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Cruciferae B. Juss.

Key to the Genera.

Pod globose, ovate, obovate or oblong, rarely more than three times as long as wide.

Pod flattened at right angles to the septum.

Bursa.

Pod globose or flattened parallel with the septum.

Plants maritime, fleshy.

Plants glabrous throughout.

Cochlearia.

Plant pubescent under a lens.

Mesodraba.

Plants neither maritime nor fleshy.

Pod globose or terete-oblong, very little or not at all compressed.

Pubescence when present, of simple hairs; pod terete oblong.

Koniga.

Pubescence stellate; pod globose.

Lesquerella.

Pod compressed or flat.

Plant nearly white with dense stellate pubescence; stamens with filaments appendaged at the base.

Alyssum.

Plants more or less stellate pubescent but rarely white; stamens with filaments unappendaged.

Draba.

Pod linear or lanceolate, very rarely less than three times as long as wide.

Seeds flat.
Seeds winged; stem leaves when present entire or merely dentate, Stem scapose.
Stem leafless ~~entire or merely dentate~~. Parrya.

Arabis.

Seeds wingless.
Stem leaves lyrate, pinnate or ternate.
Pods 4-angled; flowers yellow. Barbarea.

Pods flattish; flowers white, purplish or purple. Cardamine.

Seeds globose or oblong.
Pod produced into a beak. Brassica.

Pod not produced into a beak.
Leaves finely dissected. Sophia.

Leaves entire or merely dentate.
Stems scapose, stem leaves if present of foliaceous bracts subtending the inflorescence.
Inflorescence subtended by an involucre of 2 to 4 foliaceous bracts. Asphragmus.

Inflorescence without an involucre, foliaceous bract if present solitary. Braya.

Stems leafy, sometimes only slightly so.
Stigma simple; plant glabrous throughout.
Erutrema.

Stigma 2-lobed; plant more or less pubescent.
Pubescence of the basal leaves stellate, that of the stem stellate or branched, not strigose.
Pods obovate or oblanceolate, pointed at both ends.
Smelowskia.

Pods linear or lanceolate, not pointed at both ends.
Draba.

Pubescence of the basal leaves of simple or forked hairs or when stellate that of the stem strigose.
Pubescence of the stem strigose.
Erysimum.

Pubescence of the stem free.
Sisymbrium.

Bursa Weber.

Erect, annual or winter-annual herbs with mostly basal leaves and small, white flowers; pod triangular or ~~emarginate at the apex~~ obcordate, valves keeled, style short. About 7 species, natives of the northern hemisphere.

Bursa bursa-pastoris (L.) Britton.

Thlaspi bursa-pastoris L. Sp. Pl. 2: 647. 1753.
Bursa pastoris Weber in Wigg. Prim. Fl. Holst. 27. 1780.
Capsella bursa-pastoris Medic. Pfl. Gatt. 1: 85. 1792.
Bursa bursa-pastoris Britton, Mem. Torr. Club 5: 172. 1894.

Branching 10 to 35 cm. high, pubescent below with simple and stellate hairs, glabrous or sparingly pubescent above; basal leaves oblanceolate, lobed, pinnatifid or sometimes dentate, rarely entire, stem lanceolate, auricled and leaves, clasping at the base; flowers small, petals 1.5 to 2 mm. long; pods 4 to 10 mm. long. Waste grounds in settlements, especially about wharves from the Shumagin Islands to the southern boundary. Naturalized from Europe ~~and widely distributed in the United States~~, where it was originally described ~~from~~ Europe, in "Europae cultis nuditatis," and now cosmopolitan.

Aleutian Islands - Popof Island, Kincaid, July 8-19, 1899.
Kadiak Island - Evans, 1577 (No. 382).

Cochlearia L.[1]

[1] The species of this genus are very poorly understood and the forms represented in American are particularly diffult to properly distinguish. The following species have been reported from Alaska by various collectors, C. anglica L. C. danica L. C. fenestrata R. Br. C. oblongifolia DC. and C. officinalis L. Of these species, Alaskan specimens referable to C. anglica, C. danica or C. officinalis are not to be found in any herbarium which the author has visited and their occurrence in Alaska is very much questioned. Two specimens not in fruit agree very well as far as foliage is concerned with Greenland specimens of C. groenlandica L. and are referred there, though that species has not heretofore been reported from Alaska.

Annual, bulbous or perhaps some species perennial, spreading; with fasciculate, white, yellow or rarely purplish flowers; pod oblong, ovoid or globose; seeds usually in two rows in each cell. Variously estimated from 15 to 25 species, in habitats of the cooler parts of the northern hemisphere and of the mountains of the eastern Mediterranean region.

Key to the Species.

Basal leaves semi-form to nearly orbicular in outline; pods globose or sometimes short-ovoid, C. groenlandica.

Basal leaves oblong-ovate, ovate, ovate-cordate, or sometimes nearly orbicular; pods ovoid, to elliptic-lanceolate. (Globose when fully matured)

Flowers small, petals 2 to 3 mm. long; pods elliptic-lanceolate, C. fenestrata

Flowers larger, petals 3 to 6 mm. long; pods ovoid. C. oblongifolia.

Cochlearia groenlandica L.

~~Cochlearia groenlandica~~

Cochlearia groenlandica L. Sp. Pl. 2: 647, 1753.

Stems low, seldom more than 8 cm. high; leaves usually entire, the cauline usually oblong, rarely subrotund or rhombic or sometimes petioled, 8 to 10 mm. long. Moist beaches on ~~the Islands of Behring~~ Hall and St. Lawrence Islands. Originally described from Norway, Iceland and Greenland.

Islands of Bering Sea.— Hall Island, Camille & Kearney (No. 2053). St. Lawrence Island, Camille & Kearney (No. 1996).

Cochlearia fenestrata R. Br.

Cochlearia fenestrata R. Br. Ross' Voy. App. 143. 1819, Cuctrema rossii Spreng. Syst. 2: 880. 1820.

Branched from the base, 4 to 9 cm. high; lower leaves deltoid-ovate, entire or very shallowly lobed ~~6 to 8~~ the blade 6 to 8 mm. long, the petiole about 15 mm. long, stem leaves sessile, oblong entire or toothed, ~~about~~ 7 to 10 mm. long; pedicels about as long as the capsules, the latter free from reticulation or nearly so. Collected at Cape Smyth and at Port Clarence. Originally described from the coasts of Baffins Bay and reported to range across arctic America.

Arctic Alaska. — Cape Smyth, F. C. Schrader, Sept. 5, 1901.

Seward Peninsula. — Port Clarence, F. A. Walpole, 1901 (No. 1932.)

8 X

Cochlearia oblongifolia DC.

Cochlearia oblongifolia DC. Syst. 2: 363. 1821.

Cochlearia groenlandica oblongifolia Lange, Consp. Fl. Groenl. 95. 1880.

Usually robust not varying from 4 to 30 cm. in height; sometimes gracile; cauline leaves, usually sessile, oblong, ovate or sometimes rhombic-ovate, entire or variously toothed or even lobed; pedicels mostly longer than the capsules, the latter with or without articulations. Sea-shore especially among rocks within reach of high tide from Point Barrow to the southern boundary and on the islands of Bering Sea and the Aleutians. Originally described from St. Paul Island and Kamchatka and reported to range across arctic America to Greenland.

C. oblongifolia varies greatly in size, in the shape of its leaves and even somewhat in the shape of its pods. The extremes are, perhaps sufficiently at variance to be recognized as species were there not intermediate gradations such as to render specific characterization impossible. Three specimens from southeastern Alaska are however, particularly noteworthy. The have exceptionally weak stems and entire, oval or sometimes nearly orbicular cauline leaves. They are: Bash Bay, Harman, 1895 (No. 58), Loring, Howell, 1895 (No. 1611). Yes Bay, Howell, 1895 (1612). Specimens referred to C. oblongifolia are the following:

Islands of Bering Sea.- Hall Island, Camille & Kearney (No. 2054).

Arctic Alaska.- Cape Blossom, Rumman Cutter Commin.

Seward Peninsula.- Port Clarence, F. A. Walpole, 1901 (Nos. 1547, 1755, 1893).

Norton Sound.- Ft. St. Michaels, L. M. Turner, 1879.

Pribilof Islands.- St Paul Island, Camille & Kearney (No. 1830), C. H. Merriam, July 30, Aug. 8, 1891, Trne & Prentiss, 1895 (No. 21), C. H. Townsend, Aug. 1893, Wm. Palmer, 1890 (No. 66).

Aleutian Chain.- Atka Island, L. M. Turner, 1879 (No. 1357). Unalaska, J. B. Flett, 1910 (No. 514), Harrington, 1871-72.

Kodiak Island.- Sturgeon River, Camille & Kearney (No. 2209).

Alaska Peninsula.- Kukak Bay, Camille & Kearney (No. 1650).

Cook Inlet.- Homer Camille & Kearney (No. 1404).

Prince William Sound.- Near Orca, Camille & Kearney (No. 1339).

Southeastern Alaska.- Glacier Bay, Camille & Kearney (No. 737). Near Juneau, Grace E. Cooley, July 3, 1911. Sitka, Bischoff, 1865-66, Evans, 1897 (No. 241), Camille & Kearney (No. 844). Wrangell Evans, 1897 (No. 23). Tatoosh Islands J. B. Flett, 1901 (No. 1947). Back Bay, Garman, 1895 (No. 15), Yes Bay, Sewell, 1895 (No. 1610).

Nesodraba Greene

Stoutish perennial with mostly basal leaves; flowers yellow; pod with seeds in two rows. One or two species of northwest North America and perhaps also Kamchatka. In the succulent character of the herbage much resembling Cochlearia.

Nesodraba grandis (Langsd.) Greene.

Draba grandis Langsd.; DC. Syst. 2: 355. 1821.
Cochlearia spathulata Schlecht.; DC. Syst. 2: 369. 1821.
Cochlearia siliquosa Schlecht.; DC. Syst. 2: 369. 1821.
Nesodraba grandis Greene, Pitt. 3: 253. 1898.
Nesodraba siliquosa Greene, Pitt. 3: 253. 1898.

