seen very little indications of intermediates in the material inspected. Species rank for some of the entities is an alternative.

47121301 Silene uralensis (Rupr.) Bocquet subsp. ***uralensis***.

S *Gastrolychnis apetala* (L.) Tolm. & Kozhanch. subsp. *uralensis* (Rupr.) Á.Löve & D.Löve, Bot. Not. 128: 510 (1976).

G N Eurasian – amphi-Beringian. RUS SIB RFE ALA CAN.

Notes. Doubts about some NE Siberian and Russian Far East regions concern the identity of the plants not fitting the high-arctic circumpolar entity (subsp. *arctica*).

Tzvelev (2000) considered this entity, under the name *G. uniflora* (Ledeb.) Tzvelev, to be distributed in most arctic and some boreal parts of Russia from the Pechora area and Novaya Zemlya east to Russian Far East, and also in Svalbard, but not in North America or Greenland. As the Svalbard and Novaya Zemlya plants in our opinion are the same as the high arctic North American and Greenlandic ones, we don't agree with this. We have also included the NW North American 'mire' plants here.

47121302 Silene uralensis (Rupr.) Bocquet subsp. ***arctica*** (Th.Fr.) Bocquet, Candollea 22: 27 (1967).
B *Wahlbergella apetala* (L.) Th.Fr. var. (b) *arctica* Th.Fr., Öfvers. Förh. Kongl. Svenska Vetensk.-Akad. 26, 2: 133 (1870).
S *Melandrium apetalum* (L.) Fenzl subsp. *arcticum* (Th.Fr.) Hultén, Acta Univ. Lund., n. s., sect. 2, 40, 1: 700 (1944); *Gastrolychnis apetala* (L.) Tolm. & Kozhanch. subsp. *arctica* (Th.Fr.) Á.Löve & D.Löve, Bot. Not. 128: 510 (1976).
T Described from Svalbard.
2n= ***24 (2x).*** – Holmen (1952 Grl); Jørgensen et al. (1958 Grl); Zhukova (1966 Wrangel I.); Hedberg (1967 Southampton I.); Johnson & Packer (1968 NW Ala); Zhukova & Petrovsky (1971 Wrangel I.); Zhukova & Tikhonova (1971 E Chuk, 1973 W Chuk); Zhukova et al. (1973 Wrangel I. three counts); Packer & McPherson (1974 N Ala); Löve & Löve (1975c Svalb as subsp. *arctica*, Hudson Bay as subsp. *uralensis*).
G Circumpolar. NOR RUS SIB? RFE ALA CAN GRL.
Notes. In our concept, this is the high-arctic entity of the aggregate. It is well documented from N Alaska, Canada, Greenland, Svalbard, Novaya Zemlya, Vaigach and parts of W and N Chukotka. Much material from northernmost Siberia and Russian Far East should be checked again, but field-investigated material from N Yakutia does not belong here.

> ***Lychnis attenuata*** Farr, Trans. & Proc. Bot. Soc. Pennsylvania 1: 419 (1904).
> Synonyms: *Melandrium apetalum* (L.) Fenzl subsp. *attenuatum* (Farr) Hara, J. Fac. Sci. Univ. Tokyo, sect. 3, Bot. 6, 2: 42 (1952); *Silene wahlbergella* Chowdhuri subsp. *attenuata* (Farr) Hultén, Circumpolar Pl. 2: 326 (1971); *Gastrolychnis apetala* (L.) Tolm. & Kozhanch. subsp. *attenuata* (Farr) V.V.Petrovsky, Bot. Zhurn. (Moscow & Leningrad) 58: 119 (1973); *Gastrolychnis attenuata* (Farr) Czerep., Sosud. Rast. SSSR 161 (1981). – Cordilleran. ALA CAN.
> **Notes.** Murray & Elven: Provisionally considered to include the Cordilleran 'scree' plants of Alaska and Yukon (and further south), see note above. Czerepanov (1981) also reported this entity as Russian, and Charkevicz (1996) reported it from Wrangel I. We don't accept Asian records yet. Morton in FNA 5 (2005) is very critical to *'attenuata'* as a taxon.

471214 Silene violascens (Tolm.) V.V.Petrovsky & Elven comb. nov.
B *Gastrolychnis violascens* Tolm., Fl. Arct. URSS 6: 115 (1971).
S ?*Gastrolychnis uniflora* (Ledeb.) Tzvelev, Bot. Zhurn. (Moscow & Leningrad) 85, 11: 101 (2000) [based on: *Lychnis uniflora* Ledeb., Mém. Acad. Imp. Sci. St. Pétersbourg Hist. Acad. 5: 536 (1815); type: "Herb. Ledeb. In Sibiria transbaicalensi, lect. am. Tilesius" (LE) holotype or lectotype?].
T E Siberia: "Jacutia, ad flumen Daaldyn, in ditione fluminis Marcha, fluminis Viluj confluentis", 16.07.1957, leg. A. Lukitcheva (LE?) holotype.
2n= ***24 (2x).*** – Zhukova et al. (1973 N Sib).
G NE Asian. SIB RFE?

