

it rather to the *myoides* than the *leucopas*. An intelligent friend informed me that, disturbing a female mouse in the fields one day, she made off with prodigious leaps with her family hanging to her back, most probably they were attached to her mammæ, as the young of the opossum do, thus showing some slight analogy to that isolated animal. He could not determine the species, which must have been the white bellied or the jumping mouse.

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ART. II. MONOGRAPH OF RANUNCULACEÆ OF THE DOMINION OF CANADA AND ADJACENT PARTS OF BRITISH AMERICA. BY GEORGE LAWSON, Ph. D., LL. D., *Professor of Chemistry and Mineralogy, Dalhousie College and University, Halifax, N. S.*

(Read December 13th, 1869.)

*Synopsis of Genera.*

TRIBE I. CLEMATIDÆ.—Fruit consists of numerous separate carpels, which are single seeded and indehiscent, (Achenes), with long feathery awns. Sepals coloured like petals, valvate or induplicate in æstivation, not caducous. Petals absent, or represented by stamen-like bodies. Mostly tall climbers, with weak woody stems and opposite compound (or simple) leaves, whose petioles (in our species) are twisted-clasping like tendrils.

*Genus* 1. CLEMATIS, Linn.—Calyx of 4 or 5 large petaloid sepals. Petals absent in some species, in others represented by stamen-like processes graduated centripetally into stamens.

TRIBE II. ANEMONEÆ.—Fruit consists of separate carpels, which are single-seeded and indehiscent, (Achenes), in some species with, in others without, long feathery awns. Sepals green, or, more usually, coloured like petals, (frequently large), imbricate in æstivation, not caducous. Petals absent or represented by stamen-like bodies. Herbs with radical leaves and verticillate involucre or alternate cauline leaves.

2. *PULSATILLA*, Tourn.—Calyx of about 5 or 6 very large petaloid sepals. Petals absent, or a few imperfect processes. Carpels numerous, with long feathery awns. The fruit thus being composed of a large, loose, soft brush of plume-tailed achenes. Flower, solitary, hermaphrodite, leaves usually much divided, involucre large, and similar to the leaves, at first close to the flower; plants with long silky hairs.

3. *ANEMONE*, Linn.—Calyx of from 4 to 9 large petaloid sepals. Petals absent. Carpels several or numerous in a compact head, glabrous or pubescent or matted with wool. Receptacle often enlarged, hemispherical or conical. Flower solitary, or several on the same peduncle, hermaphrodite. Leaves ternately divided or lobed, often hairy.

4. *SYNDESMON*, Hoffm.—Calyx of about 7 large petaloid sepals. Petals absent. Carpals ribbed, several awnless. Flowers, several together, hermaphrodite. Stem leaves verticillate, forming an involucre.

5. *THALICTRUM*, Tourn.—Calyx of 4 or 5 small sepals, greenish, or rarely petaloid. Petals absent. Carpels few, usually with prominent ribs lengthways, awnless and usually glabrous. Flowers often diœcious polygamons. Leaves much divided decom-  
poundly into numerous short-lobed leaflets, glaucous, glabrous, or with only very minute pubescence, never with long or silky hairs.

TRIBE III. *RANUNCULEÆ*.—Fruit consists of numerous (or few) separate carpels, which are single-seeded or indehiscent (Achenes) without awns. Sepals small, green or greenish, imbricate in æstivation, not caducous. Petals usually large and coloured, with a gland near the base of each on its inner surface. Herbs with alternate or only radical leaves.

6. *RANUNCULUS*, Linn.—Calyx of 5 (rarely 3) green sepals, without spurs. Petals large, glossy, usually yellow, white in some species. Stamens numerous. Carpels several or many, in roundish or oblong heads, on the slightly enlarged receptacle.

7. *MOYSURUS*, Dill.—Calyx of 5 sepals, each with a spur at the base. Petals small, with a filiform tubular claw. Stamens 5. Carpels very numerous, the receptacle elongated (in fruit) into a long filiform stalk, like a snake.

**TRIBE IV. HELLEBOREÆ.**—Fruit consists of several separate carpels, which are many-seeded, dehiscent and pod-like, (Follicles.) Sepals coloured like petals, imbricate in æstivation, deciduous, (in our genera), but not caducous. Petals hollowed out, or spurred, or reduced to stamen-like processes, or altogether absent. Herbs with alternate leaves.

8. **CALTHA**, Linn.—Flower regular. Calyx of 5 petaloid deciduous sepals. Petals absent. Leaves simple.

9. **TROLLIUS**, Linn.—Flower regular. Calyx of 5 or many petaloid, deciduous sepals. Petals small and numerous. Leaves palmately divided.

10. **COPTIS**, Salisbury.—Flower regular. Calyx of 5, 6 or 7 petaloid deciduous sepals. Petals 5 or 6, small, cucullate. Leaves ternate.

11. **AQUILEGIA**, Tourn.—Flower regular. Calyx of 5 petaloid, deciduous sepals. Petals 5, larger than the sepals, each one hollowed out into a trumpet or funnel-shaped spur. Leaves ternately compound.

12. **DELPHINIUM**, Tourn.—Flower irregular. Calyx of 5 deciduous, petaloid sepals, the upper sepal produced downwards into a spur. Petals 4, sometimes united, the two upper ones produced at the base into appendages or spurs, which are both ensheathed in the spur of the upper sepal. Leaves palmately multifid.

13. **ACONITUM**, Tourn.—Flower irregular. Calyx of 5 petaloid sepals, the upper sepal hooded, (called the hemlet), petals enclosed, 2 in number, small, with long claws.

**TRIBE V. ACTÆEÆ.**—Fruit consists of one carpel, ripening into a many-seeded berry, or of several carpels forming a head of single or two-seeded berries, or of several dehiscent many-seeded follicles. Sepals caducous, (falling off as they expand), æstivation imbricate. Petals small or absent. Herbs with alternate leaves and racemose inflorescence, or (in *Hydrastis*), single-flowered.

14. **CIMICIFUGA**, Linn.—Calyx of 4 or 5 caducous sepals. Petals or staminoid processes usually about 4, but variable. Fruit

of several carpels, which are many-seeded, dehiscent (Follicles). Leaves bi-or tri-ternate. Inflorescence racemose.

15. *ACTÆA*, Linn.—Calyx of 4 petaloid caducous sepals. Petals 4. Fruit of a single carpel, forming a many-seeded berry. Leaves bi- or tri-ternate. Inflorescence corymbose, becoming racemose in fruit.

16. *HYDRASTIS*, Linn.—Calyx of 3 petaloid caducous sepals. Petals absent. Fruit of several carpels, which form a head of single or two-seeded berries. Leaf simple. Inflorescence unifloral.

### *Descriptions of Species.*

#### CLEMATIS, LINN.

*C. VERTICILLARIS*, DC.—Stem shrubby, climbing. Leaves opposite, petioles twisted and clasping as tendrils, leaflets 3, stalked, ovate or more or less heart-shaped, acute, usually toothed. Peduncles opposite, each bearing one large flower. Sepals, 4, large, petaloid. Petals developed as stamen-like process, and pass into stamens. Flowers from two to three inches in diameter.

*C. verticillaris*, DC. Prod., Hook. Fl. B. A., p. 2. Torrey & Gray, Fl. N. A., p. 10.

*Atrangene Americana*, Sims. Bot. Mag. Pursh. Chapman, Fl. S. U. S., p. 3.

Not common. Montreal and Belœil mountains, Q., and at Jones's Falls, on the Rideau Canal, Ontario, Dr P. W. MacLagan. Mountain side, east from Hamilton, Judge Logie. North limit in Hudson's Bay Territories, lat. 54°. seldom occurs to N. W. of Ontario, Mr Barnston; has been found on the Pacific Coast, T. & G., and as far south as the mountains of North Carolina, Chapman.

Hooker pointed out that this plant differed from the European *C. alpina* in its acute petals, and in the far smaller and never sharply serrated leaves. Regel describes three varieties of *alpina* in Eastern Russia, besides the allied *C. macropetala*, figured in *Plantæ Raddeanæ*, tab. 1, which has very small leaves, and large narrowly lanceolate acute petals.

*C. VIRGINIANA*, Linn.—Stem shrubby, climbing. Leaves opposite, Petioles twisting and clasping as tendrils, leaflets 3,

stalked, ovate or somewhat cordate, acute, lobed and coarsely toothed. Peduncles opposite, each bearing a large panicle or cluster of *numerous* flowers. Sepals 4, rather large, petaloid. Petals absent. A climber, 10 or 12 feet high, clinging to bushes and small trees for support. Flowers white, fragrant. The plant is very conspicuous in the fall season, as the leafless stems with their numerous clusters of plume-tailed achenes form large feathery wreaths. The leaflets are always prominently toothed, sometimes almost lobed, never entire as they sometimes are in *C. Vitalba* of Europe and constantly in several Indian species.

*C. Virginiana*, Linn. Michx. Pursh. Hook. Fl. B. A., p. 1. T. & G., Fl. N. A., I., p. 8.

*C. cordata*, and *holosericea*, Pursh.

Figured in Mrs Miller's "Wild Flowers of Nova Scotia." 3 series, part 5, fl. 14.

Banks of streams and moist spots, edges of swamps, ravines, etc., from the Atlantic coast of Nova Scotia westward through the Provinces of New Brunswick, Quebec and Ontario. Banks along the roadside at the Rifle Range, Bedford, N. S.; frequent in the townships in rear of Kingston, in Frontenac and adjoining counties, as between Kingston and Odessa, Waterloo and Hinchinbrook; also, Toronto, G. L. Windsor, N. S., Professor How. Nicolet and St. John's, Q., and Niagara, Ontario; also, Montreal, 12th August, 1851, Dr Maclagan, sp. Two miles from Prescott, near Ottawa and Prescott railway, rare, in thickets, northward to Chelsea, Mr B. Billings. Belleville, abundant in low grounds, along small streams, Mr Macoun. Red Lake River, September, 1860, Dr Schultz, sp. Provancher cites Pied du Cap Tourmente and Isle Verte, which is the last outpost north eastwardly.

