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The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

Ranunculaceae Juss.

Carpels several ovuled; ^{in fruit} ~~fruit = follicle~~ follicular
or berry-like.

Flowers irregular.

Upper sepal spurred.

Delphinium,

Upper sepal helmet shaped,

Aconitum,

Flowers regular.

~~Petals wanting~~

Petals wanting; leaves ^{simple,} ~~not lobed or~~
~~pinnate.~~

Caltha,

Petals present; leaves palmately lobed
or compound.

Petals produced backward into a
large hollow spur.

Aquilegia,

Petals not spurred.

Flowers several, racemose;
fruit berry-like.

Actaea.

Flowers 1 to 3, ^{scapose} ~~not~~ ~~accescent~~;
fruit follicular.

Copstis.

Carpels 1-ovuled, ^{fruit becoming into} ~~indehiscent~~ ^{in fruit}, coriaceous achenes,
or thin-walled and utricular.

Petals wanting,
Flowering stems with an involucre either close to or
Flowers subtended by involucre,
remote from the flower.

Stylis elongated, plumose.

Pulsatilla.

Stylis short, glabrous or merely pubescent.

Anemone.
Flowering stems without involucreal leaves,
~~Flowers not subtended by involucre.~~

Leaves ternately decomposed; achenes
ribbed or curved.

Thalictrum.

Leaves palmately lobed; achenes an-
gular.

Transtrutaria.

Petals present.

Fruit an achene, smooth, pubescent ^{longitudinally} or
transversely rugose, not ^{ribbed} or nerved.
Achenes smooth or pubescent.

Ranunculus.

Achenes transversely rugose.

Batrachium.

Fruit utricular, longitudinally ribbed or
creased.

Leaves palmately parted.

Arctanthus.

Leaves crenate-dentate, not palmately
lobed.

Plants rooting at the nodes; sepals
at length deciduous.

Halodia.

Plants not rooting at the nodes;
sepals persistent.

Axygraphis.

Delphinium L.

Perennial, erect herbs with a stout woody rootstock, palmately cleft or divided leaves and showy, racemose flowers; sepals 5, petals 4, the upper pair produced backward into the calyx-spur; follicles 15-20. About 120 species, mostly natives of the north temperate zone.

1. Prantl in Engelm. & Prantl, Nat. Pfl. Fam. Syst. 2, gives 120 species. Rauh, Monographie der Gattung Delphinium, Engl. Botanische Jahrbücher 20: 322-499, 1896, includes nearly 200 species.

Key to the Species.

Stems ^{commonly} 60 to 90 cm. high ~~or sometimes even higher~~, glabrous at least below; racemes usually many-flowered.

D. scopulorum

Stems 12 to 50 cm. high, hairy throughout; racemes few-flowered.

D. middendorffii

Delphinium scopularum Gray.

Delphinium scopularum Gray, P.L. Wright, 2: 9, 1853.

Represented in Alaska by the following variety.

Delphinium scopularum brawnii (Rydb.) Wright,

Delphinium brawnii Rydb. Bull. Torr. Bot Club 29: 1418, 1902.

Tall, stems glabrous to the inflorescence or throughout, sometimes glaucous, simple; leaves ~~palmarately~~ ~~divided into 5-7 divisions~~, puberulent on the lower surface, usually also on the upper surface along the nerves, or the whole surface sometimes puberulent, ~~palmarately~~ ~~divided into 5 to 7 ob-~~ ~~lanceolate or cuneate~~ ~~divisions~~, three incised or cleft into short, acute lobes, or more deeply cleft and the lobes linear or attenuate; flowers blue, pedicels glabrous or puberulent, calyx puberulent, spur 7 to 10 mm, long in dried specimens, lateral petals blue, cleft about 1/3 their length, the upper ones paler or even cream-colored on the inside; ovaries glabrous or sometimes puberulent, ^{along} ~~on~~ the upper Kechikan and Porcupine Rivers, and through the upper Yukon, thence southward to Alberta. Type specimen collected at Banff, Alberta.

D. scopularum brawnii differs from the type of the species only in its glabrous stems, its sometimes. Collected by C. Wright (No. 842) deposited in the U. S. Nat. Herb.

6.
slightly broader leaf segments. These differences
are variable however, and intermediate forms
have ~~puberulent~~^{the} ~~various~~ (mature follicles not seen)
and ~~stems~~ with the upper part ^{of the stem} puberulent. The
form is therefore ~~here~~ considered as a variety
only.

Between Cook Fork and Rampart City. - Upper
Kuchatno Valley, Brooks & Prindle, July 7, 1902.

Copper River Region. - Chesni River, W.L. Roto,
1902 (No. 92).

Yukon River. - Rampart, Isaac Jones, 1901 (No. 50).

Upper Yukon

Upper Yukon. - Forty Mile Creek, Farnston, 1893
(No. 180). Forty Mile River, A.L. Bolton, Aug. 4, 1899.
Banks of the Yukon above Stewart River, J. B. Tarleton,
1899 (No. 118 a.). Twenty miles below Fort Selkirk, W. B.
Osgood, July 28, 1899. Ft. Selkirk, Gorman, 1899
(No. 1064). Above Ft. Selkirk, J. B. Tarleton, 1899 (No.
118 a.).

Delphinium middendorffii Trautv.

Delphinium middendorffii Trautv.

Delphinium blaisdellii Eastwood, Bot. Gaz. 33: 142, 1900.

Root somewhat twisted and tortuous; stems 1 or 2 from the same root, simple or branched above; leaves hairy on both surfaces, conspicuously so along the nerves, palmately divided into 3 to 7 oblanceolate or cuneate subulate divisions, these again lobed or cleft into entire or toothed, linear, acute segments; flowers blue, the pedicels with ~~one or two~~ 1 or 2 bracteoles, densely woolly with short hairs; calyx conspicuously hairy without, the divisions 15 to 20 mm. long, rarely only 10 mm. long, the spur 10 to 12 mm. long, upper petals whitish or pale blue, lateral petals with sinuate margin, sometimes very slightly emarginate but not left bearded with yellow hairs at least toward the base, slightly ciliate on the margins; follicles erect, inconspicuously woolly. Seward Peninsula and northward to Point Hope, perhaps to Cape Lisburn, and in Asia from Central Siberia and northern China eastward to the Pacific. Originally described from

The type of D. blaisdellii has not been seen by the author but the description agrees with material from the type locality except as to the length of the peduncles, "2 mm." and the spur "2.5 cm." long; both of these measurements are in error for all the specimens at hand and are perhaps missprints. The ^{character} black spots at the apex of the sepals attributed to D. blaisdellii are frequently, though not always absent in dried specimens. The color of the upper sepals is frequently also variable. The D. mungiesii reported by 'Sieman' from Kotzebue

Sound to Cape Lisburne is probably of this species.

Kotzebue Sound. - Point Hope, J. T. White, July 31, 1894.

Seward Peninsula. - Teller Rindur Station, F. A. Walpole, 1901 (Nos. 1777, 1864, 193-5). Five miles west of Nome City, J. B. Flett, Near Grant Bay Harbor, A. J. Collier, Aug. 29, 1900. Five miles west of Nome City, J. B. Flett, 1900 (No. 1613).

9.
Reanimum L.

Perennial, erect, ascending or trailing herbs with palmately divided leaves and tuberous fascicled roots; flowers conspicuous, sepals 5, the ~~the~~ 2 lateral larger than the lower ones; petals unguiculate, spurred, somewhat lamina-shaped; stamens 8 to 10. About 60 species, mainly of the north temperate zone.

Key to the Species.

Stems stout, strict; divisions of the leaves crowded; racemes short, usually dense.

A. chamissonianum.

Stems slender, somewhat flexuous; divisions of the leaves spreading; racemes elongated or when short, few-flowered, lax.

A. delphinifolium.

Reanimum chamissonianum Reichenb.

Reanimum chamissonianum Reichenb. Monogr.

Rean. 80. 5. 10. 7. 1. 2. 18

Tall, sometimes 90 cm. high, densely pilose above; leaves pubescent or glabrate on the upper surface, usually pubescent along the nerves on the lower surface, 6 to 7 cm. long, 11 to 12 cm. broad or sometimes even larger,

deeply parted, the cuneate divisions usually cleft to the middle or beyond and again incised or cleft into numerous broadly lanceolate lobellets; flowers large, the pedicels shorter than the bracts; upper portion of the petals dilated, the spurs strongly recurved; mature follicles about 17 mm. long. Grassy slopes and banks near sea-level in the Aleutians and the western part of Alaska Peninsula. It occurs also in the Commander Islands and has been reported from Kamtschatka. Originally described from

This is the A. kamtschaticum of ~~Reichenbach~~, ~~Ledebur~~, and ~~Regel~~ authors but certainly ~~not~~ not of DC.

Ullutian cham — Atka Island, J. M. Macoun,
Aug. 26, 1871, Alaska, Canille & Kearney (No. 1724), Kill-
egg, 1867 (No. 224), Evans, 1877 (No. 522), Tine & Pauter's
1875 (No. 121), C. H. Merriam, Aug. 12, 1871, B. W. Evermann,
1872 (No. 44), Akum Island, C. H. Townsend, Aug. 31, 1873.

Alaska Peninsula. — Bailey Harbor, C. H. Town-
send, Sept. 10, 1873.

Without special locality, M. W. Harrington,
1871-72 (No. 15).

Aconitum delphinifolium DC.

Aconitum delphinifolium DC. Syst. I: 380. 1818.

Aconitum delphinifolium sibiricum DC. Syst. I: 380.
1818

Aconitum delphinifolium kamchaticum DC. Syst. I:
380. 1818.

Stems 20 to 80 cm. high, simple or sometimes
branched, usually velvety pubescent above, incon-
spicuously pubescent or glabrate below; leaves
pubescent or glabrous on the upper surface,
usually glabrous on the lower surface, the
blades varying from 2 ~~cm~~ to ~~long~~ 7 cm. long, 3
to 12 cm. broad, the lobes linear to lanceolate
or sometimes broadly lanceolate; flowers
15 to 30 mm. long, their pedicels exceeding or
shorter than the bracts; upper portion of the

petals scarcely dilated, the spurs slightly or not at all recurved; Mature follicles ~~widely~~ 10 to 15 mm. long. Widely distributed throughout Alaska and ranging eastward to the Mackenzie River and southward to British Columbia. It occurs in Kamchatka and extends northward in Siberia to Bering Strait. Originally described from

An extremely variable species in the size of flowers and foliage but the variations too inconstant to admit of their receiving varietal names. Specimens collected on the Pribilof Islands have remarkably large flowers, others collected at Plauer Bay, Siberia and Port Clarence, Alaska, in exposed situations have short stems and small foliage while specimens obtained inland a short distance are tall, ~~and~~ often many-flowered and when numerous usually smaller. Specimens from southeastern Alaska sometimes have foliage less finely divided.

Luward Peninsula. - Port Clarence, Canille & Kearney (No. 1883),
F. A. Walpole, 1901 (Nos. 1748, 1761, 1858). Near Nome City, J. B. Flett,
1900 (No. 1607). Without special locality, A. J. Collins, 1900.

Costar Channel. - Fort St. Michaels, L. M. Turner, 1879 (No. 105).

Bristol Bay. - Unalakleet, C. L. McKay July 27, 1881.

Pribilof Islands. - St. Paul Island, ^{See Palmer, 1880 (No. 684).} C. H. Townsend, Aug. 1873,
C. H. Merriam, Aug. 9, 1871, Tine & Huntress, 1875 (Nos. 86), M. B. Miller,
Aug. 1871, St. George Island, C. H. Townsend, Aug. 1873, B. W. Eum-
mann, 1892 (No. 98).

Alutian Islands. - Unalaska, Canille & Kearney (No. 2215),
M. W. Harrington, 1871-72 (No. 17), C. H. Merriam, Aug. 12, 1871,
Amaknak Island, B. W. Eummann, 1892 (No. 119). ^(C. H. Townsend)
Aug. 31, 1873. Pofaf Island, Kinkaid, July 8 to 19, 1877. Aug 2,
F. A. Golder, 1900 (Nos. 175).

Kodiak Island. - Karluk, J. H. Bean, 1887. Without special
locality, Kellogg, 1867 (No. 224), J. H. Fisher, 1879 (No. 201).

