CONTRIBUTIONS TO CANADIAN BOTANY. 1

By James M. Macoun, Assistant Naturalist, Geological Survey of Canada.

ANEMONE HUDSONIANA, Rich.

Frenchman's Bay, near Southampton, Ont. Aug. 28th, 1901. (John Macoun.) Southern limit in Ontario.

AQUILEGIA COCCINEA, Small.

Niagara, Ont.; Câche Lake, Algonquin Park, Ont.; Otterburne, Man.; Brandon, Man. (John Macoun.) Wingham, Ont. (J. A. Morton.) Grindstone Point, Lake Winnipeg. (J. M. Macoun.) Our only specimens of A. Canadensis are from Ottawa, Belleville and Red Rock, Ont. A. coccinea is easily separable from A. Canadensis either in flower or fruit. In flower by its stout spur which is more than twice the length of that of A. Canadensis and abruptly narrowed near the apex. The follicles of A. coccinea are straight and much longer than the spreading follicles of A. Canadensis.

Aquilegia vulgaris, L.

Roadside, Wyoming near Petrolia, Ont. (John Macoun.)
Lesquerella Nodosa, Green, Pittonia, vol. IV, p. 309.

On sand, Castellated Rocks, Milk River, Assa., July 13th, 1895. Herb. No. 10,313.2 (John Macoun.)

Lesquerella versicolor, Greene, Pittonia, vol. IV, p. 310.

On rocky slopes, Stony Mt., Man., June 4th, 1896. Herb. No. 12,401. (John Macoun.)

Lesquerella Macounii, Greene, Pittonia, vol. IV, p. 310.

On prairies at the police barracks, Medicine Hat, Assa., Aug. 9th, 1895. Herb. No. 10,308. (John Macoun.)

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²These numbers are those under which specimens have been distributed from the Herbarium of the Geological Survey of Canada.

LESQUERELLA ROSEA, Greene, Pittonia, vol. IV, p. 310.

On prairies at Old Wives' Creek, Assa., June 2nd, 1895. Herb. No. 10,309. (John Macoun.)

Brassica Juncea, Cass.

Montrose, near Niagara, Ont. (R. Cameron.) Burnside Road, near Victoria, Vancouver Island. (A. J. Pineo.)

VIOLA FLETCHERI, Greene, Pittonia, vol. IV, p. 296.

Acaulescent, small, the simple ascending rootstock rather small for the plant, closely jointed: leaves few, small, from ovate-reniform to subcordate-ovate, 3/4 to 1 inch long at time of petaliferous flowering, the undeveloped ones cucullate, all very regularly crenate, glabrous and shining above, mostly sparse-hirsutulous beneath and on the petioles, these in the earliest not longer than the blade, in the later more than twice as long: flowers very few, often 1 only; peduncles hirsute, minutely bracted below the middle: sepals small, lanceolate, veinless, serrate-ciliolate: corolla large, more than 3/4 inch broad, rich purple; the upper pair of petals much the largest, obovate, the middle pair narrower in proportion and strongly bearded with long cylindric hairs, the odd one as long as these and a trifle broader.

Growing with *V. blanda* under trees north of the road running from Rockcliffe to Beechwood. The plants grow singly and are generally one-flowered. Collected in the spring of 1901 and in fruit in September by Dr. J. Fletcher and J. M. Macoun.

VIOLA SUBVISCOSA, Greene, Pittonia, Vol. IV, p. 293.

Rootstocks not much branched, slender, short-jointed and knotted; plant 4 to 6 inches high at time of petaliferous flowering: leaves thin, deep-green, shining and slightly clammy, very sparsely appressed-hairy above, somewhat hirsute beneath along the veins and sparsely ciliate, in outline from cordate-reniform to broadly cordate with deep and often almost closed sinus, subserrately crenate, the more strictly cordate ones about 2 inches in diameter and little longer than broad; peduncles about equalling the leaves, bibracteolate

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below the middle, more or less strongly hirsutulous, as are also some of the petioles: sepals oblong, obtuse, strongly and closely ciliate with spreading or somewhat retrorse hairs: corolla violet, large, about 1 1/4 inches wide, the petals not very dissimiliar, rather broadly obovate, the keel as broad as the others and very obtuse.