~~Perennial~~ Plant ~~rather~~ inconspicuously pubescent with ~~fine~~ short, forked hairs, stems decumbent or ascending, 12 to 80 cm. high; basal leaves mostly ~~in a basal rosette~~ numerous, ~~3.5 to 28.0 to 15 cm. long including the petiole, attenuate to a~~ oblanceolate or obovate tapering winged petiole, 3.5 to 15 cm. long including the petiole, coarsely toothed, stem leaves sessile, oblong-lanceolate to oblong, mostly entire or sometimes obovate, mostly entire; flowers ~~yellow, the~~ with petals about 4 mm. long; pods oval, oblong or rarely lanceolate. In moist soil among rocks and on cliffs of the sea-shore on the Pribilof and Aleutian ~~Isl~~ islands thence southeast to Sitka, perhaps also Kamchatka. Originally described

rum "Siberiae borealis locis humidis ad oras glaciales prope Ostium flumen (Pall. in h. W.), in insula Sancti-Pauli inter Kamtschatkam et Americam. (Langsdorff.)" Cochlearia spathulata was described from ~~Acadia~~ the Aleutians, Kamchatka and America, C. siliquosa from Unalaska. The material at hand does not sustain warrant the separation of these as two species.

Pribilof Islands. — St Paul Island, Trelease & Prentiss, 1895 (No. 6), Camille & Kearney (No. 1528).

Aleutian Chain. — Shumagin Islands, Harrington, 1871-72.

Kadiak Island. — Kellogg, 1867 (No. 203), Evans, 1897 (No. 371).

Southeastern Alaska. — Sitka, Bischoff, 1865-66.

Rorippa Scop.

Annual, biennial or perennial herbs with dentate, lyrate or pinnate leaves, glabrous or pubescent; flowers small, white or yellow; pods small. About 25 species growing in damp localities, or aquatic. Widely distributed.

Key to the Species.

Plant glabrous or sometimes sparingly hispid; pod oblong, or linear oblong, ~~rarely somewhat thickened somewhat thickened above the middle~~, 5 to 10 mm. long, usually as long as or longer than the pedicels.

R. palustris

Plant pubescent with fine spreading hairs; pod pyriform, about 4 mm. long, much shorter than the pedicels.

barbaraefolia

R. hispida.

Rorippa palustris (L.) Bess.

Sisymbrium amphibium palustre L. Sp. Pl. 2: 657. 1753.

Nasturtium terrestre. R. Br. in Ait. f. Hort. Kew. ed. 2. 4: 110.

Rorippa palustris Bess. Enum. 27. 1822.

Erect, branching above or sometimes low and branched from the base, 10 to 100 cm. high; lower leaves petioled, lyrate-pinnatifid, the lobes entire, irregularly toothed or repand, upper leaves sessile, their lobes commonly more sharply toothed than those of the basal leaves; flowers yellow, usually fading; pods ~~blunt at the ap~~ obtuse, the style about .5 mm. long. Swamps and moist banks of brooks from Seward Peninsula to the upper Yukon and Lake Iliamna and reported to range nearly throughout the continent. Originally described from Europe and occurs in Asia.

This species appears to be ~~is~~ very variable and difficult of limitation. The Alaskan specimens referred to it ~~very closely~~ seem identical with European material except in being usually more hispid. The plant collected by Russell is glabrous.

Seward Peninsula. — 17 Miles west of Nome City, J. B. Flett, 1900 (No. 1641).

Upper Yukon. — Near Fort Yukon, I. C. Russell, Aug. 8-12, 1889. (No. 144)

Lake Iliamna Region. — Lake Iliamna, Gorman, 1902.

Rorippa palustris occidentalis (Wats.) Wight
Nasturtium terrestre occidentale Wats. in Gray, Syn.
Fl. I, 1, 148, 1895.

~~Erect, branching about~~
Very closely resembling the preceding except that it is apparently always erect and ~~the~~ is sometimes nearly as hispid as R. hispida of the eastern states. The pods are usually thicker and stouter than in R. palustris of Europe. The variety was described from material collected in the following localities, "Shumagin Islands Dall, to Brit. Columbia, Lyall, Macoun, and the Lower Columbia Valley, Hall, Lapham, Howell." Although not all in front the following specimens are referred to it.

Yukon River. - Between Andreafski and Anvik, J. C. Russell, July 16-18, 1899.

Bristol Bay and Vicinity - Mushagak, C. L. McKay, July 27, 1881.

Between Cook Inlet and the Tanana. - E. F. Glenn, 1899.

Aleutian Chain - Popof Island. Herb. Kincaid, July 8 & 19, 1899.

Kodiak Island. - Evans, 1897 (No. 381).

Southeastern Alaska. - Juneau, Camille & Kearney (No. 2500), Yes Bay, Forman, 1896 (Nos. 169, 202), Howell, 1895 (No. 1607).

Roripa barbaraeifolia (DC.) Wight.

Camelina barbaraeifolium DC. Syst. 2: 505. 1821.

Tetrapoma barbaraeifolium Turcz. Bull. Soc. Nat. Mosc. 14: 39. 1835.

Tetrapoma pyriforme Seemann, Bot. Herald, 24. 1852-57.

Erect, 50 to 90 cm. high, in habit and foliage much like the preceding but distinguished from it as well as from R. hispida by ~~its~~ being finely pubescent, not hispid hairy, and by its pyriform pods. The latter are ~~smaller~~ shorter than those of R. palustris but usually slightly longer than those of R. hispida. Seemann l.c. regards the species as having been introduced by the Russians. Seward Peninsula to Norton Sound and Rampart on the Yukon. Originally described from eastern Siberia.

Seward Peninsula. — Port Clarence, F. A. Walpole, 1901 (No. 1662).

Norton Sound. — St. St. Michaels, Bannister 1865-66.

Yukon River. — Rampart, Isaac Jones, 1901 (No. 77).

Rorippa williamsii Britton

Rorippa williamsii Britton in Britton & Rydb. Bull. N. Y. Bot. Gard. 2: 171. 1901.

~~Roripa Williamsii Britton, sp. nov.~~

Glabrous, about 1.5 dm. high. Leaves about 5 cm. long, deeply pinnatifid into oblong, obtuse, entire or toothed segments 2–3 mm. wide, the terminal segment much larger than the lateral ones; racemes elongating and with very distant pedicels in fruit; pedicels spreading, about 1 cm. long; pod oblong, obtuse, about 3 mm. long. ♂

Near mouth of Bonanza Creek, R. S. Williams, June 18, 1899. "

~~Britton & Ry db. Journ.~~ Bull.
Britton & Ry db. Bull. N.Y.
~~Bot. Gard. 2: 171. 1901.~~

Lesquerella Wats.

Low

Annual or perennial herbs; flowers yellow, anthers sagittate, filaments unappendaged; pods turgid, the valves nerveless; seeds usually marginless. About 35 species ranging from Lower California to the Saskatchewan, Alaska and Greenland, with one species in South America.

Lesquerella arctica (Wormsk.) Wats.

Alyssum arcticum Wormsk. Fl. Dan. t. 1520.

Vesicaria arctica Richards. in Frankl. Journ. Appx. 743. 1823.

Lesquerella arctica Wats. Proc. Am. Acad. 23: 254. 1888.

Perennial, canescent with short scale-like hairs; stems usually several, spreading or sometimes nearly erect, 3 to 6 cm. long or in fruit 15 cm long; leaves mostly basal spatulate oblanceolate, entire pale above, nearly white below, stem leaves 3 or 4, linear to narrowly spatulate; flowers few, bright yellow, the petals about 6 mm. long, broadly spatulate, pods about 5 mm. broad in dried specimens, style 1 to 1.5 mm. long. Collected at Port Clarence and reported to range through along the arctic coast to Greenland. Originally described from

Seward Peninsula. — Port Clarence, L.A.
Walpole, 1901 (Nos. 1456, 1472, 1986).

Alyssum L. Low, or sometimes suffruticose ~~annual or perennial herbs~~, annual or perennial; flowers yellow or yellowish; pod ovate, oblong or nearly orbicular. About 180 species natives of the Mediterranean region, Central Europe, Central Asia and the following in Alaska.

Alyssum americanum Greene.

Alyssum americanum Greene, Pitt. 2: 224, 1894.

Perennial, spreading densely stellate-canescent, (chiefly to the inflorescence centers) stems 5 to 15 cm. long; leaves oblanceolate or obovate, 5 to 15 mm. long, white beneath; flowers yellow, ~~the blades of the petals~~ with nearly orbicular blade; raceme 2 to 5 cm. long in fruit; capsule (stellate-pubescent) broadly obovate, about 4 mm. long, style 1.5 to 2 mm. long.

In the interior from the Kaiyukuk River to the Rampart House on the Upper Porcupine and to the Upper Yukon. Originally described from the Porcupine river.

Koyukuk River to the Yukon. — Along Old Man Creek, W.C. Mendenhall, July 8, 1901.

Upper Porcupine. — Rampart House, Funston, 1893 (No. 178).

Upper Yukon. — Coal Creek Hill, Funston, 1893 (No. 77).

Draba L.

Low annuals or perennials, mostly tufted, ~~not stellate pubescent~~ ~~flaxo~~ leaves simple; flowers white or yellow; pod ovate, elliptical, lanceolate or sometimes linear, valves nerveless; seeds in two rows. A genus of about 150 species in ~~the mountains of nearly all regions~~ an temperate and arctic regions and in the mountains of nearly all regions. Key to the species.

Flowering stems scapose, rarely with one or two leaves, the latter commonly entire.

Flowers white.

Scapes glabrous or nearly so, more stellate-pubescent; pods ovate-lanceolate.

D. fladnigensis.

Scapes stellate pubescent; pods narrowly oblong or oblong-lanceolate.

D. nivalis.

Flowers yellow.

Leaves conspicuously ciliate on the margin, pubescence on the surfaces of simple and forked hairs, not densely stellate.

D. alpina.

Leaves ciliate only at the base or not at all, the surfaces usually densely stellate-pubescent at least at the apex.

Leaves linear or narrowly oblanceolate, the midrib prominent nearly or quite to the apex.

D. glacialis.

Leaves oblanceolate or sometimes even obovate, the midrib prominent only at the base, or not at all.

D. palanderiana.

7 lowering stems commonly leafy, very rarely leafless; leaves usually dentate, sometimes inconspicuously so. 7

7 lowers yellow, becoming whitish.

