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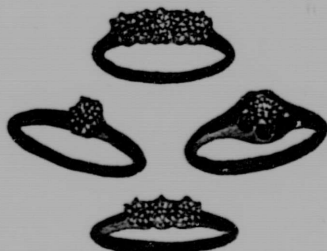
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## THE PRONG-HORN ANTELOPE.

(*Antilocapra americana*, Ord.)

BY PROFESSOR EDWARD E. PRINCE, DOMINION COMMISSIONER  
OF FISHERIES, OTTAWA.

Like most railway travellers, crossing our vast wastes of prairie in the west, I have found one of the most interesting occupations to be that of observing the mammals, birds, etc., which from time immemorial have peopled the lonely plain between Brandon and the foot-hills of the Rockies. It has been my lot to make the journey nearly a score of times, but it never proves wearisome if one keeps a sharp lookout for living creatures on these grassy wilds. On my last recent trip I saw once more the usual gophers, prairie hares, hawks, ducks, geese, and sea-gulls in numbers, the beautiful prairie wolf or coyote with bushy tail, either wandering deviously like a lost sheep-dog or taking a survey from a rising knoll, while the appearance of a badge shambling along rewarded my sight. These I had seen before, yet in spite of my keen watch for antelopes, I had crossed the prairie time after time without seeing those wonderfully interesting animals. On one occasion, however, when travelling from Prince Albert to Regina, in the company of His Grace Monsignor Pascal, and I was in the act of expressing my disappointment at always failing to see any antelope, His Lordship suddenly turned to the right as we stood on the rear platform of the car, exclaiming, "Why, there is a band of them," and, lo, five or six of these lovely creatures proudly pranced along not more than 100 yards from the train. With heads aloft and stepping high on their nimble feet, they recalled the action of trained ponies in a circus. They were going northward as our train sped south, so that my near view was brief, but the beautiful animals were so near and apparently so fearless that I had ample time to notice their form, colour, and general appearance. Their active graceful actions delighted me. Few experiences in the wilds, and

I have had many, have given me greater pleasure, and I felt rewarded for my long disappointment in failing to see before that remarkable mammal the prong-horn antelope of Canada.

Several years have since elapsed and I continued to keep a keen outlook on the occasion of my many recent journeys, but I was not privileged to see the antelope again until a few weeks ago. In the first week of May, about 70 miles west of Swift Current, a western man in the Pullman car was calling my attention to a large herd of cattle scattered over some low hills, 400 or 500 yards from the railway track, when he excitedly exclaimed, "There's a small band of antelope beside them." A group of four or five prong-horn antelope were grazing about one hundred yards from the cattle. They fed nervously and every few seconds one or other of them would raise his head and look round, keeping watch. They were plainly to be seen, though less favourably than the group which I had observed a few years before. My friend had the keen acute vision of the western man, familiar with the moving objects of the plains, and he had made no mistake. Indeed, one can make no mistake about this graceful prairie animal as it haughtily tosses its head and looks round, the dark perpendicular horns resembling a high crown on its forehead and adding to its proud bearing. The slender neck held erect, the sharp nose, high forehead, small ears not unlike those of a pony, and the forked curved horns, impart to it a peculiar aspect, very characteristic, and not readily forgotten. There is a resemblance to the goat, the delicate trim feet and the erect horns being so goat-like, but the expression of the eyes and the light graceful bearing recall the deer tribe. Our prong-horn antelope is indeed neither a deer nor true antelope nor goat, but is intermediate in position, and combines their zoological features. Like the giraffe, which is also a unique Ruminant, the antelope of the Canadian prairie occupies a position by itself amongst mammals. The Ruminantia form the highest group of the even-toed Ungulates or hoofed animals. This group includes the Bovidæ or hollow-horned cattle, oxen, sheep, goats, and true antelopes; the Cervidæ or deer, the Ruminants with solid horns; the Camelidæ or Camels; and two peculiar families, the Giraffidæ or Giraffes, and the Antilocapridæ or Prong-horn Antelopes. These two last families are remarkable as containing each only one species, unless there be two species of Giraffes. The Prong-horn is therefore a unique species in a unique family, and cannot be ranked with any other living ruminant. In height our antelope is about three feet at the shoulder and about forty-eight inches from snout to tail, while its weight averages 70 pounds, being therefore much smaller than the Virginia deer (*Cariacus virginianus*),

