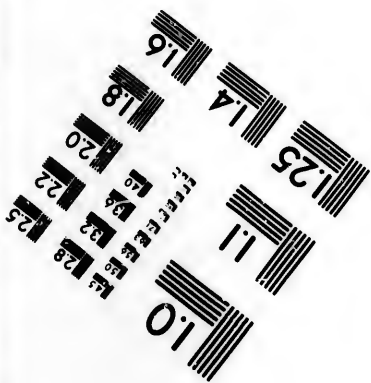
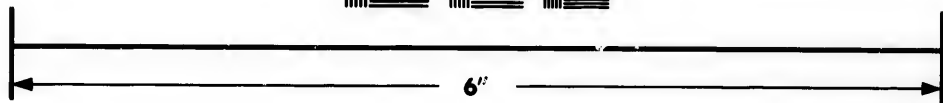
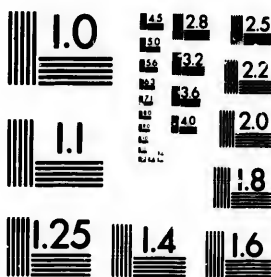


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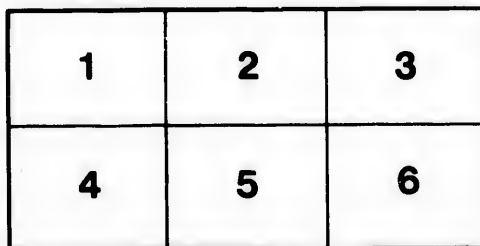
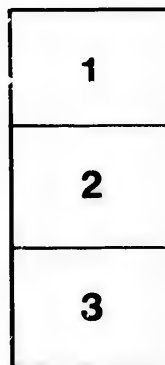
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**Contributions from the Herbarium of the
Geological Survey of Canada.**

(By Permission of the Director.)

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

XI.

Reprinted from the Canadian Record of Science, October, 1897.



CONTRIBUTIONS TO CANADIAN BOTANY.

By JAMES M. MACOUN.

XI.

NESODRABA MEGALOCARPA, Greene, Pittonia, Vol. III,
p. 253.

Central tuft of three leaves 3 inches high or more: leaves oblong-spatulate, obtuse, with a few coarse teeth near the summit; stout ascending peduncles 6 inches high, clothed below the raceme with oval sessile leaves $\frac{3}{4}$ inch long: pods linear-oblong, $\frac{1}{2}$ to $\frac{3}{4}$ inch long, two or three lines wide, acutish, and tipped with an acute style.

Seal Rocks, Dawson Harbour, Skidegate Inlet, Queen Charlotte Islands, B.C., 1897. Herb. No. 16,928. (*Dr. C. F. Newcombe.*)

Dr. Greene's new genus, *Nesodraba*, includes three species, one of which, *N. grandis*, has long been a puzzle to botanists, having been by the earlier botanists referred to *Cochlearia* and by the later, with less reason, to *Draba*. *N. megalocarpa* is known only from Dr. Newcombe's specimens. *N. grandis* is common in herbaria as *Draba hyperborea*.

POLYGALA SENEGA, L., var. LATIFOLIA, T. & G.

Dry bank, Valley Inn near Hamilton, Ont., 1896, (*J. M. Dickson.*) Only other known Canadian station. Georgian Bay.

CERASTIUM ARVENSE, L., var. VILLOSUM, Holl. & Britt.

In sod and along old paths near the cemetery at Hamilton, Ont., 1897. (*J. M. Dickson.*) New to Canada.

SAGINA PROCUMBENS, L.

Growing in Mr. R. Cameron's yard at Niagara, Ont.

Probably indigenous, though not before recorded from Ontario.

TRIFOLIUM DIANTHIUM, Greene, Pittonia, Vol. III., p. 217.

Very dwarf perennial, the rather stoutish stems, scarcely an inch long, surpassed by the upper petioles and peduncles: herbage deep green and very glabrous; leaflets orbiculate or obovate, about $\frac{1}{4}$ inch long, rather sharply and mucronately dentate: peduncles shorter than the leaves, bearing an involucre pair of purple flowers; involucre large for the plant, lacerately cleft: calyx with 10-nerved tube shorter than the teeth, these with oblong-lanceolate body tapering to a stoutish aristiform apex; corolla twice the length of the calyx, the petals purple, tipped with white.

