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TORONTO, JULY, 1894.

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MAMMAOLOGY.

THE PANTHER IN CANADA.

THE following extracts are from a paper by Mr. W. P. Lett, of Ottawa, published in Vol. 1, page 127 of the *Ottawa Naturalist* :

"It abounded at one time in the valley of the Ottawa in considerable numbers."

"The cougar which you may see, very inartistically and unnaturally set up in the glass case before you, must have been, when living, a remarkably fine specimen. As nearly as possible, he must have measured seven and a half feet from nose to end of tail. He was shot by a boy named Bentley upwards of forty years ago, on Croil's Island, on the south side of the St. Lawrence River, opposite Farran's Point, about ten miles east of Morrisburgh, with an iron spike or nail. The youth killed the animal with a single shot, a sporting exploit sometimes found difficult of accomplishment by experienced hunters."

"About one hundred years ago the panther was found in every part of Ontario and Quebec. I have been assured, by reliable authority, that about forty years ago (1847) two large specimens were frequently seen near the Village of Lachute, in the Province of Quebec."

"On two or three occasions, many years ago, I heard in the thick forest near the Village of Richmond, and afterwards in the Township of Huntley, some strangely startling and frightful screams, which I attributed to the cougar. Be this as it may, I have heard no screams of the same kind for the last thirty years."

ZAPUS HUDSONIUS COVES.

This pretty little rodent has a geographical range from the Southern States to Hudson's Bay and from the Atlantic to the Pacific, and also a range of about fifty synonyms.

During the time of the early settlements in the County of York this little "jumping mouse" was very common, and at haying times the boys had many excited hunts after them, but very few were caught.

No doubt it is generally distributed over Ontario. I have in my collection four specimens from the neighborhood of Toronto, one of which was caught in a mouse trap, one dug up in the winter time, while hybernating, one taken from the craw of a Rough-legged Buzzard, and one which I caught in my insect net.

I have one specimen from Magnetawan, Muskoka; two from Galt, one from Leamington, and one from near Bobcaygeon. This shows a wide provincial range. We will be greatly obliged for any authentic, original information as to the occurrence and habits of this animal in our Province.

Toronto.

WM. BRODIE.

ORNITHOLOGY.

CAPTURE OF THE CLAY-COLORED SPARROW IN
ONTARIO.

ON May 9, 1894, while hunting in a field of small shrubs, about fifteen miles west of London, I was attracted by a "dzzz-dzzz-dz-dz" very similar to the song of the Golden-winged Warbler, yet different in tone. Expecting to find a Golden-wing at the end of the note, I could hardly believe my eyes when I came upon a small sparrow sitting on the top twig of a shrub, after the manner of the Field Sparrow, and saw him give the note whose author I was looking for. It proved to be a *Spizella pallida*, the first, I believe, in our Province, though they may yet be found inhabiting the north-western extremity, next to Manitoba. I heard a Golden-wing near the edge of the same field, but on looking him up he was a true Gold-wing, and I was unable to hear or see any more Clay-colors.

. London, Ont.

W. E. SAUNDERS.

CISTOTHORUS STELLARIS.

IN the first number of the BIOLOGICAL REVIEW I notice that Mr. Nash believes his specimen of the Short-billed Marsh Wren to be the only Ontario record. In the first edition of Mr. McIlwraith's book there are no definite records given, except of a set of eggs which I have, taken by Chas. Shuttleworth, of Toronto, in the Toronto Marsh, about the year 1883. The reference to the birds in the St. Clair marsh is not detailed, but Mr. Morden certainly took several specimens there. Nevertheless, the localities where this bird spends the summer in

Ontario are few and little known, and it is interesting to know of one breeding ground having been found where it is steadily common.

On June 17, 1891, while botanizing in the bed of the drained "Lake Wawānosh," near Sarnia, without a gun, I heard some birds singing which, after careful study, I decided belonged to this species, but I could not positively identify them by reason of the lack of the necessary implements. On May 30, 1892, I visited the same place again, prepared for business, and settled the doubt by the capture of two specimens of this species. There appeared to be a fair sprinkling of the birds, but I could find no trace of a nest, old or new, which led me to guess that they breed on the ground in that locality, contrary to the accepted ideas of their habits. The patches of bulrushes in the basin were few and small, and I am positive contained no nests. The song of this bird, though similar to that of the Long-billed Wren, differs sufficiently for one to distinguish it readily; in fact, when I heard the first song in 1891 I thought it was a Dickcissel, and the resemblance between the songs of the two Wrens, while near enough to establish a relationship, is not close enough to deceive a practical ear. The peculiar part of the affair to me was the entire absence of the Long-billed Wren, and the fact of the birds living away from the bulrushes, in the region of the long marsh grass. I was informed the other day that Mr. Joseph Beck, of Plover Mills, Middlesex County, observed a pair of small Wrens, which he could not identify, in a field of long grass, where they spent the summer; and in the light of their habits at Wawanosh, it seems entirely probable that they may have been of this species, as Mr. Beck is well acquainted with both the House and the Winter Wrens.

London, Ont.

W. E. SAUNDERS.

THIRD SPECIMEN OF *ARDETTA NEOXENA* TAKEN AT TORONTO.

THE first notice we have of this species being found in Ontario is recorded in a note by Mr. W. Cross, in Proc. Orn. Sub-section of Canadian Institute, 1890-91, p. 41, where it is

stated a specimen was captured on Toronto Island on May 18, 1890.

This bird Mr. Cross presented to the Canadian Institute, where it is at present.

A second specimen, which was taken on May 20, 1893, in Toronto Marsh, was reported by Mr. Hubert Brown, in *The Auk*, Vol. X, 1893, p. 363.

This specimen was sent, for examination, to Mr. William Brewster, who says "it agrees very closely with a skin taken at Lake Flirt by Capt. Menge, and referred to by Mr. Scott (*Auk*, IX., 1892, p. 142) under catalogue number 11,451.

The Toronto bird is a trifle the darker on the back, and the chestnut of its under parts is slightly richer, but in other respects the two specimens are almost exactly alike."

On May 26, 1894, a third specimen was shot at Ashbridge's Bay, Toronto, by a Mr. Jacobs, who flushed it with an *exilis* from a clump of reeds. Both birds were secured and found to be males.

Mr. Peter Jacobs, taxidermist, purchased them from the collector, and later the specimen of *noxeana* came into my possession.

Description: Top of head, cervix, back and scapulars, black, with a decided green shade; sides of head, throat and wing coverts, shade from cinnamon to chocolate, lightest on the chin, darkest on sides of neck and on wing coverts; remiges, entirely blackish slate; under tail coverts, dull black; upper mandible, dark brown; tomia, yellow; lower mandible, light brown; wing, $4\frac{3}{4}$ ', extent, $6\frac{1}{4}$ '; bill, $1\frac{3}{4}$ '; tarsus, $1\frac{1}{2}$ '; toe, $1\frac{1}{2}$ '; length not taken.

