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THE
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of the

OTTAWA FIELD-NATURALISTS' CLUB.

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VOL. XII.

OTTAWA, APRIL, 1898.

No. 1

ANNUAL REPORT OF THE OTTAWA FIELD-NATURALISTS' CLUB, 1897-98.

The Council submits the following account of the Club's work during the year 1897-98 :—

The number of members now on the roll is approximately 225. Twelve meetings of the Council were held during the year. At the first of these, according to custom, leaders in the several branches, viz., Geology, Botany, Entomology, Ornithology, Conchology and Zoology, were appointed, besides an Editor and Associate Editors of "The Ottawa Naturalist.

At the invitation of the Royal Society of Canada to send a Delegate, our President, Professor Prince, was chosen to represent us. Owing to his absence during the Royal Society's deliberations at Halifax, Dr. Ami presented the annual account of the work of the Club, which will be found in the Transactions of the Royal Society of Canada.

Three general excursions were held during the summer. The first to Chelsea on 22nd May, 1897, as reported in the June number of "The Ottawa Naturalist." The second was to the Pickanock on 19th June, and reported in the July number of "The Ottawa Naturalist." The third was to Chelsea on 2nd October, and is reported in "The Ottawa Naturalist" for September.

"The Ottawa Naturalist," the official organ of the Club, has been under the Editorship of Dr. H. M. Ami, with a staff of Associate Editors. During the year, in addition to the Reports of Branches and a record of the Proceedings of the Club, many valuable papers have appeared of a biological and varied scientific nature. Among these the following may be mentioned :

"Post pliocene deposits of the Ottawa Valley," by Dr. H. M. Ami.

"Bird Notes," by Mr. W. T. Macoun (several notes of much interest which appeared throughout the year).

"Weather," by Mr. Otto J. Klotz.

"Fruit Growing in Canada," by Mr. John Craig.

"The Pelican," by Prof. E. E. Prince.

"A Naturalist on the Pacific Coast," by Mr. A. Halkett.

"The Cryptogamic Flora of Ottawa," by Prof. J. Macoun.

"Birds of the Magdalen Islands," by Rev. C. J. Young.

"Recent Conclusions in Quebec Geology," by Dr. R. W. Ells.

"Geological Formations of the Ottawa District," by Dr. R. W. Ells.

"Pleistocene Geology of the Ottawa Valley," by Mr. W. J. Wilson.

Valuable additions have been made to the library, including a series of reports of the U. S. National Museum and a complete set of twelve volumes of the works of the late Professor George Ville upon Agricultural Chemistry, kindly presented to the Club by Mme. Ville.

During the winter months the Club held a course of seven soirees, at which papers were read by the various leaders and other members of the Club, and many interesting Natural History specimens were exhibited. Besides the ordinary course of lectures—the programme of which appeared in the Club's magazine for November—Prof. Prince, President of the Club, gave three special lectures or practical demonstrations of the anatomy of a Fish, of a Bird, and of a Mammal, respectively. These were of great interest and were highly appreciated by those in attendance.

The thanks of the Club are due to the Young Men's Christian Association, which kindly put the Association Hall at its disposal for the lectures, as well as to Dr. J. A. MacCabe for the use of rooms in the Normal School for the monthly Council meetings and for the library

In response to the appeal made by the Club to the Hon. G. W. Ross, Minister of Education for the Province of Ontario, a grant of \$200.00 was received through the generous liberality of the Ontario Government; and some months ago Dr. S. P. May, of Toronto, Inspector of Mechanics' Institutes and Libra-

ries, had an informal interview with some of the members of the Council in regard to the work of the Club.

In addition to the ordinary work of the Club, as set forth above, certain work of an educational character has also been carried on. Considerable progress has been made in the naming and arranging of botanical specimens donated to various schools in the Province of Ontario—the ambition of the Club being to as far as possible aid in establishing a complete herbarium in the Normal School, Ottawa, and sister institutions. A special course of afternoon lectures, largely attended by the children of the Public Schools, was given in the Y.M.C.A. Hall, by Messrs. Fletcher, Prof. Macoun, Prince, and Ami. A special course of lectures was delivered at the Experimental Farm to students of the Normal School, by Dr. Saunders and the following four members of the Council: Messrs. Fletcher, Shutt, Craig, and W. Macoun. These lectures were on scientific topics, agriculture, and some other subjects of educational interest and value. Thus, outside its special work as a Naturalists' Society, the Club has continued to do active educational work in various directions, with, it is not too much to claim, results of a substantial character.