Mr Barnston observes that westwardly this species does not appear to pass the long. of Red River or Lake Winipeg, and is rare to the N. W. of Ontario Province. North limit (west) "in lat. 55°, about the south end of Lake Winipeg," according to Dummond, but the south end of Lake Winipeg is in lat. 51°. "Canada to Georgia and west to the Mississipi," T. & G. Hooker quotes "banks of the Columbia," on the authority of Douglas.

## PULSATILLA, TOURN.

*P. PATENS*, Linn.—Whole plant covered with long silky hairs when young, losing much of the hairiness as it becomes old. Leaves radical, long petioled, ternately divided into narrow linear segments. Flower solitary, appearing before the leaves, with a sessile involucre like the leaves, which becomes distant from the flower by the elongation of the upper part of the peduncle as the fruit ripens. Sepals large, silky externally. Carpels of the fruit with long feathery tails. Flowers purplish. Petals are represented by a number of small imperfect processes, arising between the sepals and stamens. The involucre and portion of peduncle below it are densely villous, with long silky hairs, upper portion, very short at first but becoming very long in fruit, scarcely villous or nearly glabrous.

*Pulsatilla patens* b. *Wolfgangiana*, Trautv. & Meyer, (exc. syn.,) according to Regel.

*Clematis hirsutissima*, Pursh.

*Anemone Nuttalliana*, D. C.

*Pulsatilla Nuttalliana*, Gray, Man., edition 2.

*Anemone Wolfgangiana*, Bess.

*A. flavescens*, Pritzell.

*A. patens*, Linn. T. & G., Fl. N. A., p. 11. Hook, Fl. B. A., p. 4. Nuttall.

*A. patens* var. *Nuttalliana* A. Gray, Man., ed. 5, p. 36.

Regel's var. *intermedia*, (*P. patens* var. *Wolfgangiana*, Trautv.,) is a different plant, confined to the old world.

I am indebted to the late lamented Governor McTavish for specimens from the following localities:—

Fort Simpson, 1853, between Fort Youcon and Lapierras House, west side of Rocky Mountains; McKenzie River, near Fort Simpson, 8th June; Fort Chipewyan, 4th and 16th May, 1861; Fort Simpson, in ft.; Youcon River; on Anderson River, and at Fort Good Hope; Rocky Mountains, Van Express Party, 1854; Athabasca River, 31st July, 1852, in fl. Lake Manitoba, June, 1861, Dr Schultz sps., Nos. 1, 2, in fl. and ft. Found at Fort Reliance by Capt. Back. Occurs in New Mexico. Widely spread through the Russian dominions of Europe and Asia.

A small form from Fort Simpson, Summer of 1853, (McTavish) has the involucre divided into linear, but rather broad segments, very sparingly villous, sepals almost glabrous.

*P. patens* is a variable plant in Europe and Northern Asia. In the allied *A. Halleri* of Switzerland, the divisions of the leaves and involucre are proportionately much shorter, and the flower larger.

*P. vulgaris* of Europe has pinnatisect foliage.

*P. ALPINA*, Linn.—Involucre and radical leaves similar, leaflets or divisions petiolate, divisions rather broad, with sharply acuminate teeth. Varies with flowers white or yellowish, larger or smaller, leaves more or less dissected, etc., hence the elaborate synonymy. Flowers white in *a.*, Gaudin Fl. Helv., and in *var. major*; yellow in *var. sulphurea* of Europe.

*Anemone alpina*, Linn. D.C. Jacquin. Koch. Pritzel. Hook, Fl. B. A., p. 5. T. & G., p. 11.

*A. sulphurea*, Linn.

*A. aipifolia*, Scop.

*A. millefoliata*, Bart.

*A. myrrhidifolia*, Vill.

*Pulsatilla alpina*, Regel.

*P. alba Burseriana*, Reichenbach.

Eastern declivity of Rocky Mountains, between lat. 52° and 55° north, Hooker. Kotzebue's Sound, Beechey.

Occurs in Europe and the Caucasus.

### ANEMONE,\* LINN.

§ 1.—Fruit a globose or cylindrical mop-like head, consisting of numerous closely packed tail-less achenes, imbedded, at maturity, in a matted woolly covering.

*A. PARVIFLORA*, Michaux.—Leaves roundish, tripartite, with cuneate crenately-lobed divisions. Involucre of 2 almost sessile leaves, near the middle of the stem. Flower solitary, large, sepals 5, oval, white or "tinged with blue." Carpels in a globose, compact, woolly head. Plant variable in size, from 2 to 12 inches

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\**Anemone*, a name employed by Pliny, and now in common use in the English language. In Latin the quantity of the penultimate syllable is long, but in English, although spelt in the same way, the word is accented on the antepenultimate.

high. In a specimen, from the Youcon River, the involucre is close to the base and hid in the radical leaves; the naked flower-stalk, 6 inches long. Hooker, Torrey & Gray, and other botanists give the number of sepals as 6; they are probably variable. In all my specimens, 16 in number, in which they can be counted, the number is 5, except in one monstrous flower from York Factory, which has 9 ligulate sepals.

*A. parviflora*, Michaux, Fl. Hook. Fl. B. A., p. 5. T. & G. Fl. N. A., p. 12.

*A. caneifolia*, Juss. Pursh.

*A. borealis*, Richardson.

Anticosti, Pursh, and found there, S. W. point, by A. E. Verrill, 23rd July, 1861. Gaspé, found in fl., at mouth of Lady's-step Brook, June 23, 1862, and plentiful up the river, Dr J. Bell. Labrador, Pursh. Labrador, T. & G. The plant is not so rare in the north west, judging from specimens received from Governor McTavish, which are as follows:—

Between Severn and Trout Lake, June; McKenzie's River, 29th May, 1852; between Anderson River and Fort Good Hope; Fort Simpson, Summer of 1853; west of Rocky Mountains, between Lapierras House and Fort Youcon; Athabasca River, 31st July, 1852; Youcon River; York Factory.

*A. MULTIFIDA*, Poiret.—Leaves ternately divided into cuneiform segments, cleft into linear lobes. Flower arising from a primary involucre, which consists of 2 or 3 short-stalked leaves, with 1 or 2 flowers from secondary involucels. Sepals from 5 to 8, oval-obtuse, half an inch long, red, yellow, or white. Carpels in a spherical or oval, very woolly, head. Plant from 6 to 12 inches high.

*A. multifida*, Poiret. DeLess. DC. Prod. Hook. Fl. B. A., I, p. 7. T. & G. Fl. N. A., I, p. 13.

*A. Hudsoniana*, Richardson.

*A. globosa*, Nutt.

Gulf of St. Lawrence, Mr Goldie. On gravelly banks and river shingles, Dartmouth River, Gaspé, June 30, 1862, Dr. John Bell. Fort Garry, July, 1861, Dr Schultz, sp., No. 188. The following are from Governor McTavish:—



Fort Simpson, June, 1860; Nipigon, 1852; Slave Lake, 25th June; Youcon River, adjoining Russian Territory, near Arctic Circle; Slave Lake, June, 1860; McKenzie River, above Fort Simpson, 20th June. The last mentioned specimen is a luxuriant form, referable, no doubt, to b. *Hudsoniana*, which is apparently not a permanent variety.

This species has been found at Watertown, in New York State, and on the south shore of Lake Superior. Douglas collected it near the sources of the Columbia, on the west side of the Rocky Mountains. It likewise grows at Conception, in Chili, on the Chilian Andes, and at the Straits of Magellan.

A. VIRGINIANA, Linn.—Leaves ternately divided into acuminate 3-cleft incisely serrated segments or leaflets. Peduncles several, very long, all arising from an involucre of 2 or 3 petioled, ternately divided leaves, the primary or terminal peduncle naked, the secondary ones with 2-leaved involucels, whence arise other lateral peduncles, giving the plant a branched character. Sepals 5, greenish or white. Carpels in an *oval* or *oblong* head, soft with white or tawny wool. Plant 2 or 3 feet high, hairy. The large heads of carpels and stalked leaves of the involucre distinguish this species from *A. dichotoma*.

*A. Virginiana*, Linn. Sp. Pl. Michaux. Pursh. Hook. DC. T. & G.

Falls of Niagara, September, 1858; also Kingston, 9th August, 1861; on the Humber, near Toronto, 4th June, 1862, G. L. Common, on plains, at Castleton; rare around Belleville, Mr Macoun. Montreal, St. Catherine's and Malden, Dr P. W. MacLagan. Dartmouth River, Gaspé, July 5, 1862, Dr Bell. Carrol's Point, East Flamboro, July, 1859, Judge Logie. Rocky woodlands, near Brockville; also Prescott, northward to Ottawa, rather rare, Mr B. Billings. Between Snake Hill River and Pembina, August, 1860, Dr Schultz, sp. St. Joachim, Provancher. Mr Barnston speaks of this species as, in the North-west, rarer than *A. dichotoma*, and scarcely reaching the Rocky Mountains. Richardson observes: "spreading more widely in Canada than to the northward."

