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# THE OTTAWA NATURALIST

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# THE OTTAWA NATURALIST

VOL. XXV.

OTTAWA, AUGUST, 1911

No. 5

## NATURAL HISTORY NOTES FROM CALGARY, ALTA.

BY NORMAN CRIDDLE, TREESBANK, MAN.

The following notes are from observations recorded at and in the vicinity of, Calgary, during the months of January, February, March and April, 1911.

Calgary is chiefly situated in a valley caused by the shiftings of the Bow and Elbow Rivers; it is surrounded for the most part, by rolling prairie and as there are few trees of natural growth, the situation, though a picturesque one, is not of the best from a collector's point of view. The river banks, however, yield some interesting life, and a few miles to the west, all in the city limits, is a large bank well wooded with aspen poplar, spruce and various shrubs. Here, too, is situated a gray sandstone quarry showing numerous fossils, and no doubt systematic work would bring to light much of interest. There are, also, some balsam, poplar, and other trees along the river banks, and numerous fine young trees may be seen in the city itself. In fact, there are many interesting objects in nearly every branch of natural history, and the enthusiastic young society formed for just such a study will find lots to do for many years to come.

The winter climate is usually a mild one, but as I witnessed, can be extremely cold at times. The changes in temperature are, also, remarkably rapid, and it is these sudden changes coupled with the small snow fall that make successful tree-planting, especially deciduous trees, so difficult to accomplish.

For the first two months little wild life was observed. Redpolls were the only common birds that could be seen daily among the weeds on vacant lots, doing what others had neglected, namely, destroying weed seeds. On March 3rd, I made this note in my journal: "So far the following birds have been seen during the winter: Magpies, Northern Shrike, Snow Buntings, Redpolls, Pine Grosbeaks and House Sparrows." The first spring arrival was a Slate-coloured Junco, on March 21. Other birds were first observed on the following dates—it

must be remembered, however, that these are chiefly city records and that some of the birds doubtlessly arrived sooner in the country. April 3: five Horned Larks; variety not determined; one Tree Sparrow. April 9: One Flicker. April 11: Greater Yellowlegs. April 13: Sparrow Hawk and Rough-legged Hawk. April 14: Two Crows. April 15: Robins. April 19: Mallards. April 22: Western Meadowlark. April 23: One Phoebe, two Red-tailed Hawks. (The Phoebe was sitting upon a telegraph wire uttering a loud double note rather different from what I had been accustomed to; indeed it puzzled me at first and I was obliged to get quite close before I was satisfied as to its identity. Since then, I have seen two others which looker browner than the typical form seen in Eastern Canada. Mr. Wolly-Dod, of Millarville, tells me they breed at his place.) April 27: American Pipits quite common. May 1: A single Myrtle Warbler was seen—and that is all.

On April 25, I went to visit the well known Lepidopterist, Mr. Wolly-Dod, and there spent two delightful days looking over his fine collection, which is remarkably rich in long series of Noctuidae. It would, however, take too long to relate all the interesting things seen there; sufficient to say that I gained much useful information and that Mr. Dod showed that generous hospitality which is a trait of so many true naturalists. I came away laden with specimens which would have taken years of labour to have gathered together under ordinary circumstances.

Among the birds at Mr. Dod's place I was interested to find a pair of Chickadees building a nest in a fence post, and a Magpie's nest, observed from a distance. This was in a rather large willow bush in a very exposed position; it appeared to be a very bulky affair almost as large as a crow's. Magpies are fairly common in Western Alberta and are said to be injurious on account of their destroying the eggs of other birds. When one considers, however, how our crow is condemned, quite wrongfully, for the same offence we are apt to ask ourselves who the authorities are and what their evidence is worth. There is no question, however, that these birds are great thieves and are just as troublesome to the trappers as the well known Whisky Jack.

To the west of Calgary in the wooded bank before mentioned, several crows, a pair of Red-tailed Hawks and a couple of Bald Eagles were nesting, but not in peace. There are always some idlers, whose chief pleasure in life seems to be to kill, and such a band was noticed here, doing their best to exterminate the only birds of the kind found in the neighbourhood. Higher

up the river I saw a pair of Ospreys, and Miss Moodie, a well known and talented local botanist, informed me that those birds had nested for some years along the rivers.

