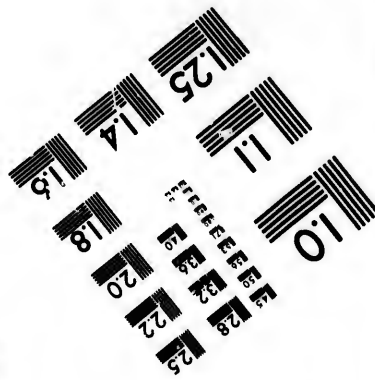
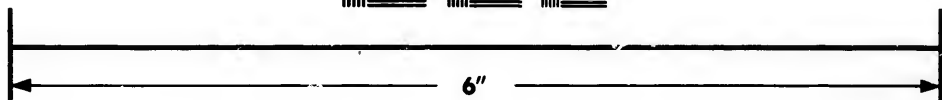
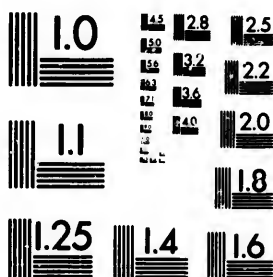


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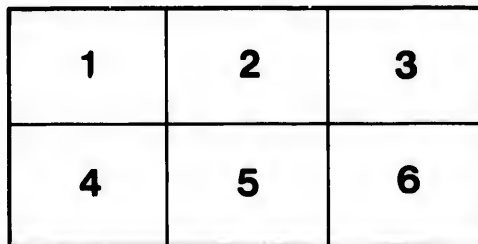
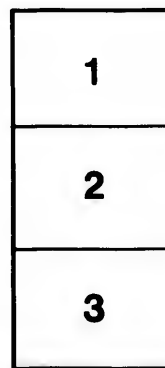
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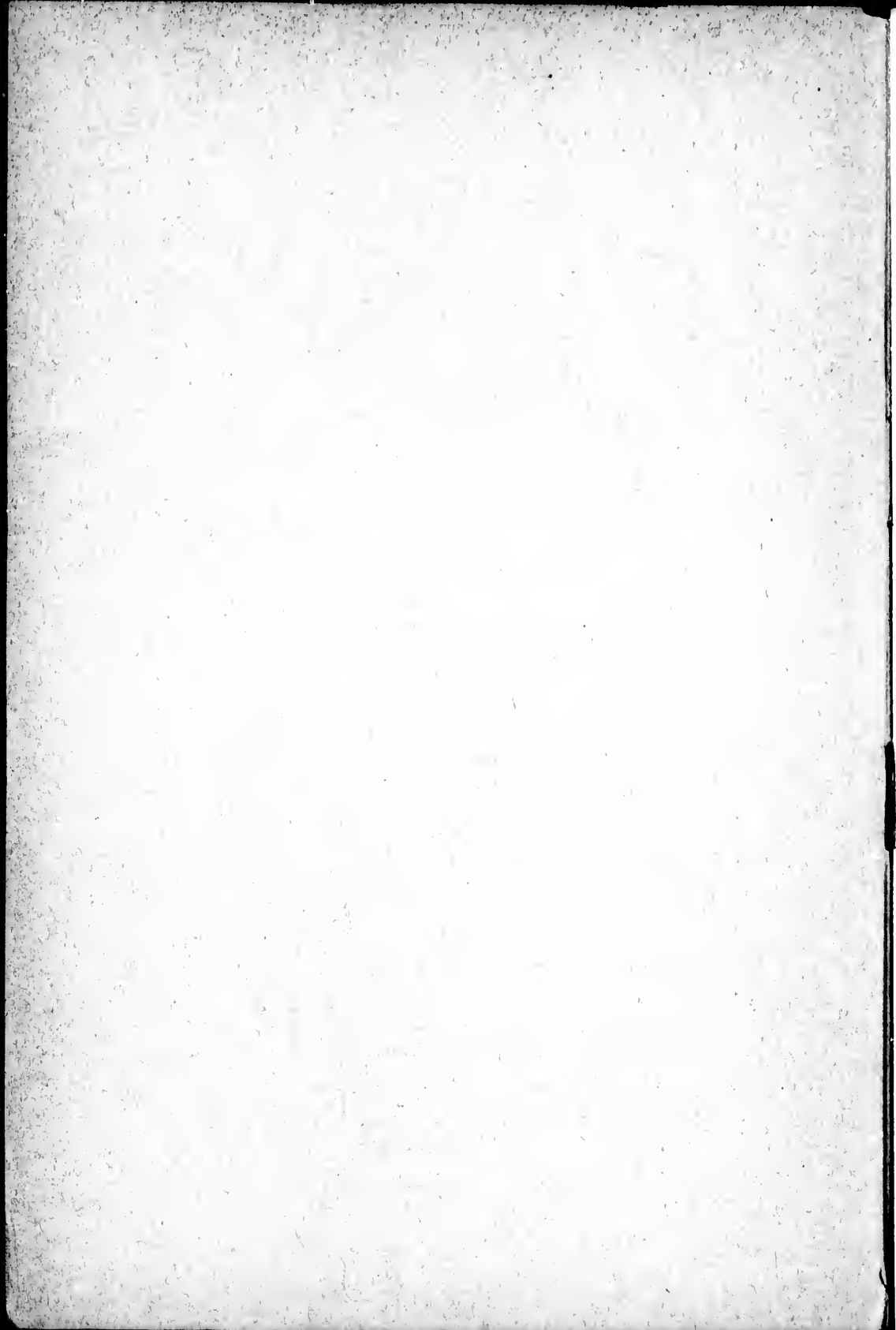
By JAMES M. MACOUN,  
*Curator of the Herbarium.*