which is usually four feet high and about five feet in length and averages 100 to 175 pounds in weight. The general ground-colour is almost white with a kind of saddle or saddlecloth patch on the back and the side of the body, of a light yellowish brown; the neck is brown with two bands or collars of white across the throat, there is a dark patch on each cheek, the nose is dark and the chin and sides of the mouth pale ochre. The tail is almost black, and a large patch of white surrounds the tail region. The white hairs forming this large rounded patch are said to be erectile, and in extreme fear or anger they rise and give a very peculiar appearance to the prong-horn. This complex arrangement of white, yellow, and dark brown would be grotesque were it not for the grace and delicacy of the form and action of the wearer of these colours.

The sharp goat-like muzzle, the high precipitous forehead, the bright piercing grey eyes near the summit of the brow and close below the root of the horns, the slender erect neck, perpendicular short ears and the deer-like body make a peculiar combination. The creature is a goat with its trim delicate legs, not an antelope; its hair is coarse, tubular and fragile just as is the hair of a deer. But it has no tear-canal near each eye with the double lachrymal apertures of the deer, and the posterior accessory hoof or "deer claw" is absent. There is a mane, not unlike that of the moose, consisting of firm, erect red hairs projecting four or five inches from the back of the neck. But the most striking feature is the pair of horns standing upright on the summit of the brow, 10 or 12 inches high and of a black or dark brown colour, thicker at the base and for a third of the total length, at which point the prong or sharp knob projects forward, while the sharp upper part curves backward like a hook. The short anterior fork on each horn imparts a peculiar jaunty aspect to the head, and justifies the name "prong-horn." But still more remarkable is the fact that this hollow horn is deciduous or shed annually. All the deer tribe have solid antlers, which are shed each season, but in the oxen, antelopes, goats, sheep, etc., the horns which are of the nature of a sheath covering a projecting bony core of the frontal bone, are not shed but permanent through life. Alone amongst cavicorn or hollow-horned ruminants, the prong-horn sheds these ornaments which are possessed by both sexes. The hollow horn becomes loose in mid-winter after the "battles of the fall," and in January or earlier they drop off. The frontal process or core, if examined after the old horn has dropped, is found to show fine white projecting hairs developed in a soft epidermal layer. At the tip these hairs are black and dense and they coalesce to form the new horn. A writer in *Forest and Stream* (New York) stated that:—

"Towards autumn the periosteum becomes thicker, and takes on the character of skin, and from this skin grows the fine hair, which, as stated, finally pushes the sheath of the old horn away from its supporting bone, and at the extremity of the skin becomes new hard horn. After the sheath has been shed, the hair continues to grow, and as it grows it becomes matted together below the tip, dark and hard, and gradually working down toward the head, changes from a covering of single hairs, which are white in color, to a mass of black agglutinated fibres, precisely like the sheath which the animal carried the year before. This process gradually extends further and further down the horn, until at the base it is sometimes difficult to be certain just where the sheath ends and the skin of the head begins.

"During September and during the first half of October, antelope use their horns to some extent in fighting, and often come together with considerable force and energy, and push head to head for a long time. It is not probable, however, that such battles are ever severe enough to loosen the horns, or that they have anything to do with the annual loss of the sheath, which has been described."

It is an interesting fact that the female prong-horn possesses these ornaments, but they are smaller, rarely more than 3 or 4 inches long, if hunters are to be trusted. Packard gives an interesting figure, after Hays, of a young prong-horn with a pair of sharp conical horns, not pronged, but covered with hair like the rest of the head. Its method of feeding is unlike that of the deer for it crops grass but never nibbles leaves or shrubs. It is nomadic and so far as I could learn has no special local haunts.

Formerly large bands numbering thousands roamed over the prairie, but it is now scarce, indeed in some of the western states it is quite exterminated, so that where fifteen years ago in a county, in Colorado, fifty thousand of these beautiful creatures were known to exist, to-day there are not fifty. They never frequent wooded or sheltered districts, but constantly roam over the open plains where they are exposed to the hunter's rapacity. East of the Rockies, in Canada, small bands may be found, but excepting in California where a few have occasionally been noticed, the prong-horn is absent from the coast country west of the mountains. Only in severe storms do they forsake the open country, and seek shelter on the slopes of coulees, and they have been known to migrate hundreds of miles in winter to find slopes where the snow was light and feed obtainable. They cannot subsist on the rich eastern grasses, or live confined in sheltered reserves, and in captivity very little grass must be given if the captives are to be kept in health.