ANDREW HALKETT,

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REPORT OF THE ENTOMOLOGICAL BRANCH, 1897.

To the Council of the Ottawa Field-Naturalists' Club:

The leaders have unfortunately to report that comparatively little was accomplished by members of the Club in this branch of its work, and few records of important, or even interesting captures have been handed in from the Ottawa district. Collections of considerable interest have, however, been made in different parts of Canada and submitted to the leaders for identification. Dr. Robert Bell, F.R.S., etc., Assistant Director of the Geological Survey, made a small but most interesting collection of Lepidoptera in Baffin Land, which greatly increases our

knowledge of that little visited region. Mr. A. W. Hanham, of Winnipeg, Mr. E. Firmstone Heath, of Cartwright, and Mr. Boger, of Brandon, have continued their studies of Lepidoptera in Manitoba, and have made records of great value in determining the geographical distribution of many species. At Qu'Appelle, Assa., Mr. W. E. H. Porter has commenced the collection of Coleoptera, and at Boucher, Mr. Coubeaux has made some very interesting captures, chiefly coleoptera.

Mr. T. N. Willing, of Sylvan Glade, near Olds, Alta, for several years a member of the Club, is now making a systematic study of lepidoptera, both diurnal and nocturnal. He has already added much to our knowledge of some rare species. During the past summer Mr. H. B. Sanson, curator of the Museum of the National Park at Banff, Alta, has taken up the insect fauna of the Rocky Mountains. Although his time was very much occupied by his official duties, he collected more than thirty species of butterflies, as well as some moths. One of the latter—*Brephos infans*—was of particular interest, as it occurs at Ottawa, and had not previously been recorded so far west. Mr. W. H. Danby, formerly of Victoria, B. C., has sent in two collections consisting of beetles, butterflies, moths and a few hymenoptera. These collections were made at Rosslund, B. C., where Mr. Danby now lives.

In Vancouver Island excellent work has been done among the local insects, and the Leaders are delighted to welcome back again to the ranks of the active working entomologists our old friend Rev. G. W. Taylor, who has done more than any other man to work out the natural history of the Island, not only in Entomology and Conchology, in connection with which his name is so well known, but also in many other branches. Among many interesting insects captured by him may be specially mentioned a rare butterfly, *Thecla Siva*, and the curious wasp parasite, *Trigonalys Canadensis*, regarding which Mr. Taylor has published important observations in the "Canadian Entomologist" (Vol. XXX, p. 14, Jan. 1898).

In the Queen Charlotte Islands the Rev. J. H. Keen, probably the most westerly resident American collector, has con-

tinued a critical study of the coleoptera of those little known islands, where, in spite of the remarkable fact that it rains at least for some part of almost every day in the year, he has made a large collection of extreme interest. Several species, previously only known by one, or very few specimens, have been obtained in large series. Among such may be mentioned the curious *Liparocephalus brevipeennis*, Mack., *L. cordicollis*, Lec., and *Tanyrhinus singularis*, Mack. Some species new to science have also rewarded his painstaking researches, such as *Haida Keeni*, Fauvel, and *Platycerus Keeni*, Casey.

Regarding the different orders of insects, there are a few records of general interest, as follows:

COLEOPTERA.—Since the last report a valuable contribution to entomological literature, "Coleopterological Notices, VII," has been received from the author, Capt. Thos. L. Casey. Among the new species described in this volume are several which occur more or less abundantly at Ottawa. With one exception they are all minute beetles belonging to the Scydmenidæ and Pselaphidæ, and occurring usually in the damp mosses of swamps, or in the nests of ants. The following is a list of the species mentioned as inhabiting Canada:

CARABIDÆ.

- Brennus insularis*, n. sp. Queen Charlotte Islands (Keen).
Diplochila alternans, n. sp. A form occurring with *D. impressicollis*, Dej. (Ottawa, etc.), in which the alternate intervals of the elytra are dark red.