Alaska Peninsula. - Stefavak Bay, Palache, July 8 to 19,
1879. Herenden Bay, C. H. Townsend, July, 1870.

Coak Strait. - Kaslof, W. H. Evans, 1898 (No. 643).
Halibut Cove, Canille & Kearney (No. 2431).

Prince William Sound. - Area, Canille & Kearney (No.
1310).

Yakutat Bay. - Disenchantment Bay, Finston, 1872 (No.
116).

Southeastern Alaska. - Juneau, Grace E. Cooley, July 24,
1871, Canille & Kearney (No. 2488). Raty Harbor, Prince of Wales Island,
J. B. Flett, 1901 (No. 1960).

Valley of Alutna River, — Above Beaver City, W.C.
Mendenhall, July 26, 1901.

Yukon River, — Rampart, Isaac ~~fat~~ Jones, 1901 (No. 46).

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

Upper Yukon, — Forty Mile Creek, Finston, 1873
(No. 125), Dalton Trail, Garman, 1899 (No. 1117), Twenty
Miles below Ft. Relkirk, W.H. Cogood July 28, 1899, Ft.
Relkirk, J.B. Larkton, 1899 (No. 1196).

Arctic Alaska, — Cape Sabine, J.T. White,
Aug. 12, 1894, Ft. Cosmos on Kowak River, W.L. Howard,
Sept. 20, 1885.

Islands of Bering Sea, — St. Lawrence Island,
J. T. White, Aug. 27, 1894.

Calla L.

Glabrous, perennial herbs with fibrous roots and rather succulent stems; sepals 5 to 10, spreading; follicles commonly several. About 10 species. Marsh plants, mainly distributed in temperate and arctic regions of both hemispheres.

Key to the Species.

Leafy-stemmed; sepals yellow, rarely fading to white in dried specimens.

Leaves reniform or rarely round-ovate, commonly 4 to 10 cm. broad, 2 to 6 cm. long.

C. palustris.

Leaves cordate-ovate to nearly triangular, or rarely oval with a deep sinus, commonly 1 to 4 cm. broad, 1 to 3 cm. long.

C. arctica.

Scapose, or stems one-leaved; sepals white or sometimes bluish.

Leaves round-reniform or nearly orbicular in outline, the veins palmately diverging from the base.

C. biflora.

Leaves round-oval to nearly oval, or oblong-oval, the nerves nearly parallel at the base.

C. lyallii.

Caltha palustris L.
Caltha palustris DC. Pl. 1: 558. 1753.
represented in Alaska by the following variety.
Caltha palustris asarifolia (DC.) Nutt.

Caltha asarifolia DC. Rept. 1: 309. 1818.
Caltha palustris asarifolia Nutt, Ellis 9: 71. 1872.

Ascending or procumbent and rooting at the nodes, rarely erect; leaves, ~~uniform, rarely round-~~
~~uniform, 1.5 to 6 cm. long, 2.5 to 12 cm. broad,~~
commonly with a broad sinus, crenate, more conspicuously so toward the base; sepals 5 to 8, oval, sometimes obovate, 12 to 20 mm. long, shallaw ponds from ^{St. Mathew Island and} Unalaska to the south-eastern border, ~~in the upper Yukon~~ and a specimen apparently the same from the Kowak River in Arctic Alaska. Originally described from the Aleutian Islands.

~~A few~~ ^{A few} of the specimens from southeastern Alaska closely approach *C. palustris* in their erect habit but the leaves are more uniform in outline, the sinus broader and the flowers larger than are commonly found in *C. palustris*.

Arctic Alaska. — Kuwuk River, about 70 miles east of Holman Inlet, W. L. Huff, 1883, (No. 2082).
Islands of Bering Sea. — St. Matthew Island, Coville & Kearney.
Alutian Chain. — Unalaska, L. M. Lamer, 1878 (No. 1259), B. W. Cuernmann, 1872 (No. 10), Harrington, 1871-72, J. B. Flett, 1900 (No. 1779), Papef Island, Saunders, July 7 to 18, 1899, C. H. Townsend, June 26, 1893.

Kodiak Island and vicinity. — Karluk River, T. H. Bean, 1889. Long Island, Coville & Kearney (No. 2404).

Alaska Peninsula. — Stipovich Bay, Palache, July 8 to 19, 1892.

Yakutat Bay and vicinity. — Near Ocean Cape, Lumsden, 1892 (No. 4).

South eastern Alaska. — Point Gustavus, Glacier Bay, Coville & Kearney (No. 748). Lake Harbor, Coville & Kearney (No. 786). Yes Bay, Lorman, 1895 (No. 19). Hawkan, W. H. Evans, 1897 (No. 122).

Upper Yukon — Ranch Creek, Garman, 1898 (No. 1003).

Caltha arctica R. Br.

Caltha arctica R. Br. in Parry 1st Voy. Suppl. to App.
265. 1824.

Caltha palustris arctica Nutt., Reliqs 9: 70. 1892.

Caltha confinis Greene, Ptt. 4: 76. 1899.

Stems almost entirely creeping and rooting at the nodes, commonly only a short portion below the flower ascending, 1-flowered, or sometimes ascending and 2- to several-flowered; leaves thin, inconspicuously crenate, repand, or ^{nearly} entire; flowers 2 to 2.5 cm. in diameter. From Point Barrow on the arctic coast to the northern shore of the Alaska Peninsula and in the upper Yukon. Originally described from Melville Island and occurs in British America eastward to the Mackenzie River. ~~specimens have~~ Also collected on the coast of Siberia ^{between} north of Bering Strait and Cape Serdze.

C. confinis, described from a specimen collected at Teller Reindeer Station does not differ from other, more complete specimens since collected at the same station. The white color of the sepals is due to fading, a not infrequent occurrence.

Arctic Alaska. - Point Barrow, Murdock, 1883.

Seward Peninsula. - Vicinity of Port Clarence, F.A. Walpole, 1901 (No. 1413, 1999). Teller Reindeer Station, J. L. White, July 3, 1894. Sixteen miles west of Nome City, J. B. Hille, 1900 (No. 1608).

Islands of Bering Sea. - St. Lawrence Island, Caville & Kearney (No. 1983), Hall Island, J. M. Macoun, Aug. 11, 1891, Caville & Kearney (No. 2037), St. Matthew Island, Caville & Kearney (No. 2092).

Bristol Bay. - Mishakuk, C. L. McKay, June 22, 1881.

Alaska Peninsula. - Hermand Bay, C. H. Townsend, July, 1890. Port-Müller, C. H. Townsend, July, 1890.

Upper Yukon. - Ranch Creek, Garman, 1899 (No. 1003).

Caltha biflora DC.

Caltha biflora DC. Sept. 11, 1810.

Erect, 2-flowered; leaves with a deep sinus, commonly closed by the overlapping lobes, evenly crenate all around, 2 to 5 cm. broad, 1.5 to 3 cm. long; flowers 2.5 to 4 cm. in diameter, sepals 6 to 8, oblong or oval.

Marshes and moist slopes southeastern Alaska to British Columbia. Originally described from near Banks Island, ~~off the~~

southeastern Alaska. — Yes Bay, Garman, 1895 (No. 34).

Caltha leptosepala DC.

Caltha leptosepala DC. Syst. II, 310, 1838.

Erect, 65-80 cm. high, 1 or more commonly 2-flowered; leaves with comparatively shallow sinuses, not closed by the lobes, rather conspicuously crenate or crenate-dentate all round, 2-7 cm. long, 1.5 to 6 cm. broad; flowers 2-3 cm. in diameter, sepals 7 to 11, oblong; follicles tipped by an evident style. Moist ground from Prince William Sound, the type locality to White Pass Summit, thence southward to southern British Columbia.

Prince William Sound. - Orea, Coville & Kearney (No. 1168).

Southeastern Alaska. - White Pass Summit, A. L. Balton, 1898.

Aquilegia L.

Perennial, mostly branched herbs with ternately compound leaves and ^{large} showy flowers; sepals and petals each 5, the sepals petaloid, the petals commonly with a small limb; follicles 5 or rarely 6. A genus comprising about 50 species and widely distributed throughout the northern hemisphere except in the extreme north.

Key to the Species.

Spur curved, bluish, lamina of the petals nearly as long as the sepals. *A. richardsoni*.

Spur straight, or only the enlarged tip oblique, scarlet, lamina of the petals about 3 mm. long, very much shorter than the sepals. *A. formosa*.

Aquilegia richardsoni Wight, nom. nov.

Aquilegia brevistyla Hook. f. L. Bot. Am., 11, 24, 1829.

Not *A. atropurpurea brevistyla* Willd.; De. Proch., 11, 51, 1824; a native of Siberia. *A. richardsoni* according to Hooker was detected by Dr. Richardson during the 1st. ~~exp~~ expedition and referred doubtfully to *A. vulgaris*. ~~It is therefore named in~~

Slender, erect, 25 to 50 cm. tall, sparingly hairy or glabrous; basal leaves ternate or biternate, the leaflets commonly 3-parted and the broadly cuneate lobes incised and crenate, stem leaves few, nearly sessile, lobed or divided; ^{sepals obtuse,} spurs about 6 mm. long, ^(lobes of the) petals yellow, stamens and styles barely exerted; follicles pubescent. Upper Yukon to Alberta and North Dakota. Originally described from "western parts of Canada" and "as far north as Bear Lake".

Upper Yukon. — Mill Flat, Gorman, 1899 (No. 1049).
 Fivefinger Rapids, J. B. Tarleton, 1899 (No. 914).

Aquilegia formosa Fisch.

Aquilegia formosa Fisch.; DC. Prodr. 1: 50. 1824.

Aquilegia columbiana Rydb. Bull. Torr. Club 29: 140. 1902.

Much branched, stoutish, 50 to 80 cm. tall very nearly glabrous on the undersurface of the leaves and all but upper ^{part of} stem pubescent; basal leaves biternate, the leaflets commonly 3-cleft and the segments lobed or toothed, upper stem leaves ternate or merely cleft to the base and the segments lobed or cleft; spurs about 15 mm. long, sepals acute or acuminate; stamens and styles exserted; follicles nearly glabrous. Cliffs, often with Minulus

from Yakutat Bay to the south eastern border thence to Northern California Idaho and south-western Utah. Originally described from Kamtschatka, but apparently not ~~widely~~ found west of that locality.

A. columbiana ~~is~~ ^{is} described as having the habit, the spurs and sepals of *A. formosa* and the short truncate lamina of *A. truncata*. Type specimen collected in Washington, Monte Leno, A.C. & E. Gertrude Keller, 1898 (No. 3936) in herb. N.Y. Bot. Garden, ~~is~~ ^{is} ~~not~~ does not differ from the Alaskan material. No material from Kamtschatka has been seen.

Ukatat Bay. - Disenchantment Bay, Funston, 1872
(No. 121), Camille & Kearney (No. 1092).

Southeastern Alaska, - Juneau, Camille & Kearney
(Nos 533), ²⁴⁸¹ Grace E. Cooley, July 25, 1871, Sitka,
B. W. Evermann, 1872 (No. 220), Bischoff, 1865-66,
Tilling, 1867, L. A. Walford, 1900 (Nos. 1120, 1121).
Hawkan, Evans, 1877 (No. 104), Short Bay, Fairway,
1875 (No. 105), Cleveland Peninsula, J. B. Helt,
1901 (No. 1959).

Actaea L.

Perennial, erect herbs from a short root stock, with ternately or quaternately compound leaves and terminal racemes of small white flowers; sepals greenish white, falling away early, petals small, spatulate or narrow, clawed; the berry-like fruit several seeded. About 6 species, natives of the north temperate zone.

Actaea rubra (Ait.) Willd.

Actaea spicata rubra Ait. Symb. Kew. 2: 221, 1789.

Actaea rubra Willd. Enum. 561, 1809.

Actaea arguta Nutt. in Tam. & Gray, Fl. 1135, 1835.

Actaea spumea Rydb. Mern. N.Y. Bot. Gard. 1: 153, 1900.