Even on the prairie they are subject to mysterious maladies, due no doubt to improper food, and they have been noticed to be plentiful one year and very scarce the next from this cause. The year 1873 (or 1874) was said to be a scarce year for prong-horns. Owing to their rapid nimble gait they can cover long distances, especially when disturbed. "In fleetness", says Caton, "they exceed all other quadrupeds of our continent." When feeding out in the open, usually standing prominently on some rounded grassy area, they are visible from a long distance; but on the lower flats, and near coulees, they are less easily detected as their peculiar patched coloration effectually masks them. When watched one sees them feeding for a few moments and then moving on, one or two of the herd constantly raising the head and keeping a lookout. The wolves are their main enemies, apart from the insatiable cruelty of man, and in June when the young are born, the prong-horns are especially on the alert. Theodore Roosevelt tells of the spectacle described by a western rancher who saw a prong-horn attacked by two eagles. It was a brave contest, the animal rearing on his hind legs and striking like a goat with his horns and hoofs. Curiosity is so strong in these animals that it makes them an easy prey. When suddenly startled they make several leaps, high from the ground, then stop and stare wildly. They are easily shot then. Often a band will run a few hundred yards, wheel about and stare vacantly, and return almost to their starting point. This "circling" habit enables the unscrupulous hunter to slaughter a whole herd, indeed a hunter has been known to shoot a wagon load of them before the remnant of the herd fled away. When once started in full cry they veritably fly, apparently scarcely touching the ground; but they are soon exhausted and a horse has no difficulty in keeping up with them if the chase is prolonged. A bright cloth waved on a stick will cause a herd to approach a partly hidden hunter. The older larger animals are the most inquisitive, and the hunter can make sure of the finest prong-horns. Curious, nervous, swift in flight, they have the reputation of being plucky when cornered and make a gallant and dangerous fight. When leisurely trotting along at their leisure, as I saw them from the end of a Pullman car, nothing could be more easy, elegant, and confident. I have only once tasted prong-horn or antelope steak, and I found it juicy, fine-grained and of exceedingly good flavour.

Why is it that this lovely and scientifically interesting native animal is allowed to be exterminated? Its numbers on our prairie are few compared with the large bands of twenty years ago. Unlike the buffalo, as settlement proceeds, it need not become extinct if protection is afforded and our prairie

settlers educated to care for, and not destroy, this almost unique creature. The vast herds of buffalo had to go, the huge savage bovine defied the settler; but this swift and timid animal would keep out on the lonely waste far from danger, and would survive, were anything done to prevent merciless slaughter.

*Antilocapra americana*, Ord., is dissociated in every way from the typical antelopes of the old world and is neither a deer, a goat, a sheep, nor an ox. One American author says, "It is like an island in a vast sea, unrelated," though it would be more true to say that it is a connecting link related to many diverse branches of the Ruminantia. Its horns are hollow like the Bovidæ, but deciduous like the Cervidæ; yet it has the gall-bladder which no deer possesses. Scent glands which antelopes and deer exhibit, the prong-horn lacks, nor has it the tear sinus, nor the posterior hoof or "deer claw." Mr. Roosevelt characterizes it as "the extraordinary prong-buck, the only hollow-horned ruminant which sheds its horns annually"—and it is the sole species in the family Antilocapridæ, a family all by itself. It combines features of the deer, antelope, goat and sheep, and can be compared only to the giraffe in this respect as occupying an isolated zoological position amongst the Ungulates.

In confinement it makes a great pet, but rarely lives long and, until June, 1903, none had been known to have been born in captivity. It is difficult, if not impossible, to domesticate completely and, since it was first scientifically described in 1855, and its peculiar features studied in a captive specimen in the Zoological Gardens, London, its numbers have continued to decrease so that it bids fair to soon become one of the rarest of our interesting larger native mammals.

### WINTER BIRDS AT POINT PELEE.

BY W. E. SAUNDERS, LONDON, ONT.

The most southerly piece of land in Canada is the south end of Point Pelee, the latitude being about 41' 55°, while London is almost exactly 43' and Ottawa about 45' 25°. It will readily be seen that there is sufficient variance between these places to make a radical difference in the winter bird population and it was, therefore, with much interest that Mr. J. S. Wallace and I undertook this year a couple of journeys to determine what the winter population of the Point actually was.