Notes. We consider this as a Siberian entity, probably recognisable as a species, but mainly occurring in the forest zones. Sekretareva (1999) reported it as arctic for Taimyr and as possibly borderline arctic for the Khatanga drainage and Yana–Kolyma. It occurs along Lena R. into the Arctic (collected 2004, O). Also indicated for the Anadyr drainage, probably as non-arctic. We suspect that *Gastrolychnis uniflora* (Ledeb.) Tzvelev (*Lychnis uniflora* Ledeb.), which Tzvelev considers as synonymous with *Gastrolychnis uralensis*, may be a small plant of *S. violascens*. This will not influence priority in *Silene* as there already is an earlier *S. uniflora* Roth 1794. Applying a wider species circumscription, it could possibly be included as a race (subspecies) in *S. uralensis*.

471215 Silene soczaviana (Schischk.) Bocquet, Candollea 22: 38 (1967).
B *Melandrium soczavianum* Schischk., Zhurn. Russk. Bot. Obshch. 16: 83 (1931).
S *Gastrolychnis soczaviana* (Schischk.) Tolm. & Kozhanch. in Tolm., Fl. Arct. URSS 6: 115 (1971).
T Russian Far East: Anadyr, at the mouth of Bjeloj R., 26.06.1929, leg. Soczava (LE) holotype.
Notes. Petrovsky, Murray & Elven: We have compared material in LE, ALA, CAN, and DAO of the NE Asian *'soczaviana'* and the mainly NW American *'macrosperma'*, including the types of both entities. We find only small differences and merge them within one species under the priority name *S. soczaviana*. This is a tetraploid that differs consistently in several morphological features from the diploid *S. uralensis* and we strongly prefer status as a separate species.

The *'soczaviana'* s. str. entity is confined to ultrabasic substrates, and its differences from *'macrosperma'* can be interpreted as modifications. If so, a treatment of it as an edaphic ecotype (variety) would be appropriate. The more widespread entity thereby also becomes a variety, proposed by us as var. *macrosperma*. Recent collections of true *'macrosperma'* also on the Asian side makes this interpretation even more feasible. In case of choice of subspecies instead of varieties, the epithet *'porsildii'* Bocquet has priority for the *'macrosperma'* entity but needs to be recombined. Var. *soczaviana* has not yet been found in the Arctic.

Another and more problematic matter is *'porsildii'*. Morton in FNA 5 (2005) treated this entity, previously assumed as a fairly local Yukon endemic, as scattered throughout low-arctic regions in North America (Alaska, Yukon, NWT, Nunavut, N Ontario, N Manitoba, and N Quebec). We have only entered it informally below.

47121501 Silene soczaviana (Schischk.) Bocquet var. ***macrosperma*** (A.E.Porsild) V.V.Petrovsky, D.F.Murray & Elven comb. nov.
B *Melandrium macrospermum* A.E.Porsild, Rhodora 41: 225 (1939).
S *Lychnis macrosperma* (A.E.Porsild), J.P.Anderson, Iowa State Coll. J. Sci. 20: 250 (1946); *S. macrosperma* (A.E.Porsild) Hultén, Circumpolar Pl. 2: 326 (1971); *Gastrolychnis macrosperma* (A.E.Porsild) Tolm. & Kozhanch. in Tolm., Fl. Arct. URSS 6: 115 (1971); *Silene uralensis* (Rupr.) Bocquet subsp. *porsildii* Bocquet, Candollea 22: 27 (1967) [based on *Melandrium macrospermum* A.E.Porsild].
T W Alaska: Norton Sound, "collines basses à 16-24 km en arrière de Unalaklet, 63°52'N, 106°20'W", leg. A.E. Porsild & R.T. Porsild 1147 (CAN) holotype.
2n= ***48*** *(4x).* – Knaben (1968 Ala as *'Melandrium soczavianum'*); Zhukova & Tikhonova (1971 Chuk); Zhukova (1987 Chuk); Zhukova & Petrovsky (1987a W, E & S Chuk).
G Amphi-Beringian. RFE ALA.
Notes. Bocquet (1967) proposed the *'macrosperma'* entity as a subsp. *porsildii* of *Silene uralensis* whereas the *'soczaviana'* entity was proposed as a separate species. The tetraploid chromosome number, morphology, ecology, and geography, count against a merger of the *'macrosperma'* entity with the *'uralensis'–'arctica'* complex as one species, and it also count for specific rank. Bocquet considered this entity as endemic in C Alaskan mountains. The chromosome counts

from NE Asia must come from plants outside her concept of the taxon. After studying materials in LE, we are of the opinion that this entity also occurs in Chukotka (seen in the field 2005) and the northern Bering Sea islands.

> ***Silene uralensis*** (Rupr.) Bocquet subsp. ***ogilviensis*** (A.E.Porsild) D.F.Brunt., Canad. J. Bot. 59: 1362 (1981). Basionym: *Melandrium apetalum* (L.) Fenzl subsp. *ogilviense* A.E.Porsild, Natl. Mus. Canad. Publ. Bot. 4: 23 (1974). Synonym: *Gastrolychnis soczaviana* (Schischk.) Tolm. & Kozhanch. subsp. *ogilviensis* (A.E.Porsild) Á.Löve & D.Löve ***. – 2n= *48 (4x)*. Morton in FNA 5 (2005 secondary report). – ALA? CAN.
> **Notes.** Reported by Morton in FNA 5 (2005) as scattered throughout low-arctic North America. We are reluctant to accept this wide range without support of ploidal evidence, in view of the wide morphological variation in diploid *S. uralensis*.