III.

*Reprinted from the Canadian Record of Science, November, 1894.*

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## Contributions to Canadian Botany.

By JAS. M. MACOUN.

### III.

#### RANUNCULUS ABORTIVUS, L., var. MICRANTHUS, Gray.

Our only specimens of this species are from Quosnelle, B. C. (*John Macoun.*)

#### RANUNCULUS AQUATILIS, L., var. TRICHOPHYLLUS, Gray.

Cedar Hill, Alberni, and Comox, V. I. (*John Macoun.*)  
Not recorded before from Vancouver Island.

#### RANUNCULUS ACRIS, Linn.

Foot of Devil's Lake, Rocky Mts.; Griffin Lake, B. C.; Revelstoke, B. C. (*John Macoun.*) Not before recorded west of Manitoba.

#### RANUNCULUS BULBOSUS, L.

Revelstoke, B. C. (*John Macoun.*) Only record west of Ontario.<sup>1</sup>

#### RANUNCULUS CIRCINATUS, Sibth.

*R. aquatilis*, L., var. *stagnatilis*, DC., Macoun, Cat. Can. Plants, Vol. I., p. 16, Vol. II., p. 296.

Patterson's Creek, Ottawa, Ont. (*W. Scott.*) Wingham, Ont. (*J. Morton.*) Sturgeon Lake, Nipigon River, Ont. (*John Macoun.*) Not before recorded east of Manitoba.

#### RANUNCULUS CYMBALARIA, Pursh.

Departure Bay, V. I.; Courtney River, Comox, V. I. (*John Macoun.*) Not before recorded from Vancouver Island.

#### RANUNCULUS CYMBALARIA, Pursh., var. ALPINUS, Hood.

Minute specimens of this variety were collected by the Rev. A. Waghorne, in 1891, at Venison Tickle, Labrador, and on Prince Edward Island, in 1893, by Mr. W. J. Wilson. Our only other specimens are from Anticosti.

The Geographical limits given in these papers refer to Canada only.

## RANUNCULUS HEDERACEUS, L.

In wet places, Newfoundland, 1891, 1892. (*Rev. A. Waghorne.*) Only Canadian station.