On comparing the three specimens, I found that the one shot in the summer of 1890 was identical with that obtained in 1894, with the exception of the wing coverts, which are a little darker.

The female shot in 1893 is black on the crown only, and the back of the neck is a dark rufous-chestnut; back, black, with a decided brown shade, not green as in the other two. The remainder of the colors correspond, with the exception of one or two white feathers on the legs.

This makes the ninth specimen so far known in collections.

Toronto.

J. H. AMES.

FOURTH SPECIMEN OF *ARDETTA NEOXENA*
AT TORONTO.

(July 16, 1894.) Yesterday while going through Toronto marsh I had the good fortune to find Co. y's Bittern (*Ardetia neoxena*), it was a little east of the south shore buoy and just in the act of alighting a little behind me when I caught sight of it, and at first mistook it for a Virginian Rail, but on a second sight its long legs showed clearly it was not. I pushed as close to the rushes as I dared, and watched it for about a quarter of an hour, and turned to leave it, all the time wishing I had my gun. After going some fifty yards, I returned to have, as I thought, a last look at my rare friend. This time I got so near it that Miss Phillips suggested I hit it with an oar. Happy thought! I took the hint, so did the Bittern, and he flew to the other end of the rushes, but again let me get within a couple of yards of him, and this time I had the good luck to knock him over. While watching it, its actions were altogether different to any other Bittern I have ever seen, for instead of standing erect when observed, as is the habit of most of the family, it would crouch down until it was only the size of a Virginian Rail, its long neck altogether out of sight. It had a very slow, sneaky walk, grasping a single rush with one foot and striding as far as possible to grasp another. It seemed to be feeding on insects on the lily leaves at the foot of the rushes, as it would every few seconds dart out its neck with lightning rapidity and take something off the leaves.

Toronto.

CHARLES PICKERING.

The bird referred to above was handed to me by Mr. Pickering for examination, and following is the description of it. The terms used in defining the colors were taken from Ridgway's "Nomenclature of Colors," with which the bird was compared: Specimen ♀, in good condition. Total length from point of beak to end of middle toe claw, 16·2'; the same with moderate extension, 17·2'; expanse of wings, 16·2'; wing, 4·70'; gape, 2·2'; from point of beak to centre of eye, 2·3'; in length of nasal aperture, 0·4'; beak, measured at nostril, 0·3' wide; tail,

1·6' long; tarsus, 1·75'; inner toe with claw, 1·4'; middle toe with claw, 1·75'; claw on middle toe serrated on inner side with thirteen blunt teeth; upper mandible, black; lower, raw umber; crown and dorsum of neck, black; back, black margined with decided shades of brown; throat and under part of neck of a rich burnt umber; belly to tail, olive brown shading to vandyke brown, darkest on the outside; scapulars and tail, black tinged with shades of metallic green; the primaries, secondaries, primary coverts and greater coverts, blackish slate with a brownish tinge on the primaries; the greater coverts are tipped centrally with burnt umber; other wing coverts, burnt umber; eye, chrome yellow; tarsus and upper side of toes, olive green; soles, chrome yellow; about 0·3' of tibia above tarsus, bare; contents of stomach, thirty-four small fish, bass? Several of the ova were 0·1' in diameter.

Toronto.

WILLIAM BRODIE.

Those who wish to look up the published records of this interesting bird will find references to it in:

The Auk, Vol. III., April, 1886, p. 262—C. B. Cory.

Ibid. Vol. III., July, 1886, p. 408—C. B. Cory.

Ibid. Vol. VI., 1889, p. 317—W. E. D. Scott.

Ibid. Vol. VIII., July, 1891, p. 309—C. B. Cory.

Ibid. Vol. VIII., July, 1891, p. 309—W. E. D. Scott.

Ibid. Vol. IX., April, 1892, p. 141—W. E. D. Scott.

Ibid. Vol. IX., July, 1892, p. 214—W. E. D. Scott.

Ibid. Vol. X., October, 1893, p. 363—H. H. Brown and Wm. Brewster.

Robt. Ridgway, *Man. N. A. Birds*, 1887, p. 127.

Dr. Elliott Coues, *Key N. A. Birds*, 1892, pp. 888, 905.

Proc. Ornith. Sub-section of Can. Inst., 1890-91, p. 41, "A new species for Ontario," by Wm. Cross.

THE NESTING OF THE WINTER WREN.

THE latest date on which any of this species had been here previously was about the middle of November, while the earliest record of its advent in spring was the last week in March.

This season, however, I saw one on January 23, 1894, in a woodland dell, which it frequents during the summer, and near where I had found two nests.

On March 30, I again heard it in the same place, and from that date they became more common.

Toward the centre of our sugar bush, and not far from the "camp fire," the ground is rather low, and here most of the larger timber was uprooted by that terrible windstorm of April 20, 1893. Having noticed the Winter Wrens frequently during April, in this bush, I expected that they were going to nest here again, and a search on May 2, was rewarded with the discovery of a nearly completed nest in one of the highest roots.

I think it was four days later that I again visited it, when it contained four eggs; on the 9th, I flushed the bird from her nest, which I carefully removed from its place in the soil and fine roots, and found the number of eggs to be six, which were apparently pure white, but if held up to a strong light, after being blown, the minute markings, with which the larger part of the surface is dotted, become visible.

The site of the nest was about six feet above the ground or rather water, which filled the space out of which the root had been torn.

The nest resembled a round ball of moss, with an entrance hole on the outer side. It measured over twelve inches in circumference.

The exterior was almost wholly composed of a species of moss, common on the lower parts of trees and logs in low grounds. Around the entrance are a number of the stalks of hemlock leaves, while the inside is neatly lined with fine vegetable matter, hair and feathers.

This set was completed on the 8th of May, and is the earliest date I have ever taken their eggs.

Of the seven nests collected in this vicinity, four contained six eggs each, and three, five; all of these were built in the upturned roots of fallen trees, which is evidently their favorite nesting place, though it certainly builds in other situations.

Listowel, Ont.

WM. L. KELLS.

PASSERELLA ILIACA, 1888-1894.

My first experience with this large and handsome Sparrow occurred during the first year of my scientific collecting, and such was the interest manifest in the birds I had collected, and so unusual seemed the report I made of them, I decided to look more closely for the bird in future and keep accurate records of my observations, and they are not without success.

In October 1888, I was collecting on Well's Hill, north of Toronto, when I startled several of the birds which were feeding on the ground at the edge of the bush among a few small witch-hazels. I secured two specimens. I allowed the birds to stand until they were too far gone to preserve. Gathering up the unskinned birds with some other bodies, I took them to Dr. Brodie, who wished to examine stomachs. I was greatly surprised and annoyed to find that I had met with a flock of birds supposed to be very scarce about Toronto and had allowed myself to be contented with two specimens when I might have taken six or eight, and had even allowed those to spoil. The next time I met them was on October 26, 1889, when I collected one specimen in a swamp north of St. Clair Avenue, as recorded in the Proc. Orn, sub. C.I., No. 1, p. 118. This was mounted and is now in the collection of the Canadian Institute. This was the only one I heard of that year. On April 13, 1890, I came on a large flock of the birds in the University ravine, altogether about twenty-five or thirty birds were distinctly counted hunting among the old leaves, and several males were warbling their beautiful little song from the tops of the beeches. This account was recorded in Proc. C.I., No. 2, p. 29. That season I collected five specimens, of which Dr. Brodie, Mr. Cross and J. R. Thurston respectively obtained one.