Stem leaves narrow, linear or lanceolate; pedicels erect.

D. aurea.

Stem leaves ovate or oblong-ovate; pedicels commonly spreading.

Pods glabrous, linear, attenuate at the apex, 10 to 20 mm. long, commonly longer than the pedicels.

D. stenoloba.

Pods minutely hairy or glabrous, linear-oblong, abruptly acute at the apex, 8 to 10 mm. long, shorter than or merely equaling the pedicels.

D. sumorosa.

7 lowers white.

Stem leaves commonly zonal; pods oblong to lanceolate.

D. incana.

Stem leaves few, commonly 16-4, rarely 5-or 6; pods oblong-ovate to ovate-lanceolate.

Densely stellate-pubescent.

D. cana.

Loosely stellate-pubescent.

D. Lita.

Draba fladnizensis Wulf.

Draba fladnizensis Wulf. in Jacq. Misc. 1: 147. t. 17. f. 1. 1778.

Draba androsacea Willd. Sp. Pl. 3: 428. 1800.

Draba wahlenbergii Hartm. Scand. Fl. 249.

Perennial, caudex usually branched.

Scapes ~~carina~~ singing from barely 1 cm. to 15 cm. high; leaves 5 to 14 mm. long, oblanceolate, ciliate ~~on the margin~~ hairy on both surfaces, the hairs simple and forked, midvein rather prominent beloW; sepals slightly hairy; pods 5 to 8 mm. long, glabrous. On the drier parts of the tundra from Port Clarence and St. Matthew Island to the Pribilof Islands and reported to ~~eastward~~ eastward range to Greenland, south to Gaspé in Quebec, and ~~south~~ in the Rocky Mountains to Colorado. Originally described from central Europe, ~~and~~ occurs in northern Europe and and in Siberia.

Seward Peninsula. - Port Clarence, F. A. Walpole, ~~#~~ 1901 (Nos. 1414, 1566, 1933a, 1940a).

St. Matthew Island. - Brewer & Coe, 1899 (No. 471).

Pribilof Islands. - St Paul Island, J. M. Macoun, July 2, 1897.

Draba nivalis Liljebl.

Draba nivalis Liljebl. Vet. Akad. Handl. 208. 1793.

Draba muricella Wahl. Fl. Lapp. 174, t. 11, f. 2. 1812.

Draba stellata nivalis Regel, Bull. Soc. Nat. Mosc. 34²: 192.

Perennial Caudex branched, scapes 3 to 8 cm. high in fruit; leaves in rather dense tufts, oblanceolate, 4 to 7 mm. long densely stellate pubescent, ciliate only at the base or usually not at all, the midrib slightly prominent-veined; calyx hairy; pods glabrous or slightly pubescent. In the Aleutian chain and the Alaska Peninsula and reported to range along the arctic coast, and thence to Labrador, and south in the mountains to Colorado.

It occurs in arctic Europe and in Spitzbergen, the type locality is D. muricella was described from Lapland, and apparently based on D. nivalis Liljebl. as far as my specimens go but there is apparently no reason for changing the earlier name.

Aleutian Chain. - Attu Island, L. M. Turner, July 7, 1879. Shumagin Islands, Harrington 1871-72, Kinkaid July 8 to 15, 1899.

Alaska Peninsula. - Camille & Kearney (No. 1609).

Draba alpina L.

<u>Draba</u> <u>alpina</u> L. Sp. Pl. <u>2</u>: 642. 1753.

Perennial, caudex much branched, sometimes forming dense mats; scapes 3 to 12 cm. high, ~~commonly~~ glabrous or hairy ~~nearly so~~; leaves oblanceolate or sometimes nearly oblong, hairy or rarely nearly glabrate, 6 to 12 mm. long, midvein thick at the base; calyx slightly hairy; pods ovate or oblong-ovate, glabrous or sparingly hairy. On the tundra, usually in comparatively dry soil from the arctic coast to Fort St. Michaels and in the interior to the headwaters of the Copper and Tanana rivers, also on the islands of Bering Sea. It is reported also from the islands along the arctic coast from ~~Hudson~~ ~~to~~ Hudson Bay, and from the Rocky Mountains in British America. It was first described from the Alps of Europe, is apparently common in arctic Europe and occurs in the Ural and Altai mountains.

<u>Seward</u> <u>Peninsula</u>. — Port Clarence, Coville & Kearney (No. 1882), F. A. Walpole, 1901 (Nos. 1407, 1431, 1871, 1940). Near Nome City, J. B. Flett, 1900 (Nos. 1634, 1640).

<u>Islands</u> <u>of</u> <u>Bering</u> <u>Sea</u>. — Hall Island, Coville & Kearney (Nos. 2012, 2051).

<u>Headwaters</u> <u>of</u> <u>the</u> <u>Copper</u> <u>and</u> <u>Tanana</u> <u>rivers</u>. — Scudder Creek, Schrader & Hartman, 1902 (No. 57).

Specimens of a dwarf form collected at Point Barrow by J. Murdock in 1883 should probably be referred here. The flowers are white but the specimens ~~show~~ give some indication that they have faded. The different specimens show some variation in hairiness but <u>D. alpina</u> is also sometimes quite variable in that respect.

Draba glacialis Adams.

Draba glacialis Adams, Mem. Soc. Nat. Mosc. 5: 106. 1817.

Draba oligosperma Hook. Fl. Bor. Am. 1: 51. 1830.

Perennial caudex much branched; leaves 4 to 12 mm. long, ~~5 to~~ 1 to 3 mm. broad, the margins commonly reflexed; scapes 2 to 12 cm. high in fruit, glabrous or very sparingly pubescent with simple or sometimes forked hairs; pods ovate, ~~about~~ 4 to 7 mm. long. On the upper Yukon, and reported from the Chilkat region in southeastern Alaska. It occurs in the arctic regions, Mackenzie River lat. 68°, the type locality of D. oligosperma, and in the mountains to Colorado. It was originally described from the arctic coast of Siberia and the banks of the Lena, and is found in Spitzbergen.

Hooker's specimens were collected on the summit of a limestone hill and ~~th~~ only ~~at~~ in the one locality. It is quite probable that the difference in appearance is due to the habitat, and the white color of the flowers to ~~fading~~ their having faded.

Upper Yukon, Lake Bennett, J. B. Tarleton, 1899 (Nos. 6a, 6b. 71).

Draba palanderiana Kjellman.

Draba palanderiana Kjellman, Vega Exp. 2: 45. t. 3. 1883.

Cloudy matted; leaves 7 to 10 mm. long, the surfaces densely canescent with short stellate hairs; scapes 4 to 6 cm. long in flower, somewhat elongated in fruit, sparingly stellate pubescent; calyx inconspicuously hairy; pods glabrous, ovate, ovate-oblong or sometimes nearly elliptical. Seward Peninsula, originally described from Port Clarence, and Herald Island, in the Arctic Sea.

Seward Peninsula: Port Clarence, E. A. Walpole, 1901 (Nos. 1402, 1506, 1928).

Draba aurea Vahl.

Draba aurea Vahl in Hornem. Fl. Dan. Icon. Plantel. ed 2, p. 99.

Stellate pubescent throughout, caudex commonly simple, stems 0 to 20 cm. high, usually branched from the base, sometimes from above also; leaves 10 to 20 mm. long the basal ones mostly linear or narrowly oblanceolate, entire or inconspicuously [illegible]

mm. long, pubescent with forked hairs, pedicels about 6 mm. long. In the upper Yukon and reported from the Chilcat region. It ranges southward in the Rocky Mountains to New Mexico and Arizona and also in arctic America. Specimens on the eastern side of the continent from Greenland to Mignon Island, Gulf of St. Lawrence. Originally described from

Upper Yukon. — White Horse Rapids, J. B. Tarleton, 1899 (No. 37).

The type of D. oligantha was collected at Disenchantment Bay, Funston (No. 96), and does not differ from the other Alaskan specimens examined.

Draba stenoloba Ledeb.

Draba hirta siliquosa Cham. & Schlecht. Linnaea 1: 23. 1826.

Draba stenoloba Ledeb. Fl. Ross. 1: 154. 1841.
Draba oligantha Greene, Pitt. 4: 313. 1901.

Annual or short-lived perennial, caudex usually simple; basal leaves oblanceolate or obovate, entire or inconspicuously dentate, 6 to 30 mm. long, stellate-pubescent or sometimes glabrous beneath; scapes slender 5 to 15 cm. high, flowering pubescent with rather short stellate-hairs; calyx sparingly hairy or sometimes glabrous; petals white or nearly so in dried specimens. On cliffs and steep rocky slopes mostly near sea-level from Unalaska, the type locality, in the Aleutian chain to Juneau, and reported to occur in the Rocky Mountains to Colorado, in the Blue Mountains of Oregon and in the Sierras of California.

Aleutian Chain. - Unalaska, Applegate without number, date; Popof Island, T. Kincaid, July 8-18, 1899.

Alaska Peninsula. - Kukak Bay, Carlle & Kearney (No. 1612)

Yakutat Bay. - Disenchantment Bay, Funston, 1892 (No. 96). Egg Island, Carlle & Kearney (No. 1080), Hamlet Island, Carlle & Kearney (No. 1096), Southeastern Alaska, Jones, Carlle & Kearney (No. 76)

Draba nemorosa L.

Draba nemorosa L. Sp. Pl. 2:643. 1753.

Draba lutea Gilib. Fl. Lithuan. 2:46. 1781.

Draba gracilis Grah. Edinb. N. Phil. Journ. 5:172, 1828.

Annual. Glabrous or pubescent

Caudex simple, stems 10 to 15 cm. or sometimes even 30 cm. high, usually branched below; leaves loosely stellate pubescent the basal long lanceolate to obovate, 10 to 15 mm. long; cauline broadly ovate, oblong-ovate or sometimes obovate, those of the main stem 12 to 35 mm. long; flowers small, calyx glabrous or sparingly hairy; pods glabrous or minutely pubescent. Aleutian chain and in the Upper Yukon, apparently very rare; in the Rocky Mountains to Colorado and eastward to the Great Lakes. Originally described from Sweden and occurs in both arctic northern and central Europe and in Siberia.

Aleutian Chain. — Unalaska, Applegate, without number or date.

Upper Yukon. — Fort Selkirk, Lyman, 1879 (No. 1027).

