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FEBRUARY, 1917

Vol. XXX, No. 11.

# THE OTTAWA NATURALIST

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Published by The Ottawa Field-Naturalists' Club

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The Dadson-Merrill Press, Limited.

ISSUED MARCH 30TH, 1917.

*Entered at Ottawa Post Office as second class matter.*

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# THE OTTAWA NATURALIST

Vol. XXX.

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## NOTES ON SOME OTTAWA DISTRICT PLANTS.

BY W. HAGUE HARRINGTON, F.R.S.C.

My former contributions to THE OTTAWA NATURALIST having been chiefly of an entomological nature, it may appear presumptuous for me to offer a botanical one, but the following explanation may serve as my excuse and apology. About ten years ago it became evident that the insect studies, to which much of my spare time was then largely devoted, would be materially aided by a fuller acquaintance with the flora of the district. The identification of plants on which insects were captured would then be speedier and more satisfactory, and errors would be avoided to a greater degree. A partial knowledge of our flowering plants had already been obtained at outings and botanical meetings of The Ottawa Field-Naturalists' Club, and more especially from rambles with Prof. Macoun and the late Dr. Fletcher. The latter had been my instructor and co-worker since 1877 in these studies and his wide knowledge of botany was ever at my disposal in any difficulties. It seemed, however, time to have a more systematic knowledge of our plants, and a collection of them for reference. During all available time for several seasons close examinations were made of the surrounding district, especially the section northward from the Ottawa river to Aylmer, Kingsmere, Chelsea and beyond. The resulting collections eventually included nearly all the plants of the Flora Ottawaensis, and the majority of them were examined and had the determinations verified by Fletcher. Some species afterwards collected, especially grasses, were kindly named by Prof. Macoun and J. M. Macoun. On the issue of Gray's New Manual of Botany, the collection was arranged and labelled in conformity therewith, and a list was kept of some species which seemed of special interest. The list, with some notes, was then intended for publication in THE OTTAWA NATURALIST, but was withheld in view of the proposed issue of a revised Flora Ottawaensis. That has not yet appeared and it is hoped that these notes may still have some interest and possible value. The subjoined list of fifty species includes some unrecorded ones, which

our botanists may have also collected, as well as some of the rarer forms, and some plants which may have become extinct, or which are disappearing through the destruction of their habitats. The most interesting and attractive collecting grounds were those among the rocks and ravines of the Kingsmere hills. It was to King's Mt. that the first delightful excursion of the Ottawa Field-Naturalists' Club was made, on May 22, 1879, and although nearly two-score summers have since enriched the varied scenes, there still survive some of those who enjoyed that enthusiastic outing. Yearly since then some have climbed the winding path to the mountain top and garnered fresh treasures, but still there remain discoveries to reward the careful seeker. It is above all a place for outlook and meditation, where from the bald rocks of the summit, or the shade of some fair tree, one may gaze forth over the farspread plain below, with its farms and hamlets, and the towers of the busy city beyond the river, and try to picture and realize the wonders of the primeval ocean that beat about its base in the days of yore.

*Selaginella rupestris* (L.) Spring. Creeping Selaginella.

On dry rocks on the summit of King's Mountain, Kingsmere, P.Q.; collected on Sept. 11, 1910, being then much dried up. This moss-like humble plant occurs in similar situations along the high western escarpment of the mountains. In 1914, it was observed to be abundant on the rocky slopes of the Okanagan hills opposite Peachland, B.C.

*Isoetes echinospora* Dur. (?) Quillwort.

Somewhat abundant on marshy river front (much trampled by cattle) near Deschenes, P.Q., Aug. 1, 1908.

*Isoetes* sp.

A smaller plant, but possibly the same species, growing in Meech Lake, P.Q., in water over one foot in depth; Aug. 19, 1906.

*Eriocaulon articulatum* (Huds.) Morong. Pipewort.

At Lake La Peche, P.Q., (locally known as Wilson's Lake) an emersed form of this species was collected on July 17, 1910, on a sandy shore, the fruited stems being from two to four inches high. Nearby was a turtle's nest containing a large number of empty eggs. The usual form of this pipewort was abundant in Meech Lake, Aug. 14, 1910, in water varying in depth from one foot to three or four feet. The stems generally projected above the water several inches and at the water line were thickly encrusted with a black band an inch or more wide composed of the eggs of some aquatic insect. In the adjoining Harrington Lake, usually miscalled Mousseau's Lake, the plant grows in still deeper water with flowers floating on the surface.

*Mediola virginiana* L. Indian Cucumber-root.