In the fall of 1890 they returned to their old haunts, and I secured six, as recorded in Proc. C.I., No. 2, p. 53, of these Mr. Cross obtained two, and J. R. Thurston one.

In the spring of 1891 I was again on the lookout, and as regular as clockwork the birds appeared at their former haunts, and I secured five, and on the return migration in the fall I took nine. In the spring of 1892 the Fox Sparrows arrived in their usual numbers, and I secured seven of them.

I was away from the city in the fall of 1892, and so far I can only learn of one specimen being taken anywhere about the city, although the birds must have returned as usual by the old route. In the spring of 1893 I watched with the usual interest, and at the regulation time, and secured seven, several of which were obtained by Mr. J. H. Fleming and one by Mr. Spanner, and four of the remaining specimens are now in the collection of the Biological Society of Ontario.

On October 2 a male bird was secured, being the only one seen. October 6 a second male was secured, and on October 13 a female was taken, all being in company with White-throated Sparrows and Juncos. A storm of wind and rain on October 13 and 14 started the migration in full, and Fox Sparrows were the commonest birds in the woods. On October 16 I secured five, October 17 nine, October 18 seven, October 19 six; or a total of thirty birds in three weeks, and I am confident I could have secured double the number had I persisted in collecting them. This spring (1894) all bird life was scarce, yet I observed five Fox Sparrows at their old resorts, but I did not collect any. All told, I have in nine migration seasons collected seventy-two, and of this number thirty are in my collection; and at the present time there are specimens in collections of the Biological Society of Ontario. Wm. Cross, Oliver Spanner, J. H. Fleming, J. H. Thurston, G. F. Dippie, A. E. Dowson and the Canadian Institute, all of which are my collecting; and from what I can learn outside I don't think there have been a dozen collected by all other Toronto collectors in that time, and very few observations have been made of them. One would not wonder if it were an insignificant bird or one difficult to recognize in the woods at its not being observed more frequently, but on the contrary, I think, for real beauty of plumage, grace of movement and elegance of shape, there are few birds on the list can compare with it and its habits are such as to make it easily recognizable to the practiced eye or ear. It is a bird among birds, being of a quiet, retiring disposition; its song and plumage are quiet and soft, yet exceedingly beautiful, with none of the gay, dashy color of the Grosbeak or Tanager, nor the curiosity of the Blue

Jay: it is content to live a exemplary life among its riotous associates, the White-Throated Sparrows and the less noisy chattering Juncos. On their arrival in the spring they will be found in various parts of the woods scratching vigorously among the dead leaves, and raising commotion enough for a bird double its size, often allowing a very near approach before rising. Once started they are very wild, and mount directly to the tops of the thickest cedars or pines and conceal themselves, at the same time calling loudly to all the others to be on guard. As soon as you catch sight of him in the tree he is off, not to the next tree, but for a good long fly to another part of the woods, where he again settles down to scratching for his living.

They are rather difficult to collect, but with a little caution, any student may approach them within easy distance and watch the actions of a flock apparently unobserved. On a bright day in spring the males will often mount to the top of a tall hardwood tree and regale the woods and its inhabitants with a song, similar to the run of the song of the Baltimore Oriole but very much subdued, more of a flowing flute-like note which, however, can be heard at a good distance. The call note of the birds when startled or moving is almost exactly the same tone as that of the White-Throated Sparrow, the only difference I can detect is, the Fox Sparrow seems to say *peete*, while the White-Throat calls *cheep* less than half a tone higher. In following the birds by this call I have frequently taken the White-throats in mistake for the Fox Sparrow.

Their migration is very regular. They always appear on their northward journey about the 12th of April, unless the season is a late one, and remain about seventeen days in the neighborhood, first appearing in the southern end of the University ravine, working northwards, and about three days after the first bird is seen in the City they appear on the hill, and in three weeks from the first City observation the last birds have left the woods on the hill. While on the hill, they may be found in every locality on both sides and the bottom of the ravine, among the witch hazel and second growth hardwood, and also among the thick pines on top of the hill. An examination of the woods on the Humber banks and up the Don

valley has shown that very few take those courses in migrating, preferring to cross over the centre of the City. During the past three seasons a few have been observed on Rosedale heights, about a mile west of the Don, and I have observed a few, in the ravines north of High Park, about a mile east of the Humber River; but that seems to be the outside of the flock, and only stragglers are taken beyond this. I have closely examined the woods for some miles north of the City, and found very few birds, which might indicate that they rise in a body and fly northward till they strike the next elevation of land. On the return in the fall they come over precisely the same route as they travelled in the spring, arriving on Wells' Hill in the first week of October, and by the 21st they have almost entirely disappeared from the City. They certainly show a more direct line of travel than any other bird I have witnessed, and although they associate with the White-throats and Juncos while here, the movements of these in no way interfere with their own journey, as the White-throats hang around long after the Fox Sparrows have taken their departure. So much being said for the bird in his wild state, I will go farther and show him in captivity. Of the number I have collected I have taken four in traps. Being a seed-eating bird, they are comparatively easy to keep alive, the greatest difficulty being the moult in the spring. They show much of the same quiet, retiring disposition as seen in the wild bird, but they are somewhat confiding and seemingly very intelligent; they do not flutter and knock themselves about, like most of the Sparrows, when startled, and when talked to, show an inclination to listen to reason. They feed on almost every kind of seed, and are also very partial to insect food, being always first to seize a worm or grub dropped into the cage. They bathe and feed regularly, and are not as restless as their chums the White-throat and Song Sparrow. While they spend most of the day on the ground, they invariably mount to the highest part of the tree to roost at night. They are friendly with every other bird, and never attempt to interfere with them.

I have compiled the result of a careful investigation of twenty-six stomachs.

STOMACH CONTENTS.

1. Coll. October 16, 1893, female; contained a number of pieces of legs and piece of thorax of beetles, a small mass of broken seed; stomach fairly full; no gravel.

2. Coll. October 16, 1893, female; contained one whole bud and a mass of broken and crushed buds of witch hazel, a section of *Fulus canadensis* and fragments of beetles; stomach fairly full; no gravel.

3. Coll. October 16, 1893, female; contained several pieces of *Fulus canadensis*, broken seeds, probably *Cynoglossum*, and buds of witch hazel, six *Lamproyridæ* larvæ, two larvæ of *Elater*: full; no gravel.

4. Coll. October 16, 1893, male; contained a mass of crushed seeds and buds, fragments of beetles and several *Lamproyridæ* larvæ; partly full, with a few pieces of shale clay.

