

J. Gay, Ann. Sci. Nat. sér. 3, iv. 27 (1845) with the two American species, *G. Douglasii* and *G. tenella* based on *Alsine Douglasii* Fenzl and *Arenaria tenella* Nutt.; but, disregarding the name *Greniera*, which had never been published for a genus prior to Gay's use of it, Heller enriches the synonymy with the names *Alsinopsis Douglasii* (Fenzl) Heller, Muhlenbergia, viii. 20 (1912) and *Alsinopsis tenella* (Nutt.) Heller, l. c. 96 (1912). There are still other names which might be discussed, *Xeralsine* Fourr., etc.; but it is sufficiently clear that even if we keep *Alsine* Wahl. distinct from *Arenaria*, there are plenty of well published names for it which antedate by many decades *Alsinopsis* Small; and, furthermore, the three species which were formally described by Wahlenberg under his *Alsine*, the basis of *Alsinopsis*, are members of the following so-called genera:

ALSINE STRICTA (Swartz) Wahlenb. belongs to ALSINELLA Swartz (1814), a name antedated by *Alsinella* Moench (1794); to SABULINA Reichenb. (1832), a name which had not been previously used for a genus; and to ALSINANTHE Reichenb. (1841), again a perfectly valid generic name.

ALSINE BIFLORA (L.) Wahlenb. belongs likewise to ALSINELLA Swartz (1814); to SABULINA Reichenbach (1832); and to ALSINANTHE Reichenb. (1841).

ALSINE RUBELLA Wahlenb. belongs likewise to ALSINELLA (1814) and to SABULINA (1832); while *A. verna*, to which *A. rubella* is so closely related as often to be considered conspecific, was one of the original species of TRYPHANE Reichenb. (1841), again a name which had not been previously used.

There is, then, no possible need for the generic name *Alsinopsis* Small.

#### IV. THE AMERICAN REPRESENTATIVES OF ARENARIA SAJANENSIS.

The plants which were included by Robinson in the *Synoptical Flora* under *Arenaria sajanensis* Willd. prove, when better understood, to be four quite definite species, which may be distinguished by the following characters:

The few short filiform herbaceous or subherbaceous basal shoots bearing obscurely keeled leaves: petals 0.5–1 mm. wide, shorter than to barely exceeding the glabrous or puberulent sepals: anthers 0.2–0.3 mm. long: capsule 4–6 mm. long, with membranaceous pale valves: seeds smooth, reniform-orbicular, not obviously beaked, 0.6–0.8 mm. in diameter.  
*A. sajanensis*.



The crowded trailing freely forking subligneous branches densely clothed with highly marcescent thick-ribbed leaves: petals 1.5–2.5 mm. broad, conspicuously exceeding the pilose or hirsute sepals: anthers 0.5–1 mm. long: capsule 6–10 mm. long, with firm stramineous valves: seeds reniform-obovate, with the micropyle prolonged into a beak, 0.7–1.2 mm. long.

Leaves round-tipped.

Leaves oblong, ciliolate, pale-green, 1–5 mm. long, about 1 mm. broad, very densely imbricated: calyx glandular: seed rugose or papillose.....*A. obtusiloba*.

Leaves linear, glabrous-margined, deep green, 4–8 mm. long, 0.3–0.5 mm. broad, loosely imbricated: calyx not glandular: seed smooth or obscurely pebbled.....*A. marcescens*.

Leaves sharp at apex.....?*A. laricifolia*.