A. CYLINDRICA, A. Gray.—Leaves ternately divided into cuneate segments, cut and toothed. Peduncles several, very long

and naked above, all arising from an involucre of stalked ternately divided leaves. Sepals 5, obtuse, greenish white. Carpels in a long *cylindrical* head. Plant 1 or 2 feet high, shorter, more silky in foliage than the preceding, with more slender, wiry stems, and more finely divided leaves, the inflorescence less branched, with fewer involucels. Prof. Gray, the author of this species, observes that it often flowers after the manner of a *A. Virginiana*, developing involucels and secondary peduncles, and that the leaves of the involucre are twice or thrice as many as the flower stalks.

*Anemone cylindrica*, A. Gray. T. & G. Fl. N. A., I, p. 13.

Near Belleville, also Mr Duff's farm, Kingston, August 8, 1861; Pittsburg, September 6, 1861; Delta, 1st July, 1862; also Kingston Mills; all in the Province of Ontario, G. L. Trail to Red River, 1860, and between Snake Hill and Pembina, 1862, Dr Schultz. Belleville, common on sandy hills, Mr Macoun.

§ 2.—Fruit of comparatively few carpels, and these without either awns or wool, their surface pubescent or glabrous.

*A. DICHOTOMA*, Linn.—Leaves deeply cleft or divided into from 5 to 7 leaflets, which are cuneate, incised toothed. Flowers several, primary peduncle with a general involucre of three sessile leaves, the lateral stalks with two-leaved involucels, &c. Flower  $1\frac{1}{2}$  inch broad, sepals obovate, white. Carpels in a hemispherical head, flat, orbicular, hairy. A handsome free-growing plant.

*A. dichotoma*, Linn. Mant., Syst. Nat., &c., DC. Prod. Turcz. Maximowicz. Regel, in Radde's Reisen, I, p. 17.

*A. Pennsylvanica*, Linn. Hook. Fl. B. A., I p. 8, t. 3 b. T. & G., Fl. N. A., p. 14. Ledebour. Trautv. & Meyer. Regel & Tiling. A. Gray, Gen. Ill., I, t. 4.

Portsmouth and elsewhere about Kingston, June 4, 1859; Frankville, Kitley, 5th July, 1862; near Toronto, 2nd June, 1862; Hardwood Creek, rear of Kingston, 1861, G. L.; Carrol's Point, Hamilton, 7th July, 1859, Judge Logie. Prescott, Ottawa, &c., common over the country, Mr B. Billings, Jr. Lake Superior, Prof. Bell. Chippawa and Malden, Ontario, Dr MacLagan. Belleville, common amongst rocks along rivers, Mr Macoun. Gaspé, Banks of Dartmouth River, June 17, July 5, Dr Bell. Anticosti July 18, 1861, Mr Verrill. From the North-west I have received specimens, as follows, viz. From Governor McTavish:-

McKenzie River, above Fort Simpson, 22nd June; Saskatchewan, 19th July; Lake Nipigon, 1853, (sepals sickly;) McKenzie River, between Fort Simpson and Slave Lake, 21st June, 1853; Lake Superior. Dr Schultz's specimens from: Fort Garry, July and August, 1860; between Wild Rice River and Red Lake River, September, 1860; Assiniboine River, July, 1861, sp. No. 62; Lake Winnipeg and Slave Lake, Capt. Back. Provancher seems to find the plant rather rare in Quebec Province.

Linnæus described the two species, *A. dichotoma*, European, and *A. Pennsylvanica*, for which latter the only habitat given was "Canada." DeCandolle pointed out that the American *Pennsylvanica* was similar to the European *dichotoma*, but more slender. Hooker found Dahurian specimens to "entirely accord with the American ones," but, in Fl. Bor. Am., retained the name *Pennsylvanica*. American botanists have followed the example, but European botanists use the name *dichotoma*, which is certainly preferable, especially as the other suggests erroneous ideas of the plant's distribution. In the States it ranges only from "West New England to Illinois, and north westward," (Gray,) whilst in British America it is widely spread, extending from the north easterly parts of the Atlantic coast west to the Pacific, and northwards nearly or quite to the Arctic Ocean. Mr Barnston indicates its range thus: Throughout the extent of the British Territory eastward of the Rocky Mountains, and even westward though less plentifully.

*A. NEMOROSA*, Linn.—Radical leaf solitary, arising from a short, slender, horizontal rhizome, and compound of three broad, cuneately-lobed or slightly pinnatifid incisely-toothed leaflets. Flower solitary, on a stem which is bare below but with an involucre half way up of three-stalked leaves, divided like the root leaves, the leaflets incisely toothed, the lateral ones with large basal lobes (more usually divided into separate leaflets (compound) in the English, Scotch and German specimens, but only deeply pinnatifid in our American plant), terminal leaflets of involucre leaf slightly stalked, all the lobes acuminate. Sepals 5 or 6, elliptical, glabrous on both sides, (bright white, sometimes tinged with pink or purple). Carpels few, oblong, keeled, pubescent, with hooked beaks as long as the body of the carpel. Plant

sparingly hairy. Wood Anemone. Anemone or Wind Flower of the English poets.

*A. nemorosa*, Linn. Michaux. Pursh. Hook., Fl. B. A., I, p. 7. T. & G. Fl. N. A., I, p. 12.

*A. lancifolia*. Pursh.

In our plant the upper part of the petiole is more hairy than in European specimens, which are mostly nearly glabrous.

Toronto. Bass River, Kent, N. B., Rev. J. Fowler, sp. Common, Port St. Francis, Q., Niagara and Malden, Ontario, Dr P. W. MacLagan. Barlow's Woods, east from Belleville, Ontario, rare, Mr Macoun. Gros Cap, June, 15, Prof. Bell. Common at the Saguenay, Provancher. Richardson found this plant westward to the south end of Lake Winipeg, not seen N. of lat. 53°. Mr. Barnston found it common to the Westward of Lake Superior, along the frontier line of the United States, in rich alluvial soils. An unusually hairy form was found by Capt. Back, at Lake of the Woods. In Western Europe this species is extremely common, and Regel has it from various collectors in Kamtschatka, &c.

This species varies much in the division of the foliage and other characters. The following comprise our principal forms :

*a. typica*,—leaves trifoliate, terminal leaflet shortly petiolulate, rhomboidally lanceolate, incisely lobed and toothed in the upper half, lateral leaflets nearly sessile, very deeply divided into two lobes, the lateral lobe oblique, both incisely toothed in the upper part.

*b. glabriuscula*,—involucral leaves trifoliate, the leaflets sessile, incisely toothed, not divided nor lobed. Hudson's Bay Territories, Governor McTavish, sp. This may be regarded as a diminutive northern form.

*c. nitida*,—compact, hairy, involucral leaves either of 5 closely sessile rhomboidal leaflets, or of three such leaflets with the lateral ones very deeply lobed, the lobes acute, not acuminate nor spinose, sepals 5, broadly oval-oblong. Bleeker's Woods, near Belleville, May 8, 1861, Mr J. Macoun.

*d. quinquefolia*,—radical and involucral leaves of 5 distinct leaflets. (*A. quinquefolia*, Linn.) Oaklands, near Hamilton, May 31, 1859, Judge Logie.

*A. RICHARDSONII*, Hooker.—Plant with long trailing runners rooting and giving off single trifidly cut petiolate leaves; peduncles naked below, with an involucre at the middle of three slightly cut leaflets; whole plant more or less pubescent.

*A. Richardsonii*, Hooker, in Franklin's 1st Journ. Flora Boreali-Americana, p. 6, tab. IV, a.

*A. Richardsoniana*, T. & G. Fl. N. A., I, p. 13.

Churchill, 3rd July, 1853, and York Factory, Governor McTavish, sp. Pethemich Island, Great Slave Lake, 27th June, 1855, Capt. Rae, sp. Found by Richardson on the Rocky Mountains, from lat 55° to 68° N., in wet mossy ground. Capt. Rae's specimens are smoothish; and there is an old pencil memorandum identifying them with "a form gathered by Drummond in 1843, Chippewa," the specimens of which I had probably seen in the Edinburgh Herbarium.

*A. HEPATICA*, Linn.—Plant acaulescent, leaves numerous, all radical, from a tufted rhizome, long-stalked, of 3 rounded obtuse lobes (slightly overlapping), which are undivided with entire margins, or occasionally with the lateral lobes more or less divided. Flowers many, from the same root, on separate stalks, involucre close to the flower, (calyx like.) Sepals white, blue, purple or rose-coloured, variable in size. Leaves, petioles and flower stalks, when young, covered with silky pubescence, which passes off as the foliage matures, the surfaces becoming glabrous. Achenes about 12 in number, hairy, collapsing into furrows.

*Anemone Hepatica*, Linn. Michaux.

*H. triloba* d. *foliorum lobis obtusis*, Hook., Fl. B. A., I, p. 9.

*Hepatica tribola*, Chaix.

*H. tribola* a. *obtusa*. T. & G., F. N. A., I, p. 15.

*H. Americana*, Ker. DC. Nutt.

Common in rich woods in central Ontario.

Longpoint, on Gananoque River, May, 1861, leaves partially five-lobed, and infested with a Uredo; very abundant on wooded banks, near the Grand Trunk Line, between Kingston Depot and Kingston Mills, G. L. Belleville, abundant in rich woods, Mr Macoun. Very abundant in Caledon, June, 1862, Rev. C. I. Cameron. Mountain side, west of Hamilton, April 6, 1860,

Judge Logie. Rocky woodlands, west of Brockville, not rare; Ottawa, Lot O, rare, Mr B. Billings. Windsor, N. S., Prof. How, rare. Petit Cap St. Joachim, Provancher. River Winipeg, Capt. Back. Not within the Hudson Bay Co.'s Territories, except in the range of the Rocky Mountains, Barnston, where it was found by Drummond north to 55°.