I found mammals, with few exceptions, still rarer than birds. At Millarville, bush rabbits appeared to be fairly numerous and there were also some west of Calgary. I saw, also, the track of a coyote, and there are undoubtedly members of the deer tribe in places, though I did not come across any. Of all the mammals the common Grey Gopher, *Citellus richardsoni*, is by far the most abundant. These destructive rodents are everywhere and are so difficult to deal with, owing to their dislike for poison, that they are a continual source of injury to crops and require persistent attention to keep them within reasonable bounds. Here is an instance of the value of hawks, the absence of which is doubtless largely responsible for the hordes of gophers.

Owing to the earliness of the season few flowering plants were observed. The crocus anemone, *A. wolfgangiana*, was in flower on April 10th, and a pretty little *Potentilla*, perhaps *pumila* or *concinna* was out on the 16th, while the Dwarf Phlox, *Phlox Hoodii*, first appeared on April 22, and a week later was out in profusion, some places being quite white with the flowers. *Juniperus horizontalis* and *Shepherdia Canadensis* were also in flower at this time. On the 24th, Wild Strawberry was observed and on the 29th *Lesquerella argentea*. On the 30th, a Dwarf Arabis was found along the river bank and also a single flower of *Viola conspersa*. The first of May was my last day in the field and but one additional flower was seen—*Thermopsis rhombifolia*. Several other plants were noted not yet in flower, many of them of much interest to me, but alas, I was obliged to leave them with their blossoms still unfolded.

For me, the greatest interest was centered in insects, particularly tiger beetles, and my first walk in the country was in quest of these creatures. I went out on April 16, in company with Mr. McDonald, with whom I was staying. We took the north bank of the Bow River, as being exposed to the sun and consequently giving more promise of success. We went westward and came upon the river some two miles out from the city. Here on the upper bank a *C. audubonii* was speedily secured, followed by a *graminea* and then other specimens of *audubonii*, while typical *obliquata* fairly swarmed on the sunny banks. The day was not particularly favourable, being both cool and windy, but in spite of that in approximately two hours' hunt we took 15 specimens of *obliquata*, 6 of *limbalis*, 9 of *audubonii* and 4 of *graminea*, as well as a *Calosoma zimmermanni* and several specimens of two *Eleodes* sp. All the Cicin-

delas were secured in much the same situation and in some instances all were taken together, but I observed that *limbalis* tended to inhabit damper soil, while *audubonii* and *graminea* preferred the drier land. The last two are remarkably alike in markings, in fact, are hardly distinguishable, apart from colour.

On the 22nd, I was out alone over the same ground and captured 19 *C. montana*; these were secured on the upper bank in dry situations where the vegetation was sparse. They had evidently but recently emerged from hibernating burrows, which accounted for their not having been seen previously. They are an interesting lot, being mostly immaculate and varying from black to bronze and occasionally greenish. A few more specimens of *audubonii*, *limbalis* and *obliquata* were secured and one *graminea*. On the 29th, I was along the Elbow in company with Mr. Eastham, of the Seed Branch, but we saw few insects, in fact did not look very hard for them, and only captured a single specimen each of *audubonii* and *montana*, both on the dry dark land which seems to be their natural habitat. On the 30th, I made my last excursion along the Bow with Mr. McDonald, who proved an enthusiastic collector and has a keen eye for natural objects. We found *obliquata* in vast numbers everywhere and secured several specimens of *montana*, *limbalis*, and *audubonii* and one of *12-guttata*. Strange that here this species seems so rare, while at Aweme, Man., it is the commonest of all in just such localities as we passed over. Several of *obliquata* were noted at this time with their abdomen buried in the soil, evidently depositing eggs, but though we searched over the original ground and elsewhere we found no specimens of *graminea*, and I strongly suspect that these, in company with others, had congregated along the river banks to pass the winter, as is so often the habit of tiger beetles. When we first came upon them they had just appeared from their winter homes which later they left to return to their summer hunting grounds, but where those are situated is as yet unknown. That they do go elsewhere and do not associate with *audubonii* during the breeding season is to me a stronger reason for separating them than is the not very well marked difference in colour. It is interesting to find three varieties so closely allied all in the same locality, yet even in so small an area each race finds conditions of soil and moisture that it prefers, and consequently separates it from its close allies.