SCYDMENIDÆ.

- Lophoderus bififormis*, Makl.—Queen Charlotte Islands (Keen).
Eucannus clavipes, Say.—Toronto.
fatuus, Lec.—Ottawa. Common in Dow's Swamp.
Pycnophus rarus, Lec.—Ottawa, etc. Not rare in colonies of *Lasius alienus*.
Connophron gaudens, n. sp.—Ottawa. Moderately abundant.
fossiger, Lec.—" Common in swamp moss.
pe'linax, n. sp.—" Rather rare; a very small sp.
Scydæneus hadius, n. sp.—" One specimen.
corpusculum, n. sp.—" Somewhat common in moss.
californicus, Mots.—Queen Charlotte Islands (Keen).

PSELAPHIDÆ.

- Batrissus Harringtoni*, n. sp. Ottawa.
Decarthron laurenticum, n. sp. "
Reichenbachia corporalis, n. sp. "
horealis, n. sp. "
binodifer, n. sp. Vancouver Island.
spatulifer, n. sp. Ottawa.

Pilopius saginatus, n. sp. Ottawa.

Tyrus humeralis, Aubé. “

CURCULIONIDÆ.

Copturodes dispersus, n. sp. Ontario.

An excellent monograph of the North American species of *Bembidium*, one of the largest and most difficult groups of the Carabidæ, has been published by Mr. Roland Haywood, and will be of great assistance to students in this hitherto perplexing genus. During the preparation of this paper a series of Ottawa specimens was forwarded to the author for examination, and among them was found one new species, which received the name *Bembidium Canadense*. The only two examples known of this pretty little beetle were taken at Brown's Wharf, opposite Buckingham, on 24th May, 1891. Another interesting species which occurs here, generally in swamp moss, and which had passed in collections as *B. lampros*, Herbst., was found to be distinct from that European species, and was named *B. muscicola*.

American coleopterists, as indeed all entomologists, have to lament the death, on 24th Nov., 1897, of Dr. Geo. H. Horn, who for many years has been recognized as the most eminent exponent of the insects of this great order. His collection of beetles was probably unequalled by any in America, and in the groups which he specially studied he is stated to have been unsurpassed by any in the world. His numerous papers always gave evidence of careful and skilful work, and of a remarkable faculty for recognizing important structural characters, and of making critical comparisons of the various members of any group investigated.

LEPIDOPTERA—Some work has been done during the past season in tracing out the life-histories of native lepidoptera. Eggs of the bright and active little moth *Brephos infans*, were received from Montreal, through the kindness of Mr. H. H. Lyman, President of the Entomological Society of Ontario. The caterpillars were reared on the leaves of the canoe-birch. They proved very interesting pets. During the whole larval period several leaves, around the

one on which the caterpillar was feeding, were held together by single silk threads; not abundant enough to permit of the enclosure being termed a nest, but sufficient to give much protection, and to steady the leaves at the tips of the slender twigs. Perhaps the most interesting observation on these caterpillars was with regard to their behaviour when ready to pupate. Owing to the large amount of silk spun over the food during the caterpillar stage, it was expected that the larvæ would spin cocoons, but instead they wandered restlessly about their cages, sometimes entering the earth at the bottom, but always coming out again, after a short time, and resuming their wanderings, very much in the same way as had been observed of the larvæ of the Cornel Sawfly (*Harpiphorns tarsatus*). Profiting by experience with the latter, a piece of rotten wood was supplied to them and they immediately burrowed into it and were no more seen. It is therefore probable that this is the natural method of pupation for this species. The pretty little moth flies very early in the spring, and sometimes is seen before the snow is off the ground,

Of injurious insects particular mention must be made of the Forest Tent-caterpillar (*Clisiocampa disstria*), which, for miles along the Ottawa river, stripped the aspen groves of every vestige of foliage, and also attacked more or less seriously several other varieties of trees. Much attention was attracted by their depredations upon the trees on, and around, Parliament Hill and elsewhere. During a part of July the moths from these caterpillars, as will be remembered, were so remarkably abundant throughout the city for several evenings as to cause considerable inconvenience to pedestrians. This was especially the case in the vicinity of electric lights, and shopkeepers suffered much annoyance from their swarming upon and inside their windows, and flying in through every opening. Immense numbers were destroyed in the arc lamps, and by being trodden under foot as they crawled upon the pavements. It is hoped that these obnoxious moths may not be so abundant next season.