Glabrous or pubescent, 40 to 65 cm. high; ultimate divisions of the leaves serrate or toothed; racemes short; berries red or white. Moist woods and thickets in heavy soils, or sometimes in open grassy places from Kukek Bay to Juneau and in the Upper Yukon. Thence it extends to the Saskatchewan and eastward to Newfoundland, south to Pennsylvania, Missouri, in the Rocky Mountains to New Mexico and to California. Originally described from "North America" but the locality not definitely given.

The Alaskan specimens are ^{here} ~~referred~~ referred to A. rubra, since they cannot be distinguished from eastern specimens of the species and even the form heretofore recognized as A. rubra arguta described from "woods of the Oregon and its tributary streams" is probably also best referred to the species. Specimens from the western part of the United States are ^{usually} ~~frequently~~ though not always larger than specimens ^{of A. rubra} ~~from~~ the east and frequently have also larger leaflets and a slightly longer raceme. The shape of the petals is equally variable in both ~~eastern and western~~ Large leaved plants are however found in the east and occasionally with ~~so~~ long racemes, while small leaved specimens with ^{both} small leaves and short racemes are not infrequent in the west. The shape of the petals is equally variable being either acute or obtuse and varying in width irrespective of the geographical distribution.

A. chumma described as differing from A. rubra arguta in the color and size of the fruit and somewhat also in the form of the petals, and from A. rubra in being taller with broader, more acuminate leaflets, and in having white berries. These differences appear however in a large series of specimens, too variable to admit of any forms being segregated as species.

Alaska Peninsula. - Kukash Bay, Caville & Kearney (No. 1675).

Cook Inlet. - Homer, W. H. Evans, 1877 (No. 467).

South eastern Alaska. - Head of Russell Fjord, Caville & Kearney (No. 933), Juneau, Caville & Kearney (Nos. 554, 2470).

Upper Yukon. - Ranch Creek, Gorman, 1879 (No. 1042),
Five Finger Rapids, J. B. Farleton, 1879 (No. 87).

Coptis Salisb.

Glabrous perennial herbs with basal, long-petioled ^{ternately compound} leaves; flowers white; ^{sepals petaloid} follicles stipitate forming an umbel. About 8 species in moors of northern Europe and Asia and in the cooler parts of North America.

Key to the Species.

Leaflets simple.

C. trifolia.

Leaflets pinnately 5 parted or divided, or the terminal leaflet sometimes ternate.

C. asplenifolia.

Coptis trifolia (L.) Salisb.

Helleborus trifolius L. Sp. Pl. 1: 558, 1753.

Coptis trifolia Salisb. Trans. Linn. Soc. 8: 300, 1807.

☞ A small herb, 5 to 10 cm. high from filiform yellow root stocks; leaflets broadly obovate, cuneate at the base, usually obscurely 3-lobed, dentate, the teeth mucronate; sepals oval, petals linear to the enlarged summit; follicles ovoid oblong. In moist ground, especially sphagnum bogs, throughout the Aleutians and southeastward to the boundary. It occurs also in the upper Yukon and ^{ranges} ~~thence~~ across the continent to Labrador and

Newfoundland, and south to Iowa and Maryland. It is found in Greenland, Iceland, north Europe, ~~and~~ Siberia, Kamchatka and Japan. Originally described from Canada and Siberia.

Alutian chain.—Atka Island, W. V. C. Jacobs, June, 1874. Atka Island, L. M. Turner, 1879 (No. 1240). Unalaska, J. B. Flett, 1900 (No. 1777), B. W. Evermann, 1892 (No. 37), Harrington, 1871-72. Amaknak Island, B. W. Evermann, 1892 (No. 176). Adak Island, C. H. Townsend July 1, 1873.

Prince William Sound.—Virgin Bay, Conille & Kearney (No. 1234).

Gakutat Bay.—Khanikaak Island, Funston, 1892 (No. 14).

Southeastern Alaska.—Sitka, Conille & Kearney (No. 588). Back Bay, Garman, 1875 (No. 13). Yes Bay, Howell, 1875 (No. 1606).

Upper Yukon.—Dominion Creek, A. L. Bolton, 1878.

Coptis asplenifolia Salisb.

Coptis asplenifolia Salisb. Trans. Linn. Soc. 8: 306.
1807.

A slender ~~herb~~ plant 12 to 30 cm. high; leaflets oblong ovate in outline, divisions of the leaflets cleft and the segments dentate; sepals greenish white, linear-filiform, petals filiform but with an enlarged obovate portion in the center; follicles oblong. In forests from Prince William Sound to the southern boundary, and in British Columbia. First described from Northwest America.

Prince William Sound. — Area, Canille & Kearney (No. 1182).

Southeastern Alaska. — Inman, Canille & Kearney (No. 601), ^{Salmon Creek near Inman,} Grace E. Cooley, Aug. 3, 1871. Sitka, B. W. Evermann, 1872 (No. 224), Canille & Kearney (No. 813). Wrangel, Evans, 1877 (No. 54). Yes Bay, Howell, 1875 (No. 1605), Gorman, 1875 (No. 3). Near Ketchikan, J. B. Flett, 1901 (No. 1936).

Pulsatilla Adams.

Erect, perennial herbs closely resembling Anemone; the carpels with long filiform styles becoming plumose tails to the achenes. About 16 species in central Europe, in the Caucasus, in central and east Asia and in North America.

Pulsatilla hirsutissima (Pursh) Britton.

Climatis hirsutissima Pursh, Fl. 2: 385, 1814.

Anemone ludoviciana Nutt. En. 2: 20, 1818.

Pulsatilla nuttalliana Spring, Syst. 2: 663, 1823.

Pulsatilla hirsutissima Britton, Ann. N. Y. Acad. Sci. 6: 219, 1891.

Pubescent ~~with~~ long shining silky hairs; basal leaves glabrate in age, much divided, the ultimate lobes linear, acute, the narrowly linear lobes of the involueral leaves ascending, not glabrate in age; flowers appearing a little before the leaves, sepals 3 to 4 cm. long. In the interior from the Porcupine River throughout the upper Yukon and Copper River regions, thence southward to Texas, Missouri and Illinois. Reported also from ~~the~~ north Asia. Type locality, "plains of ~~the~~ Columbia River".

Upper Porcupine. — Rampart House, Linston,
1874 (No. 164).

Upper Yukon. — Fort Yukon, F. C. Schrader, June 24,
1879, Fifty Mile River, ^{the} R. L. Bell ~~the~~, June 25, 1879.
Ft. Selkirk, Garman, 1879 (No. 961). East of Lake Li-
barger, J. B. Tarleton, 1879 (No. 1.c.). Island in Lake
Libarger, Linston, 1873 (No. 31). Lake Bennett, J. B.
Tarleton, 1879 (No. 1.a.).

Coppar River Region. — W. L. Polo, 1902 (No. 1).

Rumex L.

Perennial herbs with basal, rather long petioled leaves and usually erect flowering stems, the stems with an involucre of 1 to 3 sessile or short petiolate leaves, otherwise leafless; flowers ^{conspicuous} ~~showy~~; the sepals petal-like; fruit of true achenes. About 75 species in the temperate and subarctic regions of both hemispheres.

Key to the Species.

Ovaries and achenes glabrous.

Leaves palmately parted to the base; lobes of the involucreal leaves cleft into linear or oblong-lanceolate lobellets; style shorter than the achene.

R. marisciflora.

Leaves not parted to the base; lobes of the involucreal leaves incisely toothed; style equaling or exceeding the achene.

R. richardsoni.

Ovaries and achenes pubescent or woolly.

Lobes of the leaves crenate-dentate.

R. parviflora.

Lobes of the leaves cleft into numerous narrow, linear or ~~crenate~~ oblanceolate lobellets.

Leaves of the involucre distinctly but short reticulate; sepals 7 to 11 mm. long; styles shorter than the ovaries.

A. hudsoniana.

Leaves of the involucre sessile or sometimes slightly petiolate; sepals $8\frac{1}{2}$ to $1\frac{1}{2}$ mm. long; styles longer than the ovaries.

A. drummondii.

Anemone narcissifolia L.

Anemone narcissifolia L. Sp. Pl. 1: 542. 1753.

Anemone narcissiflora uniflora Eastw. Bot. Pag. 53: 141. 1902.

1. First published as *A. narcissifolia* but changed to *A. narcissiflora* L. Sp. Pl. ed. 2. 1: 763, 1762. In both editions he gives the following as *nissatus humilior*, *narcissi flore*. Bauh. pin. 152." *Ranunculus montanus*

2. *Not. Ranunculus* Park. Stud. Hom. Bot. ed. 2. 1196. 1740.

Erect or ascending, 10 to 40 cm. tall; peduncles and petioles usually woolly pubescent; leaves pubescent on both surfaces, at least ~~the~~ along the nerves and margins, with long, silky hairs, rarely nearly glabrous, the cuneate divisions cleft into numerous oblong or lanceolate lobes, the involucral leaves similar but usually smaller and the lobes less numerous; flowers solitary or several in an umbel-like cluster, pedicelled or nearly sessile, sepals 5 to 6, white or cream colored, rarely bluish on the outside ~~near~~ at the base; achenes compressed, the short style inflexed, usually hooked at the tip.

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A. thalictroides and *flava* Pursh, Fl. 2: 367. 1814.

eastern boundary and on the Aleutians and the islands of Bering Sea. It extends south in the alpine regions of the Rocky Mountains to Colorado and occurs in the mountainous ^{portions} ~~regions~~ of central Europe and in Siberia, having been originally described from the two last named regions, ~~it is found also in~~

A. marcesiflora uniflora was described from Nome City and though the type has not been seen, it appears from the description to be merely a ^(an exceedingly variable character) flowered form, common throughout the entire Alaskan range ~~of the species~~ and not differing otherwise from ^{typical} Alaskan and European specimens. The species is ^{variable in} size, in the number of the flowers, length of pedicels and in the quantity and length of the pubescence. The smaller forms with solitary or short-pedicelled flowers are usually those collected at 5000 to 5500 ft. elevation or in the arctic regions.

Arctic Alaska. - Cape Sabine, J. L. White, Aug. 12, 1874.

Seward Peninsula, Port Clarence, Cassile & Kearney
(No. 1887). sixteen miles west of Nome City, J. B. Flett, 1900 (No. 1612).

Islands of Bering Sea. - Hall Island, Conville & Kearney
(No. 2043). St. Matthew Island, Conville & Kearney (No. 2177)

Between Notan Sound and Bristol Bay, - Cape Vancouver.
J. M. Maclean, Aug. 9, 1891.

Bristol Bay, - Kushagak, C.L. McKay, June 9, 1887.

Alutian Chain. - Attu Island, W. F. C. Jacobs, June, 1894, Adak Island, C. H. Townsend, July 1, 1893, Atka Island, L. M. Turner, 1880, ~~1880~~ (No. 122), Unalaska, Caville & Kearney (No. 172), Kiliaga, 867 (No. 305), Harrington, ~~1877-72~~ ^{June 28, 1893}, C. H. Townsend, July, 1888, June 8 Prentiss, 1895 (No. 111), C. H. Merriam, July 26, 1891, A. J. Collier, 1900, J. B. Flitt, 1900 (No. 1778), B. W. Cuermann, 1892 (No. 36). Nagai Island, C. H. Townsend, June 22, 1893, Akun Island, C. H. Townsend, Aug. 31, 1893, Popof Island, Kimbaid, July 8 to 19, 1899.

Alaska Peninsula, - Stepanak Bay, Palache, July
8 to 19, 1879, Kukak Bay, Coriell & Kearney (Nos. 1524, 1544).

Kodiak Island, - Sturgeon River, Couille & Kearney
(No. 2268), Kodiak, W.H. Evans, 1897 (No. 324).

Prince William Sound. - Columbia River, Camille & Kearney
[No. 1379]. Orea, Camille & Kearney (No. 1176).

Yakutat Bay. - Disenchantment Bay, Funston, 1872
(no. 114).

Southeastern Alaska. — Julian, Camille & Kearney
(No. 454). Alaska. — Julian, Camille & Kearney
Hunt Institute for Botanical Documentation 1892

A. marginifolia 38
(No. 221). Yes Bay, Lowell, 1873 (No. 1601), Farman, 1873
(No. 86).

Yukon solitary above Juneau. - Vicinity of Summit
and Middle Lakes, A. L. Balko, 1878

Anemone richardsoni Hook.