In the midst of a mild season it happened that the two closing days of January and the 1st of February produced the

most severe weather that had been seen at Point Pelee during the whole winter, so that, as far as enjoyment was concerned, it could not be called first class, but for the real purpose we had in mind, namely, to find out just what birds stayed at the Point through the winter, it was perhaps ideal. If the birds have the power of foretelling weather and desired to miss the most strenuous spells, they certainly would have been absent from the Point at this time. The two closing days of January were one continuous blizzard, and yet, in the midst of weather of this character, the Carolina Wrens were still to be heard singing. Cardinals ought to be fair winter singers, but the weather overcame their spirits. They and the Carolinas are usually to be found even in summer, in that part of the Point which we call "The Jungle," composed of a tangle of grape vines with shrubbery in a rather open forest growth, and here were grouped most of the birds that we saw, and a queer group it was. Bluebirds and Robins, Carolina Wrens and Cardinals, Redpolls and Goldfinches, Evening Grosbeaks and Cedar birds, with three Bohemian Waxwings, all living under practically the same conditions, although at varying heights from the ground. In the list which is appended, everything which we expected we might find is not included, and on the contrary, of those which we found we are inclined to think are not regular winter residents. For instance, our one Brown Thrasher and Chipping Sparrow, although in good condition physically were probably left behind through some unusual, and perhaps individual cause. The lone Cowbird was not in good health and doubtless felt unable to make the crossing.

It would seem, however, that the Hermit Thrushes, Chewinks, Vesper and White-throated Sparrows, Bluebirds, Robins and Flickers must be regular winter residents. It chanced that we saw only one Song Sparrow on two separate days, but it is hardly to be doubted that further exploration of the thickets would have resulted in the discovery of more.

In the following list the numbers noted are those taken from the days of greatest abundance. As we were working the same ground every day it would be manifestly unfair to consider that we saw different birds each day, but the probability is that we saw rather more than the numbers given.

Bluebird .....	40	Redpoll.....	50
Robin.....	15	Purple Finch.....	60
Hermit Thrush.....	5	W. W. Crossbill.....	1
Golden-crowned Kinglet..	40	Evening Grosbeak .....	3
Brown Creeper.....	15	Cedar Bird.....	15
Carolina Wren.....	11	Bohemian Waxwing.....	3

White-breasted Nuthatch.	3	Flicker.....	8
Brown Thrasher.....	1	Downy Woodpecker.....	10
Cardinal.....	8	Dove.....	1
Chewink.....	5	Crow.....	1
Cowbird.....	1	Blue Jay.....	5
Junco.....	25	Prairie Horned Lark.....	1
Snowflake.....	50	Marsh Hawk.....	3
Vesper Sparrow.....	4	Cooper's Hawk.....	10
Song Sparrow.....	1	Red-shouldered Hawk....	1
Tree Sparrow.....	100	Bald Eagle.....	3
Chipping Sparrow.....	1	Long-tailed Duck.....	500
White-throated Sparrow..	9	Am. Merganser.....	10
Goldfinch.....	30	Golden Eye Duck.....	1
Pine Finch.....	10	Herring Gull.....	25

Our next visit to the Point was on March 14, 15 and 16, by which time a large number of changes had taken place. We arrived late in the afternoon of the 13th and the next morning our ears were greeted by songs of the Robin, Song Sparrow and Cardinal, and the call of the Chewink. Before the day had fully dawned we were on our way to the end of the Point to see, if possible, the northern migrations in the very act of arrival from the south. On our way down the Carolina Wrens were added to the above-named chorus and numbers of other birds were heard, particularly Bluebirds and Crows. At the end of the Point we found we were doomed to disappointment as we saw nothing whatever arrive from the south. To our surprise we saw a small number of English Sparrows migrating south and this experience was repeated in the days following, but northern migration of the same species was also noted on the latter days. A short distance away from the end of the Point we saw a large flock of Cedar Waxwings which we judged were just arriving, and on the 15th a flock of Cowbirds in the same condition, but both of these were flying vigorously and might have rested near the end of the Point.

Two curious facts were noted, first, three Shore Larks came from near the end of the Point and flew north-east across the Lake, only a few feet above the water. They disappeared in the distance still holding the same direction. The other occurrence was that of a small flock of about nine Crossbills which flew almost directly east up the Lake. We watched them also until they had disappeared, still holding their course.

