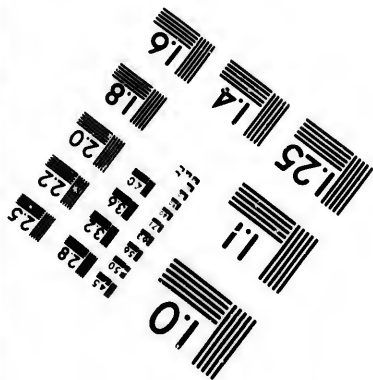
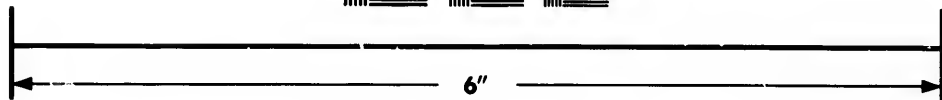
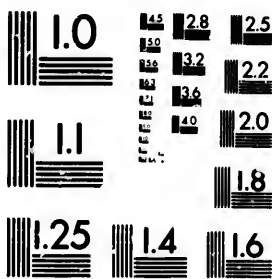


**IMAGE EVALUATION
TEST TARGET (MT-3)**



**Photographic
Sciences
Corporation**

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

24 28 25
32 22
20
8

**CIHM/ICMH
Microfiche
Series.**

**CIHM/ICMH
Collection de
microfiches.**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

10

© 1982

The copy filmed here has been reproduced thanks to the generosity of:

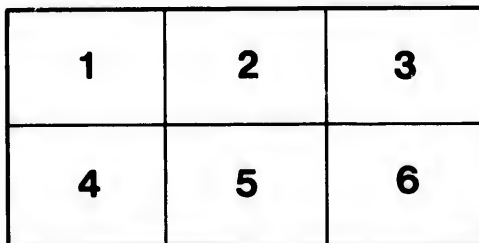
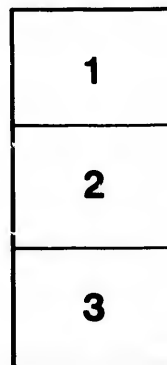
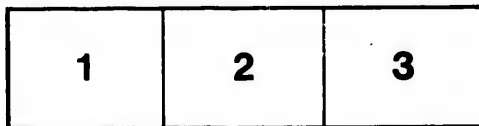
Library,
Geological Survey of Canada

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol \rightarrow (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

Bibliothèque,
Commission Géologique du Canada

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole \rightarrow signifie "A SUIVRE", le symbole ∇ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.