This plant attracts attention by its tall flocculent stem with a central whorl of large pointed leaves, usually about six in number, and a terminal whorl of smaller leaves from which depend the small lily-form flowers on slender pedicels. The most prolific localities for it are the rich woods of the Laurentian Hills. Kirk's Ferry, P.Q., flowers and fruit, July 6, 1905; Cascades, P.Q., flowers, June 19, 1906.

*Habenaria flava* (L.) Gray. Small Pale Green Orchis.

The habitat of this plant is a marshy river-front where its pale green spike of blossoms is inconspicuous amid the sedges and other plants among which it is dispersed. On July 5, 1906, it was found in some abundance on the shore near the Country Club, P.Q., and on July 21, 1907, in the same locality it was less numerous, having been badly trampled by cattle which seek the river either to drink or stand in the water, and destroy much of the littoral vegetation.

*Habenaria psycodes* (L.) Sw. Smaller Purple-fringed Orchis.

The tall purplish spikes of bloom appear some seasons in great abundance and beautify the low meadows and roadsides which are their usual habitat. The Beaver Meadow, Hull, P.Q., was often richly adorned in July with these charming plants but, alas! the devastation and ravages of the extensions of Hull are fast destroying the beautiful scenes to which the Field-Naturalists' Club frequently resorted to study the rich fauna and flora. The winding creek overshadowed by stately elms, with all the wealth of bloom which made gay the luscious meadow, and the many rare plants, which combined to make this area so enticing to the botanist and constituted it a profitable collecting ground for the entomologist and a rich reserve for the bird lovers, are vanishing. Collected at Chelsea, P.Q., July 9, 1905, and Hull, July 15, 1905.

*Habenaria fimbriata* (Ait.) R. Br. Large Purple-fringed Orchis.

This species is distinguished from the preceding by its larger and paler blossoms and is much more local and rare. The best locality known to me was a small area of springy ground near a cedar swamp in the deep woods north of Chelsea, but this habitat will probably have been destroyed by the fires which followed the cutting down of the beautiful forest. Instead of grateful shade and lovely woodland vistas, there are left the crumbling rocks denuded of soil and desolate with the blackened trunks and stumps of the forest monarchs. Plants collected in the locality described on July 1, 1906, and July 7, 1907. An unusually large and massive spike was found on July 1, 1906, on the edge of the railway ditch near Kirk's Ferry. Unfortunately these

beautiful flowers do not preserve their colours well when dried, and do not make such attractive sheets as those of *Pogonia*, *Calapogon* and *Arethusa*.

*Spiranthes lucida* (H. H. Eaton) Ames. Wide-leafed Ladies' Tresses.

This is one of our rarest orchids and only two plants were found. The first was in flower on July 2, 1905, on the wet river-front below the Victoria Hotel, Aylmer, P.Q., but the habitat has since been destroyed. The second plant grew by the brookside near Old Chelsea and was collected Sept. 20, 1908, withered but still retaining some of the seed-filled ovaries.

*Spiranthes cernua* (L.) Richard. Nodding Ladies' Tresses.

This is the most fragrant of our Ladies' Tresses, growing in cold wet soils and blooming late in the autumn. It was formerly common in the old gravel-pit at Britannia, Ont., and of recent years was abundant in a swampy meadow lying between the Kingsmere hills and Simmon's Corners, P.Q. Collected Britannia Sept. 20, 1905; Kingsmere, Sept. 6, 1909.

*Ranunculus aquatilis* L. var. *caespitosus* D.C. White Water Crow-foot.

This dwarfed and small-flowered emersed form of the water crowfoot was common Sept. 19, 1908, spreading over the mud flats, exposed by the low water of that year, along the shore below the Country Club. The common immersed form var. *capillaceus* D.C. was also abundant in the stream.

*Dentaria laciniata* Muhl. Cut-leafed Toothwort or Pepper-root.

This plant, as listed in the Flora Ottawaensis, was collected in a limited area at Beechwood, Rockcliffe, near the Cemetery, and I obtained specimens there on May 13, 1906. A second locality for this species was discovered in the woods near the angle of the road which branches toward Old Chelsea as one comes cityward from Kirk's Ferry, May 26, 1906.

*Cardamine parviflora* L. Small-flowered Bitter-cress.

The only example observed of this little species was collected, July 4, 1909, on the rocky western summit of King's Mountain, Kingsmere.

*Podostemum ceratophyllum* Michx. River Weed.