The jungle chorus on this trip was something to be remembered. The birds seemed to congregate in the same locality as that in which we found them six weeks before but their numbers were very much increased and the later date brought

them into a much more musical frame of mind. The group found on this trip consisted of about 20 or 30 each of Redwings and Rusty Blackbirds, 50 Purple Finches, 100 Tree Sparrows, 5 White-throats and 50 Redpolls, with an occasional Carolina Wren. All of these were singing nicely, though of course they had not yet their full spring voices. Added to these were others, such as Juncos, Bluebirds, Waxwings and Goldfinches, which were not as yet singing at all but the melody produced by all these sweet voices was exceedingly agreeable to our ears, eager as we were for bird music. Each day this group of birds was to be found in the same spot which was evidently the song centre for the whole Point.

On our former trip we saw four Vesper Sparrows and toward the end of February Messrs. Taverner and Swales also saw four of these, but on the present occasion only one was noted. This, however, is sufficient to show that this species does winter in Canada, although in small numbers.

With the thawing of the ice in the marsh the muskrat trapping had begun and the ducks were returning. Black Ducks were in the majority but Redheads, Ruddys and Buffles were also there, and on the open Lake the two large Mergansers and the Golden Eye, nearly 200 altogether were seen.

The Bohemian Waxwings of our former trip were gone and we saw no Grosbeaks either, but winter had left one representative behind in the person of a Snowflake. We had not a very good view of this bird but it appeared to be acquiring the black spring plumage.

The last birds which we added to our list were the Kildeer and Bronzed Grackle, only 7 of the latter. At London one is puzzled to know which Blackbird arrives first and my own idea has been that the Bronzed is ahead of the others, but our experience at Pelee seems to point to the Redwing and Rusty as the earlier species, with the Cowbird next, followed closely by the Bronzed, of which there had been no noteworthy arrival up to March 15th. Of course the relative date of arrival in other years might vary from that of 1909, but certainly Point Pelee seems to be the place where migrations can be studied under advantages which cannot be obtained elsewhere.

One exceedingly striking point noted during last autumn, and this spring so far, has been the entire absence of any migratory movement on the part of the Chickadee. One bird, I think, comprises the whole number seen in about eighteen days' observation during the period mentioned, showing that this bird sometimes, at least, is practically resident.

The following list comprises as nearly as possible the birds seen on the three days of this latter trip:—

Bluebird.....	300	Red Cross Bill.....	13
Robin.....	100	Redpoll.....	100
Hermit Thrush.....	1	Cedar Bird.....	100
Golden-crowned Kinglet..	75	Flicker.....	5
Brown Creeper.....	2	Downy Woodpecker.....	4
Carolina Wren.....	10	Crow.....	400
White-breasted Nuthatch.	1	Blue Jay.....	5
Red-breasted Nuthatch...	1	Prairie Horned Lark.....	15
Cardinal.....	15	Marsh Hawk.....	4
Chewink.....	10	Great Horned Owl.....	1
Cowbird.....	150	Bald Eagle.....	1
Bronzed Grackle.....	7	Kildeer Plover.....	2
Red-winged Blackbird....	150	Red-head Duck.....	40
Rusty Blackbird.....	75	Buffle-head Duck.....	12
Meadow Lark.....	25	Black Duck.....	150
Junco.....	50	Golden Eye Duck.....	7
Snowflake.....	1	Blue Bill Duck.....	8
Vesper Sparrow.....	1	Ruddy Duck.....	2
Song Sparrow.....	100	Am. Merganser.....	150
Tree Sparrow.....	150	Red-breasted Merganser..	150
White-throated Sparrow..	5	Ring Billed Gull.....	10
Goldfinch.....	30	Herring Gull.....	50
Purple Finch.....	50		

#### MEETINGS OF THE ENTOMOLOGICAL BRANCH.

December 17th, 1908. Meeting held at the residence of Mr. W. H. Harrington. Present: Messrs. Halkett, Groh, Baldwin, Gibson, Young, Wilson, Eifrig, MacLaughlin, Harrington (in the chair), and Master G. Eifrig.