alls
du
difler
une
page

rate
p

elure,
à

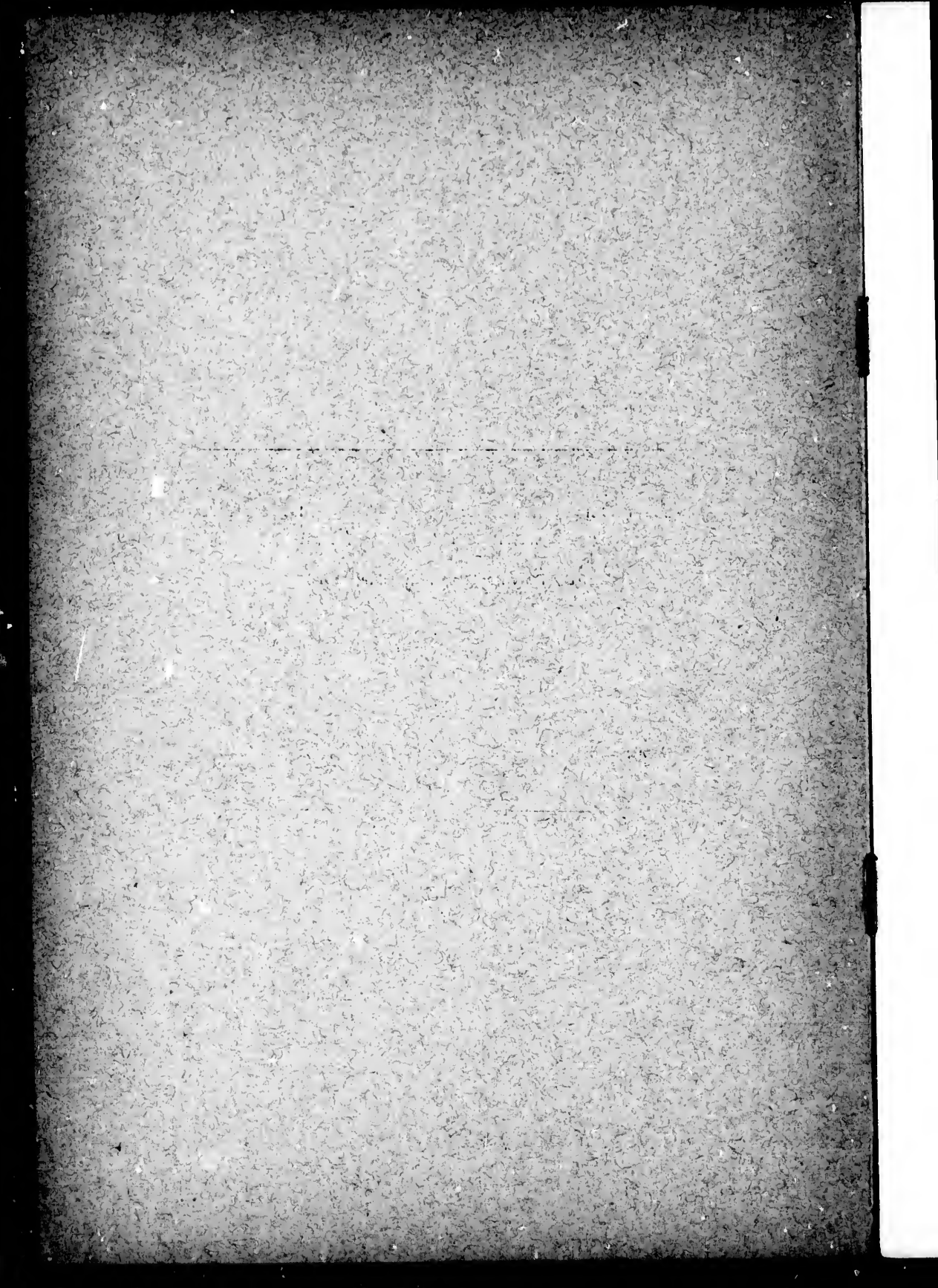
**Contributions from the Herbarium of the
Geological Survey of Canada.**

(By Permission of the Director.)

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

IV. 5

Reprinted from the Canadian Record of Science, January, 1895.



"Reprinted from the *Canadian Record of Science*, January, 1895."

CONTRIBUTIONS TO CANADIAN BOTANY.

By JAMES M. MACOUN.

V.

THALICTRUM VENULOSUM, Trelease.

In thickets, Seven Persons' Coulee, Medicine Hat, Assa.; Crane Lake, Assa.; Cypress Hills, Assa., 1894. (*John Macoun*, Herb Nos. 2952, 2953, 2954.¹) Our only records between Lake Manitoba and the Rocky Mountains.²

RANUNCULUS ABORTIVUS, Linn.

Lake Petitsikapau, Hamilton River, Labrador, 1894. (A. P. Low, Herb No. 4331.) Most northern record for Eastern Canada.

RANUNCULUS HISPIDUS, Michx.

Our only specimens of this plant are from Wesley Park, Niagara, Ont. (*John Macoun*.)

RANUNCULUS COOLEYÆ, V. & R.

Mount Rapho, Lat. 56° 13', Long. 131° 46'. Alt. 3,800 ft. July, 1894. (*Otto Klotz* and *H. W. E. Canavan*.) Only Canadian record. First collected near Juneau, Alaska, by Miss Grace Cooley, in 1891.

ACTEA SPICATA, Linn, var. RUBRA, Ait.

Lake Michikamau, Labrador, 1894. (A. P. Low, Herb No. 4331.) Northern limit in Eastern Canada.

NYMPHEA PYGMEÆ, Ait.

New stations for this rare plant are Loon Lake, C. P. Ry. east of Port Arthur, Ont., and Petobi Brook, Gull Bay, Lake Nepigon, Ont., 1894. (*Wm. McInnis*.)