In the European plant the sepals appear to be usually larger in proportion to the leaflets of the involucre than in our plant. *A. Hepatica* occurs in shady woods in Florida, but *acutiloba* is not known in the Southern States.

*A. ACUTILOBA*, DC.—Resembles the preceding, except that the leaves are very symmetrical in shape, the lobes or divisions elongated tapering, being gradually narrowed from below the middle to an acute point. Those botanists who distinguish between species and sub-species would regard this as a sub-species. The leaves are occasionally five-lobed in both plants.

*Anemone triloba* b. *acuta*, Bigelow. Pursh.

*Hepatica acutiloba*, DC.

*H. triloba*, b. *foliorum segmentis acutis*, Hook. Fl. B. A., I, p. 9.

*H. triloba* b. *acuta*, T. & G. Fl. N. A., I, p. 15.

Longpoint, Gananoque River, May 7, 1861, abundant; near Kingston Railway Depot, May 2, 1868; two miles west from Kingston Mills, 24th May, 1859, G. L. Camden, Dr Dupuis, sp. Prescott, Ottawa, &c., common in woods, Mr B. Billings, Jr. Very abundant in dry woods, Belleville, Mr Macoun. Artemisia, May 12, Rev. C. I. Cameron, sp.

The *Hepatica* group of *Anemone*, (*A. Hepatica* and *A. acutiloba*,) so unlike many of the others, is yet connected with the other species of the genus, such as *A. nemorosa*, through *H. angulosa*, figured in "Gartenflora," t. 419, which has an approximate calyx-like involucre and otherwise resembles *A. apennina*. And then, on another side, the genus *Thalictrum* is linked to *Anemone* by *Syndesmon*.

#### *Excluded Species.*

*A. NARCISSIFLORA*, Linn.—Leaves palmately divided into cuneate segments, incisely cleft, lobes linear, acute. Petiole

bearing several or only one short-stalked flower in the involucre, which is sessile, the leaflets 3 to 5-cleft. The American form is clothed with long silky hairs.

*A. narcissiflora*, Linn. Ledebour. Pursh. Regel. Hook. T. & G.

This Pacific plant is not known to exist within the limits of British America. All botanists believe that Pursh attributed the plant to "Canada" by mistake. It was strictly confined, in its known range on the American Continent, to the coast of Russian America, until recently found by Parry, Hall and Harbour in the alpine region of the Rocky Mountains, between lat. 39° and 41°. It has a wide range on the mountains of Europe and Asia; Regel notices it in Dahuria, Prussian Mongolia, East Siberia and Kamtschatka, flowering in June. My own specimens are chiefly from Southern Europe.

This is a characteristic and elegant species, not likely to be confounded with any other; it is, nevertheless, variable, and Regel enumerates five distinct named varieties besides the typical plant. Much prized, but rare, in cultivation.

#### SYNDESMON, HOFFM.

*S. THALICTROIDES*.—Root of few fleshy tubers; radical leaves, few long-stalked ternately compound with stalked leaflets, cauline leaves similar, forming an involucre. Plant 5 or 6 inches high, with habit and foliage of *Isopyrum*, flowers of *Anemone* and fruit of *Thalictrum*, DC.

*Anemone thalictroides*, Linn. Bigelow. Barton. Bot. Mag., Pursh.

*Thalictrum anemonoides*, Michaux. Hook. Gr. Man., ed. 5, p. 38. T. & G., I, p. 39. DC.

St. David's, Niagara District, Dr P. W. MacLagan. Oaklands, Hamilton, Ontario, 31st May, 1859, Judge Logie.

#### THALICTRUM, DC.

*T. CORNUTI*, Linn.—Root fibrous. Stem strong and tall, prominently furrowed, (3 to 4 feet high). Radical leaves long-stalked, very large, and, like the *sessile* cauline leaves, ternately decomposed; leaflets large, thick, glaucous or downy beneath,

varying from broadly obovate to narrowly elliptical in outline, ternately divided into rather large, acute lobes. Flowers numerous, in large, showy panicles, dioecious or polygamous; sepals white, anthers crowded erect on short stoutish filaments; stigmas very long, flattened.

*T. Cornuti*, Linn. Pursh. T. & G. Hook, Fl. Boreali-Americana, I, p. 3, table 2, (an excellent figure.)

*T. rugosum*, Pursh. DC. *T. rugosum*, Aiton, is referred doubtfully by Gray to *T. purpurascens*.

*T. Canadense*, Cornuti, Tournefort, &c.

*T. corynellum*, DC. Richardson.

Wet meadows and margins of streams, not uncommon throughout the Provinces of Ontario, Quebec, Nova Scotia, New Brunswick. Kingston, Ont., Hardwood Creek, and surrounding country, abundant, 10th July, 1861; Halifax County, not rare, G. L. Frequent in Quebec Province, Mr Barnston. Chippewa and Malden, Ont., Dr. Maclagan. Gaspé, moist places along the Dartmouth River, Dr Bell. Windsor, N. S., Prof. How. Prescott and Ottawa, common, Mr Billings. Lake Superior, Professor Bell. Belleville, common on the borders of streams, Mr Macoun. Anticosti, 1861, Mr Verrill. Newfoundland, Bonne Bay and Point Rich, July, August, 1861, Mr J. Richardson, sp. Between Wild Rice River and Red Lake River, Sept., 1860, Dr Schultz, sp. Assinaboine River, July, 1861, Dr Schultz, sp., Nos. 40, 58. This species appears to extend to the Pacific, but its range in the west has not been traced.

*T. purpurascens*, Linn., has been recently investigated by Professor A. Gray, who describes it in the new edition of his Manual as nearly related to *T. Cornuti*, not to *T. dioicum* as previously believed. The *T. purpurascens*, reported to exist in Quebec Province, is merely a common form of *T. dioicum*. But the true *T. purpurascens*, although as yet known only as a rather southern plant, should be looked for throughout the Dominion; it resembles *Cornuti*, having sessile stem-leaves, but the flowers are greenish (not white), the anthers are drooping (not erect), and it grows in dry (not wet) situations.

*T. DIOICUM*, Linn.—Root of strong, thick fibres, sometimes almost tuberous; stem 12 or 14 inches, varying to 2 feet or more



in height, with long-stalked ternately compound leaves, composed of rounded thin broad-lobed leaflets. Flowers diœcious or polygamous, in panicles. Sepals greenish, with yellow or dull purple, long, slender, pendent anthers. Carpels deeply furrowed, several usually abortive.

*T. dioicum*, Linn. Pursh. Hooker. Torrey & Gray.

Dry woods and banks, common in central Ontario, as woods about Trenton, June, 1862; around Gananoque Lake, Birch Island, &c., May, 1861; near Kingston Mills, and woods near Kingston Depot, 2nd May, 1860, G. L. Mountain side, Hamilton, 12th May, 1860, Judge Logie. Prescott and Ottawa, common, Mr Billings. Ellis's Bay, Anticosti, July 4, Mr J. Richardson, (also found in Anticosti by Mr Verrill.) Niagara Falls and Malden, Dr Maclagan. Belleville, abundant in rich woods, Mr Macoun. Montreal Mountain, Mr James Adie, sp, McKenzie River, above Fort Simpson, 22nd June, 1853; Trout Lake, June; between Severn and Trout Lake, June, Governor McTavish, sp. Near the Big Lake of Harrington, Co. Argenteul, July, 1861, Dr. John Bell, sp. Assinaboine, July, 1861, Dr Schultz, sp., No. 71.

*T. CLAVATUM*, DC. — Plant tall and slender, with shortly petioled ternately compound leaves; flowers hermaphrodite; carpels pale, thin and pod-like, stipitate, with embossed veins, but no furrows.

*T. clavatum*, DC. Hooker, Fl. B. A., I, p. 2, T. & G., Fl. N. A., I, p. 37. Gray's Manual, 5 ed., p. 39.

York Factory, Governor McTavish, a large number of specimens collected during several seasons.

When the Floras of Hooker and Torrey & Gray were published, only one certain locality was known for this species, Portage La Loche, 57° N. It has since been found on the mountains of S. Virginia and Carolina.

*T. ALPINUM*, Linn.—Root fibrous; stem simple, smooth, 3 to 6 inches high; leaves nearly all radical, long-stalked, biternate; flowers hermaphrodite, in a simple raceme; carpels shortly-stalked, tipped with the hooked style; plant only a few inches high.

*T. alpinum*, Linn., Sp. Pl. T. & G. Fl. N. A., I, p. 39.

First recorded as Canadian on the authority of Kalm; subsequently found on the Island of Anticosti, in the Gulf of St. Lawrence, by Pursh; not noticed by Hooker in *Flora Boreali-Americana*; again collected on Anticosti by Verrill, rare and not in flower, 1861; Newfoundland, Herb. Banks; Greenland, Hornemann. Its stronghold is in northern Europe, where it occurs chiefly on the mountains, descending to the sea level as it approaches the Arctic Circle, and extending eastward through East Siberia. Found recently on the Rocky Mountains by Dr Parry's party. It usually occurs in small quantities in isolated localities, and its known range is likely to be extended by careful observation.

### RANUNCULUS, LINN.

§ 1.—Carpels smooth, both the radical and cauline leaves compound or deeply divided ternately.

*R. fascicularis*, Muhlenberg.—Root composed of a fascicle of thick fleshy fibres or slender fusiform tubers; stem short; leaves ternately divided in a pinnatifid manner, more or less compound, pubescent with appressed silky hairs; petals twice as long as the sepals; carpels very short, usually margined, with slender terminal beaks.

*R. fascicularis*, Muhlenberg, Cat. DC. Bigelow. Hook., Fl. B. A., I, p. 20, t. 8. T. & G. Fl. N. A., I, p. 23.