A visit to the Mer Bleue, in the middle of June, resulted in

the capture of two specimens of *Argynnis Triclaris* and one of *Thecla Augustus*, and in the woods near the railway station a pair of *Phyciodes Batesii* were captured.

HEMIPTERA.—But few specimens were collected in this order, but mention may be made of the rather unusual abundance of *Corimelaena nitiduloides* and *Pentatoma juniperina*. The former occurred upon Turtle-head and Goldenrod, and the latter swarmed upon the White Cedars at the Experimental Farm. At a recent meeting of the Club an account was given of the San José scale, and specimens of this insect were exhibited. As was then stated, this minute insect, which has such enormous powers of injuring fruit trees, has occurred at five points in Western Ontario and at three in British Columbia. Vigorous efforts are being made by the Provincial and Federal Governments to stamp out this pest.

HYMENOPTERA.—An unusually wet spring was apparently the cause of a noticeable scarcity of at least the larger forms of hymenoptera. This scarcity was particularly marked among the social bees and wasps, whose colonies are started by solitary hibernated fertilized females, styled queens. If unfavorable weather prevents the mother bee or wasp from obtaining food for the first brood, it must follow that the growth of the colony is greatly retarded, or that it may even perish. Micro-hymenoptera seemed abundant on the comparatively few collecting outings, but these minute forms are so numerous, and so varied in their habits, that they may be obtained under almost any conditions. A very nice series, including several additions to our lists, was taken even as late as 3rd Oct., on the occasion of the Club Excursion to Chelsea. The Ottawa representatives of the genus *Ichneumon* have been recently re-studied and rearranged and are found to number over seventy species, which may serve to indicate the immense number of forms belonging to the order Hymenoptera.

JAMES FLETCHER,
W. H. HARRINGTON, } *Leaders.*
WILLIBERT SIMPSON, }

REPORT OF THE ORNITHOLOGICAL BRANCH OF
THE OTTAWA FIELD-NATURALISTS' CLUB
FOR 1897-98..

In submitting the report of the leaders of the Ornithological branch of the Ottawa Field-Naturalists' Club, we trust that it will not be considered amiss if it is prefaced by a few general remarks.

In a city the size of Ottawa, with the great facility which the collections at the Geological survey afford for the identification and comparison of specimens, it is a great disappointment to us, that so few persons take an interest in the study of our birds and their habits. To our knowledge not one boy or girl in the city is making a systematic collection of birds or eggs, nor attempting to study them in the field; and of the members of the Field-Naturalists' club, who are especially interested in birds, none seem to have the time or opportunity nowadays to make more than casual observations, with the exception of Mr. Geo. R. White, who seems to find leisure to make frequent excursions to the field, the results of whose expeditions appear, from time to time, in the columns of the "Naturalist." Much valuable data has been forthcoming from those who have had time for casual observations, only, but we are very desirous that more of our members should find opportunities to get to the woods and take notes on what they see and hear.

Those who have helped the Leaders of the Ornithological branch during the year by the free use of their notes are.—Mr. Geo. R. White, Dr. Jas. Fletcher, Prof. J. Macoun, Mr. W. A. D. Lees, Mr. H. B. Small, Mr. H. S. Marsh, Mr. W. E. Saunders, Mr. F. A. Saunders, and Mr. G. Muirhead, of Hadder Hall, Aberdeenshire, Scotland.

One addition was made this year to the list of Ottawa birds. On the 30th of March, Mr. G. Muirhead shot two female specimens of the Evening Grosbeak (*Coccothraustes vespertina*) in the Rideau Hall grounds. According to McIlwraith this bird has been seen in Ontario but four times, previously. At Toronto

on the 25th of December, 1854; at Woodstock, in May, 1866; at London, in 1871, about the same time of year; at West Flamboro, in 1883, on the 17th of March; and along the shores of Hamilton Bay and other points east, 1890. The usual range of this bird is Western North America, east to Lake Superior and south to Mexico.