***471216–18 Silene involucrata* aggregate** (*S. involucrata*, *S. ostenfeldii*, *S. sorensenis*).
Notes. The aggregate is characterised by narrow-winged or unwinged seeds and well exerted, usually white petals. It includes a group of large-seeded tetraploids – by Tzvelev (2000) treated as a series of three species, by us as three subspecies within one species (*S. involucrata*) – and two small-seeded hexaploids that we consider as two species (*S. ostenfeldii* and *S. sorensenis*). This aggregate has recently got support from molecular evidence.

Popp et al. (2003) showed that the entities of this aggregate are results of probably fairly ancient hybridisations and polyploidisations between a diploid *S. uralensis* lineage and a diploid *S. linnaeana* (*Lychnis sibirica*) lineage. *Silene involucrata* is one or more tetraploid derivatives of such crosses, and both *S. sorensenis* and *S. ostenfeldii* are hexaploid derivatives from crosses again between *S. involucrata* and the *S. linnaeana* lineage. It has not yet been established whether the different parts (subspecies) of *S. involucrata* are results of divergence posterior to the polyploidisation or of different polyploidisation events.

There is an abundance of possible specific and subspecific epithets: (1) *'pauciflora'* Ledeb. 1815 as species in *Lychnis*, described probably from NE Siberia: Yakutia; (2) *'triflora'* R.Br. ex Sommerf. 1824 as species in *Lychnis*, described from Greenland; (3) *'involucrata'* Cham. & Schltdl. 1826 as variety of *Lychnis apetala*, as species in *Agrostemma* G.Don 1831, described from E Siberia – Far East; (4) *'furcata'* Raf. 1840 as species in *Silene*, described from Canada: Hudson Bay – Labrador; (5) *'affinis'* J.Vahl ex Fr. 1842 as species in *Lychnis*, described from N Norway; (6) *'angustiflora'* Rupr. 1845 as species in *Wahlbergella* and *Gastrolychnis*, described from N Russia: Kolguev I.; (7) *'vahlii'* Rupr. 1845 as species, designed as a replacement name for *'affinis'* within *Gastrolychnis*; (8) *'taylorae'* B.L.Rob. & Seaton 1893 as species in *Lychnis*, described from NW Canada: Mackenzie River delta; (9) *'taimyrense'* Tolm. 1932 as species in *Melandrium*, described from N Siberia: Taimyr; (10) *'tenellum'* Tolm. 1932 as subspecies of *Melandrium affine*, typified from N Siberia: Jenisei R. area; (11) *'ostenfeldii'* A.E.Porsild 1943 as species in *Melandrium*, described from NW Canada: Great Bear Lake; (12) *'dawsonii'* B.L.Rob. 1893 as variety of *Lychnis triflora*, as species of *Melandrium* Hultén 1944, described from W Canada: British Columbia; and (13) *'sorensenis'* B.Boivin 1951 as species of *Lychnis*, intended as a replacement name for *'triflora'* within *Silene*, but described on a separate type from Greenland. We have tried to sort these epithets on entities below.

A last name to be evaluated is *Gastrolychnis gracilis* (Tolm.) Czer., Sosud. Rast. SSSR 161 (1981), based on *Melandrium gracile* Tolm., Tr. Bot. Muz. AN SSSR 24: 261 (1932), described from Yakutia: Kemkem R. basin. Czerepanov (1981) indicated a possible synonymy with *Gastrolychnis taimyrensis*, but see under *S. involucrata* subsp. *involucrata* below. This Siberian entity was accepted as a separate species by Malyschev & Peschkova (1993) and reported from arctic Yakutia. We have no more information about it and have not entered it.

471216 Silene involucrata (Cham. & Schltdl.) Bocquet, Candollea 22: 22 (1967).

B *Lychnis apetala* L. var. (gamma) *involucrata* Cham. & Schltdl., Linnaea 1: 43 (1826).
S *Gastrolychnis involucrata* (Cham. & Schltdl.) Rupr., Fl. Samojed. Cisural. 24 (1845); *Melandrium involucratum* (Cham. & Schltdl.) Rohrb., Linnaea 36: 216 (1869–1870).
T Siberia – Russian Far East: 'Kamt.' [= Kamtchatka], leg. Red[owsky] (Chamisso scripsit) (B) holotype, acc. to Bocquet (1967), Candollea 22: 22. The type was collected between Irkutsk and Okhotsk, not in Kamtchatka, as Redowsky died before he reached Kamtchatka.
2n= ***48*** *(4x).* – The attempted assignment of counts below is 'probabilistic' and should be checked against vouchers before acceptance.
Notes. The two oldest specific epithets in this aggregate, *'pauciflora'* and *'triflora'*, are inapplicable in *Silene* due to homonymy. The species name in *Silene* is therefore *'involucrata'* as applied by Bocquet (1967), as *Agrostemma involucratum* (Cham. & Schltdl.) G.Don 1831 predates the other early combinations with *'furcata'* 1840, *'affinis'* 1842, and *'angustiflora'* and *'vahlii'* 1845.

Tzvelev (2000) separated the large-seeded plants in this group on three species: The arctic circumpolar plant as *Gastrolychnis furcata*, the NE European – NW Siberian plant as *G. affinis*, and the main Siberian to North American plant as *G. pauciflora*. Morton in FNA 5 (2005) accepted one species with two subspecies. We agree with Tzvelev's three-entity division but would rather consider them as subspecies as they are parapatric and as in our opinion two of them are not fully separable. Tzvelev stated that his *G. pauciflora* in some ways is intermediate between his *G. affinis* and *G. furcata* and may be of hybrid origin. It occurs, however, mainly east of the known range of *G. affinis* and south of that of *G. furcata*, and we prefer to regard the entity as an independent subspecies rather than as a hybrid. The application of names has been and is confused, as seen from comments to each subspecies.