Anemone richardsoni Hook. Fl. Bor. Am. 1:
C. 2. 4. f. 2. 829.

Anemone vahlia Hornem.

Slender stemmed pubescent herb 5-20 cm.
high from creeping rosettes; usually a single
leaf arising from the rosette with the flowering
stem, ~~the~~ others at short intervals along the roset-
te; leaves round reniform, 3-5 lobed, ~~the~~
~~lobes incisely toothed~~; flower solitary, in dried
specimens 15-25 mm. in diameter, bright
yellow; mature achenes compressed, ~~ovate~~ along
the styles widely spreading or reflexed, hooked
at the end. Distributed in Alaska from Kotzebue
Sound to Juneau, in the upper Yukon, on the
islands of Bering Sea and in the Aleutians
where it is apparently rare. It extends eastward
to Greenland and was originally described from
"Eastern primitive district, shores of Hudson's Bay,
barren ground, Rocky Mountains, from lat. 55° 0'
to 65°; --- Unalaska, and throughout all Siberia."

Arctic Alaska. — Near Latham Inlet, F. M. Storey,
June 30, 1886. "Kowak Islands", Mc Laneau, 1884.

Kuward Peninsula. — Part Clarence, Caville &
Kearney (No. 1957), F. A. Walpole, 1901 (Glos 1785^{4/4} 1960, 1968),
Four miles north of Nome City, J. B. Flitt, 1920 (Glos 1608 1614).

Islands of Bering Sea. — Hall Island, Caville & Kearney
(No. 2019), St. Matthew Island, ~~the~~ Caville & Kearney (No. 2093).

Pribilof Islands. — St. Paul Island, C. H. Merriam,
Aug. 7, 1891.

Alutian Chain. — Unalaska, Harrington, 1871-72
(No. 3).

Alaska Peninsula. — Stipsuvak Bay, Palache, July
8 to 19, 1899. Kukuk Bay, Caville & Kearney (No. 1548).

Prince William Sound. — Part Wells, Caville &
Kearney (No. 1268).

Southeastern Alaska. — Juneau, above Silver Bow
Basin, Grace C. Cooley, Aug. 6, 1891, White Pass summit,
A. L. Ballou, 1898.

Kukuk River to Fort Hamilton. — Dall River, 75 miles
above the mouth, W. C. Mendenhall, June 26, 1901.

Yukon River. — Rampart, Isaac Jones, 1901 (No. 12).

Between Rampart and Cook Inlet. —

Brooks & Prindle, June 10, 1902.

Upper Yukon. — Forty Mile Creek, Fursten, 1873
(No. 51). Ingirsall Islands, Garman, 1879 (No. 99), Near
Mouth of Bonanza, R. S. Williams, June 18, 1879, Near
Suburra River, A. L. Ballou, 1898.
Caville & Kearney, 1898, and Merrill, 1895.

46.
Spiranifera
Arctic Alaska, - Rampart House on the Porcupine River,
Lumsden, 1873 (No. 168), Porcupine River, Turner, 1871, "Kawak Islands",
McKinnon, 1874.
Alaska Peninsula, - vicinity of Port Clarence, L.A.
Walpole, 1901 (Nos. 1411, 1411, 1925, 1952), J. T. White, July 3,
1894

~~Alaska~~
Alaska Peninsula, - Kuskokwim Bay, Caville & Kearney
(No. 1549), St. Lawrence Bay, Balache, July 5 to 19, 1899.

Alutian Islands, Unga Island, Saunders, July 12 to 14,
1899, Nagai Island, Harrington, 1871-72 (No. 4).

Prince William Sound, - Columbia Field, Caville &
Kearney (No. 1378).

Southeastern Alaska, - Hoonah Village, Glacier
Bay, Caville & Kearney (No. 667). Juneau, above
Silver Bow Basin, Grace E. Caley, Aug. 6, 1891.

Upper Yukon, - Forty Mile Creek, Furston, 1873
(No. 58). Coal Creek Hill, Furston, 1873 (No. 84), Ft. Selkirk,
Furman, 1899 (No. 968), White Horse Rapids, J. B. Tardieu, 1899
(No. 2.6.) Lake Bennett, J. B. Tardieu, 1899 (No. 2.8),
Vicinity of Summit and Middle Lakes A. L. Balch, 1898.

Anemone hudsoniana Richards.
Anemone multifida hudsoniana DC. Syst. 2: 209, 1818.
Anemone hudsoniana Richards, ¹⁸⁴¹ F. & A. C. S. Journ. 741, 1841.
Anemone globosa Nutt.; Priz. Linnaea 15: 673, 1841.

Pubescent with silky hairs, ^{stems} 13 to 50 cm. high, from a stoutish rootstock, simple or sparingly branched; leaves usually several, involueral leaves smaller than the basal ones, otherwise similar; flowers 1 to several, the lateral peduncles when present involucrellate; flowers greenish white, yellow or reddish purple, in dried specimens 12 to 20 mm. in diameter, sepals oblong-oval; anthers tipped with a style about 1 mm. long. Collected in southeastern Alaska and in the upper Yukon and ranges from 30 miles north of the arctic circle on the Mackenzie River to Hudson Bay, the type locality, and Anticosti. It extends southward to Oregon, in the Rocky Mountains to Colorado and Arizona and reaches northern Michigan and northern New England.

Until recently referred to *A. multifida* a species from the Magellan Strait, *A. globosa* Nutt. was described from plains of the Platt River and mountain valleys lat. 42°.

C. pedunculata
Upper Yukon, — Ranch Creek, Garman, 1877 (Nos. 1037)
 Five Finger Rapids, J. B. Tarleton, 1877 (No. 26c.). Foot of Lake
 Le Barge, J. B. Tarleton, 1877 (No. 26d.). White Horse Rapids,
 J. B. Tarleton, 1877 (No. 26a.). Fifty Mile River, A. L. Bolton,
 July 29, 1878.

Southeastern Alaska, — Point Gustavus, Glacier
 Bay, Coville & Kearney (No. 718).

Anemone multiceps (Greene) Wight.

Pulsatilla multiceps Greene, Pitt. Erythraea 1: 4.
1893.

Silky pubescent or ^{in age} sometimes nearly glabrate, ~~stems~~ caudex usually branched, stems 5 to 10 cm. high, in fruit sometimes 15 cm. high; leaves slender petioled, palmately 3 to 5 cleft and the divisions again variously cleft or lobed, involucre villous even at time of fruiting; sepals blue in dried specimens. Seaward Peninsula to the Porcupine River, the latter being its type locality.

A. multiceps is closely related *A. drum-*
mondii Wats. but usually is never as large as the common state of that plant, has more villous involucre and larger flowers. Its range is also far north of any reported station for *A. drummondii*. Fruiting specimens relieve all doubt of its being an *Anemone* and not *Pulsatilla* as originally described. Seaward Peninsula. Port Clarence, L.A.

Walpole, 1901 (Nos. 1412, 1435, 2006), Between Cape Nome and Port Clarence, A. J. Collins, June, 1901.

Porcupine River. - Rampart House, Lunston, 1894 (No. 163).

Lolium L.

Erect perennial herbs usually glabrous; flowers small, dull colored, ~~five~~ sepals 4 or 5, car-fals few. A genus comprising about 75 species mainly of the north temperate zone a few in South America, India and South Africa.

Key to the Species.

^{in simple panicles or as}
racemose
Flowers on a scapiform stem.

L. alpinum.

Flowers in loose panicles on a leafy stem.

Anthers ^{oval or short oblong, not pointed} ~~linear, pointed~~; stigma subulate; achenes flattened, one edge ~~nearly straight~~ or nearly so, or concave.

L. sparsiflorum.

Anthers ~~oval or short oblong~~ ^{linear} ~~not pointed~~; stigma ^{or broadly ovate} ~~anal~~; achenes ~~bite or subulate~~ symmetrical, ~~obliquely oval~~.

L. temense.

Thalictrum alpinum L.

Thalictrum alpinum L. Sp. Pl. 1: 545. 1753.

Low, 8 to 25 cm. high; leaves mostly basal, tufted, slender petioled, ternate and the divisions again ternate or pinnate, the obovate or nearly orbicular leaflets sessile, firm, revolute, obtuse, 3- or sometimes 5-lobed at the summit; flowers with slender filaments and linear, mucronate anthers; stigmas sagittiform, achenes oblong, about 3 mm. long. Kotzebue found to the Chilkat region in southeastern Alaska, east to Newfoundland and south to the mountains of Colorado and California. Originally described from "Alpidus Lapponiae, Arvoniae" and is widely distributed in the arctic and alpine regions of Europe and Siberia.

Seward Peninsula. - Port Clarence, F. A. Walpole, 1901 (Nos. 1439, 1540, 2000). Near Nome City. J. B. Flett, 1900 (No. 1609a).

Alutian Chain. - Pofkof Island, Kinkaid, July 8 to 19, 1899.

Thalictrum sparsiflorum Turcz.*Thalictrum sparsiflorum* Turcz.

Stems ~~truncated~~ branched, 30 to 80 cm. high, in Alaskan specimens, leaves biternate or 3-ternate the former petioled, leaflets commonly short-petioled, ^{three leaflets} commonly 3-lobed, ~~and~~ the lobes entire or again incised; flowers erect or soon nodding, the sepals whitish. From Nushagak to the Alaska Peninsula, ~~and~~ in the Aleutians and ^{on} Kodiak Island, also in the interior between Cook Inlet and the Tanana River and in the upper Yukon, thence southward to British Columbia and the mountains of Colorado and California. Originally described from ^{the} ~~from~~ and areas in North Asia.

Bristol Bay. — Island in Nushagak River, C. L. McKay, June 25, 1887.

Aleutian Chain. — Unalaska, Kellogg, 1867 (No. 21), Nagai Island, Harrington, 1871-72. Papez Island, Saunders, 1879 (No. 3563). ~~Kodiak~~

Kodiak Island. — Kodiak, Caville & Kearney (No. 2345), Evans, 1877 (No. 335), at 500 ft. elevation, Evans, 1878 (No. 592).

Alaska Peninsula. — Kukak Bay, Caville & Kearney (No. 1584).

Between Cook Inlet and ^{the} Tanana River. — Glenn, 1877.

Upper Yukon. — Mouth of the Klondike, H. S. Williams, July 9, 1898. ^{7 mi. from Rabbit Lake} ~~near the mouth of the Klondike~~

Thalictrum kumense Fries.

Thalictrum kumense Fries, Fl. Hall. 1194.

Thalictrum minus kumense Trelease, Proc.
Bast. Soc. Nat. Hist. 28: 300. 1888.

Stoutish, 25 to 50 cm. tall, sub-simple; leaves
2- to 3-ternate, the stout petioles clasping at the
base, leaflets oval or orbicular in outline,
usually rounded or slightly cordate at the
base, commonly 3-lobed, the central lobe
sometimes again cleft into 3 short lobellets;
flowers not very numerous. Aleutian
Islands, arctic Europe and Asia. Originally
described from

Leaves of Alaskan specimens are more
firm than the arctic Siberian specimens seen,
but do not otherwise differ.

Aleutian chain. — Unalaska, Cassille & Kearney
(No. 1737), C. H. Merriam, Aug. 12, 1891, Evans, 1897
(No. 516). Amaknak Island, B. W. Evermann, 1892
(No. 120).

Trautvetteria

Perennial herbs with ^{large} palmatifid leaves, the basal long-petioled, cauline short petioled or sessile; sepals 3-5; achenes sharply angular. Two or three species in North America and in Japan.

Trautvetteria palmata Fisch. & Mey. Kodiak Island
Pall. ex hb. reg. Berol. Ledeb. Fl. Ross.

Trautvetteria palmata japonica Sieb. & Zucc. p. 81.
(1845), foliis glaberrimis ultra medium palmatifidis. --- Insula Aleutica prope Kodiak
(ex herb. Pallasii, herb. gen. Berol.) C. Kunt. in Engler
Bot. Jahrb. 16: 285 (1893).

The plant is probably *T. grandis* Nutt. first coll.
by Pursh and ranging from British Columbia to
Plumas Co. Calif. Type collected by Nutt. probably,
or at least probably, in Nuttall's herb.