Species founded on specimens collected at Esquimaux near Victoria, Vancouver Island, by Prof. Macoun, May 13th, 1893. Herb. No. 97, and distributed as *T. pauciflorum*. Specimens collected at the same place by Prof. Macoun in 1875, and labelled *T. pauciflorum* var. (Herb. No. 18,015), are this species.

TRIFOLIUM AGRARIUM, L.

New Westminster, B.C. (*A. J. Hill.*) Not recorded west of Ontario.

PRUNUS MAHALEB, L.

Mountain side at Hamilton, Ont., May 15th, 1895. (*J. M. Dickson.*) Well naturalized. Not before recorded from Canada.

ASTER ANGUSTUS, T. & G.

Growing in railway round-house at Montrose, Ont. (*R. Cameron.*) Introduced from the west along railway.

ERIGERON MACOUNII, Greene, Pittonia, Vol. III., p. 162.

Low perennial, with a stout branching caudex bearing

many spatulate, linear, acute, entire leaves, and stoutish ascending, sparsely leafy monocephalous peduncles: the younger foliage canescently strigose, the older glabrate: heads large, hemispherical: bracts of the somewhat hoary-tomentose involuere subequal, in two series: rays about 50, rather broad, purple.

Summit of Sheep Mountain, Waterton Lake, Rocky Mountains, alt., 7,500 ft., July 31st, 1895. Herb. No. 10,858. (*John Macoun.*) Distributed as *Erigeron ochroleucus*.

ERIGERON KINDBERGI, Greene, Pittonia, Vol. III., p. 165.

Stems several, erect, from a perennial root, 6 inches high, pilose-pubescent, apparently flaccid and not conspicuously angled; lowest leaves oblanceolate, entire, acute, wholly glabrous and, in no degree, ciliate: the cauline narrowly linear, elongated, sessile by an abruptly dilated base: heads mostly solitary, small, the involuere barely three lines high; bracts very unequal, all narrowly linear and rather abruptly acute, glabrous and glandless, except at the pilose-pubescent base; rays very numerous, narrow and short; pappus scanty for the *E. acris* group, and not at all accrescent, dull-white, unchanged in age.

Meadows on the plateau east of Stump Lake, B.C., July 14th, 1891. Herb. No. 7,793: (*Jas. McEroy.*) Named for Dr. Nils Conrad Kindberg, by whom some of the characters were indicated in 1892.

ERIGERON JUCUNDUS, Greene, Pittonia, Vol. III., p. 165.

E. acris, Macoun, Cat. Can. Plants, Vol. I., p. 547 in part.

E. acris, var. *Drebachensis*, Macoun, Cat. Can. Plants, Vol. I., p. 547 in part.

E. alpinus, Macoun, Cat. Can. Plants, Vol. I., p. 234 in part.

Perennial, 2 to 10 inches high, the several stems monocephalous, or in larger plants with several and corymbose-

racemose rather large heads; herbage, light-green and flaccid, more or less pilose-pubescent, and at least the upper parts of the plant glandular-viscid; lowest leaves spatulate-ovate and oblanceolate, obtuse, mucronulate, entire, or with one or two pairs of crenate and mucronulate teeth below the apex, both faces sparsely pubescent and the petioles as sparsely ciliate; the cauline oblong-lanceolate, entire; heads three or four lines high, but involueral bracts notably shorter than the flowers, unequal, nearly linear, the inner acuminate, the tips of all more or less spreading, the whole involucre as well as the peduncles viscid-glandular, the basal parts hirsute-pubescent; rays apparently 60 to 80, not extremely narrow; pappus, copious and accrescent, dull white, little darker in age.

Distributed freely from the Herbarium of the Geological Survey of Canada as *E. acris*, *E. acris*, var. *Drobachensis* and *E. alpinus*, to which species it was at various times referred by Dr. Gray and Dr. Watson. Easily distinguished from *E. Drobachensis* by its very different habit, pubescence and inflorescence; and the pappus of the latter, at least in the American plant, becomes of a rich and beautiful brown-red in age. The peduncles in the present species, though slender, are abruptly and conspicuously enlarged at summit under the involucre.