On opening the meeting the Chairman referred to the great loss which the Entomological Branch, in the death of Dr. James Fletcher, had sustained. He spoke of his remarkable knowledge of all things concerning insects, and how much he would be missed by all the members of the Branch, by all of whom he was much loved. The December numbers of the Canadian Entomologist, Entomological News, Le Naturalist Canadien, and the Journal of Economic Entomology, all of which had full obituary notices, were shown by Mr. Harrington, and read by those present. The Chairman also referred to the death of Dr. William Ashmead, of the United States National Museum, and showed his photograph. Dr. Ashmead was one of the leading scientific entomologists of North America, being the highest authority on the large order, the Hymenoptera. Mr. Harrington also showed Fascicule No. 62 of Genera Insectorum, on the subfamily

Pimplinæ. This was much admired by all present. He also placed on view several cases containing his collection of local species. These were of much interest.

Mr. Groh exhibited a box containing about eight species of plant lice illustrating the differences in size, wing venation and general structure. Mr. Groh reported that he had given special attention to the collection of plant lice during late summer and autumn and had found these insects on about 70 different plants.

Mr. Baldwin exhibited some lepidoptera, in all 20 specimens. These were all of local species which had been collected during the past summer. Some fine specimens were noticed of *Oligia festinoides*, *Melalopha apicalis* and *Azelina ancetaria*.

Mr. Young exhibited some living chrysalids of one of the Orange-tips, (*Anthocharis*). These are curious objects with their conspicuous keel-shaped projection. The specimens were collected by Mr. Young at Departure Bay, B.C. He also showed some parasitized larvæ, and living pupæ of a species of *Alcis*, a geometrid moth. A general discussion followed on the pupation of the Rhopalocera.

Mr. Gibson showed a small collection of named Ephemeroidea which had been collected in Manitoba, chiefly at Winnipeg, by Mr. J. B. Wallis. It was pointed out that good work could be done in making collections of these insects and in observing their habits, as little was known concerning the greater number of Canadian species. A box of Hemiptera taken at Vernon, B.C., by Mr. E. P. Venables was examined with interest. Among these were specimens of *Eurygaster carinatus*, *Carpocoris remotus*, *Nysius scolopax* and *Geocoris uliginosus*, var. *limbatus*.

Rev. G. Eifrig exhibited a small collection of lepidoptera which he had made in Germany in 1908. Also a few specimens of the large handsome *Merphos* from Brazil. These were much admired.

A. G.

January 7th, 1909. Held at the residence of Mr. Arthur Gibson. Present: Messrs. Harrington, Simpson Baldwin, Eifrig Jr., Groh, Halkett, Metcalfe, Young and Gibson.

Mr. Harrington spoke at some length on the sub-family Pimplinæ of the Hymenoptera. He had been re-arranging his local collection of these insects; and stated that 70 different species are known to occur at Ottawa. Of these he exhibited 48 species and gave information concerning many of them. The sub-family Pimplinæ belongs to the super-family Ichneumoidea, the members of which have unusually long and slender bodies. They are decidedly beneficial in nature, preying upon injurious kinds of insects; they thus render very important service to the agriculturist.

Mr. Metcalfe showed *Anisota rubicunda*, a very beautiful moth, also specimens of the injurious leaf-hopper, *Typhlocyba rosæ*. The insects known as leaf-hoppers occur on grasses and trees and shrubs of all kinds, and many are decidedly destructive. Mr. Gibson spoke of the injury caused last year in eastern Ontario to potatoes, beans and other plants by the apple leaf-hopper, *Empoasca mali*.

Mr. Baldwin exhibited specimens of *Silvanus surinamensis* which had been found in Ottawa on bags of flour. This little beetle is a well known enemy of stored grain, dried fruits, etc. He also showed a small general collection of coleoptera, among which was noticed a specimen of *Pityobius anguinus* which is rare at Ottawa.

Mr. Young brought to the meeting a box of micro-lepidoptera beautifully mounted. Among these were co-types of recently described new species, viz.: *Crambus youngellus*, *Crambus polingi*, *Crambus nevadellus*, and *Thaumotopsis coloradella*.

Mr. Groh showed examples of the Greenhouse White Fly (*Aleyrodes*) in the egg, larval and perfect states. He mentioned that these insects were of considerable economic importance, and outlined some experiments in destroying them by fumigation with hydrocyanic gas, which he had carried on while attending the Ontario Agricultural College at Guelph.

Mr. Halkett spoke of some dipterous larvæ which he had found in the Northwest feeding in the head of a bird. The flies had been reared but as yet had not been identified.