47121601 Silene involucrata (Cham. & Schltdl.) Bocquet subsp. ***involucrata***.
S *Lychnis pauciflora* Ledeb., Mém. Acad. Imp. Sci. St. Pétersbourg Hist. Acad. 5: 537 (1815); *Gastrolychnis pauciflora* (Ledeb.) Tzvelev, Bot. Zhurn. (Moscow & Leningrad) 85, 11: 100 (2000); *Wahlbergella angustiflora* and *Gastrolychnis angustiflora* Rupr., Fl. Samojed. Cisural. 24 (1845); *Melandrium angustiflorum* (Rupr.) Walp., Ann. Bot. Syst. 1: 93 (1848); *Melandrium taimyrense* Tolm., Trudy Bot. Muz. 24: 264 (1932); *Gastrolychnis taimyrensis* (Tolm.) Czerep., Sosud. Rast. SSSR 161 (1981); *Melandrium taylorae* (B.L.Rob.) Tolm., Trudy Bot. Muz. 24; 267 (1932) [basionym: *Lychnis taylorae* B.L.Rob., Proc. Amer. Acad. Arts 28: 150 (1893)]; *S. involucrata* (Cham. & Schltdl.) Bocquet subsp. *tenella* auct., non (Tolm.) Bocquet (1967).
2n= ***48*** *(4x).* – Zhukova (1965, 1966, 1967 Chuk); Knaben (1968 Ala as *'taylorae'*); Mulligan & Porsild (1969 Yukon as *'taylorae'*); Zhukova et al. (1973, 1977 Yakutia as *'tenella'*); Zhukova & Petrovsky (1977 W Chuk as *'tenella'*, 1980, 1981 NE As); Dawe & Murray (1980 C Ala as *'taylorae'*); Murray & Kelso (1997 W Ala).
G N Eurasian – amphi-Beringian. RUS SIB RFE ALA CAN.
Notes. In our opinion, this is the main subspecies in boreal and low-arctic Siberia and Russian Far East but extends to NE European Russia and to NW North America. The epithet *'tenella'* has commonly been applied for this entity in NE Asia and North America (as late as by Morton in FNA 5 2005), erroneously so in Tzvelev's and our opinion (see below). Three or perhaps four other names are proposed synonymised with *'involucrata'* s. str. and we have inspected the types of three of these:

(a) *Gastrolychnis angustiflora* is typified from the westernmost part of the range: NE European Russia, Kolguev I., 07.1841, leg. Ruprecht (LE) holotype, acc. to Bocquet, Candollea 22: 23 (1967). Type inspected by us. Tzvelev stated (and we agree) that the type belongs to the mainly Siberian entity even if the more frequent plant on Kolguev I. is his *G. affinis* (our *S. involucrata* subsp. *tenella*). The name has been applied, erroneously, until recently (e.g., by Elven in Lid & Lid 1994) for the N Fennoscandian and N Russian entity which by us here is treated as subsp. *tenella*.

(b) *Lychnis pauciflora* is probably typified from N Siberia, Yakutia, "Herb. Ledebour, am Tilesius. Petrop. 13" (LE) holotype. Type inspected by us. This is the priority name for the species in *Gastrolychnis* (Tzvelev 2000), but it is inapplicable in *Silene* due to the earlier combinations of *S. pauciflora* Ucria 1796 and *S. pauciflora* Ledeb. 1842. We agree that the type corresponds with this entity.

(c) *Melandrium taimyrense* is typified from N Siberia: Taimyr: Jamu-Nery, 74°50'N, 106°E, 13.08.1928, leg. Tolmachev 765 (LE) holotype. Type inspected by us. On the Russian side, this name has not been used since its original description, and the type (the only Russian specimen named as such) belongs without much doubt in *S. involucrata* subsp. *involucrata*. On the American side, the name has in more recent times mainly been used – erroneously in our opinion – for one of the small-seeded plants here treated as *S. ostenfeldii*. Morton in FNA 5 (2005) synonymised *'taimyrense'* with subsp. *tenella*, i.e., with subsp. *involucrata* in our system.

(d) *Lychnis taylorae* is more enigmatic, and we have not inspected the type: Canada: Mackenzie Distr.: Mackenzie River delta, Pell's River, 15.07.1892, leg. Taylor (GH) holotype, acc. to Bocquet, Candollea 22: 24 (1967). The name *'taylorae'* has been applied for a more tall-grown and slender plant than the main Siberian plant. It has been synonymised with *'tenella'* in North America (see Cody 1996, Morton in FNA 5 2005), i.e., with our subsp. *involucrata*.

The main discrepancies between our treatment and the very recent one of Morton in FNA 5 (2005) for North America are due to two features. One is formalistic; the two treatments interpret *'involucrata'* s. str. and *'tenella'* in opposite ways. The other is that we accept one more entity *'furcata'* as a subspecies. The treatments of the North American variation thereby become quite different.

Löve & Löve (1975) considered their *Gastrolychnis involucrata* subsp. *involucrata* as a tetraploid and their *G. affinis* as a diploid. They sorted previous chromosome counts accordingly, and their lists are therefore useless. Four diploid counts that they listed are unassigned yet: Löve (1954, Vegetatio 5–6: 212–224); Sokolovskaya & Strelkova (1960 N Yakutia); Mulligan & Porsild (1970 Yukon, as *'taylorae'*); and Bocquet & Favarger (1971, Naturaliste Canad. 98: 251–260). They probably belong to *S. uralensis* s. lat.