5. Coll. October 16, 1893, male; contained about sixteen or eighteen *Lamproyridæ* larvæ; no gravel; stomach full.

6. Coll. October 17, 1893, male; contained a mass of crushed seeds and three buds of witch hazel, a few fragments of small beetles, a small quantity of sharp white sand, and a few pieces of shale clay; stomach partly full.

7. Coll. October 17, 1893, female; contained a small mass of broken seed, with a few small pieces of shale and some clear, shale sand; almost empty.

8. Coll. October 17, 1893, female; stomach partly full; fragments of *Fulus canadensis*, broken seeds and buds and a few fragments of beetles; a small quantity of clear, sharp sand.

9. Coll. October 17, 1893, male; stomach full; several whole buds of witch hazel and crushed seeds of *Cynoglossum*, one larvæ of Crane Fly, one spider and a head and fragments of beetles; no gravel.

10. Coll. October 17, 1893, female; stomach partly full; broken seeds, a few larvæ of *Lamproyridæ*, a few minute particles of clear, sharp sand.

11. Coll. October 17, 1893, female; stomach full; broken seeds of *Cynoglossum* and buds of witch hazel, one Crane Fly larvæ, elytra, thorax, legs and other fragments of coleoptera; no gravel.

12. Coll. October 17, 1893, female; stomach full; broken buds of witch hazel, seeds of *Cynoglossum*, bracts of *Lespedeza* seeds, a few fragments of coleoptera; no gravel.

13. Coll. Oct. 28, 1893, male; stomach partly full; broken seeds and buds, several fragments of large beetles; no gravel.

14. Coll. October 17, 1893, female; stomach almost empty; a few particles of seeds, pieces of brick and shale, and a small quantity of clear, sharp sand.

15. Coll. October 18, 1893, male; stomach full; seeds of *Cynoglossum*, buds of witch hazel, one piece *Zulus canadensis*, one *Gyrinus*, thorax, wing, elytra and head of *Pterostichus*, numerous small pieces of clear quartz.

16. Coll. October 18, 1893, female; stomach partly full; crushed seeds and buds, very small fragments of coleoptera, a few small pieces of clear quartz.

17. Coll. 18, 1893, female; stomach tolerably full; crushed buds of witch hazel and seeds of *Cynoglossum*, elytra, thorax and legs and other fragments of beetles, small pieces of shale and a quantity of fine white gravel.

18. Coll. October 18, 1893, male; stomach almost empty; a bud indiscernible, broken seeds of *Cynoglossum* and five particles of beetles, a small quantity of clear quartz.

19. Coll. October 18, 1893, male; stomach fairly full; a mass of broken seeds and buds, fragments of coleoptera, a quantity of sharp, clear quartz and a piece of coal.

20. Coll. October 18, 1893, male; stomach partly full; a mass of flower buds of witch hazel and seeds of *Cynoglossum*, fragments of coleoptera and a small quantity of quartz.

21. Coll. Oct. 19, 1893, male; stomach nearly empty; a small mass of broken seeds and buds and fragments of beetles, a few particles of clear, sharp sand.

22. Coll. October 19, 1893, female; stomach partly full; a mass of crushed seeds and buds, numerous fragments of coleoptera, a quantity of quartz.

23. Coll. October 19, 1893, male; stomach nearly full; broken buds of witch hazel, crushed seeds of *Cynoglossum*, a few fragments of coleoptera, a quantity of clear quartz, and a few pieces of coarse black gravel.

24. Coll. October 19, 1893, male; stomach full; broken buds of witch hazel, seeds of *Cynoglossum officinale*, fragments of beetles and a few pieces of hard, dark clay and white sand.

25. Coll. 19, 1893, female; stomach full; a mass of crushed buds and seeds indiscernible, a small piece of seed of *Betula papyracea*, elytra, part of thorax and other fragments of a small beetle, probably a *Carab*, a quantity of coarse black gravel, and a few particles of clay.

26. Coll. October 19, 1893, female; stomach moderately full; a mass of seeds and buds, and one egg of an ant or Dipterous insect, a few pieces of wood and a small quantity of sharp sand.

The habitat is given as Eastern North America, west to the plains and north to Alaska, breeds north of United States. Mr. Thompson mentions the bird as breeding on Duck Mountain, in Western Manitoba, and Mr. Nelson says they breed abundantly in the alder thickets on the hillsides and ravines of Norton Sound, in Alaska, and Dr. Coues says the nest has never been taken in the United States, and Mr. McIlwraith says they have not been found breeding in Ontario, and mentions it as a rare migrant in the vicinity of Hamilton, and, according to Mr. Saunders, of London, and Mr. James Goldie, of Guelph, the birds are rare in these localities during fall migrations, and none mention them as occurring in the spring. Again, Anderson found it breeding in Labrador, and they are known to be summer residents of Newfoundland. So the only conclusion than can be drawn from the above facts is that the birds must have been passed over a great many times while in company with other sparrows, or a few specimens have taken a new road of migration, which has become very popular during the past six years, and although I have decided to collect no more specimens for some time to come, I shall always look for the birds with the same interest, and it is to be hoped that other collectors in different localities will search closer for them and see if the birds are not really more numerous than they are supposed to be.

Toronto.

GEORGE E. ATKINSON.

NOTES ON SOME MUSKOKA BIRDS.

By A. KAY, PORT SYDNEY.

(April 30, 1890.) SEVERAL species seem to be moving northwards. About 1880, the Red-headed Woodpecker appeared here for the first time, and now (1890) it is quite numerous. The Meadow Lark has come within the last few years and is now getting quite plentiful. Within the last few years the Shore Lark (*O. alpestris praticola*) has come, and is now quite common. The Cow Bird (*Molothrus ater*) appeared at Gravenhurst last spring (1889) for the first time.

This spring I fed about fifty Redpoll Linnets and three Shore Larks in my barnyard every day, and the larks got so tame that they would run around my feet and chirp for food. They are now nesting in one of my fields, and I am watching their nesting habits with much interest.

Yesterday I saw the hen bird sitting on the ground, and the male was spreading his wings and tail to their greatest extent, and was dancing and singing for her most beautifully. I walked to within a few yards of them, but they did not mind me in the least, they know me so well. I have seen the male rise and fly straight upwards until he went clean out of my sight, singing joyously all the time, he would remain up about five minutes, and then come straight down again.

(April 25, 1890.) The Loons, Chipping Sparrows, Rough-legged Buzzards and Bitterns have arrived. All these remain and nest with us.

Several species of Wild Duck remain with us all winter. Two of these I have collected—the Red-breasted Sheldrake (*Merganser serrator*) and the Coween (*Clangula hyemalis*). A specimen of the last was collected April 26, and the stomach contained two whole perch.

Our rivers are very much broken up by falls and rapids, where the water does not freeze, not even in the coldest snaps of winter, and in these open waters the ducks sport and play, and find sufficient food, even when the temperature is down below zero. In the coldest days, I have seen twenty or more in a small pool, sporting and diving as if summer were come; but

as soon as the lakes open in the spring the ducks leave the rivers and take to the lakes.