The afternoon and evening of September 14, 1908, were spent by me at the Experimental Farm with Fletcher in entomological and botanical work and conversation, etc., during which he gave me directions for finding the habitat which he had discovered for the River Weed. Little did I then think that these would be the last of the innumerable pleasant and profitable hours in which I had the privilege of enjoying the genial companionship, the over-flowing hospitality and the unlimited assistance and encouragement of my gifted and lovable friend and

teacher. Two days later, September 16, 1908, specimens of the plant were obtained in the Brewery Creek, Hull, almost opposite the pork factory. They were about two to four inches high but so covered with slime and dirt that it was almost impossible to make decent herbarium specimens from them. This was a year of exceptional low water in the Ottawa river, which afforded good opportunities for obtaining the littoral and aquatic plants. On September 19, while collecting along the shore near the Country Club, it was found that the rapids were so low that one could pass dry-footed, by stepping stones, to the islands. The whole channel bottom of boulders was covered with a luxuriant growth of river weed vastly different from that in Brewery Creek. Here the plants were clean and vigorous, averaging perhaps a foot in height and with terminal clusters of larger seed capsules. At this time a new concrete dam was being constructed above the Chaudiere Falls and the water was entirely diverted, leaving the river bottom exposed right to the brink of the ledge over which the torrent plunges. An opportunity was taken, November 22, to inspect the curiously split and water-worn ledges of limestone which the rushing floods of spring and the heavy ice formations of winter are always changing and wearing away. The whole river bottom, right to the brink of the chasm, was carpeted with river weed, but the plants were so dwarfed by the swift current as to be only from one to three inches in height.

*Potentilla arguta* Pursh. Tall Cinquefoil.

The only locality known to me for this, the largest and coarsest of our cinquefoils, is on the top of King's Mountain, where it was collected in fruit August 1, 1909, and in flower June 19, 1910.

*Potentilla recta* L. Rough-fruited Cinquefoil.

One specimen taken at Meech Lake, September 26, 1908, apparently an accidental seedling from some garden. A second example was found on the sloping canal bank of the Driveway, near the resident of the Papal Ablegate, May 29, 1909, which also was an evident straggler.

*Potentilla tridentata* Ait. Three-toothed Cinquefoil.

While examining the rocky western summits of King's Mt., on August 1, 1909, it was with much surprise and genuine delight that this lowly plant, as yet unrecorded from the district, was found established in crevices of the rocks. Though not abundant the plants immediately recalled my native shores of Cape Breton, where many dry barren slopes are profusely clothed by the stiff, dark-green foliage and starred by the innumerable small white flowers. When discovered the plants



were in fruit, but flowering examples were obtained June 19, 1910.

*Geum virginianum* L. Rough, or Virginian Avens.

This is a coarse bristly plant with whitish flowers, a clump of which was found in the upper part of the Beaver Meadow July 9, 1908. It was also collected in a field below the Golf Club on July 11, 1908.

*Trifolium arvense* L. Rabbit-foot, or Stone Clover.

This dull-foliaged plant, with silky flower heads looking more like pussy-willow catkins than the honey-laden clover blossoms that brighten and perfume our fields, is listed in the Flora Ottawaensis as found in a field at Billings' Bridge, and it is stated to be rare. The only locality which I have found for it is a field of sandy gravelly soil adjoining the C.P.R. track between Aylmer and the Park, where it was abundant August 2, 1909.

*Geranium Bicknellii* Britton. Bicknell's Crane's-bill.

Near Skead's Mills, September 2, 1905; Britannia, June 1, 1906, flowers; top of King's Mountain, August 1, 1909, fruit.

*Rhus canadensis* Marsh. Fragrant Sumach.

This shrub was originally collected near Tetreaultville, P.Q., where all the individuals forming a considerable patch were thought by Dr. Ami to be parts of the same plant, having only staminate flowers and no seedlings. It also grows on the top of King's Mt., the shrubs being younger than those at Tetreaultville. Collected July 25 and August 1, 1909, and in flower May 8, 1910.

*Elatine americana* (Pursh.) Arn. Waterwort. Mud-purslane.

This is a diminutive plant, almost microscopical in its dimensions, which grows on the muddy margins of pools, etc. I have specimens collected by Fletcher at Brigham's Creek, Hull, in September, 1893. A good series was obtained, July 23, 1908, at Cache Bay, near Hull, on the soft mud flats laid bare by the unusually low water. The plants are firmly rooted and have to be taken up with a knife and then have the adhering mud washed off before they can be pressed.

*Panax quinquefolium* L. Ginseng.