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

² The geographical limits given in these papers refer to Canada only.

BARBAREA VULGARIS, R. Br.

Lake Petitsikapau, Hamilton River, Labrador, 1894.
(*A. P. Low*. Herb No. 4340.) Not before recorded from
Labrador.

VIOLA PAUSTRIS, Linn.

Ashuanipi branch of Hamilton River, Labrador.
(*A. P. Low*. Herb. No. 4343.) Not before recorded from
Labrador.

CERASTIUM VISCOSUM, Linn.

C. glomeratum, Thuill.

Burrard Inlet, B.C., and many places in vicinity of
Victoria, Vancouver Island. (*John Macoun*.) Not found
anywhere in Eastern Canada, all references but one, under
C. viscosum, in Prof. Macoun's Catalogue of Canadian
Plants going with *C. vulgatum*.

CERASTIUM VULGATUM, Linn.

C. viscosum, Macoun, Cat. Can. Plants, Vol. 1., page 77,
in part.

Widely distributed throughout Eastern Canada. Revel-
stoke, B.C. (*John Macoun*.) North of Finlayson Lake,
B.C., Lat. 59°. (*Dr. G. M. Dawson*.)

CERASTIUM NUTANS, Raf.

Sproat, Columbia River, B.C., 1890. (*John Macoun*.)
Cherry Creek, east of Lake Okanagan, B.C. (*Jas.*
McEvoy.) Only British Columbia stations.

CERASTIUM ARVENSE, Linn., var. OBLONGIFOLIUM, H. & B.

C. oblongifolium, Torrey; Macoun, Cat. Can. Plants,
Vol. I., p. 77.

A narrow-leaved form of this variety was collected at
Truro, N.S., by Prof. Macoun, July, 1883. Only station
east of Ontario.

CERASTIUM ALPINUM, Linn.

Arctic America, from Labrador to Alaska. References under var. *Fischerianum*, Macoun Cat. Can. Plants, Vol. I., p. 498, go here. This variety is confined to the Pacific Coast.

CERASTIUM ALPINUM, Linn., var. BEERINGIANUM, Regel.

Arctic America, and on many of the higher Rocky Mountains.

STELLARIA AQUATICA, Scopoli.

The only stations for this species in Canada are Stratford, Ont. (*Burgess*). Roadsides and ballast heaps, Nanaimo, Vancouver Island, 1893. (*John Macoun*.)

STELLARIA NITENS, Nutt.

Dry slopes, Agassiz, B.C.; Kamloops, B.C., 1889. (*John Macoun*.) Not before collected on mainland of British Columbia.

STELLARIA LONGIPES, Goldie, var. LETA, Wats.

S. longipes, Goldie, var. *Edwardsii*, T. & G.; Macoun, Cat. Can. Plants, Vol. I., pp. 76 and 498, in part.

From New Brunswick and Labrador to British Columbia and throughout Arctic America. Our herbarium specimens are from Petiteodiac, N.B. (*Brittain*.) Pack's Harbor, Labrador. (*Rev. A. Waghorne*.) Ford's Harbor, Labrador; Digge's Island, Mansfield Island and Nottingham Island, Hudson Bay. (*Dr. R. Bell*.) Lat. 62° 03', Long. 103° 15'. (*J. W. Tyrrell*.) Summit of South Kootanie Pass, Rocky Mts. (*Dr. G. M. Dawson*.) Saddle Mountain, Banff, Rocky Mts.; Kicking Horse Lake, Rocky Mts., alt. 8,000 feet; Stewart's Lake Mountain, B.C. (*John Macoun*.) Mountains at Roger's Pass, Selkirk Mts., alt. 7,500 ft.; Mount Queest, Shuswap Lake, B.C., alt. 6,500 ft. (*Jas. M. Macoun*.)

STELLARIA LONGIPES, Goldie, var. EDWARDSII, Wats.

From Labrador to British Columbia and northward to the Arctic regions. Our only specimens of this variety are from Quesnelle, B.C. (*John Macoun.*)

STELLARIA GRAMINEA, Linn.