Mr. Gibson showed a collection of Sesiidæ most of which had recently been named by Mr. W. Beutenmuller, of the American Museum of Natural History, New York. None of the species were particularly rare, but the exhibit as a whole was interesting. These moths resemble rather closely wasps or hornets. The larvæ are borers living in the stems, trunks, roots, or branches of living trees. A fine pair each of *Catocala coccinata*, taken at Winnipeg, Man., by Mr. J. B. Wallis, and *Hepialus hyperboreus*, collected at Hymers, Ont., by Mr. H. Dawson, were also shown.

A. G.

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January 28th, 1909. Held at the residence of Mr. W. Simpson. The members present were: Messrs. Harrington, Halkett, Metcalfe, Groh, Eifrig Jr., Gibson, Baldwin, Young and Simpson in the chair. Numerous specimens were exhibited by the various members in turn, all of which called forth keen discussion.

Mr. Harrington showed a number of flies of the curious genus *Microdon*, and read portions of an article on them by Wheeler in the Journal of the New York Entomological Society.



The larval and pupal stages, which are spent in the nests of ants have always been a source of perplexity to many collectors, and even to naturalists of experience, as is evident from the fact that they have been repeatedly named and placed in genera even outside of the insect world. They are especially liable to be taken for snails. The larvæ seem to be tolerated by the ants, and evidently do them no harm. It is not known with certainty on what they feed.

Mr. Groh had some cockroaches, with their egg-masses attached. The eggs of these creatures are all laid at once, enclosed in a sort of capsule, which is large for the size of the insect. They are carried about for some time before being deposited.

The Chairman exhibited several cases of specimens, commenting on specimens of particular interest. Among them were many insects which were examined closely.

Mr. Metcalfe showed a box of miscellaneous insects, among which were a species of *Machronycus* and *Stenelmis crenatus*. These are aquatic in their habits, and somewhat snail-like in motion.

A box of lepidoptera, shown by Mr. Baldwin, included several species uncommon at Ottawa. Mention may be made of *Euchalcia venusta*, *E. putnami*, *Hyphoraia parthenos*, and *Haploa confusa*. They were all taken during 1908 at light.

Mr. Young exhibited a small collection of British Columbia coleoptera, which contained several specimens of the handsome, large wood-borer, *Rosalia funebris*.

Mr. Gibson reported that some nests of the dreaded Brown-tail Moth had been found in shipments of nursery stock imported into Ontario from France. This necessitated a close inspection of all such shipments coming into Canada. He showed actual nests which had been taken from fruit seedling stocks found to be infested. He also exhibited specimens of the curious little Byrrid, *Exoma pleuralis*, collected at Metlakatla, B.C., by the Rev. J. H. Keen.

Mr. Halkett read some interesting paragraphs on the duration of the life of insects from a work entitled "The Prolongation of Life," by Flie Metchnikoff, sub-Director of the Pasteur Institute, Paris, France, and also paragraphs from the same work on "The Social Life of Insects." He also showed a number of living mites which had been handed to him by Mr. Henry, the taxidermist, who had found them on canaries.

H. G.

## MEETINGS OF THE BOTANICAL BRANCH.

Held at the residence of Mr. D. A. Campbell, 226 Clemow Avenue, Saturday evening, March 20th, 1909. There were present in addition to the host, Messrs. Attwood, Whyte, Clarke, Gibson, Michaud, Bond, and W. T. Macoun.

The subject for the evening's discussion was "The Stems of Seed Plants." Lantern slides, photographs and drawings of sections of various stems were used to illustrate the types discussed. After a reference to the monocotyledon stem, a series of slides was exhibited showing the various stages leading from the soft herbaceous stem with relatively small wood bundles to the woody stem with the wood bundle the major portion of the stem. These furnished the material for the discussion. Among the topics dealt with were growth in length and in diameter, and the elements of the stem which contributed to this growth, the chief active living portion of the stem being the cambium, the medullary ray cells, the younger inner bast, and the young outer wood. The function of each of these parts of the tree stem was dealt with. The wood cells of the heart of the tree gave stiffness, the wood cells of the sap wood were the channels for water from root to leaf, the sieve tubes of the bast carried food from leaf towards root, the cambium was the source of new cells added to wood and bast, the medullary rays served to carry water and plant food across the stem.