*A. SAJANENSIS* Willd. in Schlecht. Berl. Gesell. Nat. Fr. Mag. vii. 200 (1816); Seringe in DC. Prodr. i. 408 (1824). *Stellaria biflora* L. Sp. Pl. 422 (1753), not *Arenaria biflora* L. Mant. 71 (1767). *Cerastium biflorum* (L.) Crantz, Inst. ii. 402 (1766). *Alsine biflora* (L.) Wahlenb. Fl. Lapp. 128 (1812). *Alsinella biflora* (L.) Swartz, Summ. Veg. Scand. 17 (1814). *Ar. occulta* Fisch. ex Seringe in DC. Prodr., i. 408 (1824). *Ar. polygonoides*,  $\beta$  *occulta* Ser. in DC. l. c. (1824). *Ar. scandinavica* Spreng. Syst. ii. 402 (1825). *Sabulina biflora* (L.) Reichenb. Fl. Germ. Excurs. 790 (1832). *Ar. stenopetala* Turcz. Bull. Soc. Nat. Mosc. (1838) 89. *Ar. alpina* Porter & Coult. Syn. Fl. Colo. 14 (1874), chiefly. *Ar. biflora* Watson, Bibl. Ind. 94 (1878), not L. *Alsinanthe biflora* (L.) Reichenb. Ic. Fl. Germ. v. 30. t. 209 fig. 4939 (1842). *Ar. sphagnoides* Thomas ex Koch, Syn. Fl. Germ. ed. 2, 123 (1843). *Alsinopsis sajanensis* (Willd.) Cockerell, Am. Nat. xl. 864 (1906).—Arctic regions, south with us to the Torngat Mts., Labrador, the Shickshock Mts., Gaspé Co., Quebec, and alpine regions of Arizona and Oregon. The following specimens belong here. GREENLAND: Baals Revier, *J. Vahl*; Pilekrat ved S. Kangerdluarsuk Fjord, Holsteinsborg Distr., August 5, 1884, *Warming & Holm*. HUDSON STRAITS: Nottingham Island, August 24, 1884, *R. Bell*. LABRADOR: Rama, July 15–August 30, 1894, July–August, 1899, *A. Stecker*, nos. 208, 355, August 20–24, 1897, *J. D. Sornborger*, no. 286 (distributed as *A. verna*, var. *hirta*); Kangelaksiorvik Bay, September 1–10, 1908, *Owen Bryant*; Hebron, *Mentzel*; Okkak, *Fratres Morav.* QUEBEC: Mt. Albert, Gaspé Co., July 25–27, 1881, *J. A. Allen*; crevices and detritus of serpentine, barrens and brook-ravines, alt. 700–1050 m., Mt. Albert, August 8–15, 1905, *Fernald & Collins*, no. 77; July 25, 1906, *Fernald & Collins*, no. 550. ALBERTA: meadows above Banff, July 8, 1907, *Butters & Holway*, no. 91; Elbow River, June, July, 1897, *J. Macoun*, no. 18,–286; Silver City, August 6, 1885, *J. Macoun* (distributed as *A. arctica*); Mt. Molar, alt. 1980 m., July 9, 1904, *J. Macoun*, no. 64,–688; Lake Louise, alt. 2200 m., July 20, 1904, *J. Macoun*, no. 64,687; Pipestone Creek, alt. 1980 m., July 7, 1904, *J. Macoun*, no. 64,689; summit of Otterhead Pass, alt. 2135 m., August 10, 1904, *J. Macoun*,



no. 64,690. MONTANA: Upper Marias Pass, alt. 2440 m., August 4, 1883, *W. M. Canby*, no. 44; Old Hollowtop, near Pony, alt. 2745 m., July 7, 1897, *Rydberg & Bessey*, no. 4041. WYOMING: Teton Mts., August 21, 1894, *Aven Nelson*, no. 1009. COLORADO: Gray's Peak, alt. 3965 m., August 15, 1885, *Letterman*; high mountains, Gray's Peak and vicinity, alt. 3350-4270 m., 1885, *Patterson*; Twin Lakes, 1875, *Brandege*; South Park, *Wolf & Rothrock*, nos. 343, 344; Mt. Ouray, alt. 3660 m., August 20, 1901, *C. F. Baker*, no. 841. UTAH: Uinta Mts., alt. 3350 m., August, 1869, *Watson*, no. 173. ARIZONA: summit of Mt. Agassiz, August, 1884, *Lemmon*, no. 3289. OREGON: cliffs of Wallowa Mts., alt. 2745 m., July 31, 1899, *Cusick*, no. 2301a. WASHINGTON: Cascade Mts. near Mt. Baker, July 16, 1898, *J. B. Flett*, no. 860; Engel Creek near Mt. Stewart, 1883, *Brandege*, no. 672. BRITISH COLUMBIA: mountain summits, alt. 2290 m., Kicking Horse Lake, July, 1885, *J. Macoun*; summits of Selkirk Mts., alt. 1675-2440 m., August 2-4, 1890, *J. Macoun*, nos. 13, 16; summit of Rocky Mts., alt. 2135 m., August 18, 1890, *J. Macoun*, no. 15; small peak above timber line, alt. 2285 m., Selkirk Mts., July 26, 1905, *C. H. Shaw*, no. 1037; summit of Mt. Arrowsmith, Vancouver I., July 16, 1887, *J. Macoun*.