47121602 Silene involucrata (Cham. & Schltdl.) Bocquet subsp. ***tenella*** (Tolm.) Bocquet, Candollea 22: 24 (1967).

B *Melandrium affine* J.Vahl subsp. *tenellum* Tolm., Trudy Bot. Muz. 24: 258 (1932).

S *Melandrium tenellum* (Tolm.) Tolm. in Kom., Fl. URSS 6: 721 (1936); *Gastrolychnis angustiflora* Rupr. subsp. *tenella* (Tolm.) Tolm. & Kozhanch. in Tolm., Fl. Arct. URSS 6: 110 (1971); *Gastrolychnis involucrata* (Cham. & Schltdl.) Rupr. subsp. *tenella* (Tolm.) Á.Löve & D.Löve, Bot. Not. 128: 510 (1976); *Melandrium affine* (J.Vahl ex Fr.) J.Vahl, Fl. Dan. 14, 40: 5 (1843) [basionym: *Lychnis affinis* J.Vahl ex Fr., Novit. Fl. Suec. Mant. 3: 36 (1842)]; *Gastrolychnis affinis* (J.Vahl ex Fr.) Tolm. & Kozhanch. in Tolm., Fl. Arct. URSS 6: 111 (1971); *Gastrolychnis vahlii* Rupr., Fl. Samojed. Cisural. 24 (1845).

T N Siberia: lower reaches of Jenisei, near Doudinsky [Dudinka], 03.08.1926, leg. Tolmachev (LE) holotype, acc. to Bocquet, Candollea 22: 24 (1967).

2n= ***48 (4x).*** – Nygren (1949b N Norw & N Sweden).

G NE European – NW Siberian. RUS SIB.

Notes. The entity occurs from N Fennoscandia through NE European Russia and NW Siberia to Jenisei. The three relevant specific epithets belong to plants at the two extremes of the range:

(a) The *'tenella'* epithet has mainly been applied to a slender, tall-grown amphi-Beringian plant (our concept of subsp. *involucrata*). However, the name is – as stated by Tzvelev – typified from the Jenisei area and belongs to the NE European – NW Siberian entity. We have inspected the type and agree with Tzvelev.

(b) The *'affinis'* epithet has been applied very widely, mostly for the circumpolar arctic plants, but it is typified from one of the westernmost (and boreal) Fennoscandian populations of

this NE European – NW Siberian entity: N Norway: Finnmark, Bosekop ved Altenfjord, 1839, leg. D. Klerck (C) holotype, acc. to Bocquet, Candollea 22: 23 (1967). We have not inspected the type but have seen much specimens from the type locality (also isotypes). The epithet *'affinis'* would have had priority for a subspecies if it had been used at subspecific level earlier than 1967. We have, however, not found any such combination.

(c) The *'vahlii'* epithet is based on the same type as *'affinis'* and was coined (within *Gastrolychnis*) to honour J. Vahl, the author of *'affinis'*.

The *'angustiflora'* epithets, commonly applied for this entity in N Europe, belongs in Tzvelev's and our opinion to subsp. *involucrata*.

47121603 Silene involucrata (Cham. & Schltdl.) Bocquet subsp. ***furcata*** (Raf.) V.V.Petrovsky & Elven comb. nov.

B *Silene furcata* Raf., Autik. Bot. 28 (1840).

S *Melandrium furcatum* (Raf.) Hultén, Acta Univ. Lund., n. s., sect. 2, 40, 1: 702 (1944) [printing date not given, but probably early 1944] or: (Raf.) Hadac, Skr. Svalbard Nordishavet 87: 34 (1944) [printed 04.05.1944]; *Gastrolychnis furcata* (Raf.) Hultén, nom. illegit., Acta Univ. Lund., n. s., sect. 2, 40, 1: 702 (1944), as synonym; *Gastrolychnis affinis* auct.

T Described from N Canada: Hudson Bay – Labrador.

2n= ***48*** *(4x).* – Böcher & Larsen (1950 Grl); Jørgensen et al. (1958 Grl); Zhukova (1965, 1966, 1967 Chuk); Johnson & Packer (1968 NW Ala); Zhukova & Tikhonova (1971 E Chuk, 1973 W & E Chuk four counts); Zhukova & Petrovsky (1971 Wrangel I. five counts as *'affinis'*, probably *'furcata'*, 1972 Wrangel I. two counts as *'affinis'*, probably *'furcata'*, 1976 1977 W Chuk as *G. affinis*, could be *'furcata'*, 1980 W Chuk as *'affinis'*, probably *'furcata'*, 1981, 1987a E Chuk two counts as *'affinis'*, probably *'furcata'*); Zhukova et al. (1973 Wrangel I. four counts, 1977a Yakutia); Krogulevich (1976 N Sib); Petrovsky & Zhukova (1981 Wrangel I. two counts as *'affinis'*, probably *'furcata'*); Krogulevich & Rostovtseva (1984 NE As); Dalgaard (1989 W Grl); Murray & Kelso (1997 W Ala).

Not accepted: Löve & Löve (1982) reported 2n = 24 for *Gastrolychnis affinis* from N Canada: Churchill, probably erroneous.