Some of my specimens are precisely like Hooker's figure in Fl. B. A., but the plant varies with much broader and more irregular leaf-lobes.

Near Toronto, 2nd June, 1862, and near Trenton, Ontario, 6th June, 1862; also on hilly ground in the Vale of Trent, above the village, G. L., sp. Trenton Depot; on commons east from Belleville, Mr Macoun, sp. Kingston Mills, Chippewa and Malden, Dr Maclagan. Reported from Somerset by Provancher.

Hooker gives its range as from Canada West to the south end of Lake Winipeg.

*R. repens*, Linn.—Root of strong fibres; stem more or less erect, with prostrate creeping scions from the base; leaf composed of three stalked leaflets, which are three-lobed, the lobes trifid and

cut; flowers large on furrowed peduncles; sepals erect-patent, pubescent, receptacle hairy; plant rough with long hairs or nearly glabrous. The indigenous plant is but slightly hairy, with few runners, and grows in wet places.

*R. repens*, Linn. Hooker. T. & G.

*R. nitidus*, Hooker, (according to T. & G.)

In wet soil at the base of a wooded bank, near Toronto, 2nd June, 1862, the indigenous plant, pointed out to me by Professor Hincks, F. L. S., who has observed it there for many years. The introduced form is a common weed in cultivated soils, and although only reported from Quebec, Toronto, St. Joachin, Malden, Kingston and Halifax, will probably be found in every field and garden throughout the Dominion.

“*R. repens* b. *hispidus*. McKenzie River, Mr Barnston.”

*R. PENNSYLVANICUS*, Linn.—Stem strong and erect. Leaves of 3 distinct stalked leaflets, which are ovate-acute, ternately cleft and toothed. Whole plant rough with strong spreading bristly hairs. Petals small. Heads of carpels oval-oblong on an elongated receptacle, carpels smooth with short beaks.

*R. Pennsylvanicus*, Linn. Hook. F. B. A., I, p. 19. T. & G. Fl. N. A., I, p. 22.

*R. hispidus*, Pursh.

Hinchinbrook, July, 1862; between Kingston and Waterloo, 25th July, 1860, G. L. Nicolet and Chippewa, Dr Maclagan. Belleville, abundant in waste places, Mr Macoun. Prescott district, wastes, common, Mr B. Billings, Jr. St. Joachin, Provancher. Fort Simpson, June, Governor McTavish, sp. Fort Garry, July, 1861, Dr Schultz, sp., No. 126. Lake Winipeg, Back. To lat. 67°, Hook. West to the Pacific, T. & G. Nepean, B. Billings, Jr., sp.

*R. BULBOSUS*, Linn.—Root of uniform fibres from the large bulbous base of the stem. Radical leaves composed of 3 stalked leaflets, which are tripartite, the segments trifid and cut. Peduncles furrowed. Sepals reflexed, hairy. Receptacle hairy.

*R. bulbosus*, Linn. DC. Michaux. Hook. Pursh. T. & G.

An introduced European plant which grows in fields and pastures in a few localities in the Northern States, and is said to grow in

Canada and Newfoundland, but I have not yet seen specimens. Reported as common in Caledon, but probably a mistake.

*R. ACRIS*, Linn. — Root fibrous. Radical leaves palmately tripartite, segments trifid and deeply cut, uppermost stem leaf tripartite with linear segments. Peduncles round, not furrowed. Sepals erect-patent, pubescent. Receptacle glabrous. The plant is slightly hoary with short pubescence, which gives it a pale hue, while *A. repens* is always, in exposed places, of a dark green.

*R. acris*, Linn. Pursh. DC. Hook. T. & G.

A European plant, introduced and now common throughout the cultivated parts of Canada, a weed in pastures and by waysides, (much less abundant than *R. repens*, which spreads rapidly with cultivation); not seen in woods remote from settlements. Common in central Ontario, as about Kingston, &c., and also in Nova Scotia, as Halifax county, but not a troublesome weed there as is *R. repens*. Montreal and St. John, Q., Dr P. W. MacLagan. Ellis's Bay, Anticosti, July 15, 1861, Mr Verrill. Gaspé, common in hay fields, 1862, Dr J. Bell. Common about Hamilton, Judge Logie. Prescott district, common, Mr Billings. Windsor, Prof. How. Point Rich, Newfoundland, May 7, 1861, J. Richardson, sp. Belleville, Mr Macoun. Lake Manitoba, July, 1861, Dr Schultz, No. 18. To lat. 58°, Hook.

Animals reject this species, while they greedily eat *R. repens*. I have seen a very hairy form collected near Kingston, 25th July, 1860.

§ 2.—Carpels smooth (except in *R. sceleratus*), radical leaves roundish or undivided, or simply cleft but not to the base.

*R. RHOMBOIDEUS*, Goldie.—Stem very short, rising to 5 or 6 inches in flower and fruit. Leaves mostly radical, ovate or obovate, more or less rhombic or sagittate, long petioled, toothed, those on the stem nearly sessile, lobed or parted, the upper ones into linear segments. Flowers large. Carpels globose, with very minute beaks, in round heads. Whole plant pale green, with soft hairs.

*R. rhomboideus*, Goldie in Edin. Phil. Jour. Hook. Fl. B. A., p. 12. T. & G. Fl. N. A., p. 18.

*R. ovalis*, Hooker. T. & G.

*R. brevicaulis*, Hooker. T. & G.

*R. cardiophyllus*, Hook., probably, and of T. & G.

Chiefly confined to the western parts of Ontario. Lake Simcoe, Mr Goldie. Sand hills, on the banks of the Humber, near Toronto, 4th June, 1862, plentiful, G. L. Rocky Mountains (*R. ovalis*), and shores of Lake Huron (*R. brevicaulis*), Richardson. Sandy plains near Castleton, also at Murray town hall, Mr Macoun. Lake Winnipeg, Mr Barnston. The habitat, "near Montreal," given on authority of Dr Holmes by Torrey & Gray, is an outlying station.

*R. auricomus*, *b. affinis*, R. Br.—Radical leaves long-stalked, pedately divided or lobed, cauline leaves quite sessile, divided to the base into long narrow linear segments. Stem erect (6 or 7 inches high) 2 to 3 flowered, pedicels and calyx hairy.

*R. affinis*, R. Brown, in Parry's 1st Voy. Richardson. Hook. Fl. B. A., t. 6 A. T. & G. Fl. N. A., p. 18.

Churchill, 3d July, 1853, Governor McTavish, sp. Extends to the Arctic Sea, and from long. 95° to the western declivity of Rocky Mountains. Kotzebue's Sound, Hook. Slave Lake, Back. Lake Winnipeg, Barnston. Runs down the Rocky Mountains into New Mexico, as appears from Parry and Fendlen's collections.

Neither this plant, nor the typical *auricomus* (if it be distinct), is known to exist in the Provinces of Ontario, Quebec, New Brunswick or Nova Scotia. A statement to the contrary is founded on a misreading of Fl. B. A.

*R. auricomus* has been reported from Greenland, and was recorded by Pursh as a native of Pennsylvania, but has not been found by anyone else in the United States. Thlew-ee-choh and Athabasca, Hook. in Back's Journal.

*R. abortivus*, Linn.—Radical leaves petiolate, roundish or kidney-shaped, more or less crenate, smooth and shining, those of the stem very shortly stalked or sessile, and divided or parted into oblong, cuneate or broadly linear divisions. Petals shorter than the sepals. Carpels in globose heads, inflated, with small curved beaks. Stem and petioles very slightly hairy, almost glabrous.

*R. abortivus*, Linn. Pursh. Hook. (in part.) T. & G.

Abundant about Kingston and surrounding country, in pastures and woods; Indian Island, Bay of Quinte, 5th June, 1862; Sloate's Lake, Sydenham, 7th June, 1859; Kingston Mills, 24th

May, 1859, &c., G. L. Portland, July, 1860, Dr Dupuis, sp. Fort Garry, July, 1861, Dr Schultz, sp., No. 180. Nicolet, Montreal, Kingston and Malden, Dr Maclagan. Belleville, abundant in low wet places, Mr Macoun. Common in Caledon, Rev. C. I. Cameron. Roadsides, Hamilton, Judge Logie. Lake Winipeg, Mr Barnston. To lat.  $57^{\circ}$ , Hook. Lac St. Jean, also St. Joachim, Provancher. Belœil, Dr J. Bell. Bass River, Kent, N. B., Rev. J. Fowler, sp. Prescott district, common, Mr Billings. Osna-bruck and Prescott Junction, 20th May, 1859, Rev. E. M. Epstein. Gaspé, Douglstown and north fork of Dartmouth River, June 18, 1862, Dr Bell. Anticosti, June 25, 1861, Mr Verrill. Newfoundland. Hudson's Bay Territories, Governor McTavish, sp.

There are two principal forms :

a. *pratensis* ; root of stout fibres, leaves thick with stout petioles, stem short and stout (from 3 to 7 or 8 inches high). In pastures, open fields and waysides.

b. *sylvaticus* ; root fibres slender, leaves thinner, with longer petioles, stem elongated and lax (12 to 18 inches high), with fewer radical leaves having longer petioles. In woods.

*R. SCELERATUS*, Linn.—Root fibrous. Stem thick and hollow, (1 foot high). Leaves somewhat fleshy, smooth and glossy, the radical and lower cauline ones stalked, three lobed or three parted, rounded, the segments blunt, crenate, upper leaves sessile, trifid, the lobes linear, entire or incise dentate. Sepals reflexed. Petals scarcely longer than the sepals. Carpels transversely wrinkled. Juice acrid.

*R. sceleratus*, Linn. Pursh. DC. Hook. T. & G.