## RANUNCULUS HYPERBOREUS, Rottb.

Pack's Harbour and Venison Tickle, Labrador. (*Rev. A. Waghorne.*) Specimens collected by Dr. Robert Bell at Cape Chudleigh, Hudson Strait, and referred to *R. pygmaeus* (Macoun, *Cat. Can. Plants*, Vol. I., p. 480), are of this species.

RANUNCULUS MACOUNII, Britt., *Trans. N. Y. Acad. of Science*, Vol. XII., Nov., 1892.

*R. repens*, Linn., var. *hispidus*, Macoun, *Cat. Can. Plants*, Vol. I., p. 21 in part.

*R. hispidus*, Macoun, *Cat. Can. Plants*, Vol. II., p. 298.

This species includes most of our western specimens that had been referred to *R. hispidus* Mx. Our herbarium specimens are from Nipigon, Lake Superior; Pheasant Plain, Cypress Hills, and Crane Lake, Assin.; Red Deer River, Alberta; Wigwam River, Rocky Mts.; Donald, Columbia River, B. C.; Sproat, B. C.; Port Haney, B. C.

## RANUNCULUS NATANS, C. A. Meyer.

New Westminster, B. C. (*John Macoun.*) The western limit of this species in Canada.

## RANUNCULUS PYGMÆUS, Wahl.

Summit of Mt. Aylmer, Devil's Lake, Rocky Mts. Alt. 8,300 ft. (*John Macoun.*) Rare in Canada.

## ISOPYRUM BITERNATUM, T. &amp; G.

Not rare in the vicinity of London, Ont. (*J. Dearness.*) New to Canada.

## CALTHA PALUSTRIS, L., var. SIBIRICA, Regel.

*C. asarifolia*, DC.

Lulu Island, mouth of Fraser River, B. C., 1889; Courtney River, Comox, Vancouver Island, 1893. (*John Macoun.*) Growing in salt marshes at both stations. Leaves reniform-cordate, with the sinus very obtuse (some leaves without



sinus). No form of *C. palustris* before recorded west of Rocky Mountains.

*COPTIS TRIFOLIA*, Salisb.

Damp woods, Mt. Mark, Vancouver Island. Alt. 3,000 ft. (*John Macoun.*) Not before recorded west of Rocky Mts.

*COPTIS ASPLENIFOLIA*, Salisb.

Port Simpson, B. C. (*Jas. McEvoy.*) In marshes, near Union Mines, Comox, V. I. (*John Macoun.*) Not before recorded from Vancouver Island.

*AQUILEGIA BREVISTYLA*, Hook.

The following are new stations for this species: Severn Lake, Keewatin; Fort McMurray, Athabasca River (*Jas. M. Macoun.*); Fort Good Hope, Mackenzie River (*Miss E. Taylor.*); Francis River, lat. 61° (*Dr. G. M. Dawson.*)

*DELPHINIUM AJACIS*, L.

Escaped from cultivation and naturalized at Lake Scugog, Ont. (*W. Scott.*)

*ACTEA SPICATA*, L., var. *ARGUTA*, Torrey.

Prof. Macoun describes this as the "British Columbia form." We have it also from the Rocky Mountains and Vancouver Island—Devil's Lake, Rocky Mts.; Cameron Lake and vicinity of Victoria, V. I. (*John Macoun.*) Prof. Macoun gives the range of *A. alba* as from Nova Scotia "through the wooded country to the Coast Range in British Columbia." Our most western station for this species is Nipigon, Lake Superior. Western specimens that were referred here prove to be the white-berried variety of *A. spicata*, var. *arguta*.

*NIGELLA DAMASCENA*, L.

Escaped from cultivation and naturalized along roadsides, Wingham, Ont. (*J. A. Morton.*)

*BERBERIS AQUIFOLIUM*, Pursh.