During the year, notes have been taken on 116 species of birds which is considered fairly good, considering the few persons who made observations. The dates on which these birds were first seen will be found in the "Naturalist."

The scarcity of bluebirds (*Sialia sialis*) was again noticed this year, but very few having been seen. It is a matter of great regret that this beautiful bird is disappearing so rapidly.

An increase in the number of meadow larks (*Sturnella magna*), was very apparent, several pair breeding on the Experimental Farm, where their peculiar call in early spring was heard very frequently.

On the 19th of July the Olive-sided flycatcher (*Contopus borealis*) was seen at Kazabazua, P.Q., by Mr. W. E. Saunders of London, Ont. It is not often that this bird is seen in the Ottawa district. The Red-tailed hawk (*Buteo borealis*) which is also a rare bird, was seen at the same place on the 20th by Mr. F. A. Saunders.

A Fox-sparrow (*Passerella iliaca*) was seen by Mr. Geo. R. White along the Aylmer road on the 4th of December, which is a late date for this sparrow to remain here.

A very interesting record was the passing up the Ottawa river of Brunnich's murre, or guillemot (*Uria lomvia*) in large numbers, on the 12th of December. The birds, in flocks of from 20 to 100, were passing Rockcliffe from 10 a.m. until 3 p.m. Several were shot. On Monday the 13th, one was caught alive in a field between Metcalfe and Osgoode station, which lived for two days. On examination the stomach was found empty. All of the birds obtained were in very poor condition.

Birds have been scarce about Ottawa this winter, probably due to its great severity and abundant snow-fall and the lack of

certain kinds of food. A small flock of Pine grosbeaks (*Pinicola enucleator*) was seen by Mrs. Ridley of Vittoria St., on the 21st of December; another flock was seen by Dr. Fletcher on Argyle Avenue on 2nd of January, and small flocks, by Mr. Geo. R. White on the 6th, 9th and 13th. A female was seen by Mr. W. T. Macoun on 2nd of February, which is the last date recorded. No Cedar-birds or Bohemian wax-wings have been seen this winter, but crows and snow-birds have been noticed every month, of the latter Mr. H. S. Marsh saw a large flock on the Ottawa river on the 27th of February, and Mr. G. R. White noted the arrival of the spring migration of crows on the 6th of March.

The Great Northern Shrike (*Lanius borealis*) was seen by Mr. White on the 27th January and 8th and 25th of February. He also, on the 10th of February, saw a Sharp-shinned hawk (*Accipiter velox*) feeding on an English sparrow, and on the 17th a male Goshawk.

The horned larks (*Otocoris alpestris*) were first seen at the Experimental Farm on the 17th of February. This is five days earlier than the first date last year and perhaps the earliest on record.

For other notes in regard to the work done by the Ornithological branch, we would refer you to the Ottawa Naturalist,

A. G. KINGSTON,
Gertrude HARMER, } *Leaders.*
W. T. MACOUN,

ORNITHOLOGY

Edited by W. T. MACOUN.

Last year a special effort was made to obtain, from several observers of birds, the records which were taken from time to time, by each individual, of the arrival, nesting, habits, and time of departure of our birds, and to publish those portions of them which were deemed of greatest value. The results of these efforts were published every month during the early part of the year and we are led to believe that many persons took

considerable interest in reading "Bird notes" in the columns of the "Naturalist."

This year we propose to continue this work and begin by publishing notes for February and March. We here give public expression of our obligation to those who so faithfully sent in the records of their observations last year. During this season the following persons have consented to assist in publishing reliable data regarding our birds: Miss G. Harmer, Mr. Geo. R. White, Prof. J. Macoun, Dr. J. Fletcher, Mr. A. G. Kingston, Mr. W. A. D. Lees, Mr. H. S. Marsh, and Mr. C. H. Young.

BIRD NOTES FOR FEBRUARY AND MARCH.

Horned Lark—*Otocoris Alpestris* (Linn.)

Two were seen on the 17th of February by Mr. W. T. Macoun, at the Experimental Farm. They were seen in small flocks a few days later.