*A. obtusiloba* (Rydberg), n. comb. *A. obtusa* Torr. Ann. Lyc. N. Y. ii. 170 (1826) not All. Fl. Pedem. ii. 114 (1785). *A. arctica* γ Torr. & Gray, Fl. i. 181 (1838). *A. biflora*, var. *obtusiloba* (Torr.) Watson, Bibl. Ind. 94 (1878). *Alsinopsis obtusiloba* Rydberg, Bull. Torr. Bot. Cl. xxxiii. 140 (1906), as to first citation, *Ar. obtusa* Torr., but only in small part as to other citations (see discussion below).—Alberta to New Mexico. The following belong here. ALBERTA: Sheep Mt., Waterton Lake, July 28-31, 1895, *J. Macoun*, no. 10,094. MONTANA: Bridger Mts., August 21, 1902, *W. W. Jones*; Spanish Peaks, 1901, *J. Vogel*; Old Hollowtop, near Pony, alt. 2440 m., July 7, 1897, *Rydberg & Bessey*, no. 4039. WYOMING: stony sub-alpine parks, Brooklyn Lake, Albany Co., August, 1909, *Aven Nelson*, no. 9235; open hillsides, Telephone Mines, Albany Co., August 3, 1900, *Aven Nelson*, no. 7951; Little Bald Mt., Bighorn Mts., July 13, 1900, *J. G. Jack*. COLORADO: high mountains, Gray's Peak and vicinity, alt. 3350-4270 m., July and August, 1885, *H. N. Patterson*, no. 11; alpine, Pikes Peak, August 27, 1895, *Canby*; alpine ridges east of Middle Park, 1861, *Parry*, no. 141; barren rocky places above the limit of trees on James Peak, August 18, 1870, *E. L. Greene*; Sierra Blanca, 1877, *Hooker & Gray*; South Park, 1873, *Wolf & Rothrock*, no. 364; among rocks at 3660 m., mountain northwest of Como, July 31, 1895, *Crandall & Cowen*, no. 82; Mt. Garfield, alt. 3800 m., July 25, 1901, *F. E. & E. S. Clements*, no. 496; near Pagosa Peak, alt. 3500 m., August, 1899, *C. F. Baker*, no. 310 (distributed as *A. verna*). UTAH: moist soil, alt. 3810 m., La Sal Mts., Grand Co., July 15, 1912, *E. P. Walker*, no. 279. NEW MEXICO, northern New Mexico, 1867, *Parry*, no. 17.



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The name *Alsinopsis obtusiloba* Rydberg is not much clearer in its application, although it may be fairly inferred that Rydberg was changing the name of *Arenaria obtusa* Torr. on account of Allioni's earlier species of that name. But the other citations given by Rydberg are not helpful: *Ar. biflora* Wats. was based definitely on *Alsine biflora* Wahl. and is, therefore, *Ar. sajanensis* Willd; while "*Arenaria sajanensis* Robinson, Proc. Am. Acad. 29: 304. 1894. Not *A. sajanensis* Willd. 1816" was largely *A. sajanensis* Willd, but with all the species here discussed, *A. obtusiloba*, *A. marcescens* and *A. larici-folia*? confused with it. Only through inferring, then, that Rydberg's *Alsinopsis obtusiloba* was intended as a renaming of *Ar. obtusa* Torr. does Rydberg's name become definite.