Ranunculus L.

Herbs with ^{entire} lobed, ~~or~~ divided, leaves and
 yellow, white or rarely red, flowers; sepals
 commonly 5, deciduous petals minute or con-
 spicuous; achenes usually flattened, tipped with
 a short or somewhat elongated style, a genus
 of 200 or more species widely distributed in
 all the temperate and cooler regions of the ^{earth} world
 and on high mountains in the tropics.
 Key to the species.

Petals white or pinkish, never yellow.

Leaves oblong or linear, or sometimes cuneate-obovate
 and tripartite, the lobes entire; calyx glabrous.

R. Pallasii.

Leaves, at least the basal ones, 3-parted, the lobes
 again tripartite; calyx hirsute.

R. chamissonis.

Petals yellow, sometimes pale yellow in dried specimens.

Stems rooting from the nodes; aquatic or creeping mud
 plants, (R. repens terrestrial and sometimes ascending).

Leaves linear, oblong, or oblong-lanceolate, entire or
 nearly so.

R. repens.

Leaves nearly orbicular or flabelliform in out-line,
 ternate, or palmately lobed, or divided.

Leaves ternate ~~pinnate~~.

R. repens.

Leaves cleft or divided, but not ternate.

Leaves 3-lobed, the lobes entire or the
 lateral ones sometimes again slightly
 cleft.

Leaves 3 to 5-lobed, the lobes all again once or twice cleft into linear or narrowly oblong segments, or when immersed, divided into capillary segments.

R. delphinifolius Torr. Reported ^{by Dr Gray as R. multiflorus Pursh} from Point Barrow in Gray's Report would fall here, but the report has not been verified and ~~its~~ the occurrence of that species in Alaska is extremely doubtful.

Leaves 10 to 25 mm. broad.

R. purshii.

Leaves 6 to 14 mm. broad.

R. yukonensis.

Stems not rooting at the nodes; terrestrial plants, usually erect or ascending.

Sepals densely villous with blackish hairs.

Basal leaves lobed beyond the middle, the lobes diverging.

R. nivalis.

Basal leaves deeply crenate or incised, not lobed to the middle, the segments not diverging.

R. altaicus.

Sepals glabrous or pubescent, when pubescent the hairs white, or sometimes straw-colored.

Basal leaves merely crenate, not lobed.

R. abartianus.

Basal leaves lobed or variously cleft into linear, oblong or cuneate segments.

~~Fruit~~ ^{Fruit} ~~ing fresh~~ ^{ing fresh} ~~achenes~~ oblong or cylindrical, or at least longer than broad.

Plants herb, 2 to 6 cm. high; basal leaves 3 to 5 lobed, the lobes commonly entire; petals 1.5 to 3 mm. long.

R. pygmaeus.

Plants usually 6 to 30 cm. high, rarely somewhat taller; lobes of the basal leaves variously cleft or incised; petals 8 to 12 mm. long.

Flowering peduncles ^{commonly} little exceeding the uppermost stem leaves, these deeply lobed into oblong, spatulate, or more rarely oblanceolate or cuneate segments.

R. eschscholtzii.

Flowering peduncles conspicuously exceeding the uppermost stem leaves, the latter with narrowly linear, lanceolate or rarely oblong lobes.

Strictly 1-flowered, unbranched; flowers in dried specimens 15 to 25 mm. in diameter, glossy or shining; achenes glabrous.

R. basilicus.

One to several-flowered, simple or branched; flowers in dried specimens 10 to 18 mm. in diameter, apparently not glossy or shining; achenes glabrous or pubescent.

erect,
Stems, 1 to several from the base,
glabrous or more commonly
hairy; pubescence on the
leaves when present of long,
lax hairs.

R. affinis.

Stems weak, ascending or ascending,
solitary, glabrous at the
base; pubescence on the leaves
when present of very minute,
inconspicuous, appressed
hairs.

R. verticillatus.

fruiting head
~~Head of achenes~~ were nearly globular.
Scapose, from a filiform rootstock.

R. lapponicus.

Not scapose, fibrinous-coated,
styles of mature achenes straight or very
nearly so.

R. orthorhynchus.

styles of mature achenes conspicuously
hooked or circinate-revolute.

Petals 8 to 5 mm. long.

R. douglasii

Petals 5 to 10 mm. long, or sometimes
even longer.

styles circinate-revolute; achenes
very numerous in the head.

R. turneri.

styles conspicuously hooked, not
circinate-revolute; achenes not so
numerous, 10 to 30 in the head.

Sepals spreading, not reflexed;
petals broadly obovate to cir-
cular.

R. mesophilus.

Sepals reflexed; petals obovate to
~~oblong ovate~~ obovate-oblong.

Achene with stout beak, $\frac{2}{3}$
as long as the achene or
longer; plant usually gray
with its pubescence.

R. melanii.

Achene with rather slender
beak, about $\frac{1}{2}$ as long as
the achene; plant hairy
but foliage green, rarely
grayish.

R. occidentalis.

Ranunculus pallasii Schlecht.

Ranunculus pallasii Schlecht. *Annam. Ranunc.* 1115. 5. 2.
1819.

or semi-aquatic, ^{and} creeping, ^{glabrous}
~~usually~~ Aquatic, rooting from the nodes; stems
and elongated petioles thick, hollow; leaves with
a short blade; sepals 3 or 4, petals 5-10, about 10
mm. long, oblong or obovate. In shallow ponds or
wet ground from Point Barrow to Port Clarence
and on the Islands of Bering Sea. It is reported
also from arctic regions of Northern Europe
and from Northwestern Asia. Doubtless it
occurs throughout arctic Asia. Originally
described from

Arctic Alaska.— Point Barrow, Murdoch, 1873.

Alward Peninsula.— Port Clarence, F. A. Walcott
pole, 1901 (No. 1686).

Islands of Bering Sea.— St. Lawrence Island,
Camille & Kearney (No 1971). St. George Island, J. M. Mac-
cann, Aug. 1891.

Ranunculus chamissonis Schlecht.

Ranunculus chamissonis Schlecht. Animad. Ranunc.
 1. 1. 2. 1. 1.

Stems 1-flowered, calyx hirsute, petals
 obovate-suborbiculate; style straight.

Eastern Siberia, St Lawrence Bay and
 reported by Kjellman from St Lawrence
 Island.

According to Robinson Syn. Fl. related to
R. glacialis L.

Ranunculus reptans L.

Ranunculus reptans L. Sp. Pl. 1: 549, 1753.

" *filiformis* Michx. Fl. 1: 320, 1803.

" *flammula reptans* C. Meyer, Pl. Lab. 76, 1830.

Leaves linear with no distinction between petiole and blade or slender petioled and blade 1 to 5 mm. wide; petals, ^{usually 5} exceeding the sepals, oblong or obovate, ^{and} ^{replicate} about 4 mm. long. Achenes usually with a short, ~~hooked~~ ^{erect} style. Wet ground at margin of ponds and in marshes ~~from~~ on the Pribilof Islands, the Aleutians and southward to Yakutat Bay, ~~thence~~ it ranges eastward to Newfoundland and southward in the mountains to Colorado, south eastward to Michigan and New Jersey. It was originally described from Sweden and Russia, ^{and} it is widely distributed in central and northern Europe and ranges ~~through Siberia to the Pacific~~. *R. filiformis* Michx. was described from

Pribilof Islands. - St. George Island, C. H. Merriam Aug. 10, 1891, St. Paul Island, Wm. Palmer July 27, 1880.

Aleutian Chain. - Kiska Island, C. P. Krendelen, 1873. Unalaska, C. H. Merriam, ^{July 26, 1891} Aug. 12, 1891, W. H. Evans, 1897 (No. 549).

Kodiak Island and vicinity. - Kodiak, Tulease, 1899 (No. 3810), Woody Island, W. H. Evans, 1897 (No. 549a).

Yakutat Bay. - Khamtaak Island, Furston, 1872 (No. 8).

Ranunculus repens L.

Ranunculus repens L. Sp. Pl. 1: 584, 1753.

Ascending or creeping, hairy or ^{very} nearly glabrous; principal leaves ternate-pinnate or sometimes only divided or the lateral leaflets sessile and the terminal one petiolulate, the leaflets all 2-3 cleft and the lobes incised, lobes and teeth of the lower leaves mostly obtuse, those of the upper usually acute or acutish; petals about 5 mm. long; ^{in dried specimens} carpel receptacle hairy, achenes short styled, the style only ^{near} slightly curved, at the apex.

Collected at Mushagak, ~~Port~~ on Bristol Bay, and reported to range from Nova Scotia to Virginia and to occur in New Mexico and Nevada. It has been collected in the Commander Islands, ~~in~~ and ranges through Siberia from Kamtschatka to Europe where it was originally described and where it is widely distributed.

Alaskan specimens have exceptionally large leaves, 6 to 9 cm. broad, but are certainly identical with specimens from Siberia.

Bristol Bay. - Along the Mushagak River, 40 miles above Mushagak, C. L. McKay, ^{June 20, 1881.} Near the mouth of Aleknagik Lake, C. L. McKay, ^{Aug. 27,}

Ranunculus hyperboreus Rottb.

Ranunculus hyperboreus Rottb. Skrift Kj'neb. Selsk.
10^o, 48^o E. 5. 4. f. 16. 1770.

Perennial, glabrous; leaves usually flabelliform, 3 to 10 mm. long, 5 to 17 mm. broad, lobed to the middle or beyond, the lobes obovate or oblong; petals 2 to 3 mm. long; achenes about 1 mm. broad, styles very short, hooked. Usually in mud about ponds, springy places and shores often growing with Maritima fontana, from Kotzebue Sound and the islands of Bering Sea along the coast to Glacier Bay thence across the continent to Labrador and Greenland. It occurs in arctic Europe and Asia, originally described from

Seward Peninsula. - Port Clarence, E. A. Walpole, 1901 (No. 1698). Sixteen miles west of Nome City, J. B. Flitt, 1900 (No. 1610).

Pribilof Islands. - St Paul Island, Coville & Kearney (No. 1834), Tine & Prentiss, 1875 (Nos. 34, 102), C. H. Merriam, Aug. 5, 1891, Wm. Palmer, 1870 (No. 347), St George Island, B. W. Curran, 1872 (No. 105), C. H. Merriam, Aug. 10, 1871.

Bristol Bay. - Mushagak, C. L. McKay, Aug. 14, 1881.

Alutian Chain. - Popoff Island, Kimbaid, July 8 to 13, 1899.

Kodiak Island and vicinity. - Woody Island, W. H. Evans, 1897 (No. 447).

Prince William Sound. - Columbia Sound, Coville & Kearney (No. 1377).

Southeastern Alaska. - Glacier Bay, Coville & Kearney (No. 1373).

Ranunculus purshii Richards.

Ranunculus purshii Richards, in *Frankl. 1st. Journ.* ~~et. 2.~~
~~Apr. 75.~~ 741, 1828.

or ~~semi~~ ^{perennial} ~~perennial~~ pubescent or glabrous; leaves, ^{orbicular} ~~ovate~~
~~obovate~~ in outline, the lobes trifid and the
 lateral lobes again sometimes ~~trifid~~ cleft-nifid,
 the ultimate divisions linear or oblong; petals
 about 3 mm. long. Collected in the ^{Upper Yukon}
 on an island below Stewart River, ^{substantially} ~~and~~ ^{extending} ~~and~~
 south to Washington ^{and} New Mexico, ^{and}
^{Southwest} ~~and~~ to Michigan, ^{and} east to Nova Scotia,

Upper Yukon, — On an island below
 Stewart River, J. B. Carleton, 1899 (No. 166 b.),

1. A depauperate form, apparently of this species was
 collected at Point Barrow by Dr. Murdock in 1883.
 and reported under the name *R. multifidus* Pursh, by Dr. Gray in Ray's Report.

Ranunculus yukonensis Britton,
Ranunculus yukonensis Britton, Bull. in Britton &
 Rydb. Bull. N. Y. Bot. Gard. 2: 167, 1901,

"Group of *R. Parshii*". Stems almost filiform, 1 dm. long or less, sparingly pubescent toward the end. Leaves slender-petioled, 6-14 mm. wide, dissected into linear, entire or toothed, obtuse segments; flowers several, slender-peduncled, 6-10 mm. broad; sepals broadly ovate, obtuse; head of fruit globular, 2-3 mm. in diameter; achenes slightly compressed, about 1 mm. long, abruptly tipped with a hooked beak of one third their length.