Summit of Sheep Mountain, Waterton Lake, Rocky Mountains, alt., 7,000 ft. Herb. No. 10,841; Lake Louise, Rocky Mts., alt., 6,500 ft. Herb. No. 7,794; Kicking Horse Lake, Rocky Mts., alt., 7,000 ft. Herb. No. 18,010; Roger's Pass, Selkirk Mountains, alt., 5,000 ft. Herb. No. 11,005; Revelstoke, B.C. Herb. No. 18,011. (*John Macoun.*) Western summit of North Kootanie Pass, Rocky Mountains. Herb. No. 18,012. (*Dr. G. M. Dawson.*) Mount Queest, Shuswap Lake, B.C., alt., 6,000 ft. Herb. No. 11,009. (*Jas. M. Macoun.*) Dr. Kindberg was of the opinion that the Lake Louise plant agreed very nearly

with *E. politus* Fr., but *E. politus* is not only glabrous, but it has none of the viscid-glandulosity which is so characteristic of *E. jucundus*.

ERIGERON ELATUS, Greene, Pittonia, Vol. III., p. 164.

E. alpinus, var. *clatus*, Hook. : Macoun, Cat. Can. Plants in part.

Collected by Drummond in the Rocky Mountains, lat. 54°-56°, re-discovered by Prof. Macoun in 1890. Kicking Horse Lake, Rocky Mountains. Herb. No. 18,014; Cave Avenue, Banff, Rocky Mountains. Herb. No. 11,018. (*John Macoun*.)

ERIGERON ALPINUS, L.

The specimens, collected by Dr. Dawson and referred here by Prof. Macoun in Cat. Can. Plants, Vol. I., p. 234, are *E. jucundus*. Our only specimens of *E. alpinus* were collected by Prof. Macoun at Kicking Horse Lake, Rocky Mountains, in 1885, when they were referred to *E. ucris*.

ERIGERON PEREGRINUS (Pursh), Greene, var. DAWSONI, Greene, Pittonia, Vol. III., p. 166.

Differs from the type in having its leaves gradually reduced from the middle of the stem upward almost as much as in *E. salsuginosus*; and more notably different in having twice as many and much more slender involucrel bracts, and about 50 rather narrow rays. In damp, grassy thickets, Queen Charlotte Islands, B.C. Herb. No. 11,205. (*Dr. G. M. Dawson*.) Referred provisionally to *E. salsuginosus*, var. *Unclauschkensis*, Less, by Prof. Macoun in Cat. Can. Plants, Vol. I., p. 233, where some of its distinguishing characters were indicated.

IVA XANTHIFOLIA, Nutt.

Along Grand Trunk Railway near Clifton, Ont. (*R. Cameron*.) Waste ground, St. Catherines, Ont. (*W. C. McCalla*.) Introduced from the west along railway.

SENECIO MACOUNII, Greene, Pittonia, Vol. III, p. 169.

Tufted and apparently somewhat stoloniferous perennial, the slender, nearly naked stems about a foot high, simple, subcorymbose at summit, leafy below, floccose-tomentose throughout; leaves chiefly at and near the base of the stem, hoary-tomentose beneath, more decidedly so above, 3 to 6 lines long, including the slender petiole, this much longer than the obovate or oblong-lanceolate or oblanceolate blade, which is 3-nerved and with variously crenate, or dentate or repand-denticulate margin; heads small (as in *S. Fendleri*), in a rather compact cymose corymb; bracts of the involucre about 12 or 15, lanceolate, thinnish; rays as many, yellow; achenes light colored, 5-angled, with 5 intervening striae; pappus fine and soft.

Goldstream, (Herb. No. 554), and Mount Benson. (Herb. No. 555), Vancouver Island. (*John Macoun.*) Distributed as *S. lugens*, var. *exaltatus*, Gray.

SENECIO COLUMBIANUS, Greene, Pittonia, Vol. III, p. 169.