(May 24, 1889.) I collected a pair of the Water Thrush (*Seiurus noveboracensis*), the only specimens I ever saw here. The Golden Crown (*Seiurus aurocapillus*) is not uncommon, and nests with us.

I collected a ♂ Yellow-bellied Woodpecker, which was of a bright amber color on the belly, and all that ought to be white on the back and wings of an amber color also. I also got his mate, and her crown was pure black without any red.

I found a nest of the Red-breasted Nuthatch (*Sitta canadensis*), with young about ready to fly. It was built in a rotten stub, about five feet from the ground, and around the hole there was a ring of pine or balsam gum plastered on the stub. I thought it was put there to catch ants, flies and other insects, so that the young ones might learn to provide for themselves, for I noticed them pushing out their heads and pecking at the gum. I have found three nests of the Chickadee (*Parus atricapillus*), and they were all lined with the wool of the wild rabbit.

(May 3, 1890.) To-day I saw a lot of Black and White Warblers (*Mniotilta varia*) for the first time this spring, and also some specimens of the Black-throated Green Warbler (*Dendroica virens*).

The Fox Sparrows came on April 17, and disappeared about the 29th. I saw a solitary one to-day. I also saw a flock of Wild Geese and many Gulls flying southward. Doubtless the very cold weather we are having has caused them to return.

(May 6, 1890.) I collected a fine ♂ *D. virens*; they are feeding on some kind of insect which they find on the foliage of the hemlock trees. They flutter over the boughs, making a snapping noise with their bills, and then dart in and catch an insect. They have the ability to run up and down the trunks of trees, like a Tree Creeper, but you do not very often see them doing it.

The Ruby-crowned Kinglets are now singing, they have a peculiar and very sweet song. I have seen these birds many times, but never heard them singing until a few days ago. They

seem to feed on insects which they collect on the spruce trees.

Last summer I found two Kingfisher's nests; in one there were seven eggs, and in the other six. In one nest I found the ♀ sitting, and in the other the ♂, thus showing that the ♂ assists in the duties of incubation.

(December 20, 1892.) I have lately seen three specimens of a rare bird, the Hudsonian Chickadee (*Parus hudsonicus*). It is a little larger than the common species (*Parus atricapillus*); the crown is dull black; the upper parts, wings and tail darkish slate color; all the under parts the color of the breast of the adult ♂ *Sitta canadensis*. I saw one near my place on November 4, 1892, and two more about eight miles north of my farm on November 8, 1892. And again, as I was driving past the same place on December 10, 1892, I saw what I took to be the same two birds, on the same tree. I stopped my team and, getting out of the sleigh, I had a good look at them, for they were not at all wild, and allowed me to go within about three feet of them. They seem to frequent the second growth pine and spruce trees.

So far I have not been able to collect any specimens. It is snowing nearly every day here, and there is now very deep snow, and this is most likely to be a very severe winter, and probably the greater severity of the weather to the north has caused a southern migration.

Canada Jays (*Perisoreus canadensis*) have been very numerous this winter; they frequent dooryards and wherever they can pick up any kind of food. Pine Grosbeaks are also numerous and very tame and I have collected some very fine specimens.

(January 9, 1893.) I have not seen the Hudsonian Chickadees again. The snow is over two feet in depth, and very dry and loose, making it very difficult to go about in the woods, so I have not been able to do any collecting. Pine Grosbeaks and Canada Jays are still common, although they have been moving southwards for some time.

All last winter Pine Siskins (*Spinus pinus*) were very numerous about here, but about the middle of April (1892) they all disappeared except one pair, and they commenced to build

before the snow was quite off the ground. They came every day into my yard and gathered pigs' hair for nest building, but they found out a bundle of cow hair which I had placed in an old shed, and this they carried away in large beakfuls. I tried to line them and thus find their nest, but after crossing my fields they mounted over the tree tops and were lost to me.

While they were feeding their young ones they frequently paid me a visit, and I noticed how much more yellow they had about the wings and rump than in the winter season. And one day in May they came and brought with them four young birds, full-fledged and marked like the hen birds in fall plumage. They remained for many days about my door and on the trees around the yard, and although I would gladly have had them in my cabinet, I loved them too well to do them any violence, thinking that perhaps they would not leave me; but they went, and have not yet returned.

Last July I saw a ♀ Humming Bird gathering dandelion down, evidently to line her nest, and in August she brought four young birds into our garden every day, until the cold weather drove them south.

A pair of Towhees (*P. erythrophthalmus*) nested here last summer. I did not succeed in finding the nest, but they reared their brood of young ones.

(June 6, 1892.) While walking along the banks of the river, which runs through my farm, I observed a small bird dart out from a bunch of ferns which grew on the side of a small knoll, and, on stooping down and looking carefully about, I at last found the nest. The bird had scraped a hole out of the bank, by the roots of a bunch of old bracken (*Pteris aquilina*), which was partly broken down, and the new fronds growing up through the old formed as fine a protection as well could be.

On lifting up the fronds and looking in, I saw a pretty little nest, built of moss, pine needles and dry grass, and well lined with hair from a cow's tail. The nest contained four pretty little eggs, $\frac{5}{8}$ ", (.625) x 7-16, (.4375), the ground color white, finely mottled all over with small, reddish spots, more numerous towards the large end; incubation had just begun.

I thought from the glimpse of the bird I caught, when she

first left the nest, that it was a Nashville Warbler (*Helminthophila ruficapilla*), but trying my best I could not get a good look at her; so I left the place and in a few hours returned, but with the same result; the bird was so very shy and cunning, and there was so much cover about, that positive identification was impossible. And so I left her until it was quite dark, and, taking a small landing net in my hand, I crept cautiously and softly on my hands and knees until within a short distance of the nest, when I threw the net over it and caught, as I fully expected, a ♀ Nashville Warbler.

This is the first time that I have known this bird to stay and nest with us. They are not uncommon in the spring season, early in May, but usually they do not stay but a few days, disappearing towards their general nesting grounds to the north of us.

BREEDING NOTES OF BIRDS AT PRINCE ALBERT, N. W. T.

Scolecophagus cyanocephalus (Brewer's Blackbird).—This is by far the commonest of all the Grackles found here, and is usually seen along the roads in company with the Cowbird (*Colothis ater*), with whom they much associate, being in fact almost identical in habits, feeding on the same kind of ground and showing a marked preference for the society of cattle or land on which stock has been feeding.

Though so common a summer resident, I only found one nest of this species, but that may be for want of more diligent searching. While collecting on the prairie one day in the latter part of June of 1892, I flushed a female off her nest on the ground, and as I was desirous of identifying the bird, I shot her as she was hovering overhead.

The nest was placed in a very open and exposed position, about twenty yards from a small pond and bluff of poplars. It was composed entirely of dead grass, and embedded quite to its rim in the ground and had no protection or covering of grass or plants of any kind.