Few other insects were observed and not more than a couple of dozen species were taken all told. These included a few specimens of *Calosoma zimmermanni* found burrowing in the earth, a few stoneflies, and the following Orthoptera; *Hippiscus*

*maculatus* or one of its forms, *Orphia frigida* and *Stiropleura decussata*, these being the only ones fully developed at this time.

I left for home on May 3rd, at the time when much life was only just awakening from its long winter sleep, so could only contemplate what I might have seen had I stayed.

### SOME RAPTORIAL MIGRATIONS IN SOUTHERN ONTARIO.

BY P. A. TAVERNER, GEOLOGICAL SURVEY, OTTAWA.

In many ways, Point Pelee is one of the most interesting bird observatories in Ontario, if not in Canada. Stretching, as it does, from the lower extremity of Essex County south into Lake Erie, it forms the extreme southern point of the Canadian main-land and, reaching away out towards the outlying islands, helps to form a natural passage-way across the lake for the north and south migrations. That birds take advantage of these natural stepping stones on the way, is evident to any one who spends a migration season, especially a fall one, on the Point. The most marked demonstration of this migrational movement is shown by the great flocking of individuals that occur there annually. There are certain species that we expect to occur at times in great numbers and flocks of blackbirds that darken the sky or pass like shadows across the sun are regular and expected occurrences in the fall months; but at Point Pelee we find gatherings of other species whose non-gregarious habits are in striking variance with the phenomena we observe here. Species that seem usually to drift through singly or in small gatherings of unnoticeable size at times occur in numbers that are easily designated "flocks." Such occurrences have been observed in many species of raptors and unusual flights have been noted at the Point of Sharp-shin, Cooper, Red-tailed, Red-shouldered and Rough-legged Hawks and Acadian Owls.

That these aggregations of individuals during migrations are pure manifestations of gregariousness is an idea open to much doubt. In most cases indications point to the fact that they are but gatherings brought together by a community of interest and are the result of congestion of a wide migration front into the narrow bounds of the Point.

How much land of the summer ranges is drained by this Pelee migration route it is difficult at this writing to state, but from the few illuminating glimpses we have had on the subject it must be an extensive territory. Much more work, however, is necessary in the country to the north before anything definite

in this direction can be arrived at. Some of the notes on a few of these flights may be of interest to the readers of THE OTTAWA NATURALIST.

SHARP-SHINNED HAWK. (*Accipiter velox*).

Flights of hawks are not rare in literature, but the great majority of them are irregular in occurrence and rarely seem to occur twice in the same place or in successive years. At Point Pelee, however, a flight of this species can be looked for regularly, beginning about Sept. 10th and lasting irregularly for about a week. About the middle of October another flight usually occurs, lasting several days and then gradually diminishing until cold weather sets in. The writer first saw this flight on September 9th, 1905. Sharp-shins were but normally common and we saw but one or two each day. The next morning, however, we found them everywhere on the Point: beating about the edges of the shrubberies, darting through the coverts like shadows and winging their way up and down the Point just over the tree tops, while high in the air their forms could be seen at all altitudes until they looked like mere specks in the sky. Standing in a small opening in the woods and looking out over an open field we could count from twenty-five to thirty individuals at any time of the day. During the flight there is usually a steady stream of hawks crossing from the end of the Point out towards the Ohio shore opposite, and during the height of the migration a man can stand near the end of the Point and shoot Sharp-shins almost as fast as he can load and fire. On September 18, 1906, Mr. W. E. Saunders, in company with Mr. B. H. Swales and the writer, counted, between 11.24 and 11.54 a.m., 133 Sharp-shins that left the main land for across the lake. Besides these, 74 more went out to the end of the Point and returned again, without crossing. An interesting point to observe is that this early September flight is composed almost entirely of juvenile birds in the brown plumage and it was not until October 16, 1908, that we saw any adults at all. This flight was not quite as heavy as that of the early young birds but we noted over a hundred birds daily, nearly all being adult males. At our station at the end of the Point the birds pass so close that there is no difficulty in distinguishing either plumage or sex; many of them pass within almost arm's reach.