Draba incana L.

<u>Draba</u> <u>incana</u> L. Sp. Pl. 2: 643. 1753.

Perennial or biennial, stems simple or branched, 12 to 35 cm. high; pubescent throughout with forked hairs; lower leaves oblanceolate or obovate, the upper ovate, all rather coarsely serrate; calyx sparingly hairy, pods ascending. On rocks southeastern Alaska, east to Hudson Bay and Labrador, apparently very rare in America. Originally described from the alpine regions of Europe where it occurs in both the central and northern portions. It is also reported from Siberia.

Much of the <u>D. incana</u> reported from Alaska probably belongs to <u>D. hirta</u> <u>arctica</u> ~~and~~ which is apparently ~~perhaps~~ the most common species of the genus within its ~~in~~ range. ~~Draba in Alaska~~.

<u>Southeastern</u> <u>Alaska</u>.— Juneau, Cowelle & Kearney (No. 598).

Draba incana arabisans (Michx.) Wats.

<u>Draba</u> <u>arabisans</u> Michx. Fl. 2: 28. 1803.

<u>Draba</u> <u>incana</u> <u>arabisans</u> Wats. Proc. Am. Acad. 23: 260. 1888.

Taller and the leaves usually narrower than in the species; pods glabrous, twisted, style about 1 mm. long. Cook Inlet. Reported to range from Labrador to Manitoba, south to New York and the Great Lakes. Originally described from Lake Champlain and ~~[illegible]~~ ~~to~~ New England.

<u>Cook Inlet</u>.— Kodiak Island, Cowelle & Kearney (No. 2447).

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Draba cana Rydb.

Draba cana Rydb. Bull. Torr. Bot. Club 29: 241. 1902.

canescent throughout 10-21 cm. high

Perennial, caudex usually simple, stems branched or sometimes simple; basal leaves numerous, oblanceolate or spatulate 7 to 13 mm. long, entire or inconspicuously dentate, cauline oblong to ovate commonly toothed; flowers small. Upper Yukon to Labrador, south in the mountains to Colorado. The type was collected in the foothills of the Rocky Mountains at Morley, Alberta.

Upper Yukon. — Lake Bennett, J. B. Tarleton, 1899 (No. 9).

Draba hirta L.

Draba hirta L. Sp. Pl. ed. 2. 2: 897. 1763.

Draba supestris R. Br. in Ait. Hort. Kew. ed. 2. 4: 91. 1812.
Roundish, [?]

Caudex not much branched, sometimes simple, stems 10 to 25 cm. high ~~simple~~ ~~not~~ rarely branched; basal leaves oblanceolate, 10 to 30 mm. long, entire or sparingly but sharply toothed, cauline oblong, ovate or the lower oblanceolate; pods narrowly oblong. Arctic Alaska to Seward Peninsula and ~~on~~ the upper Porcupine river, ~~Reported to occur~~ thence to the arctic coast and in Greenland: Originally described from Europe where it occurs in both the central and northern portions, and ~~is also~~ also found in Asia. D. supestris was described from Scotland.

Arctic Alaska.— Kowak River McLenegan 1884.

Seward Peninsula.— Port Clarence L. A. Walpole 1901 (Nos. 1463, 1557, 1566a, 1757 in part).

Upper Porcupine.— Rampart House, Funston, 1894 (No. 176).

Draba hirta arctica (Fahl) Wats.

Draba arctica Fahl. Zh. Dan. [illegible] E. 2294.

Draba hirta arctica Wats. Proc. Am. Acad. 23: 260. 1888.

Draba hirta tenella Eastwood Bot. Gaz. 33. 148. 1902.

Perennial, usually ~~low and spreading~~ or erect, canescent branched, stems 5 to 25 cm. high, simple or more commonly branched from the base; basal leaves oblanceolate or spatulate, 5 to 25 or even 50 mm. long, entire or dentate, cauline ovate to oblong; flowers 4 to 5 mm. long in dried specimens; pods 8 to 10 mm. long, straight or twisted at maturity. Arctic Alaska to the Alaska Peninsula and on the Bering Sea Islands, the Aleutians and Kadiak Island. Specimens have also been seen from the Commander Islands and from Greenland.

Although variable in height and in the size and dentation of the leaves, the specimens examined are constant as to the shape of the leaves and the character of the pubescence. D. hirta tenella Eastwood is, from the description, merely a form of the present subspecies with fewer cauline leaves than are usually found.

Arctic Alaska.— Point Hope, McLenegan, 1884.

Bering Sea Islands.— St. Matthew Island, Camille & Kearney (No. 2171). Hall Island, Camille & Kearney (No. 2064)

Seward Peninsula.— Port Clarence, Camille & Kearney (No. 1941), J. T. White, July 3, 1894, F.A. Walpole, 1901 (Nos. 1405, 1983, 1939).

Pribilof Islands.— St. Paul Island, Camille & Kearney (No. 1802), Jones & Prentiss, 1895 (Nos. 5, 19), C. H. Merriam, Aug. 8, 1891, Wm. Palmer, 1896 (No. 632).

Aleutian Chain.— Atta Island, J. M. Macoun, Aug. 1891. Atka Island L. M. Turner 1879 (No. 1286). Unalaska, Harrington, 1871-72, C.H. Townsend, June 29, 1893, B. D. Eisenmann, 1872 (No. 15). Shumagin Islands, Harrington, 1871-72. Popoff Island, Kincaid, July 5 to 19, 1899, Saunders July 7 to 18, 1899.

Alaska Peninsula.— Herendeen Bay, C.H. Townsend July 1890. Kukak Bay, Camille & Kearney (Nos. 1610, 1611).

Kadiak Island.— Evans, 1897 (No. 358), Camille & Kearney (No. 1483).

Draba sp. stellate and forked hairs

~~basally stellate~~ pubescent throughout with

Perennial, caudex branched, stems scmral, 8 to 30 cm. high, branched or simple; leaves entire or sparingly and inconspicuously dentate, the basal and lower cauline 15 to 20 mm. long, 3 to 6 mm. broad oblanceolate, the middle and upper cauline ovate to oblong 10 to 30 mm. long, 2½ to 10 mm. wide; flowers yellow, petals 3 to 4 mm. long; pubescent with branched hairs about pod lanceolate, 9 to 12 mm. long, style ½ mm. long

These specimens agree with the figure of D. aurea in Curtis's Bot. Mag. 56: t. 2934. 1829. except that the stem leaves of the latter are more dentate.

Copper River region. — ~~W. L. Prlo~~ East fork of Chitashina River, ~~1902~~ W. L. Prlo, 1902 (No. 66).

Lake Iliamna region. — Rocky cliffs on Chulitna River, Gorman, 1902 (No. 150).

~~These specimens~~

Parrya R. Br.

Perennial ~~or biennial~~, glabrous or pubescent; flowers purple or rose color; Stigmas 2-lobed; seeds orbicular, winged or wingless. About 10 species as treated by most modern authors, though some of the Asiatic species depart considerably from the typical form. Mountains of central Asia, northern Asia, arctic and western North America.

Parrya nudicaulis (L.) Regel.

Cardamine nudicaulis L. Spec. 2: 654. 1753.
Parrya macrocarpa R. Br. in Parry 1st. Voy. Suppl. 270. 1824.
Parrya nudicaulis Regel, Bull. soc. Nat. Mosc. 34 (2): 176. 1861.
Parrya macrocarpa aspera Hook. Fl. Bor. Am. 1: 47. 1829.

Perennial from a simple or more frequently branched caudex; glabrous or pubescent with stout clavulate hairs; scapes leafed, 3 to 15 cm. high; leaves variable, narrowly oblanceolate or sometimes linear-lanceolate to obovate, entire, sinuate dentate, coarsely toothed or sometimes almost laciniate; scapes & flowers conspicuous, purple; pods 2.5 to 6 mm. long, seeds broadly winged. Arctic Alaska to the Mackenzie River, south to the Shumagin Islands, Cook Inlet and the Upper Yukon; also in the Uinta Mountains in Utah, Islands of Bering Sea and Arctic Alaska. Originally described from Siberia and reported from Kamchatka, Thibet and Afghanistan in Asia and from arctic Russia in Europe.

Although exceedingly variable the intergradations are so many that it appears impossible to segregate varieties subspecies. Of the Alaskan material specimens from the interior have narrower, more often entire leaves than those from near the coast. The var. aspera is nothing more than the pubescent form of the species.

Islands of Bering Sea.— St. Mathew Island, J. M. Macoun Aug. 10, 1891. Camille & Kearney (No. 2176), St. Hall Island, Camille & Kearney (No. 2077).

Arctic Alaska.— Point Hope, Mc Keegan, 1884. Valley of Kowak River, G. M. Stoney June 30, 1886.

Seward Peninsula.— Port Clarence, J. T. White July 3, 1894, Camille & Kearney (No. 1970), F. A. Walpole, 1901 (Nos. 1404, 1453, 1523, 1573). Five miles north of Nome City, J. B. Flett, 1900 (No. 1688). Golofnin Bay, A. J. Collier, July 1, 1900.

Between Norton Sound and Bristol Bay.— Cape Vancouver, J. M. Macoun, Aug. 9, 1891.

Alaska Peninsula.— Stepovak Bay, Palache July 8 to 19, 1899.

Aleutian Chain.— Popof Island, Kinkaid July 8 to 19, 1899. Shumagin Islands, Harrington, 1871-72.

Between the Yukon and Koyukuk Rivers.— Old Man Creek, W. C. Mendenhall, July 6, 1901

Between Cook Inlet and Rampart City.— Simpson Pass, Brooks & Pamdle, July 11, 1902

Headwaters of the Cosapar and Tanana Rivers.— Drop Creek, Schrader & Hartman, 1902 (No. 14).

Upper Yukon.— "The Dome" Klondike Indian divide, J. B. Tarleton, 1899 (No. 180).

Arabis L.

Erect or spreading annuals or perennials, rarely glabrous or pubescent; the pubescence branched or stellate; flowers white or purple; pods linear, the valves mostly 1-nerved; seeds wingless or winged. About 50 species mainly of the north temperate and arctic zones.

Key to the Species.

Stem leaves attenuate at the base, not auriculate.

A. lyrata.

Stem leaves auriculate.

Pods reflexed after anthesis.