It contained six eggs, measuring 1 1-16' long by $\frac{3}{4}$ ' in diameter, of a dull, dirty-white ground color, very thickly blotched and spotted with brownish-purple.

The female bird was very much excited by my intrusion of her domains, and flew continually around me while I was examining the nest. I saw nothing of the male.

Quiscalus quiscula æneus (Bronzed Grackle).—A very abundant species, it does not associate with other blackbirds but keeps aloof by itself. It breeds abundantly either in the rushes surrounding the small lakes or in thick willow swamps. I found one colony in possession of a long, dense, swampy patch of willows; this was in the latter part of May of 1893, and every nest contained some eggs. There was between thirty and forty nests, which were large bulky affairs, some rebuilt on old foundations two or three seasons, composed of dead grass and weeds, deeply hollowed and lined with finer grass and other soft materials. These were placed securely in thick bushes, from five to fifteen feet from the ground, some standing in water, others on dryer ground.

I visited all their nests and found eggs in all, some with the set not yet completed and some partly incubated; five or six eggs in a set. I was much struck by the great difference in size and color exhibited in the eggs. The prevailing ground-color was dark bluish-green, thickly spotted and blotched with brown and indistinct lilac markings, but they varied from this to a light blue with a few brown scratches or spots.

Though I collected quite a number, I did not make any measurements, as the mice destroyed them all; but there was much disparity in shape and size, some being small and nearly oval, others much larger and more pyriform in shape.

The birds were exceedingly vociferous and bold, the female allowing me to almost touch her before she left the nest and then moving only two or three yards away, and scolding incessantly; the males kept at a safer distance but were every bit as loud in their outcry.

Colymbus holbellii (Holbellii Grebe).—A common summer resident at Prince Albert, and breeds abundantly in the lakes and sloughs.

On June 18, 1892, I found a nest and four eggs which undoubtedly belong to this species. As I approached the lake the bird left the nest and swam about with her mate, at times coming so near that I had no difficulty in identifying them. The nest, a solid mass of vegetable matter, was placed a few yards from the shore, in about a foot of water; it was very slightly hollowed, being in fact little more than a heap raised a few inches above the water and resting on the bottom; the eggs were continually wet. Incubation had just commenced. The eggs were of a dull, dirty-brownish color, and measured 2' by $1\frac{3}{8}$ ' in diameter.

The birds were very quiet, making no outcry, but appeared very uneasy. I think they subsequently raised a brood in the same place, as I noticed them there all through the summer.

Colymbus auritus (Horned Grebe).—This is much commoner than the preceding species, being found in all marshes and ponds. I only examined one nest but saw many more; they are somewhat difficult to get at though the water is shallow, the bottom is very soft and muddy so that it is not pleasant work wading after them.

On the 24th of June, 1892, I found a pair of these birds in a small lake or rather pond, and, after collecting the female, I started to search for the nest, which I found, after making a complete circuit of the pond.

It was composed of the same material and placed in the same position as that of the Red-necked Grebe, but was much smaller in size; the four eggs it contained were nearly fresh; color, uniform dirty-white, without any spots or markings. They measure $1\frac{3}{8}$ ' by $1\frac{1}{8}$ ', being much sharper at the small end than those of the Red-neck, and also very much lighter in color.

These birds are very shy and hard to shoot, as they are under the water before the shot reaches them.

Each pair seem to have a pond to themselves, except in larger lakes, where there are often two pair to be seen.

Chordeiles virginianus (Nighthawk).—I have frequently been startled of a dark night going along a road, by having one of these birds dart up from almost under my feet and glide away silently. They have a habit of waiting until they are almost

trod upon, and then starting up, to alight again a few yards ahead. It is a most abundant species, breeding plentifully.

They seem to prefer a bush country, left free from underbrush after the fire has run through. Over this kind of ground the air would seem to be full of these birds of an evening, and their loud booming noise is heard on every hand.

Passing through these woods, I have often started the birds off their eggs, which are laid on the bare ground without any attempt of a nest, not even a hollow scraped for them to lay in; the eggs were always two in number and oval in form. The birds did not trouble themselves much as to what became of their property, making no noise and getting out of the way as quickly as possible.

Agialitis vocifera (Killdeer).—This bird is very numerous from early spring until well on in the autumn, I have hunted carefully over the ground where the birds were plentiful but did not succeed in finding a nest; this must be owing to the female not remaining on her eggs, but flying to meet one a long way off. They are very noisy, and all the birds within hearing will gather and add their protest to what they are pleased to consider intrusion on their haunts.

A set of five eggs was brought to me near the end of June, they were quite fresh, and of a dull, creamy-white color, spotted heavily with brown; in shape much pyriform and appear large for the size of the bird. I did not examine the nest from which they were taken, so cannot give any description of situation or material.

These birds may almost be considered nocturnal in their habits, they are certainly noisiest in the dusk of the evening, and if the night is not altogether dark, they may be heard and seen at a pretty late hour. They seem to prefer the society of man, being most abundant about the town, and a very few scattered pairs being seen far out on the prairie.

EDWARD DEACON.

Toronto, Ont.

MEADOWLARK AND SONG SPARROWS . WINTERING.

ON January 1, 1892, a Meadowlark (*Sturnella magna*) was seen at Port Credit.

There are several other records of Meadowlarks wintering about this latitude, and probably they remain regularly.

Song Sparrows (*Melospiza fasciata*) have been observed occasionally during the winter. I shot one in Rosedale on January 16, 1892. My attention was attracted to it by its harsh "churp," when I noticed it hopping among some brushwood. The snow was seven or eight inches deep.

Mr. J. B. Williams also noticed one on the Island on the same date.

On February 28, 1892, I came across one near the Woodbine, quite close to the street.

The next winter record I have, is one seen on December 11, 1892, on the Humber River.

Toronto.

HUBERT H. BROWN.

BARTRAMIAN SANDPIPER AT TORONTO.

ON May 6, 1893, while walking over some fields east of the City, searching for Meadowlarks, I observed a bird running in a moist hollow, which at first I took to be a Wilson's Snipe, as it seemed to be unusually large for that bird. I shot it, and was very agreeably surprised to find my capture the Bartramian Sandpiper (*Bartramia longicauda*).

The bird was very tame and unsuspecting, feeding quite unconcernedly, while a large shooting match was in full swing not more than two hundred yards away. It was a female, and some of the ovaries were beginning to develop, three of them measuring a quarter of an inch in diameter.

Toronto.

JAMES R. THURSTON.

ENTOMOLOGY.

CANADIAN GALLS AND THEIR OCCUPANTS.

DIPLOSIS THURSTONI, N.S.

GALLS found on the upper half of the stems of *Helianthus divaricata*, appearing like a swelling of the stem; symmetrical, varying from ovate to spindle form, the long diameter of gall in the axis of the stem of the plant; color, the same as stem of plant. The measurements of four galls were, 8 x 6 mm., diameter of stem below gall 2; 15 x 7 mm., diameter of stem below gall 3; 13 x 7 mm., diameter of stem below gall 3; 23 x 7 mm., diameter of stem below gall, 3.