The effect of this great increase of raptorial life on the small birds is most interesting. Up to their advent the woods are usually swarming with the small species of warblers, flycatchers, etc., but as soon as the Sharp-shins put in an appearance these disappear to almost nothing and the woods are almost lifeless. Most of the small birds seem to leave immediately and what

remain keep so close to the dense underbrush as to be most difficult to find. In spite of all their care, however, great numbers fall victims to the hunting of the hawks, and little scattered piles of fresh feathers dot the ground under the shelter of the red cedars, from one end of the Point to the other. The Olive-backed and Grey-cheeked thrushes are the greatest sufferers, in fact it almost looks as if the hawks followed these species down from the north, but the warblers, flycatchers, vireos and sparrows also have much to endure. The Blue Jays seem much harrassed but are so well able to take care of themselves that but few are caught. They assume an air of watchful bravado and though they often frequent the most exposed positions and are loud in their discordant calling, they seldom venture far from the protecting grape-vines and at an instant's notice are ready to dive down into their protecting depths. Brown Thrashers keep close in the thickest juniper growths and slink across from cover to cover in the most inconspicuous manner possible. Flickers, though often attacked, seem always ready to dodge behind a branch when they see danger coming and we have seen little or no evidence of their suffering to any extent from the assaults of the little *accipiters*.

COOPER HAWK. (*Accipiter cooperi*).

Though the Cooper Hawk flight is nothing in extent like that of its smaller relative, it is still well worthy of mention. It comes later than the first flight of the latter and many of them remain with the Sharp-shins until well into the late fall and early winter. Our first experience with them was September 26, 1908, when 150 birds were observed a day. Since then we have almost always found them abundant any time about the latter part of September and early October. If the Sharp-shins are hard on small bird life the Cooper Hawks are much worse. The flickers and Blue Jays that escape practically scot free from the smaller hawks suffer extremely from these larger enemies, and among the feathery remains that we find scattered over the ground many are those of Meadow Larks that do not put in an appearance until well along in September. Neither of these two hawks seem to do much hunting or moving about in the early morning and are usually not in strong evidence until the sun is well up. As in the Sharp-shins, the first birds to arrive in the fall are the juveniles, while the later ones are nearly all adults.

RED-SHOULDERED HAWK. (*Buteo lineatus*).

This species that we listed in our "Birds of Point Pelee" (1907)\* as, "the rarest *Buteo* on the Point," we have since

\* Wilson Bulletin, 1907.

found to be also subject to periodic flights. We saw one such on October 30, 1908, when, during our three days' stay, we noted about fifty birds each day.

RED-TAILED HAWK. (*Buteo borealis*).

The only flight of this species noted at the Point was on October 30th—November 1st, 1908, when "numbers were in sight at any one time." Without doubt flights of both of these latter species occur with fair degree of regularity.

ROUGH-LEGGED HAWK. (*Archibuteo lagopus sancti-johannis*).

The Rough-leg is usually regarded as one of the rare hawks in Southern Ontario and the seeing of a couple of individuals a season is a matter of some congratulation. On November 2, 1908, Mr. W. E. Saunders described seeing what may well, in this species, be regarded as a flight. During the day he saw about thirty-four individuals, most of them in the evening, when twenty-six were in sight at one time. They were all high up and sailing in great lazy circles but gradually working to the south. Again, on October 16, 1910, we observed about a dozen under the same circumstances as the above, mingled with a lesser number of Red-tails and Red-shoulders. They remained very high up and at times they even vanished from sight in the field of our glasses.

ACADIAN OWL. (*Cryptoglaux acadica*).

The flight\* of these diminutive little owls that we witnessed on October 15, 1910, was one of the most interesting occurrences of this kind that we have seen at the Point. In previous autumns we had found feathery remains of individuals that had been devoured by other larger birds of prey, but until this date we had never seen live individuals on the Point. This day, however, a few feathers scattered on the ground, caught our eyes and caused us to institute a careful search of the red cedar thickets; we were soon rewarded by the discovery of a bird sitting close up to a tree trunk and deep in the shadow of the concealing evergreen fronds. Shortly after, another was found and then more. In all, twelve birds were seen in time aggregating less than three hours. They were so inconspicuous and difficult to find that these could have made but a very small part of the birds that were present. We worked but a small part of the likely territory and without doubt the number of Acadian Owls present on the Point must have been very great. Most seen were within from six to ten feet of the ground and close up against the cedar trunks. They never flushed unless the branch they were on happened to be shaken, and sat so close and still that we were able to photograph one at

\* See Auk, July, 1911, pp. 329-334.

close range and finally almost touched it with the hand without its flying. The following morning the owls were all gone. We worked the thickets well for them but without finding a single bird. With them disappeared a number of Long and Short-eared Owls that were haunting the same localities the day previous and which we strongly suspected were to blame for the death of the two or three little owls whose remains we ran across in the course of our rambles.