Mouth of the Sananga, June 10, 1899, R. S. Williams (type); mouth of the Klondike, July 9, 1899, same collector."

Ranunculus nivalis L.*Ranunculus nivalis* L. Sp. Pl. 1: 553, 1753.

Stems at flowering time 2 to 15 cm. high, the upper part ^{and petioles} usually dark hairy; upper stem leaves ciliate, ~~rarely hairy~~ ^{usually} glabrous or sometimes hairy on the surfaces. Lobed nearly to the base, the lobes obtuse; petals ^{obovate} 5 to 9 mm. long. From Point Barrow to Fort Clarence, on St. Lawrence and St. Mathew ~~Island~~ ^{Islands} and has been ^{reported} collected in the ~~mountain~~ ^{from the} region. It extends ^{South to the Rocky Mts. & to the central British Columbia} eastward to Hudson Bay, Labrador and Greenland. It occurs also in northern Europe and Asia. ~~was~~ Originally described from Lapland and Switzerland.

1. The Switzerland plants undoubtedly belonged to some other species as *R. nivalis* is no longer credited to Switzerland.

Arctic Alaska. — Point Barrow, ^{F.S. Alkmixon} ~~Hardock~~, 1882.
Cape Smyth, J. L. White, Aug. 5, 1894.

Seward Peninsula. — Fort Clarence, Cuiwet Kearney (No. 1956a), F. A. Walpole, 1901 (Nos. 1593, 1692, 1953).

Islands of Bering Sea. — St. Mathew Island, Cuiwet Kearney (No. 2162).

Upper Yukon. — Vicinity of Summit and Middle Lakes, 3800 ft alt. A. L. Bolton, 1898.

Ranunculus altaicus Laxm.

Ranunculus altaicus Laxm. Nov. Comm. Acad.
Petrop. 18; 533. t. 9. 1774.

Ranunculus frigidus Willd. Sp. Pl. 2²: 1312. 1799.

Stems 10 to 30 cm. high, glabrous, basal leaves broadly flabelliform or sometimes nearly truncate at the base, inconspicuously ciliate with brown hairs, incised or deeply crenate, the broader divisions sometimes again crenate; cauline leaves palmately lobed nearly to the base, the lobes usually entire; peduncles hairy; sepals elliptical, obtuse, petals obovate, about 10 mm. long; fruiting head elong, achenes nearly globose, the style short, slightly curved or hooked. In the tundra in the Bering Sea islands and reported to range in Siberia from the Altai Mountains to Bering Strait. Original *R. frigidus* was described from "Siberiae alpidus".

R. altaicus was described as for rarely 2-flowered and the cauline leaves were in the figure are less deeply cleft than in specimens from the Bering Sea islands and the extreme north east of Siberia. The plant differs from *R. nivialis* in having its basal leaves less deeply cleft and the lobes more numerous, in its larger and usually more numerous flowers and in the more oblong fruiting head.

Islands of Bering Sea. - Hall Island, J. M. Macoun Aug. 11, 1871. Conice & Kearney (No. 2020).

Pribilof Islands. - St. Paul Island, B.O. Levernmann, 1872 (No. 82), Wm. Palmer, 1870 (Nos. 89, 481), Lane & Pringle, 1875 (No. 8). Greenland -

Ranunculus abortivus L.

Ranunculus abortivus L. Sp. Pl. 1: 551. 1753.

Glabrous or slightly pubescent, 15 to 40 cm. high; basal leaves round-uniform, cauline divided, the oblong or cuneate lobes crenate or cleft; flowers usually several, petals about 2 mm. long, exceeded by the sepals; fruiting head globose or nearly so, the achenes lenticular, very short styled. Collected at Kenai, Cook Inlet where it is common along roadsides, and on moist low ground on the outskirts of Juneau. Reported to range from Manitoba to Labrador and Newfoundland and south to Florida, Arkansas and Colorado. Originally described from "Virginia" and "Canada".

Cook Inlet. — Kenai, H. P. Nielsen, 1901 (No. 66).

Southeastern Alaska. — Juneau, Camille & Kearney (Nos. 589, 2496).

Ranunculus pygmaeus Wahl.

Ranunculus pygmaeus Wahl. *Lb. Lapp.* 187, t. 8, f. 1, 1872.

Apparently, perennial, ~~fibrous~~ ^{6.6-10 mm, broad,} ~~scabrous~~ ^{slightly pubescent,} basal leaves, deeply 5-lobed, the lobes ^{oblong} pinnate-obovate, obtuse, cauline leaves ~~usually~~ with similar but sessile or nearly so; achenes small, tipped with a short apiculate or hooked style. Moist clay and gravelly soils from Point Barrow to Seward Peninsula and on the Islands of Bering Sea; ~~and~~ throughout Arctic America to Greenland, southward to Labrador and in the high Rocky Mts. to Wyoming and Colorado. It was originally described from Lapland and occurs throughout Arctic Europe and Asia.

1. Reported from Juneau by Miss Corley Bull. Torr. Club, 19: 239, 1892 but probably *R. hyperboreus*

Arctic Alaska. — Point Barrow, F. S. Eldredge, 1883.

Seward Peninsula. — Fort Clarence, Condit & Kearney (No. 1962), Trelease (No. 3826), F. A. Walpole, # 1901 (Nos. 1592, 1794, 1898).

Islands of Bering Sea. — St. Matthew Island, Condit & Kearney (No. 2157). Hall Island, J. M. Macoun, Aug. 11, 1871.

sch

Ranunculus escholtzii Schlecht.

sch

Ranunculus escholtzii Schlecht. *Antiochensis* Ramm. 2: 16,
t. 1.

Perennial, stems usually slender, solitary or several from the same root, glabrous except for the inconspicuously ciliate leaf-margins, or sometimes slightly pubescent; basal leaves of roundish outline or truncate at the base, deeply parted, the cuneate lobes cleft or incised, the cauline similar or with oblong, entire divisions; petals 4 to 7 or even 8 mm. long; fruiting head oblong, carpel receptacle hairy, achenes about 1 mm. broad, tipped with a slender straight or curved style about half their own length. Moist ground from Cape Lisburne and the islands of Bering Sea to Juneau, thence southward to the Cascades, the mountains of Nevada and in the Rocky Mountains to the alpine regions of Colorado. It has also been reported from the summit of Grayback Mountain in southern California. Originally described from

R. escholtzii varies greatly in height and in the size of the flowers. Specimens collected in the shade of spruce forests have slender, somewhat elongated stems and small, pale yellow flowers; plants growing in exposed situations are low, have stout stems and large orange-yellow flowers. All, however agree in their leaf characters and have thick calyx villous with tan hairs. The specimen from Popof Island differs in having exceptionally large achenes.

Pribilof Islands. - St. Paul Island, Wm. Palmer,
1890 (No. 73), C. H. Merriam, Aug. 7, 1891.

Alutian Chain. - Unalaska, J. M. Macoun, Aug. 22,
1891. Pof Island, Kirkland, July 8 to 19, 1899.

Kodiak Island. - Eagle Bay, Coville & Kearney,
(No. 1466).

Alaska Peninsula. - Kukak Bay, Coville & Kearney
(Nos. 13-43, 13-81). Stipavak Bay, Palache, July 8 to 19, 1899.

Yakutat Bay. - Indian Village, Coville & Kearney,
(No. 1160), Egg Island, Coville & Kearney (No. 1041), Russell
Fiord, Coville & Kearney (Nos. ⁹⁴³994).

Southeastern Alaska. - ^{Flacur Bay} Murr Inlet, Coville &
Kearney (No. 681), ^{Flacur Bay} Point Eustace, Coville & Kearney
(No. 719). Juneau above Silver Bow Basin, Isaac
E. Casley, Aug. 6, 1891.

Ranunculus basilicus Wright sp. Nov.

Perennial, ~~from~~ ^{with} a short, horizontal or oblique rootstock, ~~the latter~~ ^{giving rise to numerous fibrous roots & roots} simple, 1-flowered, erect, glabrous, basal leaves slender petioled, ~~deeply lobed or parted into oblong acuminate segments~~ ^{arbitrarily in aut. line, 15.6 x 5.5 mm. in diameter} cuneate lobed nearly to the base, the lobes incised or cleft, ~~cauline leaves sessile on the lower short petioled lower cauline leaves usually short petioled and similar to the basal ones or all sessile, lobed to the base, and the lobes entire;~~ peduncles inconspicuously pilose hairy; sepals about $7\frac{2}{3}$ as long as the petals, slightly hairy; petals broadly orbicular, obtuse or sometimes emarginate, 7 to 12 mm. long, glossy; fruiting head oblong, the carpel receptacle hairy; achenes glabrous, nearly globose, tipped with a short, slightly curved beak, ~~as yet, for collected in the vicinity of Port Clarence~~.

Type specimen in the United States National Herbarium, collected on tundra at Teller River during station, Port Clarence, Alaska, July 26, 1901, by F. A. Walpole (No. 1563).

R. basilicus is most closely related to *R. pedat-*
ipidis ~~but~~ differs from that species in its simpler ~~habit~~ ^{more glabrous habit}, its short rootstock, ~~in being more glabrous~~ ^{having its} its larger flowers and in the basal leaves being more nearly orbicular in aut. line. It is probable that all the *R. affinis* reported from Kotzebue Sound and Port Clarence is of this species.

Seward Peninsula, — Vicinity of Port Clarence,
F. A. Walpole, 1901 (Nos. ~~1561~~ 1563, 1485, 2052),
J. T. White, July 3, 1894.

Ranunculus arcticus Richards.

Ranunculus arcticus Richards. in Frankl. 1st. Journ. App.

Ranunculus affinis R. Br. in Parry 1st. Voy. Suppl. to App.

265. 1824.
Ranunculus vernalis Greene, Pitt. 4: 125. 1890.

Stems 2 to 4 from the same base, or solitary,
10 to 30 cm. high, pubescent with long, lax hairs or
sometimes nearly glabrous; basal leaves variously
cleft ~~or lobed~~ into oblong or cuneate segments these
again incised or lobed or sometimes parted nearly
to the base into linear or oblanceolate entire lobes,
cauline leaves cleft to the base into linear
divisions; flowers 1 to 3 on the same stem, usually
with somewhat elongated peduncles, these commonly
white woolly near the base of the flower; ~~petals 5 to 9~~
~~mm. long~~ sepals $\frac{1}{2}$ to $\frac{2}{3}$ as long as the petals, usually
petaloid at the margin, petals 5 to 9 mm. long; fruiting
head oblong, achenes nearly globose, style short
recurved. In the upper Yukon about Fort Selkirk
and reported to range throughout arctic America
to Greenland and southward to Labrador.
Originally described from "Barren Grounds from
Point Lake to the Arctic Sea" and occurs also in
northern Asia. The type locality of R. affinis is
Melville Island.

R. vernalis based on Gorman's No. 1015 - collected
at Fort Selkirk, does not differ in a single character
from ~~other the~~ typical ~~material~~ specimens of R. arcticus
and is therefore reduced to synonymy. Verily this state-
ment by comparing Gorman 1015 with type of R. arcticus

Ranunculus pedatifidus Smith.

Ranunculus pedatifidus Smith in Rees Cycl. ~~no. 72~~ 181
29: no. 72. 1813-16. [Date given on title page is 1819.]

Four specimens said to be in the Linnaean Herb.
Description copied from Rees Cycl.

Buds ovate, hairy with small recurved beaks.

Stem a span high, erect, round, striated, leafy, simple or divided, clothed with long, soft, lax hairs. Radical leaves on long hairy stalks, deeply cut, in a pedate manner, into five, seven, or more, narrow, linear, obtuse, elegantly radiating segments, some of which are deeply three-cleft, and their lobes again cloven, others merely divided, and others undivided; all entire at the edges, and somewhat hairy on both sides, with long, lax, white hairs. The stem leaves are mostly sessile, less divided, the uppermost in three, rarely more, deep, linear simple segments. Flowers apparently yellow, the size of *R. acris*. Calyx woolly at the base; its segments partly dilated and colored, all shorter than the petals, and closely pressed to their underside. Fruit ovate. Seeds not very numerous, ovate, tumid, hairy, with short, awl-shaped, reflexed beaks.