Described from specimens collected by Dr. Jas. Fletcher, in open spaces among woods at Aylmer, Que. This species has also been collected on Prince Edward Island, by Mr. L. W. Watson and in Vermont. In general appearance V. subviscosa resembles V. septentrionalis but this latter species "has a heavier foliage, of a light green shade, wholly devoid of clamminess, each leaf with a broad open sinus and each branch of its stout rootstock produces a considerable cluster of leaves and flowers."

VIOLA CARDAMINEFOLIA, Greene, Pittonia, vol. IV, p. 289.

Caulescent, the numerous slender decumbent or more depressed stems 3 to 5 inches long: leaves small, the subcordate-ovate obtuse minutely crenate blade often merely ½ inch, seldom ¾ inch long, of firm texture, obscurely pulverulent-puberulent, the slender petioles about 1 inch long; stipules lanceolate, the lowest serrate-ciliate, the upper nearly entire except toward the base: slender peduncles little more than an inch long, bibracteolate much above the middle: sepals subulate-lanceolate, glabrous: corolla small, deep-blue; spur elongated, oblique.

In rocky woodland near Aylmer, Quebec, Canada, 6 June, 1901, Dr. J. Fletcher. Allied to the common V. Muhlen-bergiana of the U. S. (now rightly or wrongly called V. Labra-dorica), but easily distinct by its small, thick and somewhat fleshy foliage always of ovate outline and obtuse; the flowers not half as large, much more deeply coloured, with a different spur.

VIOLA FULCRATA, Greene, Pittonia, vol. IV, p. 285.

Cowichan River, Vancouver Island, 2 June, 1898. Herb. No. 19,912. (J. R Anderson.)

VIOLA PETROPHILA, Greene, Pittonia, vol. IV, p. 286.

Crevices of rocks, Shawnigan Lake, Vancouver Island, 9 May, 1897. (J. R. Anderson.)

VIOLA COMPACTA, Greene, Pittonia, vol. IV, p. 286.

Crevices of rocks, Shawnigan Lake, Vancouver Island. Herb. No. 19,910. (J. R. Anderson.)

VIOLA ANDERSONII, Greene, Pittonia, VOL. IV, p. 287.

Thetis Lake, B. C., 29th April, 1900. (J. R. Anderson.)

VIOLA ORECALLIS, Greene, Pittonia, vol. IV, p. 288.

Mill Hill, B. C., 28th April, 1900. (J. R. Anderson.)

VIOLA ALBERTINA, Greene, Pittonia, vol. IV, p. 289.

Described from specimens collected by W. Spreadborough east of McLeod River, northern Alberta, but a common species everywhere in the foot-hills of the Rocky Mountains.

CERASTIUM ANGUSTATUM, Greene, Pittonia, vol. IV, p. 300.

Open prairies in the sandhills north of Prince Albert, Saskatchewan, July, 1896. Herb. No. 12,459. (John Macoun.) Only known station.

CERASTIUM CAMPESTRE, Greene, Pittonia, vol. IV, p. 301.

The common species on the Canadian prairies. Our specimens are from Stonewall, Man. (John Macoun.) Indian Head, Assa. (W. Spreadborough) Cypress Hills, Assa. (J. M. Macoun.)

CERASTIUM VESTITUM, Greene, Pittonia, vol. IV, p. 302.

Dry banks at Ste. Anne, west of Edmonton, Alberta, June 9th, 1898. Herb. No. 19,285. (W. Spreadborough.) A well-marked species known only from Mr. Spreadborough's specimens.

CERASTIUM CONFERTUM, Greene, Pittonia, vol. IV, p. 302.

Described from specimens collected by Prof. John Macoun along the old telegraph trail in Lat. 54°, British Columbia, June 24th, 1875, and at Stewart Lake, B.C., June 20th. Not since collected.

CERASTIUM TOMENTOSUM, L.

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There are specimens of this species in the herbarium of the Geological Survey, labelled "Brant Co., Ont." but without the collectors' name. It is here recorded in the hope that some further information relating to it may be secured as this is the first American record known to us.

MENTZELIA TENERRIMA, Rydberg.

Waneter, B.C. 1901. (R. H. Jamieson.) New to Canada.

STENOTUS LYALLII, (Gray.)