### POPULAR ENTOMOLOGY.

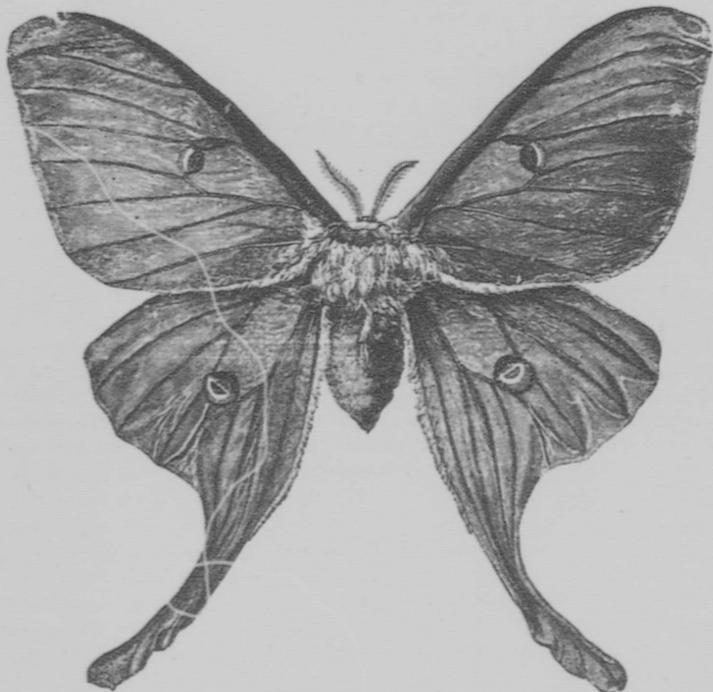
#### THE LUNA MOTH.

BY ARTHUR GIBSON.

Among the many kinds of beautiful insects which occur in North America, there are none which attract more general attention, when seen for the first time, than the large moths known popularly as Emperor Moths. Of these there are eight different species which occur in Canada: all belong to the family Saturniidæ. The caterpillars of these moths, known as the giant silkworms, are among the largest of the leaf-eating insects which we have. The larvæ are, of course, extremely voracious and, during this stage in the life of these insects, devour many times their actual weight of food. None, however, are of much economic importance, but where several occur on a small tree their work soon denotes their presence, and, if it is desirable to destroy them, hand-picking is the simplest remedy. Although the caterpillars of these Emperor Moths are so voracious, the moths themselves are unable to feed on account of their mouth parts being aborted.

The Luna Moth, *Tropæa luna*, which is figured on the next page, has most appropriately been styled "fair empress of the night" and "queen of the night." It was first described by Linnæus, in *Systema Naturæ*, in the year 1758, so has long been known to naturalists. It is indeed one of the most beautiful of all insects. The four wings are of a delicate green colour, the two front ones being bordered along the upper edge with purple, or purplish-brown, which colour also extends across the thorax near the head. The head, rest of the thorax, and abdomen is white, or pale greenish-white. The eye-like spot towards the middle of each wing is transparent in the centre and bordered with lines of white, pale purple, yellow and black on one side, and dark purple (or red), yellow, blue and black on the other side. The eye-like spot on each of the front wings is joined by a

band, which is mostly purplish, to the wide border, of the same colour, along the upper edge of the wings. The outer margins of the wings are also edged in the centre with purple, or purplish-brown. The legs are of the same purplish colour.



THE LUNA MOTH—SLIGHTLY REDUCED.

These moths may be found in Ontario and Quebec during the latter part of May and in early June. Specimens are often found in the day time, resting on the trunks of trees. They are active, however, only at night, when they are often attracted to the bright arc lights, especially those on the outskirts of towns and cities. Their flight is very graceful, and when seen flying around an electric light they are objects of much attraction, their long tails being very conspicuous in the bright light. Some seasons these moths are not uncommon. During the past few years many specimens have been sent to the Division of Entomology of the Dominion Experimental Farms, from widely separated localities. Almost all of the senders invariably make

the same remark, viz., that they had never before seen such a beautiful insect, and, of course, they all ask for its name and something of its life-history. Many of the boxes in which we have received these specimens contained, as well, pieces of sugar, etc. for the moths to feed on. Correspondents are surprised when told that they are unlike most other moths, in that they cannot feed.