Sides of ditches and wet places. Collins's Bay, Cataraqui Creek, and other bays along the shore of Lake Ontario, G. L. St. Catherines and Malden, Dr Maclagan. Belœil Mountain, Dr John Bell. Ditches around Belleville, common, Mr Macoun. Rainy Lake and Slave Lake, Capt. Back. Lake Winipeg, Mr Barnston. York Factory, Governor McTavish, sp. Common about Hamilton, Judge Logie.

*R. RECURVATUS*, Poiret.—Leaves long-stalked, cleft into 3 wedge-shaped divisions or lobes, which are again cut and toothed

towards the apex. Petals shorter than the sepals. Carpels crowded into a compact round head, with conspicuous slender recurved beaks. The radical leaves are rather less deeply divided than the cauline ones, and their lobes are often rounded. A rather dwarf-growing, rough, hairy plant.

*R. recurvatus*, Poiret, Encyc. Hook. Fl. B. A., I, p. 20 (partly). T. & G. Fl. N. A., I, p. 22.

Banks of the Humber and near Toronto, 2nd June, 1862; Hardwood Creek, 10th July, 1861; Delta, 2nd July, 1862; Newboro-on-the-Rideau, 23rd July, 1859; near Trenton, 6th June, 1862; Sloate's Lake, Sydenham, Ont., 7th June, 1859, G. L. Sulphur Spring, near Ancaster, July, 1859, Judge Logie. Prescott district, in woods, common, Mr B. Billings, Jr., sp. Nicolet and Chippewa, Ont., Dr Maclagan. Belleville, abundant in low moist woods, Mr Macoun. Common in Caledon, Rev. C. I. Cameron. Pied du Cap Tourmente, Provancher. Bass River, Kent, N. B., Rev. J. Fowler, sp. Labrador.

*R. PYGMÆUS*, Wahl.—Whole plant glabrous. Radical leaves stalked, cauline ones sessile, both cleft into from 2 to 5 lobes. Flower solitary, sepals glabrous, petals smaller than the sepals. Carpels roundish, with short hooked beaks. Allied to *R. hyperboreus a. nivalis*.

*R. pygmæus*, Wahl. Fl. Lap. Pursh. Hook. T. & G.

Labrador, Pursh and others. Found along the Arctic coast of America, Spitzbergen, &c.

*R. NIVALIS*, Linn.—Radical leaves long stalked, cleft palmately but not deeply into about five broad, somewhat ovate, obtuse lobes; cauline leaves palmate, nearly sessile. Flower solitary, sepals covered with matted brown hairs, upper part of peduncle with similar but short hairs, petals longer than sepals. Carpellary beaks nearly straight. A humble plant.

*R. nivalis*, Linn. Hook. Fl. B. A., I, p. 17. T. & G. Fl. N. A., I, p. 20. Brown. DC. Prod.

*R. sulphureus*, Solander.

Repulse Bay, Dr Rae, specimen given to me by Governor McTavish.

This is quite a northern species, having been found only on the Arctic shores, Labrador, Greenland, Spitzbergen, Kotzebue's Sound, and on the Rocky Mountains in lat. 55°. Captain Rae's specimens accord very well with the description of Torrey & Gray's var. *b.*, *R. sulphureus* of Solander and of Schlechtendahl.

§ 3.—Carpels smooth, none of the leaves divided.

*R. CYMBALARIA*, Pursh.—Main stem throws off runners, which root and become leafy at the joints, forming new plants. Leaves long-stalked, orbicular, somewhat cordate, crenately notched or almost lobed. Flowers several, on a leafless stalk a few inches high, with one or two distant bracts. Carpels very numerous with short beaks.

*R. Cymbalaria*, Pursh. Fl. Am. Hook. Fl. B. A., I, p. 11.  
T. & G. Fl. N. A., I, p. 17.

Musquodoboit River, Nova Scotia, 25th June, 1870, Mr W. H. Lindsay. Gaspé, at the mouth of the Dartmouth River, in situations nearly as low as Gaspé Bay, July 15, leaves sometimes floating, Dr Bell. Windsor, N. S., Prof. How. Anticosti, July 5, 1861, Mr Verrill. Hudson's Bay Country, Gov. McTavish, sp. York Factory; also Slave Lake, 2nd July, Gov. McTavish, sp. Lake Winipeg, Mr Barnston. Fredericton, Dr Robb. New Brunswick, gulf shore, Rev. J. Fowler. Bay of Fundy, Mr Matthew. St. Joachim. Rimouski.

*R. FLAMMULA*, Linn.—Stem (a foot high) more or less erect from a reclining base, with adventitious roots from the lower joints. Leaves ovate-lanceolate, narrowed at the base into short petioles, usually glabrous. Carpels small, with short beaks.

Margins of creeks, ditches, &c. Localities for this plant have been given in numerous local lists, but they have in so many cases been found to refer to *R. reptans* that I have not been able to trace the distribution of *Flammula*. Found in rich artificial soils, and apparently a derivative of the following species.

*R. REPTANS*, Linn.—Plant much smaller, and of a dwarf habit, the stem procumbent, rooting at the joints. Leaves very narrow, linear. Flowers small.

*R. reptans*, Linn.

*R. reptans d. filiformis*, T. & G., Fl. N. A., I, p. 16.



Islands in the St. Lawrence River, near Brockville and elsewhere on the northern shores of the upper St. Lawrence and Lake Ontario, G. L. North to lat. 69°, Richardson. Nicolet, Montreal, Wolfe Island, Dr P. W. MacLagan. Dried up ponds near Fort Wellington, Prescott, and Banks of St. Lawrence west from Brockville, Mr Billings. Lake Winipeg and Athabasca River, 31st July, 1862, Governor McTavish, sp. Sparingly amongst sand, east side of River Trent, below Heeley's Falls, Seymour, Mr Macoun. Lake St. Charles, Provancher. Newfoundland, Labrador, T. & G.

This form is well known in northern Europe, and extends to Kamtschatka, but is not very common. Our Canadian plant agrees perfectly with my Scotch specimens (from Loch Leven, Mr Evans,) and Norwegian ones collected by Dr T. Anderson on the Dovrefeldt, 3,500 feet. Specimens from Braemar, Scotland, have narrowly lanceolate leaves, apparently connecting this with *Flammula*. In Canada it appears to be permanently distinct.

*R. pusillus*, Pursh, is noticed in a Hamilton list, but I have no farther information respecting it.\*

§ 4.—Carpels smooth, submersed leaves more or less perfectly dissected into capillary segments, flowers yellow.

*R. MULTIFIDUS*, Pursh.—Plant wholly or partially submersed, stem rooting at the joints. Leaves orbicular in outline, the lower or submersed ones dissected into numerous very narrow linear segments or veins; the upper or floating leaves flat, rounded, lobed or cleft, but not dissected. Petals large, bright yellow.

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\*Since the above was written, I have received the following communication from Judge Logie:—

“HAMILTON, 25th DEC., 1869.

“DEAR SIR:—

“Your letter of the 7th I received a little more than a week ago, and on looking for the plant about which you wish for information, *Ranunculus pusillus*, could not find it. I exhibited my collection at the Provl. Exhibition here in 1868, and made out a list which I sent with the specimens; the list was made from the plants themselves—not from the old list—and checked over from the specimens afterwards. As the name appears in that list I must have had it at that time. Thinking it might have got mixed up with other specimens, I have since looked over my whole collection without being able to find it, and have been obliged to come to the conclusion that it has been lost.

“The year in which I collected it was the first year I had made any collection, and it is probable I may have been mistaken in supposing it to be *R. pusillus*, it may have been *R. Flammula* or *R. alismæfolius*, which seem to be more northern in their habit. If mentioned at all in your monograph you had better mention it as of very doubtful occurrence in Canada.”

*R. multifidus*, Pursh. Fl. Am., II, p. 736.

*R. Purshii*, Richardson. Hook. Fl. B. A., I, p. 15, t. 7, B.

*R. radicans*, C. A. Meyer in Led. Fl. Alt. Regel.

*R. Gmelini*, Fl. Sibirica.

*R. delphiniifolius*, Torrey.

In ditches and muddy pools. Sloate's Lake, Sydenham, 7th June, 1859; near Yarker, 11th July, 1861; marsh between Forfar and Newboro, 4th July, 1862, G. L. Creek in Glandford, 25th May, 1860, Judge Logie. Conway's Creek, Prescott, Mr B. Billings. Windsor, N. S., Prof. How. To near the Arctic Sea, Hook. Malden, abundant, Dr Maclagan. Very abundant in ponds around Belleville, Mr Macoun. Judge Logie sends specimens from near Milgrove, Hamilton, of a peculiar form with leaves (submersed) much less divided than usual, and flowers half the usual size. At Yarker I gathered a very small hairy form.

This species forms a connecting link between the white-flowered *Batrachian Ranunculi* and the great mass of species with yellow flowers, having the foliage and habit of the former with the flowers of the latter.

§ 5.—Carpels deeply wrinkled across, submersed leaves dissected into capillary segments, flowers white. This section forms, in the opinion of some botanists, a distinct genus, under the name of *Batrachium*, of which there are many reputed species in Europe.

*R. AQUATILIS*, var.—Plant wholly submersed, with usually long floating stems. Leaves orbicular in outline, but wholly dissected into narrow thread-like segments or veins, the intermediate parenchyma being undeveloped. Pedicels slender and curved. Petals rather small, white with yellow claw, receptacle hispid in fruit. The form described is the common Canadian one, which approaches but is not quite identical with the European *R. trichophyllus*, Godron. None of the forms, so common in Europe, with undissected floating leaves have been found in British America.