**A. marcescens**, n. sp., dense caespitans, caudiculis epigaeis lignescentibus ramosissimis 0.5-2.5 dm. longis, foliorum remnantibus marcescentibus rigidis imbricato-tunicatis; foliis coriaceis viridibus glaberrimis lineari-setaceis obtusis 4-8 mm. longis 0.3-0.5 mm. latis, nervo crasso; cauliculis adscendentibus 2-5 cm. altis 1-floris glanduloso-pilosis remote bracteatis, bracteis 2-4-jugis lanceolato-subulatis; pedunculo 0.6-1.5 cm. longo; calycibus purpurascenscentibus vel fuscis turbinato-campanulatis 3.8-5 mm. longis basi plus minusve pilosis, sepalis oblongis vel oblongo-lanceolatis obtusis valde carinatis plerumque nerviis lateralibus; petalis spathulatis vel spathulato-obovatis albis vel lilacinis basi luteis 6-8 mm. longis 2-2.5 mm. latis; antheris albidis 0.5-1 mm. longis; capsula subcylindrica 0.6-1 cm. longa; valvis coriaceis stramineis lineari-oblongis apice emarginatis; seminibus olivaceis vel brunneis reniformi-obovatis, laevissimis 0.8-1.2 mm. longis apice radiculari rostellata.

Densely caespitose, with the trailing and freely forking lignescent branches 0.5-2.5 dm. long and closely covered with the rigid marcescent remnants of the leaves: leaves coriaceous, bright green, strictly glabrous, linear-setaceous, obtuse, 4-8 mm. long, 0.3-0.5 mm. wide, with a thick midrib: flowering stems ascending, 2-5 cm. high,



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Densely caespitose, with the trailing and freely forking lignescent branches 0.5-2.5 dm. long and closely covered with the rigid marcescent remnants of the leaves: leaves coriaceous, bright green, strictly glabrous, linear-setaceous, obtuse, 4-8 mm. long, 0.3-0.5 mm. wide, with a thick midrib: flowering stems ascending, 2-5 cm. high,



1-flowered, glandular-pilose, remotely bracted, with 2-4 pairs of short lance-subulate bracts: peduncle 0.6-1.5 cm. long: calyces purplish or fuscous, turbinate-campanulate, 3.8-5 mm. long, more or less pilose at base; the oblong or oblong-lanceolate obtuse sepals strongly keeled and usually with 2 lateral nerves: petals spatulate or spatulate-obovate, white or lilac, yellow at base, 6-8 mm. long, 2-2.5 mm. wide: anthers whitish, 0.5-1 mm. long: capsule subcylindric, 0.6-1 cm. long; its coriaceous stramineous linear-oblong valves emarginate; seeds olive or brown, very smooth, reniform-obovate, 0.9-1.2 mm. long, with the tip of the radicle prolonged into a beak.—Serpentine and magnesian limestone ledges and gravel, western Newfoundland and Gaspé Co., Quebec. NEWFOUNDLAND: serpentine tablelands, altitude about 380 m., Bonne Bay, August 27, 1910, *Fernald, Wiegand & Kittredge*, no. 3366; serpentine and magnesian limestone barrens, northeastern bases and slopes of Blomidon ("Blow-me-down") Mts., July 24, 1910, *Fernald, Wiegand & Kittredge*, no. 3365 (TYPE in Gray Herb.), August 21, 1910, *Fernald & Wiegand*, no. 3365a (ripe seeds of no. 3365); Blomidon Range, July 3-5, 1911, *C. C. Stewart*, no. 13; sandy plains, Serpentine (or Coal) River, July 16, 1896, *Waghorne* no. 6 (distributed as *A. verna*). QUEBEC: Mt. Albert, Gaspé Co., July 31, 1881, *J. A. Allen*, no. 4 (distributed as *A. groenlandica* or *A. arctica*); Shickshock Mts. (presumably Mt. Albert), 1882, *J. Macoun*; crevices and detritus of serpentine, barrens and brook-ravines, alt. 900-1058 m., Mt. Albert, August 8, 1905, *Fernald & Collins*, no. 78, July 23, 1906, *Fernald & Collins*, nos. 551, 552.

The *Fernald & Collins* and *Fernald & Wiegand* material has been distributed as *A. arctica* Stev.; but *A. arctica* has broader leaves, glandular calyx and very large broadly obovate petals.