Taller and stouter than *S. lugens*, often 3 feet high, the stems solitary, not clustered, and without a root stock, but proceeding from a not at all deep-seated fascicle of fibrous roots; leaves scattered up and down the lower half of the stem (not clustered at base of a nearly naked stem): pubescence scanty, curled-bairy rather than fine and lanate or tomentose; heads three or four times as large as in *S. lugens*, more than twice as numerous, and the corymb compound; bracts of the involucre more thick and fleshy, scarcely black-tipped; mature achenes light-colored, scarcely angled or even striate.

Hillsides, Farewell Creek, Assiniboia. Herb. No. 11,637; grassy slopes, Guichon Creek, B.C. Herb. No. 16,586. Typical. (*Dr. G. M. Dawson.*) Confounded with *S. lugens* and figured as that species in Hooker's *Flora Borcali-Americana*, probably from specimens collected in British Columbia by Douglas, while Richardson's

description in the same volume was from sub-arctic specimens of his own collecting. *S. lugens* is well represented in our herbarium, and seems to be an exclusively sub-arctic and Rocky Mountain species. Specimens from Old Man's River, about 30 miles north of the International Boundary, answer to Richardson's description even better than specimens in our herbarium of his own collecting.

SENECIO NEWCOMBEI, Greene, Pittonia, Vol. III., p. 249.

Slender and weak, simple stemmed and monocephalous perennial, with thin membranaceous foliage; leaves few and remote, long-petioled, reniform-palmate, *i.e.*, of reniform outline, but distinctly and evenly 7-lobed, the lobes not deep, from broadly triangular to broadly oval, mucronulate, the whole hardly an inch wide, all the lower on elongated petioles dilated and clasping at the base; the uppermost cuneate or spatulate and sessile; the whole plant with a little loose and probably deciduous lanate pubescence; involucre short and broad, almost campanulate; bracts broad, thin, almost biserial; calyculate bracts, none; rays, 10 or 12, $\frac{1}{2}$ to $\frac{3}{4}$ inch long; ovaries glabrous; pappus rather coarse, almost barbellulate.

Seal Rocks, Dawson Harbour, Skidegate Inlet, Queen Charlotte Islands, 1897. Herb. No. 16,929. (*Dr. C. F. Newcombe.*) As pointed out by Dr. Greene, this plant resembles superficially a debilitated and monocephalous *Chrysanthemum segetum*, and in its pappus, as well as broad involucre, it seems to approach *Arnica*. But if not a *Senecio*, it represents a new genus.

PHACELIA FRANKLINII, Gray; Macoun, Cat. Can. Plants, Vol. I., p. 333.

Additional stations for this species are burnt hillsides north of Prince Albert, Saskatchewan, Herb. No. 12,220. (*John Macoun.*) East of Lake Athabasca, 1893. (*J. W.*

Tyrrell.) Miles Canon, Lat. 62°, north of British Columbia, 1887. (*Dr. G. M. Dawson. Wm. Ogilvie.*)

PHACELIA SERICEA, Gray; Macoun, Cat. Can. Plants, Vol. I., pp. 333 and 567.

P. sericea, Gray, var. *Lyallii*, Gray; Macoun, Cat. Can. Plants, Vol. I., p. 333 in part and p. 567.

Common in the Rocky Mountains from Lat. 52° south to the International Boundary, Roger's Pass, Selkirk Mountains, alt. 4,500 ft.: Mount Arrowsmith, Vancouver Island, alt. 5,500 ft. (*Joku Macoun.*)

PHACELIA SERICEA, Gray, var. LYALLII, Gray.

Our only Canadian specimens of this species were collected in 1895 by Prof. Macoun on the high slopes of Sheep Mountain, Waterton Lake, Rocky Mountains.

AMSINCKIA ECHINATA, Lehm.

Near an old mining camp at Revelstoke, B.C., July 21st, 1890. Introduced from the United States. (*John Macoun.*) New to Canada.

AMSINCKIA LYCOPSOIDES, Lehm.