Soon after the female moth emerges from the cocoon, she deposits whitish eggs, which turn dark before hatching. These are oval-cylindrical in shape and in size are about 2 mm. long by  $1\frac{1}{4}$  mm. wide. They are attached to twigs or laid on the leaves upon which the caterpillars feed. In about from fifteen to twenty days, according to the season, the eggs hatch. The larva at first are pale green, about one-quarter of an inch in length, with brown markings on the head, and some have markings of the same colour along the side of the body. They cast their skins five times, and during the different stages noticeable changes take place. The tubercles on the body which at first are very small, become quite large in the later stages, and there is a conspicuous change in their colour. As the caterpillar becomes older yellowish lines appear on the body. The tubercles, when the larva is mature are, as a rule, pearl-colored tinged with purple; at the end of the body there are three brown spots edged with yellow. In some specimens the tubercles are of a much brighter colour; one writer described them as "blazing like a coronet of rubies." The larva is now about three inches long and of a beautiful pale bluish-green colour, the yellow band along each side of the body being conspicuous.

The caterpillar has been found feeding on walnut, hickory, butternut, maple, birch, beech, oak, willow, plum and sweet gum. When mature, in late summer, it, as a rule, leaves the tree upon which it has been feeding and makes an irregular oval cocoon, generally among leaves on the ground. The cocoon is thin, not nearly as tough as that made by the American Silkworm, *Telea polyphemus*, which is a much more common insect in eastern Canada. The winter is passed as a pupa inside of the cocoon and the moths usually emerge in May.

#### THE PREPARATION OF A CATALOGUE OF THE INSECTS OF CANADA.

By C. GORDON HEWITT, D. Sc., *Dominion Entomologist*, Ottawa

At a meeting of the Executive Committee of the Entomological Society of Ontario, held at Guelph, Ont., on November

4th, 1910, it was unanimously agreed that the preparation of a catalogue of Canadian insects was desirable, and that such a list should be dedicated to Dr. C. J. S. Bethune, in recognition of his long and valuable services to Canadian entomology as Editor of *THE CANADIAN ENTOMOLOGIST*. A special committee of the society was appointed to arrange for and take charge of the work of preparing the proposed catalogue.

The following members constitute the committee:—Dr. E. M. Walker, (Pres.), Dr. C. Gordon Hewitt (Vice-Pres.), Messrs. G. Chagnon, N. Criddle, J. D. Evans, Arthur Gibson, W. H. Harrington, T. D. Jarvis, H. H. Lyman, G. A. Moore, G. E. Sanders, J. M. Swaine, A. F. Winn, F. H. Wolley-Dod and Prof. T. D. A. Cockerell.

Suggestions as to the form and scope of the catalogue, and the method of preparation, were drawn up and submitted to the members in a circular, issued on March 10th, 1911, with a request that it should be considered, and that further suggestions should be submitted.

Opinions which were submitted on the subject, and further suggestions on the part of members of the committee, have resulted in the formation of the following scheme, which will be adopted in the preparation of the catalogue, as they represent the views of the majority of the members.

1. The list will be entitled, "A Catalogue of the Insects of Canada and Newfoundland," and it will include all species known to occur in Canada, (including Labrador) and Newfoundland, whether previously recorded or not. Alaskan species will not be included, but may be published as an appendix.

2. The various species will be classified under the orders, sub-orders, families, sub-families, and genera, in ascending order wherever possible. The arrangement of the genera will be systematic and, so far as is possible, the species also.

3. The names will be given of the authors of all generic and specific names mentioned, with the date (year) in the case of each genus.

4. Under each species will be given:

- (a). A reference to one or two good descriptions of the insect, not necessarily the original one; these will be descriptions which are as accessible as possible. If possible, reference will be given to a good published figure, and if such is contained in one of the references it will be indicated by the addition of (fig.) after the reference.

- (b). The geographical distribution within Canada and Newfoundland; this will be indicated, as a rule, by

Provinces, in order from east to west, e.g., N.S., Ont., B.C., etc. The characteristic faunal zones inhabited by the species will be indicated, so far as it may be possible, by abbreviations; thus: Ar.-Arctic, H.-Hudsonian, C.-Canadian, T.-Transition, Au.-Austral. Where a species is known from a few localities only, the names of these will be given with the name of the captor in cases where the species recorded is of great rarity.