Prairie Horned Lark—*Otocoris Alpestris praticola* (Hench.)

Miss Harmer identified one of these birds on the 24th of February; Dr. Fletcher records a small flock on 18th.

Purple Finch—*Carpodacus purpureus* (Gmel.)

A male specimen of this bird was seen by Mr. A. G. Kingston on the 11th of March and again on the 17th.

Song Sparrow—*Melospiza fasciata* (Gmel.)

Seen by Mr. C. H. Young, near Hurdman's Bridge, on the 11th and by Mr. H. S. Marsh, near Hartwell's Locks on the 13th. They were abundant near the Experimental Farm on the 17th.

Robin—*Merula migratoria* (Linn.)

Seen by Mr. C. H. Young, near Hurdman's Bridge, on the 15th; by Mrs. Ridley, of Vittoria St., Mr. Geo. R. White and Col. Irwin, on the 16th; and by Dr. J. Fletcher and Mr. A. G. Kingston on the 17th.

Bronzed Grackle—*Quiscalus quiscula æneus* (Ridgw.)

This bird was first seen on the 16th by Dr. J. Fletcher and Mr. White.

Red-winged Blackbird—*Agelaius phœniceus* (Linn.)

A male was seen by Mr. White, at the east end of the city

on the 16th :Mr. Young, saw one on the 17th, and on the 19th, one was observed by Mr. Marsh.

Bluebird—*Sialia Sialis* (Linn.)

One seen by Mr. W. T. Ellis, Mr. H. Fixter and Mr. Macoun, at the Experimental Farm, on the 16th ; Mr. Young saw one on the 27th and 28th, and Miss Harmer, on the 30th.

Canada Goose—*Branta Canadensis* (Linn.)

Seen by Miss Harmer, on the 16th ; a flock of about 41 was seen by Mr. Marsh on the 21st.

American Rough-legged Hawk—*Archibuteo lagopus Sancti-Johannis* (Gmel.)

Shot by Mr. Young on the 16th.

Meadow Lark—*Sturnella magna* (Linn.)

This bird was seen by Mr. Young on the 17th. It was observed by Dr. Fletcher and Mr. Macoun at the Experimental Farm on the 25th and a male was seen by Mr. White on the same date.

Cow-bird—*Molothrus ater* (Bodd)

Seen by Mr. Macoun near St. Louis Dam on the 18th.

Slate-coloured Junco—*Junco hyemalis* (Linn)

This bird was first seen by Mr. Macoun at the Experimental Farm on the 19th. On the 21st they were numerous.

Marsh Hawk—*Circus Hudsonius* (Linn)

First observed by Mr. Young on the 20th and a male shot on the 23rd.

Brown Creeper—*Certhia familiaris Americana* (Bonap)

Seen by Miss Harmer on the 26th.

Hooded Merganser—*Lophodytes cucullatus* (Linn)

A pair were seen by Mr. White near Templeton on the 26th.

Buffle Headed Duck—*Charitonetta albeola* (Linn)

Mr. White saw a pair below Rockliffe on the 26th.

Black Duck—*Anas obscura* (Gmel.)

Four were seen by Mr. White on the Ottawa River on the 26th.

Wood Duck—*Aix sponsa* (Linn)

A pair were observed by Mr. White near Duck Island on the 26th

Cooper's Hawk—*Accipiter Cooperi* (Bonap)

A male was seen by Mr. White on the 27th.

Tree Sparrow—*Spizella monticola* (Gmel)

Seen by Mr. Macoun at the Experimental Farm on the 28th.

Wood Pewee—*Contopus virens* (Linn.)

Seen by Dr. Fletcher on the 28th.

Phoebe—*Sayornis Phoebe* (Lath.)

Seen by Miss Harmer on the 29th.