On nearly all the higher mountains on both sides of the Chilliwack Valley, Coast Range, B.C., at about 6,000 ft. alt. Always found with *Solidago multiradiata*, var. scopulorum. (J. M. Macoun.)

SOLIDAGO VIRGAUREA, L., var. GILLMANI, (A. Gr.) Porter.

On rocks at the extreme end of the Bruce Peninsula, Tobermory, Ont., Aug. 23rd, 1901. Herb. No. 26,719. (*John Macoun.*) Known previously only from the south shore of Lake Superior. Probably a good species.

SOLIDAGO JUNCEA, Ait., var. SCABRELLA, A. Gray.

Thickets at Leamington, Ont. 1901. (John Macoun.) New to Canada.

ASTER ANGUSTUS, T. & G.

At the "round house" in the M. C. Ry. yard at Montrose near Niagara, Ont. (R. Cameron.) Introduced from the prairies.

ASTER LONGIFOLIUS, Lam., var. VILLICAULIS, Gray.

On earth along the St. John River at Woodstock, N.B. Herb. No. 22,505. (John Macoun.) Our only Canadian specimens.

ASTER KENTUCKYENSIS, Britt.

Toronto Island, Ont., Sept. 6th, 1901. Herb. No. 26,358. (John Macoun.) New to Canada. Determined by Dr. Britton.

ASTER VIMINEUS, Lam., var. SAXATILIS, Fernald, Rhodora, vol. 1, p. 188.

Paugan Falls, Que.; banks of the Nation River at Casselman, Ont. (John Macoun.)

ERIGERON BRANDEGEI, Greene.

Aplopappus Brandegii, Gray.

On mountains north of Chilliwack Lake, Coast Range, B. C., alt. 6,500 to 7,500 ft., 1901. (J. M. Macoun.) Not recorded west of Selkirk Mts. 1

GNAPHALIUM ULIGINOSUM, L.

Abundant along ditches, Chilliwack, B. C., 1901. (J. M. Macoun.) Our only specimens from British Columbia.

XANTHIUM PENNSYLVANICUM, Wallr.

Common at Humber Bay in front of High Park, Toronto, Ont., 1901. Herb. No. 26,807. (John Macoun.)

XANTHIUM COMMUNE, Britt.

From Quebec to Manitoba. Our specimens are from Casselman, Ottawa and Napanee, Ont., and Brandon and Killarney, Man.

XANTHIUM MACOUNII, Britt.

Goose Island, Lake Winnipeg, Man., 1884. The type. (J. M. Macoun.) Only known station.

XANTHIUM GLANDULIFERUM, Greene.

Police Point, Medecine Hat, Assa. Herb. No. 10,911; Walsh, Assa. Herb. No. 10,910, the type; east of Hand Hills, Alta. (John Macoun.)

X. echinatum and X. Canadense are not known to occur in Canada, but as they grow in the Northern States they will probably be found in Southern Ontario.

SILPHIUM PERFOLIATUM, L.

Not rare at Chatham, Ont. (John Macoun.)

¹ The geographical limits given in these papers refer to Canada only.

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SILPHIUM TEREBINTHINACEUM, L.

Walpole Island, St. Clair River, Ont. (C. K. Dodge.) In thickets at Sandwich and Windsor, Ont. (John Macoun.)

HELIANTHUS PETIOLARIS, Nutt.

Along the C. P. Ry. at Câche Lake, Ont. 1900. (John Macoun.) Introduced from the west.

HELIANTHUS ANNUUS, L.

Head of Queen street, near High Park, Toronto, Ont. 1901. (John Macoun.)

CHRYSANTHEMUM SEGETUM, L.

Near the tannery at Tilsonburg, Ont. 1901. (Macoun.) A garden escape. Not recorded from Ontario.

CHRYSANTHEMUM CORONARIUM, L.

A garden escape at Tilsonburg, Norfolk Co., Ont. (John Macoun.)

ARTEMISIA CAUDATA, Michx.

Abundant in sandy fields at Sarnia, Lambton Co., Ont. Collected in recent years by C. K. Dodge and by Prof. Macoun in 1901. Herb. No. 26,339. The plants from Manitoba referred here in Macoun's Catalogue of Canadian Plants, vol. 1, p. 256, are A. Canadensis.

ARTEMISIA ABROTANUM, L.