The walls of this gall are woody, hard and about 1 mm. in thickness. The interior is filled with a soft, pith-like substance, through which the *Diplosis* larvæ tunnel and on which they feed, and each gall contains from one to ten larvæ.

This is the rarest of the three *Helianthus* galls found here.

One specimen was collected by Mr. Jas. Thurston, April 25, 1892, and banded to me; from this came a ♀ *Torymus*, May 10, 1893.

I made a collection of four galls, September 11, 1893, and put them in a glass jar in the usual way. On April 18, I opened one of the largest of these galls, and found ten orange-colored *cecidomyid* larvæ.

May 20, 1894, two producers emerged, and on June 2, two producers and two ♀ *Torymus*.

The producer of this gall, for which I propose the name *D. thurstoni*, in honor of the discoverer, is of the usual *Diplosis* form and size; the head and thorax are dark grey; the abdomen, velvety black, with six white cross bands, interrupted on the dorsum; the legs are long, and have white annulations.

The first longitudinal vein of the wing is parallel with the costa, and joins it about its middle, near the angle of an

ample inward rectilineal bend, the union is marked by a small, quadrangular white spot; the second vein is nearly straight, and reaches the margin of the wing considerably beyond its tip, where there is a small inward curve; the third vein does not fork, and from its middle bends rather abruptly towards the hind margin, which it joins near its middle, where there is a small inward curve.

The *Torymus* is large when compared with the producer, and most likely devours two or more *Diplosis* larvæ before maturing.

DIPLOSIS HELIANTHI - BULLA, WALSH.

GALLS found on the upper third of the stems of *Helianthus decapetalus* and *Helianthus divaricata*, usually on the stem, often from leaf axils, occasionally on petiole and midvein of leaf, rarely on flower disc, protruding from between scales of involucre.

The galls are attached by an ample base, and are very irregular in form and position, usually somewhat compressed, varying from nearly spherical to flask and cone-shaped, and from equilateral triangular to spur-shaped, the sides of the triangle .9 mm., the spur 13 mm. long and 4 mm. diameter at base. The average of twenty galls was, base, 5.5 mm., 5 mm. thick, and extending 8 mm. from stem. These galls are of the color of the plant, usually hispid with rough pile, and from one to three on a plant.

I made a collection of these galls, east of the City limits, August 1, 1886, but the producers were out. A collection of over 100 galls was made in Ashbridge woods, east of the City, October 10, 1891, which gave many parasites but no producers.

A collection of eighty-seven galls was made from the same locality, August 6, 1893. From August 11, to August 24, these gave numerous specimens of a *Torymus*: from August 12, to August 16, producers emerged, and from August 17, to August 24, a species of *Pteromalus*.

From the fact of the parasites emerging simultaneously with the producers in the autumn, it is probable there is a later gall produced by this *Diplosis*.

The galls are usually found on plants growing in the shade of open woods.

I am indebted to Prof. Riley, of Washington, for a satisfactory identification of this gall.

MELÆ AMERICANUS.

IN Vol. 9, page 11, of the *Canadian Entomologist* are notes by me on *M. angusticollis*, and on page 75 there is a comprehensive article on the distribution of the genus, and some remarks on my notes, by Mr. Caulfield, of Montreal.

At the time these notes were published I was under the impression that the fall and spring forms were of the same species: the form *americanus* always found in the fall season, the form *angusticollis* always in the spring; and that the small difference between the two was caused by the pupa or semi-pupa being accidentally retarded in development, and thus passing the winter in the immature form. Perhaps the remarkable scarcity of the spring form, *angusticollis*, in Ontario suggested this idea. Anyway, my published notes were altogether on the fall form, which I presume is, without any doubt, *M. americanus* Leach.

After the appearance of Mr. Caulfield's article I began a series of experiments, with the view of producing, if possible, the spring form, *M. angusticollis*, from larvæ and pupæ of the fall form, by retarding development with cold artificially applied. I failed in pushing this attempt to a satisfactory conclusion, and, as it is not likely that I will ever again resume the inquest, I submit a few notes made at the time, which may yet be of some value, though too long delayed.

On September 29, 1878, I captured two pairs of *M. americanus* while feeding on *R. acris*. I put them in a large earthenware cage, sodded to a depth of several inches, and fed them with the leaves of several species of *Ranunculus*, of which they partook freely, but seemed to prefer *R. acris*. They nibbled at potato tops and raw potatoes, but refused to taste tomatoes, both leaves and fruit.

October 8. ♀ A, began to excavate a burrow; she pushed the end of her abdomen in and, while standing nearly erect, used her hind feet as scrapers, always scraping forwards and bringing the scrapings up in front and on both sides, and it was very interesting to see how well her ungainly-looking limbs were fitted for the purpose.

October 10. Burrow finished deep enough to receive her abdomen up to the thorax, and she began ovaposition; while doing so she remained quite still, except slight movements of the fore legs and antennæ.

October 11. ♀ A, came out of the burrow after having ovapositioned thirty hours. She very carefully covered the ova, and levelled up the hole nicely and began to feed on *R. acris*, looking somewhat flabby.

♀ B, has finished digging her first hole and is now ovapositioning.

October 12. ♀ B, came out of her burrow, having been ovapositioning twenty-six hours. In covering up her ova she used both fore and hind feet. She at once commenced feeding on *R. acris*.

October 14. ♀ A, in coitu with ♂ A; apart in the evening.

October 15. ♀ B, in coitu with ♂ A; parted in the afternoon.

October 17. ♀ A, excavating another burrow; began ovapositioning in afternoon.

October 18. ♀ A, came out of burrow after ovapositioning twelve hours; feebly covered up her ova; she is exceedingly emaciated. ♀ B, has made a second burrow, and is ovapositioning.

October 20. ♀ A, in coitu with ♂ B. ♀ B, came out of burrow, having ovapositioned seventeen hours. Both ♀s are feeding sparingly on *R. acris*.

October 26. ♀ A, ovapositioning above ground, not being able to burrow; she is very feeble.

October 27. ♀ A, lying dead above her ova. ♀ B, is ovapositioning in a very shallow burrow. She was not able to cover her ova, although she tried several minutes; she is scarcely able to crawl.

October 29. ♀ B, slowly crawling over leaves of *R. acris*, but unable to eat.

October 30. ♀ B, dead. ♂ B, dead. ♂ A, still alive; he appears to be a little interested in food, but is unable to eat.

October 31. ♂ A, dead. None of them appeared to suffer pain; they passed away very quietly.

In her first burrow ♀ A, ovapositioned 1,607 ova; in her second, 956; in the third, on the surface, 113; in all, 2,676.

In her first burrow ♀ B, ovapositioned 1,327 ova; in her second, 1,123; and in her third, 97; in all, 2,547.