Mr. W. E. Saunders, London, Ont, in a letter to Dr. Fletcher gives the following dates on which he first recorded the arrival of some of the birds at London. These are very interesting for comparison with our Ottawa dates :

Robin, 8th of March ; Meadow Lark, 9th ; Bluebird, 9th ; Killdeer Plover, 10th ; Bronzed Grackle, 10th ; Song Sparrow, 10th ; Red-winged Blackbird, 10th ; Tree Sparrow 10th ; Red-tailed Hawk, 11th ; Junco, 11th ; Flicker, 17th ; Kingfisher, 18th,

Mr. Saunders says :- "Birds are not exceptionally early here. this spring ; but just about the average or even a little late. Flowers however are early. Snowdrops were in bloom a week ago, Crocuses and Eranthis about 17th, Erigenia in my garden on 19th.

With regard to the dates of arrival of the birds, doubtless most of those noted on 10th, could have been seen a day or two previously. I have often noted that my own opportunity, rather than the presence of the birds marks their recorded arrival here. To obtain really reliable records of arrivals, one should have begun for this year on March 5th, and each day walked 10 or 20 miles along the railroad. He would then be prepared to hear the birds if they were here. As it is, one chances to hear a Bluebird on March 9th, and records it as the first, whereas if he had been walking a few miles away on the 7th, he might have seen a little company of them."

NOTES OF A NATURALIST IN BRITISH COLUMBIA

The following interesting notes have been kindly communicated to the Club by Mr. W. E. Brooks of Mount Forest, Ont. They are extracts from letters from Mr. Allan Brooks, an ardent naturalist sportsman and collector, now living at Vernon,

Vernon, B. C., 7th Nov., 1897. My dear Father, — After my last unlucky trip after Bighorn I did not like to tell you that I was going after them again, as I knew you would be anxious about my going so late in the year; but I am now safe back again, and I send you a sketch of my best head as mounted by myself; length of horns $26\frac{1}{2}$ inches, circumference 14 inches. I also got a ewe and a yearling, as well as a 9-point buck male deer. My companion, Dick Ford, got a 2 year old ram, with horns about half as big as the above, and 3 deer. We could have shot many more deer, but it was no use wasting game. There was an old miner, placer mining in the creek up there, for whom we got a winter's supply of meat, so very little meat was wasted. I was so bent on getting them this time that I ordered a .30 cal. smokeless rifle, as they are the rifles for long range; but after all I had to go without it, as it was necessary to send to the factory for it. If I had had it, I should have got 3 heads like the above. The average shot is 300 yards, and most of my shooting was done at double that distance. I wounded some others which I never got. Like the Rocky Mountain goats the Big-horns are very tough and take far more killing than a Black Bear. I shot the old ram through, behind shoulder, smashing the opposite shoulder, and again as he was going away (175 yards) half an inch above root of tail, the bullet ranging through his vitals, and again in the chest before he went down. A big buck I shot in the same place, only made 2 jumps and rolled over, and it, too, was further away when I fired. The ewe I knocked over at 250 yds; she and a ram were standing together.

Of birds I saw large flocks of *Leucostictes*, Clark's Crows very common, and lots of Ravens, also Golden Eagles. Once

when I was scouring the opposite side of a canyon with my glass a fine adult Golden Eagle settled on a level with my eyes 30 yds. away ; I tried to raise my rifle slowly, but he spotted me at once and away he went ; a few minutes after when I saw my sheep 600 yds. away and opened fire, another flew out from under me, but far down the side of the canyon. Is is a fearfully rough country, deep canyons, rock slides, and precipices. The old ram that I shot was the only good chance I had, and it was over 150 yds., running, when I fired my first shot. Most of my shots were across deep canyons at 500 yds. or so, or else straight, up over head. In either case it was almost impossible to estimate the distance. If I had only had my .30 I should have had a gun that would shoot up to 300 yds. without moving a sight and with far more killing power than my Remington, which in future I shall keep for target practice.

In the last three months I have bagged 5 deer, 2 goats, 3 sheep and 2 prairie wolves. I could have killed far more deer if I had wanted to, also goats and ewes, for that matter. The ewes have much smaller horns than the rams.

I have taken no less than 4 species of *Arvicola* here, which with the 4 taken in the Chilliwack District makes 8 species of *Arvicola* (or *Microtus*, as it is now called), and if the close allied genera of *Evotomys* and *Phenacomys* are included, it brings the total up to 10 or 11 species of Voles taken in the two localities.

Lots of prairie chickens here now ; they go in big packs and are wild, getting up at long range with a great cackling and sailing away a mile or more before settling again.