Revelstoke and Deer Park, Columbia River, B. C. (*John Macoun.*) Eastern limit in Canada.

## PAPAVER SOMNIFERUM, Linn.

Escaped from cultivation and naturalized at Sicamous, B. C. (*John Macoun.*)

## ESCHSCHOLTZIA CALIFORNICA, Cham.

Naturalized and spreading in the vicinity of Victoria, Vancouver Island. (*John Macoun.*)

## CORYDALIS GLAUCA, Pursh.

Recent explorations have greatly extended the limits of this species as given by Prof. Macoun (*Cat. Can. Plants, Vol. I., p. 36*). New stations are: Summerside, Prince Edward Island; Beaver Creek, Selkirk Mountains, B. C.; Revelstoke, B. C.; Griffin Lake, B. C. (*John Macoun*) Rupert River, N. E. Ter. (*Jas. M. Macoun*); East Main River, N. E. Ter. (*A. Ross*); Fort Good Hope, Mackenzie River (*Miss E. Taylor*); north shore of Lake Athabasca, N. W. T. (*Jas. W. Tyrrell*).

## CORYDALIS AUREA, Willd., var. OCCIDENTALIS, Gray.

New stations for this plant are: Okonagan Lake, B. C. (*J. McEvoy*); Kamloops, B. C. (*John Macoun*); Telegraph Creek, B. C., lat. 58° (*Dr. G. M. Dawson*).

## NASTURTIUM PALUSTRE, DC., var. OCCIDENTALE, Wat.

Sproat, B. C.; Courtney Village, near Comox, Vancouver Island. (*John Macoun.*) References under *N. palustre*, DC., var., in Macoun's *Cat. Can. Plants, Vol. II., p. 300*, go here.

## NASTURTIUM OFFICINALE, R. Br.

In rivulets and pools, Banff, Rocky Mts.; in springs on Sea's farm, near Victoria, Vancouver Island. (*John Macoun.*) Not before recorded west of Ontario.

## NASTURTIUM INDICUM (L.), DC.

Specimens found growing on ballast heaps at Nanaimo, Vancouver Island, by Prof. Macoun, in 1893, have been doubtfully referred here by Dr. N. L. Britton. Whatever this plant may prove to be, it is a species new to Canada.

*BARBAREA VULGARIS*, R. Br., var. *ARCUATA*, Koch.

Finlayson River, lat. 61°. (*Dr. Geo. M. Dawson.*)  
Revelstoke, B. C. (*John Macoun.*) Most northerly and  
easterly stations for this variety.

*ARABIS CONFINIS*, Wat.

Fort Simpson and Peel's River, Mackenzie River. (*Miss  
E. Taylor.*) Our most northerly specimens.

*ARABIS HUMIFUSA*, var. *PUBESCENS*, Wat.

North shore of Lake Athabasca, N. W. T., 1893. (*J. W.  
Tyrrell.*) Our only other specimens are from Hudson Bay.

*ARABIS LYALLII*, Wat.

Prof. Macoun (*Cat. Can. Plants*, Vol. I., p. 487) places the  
western limit of this species at the summit of the Selkirk  
Mts. More westerly stations are Toad Mt., Kootanie Lake,  
B. C., alt. 5,500 ft., and Mt. Queest, Shuswap Lake, B. C.,  
alt. 6,000 ft. (*Jas. M. Macoun.*)

*CARDAMINE BREWERI*, Wat.

*C. pratensis*, L., var. *occidentalis*, Macoun, *Cat. Can.  
Plants*, Vol. II., p. 601.

In springs and ditches, Goldstream, Victoria, Comox and  
Nanaimo, Vancouver Island. (*John Macoun.*) New to  
Canada. Specimens of this plant collected by Prof.  
Macoun at Nanaimo, in 1887, were called *C. pratensis*, var.  
*occidentalis*, by Dr. Watson. A recent comparison of our  
specimens with the type at Harvard, by Prof. Macoun,  
shows our plant to be *C. Breweri*.