Both ♀s were full average size, and fine, perfect specimens. When captured, each ♀ was accompanied by a ♂, as is usual in this species. I took up the two ♀s, put them in my collecting box, and sat down to watch the excited endeavors of the ♂s to find their mates. They crawled for several minutes as rapidly as they could about the spot where their mates had disappeared, but they soon became very dejected-looking animals, and, climbing a few inches up spear grass culms, they remained perfectly still, apparently waiting for something to turn up. So I picked them up, and on placing them in the box with their mates there was a glad reunion.

The ova were about '04' in length and '01' in diameter, semi-transparent and of a pale straw color. I returned them to their respective burrows, carefully covered them, and put the cage away for the winter, intending to have a hive of bees ready in the spring, in which to place the *Melæ* larvæ, so I could conveniently watch their habits and development until reaching adult life. I expected the larvæ to appear about the 1st of May, but on March 17, I found them crawling everywhere over the cage, and many had escaped and were gone. The usually published measurements and engravings were found to be correct, although some difference in the size of specimens was noted.

They usually remained perfectly still until some slight disturbance was made, such as the tap of a finger on the cage, when they immediately exhibited the most intense nervous excitement, rushing about with great rapidity, moving their limbs and antennæ with remarkable rapidity. I tried to feed them on honey, on beeswax and on bee bread, but they would not touch either of them; they did not exhibit the slightest

interest in any of these; many of them starved to death in the presence of all three. By these experiments I proved that the young *Melæ* larvæ do not feed on any of the products of the hive. They appeared so much earlier than I had expected that, unfortunately, I had not secured a hive of bees, and could not then get one in which to put the *Melæ* larvæ. Neither could I obtain any specimens of living hymenoptera. I secured a few living specimens of the housefly and of the large flesh flies, and put them in the cage from time to time; the *Melæs* at once seized on them with great avidity, but in an hour or two they dropped off.

M. americanus were very numerous in the autumn of 1880 and in 1881. Since then they have been rather rare in the County of York. A collector would not find more than perhaps three or four pairs in a season, but in the seasons above mentioned it was not unusual to find, in low, grassy fields, twenty or more specimens closely huddled in a moving mass.

In all my collecting in the County of York I have never yet taken *M. angusticollis* (the spring form). It has been reported several times, but investigation always proved it to having been mistaken for a much smaller species, *M. niger*, which has made its appearance here within the last fifteen years, and is always found in the spring season.

VESPA VULGARIS.

ON August 3, 1893, while walking through a clump of *Asclépias cornuti*, I observed a ♀ wasp pounce on a fine large *Ctenucha virginica*. She seized the moth with her fore feet and stung it in the thorax, when the struggling of the moth immediately ceased. She then began to cut off the wings and legs, and, after having trimmed off several of the legs and one of the fore wings, she seized the moth with her fore feet and attempted to fly away with it, but very soon fell among the grass, and while she was busily engaged in trimming off the remaining wings to lighten the load, I put them both in my cyanide bottle, and they are now in my collection.

WM. BRODIE.

Toronto.

BOTANY.

CALYPSO BOREALIS SALISB. P.L. 10011.

ON May 5th of the present year I accompanied Mr. Scott, of the Toronto Normal School, and Mr. Brown, a Normal student, on a botanical expedition up the Don Valley.

We entered the valley behind the old school house above Chester, and very soon came upon four specimens of the above plant. They were growing on the bank facing the north, and all four were within a radius of about two feet. The soil was of a light, loamy nature. They were in what seemed to be the partially dry bed of a streamlet, the ground even yet being quite damp.

I kept two specimens, which are about equal in size. I have taken the measurements of one only: Plant, $4\frac{1}{4}'$ high; root bulb, $\frac{1}{2}'$ in diameter; solitary leaf, $1\frac{5}{8}'$ by $1\frac{1}{8}'$; scape, $3\frac{1}{2}'$ long—at the base it is $\frac{1}{4}'$ in diameter, at the top $1.16'$; petals, $\frac{1}{2}'$ in length; color of flower, purplish.

W. J. FARMERY.

BOTRYCHIUM LUNARIA SWARTZ. P.L. 12724.

THREE specimens of this rare fern were found in the vicinity of Toronto on July 1, 1894. More precisely, the locality was just south of Bloor Street, near the eastern boundary of High Park. The plants were found growing on dry, sandy ground, in a somewhat elevated situation, with only a moderate amount of shade. When found they were in a condition of decadence, the fronds being somewhat wilted, but still showing their thick, fleshy character. The roots were fibrous. At the base of one stem a frond was found rolled in the bud.

The following measurements were taken, the specimens being denoted A, B and C. Thickness of stem at base, $\frac{1}{8}'$. Length of stem to top of fertile frond, A, $6\frac{1}{2}'$; B, $5\frac{1}{4}'$; C, $7\frac{1}{2}'$. Length of stem from base to sterile frond, A, $2'$; B, $1'$; C, $1\frac{1}{2}'$. Length of stalk of sterile frond, A, $\frac{3}{8}'$; B, $\frac{3}{8}'$; C, $\frac{1}{2}'$. Total length of sterile frond with stalk, A, $1\frac{1}{2}'$; B, $1\frac{5}{8}'$; C, $1\frac{1}{2}'$. Pinnæ of sterile fronds, 5-6.

In one specimen a small central fertile branch was present in the sterile frond.

————— A. J. HUNTER.

LIPARIS LÆSELII RICHARD. P.L. 10084.

Two specimens of this orchid were found, July 8, 1894, growing in an untilled, dry, sandy field, east of Ashbridge Woods and north of the G. T. R. track. This field is sparsely overgrown with *Rubus canadensis*, *Myrica asplinifolia*, *Diervilla trifida*, and such Solidagoes and Asters as grow on light, dry, sandy situations. The growth of grass is very meagre, scarcely forming a sod. The plants were growing so near to each other that the bulbs were in contact. The bulbs were nearly spherical, 10 mm. in diameter, scaly on the outside with effete epidermis, a mass of fine rootlets springing from the base, and the stem springing from the side.

From the bulb of the largest plant there was a lateral straight rhizome, 2 mm. in diameter and 120 mm. long, at the end of which there was a bud, possibly developing into a bulb; on the opposite side of the bulb there was a small, deeply channelled leaf, 20 mm. long and 1 mm. wide.

At the base of the leaves, which were sessile from the bulb, there was an exterior, truncated, clasping bract, 7 mm. long, and an opposite and inner one, 12 mm. long. The first or outside leaf was 22 x 44 mm., and the second or inside one 30 x 50 mm.; length of plant from bulb to top of scape, 112 mm.; scape deeply grooved, bearing a small bract 8 mm. below the first flower, of which there were ten.

The other specimen was very similar, but less in size, being 100 mm. in total length; outside leaf, 20 x 50 mm.; inside leaf, 16 x 45 mm.; spike with eight flowers, three of which were infertile.

WILLIAM BRODIE.

Liparis læselii.—(June 29, 1893.) Found two specimens near Balsam Avenue (I think), East Toronto, growing in marshy ground among grass. Height, 6 $\frac{1}{4}$ ' and 4 $\frac{3}{8}$ ' respectively.

MISS WILKES.