G Circumpolar. NOR RUS SIB RFE ALA CAN GRL.

Notes. Bocquet (1967) included both the boreal Siberian and the arctic circumpolar plants inside his subsp. *involucrata*, an approach also followed by Kurtto in Jonsell (2001) and Morton in FNA 5 (2005). We prefer to recognise them as different at racial level. In at least two areas of co-occurrence (in N Siberia: lower Lena R., and in N Alaska – NW Canada) they keep fully distinct at a glance. This then becomes the most widespread and circumpolar race. *Silene furcata* Raf. is a slightly dubious name, but as this race is the only one we are aware of in the Hudson Bay – Labrador area a subspecific combination has tentatively been based on it. This is also the opinion of Tzvelev (2000).

Morton in FNA 5 (2005) mapped both his subsp. *involucrata* (incl. *'furcata'*) and his subsp. *tenella* (our *'involucrata'*) as widespread throughtout North America and Greenland whereas we restrict our subsp. *involucrata* to the northwestern parts and consider the remaining North American plants as subsp. *furcata*. The matter must be solved by comparison between North American and Eurasian plants as both main names and many synonyms currently applied by North Americans have Eurasian typifications.

471217 Silene sorensenis (B.Boivin) Bocquet, Candollea 22: 21 (1967).

B *Lychnis sorensenis* B.Boivin, Canad. Field-Naturalist 65: 6 (1951).

S *Melandrium triflorum* (R.Br. ex Sommerf.) J.Vahl, Fl. Dan. 14, 40: 5, t. 2356 (1843) [basionym: *Lychnis triflora* R.Br. ex Sommerf., Mag. Naturvidensk. 2: 152 (1824)]; *Gastrolychnis triflora* (R.Br. ex Sommerf.) Tolm. & Kozhanch. in Tolm., Fl. Arct. URSS 6: 112 (1971); *Gastrolychnis triflora* (R.Br. ex Sommerf.) Tolm. & Kozhanch. subsp. *wrangelica* Jurtz., Trudy

Bot. Inst. Komarova Akad. Nauk SSSR, ser. 6, Introd. Rast. 6: 30 (1994).
T Greenland: Liverpool Land, east side of Hurry Inlet, Kalkdal, 70°50'N, 22°20'W, 10.07.1933, leg. Sørensen 359a (DAO) holotype.
2n= *72 (6x).* – Blackburn (1930 Grl); Böcher & Larsen (1950 Grl); Nygren (1951 Grl); Holmen (1952 Grl); Jørgensen et al. (1958 Grl); Mosquin & Hayley (1966 Ellesmere I.); Zhukova & Petrovsky (1972 Wrangel I.); Petrovsky & Zhukova (1981 Wrangel I.).
G Amphi-Beringian – North American (arctic). SIB? RFE ALA? CAN GRL.
Notes. Given by Sekretareva (1999) from arctic Taimyr and E Chukotka, but specimens should be compared with Greenland plants and confirmed before full acceptance. Hultén (1968a) mapped one site in N Alaska, Brooks Range. This also needs critical confirmation before acceptance (not accepted by Morton 2005). Confirmed specimens have been seen from Greenland, high-arctic Canada, and Wrangel I.

The name in *Silene* must be *S. sorensenis* because the epithet *'triflora'* is not applicable within *Silene* (homonymy). The name *Lychnis triflora* R.Br., Voy. Explor. Baffin's Bay, App. 142 (1819), was a nomen nudum. It was validated by Sommerfelt (1824) and referred to a specimen from Greenland, leg. Schwabe (O) which Bocquet, Candollea 22: 21 (1967), identified as the holotype. Boivin's name *Lychnis sorensenis* is, however, based on a different type.

Bocquet (1967) restricted this hexaploid species to Greenland where it is fairly frequent. There are, however, very similar – and also hexaploid – plants in the arctic Canadian islands (CAN, DAO), in Wrangel I. (LE) and perhaps elsewhere in Chukotka and Taimyr. Yurtsev (in comment) proposed to recognise subsp. *wrangelica* in Wrangel I. Petrovsky (in comment) considered the plant (*'wrangelica'*) as a unique population, not a subspecies.

The hybrid hypothesis of the origin of *S. sorensenis* (Nygren 1951, supported by Tolmachev 1971 and referred by Morton 2005) – from *S. uralensis* (subsp. *arctica*) and *S. involucrata* (subsp. *furcata*) – is now efficiently countered by Popp et al. (2003), see above.