*CARDAMINE PRATENSIS*, Linn., var. *ANGUSTIFOLIA*, Hook.

North shore of Lake Athabasca, N. W. T. (*Jas. W.  
Tyrrell.*)

*DRABA NIVALIS*, Jacq., var. *ELONGATA*, Wat.

First collected on the mountains at Kicking Horse Lake  
by Prof. Macoun in 1885, and referred to *D. stellata*, Jacq.  
Other stations are Kicking Horse River, Rocky Mts., alt.  
4,000 ft., and Roger's Pass, Selkirk Mts., alt. 5,500 ft., 1890.  
(*Jas. M. Macoun.*) Mountains near Banff, Rocky Moun-  
tains, 1891. (*John Macoun.*)

## SISYMBRIUM ALLIARIA, L.

Naturalized along roadsides in Beechwood Cemetery, Ottawa, Ont., 1891. (*W. Scott.*) Only Canadian station known to us.

## SISYMBRIUM OFFICINALE, Scop.

Prof. Macoun (*Cat. Can. Plants*, Vol. I., p. 46) limits the distribution of this species to Ontario and the eastern provinces. It has been since found at Sicamous, B. C.; Nelson, Kootanie Lake, B. C.; Esquimault and Nanaimo, Vancouver Island. (*John Macoun.*)

## SISYMBRIUM SINAPISTRUM, Crantz.

First noted in 1885 along the Canadian Pacific Railway in the Rocky Mountains. It has since become one of the most troublesome weeds in Manitoba and Assiniboia. Its western limit, as shown by our specimens, is Roger's Pass, Selkirk Mts., B. C. It is noteworthy that this plant thrives equally well on the dry prairies and at the summit of the Selkirk Mountains, where seldom a day passes without rain.

## ERYSIMUM ORIENTALE, R. Br.

Collected at Castle Mt., Rocky Mts., in 1885, by Prof. Macoun, but not recorded, and, in 1891, at the foot of Devil's Lake, Rocky Mts. Probably introduced at the time the Canadian Pacific Railway was being constructed, and now thoroughly naturalized. Mr. Jas. Fletcher reports that this plant has become a troublesome weed in many parts of the North-West.

## ERYSIMUM PARVIFLORUM, Nutt.

Rocky fields, Chaudière, near Ottawa, Ont. (*W. Scott.*) Probably introduced from the west in grain. We have no other record east of Manitoba.

## BRASSICA CAMPESTRIS, Linn.

Ottawa, Ont. (*Wm. Macoun.*) Waste places, Golden, B. C., and Revelstoke, B. C. (*John Macoun.*)

## BRASSICA CAMPESTRIS, L., var. OLIEFERA, DC.

Waste places, Ottawa, Ont. (*W. Scott.*)

BRASSICA SINAPISTRUM, Boiss.

Prof. Macoun gives Ontario as the western limit of this species. We have now specimens from Fort Walsh, Alberta; Kananaskis, Rocky Mts.; Sicamous, B. C.; Cedar Hill, Vancouver Island. (*John Macoun.*)

BRASSICA RAPA, L.

Escaped from cultivation and naturalized in many parts of Canada. Not included in Prof. Macoun's Catalogue. Our specimens are from Yarmouth, N. S.; Kamloops, B. C.; waste places, North Arm, Burrard Inlet, B. C.; fields and meadows, Cedar Hill and Beacon Hill, Vancouver Island; meadows at Comox and on ballast heaps at Nanaimo, Vancouver Island. (*John Macoun.*)

BRASSICA ALBA, Gray.

On ballast heaps at Nanaimo, Vancouver Island. (*John Macoun.*) Not before recorded west of Ontario.

BRASSICA NIGRA, Koch.

On ballast and in waste places, Nanaimo, Vancouver Island. Well naturalized, as it was found in 1887 and 1893. (*John Macoun.*) Not before recorded west of Ontario.