We are having cold, snowy, windy weather here now, but I have a garment that defies cold, viz. a Hudson Bay shirt, made of heavy felt with knitted collar and cuffs like a jersey, and it is put on in the same way.

Vernon, B. C., Jan. 2, 1898, I am just back from another trip to the "Big-horn" Mountain. My companion was a man called Wilson, a very good fellow and the best guide for sheep around here ; but, for all this, neither of us got a shot at sheep, as they were on the steepest parts of the hillsides where our snow shoes would not work. One splendid old ram seemed to

challenge us to come up to him, as he stood silhouetted on a ridge two thirds of a mile above us. But it was as much as our lives were worth to attempt it, so we left him alone.

They should have been down in the bottom of the canyon at this time of the year, but the great numbers of Cougars' tracks explained their keeping to the bare open elevations, where they could see the crawling cat afar and make off.

Deer were very numerous: saw 73. The hillsides were all cut to pieces by their zig-zag trails, and we saw where several had been killed by cougars. We refrained from shooting them, as the meat would have been wasted. I shot one, a small one, for camp meat, and when we came out we shot one or two more, close to the lake, which we brought home. These gave me a chance to see how my rifle works. The first was nearly 200 yards away, I raised my sight $1\frac{1}{2}$ degrees and shot over him; instead of lowering my sights, I simply held well down his foreleg and piled him up in his tracks, with a shot through both shoulders, the two bullet holes in the snow bank at the other side of the deer were within three inches of each other, one straight over the other. My old rifle at this range would have had to be raised 3 degrees or so, while this one shot *high* with $1\frac{1}{2}$. This shows how flat it shoots. I also shot a very big buck with a fine head at 140 yards as he walked across me, twice through the paunch and liver, and *he did not go ten yards* before dropping dead. His liver was torn to shreds, and his lungs were all congested; and bleeding bloody froth from nose showed what a terrible shock the bullet gives; the lungs were not touched by the bullet at all. I saw Golden Eagles and Ravens up there, after the animals the cougars kill.

Vernon, B. C., Feb. 1, '98.—I was near Okanagan Lake, opposite Vernon, during the 2nd and 3rd weeks of January, and brought back a lot of Nuthatches with me, Red-bellied (*Sitta Canadensis*), Slender-billed (*S. aculeata*), and Pigmy (*S. pygmaea*). They were all mixed together in big bands, with Chickadees, Gold Crests, etc. Strange to say, Townsend's Solitaire, a delicate Sialine bird is staying here all winter and singing.

ALLAN BROOKS.

OTTAWA HORTICULTURAL SOCIETY.

The Premium list and Prize List of this thriving Society have appeared and are worthy of the attention of the members of our club. Not only are there offered as premiums new or little known plants, in value actually exceeding the modest annual subscription of \$1.00, but prizes for over \$400 are offered for competition at the monthly meeting; but what is of particular interest to our local naturalists, special prizes are offered by the President for the best collections of noxious weeds and injurious insects. We make this announcement of the society primarily for the benefit of our botanical and entomological members, but also in recognition of the excellent work which is being done by the Horticultural Society to advance the science of horticulture in what we consider is the proper way. Prizes are given for the best specimens that the skill of the horticulturist can produce of standard varieties of fruits, vegetables and flowers, also for novelties advertised by seedsmen, and upon which so much good money is sometimes wasted, and for new or little known plants or fruits of merit. At each of the monthly exhibitions, which are open to the public, an address is to be delivered by some specialist upon a seasonable subject. Intending competitors for the above prizes should send their names, together with the fee, \$1, without delay to the secretary, Mr. J. F. Watson, 88 Sparks Street.

SPRING ANNOUNCEMENT.

Special efforts are going to be made this season to render the sub-excursions of the different branches as useful and interesting as possible. It has been decided to change the rendezvous from the post office to the end of the electric railway track, nearest to the locality chosen for investigation. Some of the leaders will therefore meet all who wish to avail themselves of these open air classes, at 3 p. m. on the following Saturday afternoons.

April 16, Rockcliffe,

April 23, Hull.

April 30, St. Patrick St. Bridge for Beechwood.