In the three localities mentioned in the Flora Ottawaensis for this plant, to which the Chinese attach such an excessive medicinal value, it is now extinct. The best locality was in Powell's Grove, south of the railway track, about where Powell Avenue is now, well toward the centre of the city. The plant appears to be very rare and to occur only in the shade of rich woods. A fine specimen with its striking bunch of bright red fruit, was found in the wood north of Chelsea, September 18,

1909. During the past summer, 1916, I had the pleasure of seeing at Hudson Heights, P.Q., a quantity of ginseng, which was being grown by Mr. Girdwood, of Montreal, under the shelter of cheesecloth, and which was producing a good crop of roots and seeds.

*Sanicula trifoliata* Bicknell. Large-fruited Snakeroot.

Distinct by its elongate fruit and thinner foliage, making it the most pleasing of our sanicles. It was not uncommon in the rich woods beyond Chelsea, where collections were made July 1 and 22, 1906, and July 5, 1908.

*Cornium maculatum* L. Poison Hemlock.

This plant of ill repute grows several feet high and its delicate fern-like foliage and broad panicles of minute white flowers make it the handsomest of our umbelliferæ, or parsley family. A patch of vigorous specimens existed for some years on the roadside at Kingsmere, but has now been eradicated. There is another large patch of it about half way across the hills by what is known as the Hermit's Road. Chelsea, September 15, 1907; Kingsmere, August 5, 1908.

*Cornus paniculata* L'Her. Panicked Cornel.

This dogwood is of upright growth, with oblong, pointed leaves, paler beneath, and numerous cymose panicles, making a handsome ornamental shrub. On limestone ledges, margining the upper Beaver Meadow, Hull, in full flower June 29, 1906.

*Pyrola asarifolia* Mich. Liver-leaf Wintergreen.

In ravines of coniferous woods, Kirk's Ferry, July 9, 1905.

— var. *incarnata* (Fisch.) Fernald. Swamp Wintergreen.

Leaves round, instead of kidney shape at base; flowers brighten pink; on mossy hummocks in swampy ground, among larches, west of Kingsmere hills; June 26, 1910; June 29, 1912.

*Calystegia spithameus* L. Low Bindweed.

This somewhat rare convolvulus is very different in appearance from the abundant large-flowered species which trails and climbs extensively over roadside fences and shrubberies. The leaves are oblong and, with the stems, are covered with pubescence, which gives them a greyish colour; the growth of the plant is upright, instead of trailing and it also seems to prefer dry sandy, or rocky, soils. On winter road through woods at Lake LaPêche, P.Q., July 17, 1910, and on island in Blue Sea Lake, P.Q., July 24, 1910.

*Myosotis arvensis* (L.) Hill. Mouse-ear. Field Scorpion-grass.

This small forget-me-not has been growing in my yard since July 1908. It apparently was introduced by debris emptied from my vasculum, although the plant had not been collected or observed by me elsewhere in the district.

*Echium vulgare* L. Viper's Buglos. Blueweed. Blue Devil.

When the Flora Ottawaensis was issued this plant was noted as "gradually becoming a troublesome weed." It has since spread with great rapidity in all directions, especially in dry or stony soil and well deserves its name of blue devil. Occasionally the flowers are pinkish and such plants have a more pleasing aspect.

*Dracocephalum parviflorum* Nutt. Dragon Head.

On gravelly shore near Aylmer Park, August 5, 1905, and in open rocky woods, top of King's Mt., larger plants August 1, 1909.

*Hedeoma pulegiodes* (L.) Pers. American Pennyroyal.

Fletcher recorded this plant as found in "rich wood Billings' Bridge, very rare." It was one for which I was specially on the lookout for several years without success. On June 14, 1916, while I was walking leisurely from Chelsea to Kingsmere, and about half way from Old Chelsea to the lake, a patch of bright colour, not far from the roadside, attracted my attention. On examination it was found to be *Hedeoma* growing thickly over an area of some twenty feet or so square. Nearly every summer this pleasant hillside road had been frequently traversed and a sharp lookout kept for insects, birds and plants. It seemed scarcely possible that the little mint should have been overlooked, although when not in bloom it would be inconspicuous. From the area occupied it would seem to have been colonized for some time.

*Pycnanthemum virginianum* (L.) Durand & Jackson. Virginian Mountain Mint.

Several specimens were found October 20, 1906, in a dry field, between the Ottawa Golf Club, P.Q., and the river. The plants were about two and one-half feet high, with small lanceolate leaves and large-fruited corymbs.

*Verbascum Blattaria* L. Moth Mullein.

Dry pasture, Billings' Bridge, August 19, 1905. Slopes at north end of Fairy Lake, P.Q., July 25, 1908. Common along roadside near Buckingham, P.Q., July 1912.

*Penstemon hirsutus* (L.) Willd. Hairy Beard-tongue.