- (c). If the type locality of a species is Canadian it will be given, and the places where type specimens of Canadian species are deposited will also be given when possible.
  - (d). The Latin name of the chief food plants will be given in the case of the Lepidoptera, Cecidomyiidae, Aphidae, Coccidae, Phytophagous Hymenoptera and Coleoptera. (Gray's New Manual of Botany will be used throughout for the names of the food plants).
  - (e). In the case of parasitic species the name of the host or chief hosts will be given wherever known.
5. Recent important changes in synonymy will be noticed.
  6. In the case of new and previously unpublished records the collector's name will be given in every case.
  7. No species of which there is no trustworthy record or specimen available is to be included.
  8. Fossil species will be included, and also introduced species, including greenhouse species but the fact that they have been introduced will be indicated in those cases in which the fact is known.

The work of preparing the catalogue will be divided among the members, approximately, as follows:

Aptera, Orthoptera and Neuropteroid orders.—Dr. E. M. Walker.

Hymenoptera.—Messrs. W. H. Harrington, G. E. Sanders, and Prof. T. D. A. Cockerell.

Coleoptera.—Messrs. J. M. Swaine, G. Chagnon, N. Criddle, and J. D. Evans.

Lepidoptera.—Messrs. Arthur Gibson, H. H. Lyman, A. F. Winn, and F. H. Wolley-Dod.

Diptera and Siphonaptera.—Dr. C. Gordon Hewitt.

Hemiptera.—Prof. T. D. Jarvis, and Mr. G. A. Moore.

These members will be responsible for the lists prepared by them, and such lists will be published under their names. In the preparation of such lists it will be necessary to seek the co-operation and assistance of other specialists and all such assistance will be fully acknowledged.

The division of the work in the different orders will be

systematic rather than according to the geographical regions in which the members may be located; this will necessitate the co-operation of workers in different regions.

In the compilation of the catalogue it is intended to index the species on the regular card-catalogue cards 5 in. x 3 in., which will be supplied to the members. A single species will be listed on each card. The card will thus contain the information which it is intended to include in the catalogue. For example, the Spruce Budworm, *Tortrix fumiferana* Clemens, would be indexed and listed as follows:

*T. fumiferana* Clemens.

Proc. Ent. Soc., Phila., v. 139, 1865.

U.S. Ent. Comm., 5th Rep., pp. 830-838 (Packard), 1890.

Dist.: Eastern Can., Man., B.C.

*Food Plants:* Abies, Picea, Pseudotsuga.

The catalogue will be published, under the editorship of the writer, by the Geological Survey of Canada, by arrangement with and the consent of the Minister of Mines and the Director of the Survey. It will appear in parts as the different orders, or families, in the case of large families, are completed, and its publication will necessarily extend over a number of years.

#### GENERAL EXCURSION TO CHELSEA.

The general Excursion of the Club to Chelsea on May 27, was a most successful one. The attendance was fairly large and included many normal school students. The afternoon was spent chiefly in Gilmour's Grove and along the river bank. Most of those present were interested in botany, so under the leadership of Dr. Blackadar and Mr. J. W. Gibson, the party first visited the falls and then at once started to gather specimens. Only a few of the more interesting ones are here noted. Among trees the Striped Maple (*Acer pennsylvanicum*) and the Mountain Maple (*A. spicatum*) were in fruit. No doubt all the species of *Acer* could have been discovered, but the others were past the flowering stage. Among the herbs that have a more or less aromatic or edible root the following were noted:— Wild Sarsaparilla (*Aralia verdi-caulis*), the Dwarf Ginseng (*Panax trifolium*), the Toothworts (*Dentaria laciniata* and *D. diphylla*), the Wild Ginger (*Asarum canadense*) and the Indian Cucumber-root (*Medeola virginiana*).

The lily family is well represented at this time in the woods. Some well in fruit including the Bellwort (*Uvularia perfoliata*), the Dog's-tooth Violet (*Erythronium americanum*), the Purple Trillium and the large white one, (*Trillium erectum* and *T.*

*grandiflorum*). The following were in flower: the Clintonia (*C. borealis*), the False Spikenard (*Smilacina racemosa*), the "Wild lily of the Valley" (*Maianthemum canadense*), the Twisted-stalk (*Streptopus roseus*), the Solomon's Seal (*Polygonatum biflorum*) and the Painted Trillium (*T. undulatum*), formerly called (*T. erythrocarpum*).