In 1861, I gathered a plant in pools by the roadside near Yarker, Ont., which seemed to approach very closely to *R. trichophyllus*. The following descriptive notes were made at the time upon the living plant:—

*Ranunculus aquatilis* var. *trichophyllus*? Stem slender and weak, rooting from nearly all the joints; leaves all submersed, formed of capillary segments which are not all in one plane; petals small, narrowly elliptic-ovate, faintly veined, white, with yellow claw and yellow nectary; receptacle small, globose, hispid; carpels inflated on the peripheral side, with recurved (hooked) tips.

Lakes and creeks, growing from a muddy bottom, usually where the water is comparatively shallow and the current slow. Gananoque River and Rideau Canal, G. L. Mr Barnston says it stretches north to 56°, and is less abundant to the westward. Belleville, abundant in ponds in many places, Mr Macoun. Governor McTavish sends several specimens from the Hudson's Bay Co.'s Territories. La Cloche Island, in shoal water, Oct., 31, Prof. Bell. Burlington Beach, near Waterworks, Hamilton, July, 1859, Judge Logie. Conway's Beach, a mile west from Prescott and Railway Bay, common, Mr Billings. Saskatchewan River, Capt. Back. St. Tite, Provancher.

A fragment from Gananoque River is referable to *R. divaricatus*, Schrenk.

#### *Doubtful Species.*

*R. DIGITATUS*. Hooker?—"Root a fascicle of tubers?"; leaves pedately divided into broad linear lobes; petals 7 to 9, yellow. Plant only a few inches high. Specimen imperfect.

Rocky Mountains, Van Express Party, spring of 1854, Governor McTavish. This is a fragment, consisting of the upper part of the stem with leaves and one flower, petals 7, agreeing very well in general aspect with *R. digitatus*, figured by Sir William Hooker in "Kew Garden Miscellany," vol. iii, pl. 4.

#### *Excluded Species.*

*R. CAROLINIANA*, DC.—(*R. nitidus*, Hook. Fl. B. A.) is a southern plant, confined to the pine barrens of Middle Florida and South Carolina, where it is rare. Its record as Canadian is no doubt a mistake.

#### MYOSURUS, LINN.

*M. MINIMUS*, Linn.—Leaves all radical, linear. Stem simple, single flowered, 3 or 4 inches high. The receptacle of the flower elongates by growth as the carpels ripen, into a long slender stalk like a spike. *Mouse-tail*.

*Myosurus minimus*, Linn. T. & G., Fl. N. A., I, p. 25.

Belleville, rare, Mr Macoun.

Found in Illinois, Kentucky, Georgia, Louisiana, Arkansas, Oregon, and in Europe.

Dr Parry, in his paper on the North American Desert Flora between 32° and 42° North Latitude, (read at Meeting of British Association at Liverpool, 1870, and published in the "Journal of Botany," for Nov., 1860, vol. iii, p. 343), notices *Myosurus minimus* as the only Ranunculaceous plant of these desert tracts. The annual desert plants, he observes, require for their continued preservation a safe deposit for their usually minute seeds during the prolonged dry season, a condition which is in great measure supplied by the porous, sandy and gravelly soil into which they fall and are safely buried, not only out of the reach of climatic influences, but also safe from the destruction of animals. In accordance with this view we find *Myosurus minimus* occurring, and to a very limited extent, in the arid sand drift of the Belleville district, where I believe it to be indigenous. It should be looked for farther west, especially on the dry sand hills around the western extremity of Lake Ontario, and on similar soil westward toward the Manitoba Country.

### CALTHA.

*C. PALUSTRIS*, Linn. — Stem thick, hollow, leaves rounded, reniform or cordate, lobes rounded, margin crenately notched or nearly entire.

*C. palustris*, Linn. Michaux. Pursh. T. & G., I, p. 26.

*C. integerrima*, Pursh.

In ditches by the roadside, two miles west from Kingston Mills, 24th May, 1859, specimens with entire and strongly saw-edged leaves on the same plant; in several places along the course of the Rideau Canal, G. L. Amherstburg, Dr Kemp. Osnabruck and Prescott Junction, 20th May, 1859, Rev. E. M. Epstein, sp. Bass River, Kent, N. B., Rev. J. Fowler. Swamps, Addington County, June, 1860, Dr Dupuis, sp. York Factory, Governor McTavish, sp. Opposite Gros Cap, June 15, Prof. Bell. Hamilton, in wet ground east from the city, near Mr Aikman's house, 25th April, 1860, Judge Logie. Prescott district, common, Mr

Billings. Mingan and Anticosti, 1861, Mr Verrill. Gaspé, mouth of Douglastown River, &c., June 3rd and 9th, 1862, Dr Bell. Newfoundland, L'Anse du Loup, Str. of Belleisle, July, 1861, Mr J. Richardson.

*C. NATANS*, Pallas. — “Stem procumbent, floating; leaves reniform-cordate, crenate, with the lobes somewhat approximated, obscurely crenate towards the base, toothed towards the summit; sepals oval; carpels with a straight beak.”—T. & G. Flowers white, Hook.

*C. natans*, DC. Prod. Hook. Fl. B. A., I, p. 22. Ledebour. T. & G. Fl. N. A., p. 27.

Creeping on the surface of deep sphagnous swamps, in the woody central districts of British America, from Canada to lat. 60°, rare, Dr. Richardson. Found in the Amur and Kamtschatka.

### TROLLIUS, LINN.

*T. LAXUS*, Salisbury.—Sepals 5 or 6, greenish yellow, spreading horizontally, not forming a globose calyx. Petals small, numerous, and much shorter than the sepals and stamens.

*Trollius laxus*, Salisbury Linn. Trans. T. & G., Fl. N. A., I, p. 28.

*T. Americanus*, Muhl. Hook. Fl. B. A., I, p. 23.

Sphagnous swamps, Canada to Pennsylvania, T. & G.

Prof. Gray notices this plant as growing in deep swamps in New Hampshire to Delaware and Michigan. It appears to be rare.

There is also an open-flowered *Trollius* in Northern India, Bot. Mag., t. 32, a small dwarf plant like *Eranthis*.

### COPTIS, SALISBURY.

*C. TRIFOLIA*, Salisbury.—Stem very short, with bright yellow fibrous roots spreading from its base. Leaves long-stalked of 3 wedge-shaped, slightly lobed, finely toothed, shining, evergreen leaflets. Flower solitary, on a naked stalk 3 or 4 inches high, petals white, stamens with yellow anthers.

*C. trifolia*, Salisbury in Linn. Trans. Pursh. Hook. Fl. B. A., I, p. 23. T. & G. Fl. N. A., I, p. 28.

*Helleborus trifolius*, Linn.

Toronto, 2nd June, 1862, in fl., not common; Halifax county, N. S., abundant in birch woods, G. L. Bass River, Kent, N. B., Rev. J. Fowler. Hudson's Bay Company's Territories, several specimens, Gov. McTavish. St. Augustine, Labrador, 1865, Rev. D. Sutherland, sp. Opposite Gros Cap, June 15, Prof. Bell. Shore of Lake Medad, Hamilton, 17th May, 1860, Judge Logie. Prescott district, common, Mr Billings. Anticosti, July, 1861, Mr Verrill. Gaspé Basin, S. side, June 2, 1862, Dr Bell. Windsor, N. S., Prof. How. Nicolet, Montreal and St. Valentine, Q., and Kingston and Port Robinson, Ont., Dr Maclagan. Belleville, borders of swamps under evergreens, Mr Macoun. Terrebonne and L'Islet, Provancher. Rare in the interior of the western country, certainly not about Lake Winipeg, Mr Barnston.

#### AQUILEGIA, TOURNEFORT.

A. CANADENSIS, Linn.—Spurs straight, twice the length of the lamina; petals oblong lanceolate, spreading, nearly twice the length of the lamina; stamens and styles exserted. Follicles downy, with very long thread-like beaks. Segments of leaves trifid, incised. In the Toronto plant the stamens are very much exserted on long slender filaments, much longer than the styles. Flowers bright scarlet, yellow inside, gracefully pendent, but the peduncle becomes firm and erect in fruit.

*A. Canadensis*, Linn. Michaux. DC. Hook. Fl. B. A., I, p. 24. T. & G. Fl. N. A., I, p. 30. A. Gr. Man. Bot., and Ill. Gen., I, t. 13. C. A. Meyer, Sertum Petropolitanum, under t. 11.

In woods and open clearings, chiefly where the soil is dry and sandy. In woods near Toronto, 2nd June, 1862, a robust, leafy form, much branched from above. Abundant about Kingston, especially near Kingston Mills, Waterloo and Wolfe Island, G. L. Montreal Mountain, May, 1848, and Niagara, Mr J. Adie, sp. Rear of Ernestown, 1860, Dr Dupuis, sp. Caledon, rather rare, Rev. C. I. Cameron. Nicolet, Montreal, Kingston, Niagara River and Malden, Dr Maclagan. Belleville, common in rocky or sandy open woods, Mr Macoun. Pied du Cap Tourmente, Provancher. Lake Winipeg, Capt. Back. Belœil Mountain, Dr Bell. Mountain side west of Hamilton, common, 24th May, 1859, Judge Logie. Prescott district, common, Mr Billings.

Mr Barnston says its zone is between 40° S. and 56° N., beyond which he has not found it.

*A. formosa*, Fischer, is chiefly distinguished from *A. Canadensis* by the greater length of the sepals, (Sitka, Oregon, Unalashka, Kamtschatka); and there is another member of the group, but a very distinct one, *A. truncata*, Fischer, remarkable for the petals consisting of spur only without lamina, and the sepals are spread horizontally, (this species is from New California).