On talus under limestone cliff, Cache Bay, Hull, in flower, June 9, 1906. On limestone ledges, Tetreaultville, P.Q., in flower July 11, 1906. Among the rocks on top of King's Mt., fruited July 25, 1909, and common in same locality in full flower June 19, 1910.

*Mimulus moschatus* Dougl.

In 1908 this plant, so easily recognized by its soft, pubescent leaves, and sweet musk-scented yellow tubular flowers, was found

well established in cold springy ground bordering a streamlet that crosses the road at Kingsmere and flows down toward the Gatineau through a wooded ravine. Occasional specimens occurred along the stream for about a mile. As to this plant being indigenous, or introduced, in the East is uncertain and at Kingsmere it may have become established by garden escapes or seeds carried down by the brooklet, which flows by a couple of farms. The species is native to British Columbia, and Macoun in his Catalogue of Canadian Plants, vol. 1, p. 358, says of it: "Certainly a garden escape in N.B." Britton & Brown, in recording eastern occurrences give them as "Adventive from the Pacific Coast." Gray's Manual gives it as found in "Damp soil, especially by cold streams, Newfoundland to Michigan; abundant in the Rocky Mountains, whence perhaps introduced." The Kingsmere plants were still growing and blooming last summer, although they had been much destroyed by the trampling of cattle around the water. Specimens collected September 20, 1908, and July 4, 1909.

*Gratiola aurea* Muhi. Golden Hedge Hyssop.

Rather abundant on muddy shore, among rocks, on point in Ottawa river, near Deschenes, P.Q., August 26, 1905. On river shore, Hull, near C.P.R. bridge, August, 1908.

*Veronica arvensis* L. Corn Speedwell.

Specimens from Fletcher are labelled "Roadside, Gilmour's Grove, Chelsea, P.Q., June 8, 1901." Mine were collected on dry rocky ground about half-way between Fairy Lake and Hull, June 6, 1909.

*Lonicera caerulea* L. var. *villosa* (Michx.) T. & G. Mountain Fly Honeysuckle.

In spruce woods bordering the peat swamp, Mere Bleue, Carlsbad Springs, Ont., on July 18, 1905, with ripe fruit. A shrubby plant with lightly pubescent twigs; leaves oblong and thickish; twin fruits coalescent into one large blue berry, stated in Gray's Manual to be edible.

*Lonicera oblongifolia* (Goldie.) Hook. Swamp Fly Honeysuckle.

Recorded in Flora Ottawaensis from "Peat Bog, Mere Bleue. Rare." It grew, however, nearer home, as I found it in fruit in Dow's Swamp on June 24, 1905. The leaves are broadly oval or oblong with a bluish tint; fruit small, purplish, coalescent or semi-coalescent.

*Triosteum perfoliatum* L. Feverwort. Horse Gentian. Tinker's Weed.

My search for this plant was void until it was found in fruit on October 3, 1909, at Kingsmere. Flowering examples were taken June 19, 1910, in the same locality. The plant is of coarse growth, with much of the appearance of a milkweed. The

flowers and fruits are situate at the axils of the leaves, and this, combined with the stout stems, makes it difficult to produce good herbarium specimens.

*Viburnum pubescens* (Ait.) Pursh. Downy Arrow-wood.

Rocky open woods, top of King's Mt., in fruit July 25, 1909.

*Lobelia spicata* Lam. Pale Spiked Lobelia.

Several examples found growing in hay-field in Beaver Meadow, Hull, July 14, 1905, and a few in a hayfield near the railway station at Chelsea, July 5, 1908. Extinct in both habitats through subsequent cultivation.

*Lobelia Dortmanna* L. Water Lobelia.

Taken by Fletcher in Mud Bay, Meech Lake, but searched for there unsuccessfully for several years, failure to find the plant being probably due to its not being in flower and still below the surface of the water. On August 7, 1912, I found this plant growing profusely, in full flower, in water two to three feet deep with gravelly bottom, in the Forks Lake, a few miles from Sydney, N.S.

*Eupatorium perfoliatum* L. Thoroughwort. Boneset.

Examples of this common boneset were found August 7, 1905, growing along a ditch at Kirk's Ferry, with whorls of three connate perfoliate leaves in place of the usual two opposite ones. The extra leaf adds much to the symmetry and beauty of the specimens. Other examples of the same triperfoliate form have since been observed on several occasions in swampy ground nearer Chelsea.

*Solidago latifolia* L. Zigzag, or Broad-leafed Goldenrod.