A. Lobbellii.

Pods ascending, not reflexed after anthesis.

Seeds in 1 row in each cavity of the pod, ~~winged~~.

A. hirsuta.

Seeds in 2 rows in each cavity of the pod, ~~wingless~~.

~~subglabrous~~

Glaucous above; ~~stem~~ sepals and pedicels glabrous. A. glabra.

Not glaucous; sepals and pedicels hairy. A. Lookeri.

Arabis lyrata L.

Arabis lyrata L. Sp. Pl. 2: 668, 1753.

Represented in Alaska by the following subspecies.

Arabis lyrata intermedia (DC.) Wight.
Arabis ambigua intermedia DC. Syst. 2: 281, 1821.
Arabis lyrata occidentalis Wats. in Gray, Syn. Fl. 1: 159, 1890.[1]

Biennial or perennial, branched from the base, glabrous or sparingly pubescent below; stems slender, 10 to 50 cm. high; basal leaves lyrate-pinnatifid or sometimes nearly entire, cauline leaves oblanceolate to spatulate, rarely lanceolate entire, or the lowest sometimes sinuate and dentate; flowers white or pinkish, petals about 6 mm. long; pods 15 to 30 mm. long, style nearly sessile. On the Pribilof and Aleutian islands, Unalaska being the type locality, and from Unalaska, ~~reasonably distributed from~~ to Nushagak and the Copper River region, southeastern Alaska, British Columbia and and the eastern side of the Rocky Mountains in British America. Reported also from Kamchatka.

Although very near A. lyrata of the eastern part of America it appears to be distinct, differing chiefly in its nearly sessile style. The name intermedia was clearly applied to this plant by DC. and though not adopted by Watson, should be retained.

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1. Not Arabis lyrata occidentalis Wats.; Macoun, Cat. Canad. Pl. 2: 304. 1890. Macoun publishes this name by the citation of A. petraea ambigua Regel as a synonym, and Watson's name and though he says "quite common in the northern part of British Columbia" he gives no discription and cites no specimens that could be identified as the type. Watsons name therefore, must become a synonym of the Siberian plant and is not available for the American plant even though it had not received an earlier name.

Pribilof Islands. — St Paul Island, Lucas & Prentiss, 1895 (No. 98), Wm. Palmer, 1890 (Nos. 349, 634), J. M. Macoun, Aug. 3, 1891.

Aleutian Chain. — Atka Island, L. M. Turner, 1879. Unalaska, M. W. Harrington, 1871-72, L. M. Turner, 1881 (No. 1282), J. B. Flett, 1900 (Nos. 1816). Popof Island, Kincaid, July 8 & 9, 1899. Chiachi Islands, Dall, 1874.

Bristol Bay and vicinity. — Nushagak, C. L. McKay, June 16, 1881. Lower Aleknagik lake, Johnson [?] 1882 (No. 16).

Alaska Peninsula. — Herendeen Bay, C. H. Townsend, July 1890. Nelsons Lagoon, F. A. Golder, 1900 (No. 64). Kukak Bay, Camille & Kearney (No. 1533).

Kodiak Island. — Evans, 1897 (No. 327), Camille & Kearney (No. 2308).

Between Cook Inlet and Rampart city. — Brooks & Prindle, June 1, 1902.

Copper River Region. — William L. Polo, 1902 (No. 43).

Cook Inlet. — Kenai, H. P. Nilsen, 1901 (No. 15).

Yakutat Bay. — Russell Tyrrell, Camille & Kearney (No. 979). Egg Island, Camille & Kearney (No. 1039). Disenchantment Bay, Funston, 1892 (No. 84).

Southeastern Alaska. — Glacier Bay, Camille & Kearney, (No. 676 1/2). Skagway, Camille & Kearney (No. 497). Juneau, Coare & Cooley, July 25, 1891, Camille & Kearney (No. 3586). Sitka, Kellogg, 1867 (No. 243), Evans, 1897 (No. 236). Bailey Bay, Harned, 1895 (No. 1609). Hoonah Bay, Saemann, 1895 (No. 111). Strait Bay, Saemann, 1895 (No. 101).

Arabis holboellii Hornem.

Arabis holboellii Hornem. Fl. Dan. 11: t. 1879.

Perennial, stems 1 or more, simple or branched, finely and densely stellate pubescent below, sparingly stellate pubescent above; basal leaves oblanceolate 15 to 25 mm. long, entire or rarely inconspicuously dentate, cauline leaves linear-lanceolate, ascending-reflexed, the petals 5 to 7 mm. long; pods 26 6.5 cm. long. Copper River region and the upper Yukon, south to California, New Mexico, and Nebraska, and through arctic America to Greenland, the type locality.

Copper River region — W.L. Polo, 1902 (No. 79).

Upper Yukon. — Lt. Selkirk, Garman, 1899 (No. 100 in part). White Horse Rapids, J.B. Tarleton, 1899 (No. 30). Fifty Mile River, A.E. Bolton, July 29, 1899.

holboellii Columbiana (Macoun.) Wight.

Arabis holboellii patula Wats.

Arabis holboellii patula Wats. in Gray, Syn. Fl. 1: 164. 1895.

Turritis patula Grah. Edinb. N. Phil. Journ. 7: 344. 1829.

Arabis columbiana Macoun, Cat. Canad. Pl. 2: 304, 1886.

Arabis Gouroviii Rydb. Mem. N.Y. Bot. Gard. 1: 1870

Differs from the species in the pubescence below being less fine and dense, and in being very nearly or quite glabrous above, with glabrous pedicels. Upper Yukon and British Columbia.

The name Graham's name is preoccupied by Arabis patula Weinm.

Upper Yukon — Lt. Selkirk, Garman, 1899 (No. 100 in part).

Arabis hirsuta (L.) Scop.

Turritis hirsuta L. Sp. Pl. 2: 666. 1753.

Arabis hirsuta Scop. Fl. Carn. ed. 2. 2: 30. 1772.

Biennial stems ~~single~~ solitary or sometimes several, simple or strictly branched, 15 to 70 cm. high, hirsute with simple and forked hairs at least at the base, or very rarely glabrate throughout; ~~basal leaves~~ leaves entire or more commonly repand dentate, the basal ones oblanceolate to obovate 2 to 7 cm. long, cauline lanceolate or sometimes oblong; sepals and pedicels usually glabrous; petals greenish white 3 to 8 mm. long; pods 2 to 5 or even 7 cm. long, sessile nearly orbicular, margined. The Aleutian Islands to southeastern Alaska and the upper Yukon, thence eastward to ~~Labrador~~ New Brunswick, south to New Mexico and Georgia. Also in Europe, having been originally described from Sweden, Germany and England, and in Asia.

Aleutian Chain. — Atka Island, L. M. Turner, 1879 (No. 1257). Unalaska, B. W. Timermann, July 9-17, 1892, I. C. Russell, June 29, 1889, Camille & Kearney (No. 1740), J. B. Flett, 1900 (No. 1817). Popof Island, Kincaid, July 5 to 19, 1899.

Alaska Peninsula. — Kukak Bay, Camille & Kearney (No. 1598).

Kodiak Island. — Evans, 1897 (No. 974).

Yakutat Bay. — Khantaak Island, Funston, 1892 (No. 157).

Southeastern Alaska. — Glacier Bay, Camille & Kearney (No. 766). Juneau, Camille & Kearney (No. 542). Sitka, Evans, 1897 (No. 219). Mouth of Stikine River, Kellogg, 1867 (No. 400). Yes Bay, Howell, 1895 (No. 1609).

Upper Yukon. — Coal Creek Hill, Funston, 1893 (No. 92). Fort Selkirk, Lamman, 1899 (No. 1040).

Arabis glabra (L.) Bernh.

Turritis glabra L. Sp. Pl. 2: 666. 1753.

Arabis glabra Bernh. Verz. Syst. Erf. 195. 1800.

Arabis perfoliata Lam. Dict. 1: 219.

Stem solitary, simple, glabrous throughout or more commonly pubescent at the base; basal leaves oblanceolate or oblong, dentate or sometimes lyrate-pinnatifid, 5 to 25 cm. long; cauline leaves glabrous, lanceolate or oblong; flowers yellowish white, petals only slightly exceeding the sepals; pods 5 to 8 cm. long, sweds somewhat irregular in outline, nearly or quite marginless. Southeastern Alaska to Lower California and east to Quebec and Pennsylvania. Originally described from Europe and Asia.

Southeastern Alaska. — Sitka, Evans, 1895 (No. 774).

Arabis hookeri Lange.

Turritis mollis Hook. Fl. Bor. Am. 1:40. 1829.

Arabis hookeri Lange

Stems solitary or several ascending, simple or branched 8 to 20 cm. high hairy throughout; basal leaves oblanceolate, 2 to 3 cm. long, sinuate-dentate pubescent with forked hairs, stem leaves lanceolate to nearly linear, entire or the lower dentate, sagittate at the base; flowers white, petals about 4 mm. long, twice the length of the sepals, pods on rather long, slender pedicels, mature pods not seen. Upper Yukon and Coppper River to the Arctic sea and between long. 107° and 130°, the type locality of Hooker's plant, and in Greenland.

Copper River region. — W. L. Polo, 1902 (No. 13).

Upper Yukon. — Red Mountain, Garman, 1899 (No. 1163).

Barbarea R. Br.

Biennial or perennial erect herbs, stems angled, branching, glabrous, slightly succulent; flowers yellow; valves of the pod keeled; seeds in 1 row in each cell. About 7 species in temperate regions of both hemispheres.

Barbarea americana Rydb.

Barbarea vulgaris gracilis Wats. Bot. King's Exp.

Barbarea americana Rydb. Mem. N.Y. Bot. Gard. 1: 174, 1900.

Usually erect and rather stout sometimes branched from near the base, glabrous, green or purplish; basal leaves with 1 to 4 pairs of lobes, cauline segments clasping at the base and the terminal more or less dentate or lobed; flowers yellow, petals 3.5 to 5 mm. long; pods 2 to 4 cm. long, ascending to nearly erect, the style stout, short, .5 to 1 mm. long. From Labrador Peninsula and the Aleutian Islands to the southeastern boundary, thence to Montana and Nevada. Also collected in the Northwest Territory (Franklin's journey).