Native of Liberia.

British *retensis pedatifidus* and *ditis affinis* R. Br. as a synonym. Robinson ~~links~~ doubts the identity of *pedatifidus* and as *retensis affinis* giving "*pedatifidus* Schlecht. --- probably not Smith" as a synonym.

Ranunculus verticillatus Eastwood.

Ranunculus verticillatus Eastwood, Bot. Gaz. 35: 144, f. 3,
1902.

Stems weak, reclining or ascending, ~~herb~~ slightly pilose pubescent above; basal leaves not seen, cauline into narrow oblanceolate or linear divisions; peduncles pubescent; sepals 4 to 6 mm. long, woolly but not conspicuously so, petals about 7 mm. long; fruiting head short oblong but sometimes appearing globular by the non development of the upper ovaries, the achenes nearly orbicular, pubescent with short inconspicuous hairs. Seward Peninsula from Port Clarence to Nome City, the type locality.

Seward Peninsula. — Port Clarence, F. A. Wals-
pole 1901 (No. 2024).

Ranunculus lapponicus L.

Ranunculus lapponicus L. Sp. Pl. 1: 553, 1753.

A glabrous ^{the slender} perennial, stems 6 to 20 cm. high, leafless or ^{the leaves} one-leaved; basal leaves 3-parted into 3 cuneate or flabelliform lobes, ~~the~~ crenate-dentate or incised; scapes 1-flowered, petals about 4 mm. long; fruiting head globose, the achenes about 3 mm. long, the style ^{slender} 1/3 mm. long. Springy places and ^{on St. Matthew Island, and} bays, from Kotzebue Sound to Cook Inlet, ^{and the upper Yukon region} thence across the continent to Labrador, ~~and~~ southward to northern Minnesota and Lake Superior. Originally described from Lapland, ~~and~~ ^{and} occurs throughout ^{arctic} northern Europe and in Siberia. (No. 2098). ^{Islands of Bering Sea.} St. Matthew Island, Cassin & Kearney, Edward Peninsula. - Port Clarence, Cassin & Kearney (No. 1956), F. A. Walpole, 1901 (No. 1705).

Norton Sound. - Ft. St. Michaels, H. M. Bannister, 1865-66.

Baristol Bay. - Mushagak, C. L. McKay, June 20, 1881.

Cook Inlet. - Kasilof, Evans, 1898 (No. 719).

Upper Yukon. - Klondike River, J. B. Tarleton, 1899 (No. 186).

orthorhynchus

Ranunculus orthorhynchus Hook.

Ranunculus orthorhynchus Hook, Fl. Bor. Am., 1: 21, t. 9.

1829,

erect, stoutish glabrous or rarely a few scattered hairs in the upper part of the stem and petioles; basal leaves with very long petioles, ~~primarily~~ ^{triple} parted and the lobes petiolate ~~trifoliate~~, the lateral leaflets short-petiolate, the terminal one rather long petiolate ~~st~~ and again 3-parted and the terminal lobe petiolate, the ~~segments~~ ^{leaflets} all incised and the segments rounded, ~~or~~ obtuse, or ^{sometimes} ~~are~~ ^{are} ~~erectish~~; flowers ~~with slender~~ rather large, slender-peduncled; the petals 8 to 10 mm long, about twice as long as the reflexed sepals; ^{Malpighia glandular} ~~acines~~ 4 mm. long, 3 mm. broad tipped with a straight beak about 3 mm. long.

South eastern

cupid-receptacle hairy

Alaska and southward to western Oregon, First described from specimens collected by Douglas "in the low points of land near rivers, in North-West America".

Alaskan specimens have the leaves very much less finely divided than the figure in Hooker's Flora and should perhaps be made a variety.

Southeastern Alaska, — Azio Bay, Tarman, 1893
(No. 61), Hammell, 1895 (No. 1603), Haukan, Evans,
1897 (No. 127), Lataash Islands, J. B. Flett, 1901 (No.
1957),

Ranunculus douglasii Howell.

Ranunculus douglasii Howell, Fl. M. W. Am. 1: 18, 1897.

Ranunculus terrellii Mitt., Torr. & Gray, Fl. 1: 23, 1838.

Ranunculus bangardi Terrellus Fernald, Brythia 3: 54, 1893.

Ranunculus melsonii glaberrimus Holmgren, Contr. U. S. Nat. Mus., Ser. 3: 210, 1893.

Ranunculus arcuatus Heller, Bull. Torr. Club 24: 310, 1897.

Erect ^{Stems} 15 to 45 cm. high, ^{commonly somewhat slender} glabrous or ^{slightly} hairy; leaves hairy on both surfaces those on the upper surface usually finer and more appressed than on the lower, usually deeply ~~left~~ divided into 3 broadly cuneate or flabelliform segments these ^{usually} ^{or sometimes irregularly} ^{slightly} reflexed and the lobes or divisions again incised, the uppermost leaves usually still more finely divided ^{or} with fewer divisions; flowers several, the petals 3 mm. or less long, ~~for~~ very little exceeding the reflexed sepals, pale yellow in dried specimens, fruiting head ^{slightly} nearly globose achenes glabrous or rarely ^{slightly} hispid, about 2 mm. long, beak rarely more than one half as long. Moist, low ground, especially in and near towns from Sitka to the southern boundary, thence southward to Idaho and southern California. Originally described from "shady woods of the Oregon and Willamette Rivers."

Southeastern Alaska, - Sitka, ^{in part} Kellogg, 1867 (No. 166), Canille & Kearney (No. 808), Evans, 1897 (No. 260), Yes Bay, Gorman, 1893 (No. 197).

Ranunculus douglasii Lyallii (Gray) Wright.

Ranunculus occidentalis Lyallii Gray, Proc. Am. Acad.
21: 373.

Ranunculus bangardi Greene, Cerythia 3: 54, 1895.

Ranunculus tenellus Lyallii Robinson in Gray, Syn.
Fl. 1: 33, 1875.

Similar in habit to the species but larger, stems 30 to 80 cm. high, hairy, sometimes conspicuously so, or nearly glabrous; leaves large the lower ones commonly 6 to 10 cm. broad, with broad segments; achene glabrous or hispid with slender beak one half to nearly its own length. Kodiak Island to the southern boundary and thence to Idaho and northern California. Originally described from the Pend Oreille River and from near Portland, Oregon.

Kodiak Island and vicinity. - Kodiak, Canille & Kearney (No. 2385), Long Island, Canille & Kearney (No. 2401).

Yakutat Bay. - Knight Island, Lunston, 1872 (No. 28).
Southeastern Alaska. - Juneau, Canille & Kearney (Nos. 529, 2478). Sitka, Evans, 1878 (No. 712), Kellogg, 1867 (No. 166 in part), Annette Island, Canille & Kearney (No. 365). Wrangell, Evans, 1877 (No. 36).

(Gray)

Ranunculus tinellus Lyallii, Robinson

Gray, as *R. occidentalis* Lyallii' says, Proc. Am. Acad. 21: 373.

"has rather large and thin leaves, short peduncles, and petals not longer than the calyx, - in all of these points so much like *R. recurvatus* that it might be taken for a western form of that species; but the calyx-acceptacle is glabrous and the carpels themselves sparsely hispid with the peculiar bristly hairs of the present species. [*R. occidentalis*] Lyall's specimens are from Pond Creille River, in Idaho."

Robinson says Synops. Fl.

"similar in habit and foliage [to *R. tinellus*] but commonly more pubescent or hirsute and with broader leaf segments; rhines more or less hispid upon the faces."

R. occidentalis Lyallii Gray

R. bangardi Greene

R. tinellus Lyallii Robinson

Ranunculus tinellus Nutt.

"Leaves somewhat hairy on the upper side, the radical ones on long petioles, cordate, 3-5-lobed; the divisions 2-3-lobed, acute; those of the stem 3-parted or entire; stem slender and somewhat-spreading, smooth; flowers minute; carpels much compressed, smooth; with a minute curved style." (Nutt. mss.).

"Shady woods of the Oregon and Wallowa Rivers, Nuttall! Stem $1\frac{1}{2}$ - 2 feet high, nearly naked, almost filiform. Leaves an inch long. Flowers as large as in *R. acicularis*. Sepals hairy. Petals obovate, a little larger than the sepals. Pedicels much elongated in fruit. Carpels 6-8, suborbicular; the style slender and very short." (Torr & Gray, Fl.).

Ranunculus tinellus Nutt. in Torr. & Gray, Fl.!

R. occidentalis tinellus Gray, Proc. Am. Acad. 21: 373

R. bangardi tinellus Greene *Erythra* 3: 54, 1875.

R. nelsonii glabriusculus Haltinger, Contr. U.S. Nat. Herb. 3: 210, 1895.

R. douglasii Howell

R. arcuatus Keller

Ranunculus turaneri Grune.

Ranunculus turneri Grune, Pitt. 2: 296, 1892.

About 50 cm. tall, ^{the stems hairy} leaves 3 to 5 ~~divided~~ parted
and the lobes variously cleft; flowers large, the
broadly obovate petals 8 to 15 mm. long; carpels
numerous, 50 to 60 in a head, receptacle glabrous,
styles strongly circinate-revolute; mature achenes
not seen, styles of immature achenes broad at
the base. Originally described from material
collected on the Parcupine River by Mr. J. H. Turner
and not since reported.

Ranunculus mesophilus Kearney, "sp. nov.

Stems erect or nearly so, about 20 cm. high, sparingly branched, villous with long spreading hairs; the leaves few, covered with appressed hairs, the lower cauline and basal ones long petioled, about 3 cm. in greatest diameter, nearly orbicular in outline or uniform, deeply 3-cleft, the divisions obovate and sparingly toothed or lobed; upper leaves, ^{reduced and} entire or parted into 2 or 3 narrowly oblong or lanceolate, entire segments; flowers large, about 3 cm. in diameter, solitary at the summit of the branches of the stem, hairs of the peduncle mostly appressed for some distance below the flower; sepals about $\frac{1}{2}$ as long as the petals, spreading, oblong-ovate, ~~very~~ obtuse, pubescent with soft white hairs, the margins thin, and petaloid; petals broadly obovate to nearly orbicular, shining, bright yellow; styles short and stout, hooked; fruit not seen.

Herb. Type specimen in the United States National Herbarium collected on upland tundra on Hall Island, Bering Sea, July 14, 1899, by Coville & Kearney No. 2046.

R. mesophilus is nearly related to *R. occidentalis* but differs in its nearly simple stems, large flowers and spreading, not reflexed sepals.

¹Described by Mr. Kearney in manuscript and his description is closely followed here.

Ranunculus nelsonii (DC.) Gray.

Ranunculus recurvatus nelsonii DC. Syst. 1: 290, 1818.

Ranunculus nelsonii Gray, Proc. Am. Acad. 8: 374.

1. As to synonymy *R. recurvatus nelsonii* DC.

Ranunculus occidentalis robustus Gray, Proc. Am. Acad.

2. As to the Alaskan plant.

21: 373.

Commonly rather succulent and stoutish, erect, 10 to 50 cm. high, stems and petioles very hairy with long, spreading, silky hairs, or rarely somewhat glabrate; leaves numerous, hairy on both surfaces, 2.5 to 8 cm. broad, 3 to 5 parted and the lobes variously cleft or incised, the segments acute or acutish; flowers numerous, their peduncles commonly little exceeding the uppermost stem leaves; petals obovate, obtuse or emarginate, 7 to 15 mm. long, 3 to 7 mm. broad; receptacle glabrous; achenes glabrous or rarely with a few scattered hairs, 3 mm. long, 2 mm. broad, with a stout curved beak about 2 mm. long, continuous with a rather inconspicuous margin along the inner angle. Grassy places and waysides and abundant about wharves and dwellings throughout the Aleutian Chain. First described from Alaska.