This species appears to be rare and has been found only in a wet cedar wood near Hull, between the Aylmer road and the river, September 16 and 28, 1905. The broad sharply saw-toothed leaves and the racemose spikelets of flowers arising from the leaf axils of several terminal inches of the stem make this a handsome goldenrod.

*Antennaria fallax* Greene. Everlasting. Pussy's Toes.

This species is not given in the *Flora Ottawaensis* or in Macoun's Catalogue of Canadian Plants, but I have a specimen collected by Fletcher at Rockcliffe, June 11, 1904. It seems to be well established on the top of King's Mt., near the signal station. Possibly this is the species recorded as *plantaginifolia* in the *Flora Ottawaensis*.

*Helianthus divaricatus* L. Rough, or Woodland Sunflower.

Under the record of *H. annuus*, as an escape from cultivation, Fletcher says, "It is rather remarkable that we have so far found none of the native *Helianthi* wild in this locality." This absence was often discussed by us because we had received, in



1885, from Mr. Wm. Bowles, of Montreal, numerous examples of a tortoise-bettle, *Physonota unipunctata* Say, which he had taken feeding on such plants. We were anxious to ascertain whether the beetles occurred here, but never during Fletcher's lifetime could find any sunflowers. The next summer, while exploring the summits of King's Mt., August 1, 1909, not far from the signal station, I was greatly surprised, as well as delighted, to find in full bloom many of these conspicuous flowers which were scattered over the western rocky front of the mountain. They have been abundant each season, but so far the beetles have not appeared. It is strange that we should so often have visited the mountain and that, at such a short distance away, these long-sought flowers must have been blooming unseen. The species had evidently been established many years earlier and I find that Macoun in his Catalogue of Canadian Plants records it as found by Billings at Chelsea, and that the McGill Coll. Herb. contains examples from the vicinity of Ottawa.

*Bidens Beckii* Torr. Water Marigold.

This is an aquatic form of beggar-ticks, which the Flora Ottawaensis gives as "Not uncommon in the Ottawa and Rideau rivers, but seldom flowering." In the canal, not far from Hartwell's Locks, flowers were abundant September 7, 1908.

*Chrysanthemum Parthenium* (L.) Bernh. Feverfew.

This is evidently a garden escape which became established along the roadside at Kingsmere, but it is of interest in connection with the occurrence of the musk flower previously mentioned, as it was found July 4, 1909, at some distance down the ravine through which the brooklet flows. Growing in the shade of the trees and in wetter soil the plants were taller, more spindly, and with thinner foliage.

*Petasites palmatus* (Ait.) Gray. Sweet Coltsfoot.

I can remember when this plant grew in the swampy enclosure of the old race-track at Powell's Grove, on the Glebe property, and May 1, 1906, Fletcher gave to me flowers grown at the Experimental Farm from plants gathered years before in the locality mentioned. My friend Mr. Frank Latchford (now a Judge) subsequently informed me that he had found the plant growing in a swamp near Simmon's Corners, P.Q., but I could not find the location until June 29, 1912. Leaves only were obtained then and I have not since visited the swamp early enough to collect flowers.

## HORNED LARKS AT AWEME, MANITOBA.

BY STUART AND NORMAN CRIDDLE.

There are few small birds better known than the Horned Larks when considered collectively, that is to say, when we merely recognize them as a species without attempting to divide and distinguish them as they have been separated by systematists. We are, for instance, all familiar with the Prairie Horned Lark, or think we are, until its close allies are placed alongside, when few indeed will be able to tell one from another. The fact that these birds have been divided into so many geographical races which are so alike in general appearance, makes them of particular interest to students of geographical distribution. The systematists have divided them and given them names. It remains for the workers in ecology to confirm or reject this classification by showing that there is, or is not, a difference in life habits. We doubt very much, whether two distinct races will ever possess identical habits and we hold that if these habits differ ever so little, then there is every reason to believe that the animals possessing them are distinct. A difference of a few days in the average date of arrival, the selection of a different situation or kind of locality for breeding purposes should be alone sufficient to demonstrate that there are two races involved. We have a case in point in the local Lapland Longspur migrations. With these birds there are two very marked differences, both as to time of arrival and departure. We have never actually demonstrated by collecting specimens, that there are two races involved, yet there can be little doubt that such is the case. Turning to our Manitoba Horned Larks, we have long realized that there were three or four races present, though it is only within recent times that the senior writer has actually shown this to be so by the collecting of examples. These specimens have been determined through the courtesy of Dr. Henshaw, by Mr. Oberholser of the U. S. Biological Survey, to both of whom the writers are under many obligations.