To this species undoubtedly belong all the B. barbarea ~~and~~ or B. vulgaris and B. stricta heretofore reported from Alaska. Its most conspicuous character is its erect and stout style.

Seward Peninsula. — Vicinity of Port Clarence, F. A. Walpole, 1901 (No. 1604). Near Nome City, J. B. Flett, 1900 (No. 1633).

Norton Sound. — Ft. St. Michaels, Bannister, 1865–66.

Bristol Bay and Vicinity. — Nushagak River, Mc. Kay, June 25, 1881.

Aleutian Chain. — Unalaska, Evans, 1897 (No. 538), C. H. Merriam, Aug. 12, 1891, B. W. Emermann, 1892 (No. 102), Harrington, 1871-72, Camille & Kearney (No. 1785), Kellogg, 1867 (No. 37), Nagai Island, C. H. Townsend, June 22, 1893, Shumagin Islands, Harrington, 1871-72.

Kodiak Island. — Evans, 1897 (No. 375). Sturgeon River, Camille & Kearney (No. 2245).

Alaska Peninsula. — Kukak Bay, Camille & Kearney (No. 1601).

Lake Iliamna Region. — Creek Banks, Iliamna Bay, Garman, 1902 (No. 11).

Yakutat Bay. — Disenchantment Bay, Funston, 1892 (No. 95), Camille & Kearney (No. 1057).

Southeastern Alaska. — Tataash Islands, J. B. Flett, 1901 (No. 1978). Wrangell, Evans, 1897 (No. 201).

Cardamine L.

Erect or ascending annual or perennial herbs, mostly glabrous with fibrous rooted or rootstocks; pods linear, the valves faintly nerved or nerveless; seeds in one row in each cell, About 75 species in the temperate, arctic and alpine regions of both hemispheres.

Key to the Species.

Leaves entire or very nearly so.

C. bellidifolia.

Leaves nearly all pinnately or ternately divided.
Stems fibrous rooted.

Flowers white, small and inconspicuous petals not exceeding 5 mm. in length.

C. kamtschatica.

Flowers purple, purplish or sometimes white, conspicuous, petals 6 to 10 mm. long.

Leaflets of cauline leaves linear or narrowly oblong.

C. pratensis.

Leaflets of cauline leaves short-oblong to orbicular.

C. chamissoniana.

Stems from elongated rootstocks.

Plant 30 to 60 cm. high; leaves mostly 3-foliolate.

C. angulata.

Plants 5 to 15 cm. high; leaves mostly 5- to 7-foliolate, or the uppermost sometimes 3foliolate.

Leaflets of the root and stem leaves similar, linear and entire.

C. digitata.

Leaflets of the root and stem leaves dissimilar, those of the root leaves broadly oblong to orbicular, usually 3-lobed.

C. blaisdellii.

Cardamine bellidifolia L.

Cardamine bellidifolia L. Sp. Pl. 2: 654. 1753.

Cardamine lineensis Andrz. Led. Fl. Alt. 3: 83.

Perennial, dwarf, 2 to 8 cm. high from a branched caudex; leaves oval, ovate or sometimes obovate, commonly obtuse, 5 to 15 mm. long, 3 to 8 mm. broad, the lower ones with a long, slender petiole; flowers white, about 4 mm. long in dried specimens; pods 15 to 20 mm. long. Wet ground, especially on the tundra on the Bering Sea islands and from Seward Peninsula to the Keechatno ~~River~~ Valley, Kodiak Island and White Pass in southeastern Alaska; also in the Rocky Mountains of British Columbia, in the mountains of northern California, along the arctic coast to Greenland and in the mountains of New England. Originally described from ~~the Alps~~ Lapland, Switzerland and Britain and occurs in Siberia. C. lineensis was described from

Islands of Bering Sea. — St. Matthew Island, Camille & Kearney (No. 12102).

Pribilof Islands. — St. Paul Island, Wm. Palmer 1890 (No. 150). St. George Island, B. D. Evermann, 1892 (No. 92).

Seward Peninsula. — Port Clarence, Camille & Kearney (No. 19414). Sixteen miles west of Nome City, J. B. Tuttle, 1900 (No. 1682).

Between Cook Inlet and Ramsay City. — Upper Keechatno Valley, Brooks & Paindle, July 9, 1902.

Kodiak Island. — Eagle Bay, Camille & Kearney (No. 14051).

Prince William Sound. — Columbia Fiord, Camille & Kearney (No. 13744).

Southeastern Alaska. — Volcano Peak, White Pass, A. E. Bolton, 1898.

[Make This No. 2]

53.4.*

Cardamine kamtschatica (Rigel) Wight.

Cardamine sylvatica kamtschatica Regel, Bull. Soc. Nat. Mosc. 37 2: 172. 1861.

Cardamine umbellata Greene, Pitt. 3: 154. 1897.

Stems several, (rarely solitary, erect or ascending) 15 to 45 or even 60 cm. high, simple or sometimes branched, glabrous or sparingly hairy, leafy to the summit; lower leaves rather long petioled, the 5-7 oval or rounded leaflets entire or obscurely lobed, upper leaves short-petioled or nearly sessile, the leaflets oblong or rarely linear, entire or toothed; ~~flowers white~~ in moist ground about springs and along brooks pods 2 to 3 cm. long, ~~in the~~ (from the) Pribilof and Aleutian Islands to Cook Inlet, the Copper River region and southeastern Alaska. Originally described St. Paul Island and Kamtschatka.

C. umbellata was described from St. Paul Island, but there can be no doubt of its identity with the plant described by Regel and the latters name is therefore restored. It is the "C. hirsuta" of most of the earlier Alaskan collectors.

64 5, 8

Pribilof Islands. — St. Paul Island, Camille & Kearney (No. 1532), C. H. Merriam, ~~Dec~~ July 30, Aug. 7, 1871, J. M. Macoun, July 28, 1891, True & Pamunso, 1895 (Nos. 13, 25, 78

Aleutian Chain. — Atka Island, L. M. Turner, 1879 (No. 1356). Unalaska, J. B. Flett, 1900 (No. 1815), Evans, 1897 (No. 572), Camille & Kearney (No. 1780), Nagai Island, C. H. Townsend, June 24, 1893. Popof Island, Kincaid, July 8 & 19, 1899.

Kadiak Island. — Sturgeon River, Camille & Kearney (No. 2254).

Alaska Peninsula. — Kukak Bay, Camille & Kearney (No. 1604).

Cook Inlet. — Kasiloff, Evans, 1898 (No. 714)

Copper River Region. — W. L. Polo, 1902 (No. 80).

Yakutat Bay. — Khantaak Island, Funston, 1892 (No. 7). Russell Fjord. Camille & Kearney (No. 936).

Southeastern Alaska. — Juneau, Grace Ensley, 1891 (Nos. 16, 19), Camille & Kearney (Nos. 3537, 3570)

Sitka, Camille & Kearney (No. 821), Evans, 1897 (No. 252), Kellogg, 1867 (No. 25-8), Fisher, 1865-66. Wrangell, Evans, 1897 (No. 37).

55 & 7

Between Cook Inlet and Rampart City. — Upper Kuskokwim Valley. Brooks & Prindle, July 9, 1902.

Kodiak Island. — Eagle Bay, Conille & Kearney (No. 1451).

Prince William Sound. — Columbia Fjord, Conille & Kearney (No. 1344).

Southeastern Alaska. — Volcano Peak, White Pass, A. E. Bolton, 1898.

Cardamine pratensis L. [make this No. 3.]

Cardamine pratensis L. Sp. Pl. 2: 656. 1753.

Perennial.

Stems commonly erect, glabrous, simple, 10 to 95 cm. high; basal leaves usually several, cauline leaves 10 to several with 7 to 15 sessile or subpetiolate leaflets; flowers purplish or white. Bogs and margins of ponds, Cape Prince of Wales to Cook Inlet and the Upper Yukon thence to British Columbia, Labrador and New Jersey. Originally described from Europe, and occurs in northern Asia.

Arctic Alaska.- Cape Lisburne, J. T. White, Aug. 12, 1894. Kowak River, G. M. Stoney, June 25, 1886.

Seward Peninsula.- Port Clarence, F. A. Walpole, 1901 (Nos. 1582, 1639, 1949). Near Nome City, J. B. Tuttle, 1900 (Nos. 1637, 1642).

Norton Sound.- Ft. St. Michaels, H. M. Bannister, 1865-66. Yukon Delta, I. C. Russell July 14, 1889.

Bristol Bay and Vicinity.- Lower Aleknagik lake, Johnson, 1882 (No. 21). Nushagak, C. L. McKay, June 23, 1881.

Alaska Peninsula.- C. H. Townsend July 1890.

Pribilof Islands.- St. Paul Island, 1895- (Nos. 30, 49).

Aleutian Chain.- Popof Island, Kincaid, July 5 to 19, 1899.

Cook Inlet.- Kasilof, W. H. Evans, 1898 (No. 629)

Upper Yukon.- Trail Eagle to Valdez, A. J. Collier, 1902 (No. 607). Near mouth of Bonanza, R. S. Williams, June 15, 1899.

[Make this No. 4]

07 8 8

Cardamine chamissoniana Wight.

Cardamine purpurea Cham. & Schlecht. Linnaea 1: 20. 1826.

Perennial, the base usually covered with the persistent petioles of old leaves, sparingly hirsute, stems 1 to several, 6 to 10 cm. or in fruit sometimes 15 cm. or more high; basal leaves lyrate-pinnatifid or pinnate the terminal segment shallowly lobed, the others commonly entire, stem leaves 1 or 2, ~~smaller~~ differing from the basal mainly in their smaller size; the raceme sometimes subtended by a ~~leafy~~ 3-lobed ~~leaf~~ foliaceous bract; flowers few, purple, usually crowded, the petals 2 to 2½ times the length of the sepals; pods 15 to 30 mm. long, slightly verrucose. Cape Thompson to ~~Port Clarence~~ Nome City and St. Lawrence Island, the type locality of Chamisso's plant. Apparently very rare.

It is unfortunate that the name purpurea cannot be be retained for this handsome plant with its deep purple flowers, but the C. purpurea (Sav.) Britton is four years earlier.

Seward Peninsula. — Port Clarence, F. R. Walpole, 1901 (Nos. 1413, 1941).

Make this No. 5

5 8 9

Cardamine angulata Hook.