In sandy woods, Fort George, Hudson Bay. (*Jas. M. Macoun.*) Probably indigenous. Only record north of Nova Scotia.

STELLARIA ULIGINOSA, Murr.

This species is confined to the Atlantic slope and is not of as wide distribution as is given it by Prof. Macoun, *Cat. Can. Plants*, Vol. I, pp. 75 and 497. Our specimens are from Hunter's River, Prince Edward Island, and Point Pleasant, near Halifax, N.S. (*John Macoun.*)

STELLARIA BOREALIS, Bigel. var. COROLLINA, Fenzl.

S. borealis, Bigel. var. *alpestris*, Gray; *Macoun Cat. Can. Plants*, Vol. I, p. 74.

Dr. Robinson places the eastern limit of this variety at Lake Superior. We have, however, specimens from Brackley Point, Prince Edward Island. (*John Macoun.*) Lake Mistassini, N.E. Ter. (*Jas. M. Macoun.*) The only western reference for this variety given by Prof. Macoun is Yale, B.C. Later collections show it to be a common plant in many parts of the Northwest and British Columbia, and especially abundant wherever collections have been made on Vancouver Island.

STELLARIA CRASSIFOLIA, Ehrh.

S. gracilis, Rich., *Macoun Cat. Can. Plants*, Vol. I, p. 75.

Pelly Banks, Lat. 61°, Yukon District. (*Dr. G. M. Dawson.*) Not before recorded west of the prairie region.

STELLARIA HUMIFUSA, Rothb., var. OBLONGIFOLIA, Fenzl.

Blinkinsop Bay, B.C., 1885. (*Dr. G. M. Dawson.*) Not before recorded from Canada. Referred to *S. uliginosa*, by Prof. Macoun, Cat. Can. Plants, Vol. I, p. 497.

STELLARIA OBTUSA, Engelm.

Near MacLeod's Lake, B.C. (*John Macoun.*) South Kootanie Pass, Rocky Mts. (*Dr. G. M. Dawson.*) The only Canadian stations.

ARENARIA CILIATA, Limb. var. HUMIFUSA, Hornem.

Cerastium trigynum, Macoun Cat. Can. Plants, Vol. I, p. 498 in part.

Stellaria humifusa, Macoun Cat. Can. Plants, Vol. I, p. 498 in part.

Mount Albert, Gaspé, Que. (*Allen. Porter.*) Lake Mistassini, N.E.Ter. (*Jas. M. Macoun.*) Specimens collected at Kicking Horse Lake, Rocky Mts., and on the summit of Mount Aylmer, Banff, Rocky Mts., alt. 8,300 feet, have been doubtfully referred here by Dr. Robinson.

ARENARIA CONGESTA, Nutt., var. SUBCONGESTA, Wats.

Gravelly banks, Lewis River, Lat. 62°, Yukon District. (*Dr. G. M. Dawson.*) Not before recorded west of Alberta.

ARENARIA SAJANENSIS, Willd.

A. arctica, Macoun, Cat. Can. Plants, Vol. I, p. 71.

A. biflora, Wats., var. *obtusata*, Wats.; Macoun, Cat. Can. Plants, Vol. I, pp. 71 and 496.

A. verna, Macoun, Cat. Can. Plants, Vol. I, p. 496 in part.

A. verna, var. *rubella*, Macoun, Cat. Can. Plants, Vol. I, p. 72 in part.

Mount Albert, Gaspé, Que. (*Porter. Macoun.*) These specimens were referred to *A. arctica* and *A. verna*, var. *rubella*, by Prof. Macoun. Cape Chudleigh, Hudson

Strait. (*Dr. R. Bell*) Referred to *A. verna* by Prof. Macoun. Common on mountains throughout British Columbia.

According to Dr. Robinson *A. arctica*, Stev., is not found in British America.

ARENARIA STRICTA, Fenzl.

A. Michauxii, Hook., Macoun, Cat. Can. Plants, Vol. I, pp. 72 and 496.

Dr. Robinson makes Minnesota the western limit of this species. It is not uncommon in the Rocky Mts. near the line of the Canadian Pacific Railway, our specimens being from several stations in and near the National Park at Banff.