471218 Silene ostenfeldii (A.E.Porsild) J.K.Morton, Sida 21: 888 (2004).
B *Melandrium ostenfeldii* A.E.Porsild, Sargentia 4: 37 (1943).
S *Lychnis ostenfeldii* (A.E.Porsild) B.Boivin, Canad. Field-Naturalist 65: 6 (1951); *Gastrolychnis ostenfeldii* (A.E.Porsild) V.V.Petrovsky, Bot. Zhurn. (Moscow & Leningrad) 58: 119 (1973); *Melandrium dawsonii* (B.L.Rob.) Hultén, Acta Univ. Lund., n. s., sect. 2, 40, 1: 701 (1944) [basionym: *Lychnis triflora* R.Br. ex Sommerf. var. *dawsonii* B.L.Rob., Proc. Amer. Acad. Arts 28: 149 (1893)]; *Gastrolychnis triflora* (R.Br. ex Sommerf.) Tolm. & Kozhanch. subsp. *dawsonii* (B.L.Rob.) Á.Löve & D.Löve, Bot. Not. 128: 510 (1976); *Melandrium taimyrensis* auct. amer., non Tolm. (1932); *Lychnis taimyrensis* auct. amer., non Tolm. (1932).
T NW Canada: NWT, Great Bear Lake, Dease Arm, Narakay Isl., 66°45'N, 119°30'W, 01.08.1928, leg. A.E. Porsild & R.T. Porsild 4839 (CAN) holotype.
2n= *72 (6x).* – Knaben (1968 Ala as *Melandrium taimyrense*, referred by Löve & Löve 1975 as *Gastrolychnis triflora* subsp. *dawsonii*); Zhukova et al. (1977 Yakutia as *G. ostenfeldii*); Zhukova & Petrovsky (1987 W Chuk as *G. ostenfeldii*).
G NE Asian – amphi-Beringian. SIB RFE ALA? CAN.
Notes. The doubts about Alaska concern whether there are arctic occurrences there. Hultén was probably not well aware of this entity as there are no specimens in S annotated by him under this name or its possible synonyms.

Petrovsky, Murray & Elven: This hexaploid entity differs morphologically both from the large-seeded tetraploids in the *S. involucrata* group and from the other small-seeded hexaploid, *S. sorensenis*, see Morton (2004, in FNA 5 2005). Morton alsy synonymised the *'dawsonii'* entity (type of *Lychnis triflora* var. *dawsonii*: W Canada: N British Columbia, 160 km NE of Dease Lake, 20.07.1887, leg. Dawson 2649, GH, NY, CAN) with this subspecies. The results of Popp et al. (2003) support it as an allohexaploid with one diploid genome from the *S. uralensis* lineage and two from the *S. linnaeana* lineage. This is the comparatively undisputed entity to which the

'taimyrense' epithets have been applied in North America.

471219 Silene acaulis (L.) Jacq., Enum. Stirp. Vindob. Austriac. 242 (1762).
B *Cucubalus acaulis* L., Sp. Pl. 415 (1753).
S *Xamilenis acaulis* (L.) Tzvelev, Novosti Sist. Vyssh. Rast. 33: 94 (2001). See also informally entered entities below.
T Linnaean Herbarium 583.61 (LINN) lectotype, designated by Talavera & Muños Garmendia, Anales Jard. Bot. Madrid 45: 445 (1989). Described from European mountains.
2n= *24 (2x).* – Flovik (1940 Svalb); D.Löve (1942a NW Eur); Löve & Löve (1944b Scand, 1956b Icel, 1966b NE USA, 1975c W USA, 1982 C Can *'arctica'*); Sørensen & Westergaard in Löve & Löve (1948 Grl); Jørgensen et al. (1958 Grl); Sokolovskaya & Strelkova (1960 Murman area); Sorsa (1963b Finl); Packer (1964 Alberta); Laane (1965 NE Norw); Zhukova (1965a E Chuk); Mosquin & Hayley (1966 Ellesmere I. as var. *exscapa*); Hedberg (1967 Hudson Bay); Johnson & Packer (1968 NW Ala); Engelskjøn & Schweitzer (1970 Bear I.); Engelskjøn & Knaben (1971 Norw); Findley & McNeill (1974 N Finl); van Loon & de Jong (1978 NW Eur); Kovanda (1978 USA *'acaulescens'*); Dawe & Murray (1979 C Ala); Dalgaard (1988 W Grl). Several more southern counts.
G Interruptedly circumpolar – alpine. ICE NOR RUS SIB RFE ALA CAN GRL.
Notes. Elven: There is a significant Siberian gap of about 100° between the broadly amphi-Atlantic and the broadly amphi-Beringian parts of the range. Beringian (and Cordilleran) plants differ from the amphi-Atlantic ones in several features, well summarised by Morton in FNA 5 (2005). These Beringian–Cordilleran plants have been proposed as a separate race, subsp. *subacaulescens*. Molecular evidence so far does not fully justify recognition of two taxa, therefore entered informally.

> ***Silene acaulis*** (L.) Jacq. subsp. ***acaulis***. Synonyms: *S. acaulis* (L.) Jacq. subsp. *arctica* Á.Löve & D.Löve, Univ. Colorado Stud., Ser. Biol. 17: 21 (1965); *S. acaulis* (L.) Jacq. subsp./var. *exscapa* auct., non All. (1785). – ICE NOR RUS SIB CAN GRL.
> **Notes.** The *'exscapa'* name refers to a European endemic – *S. exscapa* All., Fl. Pedem. 2: 83 (1785) – and is inapplicable for the arctic plant.

> ***Silene acaulis*** (L.) Jacq. subsp. ***subacaulescens*** (F.N.Williams) C.L.Hitchc. & Maguire, Univ. Wash. Publ. Biol. 13: 22 (1947). Basionym: *S. acaulis* (L.) Jacq. f. *subacaulescens* F.N.Williams, ***. – RFE ALA CAN.
> **Notes.** The limit between subsp. *acaulis* and subsp. *subacaulescens* in N Asia is clear. It is less certain in North America. Hultén (1968a) mapped both entities throughout Alaska and E Chukotka. The material we have studied rather indicates a limit along Mackenzie R.