We have, so far, been able to recognize four horned larks in the vicinity of Aweme, Manitoba, namely: the Prairie Horned Lark, *Otocoris alpestris praticola*; Oberholser's Horned Lark, *O. a. enthymia*, the Pallid Horned Lark, *O. a. arctica*, and the Hoyt Horned Lark, *O. a. hoyti*. Of these the first two are summer residents in the neighbourhood, while the latter have only been noted as migrants.

## PRAIRIE HORNED LARK.

This is the dominant race around the farm yard and seems to take more kindly to the haunts of man than do its allies. In nature it is found breeding in the vicinity of semi-wooded areas; uplands where the grass is sparse and the soil sandy seem to suit it best. It is far less of a true prairie bird than *enthymia* and while it invariably selects

open ground for nesting purposes, it is not uncommon to find such nests situated within a few feet of low trees or bushes upon which the males sometimes perch while singing.

The Prairie Horned Lark is the first of all migrants to return from the south and in consequence its arrival is heralded as the first harbinger of spring, a forerunner of the glories to come when animated nature awakens once more from its long winter's sleep. Even Manitobans admit that the winters, while invigorating, are, at times, a trifle long, hence the reappearance of the horned larks is a welcome one. They frequently return to us while the country is still under a mantle of snow but we feel, nevertheless, that their northward movements are impelled by Old Sol's persuasion and that it will not be long before this is demonstrated.

From an examination of records covering 20 years, we find that the first spring arrival reaches us, on an average, about February 22. At times they have been seen much earlier, at others, later. In autumn, the last to leave averages November 16. There are winters when odd individuals may be seen throughout the season, but these are exceptions.

The male horned larks, like so many other birds, arrive well ahead of the females, and until the latter appear remain comparatively quiet, contenting themselves with the daily search for food and with uttering, from time to time, that cheery little song with which we are all familiar. In a little more than two weeks the females appear, altering in a moment the peaceful existence of their mates to be. Individual combats are now of frequent occurrence and continue until both mates and nesting sites have been won. The males now exercise all their powers of song, rising high in the air during the day and at twilight making the whole countryside resound with their characteristic songs. In these efforts they continue as long as there is light and commence again in the morning at the first indication of dawn. To us there are few more cheerful songsters and as they frequently choose a singing perch within a few feet of the house we have every opportunity to judge of their merits.

Nests are invariably sunk into the ground so that their upper edge is little above its surface. At times some beautiful clump of anemones may hide the young from view, at others there is practically no shelter, the birds apparently depending wholly upon their dull colours to hide them from their enemies. We have found nests with eggs in them about the middle of March and young birds able to fly on April 14. How they manage to survive the snow storms and cold, not uncommon at this time of year, is a mystery. That they do so there is no doubt. As a rule, however, the percentage of young reared in the early season is low and in the first brood one seldom meets with more than a single fully developed nestling, though in later broods three or four are often

reared. We find that the average number of broods is three, though at times there may be a fourth. In their domestic duties both birds take an active part, the male not only relieving the female upon the nest but also taking his share in feeding the young. In fact they are an excellent example of true domestic harmony, in as much as each contribute an equal share to the family welfare.

In 1916, a nest of this species was located in a garden among some old dead flowers. It suffered somewhat by being raked over before it was noticed, but was replaced with sufficient care to satisfy the old birds. They were an unusually tame couple and were thus able to be watched without disturbing their daily habits. It was seen that both were equally energetic in tending the young though the male was less frequently found upon the nest, while during the early morning and again in the evening, his musical tendencies overcame his usual domestic thoughts, or perhaps, as seems more likely, the young required less attention at such times, so he devoted his energy to a serenade for the benefit of his domestic little mate. Food for the young was secured close at hand and consisted of a mixed up mass of insect matter, as a rule unidentifiable. From this mass, however, numerous cutworms were seen hanging, from time to time, the identity of which was unmistakable. The female was particularly fearless and would continue her domestic duties while we watched from a few feet away. Thus we often saw her feed the young and likewise fit her body snugly over them afterwards. On June 27 one young bird had left the nest and was followed next day by the remaining one. Neither could fly at this time and both were frequently seen close at hand afterwards.

These birds remain for a considerable time around their homes after nesting and seldom, if ever, gather into flocks or congregate upon the ploughed fields as do other kinds of horned larks.

#### OBERHOLSER'S HORNED LARK.

We are less familiar with this bird than with the last and owing to the difficulty of determination, it was longer before we were able to distinguish it in the field. As was to be expected, birds so closely related as the horned larks have much in common concerning habits of living, though it is astonishing how many differences there are when they are studied closely. We shall not attempt to present the habits of this race in detail, as in a general way they resemble those of *praticola*, but will content ourselves by comparing the chief points of difference.