SAGINA OCCIDENTALIS, Wats.

Gordon Head and Cedar Hill, Vancouver Island. (*John Macoun.*)

SAGINA LINNÆA, Presl.

Mount Aylmer, Rocky Mts., alt. 8,300 ft.; Kicking Horse Lake, Rocky Mts., alt. 8,000 ft.; Roger's Pass, B.C.; between Sprout and Nelson, B.C.; Burrard Inlet, B.C.; Nanaimo, Vancouver Island. Herb No. 19. (*John Macoun.*) Summit of South Kootanie Pass, Rocky Mts.; Queen Charlotte Islands. (*Dr. G. M. Dawson.*) Mountains north of Griffin Lake, B.C.; Mount Queest, Shuswap Lake, B.C. (*Jas. M. Macoun.*)

S. CRASSICAULIS, Wats.

Gordon Head, Esquimault, and Goldstream, near Victoria, Vancouver Island; Comox and Nanaimo, Vancouver Island. (*John Macoun.*)

Note.—The references under these three species are in part in addition to those given by Prof. Macoun under *S. occidentalis* and *S. Linnaea*, Cat. Can. Plants, Vol. I,

pp. 79 and 499, and the arrangement now given is intended to take the place of that in the catalogue.

HYPERICUM CANADENSE, Linn.

In sandy soil at Kamloops, B.C.; wet ground, Sprout Lake, Vancouver Island. (*John Macoun.*) Not before recorded west of Alberta.

MALVA PARVIFLORA, Linn.

M. borealis, Macoun, Cat. Vol. II., p. 313.

Specimens of this plant were collected on ballast heaps at Nanaimo, Vancouver Island in 1887, by Prof. Macoun, and called *M. borealis*. It was again found by him at the same place in 1893 (Herb. No. 46) and correctly determined by Prof. Greene.

MALVA ROTUNDIFOLIA, Linn.

Waste places at Beacon Hill, Vancouver Island, 1893. (*John Macoun*, Herb. No. 47.)

SIDALCEA MALVEFLORA, Gray.

Common at Revelstoke. (*John Macoun.*) Not before recorded from interior of British Columbia.

MALVASTRUM COCCINEUM, Nutt.

On dry soil, 7 miles from the mouth of Deadman River, near Kamloops Lake, B.C. (*Jas. McEvoy.*) Not before recorded west of the prairie region.

LINUM LEWISII, Pursh.

A white-flowered procumbent form of this plant was collected in Lat. 56° on the west side of Hudson Bay, by Jas. M. Macoun, in 1886. No plants with blue flowers were seen.

GERANIUM ERIANTHUM, DC.

Alice Arm, Observatory Inlet, B.C., July 7th, 1893. (*Jas. McEvoy*, Herb. No. 60.) Southern limit.

GERANIUM PUSILLUM, Linn.

Agassiz, B.C. (*Macoun*.) We have no other record of this plant between Ontario and the Pacific Coast.

GERANIUM RICHARDSONI, Fisch. & Mey.

In open woods at Botanie, near Spence's Bridge, B.C., Alt. 3,500 ft. (*Jas. M. Macoun*.) Not before recorded west of the Rocky Mountains.

LIMNATHES MACOUNI, Trelease.

First collected by Prof. Macoun at Victoria, Vancouver Island, in 1875. Found again by him in May, 1893, in abundance in ditches and swampy places near Victoria. No other stations for this species are known.

FLIERKEA PROSERPINACOIDES, Willd.

Wet places near springs, Casselman, Ont., in flower, May 14th, 1891. (*John Macoun*.) Only record from Eastern Ontario.

OXALIS CORNICULATA, Linn.

On ballast heaps, Nanaimo, Vancouver Island, 1893. (*Macoun*, Herb. No. 54.) Only record from British Columbia.

OXALIS CORNICULATA, L., var. STRICTA, Sav.

In dampish spots near Indian Head, Assa., 1892. (*W. Spreadborough*.) Not before recorded west of the Red River.

IMPATIENS PALLIDA, Nutt.