Cardamine angulata Hook. Fl. Bor. Am. 1: 44. 1829.

~~from a creeping rootstock~~, perennial, stem erect ~~30 to 60 cm. high~~, simple, glabrous or sometimes pubescent; basal and cauline leaves mostly similar, the leaflets broadly oblong to ovate or nearly orbicular in outline, rather coarsely toothed, most of the upper leaves usually cuneate at the base; ~~racemes~~ flowers white, the petals about 7 mm. long in dried specimens. Southeastern Alaska to the Cascade Mountains of Washington and Oregon. Originally described from the "Banks of the Columbia".

Southeastern Alaska. ~~Evans~~, Hawkins, Evans, 1897 (No. 140).

Cardamine digitata Richards. [Make this No 6] 59 46 11

Cardamine digitata Richards, App. Franklin. Journ. 748. 1823.

Perennial,

Stems creeping at the base, simple, glabrous, 10 to 20 cm. high; ~~basal~~ root leaf, usually ~~the~~ slender petioled ~~arising directly from the rootstock~~, stem leaves 1 to 3, short-petioled, the leaflets ~~3 to 7~~ approximate; flowers white; mature pods not seen. Seward Peninsula to the Kowukuk River and through northern British America. Originally described from the "Barren Grounds from Point Lake to the Arctic Sea." Reported also from the Gulf of St. Lawrence on the Asiatic side of Bering Strait.

Although confused with C. pratensis L. by most authors it is quite distinct from that species, the main points of difference are its smaller size, ~~its~~ creeping rootstock, the ~~number of the~~ shape and number of leaflets in its leaves, also ~~in~~ the size as well as usually ~~in~~ the color of its flowers.

Seward Peninsula.- Port Clarence, J. T. White, July 9, 1894, F. A. Walpole, 1901 (Nos. 1465, 956, 1810, 1893).

Fort Hamlin, Yukon River to Kowukuk River,- Dall River Trail, W. C. Mendenhall, June 20, 1901.

[Make this No. 7] Cardamine blaisdellii Eastwood

Cardamine blaisdellii Eastwood Bot. Gaz. 33: 146. 1902.

Perennial, ~~from a slender rootstock,~~ stems solitary or sometimes 2, glabrous, 10 to 20 cm. high; ~~lower leaves~~ root leaves ~~usually~~ ~~nearly unifoliate~~ usually ~~3-foliate~~ ~~comment~~ ~~with 3 to~~ one to three, 5, oblong or ~~roundish~~ leaflets, upper stem leaves with 3 to 5 narrowly oblong or lanceolate, mostly entire leaflets; flowers white, the petals 2½ to 3 times as long as the sepals; pods 2 to 3 cm. long. ~~Seward Peninsula and Kayne Island on the Asiatic side of Bering strait. Type specimen collected at Nome City, Alaska.~~

Moist declivities above the beach and below the edge of the tundra from Cape Thompson to Nome City, the type locality, and Kayne Island on the Asiatic side of Bering Strait.

Seward Peninsula. — Port Clarence, Coville & Kearney (No. 1905), F. A. Walpole 1901 (No. 1897). Near Nome City, J. B. Flett, 1900 (No. 1686).

Brassica L.

Annual or biennial, erect, branching herbs with usually lyrate lower leaves and white or yellow flowers; pods terete or angled, valves 1-to 3-nerved; seeds in one row in each cell, oblong. About 50 species natives of the Mediterranean region, central Europe, and central and east Asia.

Brassica campestris L.

Brassica campestris L. Sp. Pl. 2: 666. 1753.

Stems 30 to 120 cm. high, glaucous or sometimes pubescent on the veins of the leaves beneath, lower leaves toothed or pinnatifid, petioled, upper leaves entire or nearly so, sessile with a cordate-clasping base; flowers yellow; pods 2 to 4 cm. long, tipped with a beak 8 to 10 mm. long. Probably only an occasional stray plant where it has been introduced about dwellings or along trails, ~~the~~ Near Lake Iliamna, the Copper River Region and southeastern Alaska. Naturalized from Europe, where it was originally described, occurs also in Asia.

Lake Iliamna Region.— Iliamna Point, Garman, 1902 (264).

Copper River Region.— On bar in river, W.L. Poto 1902 (No. 168).

Southeastern Alaska.— Foggy Bay, Camille [illegible] 1897.

Sophia Adans.

Annual or perennial herbs, or some exotic species shrubby; pubescent with forked hairs; flowers small, yellow; pods lanceolate or linear, the valves 1-nerved, stigma entire; seeds in 1 row. About 15 species, natives of Europe, the Canary Islands, North America and 1 species in Chile.

Sophia sophioides (Fisch.) Hiller.

Sisymbrium sophioides Fisch. in Hook. Fl. Bor. Am. 1: 61. t. 20. 1830.

Sophia sophioides Hiller, Cat. N. Am. Pl. ed. 2. 4. 1900.

Annual, ~~usually~~ commonly tall, simple or branched above; leaves bi-pinnate the pinnae mostly oblong or oval; flowers in a rather dense terminal umbel-like clusters ~~terminating the main stem and branches~~; pods linear, ~~falcate~~ usually curved, 25 to 35 mm. long. From ~~Kowak~~ Noatak River in Arctic Alaska and Port Clarence to Rampart City and Nushagak. Fischer's specimens came from Kotzebue Sound. Reported to range to Hudson Bay and the shores of the Arctic sea westward of the Mackenzie.

Arctic Alaska.— Noatak River, F. M. Stoney, July 10-20, 1885-6. Valley of Kowak River, W. C. Mendenhall, Sept. 5, 1901.

Seward Peninsula.— Vicinity of Port Clarence, F. A. Walpole, 1896 (No. 1749).

Yukon River. — Rampart, Isaac James, 1904 (No. 65).

Bristol Bay and Vicinity. — Upper Aleknagik Lake, Johnson? July 18, 1882.

Aphragmus Andrz.

Low, perennial, herb with thickish leaves; pod lanceolate, the valves flat; ovules 4 to 6. Only the following species known.

Aphragmus eschscholtzianus Andrz.

Aphragmus eschscholtzianus Andrz.; DC. Prodr. 1: 210. 1824.

Areas involucrata Cham., + Schlecht. Linnaea 1: 30. T. 1. 1826.

Eutrema "(?)" eschscholtzianum Robinson in Gray, Syn. Fl. 1: 135. 1895.

~~Perennial, with branching rootstock and the ends of the branches~~ Root-stock branching and the ends covered with ~~summits~~ leaves of old leaves. basal leaves slender petioled, oblong; ~~stems~~ 1 to 3 cm. high, leafless except for an involucre of 2 to 4 foliaceous bracts just below the inflorescence; flowers small, white, corymbose; pods 6 to 10 mm. long, about 2 mm. wide, pedicels very short. In the Aleutian Islands, but the type locality not more definitely given. The type locality of Areas involucrata is the mountains of Unalaska.

Aleutian Chain - Pribof Island, Kinkaid,

Braya Sternb. & Hoppe

Perennial, root usually thickish; ~~and~~ leaves tufted at the base; flowers white or purple, in a compact cluster at anthesis; pods lanceolate or linear, ~~strongly~~ ~~with~~ the valves convex. About 8 species in ~~the~~ arctic and alpine regions of ~~high mountains of~~ Europe, central and northern Asia and ~~in~~ ~~the~~ ~~the~~ northern North America.

Braya glabella Richards.

Braya glabella Richards. in Frankl. 1st Journ. 743. 1823.

Platypetalum purpurascens R. Br. in Parry's 1st Voy. suppl. to app. 267.

Braya alpina americana Hook. Fl. Bor. Am. 1: 65. 1830.

Braya purpurascens Bunge; Ledeb. Fl. Ross. 1: 195. 1841.

~~Perennial~~ Stems 1 to several, 3 to 8 cm. ~~high~~ or in fruit 12 or 14 cm. high; leaves inconspicuously hairy, ~~pubescent~~ nearly all basal, ~~narrowly~~ linear to linear-spatulate, entire or sometimes slightly repand, 8 to 25 mm. long, glabrous or sparingly hairy; flowers in a crowded corymbiform cluster, white or purplish, petals about 4 mm. long, twice the length of the sepals; pods glabrous, 6 to 17 mm. long, style 1 mm. long, 2-lobed. Port Clarence. Reported from the Rocky Mountains, lat. 52° to 57° and from Hudson strait to the Arctic Sea, also in Greenland, Northern Siberia, Spitzbergen.

Originally described from the "Barren Grounds from Point Lake to the Arctic sea".

The type of B. alpina americana was collected in the Rocky Mountains lat 52° to 57°. That of Platypetalum purpurascens was collected

Eutrema R. Br.

Perennial herbs with entire or shallowly dentate leaves; flowers white or pale purple; pods ± narrowly lanceolate or linear, the septum entire, perforated or sometimes nearly wanting; valves 3-nerved. About 4 species in Siberia and northern North America.

Key to the Species.

Leaves spatulate.

E. arenicola.

Leaves ovate, oblong, or sometimes lanceolate.

E. edwardsii

Eutrema arenicola Richards.

Eutrema arenicola Richards. in Hook. Fl. Bor. Am. i: 67. t. 24. 1830.

No type material - none in Nat. Herb.

Reported from Alaska, St Michaels - Golofnin Bay, Ohwer cruise Commn 1881.

"Dry sand upon the shores of Arctic America, between long. 107° and 150°. Dr Richardson. Capt. Sir John Franklin and Capt. Back."

Eutrema edwardsii R. Br.

Eutrema edwardsii R. Br. in Parry 1st. Voy. Suppl 5 appx. 267. t. A. 1824.

Root fibrous,

Stems 1 to several, 5-20 cm. high, glabrous; basal leaves with slender petioles, cauline mostly sessile; flowers white or ~~whitish~~ sometimes pale purple; fruiting raceme elongated, pedicels 3 to 5 mm. long, 1.5 to 2 mm. broad, pedicels 3 to 5 mm. long, ~~Cape Lisburne and Islands at the mouth~~ Icyland moors and tundra Hall Island Bering Sea and from Cape Lisburne to Howard Peninsula, Hudson Bay, Melville Island, the type locality, Grinnell Land and Richard.

Arctic Alaska. - Colville Delta, Schrader, Aug. 14, 1901.