There was only one specimen of the Orchis family brought in, the stemless Lady's Slipper (*Cypripedium acaule*), although a more careful search might have revealed several others which are known to grow in the neighborhood and to be in flower at this time, including the Showy Orchis (*A. spectabilis*), and two or more rein-orchis (*Habenaria orbiculata*, *A. bracteata*, etc.)

The buttercup family was represented by the small-flowered Crowfoot (*Ranunculus abortivus*) which grows in the woods, and very probably by the one that grows in the open fields, and named after one of our most enthusiastic leaders, (*R. Macounii*). The Columbine (*Aquilegia canadensis*) and the Baneberry (*Actaea rubra* and *A. alba*) were also in flower. Among the small herbs observed were the False Mitre-wort (*Tiarella cordifolia*), the Mitre-wort or Bishop's Cap (*Mirtella diphylla*), the Dwarf Raspberry (*Rubus triflorus*), the Star Flower (*Trientalis americana*) and the Jack in the Pulpit, (*Arisaema triphyllum*). The tiny Twin-flower (*Linnaea borealis*) was just in bud, the Dwarf Cornel (*Cornus canadensis*) was just open, the Aromatic Wintergreen (*Gaultheria procumbens*) had lost most of their last season's delicious berries, as had also the Partridge-berry (*Mitchella repens*), to some hungry birds.

The ferns were well represented by the Polypody (*Polypodium vulgare*), the Beech Fern (*Phegopteris polypodioides*), the Oak Fern (*P. dryopteris*), the Lady Fern (*Asplenium felix-femina*), the Christmas Fern (*Polystichium acrostichoides*), the Marginal Fern (*Aspidium marginale*) and some others of this family; the Bladder Fern (*Cystopteris bulbifera*), the Sensitive Fern (*Onoclea sensibilis*), and the Ostrich Fern (*O. Struthiopteris*), the Common Moonwort (*Botrychium virginianum*) and probably several others of this family that were not recognized. The Maiden-hair (*Adiantum pedatum*) and the Interrupted Flowering Fern (*Osmunda Claytoniana*) were also seen.

One great advantage of these outings is the training of the eye, what to look for and where to look; to observe the many forms and outlines, the differing shades of green, and the character of the surface, whether it is smooth, or has a bloom, or is hairy or rough. When once a specimen has been determined and then carefully pressed, the plant is never forgotten, and whenever it is seen again it is recognized and many pleasant associations are recalled to memory. This profitableness and

pleasure of being able to recognize the trees and plants was referred to in his speech by one of the "Fathers" of the Club, and his apt quotation from Shakespeare was received with applause.

E. H. B.

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### BIRD NOTES.

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**TURKEY BUZZARD.**—Mr. Andrew Hafflin shot one of these birds, near Lake de May, in January last. This is a new record for the Camrose district. The bird was reported to have spent several years around the lake, living on dead animals. Bird life was scarce in Northern Alberta last winter, there being no large migrations of such birds as the Great Gray Owl, Hawk Owl, or Snowy Owl. Some years in a day's drive a dozen of these birds can be seen. The reason they were so scarce last winter was, I think, owing to the extreme cold and much snow in the far north. I collected a beautiful male Evening Grosbeak in December and there were flocks of Pine Grosbeaks with us all winter.

F. L. FARLEY, CAMROSE, ALBERTA.

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**EVENING GROSBEAK.**—The Rev. A. E. Richard reported that in February last, Evening Grosbeaks were present at Buckingham, Que., and attracted a good deal of attention. One flock of about thirty, which he had under observation was first seen in the latter part of December. The birds were seen later on Jan. 21st, Feb. 6th, Feb. 14th and Feb. 17.

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**NESTING OF BLACK DUCK.**—On April 30th, while passing through some swampy ground at the edge of a large area of heavy timber at Rockfield, Que., we flushed a Black Duck off her nest of eleven fresh eggs. The nest, which was made of broken weed stalks and feathers plucked from the bird itself, was placed about 18 inches up on a mound and against the base of a large maple tree. Three hundred yards of the surrounding territory was under three inches of water.

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