Anstey Creek, Shuswap Lake, B.C., 1889. (*Jas. M. Macoun*.) Agassiz, B.C. (*John Macoun*.)

CEANOTHUS SANGUINEUS, Pursh.

Sicamous and Revelstoke, B.C., 1889. (*John Macoun*.) Eastern limit.

RHAMNUS PURSHIANA, DC.

In woods at Revelstoke, Columbia River, B.C. (*John Macoun.*) Eastern limit.

ACER SACCHARUM, Marshall.

A. saccharinum, Wang., Macoun Cat. Can. Plants, Vol. I, p. 99 in part.

A. saccharinum, Wang., var. *nigrum*, T. & G.; Macoun Cat. Can. Plants, Vol. I, p. 99.

Bark gray; internodes mostly slender and elongated, commonly glossy and reddish; buds gray, conical, slender and acute; petioles, little dilated at base, not concealing the mature buds, without stipules; leaves, thin, typically large (usually 4 to 7 inches broad), flat, dull, usually light green above, the lower surface grayish, glabrous to pubescent, or exceptionally quite hirsute when young, isodiametric, truncate at base to slightly cordate with an open sinus, or broadly cuneate, rather deeply 5-lobed, except for some smaller 3-lobed leaves near the ends of the branches, with typically narrow sinuses, the three larger lobes with parallel sides or dilated upwardly and each with a slender apical acumination often sinuously bidentate on the sides, and two similar lateral acuminations, or the lateral lobes merely sinuate on the upper margin, the smaller outermost lobes mostly sinuously 1 to 2 toothed on the lower margin; fruit, large (6 to 10 mm.), the outer lines of the large wings (8 to 12 x 16 to 28 mm.), nearly parallel or spreading to something less than a right angle.

From Nova Scotia to Lake Superior.

ACER SACCHARUM, var. BARBATUM (Michx.), Trelease.

A. saccharinum, Wang.; Macoun, Cat. Can. Plants, Vol. I, p. 99, in part.

Bark, gray to almost black; internodes often shorter and stouter, commonly dull but reddish; buds gray, pubescent or dark, conical ovoid, often obtuse; petioles as

in the last and without stipules; leaves firm, of medium size (usually about 4 in. broad), flat, somewhat glossy and of various shades of green above, pale or glaucous and downy to glabrous beneath, mostly broader than long, cordate with shallow open basal sinus to truncate, 3-lobed, with very open round sinuses (the upper margin of the lateral lobes often spreading nearly in a straight line), the lobes sinuously narrowed from the base to a single acumination, or the median line sometimes dilated by a pair of blunt shoulders, one or two similar dilations also on the lower margin of each lateral lobe, and exceptionally developed into short complementary lobes; fruit as in the last.

This tree ranges in the United States from Connecticut to Missouri and Michigan, and probably grows in many parts of Eastern Canada. Specimens intermediate between this variety and *A. saccharum* from Belleville, Ont. (*John Macoun*), and Niagara Falls, Ont. (*Jos. Schrenk*) have been referred here by Dr. Trelease. These are the only Canadian specimens of this variety in our herbarium.

ACER SACCHARUM, var. *NIGRUM* (Michx. f.), Britton.

Bark, nearly black; internodes, stout, sometimes short, dull, buff; buds, dark, ovoid, often obtuse; petioles dilated at base so as, usually, to cover the buds, with adnate triangular or oblong foliaceous stipules; leaves soft but of heavy texture, large (usually 5 to 6 in. broad), with drooping sides, dull and dark green above, clear green and usually persistently downy below, isodiametric, the larger deeply cordate with often closed sinus, 3 to 5-lobed, with shallow broad sinuses from which the lobes are undulately narrowed to an acute or acuminate point, rarely with short lateral acuminations; fruit, as in the last.

Ranges in the United States from New York to Missouri and Michigan, but not known certainly to occur in Canada, though frequently reported.

Note.—These descriptions of the several forms of Sugar Maples have been reprinted from Dr. Trelease's Monograph in 5th Annual Report of Missouri Botanical Garden, and space is given to them as they change very materially our knowledge of these trees, and by printing the descriptions in full it is hoped that Canadian botanists will be led to carefully observe the sugar maples in their vicinity.