CAPSILLA DIVARICATA, Wahl.

Northeast coast of Newfoundland. (*Rev. A. Waghorne.*) Dead Islands, Labrador. 1882 (*J. A. Allen.*) Dry ground, Kamloops, B. C. (*John Macoun.*) Our only other specimens are from Spence's Bridge, B. C.

LEPIDIUM SATIVUM, L.

In cultivated fields near Victoria and at Sooke, Vancouver Island. (*John Macoun.*) Not before recorded west of Winnipeg, Man.

THLASPI ARVENSE, L.

This weed grows yearly more troublesome throughout the Northwest. It has now crossed into British Columbia, being well distributed along the line of the Canadian Pacific Railway at the summit of the Selkirk Mountains.

## RAPHAN' S RAPHANISTRUM, Linn.

Naturalized in fields at Agassiz, B. C., and in waste places at Esquimault and Cedar Hill, Vancouver Island. (*John Macoun.*)

## SPIESIA(OXYTROPIS)BELLI, Britton, n. sp.

Acaulescent, tufted, loosely villous, with white hairs. Stipules membranaceous, ovate or oblong, acute or acuminate, imbricated, villous or glabrate, 5"-7" long; leaves 3'-6' long; leaflets oblong or oblong-lanceolate, subacute at the apex, rounded at the base, 3"-4" long, 1"-2" wide; in verticils of three or four; peduncles about equalling the leaves; inflorescence capitate; pods oblong, erect-spreading, densely pubescent, with black hairs or some longer whitish ones intermixed, about 9" long and 3" in diameter, about three times as long as the black-pubescent calyx, very nearly or quite two-celled by the intrusion of the ventral suture, their tips erect; corolla not seen.

Digges' Island, Hudson Bay (*R. Bell*, 1884); Chesterfield Inlet, Hudson Bay (*J. W. Tyrrell*, 1893). Types in the herbarium of the Geological Survey of Canada.

The only other North American species thus far described with verticillate leaflets is *S. splendens*, with which the one here proposed has but little affinity. There are, however, a number of northern Asiatic species sharing this character, but I am unable to refer the Hudson Bay plant to any of them. (*N. L. Britton.*)

## CERCIS CANADENSIS, L.

Pelec Island, Lake Erie. (*John Macoun.*) One tree of this species was pointed out to Prof. Macoun in 1892. An old resident remembered having seen this tree in his boyhood, but knew of no other on the island. It grows close beside the lake, and is doubtless indigenous.

## MYRIOPHYLLUM ALTERNIFOLIUM, DC.

Brigham's Creek, near Hull, Que., 1891. (*W. Scott.*) The only other Canadian station is Lake Memphramagog, Que.

**PEUCEDANUM BICOLOR**, Wat.

Hillsides at Sproat, Columbia River, B. C., 1890. (*John Macoun.*) New to Canada.

**PEUCEDANUM AMBIGUUM**, Nutt.

Hillsides at Deer Park, Columbia River, B. C. (*John Macoun.*) Eastern limit in Canada.

**LINNÆA BOREALIS**, Gronov., var. **LONGIFLORA**, Torr.

In woods on both sides of Lower Arrow Lake, Columbia River, B. C., 1890. (*John Macoun.*) First record from interior of British Columbia.

**LONICERA CERULEA**, Linn.

Vicinity of Wingham, Ont. (*J. A. Morton.*) Our only record for Ontario east of Lake Superior.

**ASTER PTARMICOIDES**, Torr. & Gray, var. **LUTESCENS**, Gr.

Dry prairies, Indian Head, Assiniboia, 1893. (*F. G. Marwood.*) Not collected since 1872, when it was found by Prof. Macoun in the Touchwood Hills, N. W. T.

**ANTENNARIA LUZULOIDES**, Torr. & Gray.

Common on the hills behind Deer Park, Columbia River, B. C., 1890. (*John Macoun.*) Rare in Canada.