A. lycopsoides, Lehm. var. *bracteosa*, Macoun, Cat. Can. Plants, Vol. I., p. 568.

Mary Island, Gulf of Georgia, B.C., 1885. (*Dr. G. M. Dawson.*) Our only Canadian specimens. - The type was collected by Scouler on an island or along the shores of the Straits of Juan de Fuca.

AMSINCKIA LYCOPSOIDES, Lehm, var. BRACTEOSA, Gr.:

Macoun, Cat. Can. Plants, Vol. I., p. 338.

Common on Vancouver Island, B.C.

MYOSOTIS COLLINA, Hoffm.

Low fields, Edmonton, Ont., 1890. (*Jas. White.*) New to Canada. Introduced.

MYOSOTIS VERNA, Nutt, var. MACROSPERMA, Chapm.

New stations for this species are Agassiz, B.C., and Deer Park, Lower Arrow Lake, B.C. (*John Macoun.*) Eastern limit in Canada. Not a very well defined variety and probably only a western form of *M. verna*, which has not been collected in Canada west of Ontario.

SYMPHYTUM ASPERRIMUM, Sims.

Waste places at Spence's Bridge, B.C., 1889. (*John Macoun.*) Escaped from cultivation, and naturalized. Not before recorded from Canada.

ONOSMODIUM CAROLINIANUM, DC., var. MOLLE, Gray.

New stations for this plant are Souris, Man. (*Thos. L. Welker.*) Brandon, Man. Herb. No. 12,258 and Stand-Off, Belly River, Alta. Herb. No. 11,841. (*John Macoun.*)

IPOM.EA QUAMOCLIT, L.

Climbing over weeds near the upper Suspension Bridge at Niagara Falls, Ont. (*R. Cameron.*) Probably a garden escape, but not before recorded as being naturalized.

SOLANUM TRIFLORUM, Nutt.

Along the C. P. Railway at Port Arthur, Ont. (*Dr. and Mrs. N. L. Britton and Miss Timmerman.*) Introduced from the west.

ANTIRRHINIUM ORONTIUM, L.

Niagara Falls, Ont. (*R. Cameron.*) Only record for Eastern Canada.

LINARIA VULGARIS, Mill.

Waste places, Beacon Hill, Vancouver Island, B.C. (*John Macoun.*) Not recorded west of Ontario.

MIMULUS ALATUS, Ait.

Wet places in a ditch which crosses the 2nd concession

line, township of Harwich, and runs into the foot of Rondeau Harbour, Elgin Co., Ont., Aug. 18th, 1897. (*Dr. A. J. Stevenson and J. Dearness.*) New to Canada.

MIMULUS ALSINOIDES, Benth. ; Macoun, Cat. Can. Plants, Vol. I., p. 358 in part.

Abundant on Vancouver Island. North Arm, Burrard Inlet, B.C. (*J. M. Macoun.*) Yale, B.C., and Agassiz, B.C. (*John Macoun.*) This species seems to be confined in Canada to the vicinity of the Pacific coast.

MIMULUS FLORIBUNDUS, Dougl.

Botanie Creek, north of Lytton, B.C. (*Jas. McEvoy.*) Damp places at Sproat, Columbia River, B.C. (*John Macoun.*) Elk River, Kootanie River, B.C. (*Dr. G. M. Dawson.*) Not before recorded from Canada. The specimens referred to this species in Macoun's Catalogue of Canadian Plants, Vol. I., p. 571, prove to be small plants of *M. moschatus*, Dougl.

MIMULUS MOSCHATUS, Dougl. ; Macoun, Cat. Can. Plants, Vol. I., p. 358.

M. floribundus, Macoun, Cat. Can. Plants, Vol. I., p. 571. Beaver Creek, Selkirk Mts., B.C. ; Revelstoke, B.C. ; Kootanie River, near its junction with the Columbia River, B.C. ; Burrard Inlet, B.C. ; common on Vancouver Island. (*John Macoun.*) Quesnell Lake, B.C. (*A. Bowman.*) Anstey Creek, Shuswap Lake, B.C. (*J. M. Macoun.*) The var. *sessilifolius*, Gray, is much commoner than the type on Vancouver Island, but has not been found elsewhere in Canada.

MIMULUS NASUTUS, Greene ; Macoun, Cat. Can. Plants, Vol. I., p. 571.