Howard Peninsula. - Between Cape Nome and Port Clarence, A. J. Collier June, 901, Fifteen miles west of Nome City, J. B. Flett, 1900 (No. 1039).

Between Norton Sound and Bristol Bay. - Cape Vancouver, J. M. Macoun, Aug. 9, 1891.

Islands of Bering Sea. - Hall Island, Camille & Kearney (No. 2068).

Smelowskia C. A. Meyer.

Low perennial herbs, sometimes suffrutescent below; leaves pinnate to nearly or quite entire; flowers white, yellowish or purplish; pods with ~~valves~~ false valves strongly keeled; seeds in 1 row, ~~2 rows~~ 7 species, mostly in the mountains of central Asia and western North America.

Smelowskia calycina (Desv.) C. A. Meyer.

Sutchinsia calycina Desv. Journ. Bot. 3: 168.

Smelowskia calycina C. A. Meyer in Ledeb. Fl. Alt. 3: 170, 183.

Represented in Alaska by the following variety.

Smelowskia calycina pachyriana

Sutchinsia calycina integrifolia Rupr.; Herder, Bot. Herald 20: 1852-57.

Perennial, ~~Biennial~~, nearly white with fine, dense stellate-pubescence, caudex branched, the branches covered with the bases of old leaves; leaves mostly basal, spatulate or the blade sometimes nearly oval, entire, emarginate or sometimes shallowly 3-lobed, very rarely 5-lobed; stems ~~leaved~~ flowering, mostly several, the leaves entire or sometimes 3-cleft; flowers numerous, white, the petals about 5 mm. long; pods 6 to 10 mm. long, attenuate at each end or sometimes narrowly obovoid. Rather dry soil on declivities above the beach from Cape Krusenstern on Kotzebue Sound to ~~Cape~~ Norton Bay and Seward Peninsula.

Hookers plant came from Cape Mulgrave, in Bering Strait.

Type specimen in the United States National Herbarium collected Sept. 9, 1901 on gravelly flats near the beach, Teller Reindeer Station, Alaska, by F. A. Walpole (No. 2041).

L. calycina hookeriana was apparently first detected by Hooker who designated it as B. in the Fl. Bor. It differs from the typical

Hook. Fl. Bor. Am. 1: 89. 1830.

specimens of L. calycina Neumann, l.c. gave it the name integrifolia citing Hooker as the authority, but the earlier L. integrifolia C. A. Meyer, necessitates a new name for the plant.

The specimen from near Nome City approaches same - L. americana (Regel & Herder) Ryd. what the Rocky Mountain form of the species.

Seward Peninsula. - Vicinity of Port Clarence Coville & Kearney (No. 1898a), F. A. Walpole, 1901 (Nos. 1444, 2041). Near Anvil Mountain near Nome City, J. B. Platt, 1900 (No. 1631).

Erysimum L

Annual, biennial or perennial herbs;
flowers yellow or rarely purple; pods linear, the valves flat and 1-nerved or convex and keeled; seeds small, oblong, in one row in each cell. About 80 species natives of the Mediterranean region, Europe, Central Asia and North America.

Key to the Species.

Flowers deep purple.

E. pygmaeum.

Flowers yellow.

Leaves green, pubescent with short 3-pointed hairs; petals 4 to 5 mm. long,

E. cheiranthoides.

Leaves grayish strigose, the hairs mostly simple or 2-pointed; petals 10 to 14 mm. long.

Erect; pods 2 to 5 cm. long,

E. inconspicuum.

More or less cespitose; pods 5 to 8 cm. long.

E. angustatum.

Erysimum pygmaeum (Adams.) Gay.

Cheiranthus pygmaeus Adams, Mem. Soc. Nat. Mosc. 5m: 114, 1817.

Cheiranthus pallasii Pursh, Fl. 2:436. 1814.

Hesperis pygmaea Hook. Fl. Bor. Am. 1:60. t. 19. 1830.

Erysimum pygmaeum Gay, Erys. Nov. Diag. 7. 1842.

A small plant having a perennial, woody, yellowish root covered with remnants of leaves of the preceding year; rootlets numerous; stems numerous, herbaceous, ascending, in flower terete, subhispid and of the length of the radical leaves, in fruit angular glabrous and 2-3 times as long; radical leaves caespitose about one inch long with apices slightly reflexed; cauline leaves numerous, alternate and slightly shorter, linear-lanceolate or linear, tapering to the petiole, entire or rarely with one to two acute teeth; the younger leaves appressed hispid on both sides glabrous in age; raceme simple, terminal, corymbose, about 20-flowered; pedicels filiform, glabrous, open about equalling the flowers in length, in fruit tetragonal; sepals oblong-lanceolate, obtuse, sparingly short hairy, mostly violet, gibbous and yellowish at the base, margins pale and almost white;

corolla small purple, claws of the petals of the length of the calyx, blades oblong obtuse; the longer stamens equalling the claws, filaments filiform compressed; the mature siliques linear, compressed tetragonal, erect, glabrous, the lower ones about 1½ inch long, the upper ones slightly shorter.

Erysimum cheiranthoides L.

Erysimum cheiranthoides L. Sp. Pl. 2: 661. 1753.

Erect ~~stem~~ cluster 15 to 75 cm. high, rarely smaller, stem nearly terete; leaves thin, lanceolate, acute or acutish at both ends, entire or sometimes sparingly and inconspicuously dentate; pedicels 5 to 10 mm. long, pods 20 to 25 mm. long, 1.2 to 6.0 mm. long, but apparently not very common collected at various localities from ~~Spruce Island northward~~ Port Clarence, and ranges to Cook Inlet, and ~~reported~~ to ranges ~~southward~~ to Oregon, Newfoundland and ~~North Carolina~~ Tennessee. Originally described from Europe and reported to extend through Siberia to Kamtschatka.

Seward Peninsula:— Port Clarence, F. A. Wolpole, 1901 (No. 1622).

Lake Iliamna Region:— Banks of Lake Iliamna, Gorman, 1902 (No. 147).

Kodiak Island and vicinity:— Spruce Island, Kellogg, 1867 (No. 243).

Cook Inlet:— Kasilof, Levanof, 1878 (No. 620). Kenai, H. P. Nielsen, 1901 (Nos. 43, 59).

Erysimum inconspicuum (Wats.) MacM.

Erysimum parviflorum Nutt. in Torr. & Gray, Fl. 1: 90. 1838.

Erysimum asperum inconspicuum Wats. Bot. King Exp. 24. 1871.

Erysimum inconspicuum MacM. Mt. Nat. Minn. Val. 268. 1892.

Caudex not branched,

Stems usually angular; leaves narrowly 13
15 to 30 cm. long, ½ to 5 mm. broad,
oblanceolate to nearly linear, entire or the lower
cauline and basal sometimes sinuate-dentate,
the upper sessile, the lower slender-petioled; pedicels
about 4 mm. long in fruit. The upper Yukon to
Nevada, ~~Kansas~~ Col Kansas and Ontario.
Nuttall's plant came from the "Plains of the Rocky
Mountains," Watson's from "Diamond Valley, Nevada."

Upper Yukon.— Coal Creek Hill, Funston, 1893
(No. 102). Fort Selkirk, Farman, 1899 (No. 1040).

75.

Erysimum angustatum Rydb.

Erysimum angustatum Rydb. in Britton & Rydb. Bull. N. Y. Bot. Gard. 2: 171. 1901.

~~Brysimum angustatum Rydb., sp. nov.~~

"A more or less cespitose perennial, with a slender tap-root and short branched rootstock or caudex. Stems 1–2 dm. high, sparingly grayish strigose, obtusely angled; leaves very narrowly oblanceolate-linear or linear, 4–7 cm. long, 1–2 mm. wide, grayish strigose; sepals linear, obtuse, about 8 mm. long, two alternate ones deeply saccate at the base, pale yellowish; petals lemon-yellow, about 14 mm. long; pods 5–8 cm. long, about 1.5 mm. broad, obtusely angled, ascending on ascending pedicels 5–8 mm. long, with a distinct beak 3–5 mm. long, somewhat constricted between the seeds; cotyledons incumbent.

"This species is probably nearest related to *E. asperimum* (*Cheiranthus asperrimus* Greene) but differs in the more elongated branches of the caudex or rootstock, which are covered with remnants of old leaves, the narrower perfectly entire leaves, the more slender stem, the less sharply angled pod and the more evident beak. The type was collected at Dawson by R. S. Williams, July 13, 1899."

~~Britton & Rydb. Journ. N.Y. Bot. Gard. 2: 171. 1901~~

No specimens seen.

Sisymbrium L.

~~Mostly tall~~, Annual or biennial herbs; flowers small, yellow, rarely pink or white; pods linear, nearly terete, valves mostly 3-nerved; seeds in one row. About 50 species, widely distributed.

Sisymbrium humile Ledeb. ~~C. A. Meyer in Ledeb. Fl. Alt. 3: 137. 1831.~~

Sisymbrium humile Ledeb. Ic. Pl. Ross. 2: 16. t. 147. 580.

Braya humilis Robinson in Gray, Syn. Fl. 1: 141. 1895.

Pubescent throughout with forked hairs. Stems usually several, slender, ± 5 to 15 cm. high, simple or branched, spreading or ascending ~~or~~ rarely erect, ~~[illegible]~~ ~~pubescent with forked hairs~~; ~~leaves~~ basal leaves narrowly oblanceolate, mostly sinuate-dentate; cauline spatulate to linear-oblong, usually entire; flowers white or pinkish, petals about 3 mm. long; pods 15 to 20 mm. long, slightly constricted between the seeds, style short.

In the interior from Kobuck River to the Upper Yukon and reported to range to Oregon, Lake Superior, Willoughby Mt. Vermont and Anticosti Island. Originally described from southern Siberia.

~~Specimen~~

Valley of ~~Kobuck~~ Kowak River. — About 35 miles above the mouth of the ~~R~~ river, W. C. Mendenhall, Aug. 31, 1901.

Upper Yukon. — Bluff near Coal Creek Hill, Funston, 1893 (No. 93), Ingersoll Islands, Gorman, 1899 (No. 993).

Specimen with ~~out~~ definite locality but as other plants of the same collector are so marked probably from Kowak River, G. M. Stoney, July 10-20, 1886.