Roadsides at Allenford between Southampton and Owen Sound, Ont. 1901. (Macoun.) Not before recorded in these papers.

SENECIO PLATTENSIS, Nutt.

Woods at Sandwich, Ont. Herb. No. 26,673, and at Camlachie, seven miles from Sarnia, Ont. Herb. No. 26,674, 1901. (John Macoun.) New to Canada.

CARDUUS HILLII, (Canby.) Porter.

On shingle, Little Eagle Harbour, Lake Huron. Aug. 23rd, 1901. Herb. No. 26,454. (John Macoun.) Specimens referred to Cnicus pumilus, Macoun, Cat. Can. Plants, vol. 1, p. 555 are this species.

SAUSSUREA MONTICOLA, Rich., App. Frank. Journ., ed. 2, 29.

Lumped with S. alpina by Gray and others, but it presents so little resemblance to that species that the most casual observer would at once know it to be distinct. Easily separated from S. alpina by its "narrower, more rigid entire leaves and very hairy involucre." Collected by Dr. Richardson in grassy plains on the Copper Mountains, lat. 67°, and along the arctic coast between the Mackenzie and Coppermine rivers. The specimens in the herbarium of the Geological Survey are from Herschell Island, west of the mouth of the Mackenzie, 1893. (Rev. J. I. Stringer.) West shore of Great Bear Lake, lat. 65° 30′ to lat. 66° 30′. 1900. (J. M. Bell.) Lat. 62° 17′, long. 103° 07′, 1893; on Stony Island, Great Slave Lake, 1900. (J. W. Tyrrell.)

HIERACIUM PILOSELLA, L.

St. John and Charlos, Restigouche River, N.B. (Philip Cox.) New to New Brunswick.

HIERACIUM LONGIPILUM, Torr.

A single specimen collected in woods 5 miles from Sarnia, Ont. 1901. (John Macoun.) A very rare species in western Ontario. Seldom collected.

MENTHA ROTUNDIFOLIA, (L.) Huds.

In a gravelly ravine running into the Thames near London, Ont., 1901. (J. Dearness.) New to Canada.

CLINOPODIUM ACINOS, (L.) Kuntze.

Our herbarium specimens of this plant are from sandy and grassy roadsides north of London, Ont. (J. Dearness) and near Galt, Ont. (W. Herriot.)

Rumex fenestratus, Greene, Pittonia, vol. IV, p. 306.

Described from specimens collected by Prof. John Macoun in salt marshes at Comox, Vancouver Island, June 23rd, 1893. Herb, No. 1,570. Also collected in 1887 by Prof. Macoun at Chase River, near Nanaimo, Vancouver Island. Herb. No. 23,723. The common large *Rumex* on the east coast of Vancouver Island.

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CALAMOVILFA LONGIFOLIA, (Hook.) Hack.

Ammophila longifolia, Macoun, Cat. Can. Plants, vol. II, p. 208.

Sand-dunes at Point Edward, Lake Huron, Ont. 1901. Herb. No. 26,047. (John Macoun.)

Danthonia Americana, Scrib. U.S. Dept. Agric. Div. Agros., Circular 30, p. 5.

Wellington Mines, Nanaimo, Vancouver Island. June 13th, 1887. (John Macoun.) Among a score or more of sheets of Danthonia from the west coast of British Columbia, our herbarium contains but this one of D. Americana.

NOTES ON THE WILLOWS OF THE CHILLIWACK VALLEY, B.C.

By J. M. MACOUN.

The number of species of Salix in the Chilliwack Valley is remarkably small for that region, only four species having been seen in 1901 in the valley itself and five on the mountains on either side of it. In the valley S. Sitchensis is common everwhere, and was the only willow growing along the river between Chilliwack Lake and the point at which the river enters the Fraser Valley with the exception of one clump of S. pseudomyrsinites Anders., which grew on a gravel bar in the river. This species was also found by a rivulet at an altitude of 6,000 feet. The other valley species were S. caudata (Nutt.), collected at Chilliwack village, and S. Lyallii, Heller, at Sumas Lake and by a stream flowing into Chilliwack Lake.



Macoun, James Melville. 1902. "Contributions to Canadian Botany - XV." *The Ottawa naturalist* 15(12), 267–275.

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