Lower Arrow Lake and Sproat, Columbia River, B.C. : common on Vancouver Island. (*John Macoun.*) Among the specimens from Sproat are some which are very

canescent and vary somewhat from the type as to foliage, but they do not appear to be separable from *M. nasutus*.

MIMULUS LUTEUS, L.

There are some thirty or forty sheets of *Mimulus*, labelled *M. luteus*, in our herbarium. These include many forms and varieties, and we believe several species, but we find it impossible even with Dr. Greene's "*Mimulus luteus* and some of its allies" in hand to satisfactorily separate and determine our specimens. They cover a wide range—from the Cypress Hills, Alberta, through the Rocky Mountains and British Columbia north to the Aleutian Islands, including Unalaska, the locality from which seeds of *M. Lungsdorffii* were taken to Europe, but the various forms so intergrade that our present knowledge does not enable us to definitely and finally separate them.

ORTHOCARPUS PALLESCENS, Gray.

Lower Arrow Lake, Columbia River, B.C. (*Dr. G. M. Dawson. John Macoun.*) First collected by Dr. Dawson in 1889 and referred to *Castilleja pallida*. New to Canada.

PEDICULARIS CONTORTA, Benth.

New stations for this rare plant are Mt. Aylmer, Devil's Lake, Rocky Mountains, alt. 6,000 ft. (*John Macoun.*) Toad Mountain, Kootanie Lake, B.C., alt. 6,000 ft. (*Jas. M. Macoun.*)

PEDICULARIS RACEMOSA, Dougl.; Macoun, Cat. Can. Plants, Vol. I., pp. 368 and 572.

Common on sub-alpine slopes throughout British Columbia. Near the road to Union Mines, Counox, Vancouver Island; Mount Mark, V.I., alt. 3,000 ft. (*John Macoun.*) Not before recorded from Vancouver Island.

PENSTEMON CONFERTUS, Dougl.; Macoun, Cat. Can. Plants, Vol. I., pp. 354 and 570.

Prairies near Sage Creek, Milk River, Assa. Herb. No. 11,859. (*John Macoun.*) Eastern limit in Canada.

PENSTEMON DIFFUSUS, Dougl.; Macoun, Cat. Can. Plants, Vol. I., p. 357.

New stations for this species are Botanie, north of Lytton, B.C.; Griffin Lake, B.C. (*Jas. M. Macoun.*) Agassiz, B.C.; Cowichan River, Vancouver Island. (*John Macoun.*)

PINGUICULA VILLOSA, L.; Macoun, Cat. Can. Plants, Vol. I. p. 376 and Vol. II., p. 349.

Bogs, Lat. 60° 30', Long. 104°. (*J. W. Tyrrell.*) The Lake Mistassini, reference, (Pursh), is, as Prof. Macoun suggests in his catalogue, to *P. vulgaris*, which is very common about that lake.

VERBENA HASTATA, L.; Macoun, Cat. Can. Plants, Vol. I., p. 379.

Sicamous, B.C.; near Victoria and at Sumas River, Vancouver Island. (*John Macoun.*) Not before recorded west of Gold Range, B.C.

LAMIUM AMPLEXICAULE, L.

A weed in gardens at Comox, Vancouver Island. (*John Macoun.*) Not recorded from west of Ontario.

LYCOPUS LUCIDUS, Turcz., var. AMERICANUS, Gray; Macoun, Cat. Can. Plants, Vol. I., p. 382.

Kamloops, B.C. (*John Macoun.*) Bonaparte River, B.C. (*Jas. McEvoy.*) Not recorded west of

MONARDA FISTULOSA, L., var. RUBRA, Gray.

In thickets at Wingham, Ont. (*J. A. Morton.*) New to Canada.

NEPETA GLECHOMA, Benth.

Waste places, Battle Harbour, Labrador. (Rev. A. Waghorne.) Not before recorded from Labrador.

PLANTAGO BOREALIS, Lange.