**LEPACHYS COLUMNARIS**, Pursh.

Skead's Mills, near Ottawa, Ont. (*W. Scott.*) A common prairie plant introduced from the west by the Canadian Pacific Railway.

**ARNICA CORDIFOLIA**, Hook., var. **ERADIATA**, Gray.

In woods, Little Shuswap Lake, B. C., 1889; Deer Park, Columbia River, B. C., 1890. (*John Macoun.*) New to Canada.

**LACTUCA SCARIOLA**, L.

Naturalized along the bank of the Niagara River and in waste places at Niagara, Ont. (*R. Cameron.*) Abundant around Windsor and Chatham, Ont., and as far east as Smith's Falls, Ont., 1894. (*John Macoun.*)

VACCINIUM CORYMBOSUM, Linn., var. PALLIDUM, Gray.

At Stamford and "The Whirlpool," Niagara River, Ont., 1891. (*John Macoun.*) First record west of Nova Scotia.

LINARIA CYMBALARIA, Mill.

Naturalized at Wingham, Ont. (*J. A. Morton.*) Our only other station in Canada is St. John, N. B.

LINARIA CANADENSIS, Dumont.

Collected at Nanaimo, Vancouver Island, in 1893, by Mr. Wm. Scott. Not elsewhere known in Canada west of New Brunswick.

CONOBEA MULTIFIDA, Benth.

Growing in wet gravel at South Point, Pelee Island, Lake Erie, 1892. Not uncommon. (*John Macoun.*) New to Canada.

VERONICA CHAMLEDRYIS, Linn.

Naturalized at Niagara Falls, Ont. (*R. Cameron.*) First record west of Quebec.

MICROMERIA DOUGLASII, Benth.

Along the edge of rocky woods at Hot Springs, Kootanie Lake, B. C., 1890. (*Jas. M. Macoun.*) Between Shuswap Lake and Enderby, B. C., 1891. (*Jas. McEvoy.* Herb. No. 1234.)<sup>1</sup> Not rare on Vancouver Island, but not before recorded from interior of British Columbia.

PODOSTEMON CERATOPHYLLUS, Michx.

Very abundant on flat limestone rocks in Brigham's Creek, Hull, Que. Collected by Prof. Macoun, Aug. 29th, 1894. Not before collected in Canada.

URTICA URENS, Linn.

Along the Dallas Road, Beacon Hill, Victoria, Vancouver Island, 1893. (*John Macoun.*) First record west of New Brunswick.

<sup>1</sup> Whenever herbarium numbers are given, they are the numbers under which specimens have been distributed from the herbarium of the Geological Survey of Canada.



*SALIX ARBUSCULOIDES*, Andr.

Specimens of this rare and little known willow were collected in 1893 by Mr. J. W. Tyrrell on the barren grounds between Lake Athabasca and Chesterfield Inlet. (Herb. No. 1716.) Our only other specimens of this species were collected by Dr. Richardson.

*SALIX BALSAMIFERA*, Barratt.

Barren grounds between Lake Athabasca and Chesterfield Inlet, 1893. (*J. W. Tyrrell*. Herb. No. 1715.) Not before recorded north of the Saskatchewan.

*SALIX RICHARDSONI*, Hook.

One specimen of this rare willow was collected by Mr. J. W. Tyrrell at Chesterfield Inlet Hudson Bay, in 1893. Not before recorded from vicinity of Hudson Bay.

*SALIX PHYLICIFOLIA*, Linn.

We have specimens of this willow from several stations between Lake Athabasca and Chesterfield Inlet, collected in 1893 by Mr. J. W. Tyrrell, so that it is probably common throughout that region. Specimens collected in the vicinity of Hudson Strait by Dr. Robert Bell, and referred to *S. chlorophylla*, Andrs., by Prof. Macoun (Cat. Can. Plants, Vol. I., p. 446), are of this species.