To begin with, *enthymia* is practically a month later in arriving from the south. Then, instead of arriving as odd individuals, as does the Prairie Horned Lark, it comes in flocks varying from seven to twenty or more, and at the height of the migration in bunches of

several hundred. Thus they are soon found in large gatherings upon ploughed fields, where they remain for about a month before dispersing for their nesting grounds. It is, therefore, May before they commence domestic duties, our earliest record for a nest with fresh eggs being May 3. In selecting their breeding grounds these birds show a preference for the larger plains which are well away from trees of any kind. They also nest in colonies like the Chestnut-colored Longspur, in fact the summer homes of these two birds are very similar. The nests of *enthymia* do not differ in any marked degree from those of *praticola*, but they are usually in rather denser vegetation.

Colonies of Oberholser's Horned Larks have been known to us for a number of years situated on a small plain north-west of our home. Another lot of almost a hundred have recently taken up their quarters on some deserted fields which they have occupied for the last two years.

The fact that this race is gregarious seems to account for the individuals being less pugnacious than the Prairie Horned Lark, and perhaps, also, for their being less musical. Our observations indicate that they rise less high in the air while singing and that their song is softer and the notes less distinct. On account of their lateness in commencing to nest it does not seem probable that there are more than two broods in a season. Nor do the birds remain as long upon their breeding grounds, but as soon as the nesting season is over they return to the ploughed fields, where they are joined later on by other kinds and so become hopelessly mixed from a naturalist's point of view.

Thus it will be seen that while these two breeding races are extremely difficult to tell apart, their habits are such as to leave no doubt as to their distinctness.

#### THE PALLID HORNED LARK AND THE HOYT HORNED LARK.

Of the Pallid Horned Lark—*articola*—and Hoyt Horned Lark—*hoyti*—we have little to write. They are, so far as we know, both migrants only, and pass to other parts for nesting purposes. They usually arrive within a few days of each other and with the Lapland Longspurs in large flocks about April 6. Soon the ploughed fields are swarming with them and their value as destroyers of noxious weed seeds must be considerable. At this time they are somewhat secretive. They nearly always run in a crouching attitude and squat down flat at the least alarm, when their colour resemblance to the surrounding landscape makes them almost invisible from a short distance away. The squatting action also prepares them for a spring upwards and as one rises, in alarm, the others quickly follow, so that in a moment thousands of birds are in the air rapidly darting up and down. Then suddenly they drop onto the field again and all is quiet as before.

It is an interesting sight to see these birds, in company with



thousands of Longspurs, circling for miles around some large hawk, though their object in doing so is a mystery and seems to be almost ignored by the hawk. Their music, as they fly around in millions, fills the air, producing an effect which is long remembered. Both Horned Larks and Lapland Longspurs may also be seen to rise some 30 feet, uttering as they drop a short song. It is evident, however, that this is only a prelude to what is to come when the birds reach their true homes.

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#### NOTES.

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Over seven hundred fragments of pipes made of pottery have been counted among the finds made in the prehistoric Iroquoian Indian site at Roebuck, Ontario, by Mr. W. J. Wintenberg, who explored there for the Geological Survey in 1912. Wagon loads of pottery and some charred corn and beans, but only four arrowheads chipped out of stone, being found here among other finds, suggest that the prehistoric inhabitants were apparently agriculturists who did not hunt and fight as much as we are generally led to believe that the Indians did. Over eighty graves were found, but only one contained anything besides the skeleton, the custom apparently being different from that among many other kinds of Indians.

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An aged Maya Indian woman from near Progresso, Yucatan, is residing in Ottawa, undoubtedly the only person in the Dominion who can speak Maya. The Mayas are the remnants of the tribe that is believed to have built the most beautiful of the ruined cities of Mexico and Central America—the finest architecture of the New World.

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Oyster and quahog shells were found by Mr. W. J. Wintenberg in exploring a shellheap on Mahone Bay, N.S., for the Geological Survey of Canada. The oyster and quahog have not been known to live on the southeastern or outside coast of Nova Scotia since the region was first visited by white people. The finding of these shells consequently suggests that the heaps are of considerable antiquity and is of interest to the students concerned with these shell fish as indicating that at least these two species formerly lived in the waters near Mahone Bay. While the Indians may have carried dried oysters and clams for some distance, it is hardly likely that they transported them in the shells or that they carried the shells from a distant place, especially since we do not find these particular shells were used by the Indians in this vicinity. In fact the Indians who left the shellheaps of the eastern coast of Canada did not use shell to any very great extent.

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