Alutian chain. — Attu Island, W. V. E. Jacobs,
June, 1894. Atka Island, B. W. Evermann, 1892
(No. 5), Adak Island, C. H. Townsend, ^{June 28, 1893} July 1, 1893,
Unalaska, Harrington, 1871-72, C. H. Merriam,
July 26, 1891, ^{Aug. 12, 1891} Canille & Kearney (Nos. 1716, 2194),
J. B. Flitt, 1890 (No. 1776), Kellogg, 1867 (No. 321)
Akum Island, C. H. Townsend, Aug. 31, 1893, Nagai
Island, C. H. Townsend, June 24 and June 29, 1893,
Southeastern Alaska. — Sitka, Canille &
Kearney (No. 820).

Ranunculus nelsonii

Ranunculus recurvatus nelsonii DC. Syst. 1: 290, 1815.

"Foliarum lobis approximatis, pedicellis adpresse pilosis folii longitudine," DC. Alaska.

Greene, *Erythraea* 3: 55, 1895 says — This is a plant with stout somewhat fleshy stem, very hirsute; the leaves are ample and numerous, the peduncles, as De Candolle described them, so short as not to surpass the leaves to which they are axillary, until after the flowering, when they are of course somewhat elongated. The flowers, though much smaller than in *R. Turneri*, do not at all approach those of *R. Pangardi*, [*R. tinellii*, by all ^{Babin} ~~Greene~~].

R. recurvatus nelsonii DC.

R. occidentalis Gray, Proc. Amer. Acad. 8: 344, 1873 at least in part, not of Nutt.

R. occidentalis robustus Gray,

R. occidentalis occurs in Alaska at all but Nuttall's specimens as well as more ample material ~~that~~ than that in the Nat. Herb. must be seen to determine that point. The specimens referred to R. occidentalis brunstyki are variable and the present knowledge is not satisfactory.

↗ Southeastern Alaska. — Point Gustavus, Glacier Bay, Condit & Kearney Saunders, 1899 (No. 3841). Near Juneau, 2000, 3000 ft, Grace E. Cook, Aug. 6, 1891. Sitka, Condit & Kearney (No. 520), Pilschoff, 1865-66 in part, Wrangell, Evans, 1897 (No. 52). Shores of Yes Bay, Russell, 1895 (No. 1602). Prince of Wales Island, J. B. Flett, 1901 (No. 1958).

Possibly the above contains more than one form and the lower more hirsute plant should be referred to R. occidentalis while the tall inconspicuously hairy plant is retained as a variety.

Ranunculus occidentalis Nutt.*Ranunculus occidentalis* Nutt.; Torr. & Gray, Fl. 1122, 1837.

"Hirsute with shining spreading hairs; leaves trifid or 3-parted; segments cuneate and trifid, or incisely toothed, the lateral ones often subdivided; the uppermost leaves trifid, with linear acute segments; stem divaricate, many flowered; sepals reflexed, half as long as the elliptical-oblong petals; carpels smooth, much compressed, with the revolute style nearly their own length." (Nutt. mss.)

"Plants of the Oregon River, near Woods, Nuttall! Dr. Scouler!; Sitka, Bangard! Root composed of fasciculate fibres. Stem slender, about a foot high, somewhat branching, rather naked, densely clothed with shining brown hairs. Leaves scarcely more than an inch in length and breadth. Flowers when expanded 8-16 lines in diameter. Carpels slightly hairy, margined; the beak, when mature, so much recurved as to be revolute." (Torr. & Gray, Fl.)

Batrachium S. & Gray.

Mostly perennial herbs, aquatic or marsh herbs with dissected submerged leaves, ^{with petiole segments} and with or without palmately lobed emerged ones; flowers solitary, white, or the petals sometimes yellowish at the base; achenes compressed, nearly beakless. About 20 species, widely distributed.

Key to the species.

Emerged leaves ^{perennial} 3 to 5-lobed, the divisions usually cleft or incised, submerged leaves dissected into capillary or filiform divisions.

B. aquatilis.

Leaves all submerged and the segments capillary or filiform.

B. flaccidum.

Batrachium aquatilis (L.) Wimm.

Ranunculus aquatilis L. Sp. Pl. 1: 586, 1753.

Batrachium aquatile Wimm. & L. Schles. P. 1841.

Emerged leaves nearly reniform in outline, glabrous above, commonly hairy below, submerged ones with the divisions widely spreading, ^{usually} collapsing on removal from the water; petals about 5 mm. long; achenes ~~complanate~~ ^{obovate} ~~trilobed~~ ^{trilobed} ~~with the lobes~~ ^{with the lobes}

and an Alaska Peninsula and reported to extend southward to Oregon and California. Originally described in Europe and occurs in Asia.

Alutian Chain. — Nagai Island, J. M. Maclean, Sept. 18, 1872, M. W. Hamington, 1871-72. Popof Island, Kinkaid, July 8 to 19, 1879.

Alaska Peninsula. — Kukak Bay, Trelease & Saunders, 1899 (No. 3818).

Batrachium
~~Ranunculus~~ flaccidus (Pers.) (Hym. Rupr.,
Ranunculus flaccidus Pers. Vist. Ann. Bot. 14: 39, 1795.
Batrachium flaccidum Hym. Rupr. Fl. Conc. 15.

Leaves 2 to 5 cm. long, collapsing an unusual form the water, as the mud forms with shorter, more fleshy and rigid segments to the leaves not collapsing; petals 5 to 8 mm. long; achenes commonly though not always, glabrate. On the Pribilof and Alutian Islands and on the mainland from Bristol Bay to Alaska Peninsula. It is reported to range from Washington to Massachusetts and south to Lower California and North Carolina. It occurs in Europe, Asia and South Africa. Originally described from

Pribilof Islands. — St. Paul Island, J. M. Maclean,
Aug. 3, 1871, Wm. Palmer, 1890 (No. 696)

Alutian Chain. — Attu Island, W. V. E. Jacobs, July,
1894. Unalaska, Harrington, 1871-72, Evans, 1877 (No. 537).
Papof Island, Sanders, July 7 to 18, 1879,
~~Papof~~

Bristol Bay. — Mushagak, C. L. McKay, Aug. 24,
1881.

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

Kodiak Island. — Kodiak, Couille & Harney
(No. 2338), Karluk River, L. H. Bean, 1889.

Arctanthus Greene

A perennial fibrous-rooted herb with mostly basal leaves and scape-like flowering stems; flowers solitary, the scape sometimes with a single ~~reduced~~ leaf; sepals 5 somewhat petaloid, ^{the utricular fruit conspicuously beaked dorsally,} petals numerous; a monotypic genus of southeastern Alaska.

Arctanthus coolyae (Vasey & Rose) Greene,
Ranunculus coolyae Vasey & Rose, Contr. U.S. Nat. Herb.

1: 289, t. 22, 1893.

Arctanthus coolyae Greene, Pitt. ⁱⁿ 190, t. 3, 1897.

Stems 5 to 20 cm. high; leaves orbicular in outline, 3 to 5 lobed, the glabelliform lobes rather deeply cleft and the divisions crenate dentate; sepals greenish or yellowish white, oval or broadly oblong, petals yellow about 3 mm. broad narrowed at the base; fruiting head globular, utricle with slender, hooked style. Above timber line on the mountains, flowering at the edge of snow banks, or sometimes descending along streams to sea level, and ranging from Prince William Sound to Yes Bay. Originally described from specimens collected near Juneau and in the mountains near Disenchantment Bay.

A. coolyae is one of the first plants to open its flowers in the alpine meadows, and they are noteworthy in having a delicate hyacinthine fragrance.

Prince William Sound. — Area, Caville & Kearney,
(No. 1175).

Yakutat Bay. — Indian Village, Caville & Kearney
(No. 1156). Mountains near Diogenchautment Bay, Linstun,
1892 (No. 99).

South eastern Alaska. — Juneau, Grace E. Cooley,
Aug. 6, 1891. Sitka, B. W. Evermann, 1872 (No. 266),
W. H. Evans, 1897 (No. 190), Caville & Kearney (No. 940), F. A.
Walspole, 1900 (Nos. ¹⁰³⁷ 1286), ~~the~~ Mountains near Yes
Bay, Howell, 1875 (No. 1604), Garman, 1875 (No. 83).

Halodia (Gray) Wight, *Lin. Mo.*

Halodes Gray, *Proc. Am. Acad.* 21: 366, 1856, as sub-genus,

herbs, perennial by flagelliform stolons; inflorescence scapose, the scapes 1 to 4 flowered; sepals tardily deciduous, petals yellow, falling away with the sepals; mature carpels thin-walled, compressed, marked with longitudinal simple or sparingly branched nerves. A genus of 2 or 3 Siberians and the following widely distributed species.

The American representative of this genus was first recognized by Gray as differing from true *Ranunculus*. Dr. Gray gave it subgeneric rank in common with the following, *Batrachium*, *Exygraphis*, *Pseudophanostemon* & *Kumliinia* Greene), *Cymodes* (*Beckwithia* Japan as to species *B. andersonii*), and *Cystorhyncha*. Although *H. cymbalaria* has been referred by different authors to both *Cystorhyncha* and *Exygraphis*, it does not appear to be congeneric with either of them. In *Halodia* the utricular fruit is much flattened, the wall of the carpel is very thin, almost membranous with 3 to 4 not very prominent nerves on the sides. It is broadest at the apex where it is abruptly contracted to the style. *Exygraphis* on the other hand has a carpel with the dorsal wall at least quite firm. The utricle

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is more nearly rectangular in cross section, with the angles very prominent and appearing as ribs. It is also somewhat disposed to burst open ventrally and is gradually narrowed at the apex to the subulate style. Cyrtorhyncha ~~with its~~ ^{has a} many nerved tube corolla somewhat resembling that of Thalictrum.

Other species of the genus Halodia are H. plantaginifolia (Murr.) R. plantaginifolia Murr., H. salunginosa (Pall.) R. salunginosa Pall. ex. DC., and H. ruthenica (Jacq.) R. ruthenicus Jacq.

Halodia cymbalaria (Pursh) Wight.
Ranunculus cymbalaria Pursh, Fl. 2: 391. 1814.
Alysicarpus cymbalaria Prantl, in Engl. & Prantl, Nat. Pfl. Fam. 3: Abt. 2, 63. 1891.
Cyrtorhyncha cymbalaria Baillon, Mem. Torr. Club 5: 161. 1894.

Low, glabrous, leaves mostly basal, cordate-oval or sometimes nearly reniform, crenate; flowers 7 to 10 mm. in diameter, 1 to 8 borne on scape-like peduncles, or the scape branched and the branches 2 to 4 flowered; fruiting head ~~of~~ oblong. On the strand especially in moist soil through the grass Prince William Sound to the southeastern boundary. In Saline soil through the western part of the continent Mexico, along the arctic coast and southward

along the Atlantic
to New Jersey and in the St Lawrence basin
to the Great Lakes and Minnesota. It is
also found in South America and in
southern and eastern Siberia. ~~Other~~ type
locality ~~is~~ "saline marches near the salt-
works of Auondago, New York."

Prince William Sound, - Near Area,
Coville & Kearney (No. 1334).

Southeastern Alaska, - Wrangell, Coville
& Kearney (No. 396).

Oxygraphis Bunge.

~~Lithospermum~~

~~Perennial~~ Herbaceous perennial with
fibrous roots, and basal leaves and a
solitary scapose flower; petals numerous,
sometimes 15, narrowly oblong, about $\frac{1}{2}$ as
broad as the sepals; soon deciduous;
achenes flattened, strongly carinate on
both surfaces.

Oxygraphis kamchaticens (Dc.) Wright.

Ranunculus kamchaticens Dc. Syst. 1: 302. 1818.

Ficaria glacialis Fisch.; Dc. Syst. 1: 303. 1818

Oxygraphis glacialis Bunge,

Low, 3 to 4 cm. high, glabrous; leaves
thickish, oval or obovate, crenate with three or
more teeth at the usually broad apex; scapes
short; sepals persistent; petals give the color
collected at Port Clarence and on Popof Island.
Originally described from Kamtschatka and
has been collected at other localities in
eastern Asia. *Ficaria glacialis* was described
from "Daouria ad apicem montis Schokondo."

Edward Pennicula, — ^{Past Clarence,} L. A. Walpole, 1402 (Dec. 1477,
1574).

Alutian Chan, — Papsaf Island, Kirkaid,
July 8 to 19, 1879.