RHUS GLABRA, Linn.

R. glabra, L., var. *occidentalis*, Torrey; Macoun, Cat. Can. Plants, Vol. I, p. 505.

Deer Park, Lower Arrow Lake, B.C.; Kamloops, B.C., and Spence's Bridge, B.C. (*John Macoun.*) Only references west of Ontario.

RHUS COPALINA, Linn.

Rocky hillsides at Lansdowne, Ont. (*Rev. Chas. Young.*) Very rare in Canada.

LUPINUS ARCTICUS, Wats.

Additional stations for this species are Upper Liard River, Lat. 60°, Yukon District: forks of Stikine River, B.C. (*Dr. G. M. Dawson.*) Fifty miles below Lower Ramparts, Mackenzie River. (*R. S. McConnel.*) Fort Good Hope, Mackenzie River. (*Miss E. Taylor.*) Specimens collected at Medicine Hat in flower, May 31st, 1894, have been referred here by Dr. Robinson. (*John Macoun*, Herb. No. 4190.)

SAXIFRAGA TOLMEI, Torr. & Gray.

On Mount Head, alt. 4,200 ft., Lat. 56° 05', Long. 131° 09', 1894. (*Otto Klotz* and *H. W. E. Canavan*, Herb. No. 4197.) First authentic record for Canada.

TILLEA SIMPLEX, NUTT.

In mud in a mill pond at Mount Stewart, Prince Edward Island, 1888. (*John Macoun.*) New to Canada.

ENOTHERA MICRANTHA, Horn.

On ballast heaps at Nanaimo, Vancouver Island, 1893. (*John Macoun*, Herb. No. 249.) Introduced from the south. New to Canada.

PHACELIA HISPIDA, Gray.

On ballast heaps, Nanaimo, Vancouver Island, 1893. (*John Macoun*, Herb. No. 654.) Introduced from the south. New to Canada.

KRYNITZIA AMBIGUA, Gray.

On ballast heaps at Nanaimo, Vancouver Island, 1893. (*John Macoun*, Herb. No. 672.) Introduced from California. New to Canada.

AMSINCKIA BARBATA, Greene, *Erythraea*, Vol. II, No. 12, p. 192.

Stout and coarse, erect or decumbent, the branches loosely floriferous throughout, all excepting the uppermost pedicels subtended each by a broad ovate-lanceolate amplexicaul foliaceous bract; sepals 4 or 5 lines long, nearly linear, without rufous or fulvous pubescence, but densely white-hirsute along the margins, sparsely hispid with whitish bristles on the back; corolla small; nutlets ovate-acuminate, closely muricate-tuberculate, without transverse rugosities, but with an elevated and toothed dorsal ridge.

Collected at Cameron Lake, Vancouver Island, 15th July, 1887, by John Macoun. Type specimen in the herbarium of the British Museum. Distributed by Prof. Macoun as *Amsinckia lycopoides*.

ZANNICHELIA PALUSTRIS, Linn.

In the Spullamacheen River at Enderby, B.C., 1889. (*Jas. M. Macoun*.) Not before recorded west of the Saskatchewan.

NAIAS FLEXILIS, Rostk. & Schmidt.

Enderby, B.C., 1889. (*Jas. M. Macoun.*) Kamloops, B.C. (*Jas. McEvoy.*) Revelstoke, B.C. (*John Macoun.*) Not before recorded from interior of British Columbia.

ZOSTERA LATIFOLIA, Morong.

Z. marina, Macoun, Cat. Can. Plants, Vol. II., p. 90, in part.

Burrard Inlet, B.C.; Esquimalt, Vancouver Island, (*John Macoun.*)

PHYLLOSPADIX TORREYI, Wats.

Amongst rocks below half-tide, Stubb's Island, west coast of Vancouver Island, 1893. (*W. Spreadborough*, Herb. No. 4502.) New to Canada.

BECKMANNIA ERUCIFORMIS, Host., var. **UNIFLORA**, Scrib.

Sea's Farm, near Victoria, Vancouver Island, 1893. (*John Macoun.*) Not before recorded west of the Rocky Mountains. Perhaps introduced.