4713 Viscaria Bernh., nom. cons. prop., Syst. Verz. 261 (1800).

S *Steris* Adans., Fam. Pl. 2: 255 (1763).
Notes. See *Silene*. In the analysis of *Silenoideae* by Oxelman et al. (2001), *Viscaria* constitutes one 'main' branch together with *Ixoca* and *Atocion* (species previously in *Silene*) and is recognisable as a genus.

Conservation of *Viscaria* Bernh. was proposed by Oxelman, Lidén & Jonsell, Taxon 50: 281–282 (2001), and was recommended by the Nomenclatural Committee, Taxon 51: 797 (2002).

471301 Viscaria alpina (L.) G.Don, Gen. Hist. 1: 415 (1831).
B *Lychnis alpina* L., Sp. Pl. 436 (1753).
S *Steris alpina* (L.) Sourkova, Novit. Bot. 1973–1975: 27 (1976); *Silene suecica* (Lodd.)

Greuter & Burdet, Willdenowia 12: 190 (1982); *V. alpina* (L.) G.Don subsp. *americana* (Fernald) Böcher, Biol. Skr. Danske Vidensk. Selsk. 11, 6: *** (1963) [basionym: *V. alpina* (L.) G.Don var. *americana* Fernald, Rhodora 42: 259 (1940)]; *Lychnis alpina* L. subsp. *americana* (Fernald) Feilberg, Meddel. Grønland, Biosci. 15: 12 (1984).
T N Sweden. Lapland Herbarium 185 (LAPP) lectotype, designated by Jonsell & Jarvis, Nordic J. Bot. 14: 157 (1994).
2n= *24 (2x).* – Löve (1954b Icel); Löve & Löve (1956b Icel); Jørgensen et al. (1958 Grl probably *'americana'*); Böcher (1963 Grl probably *'americana'*, 1977); Sorsa (1963c Finl); Laane (1965 N Norw); Hedberg (1967 Ungava probably *'americana'*); Mulligan (1967 Quebec probably *'americana'*); Knaben & Engelskjøn (1967 Norw); Findley & NcNeill (1974 N Norw); Engelskjøn (1979 Norw); Dalgaard (1989 W Grl probably *'americana'*). Numerous more southern counts.
G Amphi-Atlantic. ICE NOR RUS CAN GRL.
Notes. The slight amphi-Atlantic differentiation has been recognised as two varieties or subspecies (*'alpina'* and *'americana'*). The following statement by Böcher et al. (1978) throws doubts on a clear geographical separation: "The majority of the Greenland material belongs to the coarser and more broad-leaved ssp. *americana* (Fern.) Böch." (translated here). This must imply that there also is a minority (subsp. *alpina*) in Greenland. Aiken commented that it is not possible to distinguish an *'americana'* entity in NE Canada. Haraldsen & Wesenberg (1993) found closer genetic relationships between American–Greenlandic plants (*'americana'*) and N European mountain plants (*'alpina'*, type area) than between Scandinavian mountain and lowland plants (both *'alpina'*), indicating that the Scandinavian lowlands plants were recruited postglacially from C Europe whereas the Scandinavian mountain plants (incl. the type) had their connection across the Atlantic. Morton in FNA 5 (2005) did not accept the *'americana'* entity. Subspecies are therefore not recognised for the Checklist.

4714 ***Gypsophila*** L., Sp. Pl. 406 (1753).

471401 ***Gypsophila uralensis*** Less., Linnaea 9: 172 (1834).
2n= *34 (2x).* – Zhukova & Petrovsky (1987a NE Rs Arkhangelsk area); Zhukova (1990).
G NE European. RUS.

471402 ***Gypsophila sambukii*** Schischk. in Kom., Fl. URSS 6: 763, 892 (1936).
T Described from N Siberia: Putorana, Medvezhya R.
2n= *(1) **34** (2x).* – Krogulevich (1971 SE Sib Transbaikal); Yurtsev & Zhukova (1982 NE Yakutia).
(2) 68 (4x). – Zhukova (1982 N Sib).
G N/C Asian. SIB.

4715 ***Dianthus*** L., Sp. Pl. 409 (1753).

471501 ***Dianthus repens*** Willd., Sp. Pl. 2, 1: 681 (1799).
T Described from NW Siberia: N Urals.
2n= *(1) 26 **30** (2x).* – Mosquin (1968a Yukon); Johnson & Packer (1968 NW Ala); Veselukhina (1976 NE As 2n = 26); Dawe & Murray (1980 Ala); Zhukova (1980 S Chuk); Zhukova & Petrovsky (1980 W Chuk).
*(2) **60** (4x).* – Zhukova (1966 W Chuk, 1980 S Chuk); Zhukova & Petrovsky (1975 1976 W Chuk); Krogulevich (1976 Putorana); Zhukova et al. (1977a Yakutia).
G N Eurasian – amphi-Beringian. RUS SIB RFE ALA CAN.

471502 Dianthus superbus L., Fl. Suec., ed. 2, 146 (1755).
T Linnaean Herbarium 581.21 (LINN) lectotype, designated by Jonsell & Jarvis, Nordic J. Bot. 14: 157 (1994). Described from Sweden.
2n= ***30 (2x).*** – Turesson (1938 NW Eur); Lövkvist in Weimarck (1963 Sweden); Laane (1966 NE Norw); Zhukova (1967b cultiv. pl., N Rs?); Lövkvist & Hultgård (1999 S & N Sweden 17 counts). Numerous more southern counts.
Not accepted: Chromosome counts of 2n = 60 90 (see Bolkhovskikh et al. 1969).
G Eurasian. NOR RUS SIB.