P. maritima, Macoun, Cat. Can. Plants, Vol. I., pp. 393 and 575 in part.

Commonly referred to *P. maritima*, but a good species. Our specimens are from Battle Harbour, Labrador, Herb. No. 16,890. (Rev. A. Waghorne.) Fort Chimo, Labrador, Herb. No. 15,955. (A. P. Low.) Nachvak, Labrador, Herb. No. 16,891; Nottingham Island, Hudson Strait, Herb. No. 16,892. Fort Churchill, Hudson Bay. Herb. No. 16,889. (Dr. R. Bell.) *P. pauciflora*, Pursh, is a very different plant, and has nothing to do with this species.

ASARUM CANADENSE, L.

Mr. E. P. Bicknell, in the Bulletin of the Torrey Botanical Club for November, 1897, has described a new species of *Asarum*—*A. reflexum*—hitherto confounded with *A. Canadense*. We have in the herbarium of the Geological Survey typical specimens of both species from the United States, *A. Canadense* from the New England States, *A. reflexum* from Ohio. Our Canadian species are all from Ontario. Those collected at Ottawa in the eastern part of the province very nearly approach *A. Canadense*, as described and figured by Mr. Bicknell; those from the western part of the province are referable to *A. reflexum* rather than to *A. Canadense*, but none of our specimens are typical representatives of either species, the series apparently connecting the two species. Canadian collectors should study this genus in the field with Mr. Bicknell's descriptions in hand.

Since writing the above Mr. J. M. Dickson, of Hamilton, has sent me drawings of two specimens of *Asarum*, one of which represents *A. Canadense*, the other *A. reflexum*,

probably the variety *ambignum*, as Mr. Dickson writes that the calyx is tomentose and the lobes very long-pointed.

TRILLIUM GRANDIFLORUM, Salisb.

Monstrosities of this species are not uncommon in South Western Ontario, a fine series in our herbarium having been received from Mr. J. Dearness, London, Ont.; Mr. R. Cameron, Niagara, Ont.; Mr. J. M. Dickson, Hamilton, Ont., and Mr. Wm. Scott, Toronto, Ont. Mr. Dickson, after studying in the field the different forms found in the vicinity of Hamilton, sent me the following notes:—

“A few years ago several green flowered Trilliums were observed growing in a flat piece of woods on the banks of the Waterdown Creek, near this city. To see if they were persistent and not merely sports of a season, I visited the locality during the latter part of May, 1897, and, upon a close inspection, found several remarkable forms not previously noted. Some of these may be described as below:—

“1st. Several with white edgings and markings on sepals. The most remarkable of these had one sepal green, one half green and half white and the third pure white, while both sepals and petals were inserted in a distinct spiral on the axis; the leaves were normal.

“2nd. Leaves and sepals normal. Petals marked with green lines or bands toward the base.

“3rd. Leaves and sepals normal. Petals green, with a narrow white margin.

“4th. Leaves distinctly petiolate. Petioles one to three inches long; sepals white, with a green stripe down the midrib. Petals narrowed, lanceolate, white, with broad green band in centre, running from base, and terminating near the apex.

“5th. Leaves as in No. 4. Sepals normal. Petals

obovate. Apiculate long clawed, with broad green centres and white margins.

"6th. Leaves ovate, long acuminate, petioled. Petioles ascending, widely spreading, seven inches long, inserted about two inches above the root stock and six or seven inches below the flower. Sepals normal. Petals green, with white margins.

"All the flowers seemed to be perfect, some having a sterile filament, which might be due to accident."

No. 6 was potted and photographed by Mr. Dickson. When photographed the stem was 10 inches high, the peduncle being 8 inches in length. The petioles were $8\frac{1}{2}$ inches long; leaves $2\frac{1}{2}$ inches long, $1\frac{1}{2}$ inches broad, long-acuminate.

A remarkable form, sent from Niagara by Mr. Cameron, has the petals changed into petioled leaves (petioles more than an inch long.) Mr. Cameron has also sent me a photograph of a very large flowered plant with 21 pure white petals. It was found on Navy Island, Niagara River, by Mr. Cameron in 1896. He transplanted it, and last summer two flowers were produced, each with 21 petals. Mr. Cameron also reports a double yellow-flowered dwarf specimen from Niagara Falls, but this is probably some other species.