*LISTERA BOREALIS*, Morong, Bull. Torr. Bot. Club, Vol. XX., p. 31.

Stems very delicate, 3'-5' high, glabrous below, glandular-pubescent, and with long, silky, scattered hairs among the inflorescence, sheathed by two obtuse, membranous scales at the base; roots thickened, somewhat fleshy; leaves oval, slightly sheathing, obtuse at the apex, 4"-8" long, 2"-4" broad, entire, bearing on the surface a few silky hairs, otherwise very glabrous. Raceme two- or three-flowered. Bracts scarcely 1" long, much shorter than the pedicels. Sepals and petals nearly equal, linear, obtuse, about 2" long, lip 4"-5" long, 2" broad at the obtuse apex, ciliolate above; apical lobes very obtuse, 1" long, the intermediate tooth obsolete; basal lobes  $\frac{1}{2}$ " long, very obtuse.

Column slightly incurved,  $1\frac{1}{2}$ " long. Flowers greenish-yellow, the lip with a purplish middle, and purplish nerves radiating into the apical lobes. The flowers and column, as well as the leaves and upper stem, bear the silky hairs mentioned, some of which are 2" long.

Collected by Miss E. Taylor at Fort Smith, Great Slave River, in 1892.

*PHALARIS MINOR*, Retz.

On ballast heaps at Nanaimo, Vancouver Island. (*John Macoun*. Herb. No. 323.) New to Canada.

*AGROSTIS INFLATA*, Scribner, n. sp.

Culms rather stout, 3-5 inches high, branched below. Sheaths smooth, striate-veined, much exceeding the internodes, inflated, especially the uppermost, which partially encloses the short (1-2in.), densely flowered panicle. Ligule prominent. Leaf-blade flat,  $\frac{1}{2}$ -2in. long. Spikelet  $1\frac{1}{2}$  lines long. Empty glumes lanceolate, awn-pointed, especially the second one, scabrous on the keel. Flowering glume about half the length of the empty ones, slender-awned on the back near the middle, awn exceeding the glumes, callus minutely hairy on the anterior side.

Described from specimens collected on rocks at Esquimalt, Vancouver Island, by Prof. John Macoun, June 9th, 1893. (Herb. No. 258.) More mature, rather shorter and stouter specimens, with slightly broader, more striate-veined sheaths, were collected on rocks at Beacon Hill, Vancouver Island, August 7th, 1893. (Herb. No. 259.)

Prof. Scribner further writes: "The spikelets in this grass are very nearly those of *Agrostis microphylla*, Steud., and it may prove to be only a much depressed form of that species." But this does not seem to me probable. An examination of our specimens of *A. microphylla* from Oregon, Washington, and British Columbia shows nothing like these plants, with the exception of specimens collected by Dr. G. M. Dawson on Texada Island, Gulf of Georgia, which answer well to the description of *A. inflata*, though a little taller.

*AVENA STRIGOSA*, Schreb.

A weed in cultivated fields near Sooke, Vancouver Island, 1893. (*John Macoun*. Herb. No. 48.) New to Canada.

*POA TRIVIALIS*, L., var. *FILICULMIS*, Scribner, new var.

Culms smooth, very slender from a creeping rhizome, radical leaves short, those of the culm 1-2 inches long, a line wide or less, acute, scabrous; ligule 2 lines long, acute. Panicle 1-2 inches long, pyramidal. Spikelets two-flowered, 1½ lines long, much longer than the pedicels. Empty glumes very acute, narrow-lanceolate, the first one-nerved a little shorter than the three-nerved second glume, both scabrous on the sharp keel. Flowering glume 1¼ lines long, acute distinctly five-nerved, pubescent on the sharp keel for one-half its length, and with a cobwebby tuft at base.

In wet meadows at Comox, Vancouver Island, 1893. (*John Macoun*. Herb. No. 282.)