?*A. LARICIFOLIA* L. Sp. Pl. i. 424 (1753). *Ar. striata* L. Amoen. Acad. iv. 315 (1756) in part, not All. *Alsine laricifolia* (L.) Crantz, Inst. ii. 407 (1766). *Stellaria laricifolia* (L.) Scop. Fl. Carn. ed. 2, i. 317 (1772). *Sabulina striata* (L.) Reichenb. Fl. Germ. Excurs. 789 (1832). *Alsine striata* (L.) Gren. Mem. Soc. Doubs (1841) 33, t. 1, fig. 1. *Wierzbickia striata* (L.) Reichenb. Ic. Fl. Germ. v. 30, t. 211, fig. 4932 (1842). *Alsinopsis laricifolia* (L.) Heller, Muhlenbergia, viii. 96 (1912).—The plant which is passing in America as *Arenaria laricifolia* is more western and northern than *A. obtusiloba*, occurring from Yukon and Alaska to northwestern Wyoming, Nevada and Oregon. There is doubt as to just what Linnaeus had as *Ar. laricifolia* and a further doubt as to whether our American plant is identical with the European. The material seen by the writer is all fragmentary and until it is better known may pass as *A. laricifolia*. It is highly important to secure abundant flowering and fruiting specimens for critical study. The following specimens are tentatively referred here. YUKON: Yukon River, August 15, 1887, *Dawson*;



Bonanza Creek, Dawson, June 12, 1914, *Eastwood*, no. 204; Dawson Slide, Dawson, June 12, 1914, *Eastwood*, no. 207. MONTANA: Bald Mt., alt. 3050 m., July 22, 1880, *S. Watson*, no. 54; plains near Cutbank Creek, August 5, 1883, *Canby*, no. 45. WYOMING: high mountains, Yellowstone Park, August 13, 1893, *J. N. Rose*, no. 483. NEVADA: East Humboldt Mts., alt. 3050 m., August, 1868, *Watson*, no. 173. OREGON: on cliffs at 2440 m., Eagle Creek Mts., 1881, *Cusick*, no. 969. WASHINGTON: rocky ridges near snow, at 2440 or 2740 m., Mt. Paddo, September 15, 1883, *Suksdorf*, no. 175.

#### V. THE SPECIFIC IDENTITY OF *ARENARIA GROENLANDICA* AND *A. GLABRA*.

It has been customary to treat the boreal *Arenaria groenlandica* (Retz.) Spreng. and the more southern *A. glabra* Michx. as distinct species, the former extending from Greenland to the higher granitic mountains of New England and New York and locally southward along the Alleghenies to the mountains of North Carolina, the latter confined to the mountains of North Carolina, Tennessee and Georgia. The characters as stated by those who maintain the two as species are as follows:<sup>1</sup>

*A. GROENLANDICA*. Stems 2–8 in. long, 1–5-flowered (*Robinson*); 3–20 cm. tall, sparingly forked (*Small*); leaves linear,  $1\frac{1}{2}$ –7 lines long, the basal in a dense cluster (*Robinson*); leaf-blades filiform to subulate, 0.3–1.5 cm. long, the basal in a dense cluster (*Small*); pedicels 0.5–1.5 cm. long (*Small*); sepals broadly ovate,  $1\frac{1}{2}$ –2 lines long (*Robinson*); sepals oblong or oblong-lanceolate, 3–4 mm. long (*Small*); petals obovate (*Robinson*, *Small*); capsule subglobose to oblong (*Robinson*); capsule ovoid, or rarely subglobose or nearly oblong, 5–6 mm. long (*Small*).

*A. GLABRA*. Stems 6–12 in. high (*Robinson*); stems 0.5–3 dm. tall, often bushy (*Small*); leaves narrowly linear, equaling or exceeding the internodes (*Robinson*); leaf-blades narrowly linear or nearly filiform, 1–2.5 cm. long (*Small*); pedicels elongated (*Robinson*); pedicels 1–4 cm. long (*Small*); sepals ovate-oblong,  $1\frac{1}{2}$  lines long (*Robinson*); sepals oblong or ovate-oblong, 2.5–3 mm. long (*Small*); petals spatulate (*Small*); capsule ovoid (*Robinson*); capsule ovoid, 3 mm. long (*Small*).

That the specific lines between the two are not satisfactory has long been evident from the fact that plants referred by one author to *A.*

<sup>1</sup> These characters are taken from the treatments by Robinson in Gray, Synop. Fl. i. 243 (1897) and by Small, Fl. S. E. U. S. ed. 2, 420 (1913).





Fernald, Merritt Lyndon. 1919. "The American representatives of *Arenaria sajanensis*." *Contributions from the Gray Herbarium of Harvard University* (57), 12–17. <https://doi.org/10.5962/p.336028>.

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