*A. BREVISTYLA*, Hooker.—Spurs incurved, shorter than the lamina. Stamens and styles short, included. Sepals ovate-lanceolate. Flower much smaller than *A. vulgaris*, to which this species approaches very closely in technical characters, although permanently distinct.

*A. brevistyla*, Hook. Fl. B. A., I, p. 24. T. & G. Fl. N. A., I, p. 30.

Clear Water River, 13th July; Nipigon, 1853; Fort Simpson; also in a parcel labelled "L. Nipigon, chiefly near L. Superior," Governor McTavish. As far north as Bear Lake, Richardson. Mr Barnston never met with but received it from McKenzie River, and says it is very rare to the southward of Winnipeg, although "according to some (Richardson) it is a native of western Canada." Rocky Mountains.

*A. VULGARIS*, Linn.—Spurs incurved like a crozier, shorter than the very broad lamina. Stamens exerted, the inner ones frequently imperfect. Sepals ovate-lanceolate with acute tips, and twice the length of the spurs. Flowers large, variable in colour, blue, purple, white, rose, &c.

*A. vulgaris*, Linn.

Introduced from Europe. Abundant in the grounds at the Prince's Lodge, Halifax County, and in spots along the Railway Line and Windsor Road, G. L.

#### DELPHINIUM, TOURNEFORT.

*D. EXALTATUM*, Aiton.—Leaf petioles not dilated at the base, lamina divided more than half-way into 3 or 5 cuneiform lobes, which are trifid-laciniate, acuminate. Raceme of flowers strict, slightly compound below (panicled); floral spur straight, as long as calyx.

*D. exaltatum*, Aiton, Hort. Kewensis, ed. 1, ii, p. 244. Pursh. DC. Prod. T. & G. Elliot. Hook. Wood.

Youcon; Clear Water, 13th July, Governor McTavish. Rocky Mountains between 52° and 56°, Hook.

Mr Barnston's remarks on the distribution of this species (Canadian Naturalist, vol. ii, p. 17) are interesting:—"The *Delphinium exaltatum* found in Canada attains to a high latitude, as it passes the barrier or ridge of high land that separates the waters running eastward into Hudson's Bay from those that fall by another course into the Arctic Ocean. In these northern latitudes it is probably confined to the limestone strata and the warmest exposures. I have dried specimens of some size from friends in the north, who gathered them on the banks of Clear Water River. I must own I have not met with it myself between Lake Winnipeg and Canada. To me, therefore, this fine plant, like the *Hepatica* appears to have taken an immense leap of nearly 2000 miles. If there be connecting links along this great distance, where the *D. exaltatum* shows itself, the chain must run to the southward of Lake Superior crossing westward to Red River and from that by the west side of Lake Winnipeg and the northern tributaries of the Saskatchewan to the waters of Peace River."

In the United States the distribution of this plant is decidedly southern, Gray giving its *north* limits as Pennsylvania and Michigan.

*D. AZUREUM*, Michaux.—Leaves with slightly dilated petioles, the lamina 3 to 5 parted and wholly cleft into linear lobes. Raceme perfectly simple.

*D. azureum*, Michaux, Fl. T. & G. Fl. N. A., I, p. 32.

West of Rocky Mountains between Fort Youcon and Lapierras House; also Youcon (fl. smaller, pedicels and spurs shorter), Governor McTavish.

Var. *b. canescens*.

Lake Winnipeg, T. & G.

*D. CONSOLIDA*, Linn.—Stem erect, branched, leaves deeply multifid, racemes few flowered, spur longer than the calyx, petals combined.

*D. Consolida*, Linn. T. & G. Fl. N. A., I, p. 30.



Introduced from Europe. Banks of the St. Lawrence, west of Prescott, Mr B. Billings, Jr.

*Excluded Species.*

D. AJACIS, Linn., the annual Rocket Larkspur of our flower gardens, was found by Dr Schultz between Wild Rice River and Red Lake River, Sept., 1860, but it is not likely to become permanently naturalized there.

ACONITUM, LINN.

A. DELPHINIFOLIUM, Reichenbach.—Many-flowered, flowers in short loose, sometimes slightly corymbose racemes, with very long pedicels; galea slightly conically-narrowed. Stem wiry, leaves rather shortly petiolate, palmately divided, the divisions incisely cleft; whole plant glabrous, except the pedicels and flowers, which are slightly downy. Flowers bright, not dark, blue, sepals more open than *A. Napellus*, and the plant is more delicate, and of thinner texture.

*A. delphinifolium*, Reichenbach.

*A. Napellus* var. *delphinifolium*, Seringe, in DC.Prod. Hook Fl. B. A., I, p. 26. T. & G. Fl. N. A., I, p. 34.

*A. delphinifolium* a. *Americanum*, DC. Syst.

*A. paradoxum*, Reichb.

*A. delphinifolium* b. *paradoxum*, Reichb.

*A. Napellus* e. *delphinifolium* lusus b. *paradoxum*, Regel, Pl. Radd., p. 111.

*A. delphinifolium*, vars. a. and g., Ledb. Fl. Rossica.

Youcon River, near the Arctic Circle, also between Ft. Youcon and Lapierras House (west side of Rocky Mountains), Mr Hardesty. Specimens sent to me by Governor McTavish.

Previously found on the coast of Behring's Strait, and on the Rocky Mountains between 52° and 56° N.

A. DELPHINIFOLIUM VAR. SEMIGALEATUM. — Flowers very large, sepals of thin texture, spreading, galea quite depressed with long acuminate point.

West side of Rocky Mountains, between Fort Youcon and Lapierras House, Governor McTavish, sp.

Regel, in "Plantæ Raddeanæ," Band I, pp. 101 to 114, brings together a large number of described species under the *A. Napellus*, and, amongst others, the present plant; this course necessitates his describing under *A. Napellus* no fewer than forty varieties and forms, which are all carefully named and classified. As our indigenous North Western *A. delphinifolium* is perfectly, and so far as known permanently, distinct from the ordinary forms of *A. Napellus* met with as an introduced plant in the East, I have kept it separate. For purposes of geographical botany it is absolutely necessary to discriminate between these two plants. The massing together of types geographically distinct in cases of this kind has led to much confusion.

**A. NAPELLUS, Linn.**—Flowers very numerous in long slender racemes, with mostly short pedicels, galea nearly hemispherical. Plant more or less pubescent in the upper part, flowers of a dark blue colour, somewhat lurid before expansion. A stronger, taller, more hairy plant than the two preceding, with very long racemes not at all corymbose. Root of large tubers, whole plant very poisonous.

*A. Napellus*, Linn.

About old cellars, fences and places where gardens have been,—a remnant of cultivation, but not inclined to spread.

### CIMICIFUGA, LINN.

**C. RACEMOSA, Elliot.**—Tall, with very long erect racemes.

*C. racemosa*, Elliot. T. & G. Fl. N. A., I, p. 36.

*C. Serpentaria*, Pursh.

*Actæa racemosa*, Hooker.

*Botrophis actæoides*, Fisch. & Meyer.

Cayuga, Grand River, Ont., Dr P. W. MacLagan.

### ACTÆA, LINN.

**A. RUBRA, Bigelow.**—Root fibrous. Racemes depressed ovate, pedicels long and slender. Flowers in May and June, fruiting from July to September.

*A. rubra*, Bigelow, Fl. Bost. Hook. Fl. B. A., I, p. 27.  
T. & G. Fl. N. A., I, p. 35.

*A. spicata* *b. rubra*, Michaux.

Near Odessa, 10th July, 1861; Portsmouth, near Kingston, 4th June, 1859; Indian Island, Bay of Quinte, 5th June, 1862; Toronto, 2nd June, 1862, G. L. Bass River, Kent, N. B., Rev. J. Fowler, sp. Montreal Mountain, May, 1848, Mr Adie. Malden, Dr Maclagan. Belleville, frequent in rich woods, Mr Macoun. St. Joachim, Provancher. Newfoundland, Barbe's Bay, Aug. 7, 1861, Mr J. Richardson, sp. in fl. Slave Lake, 24th June; York Factory, in ft., Sep., Governor McTavish, sp. Between Wild Rice River and Red Lake River, Sep., 1860; Assiniboine River, July, 1861, Dr Schultz, sp., No. 114. Lake Winipeg, Back.

*A. ALBA*, Bigelow.—Racemes oblong, the pedicels usually short, becoming very thick as the fruit ripens.

*A. alba*, Bigelow, Fl. Bost. Hook. Fl. B. A., I, p. 27. T. & G. Fl. N. A., I, p. 35.

*A. spicata b. alba*, Michaux.

Near Toronto, 2nd June, 1862, G. L. Camden, Co. Addington, Dr Dupuis, sp. St. Helen's Island, Kingston, Thorold, Navy Island and Malden, Dr Maclagan. Belleville, frequent in rich woods, Mr Macoun. Does not pass N. of 53° or 54°, Barnston. Hamilton, Judge Logie. Prescott, Mr Billings. Anticosti, Mr Verrill. Windsor, N. S., Dr How.

In the English *A. spicata* the pedicels are extremely short, the upper flowers almost sessile. *A. alba* is the only form found in the Southern States.

### HYDRASTIS, LINN.

*H. CANADENSIS*, Linn.

*H. Canadensis*, Linn. T. & G. Fl. N. A., I, p. 40.

*Warneria Canadensis*, Miller's Dictionary.

Malden, Ont., Dr P. W. Maclagan. Mirivin's Woods, a mile west from Prescott, rare, Mr B. Billings, Jr.

[*Excluded.*]

ADONIS AUTUMNALIS, Linn.—Hooker received diminutive specimens of this garden annual from Cape Charles, Labrador, but no doubt the seeds had been introduced, and there is not the least probability of the plant having established itself.]