In the discussion on sap flow and ascent of water in the stem, some of the members were in doubt as to the existence of such a force as root pressure and some were not prepared to accept the proposition that living plant cells have the power to select certain substances from the soil. It seems necessary to assume a root pressure to account for the ascent of water in a glass tube tied tightly a few inches above the soil to the cut end of a stem.

In reference to selective absorption it was pointed out that two trees may grow in the same soil and one may contain more ash than the other. Barley and red clover in flower grown in the same soil have about the same total ash or mineral matter, yet the clover contains over five times as much lime as the barley and the barley about eighteen times as much silica as the clover.

Reference was made to a recent explanation of the ascent of water in trees of great height. This explanation will be considered more fully at some future time. It was generally considered that the known forces seem inadequate to fully account for the phenomenon.

D. A. C.

Held at the home of Mr. R. B. Whyte, Saturday, April 3rd, 1909. Present: Prof. John Macoun, Messrs. Whyte, Attwood, Clarke, Bond, Cameron, Campbell, W. T. Macoun, Groh, and Newman. As per previous arrangement, Mr. L. H. Newman acted as Chairman and opened the discussion on the following subject: "Certain Biological Principles and their Relation to Plant Improvement." The speaker outlined some of the principle theories respecting the methods of organic evolution and made some deduction from the behavior of plants in Nature which he considered to be suggestive of how plants growing under domestication might be improved. A most interesting discussion followed the presentation of this subject and many important observations were submitted as contributions to our knowledge of the various factors and circumstances which have a bearing upon the development and improvement of our domestic plants.

At the request of the Associate Editor of the Club in Botany the Chairman agreed to prepare his remarks in the form of a special article to appear in THE OTTAWA NATURALIST at an early date.

L. H. N.

#### OUR FIRST EXCURSION OF THE SEASON OF 1909.

The excursion of the Ottawa Field-Naturalist's Club, on the afternoon of the 24th of April, was not much favored by the weather. Although there was no rain, the sun even shining overhead in all its brightness, yet the thermometer hovered between 35 and 40°, which, together with a cold, fitful wind, made people shiver. In spite of that, about forty members and friends of the Club assembled at the Experimental Farm at 2.30 in the afternoon. This is not only one of the main show and beauty spots of the Capital, but also a ready source of interest and information to nature lovers.

Under the leadership of Dr. W. Saunders, Mr. F. T. Shutt, and Mr. W. T. Macoun, the big barn with its up-to-date machinery and agricultural implements was first inspected, and then the different breeds of fine cattle in the basement. The arrangement here is, as is to be expected, a model one. The different kinds of farm animals are certainly well worth seeing.

Next, the beds of fine crocuses in bloom near Dr. Saunders' residence were admired. Thence we wended our way into the Arboretum, where Mr. Macoun gave much instruction on native and exotic species of trees, especially conifers and shrubs, and pointed out differences between closely allied species. A tinge of sadness was also interspersed in his remarks, when he pointed

out the trees planted twenty years ago by our late friend, Dr. Fletcher, as well as young trees sent last fall by him from British Columbia, namely, of *Larix occidentalis*. Last year at about the same time he had been with us going over the same places and speaking in his usual kindly, animated way. Let us, who knew him, never forget him, and emulate his noble example.

Birds were conspicuous by their absence, which in view of the cold wind was not to be wondered at. In general, the first migrants with the exception of the Crow and Prairie Horned Lark were one to two weeks later than usual this spring. Birds like the Junco, Robin, Bluebird, Red-winged and Bronze Blackbirds and the Song Sparrow did not come this year until the first week in April, instead of March 21st to 23rd. However, a few Robins and Song Sparrows were seen and heard, and while we were in the Arboretum a Flicker was loudly calling and hammering. Beside these only a small flock of Golden-crowned Kinglets and one Brown Creeper were seen. Had there been no wind a great many more species would undoubtedly have been observed.

Humor was also not entirely lacking. While all were inspecting a queer-looking bush, with branches recurved to the ground, *Picea excelsa inverta*, it was found that a hare, our varying species, *Lepus americanus*, had made its home under it. With admirable generalship, Mr. MacMurray, of the farm staff, had the little tree or bush surrounded by the younger element of the party, in order to catch the rabbit, as it was termed, although we have no rabbit here. However, the frightened animal broke through the cordon and, pursued by Mr. MacMurray with flying coat-tails, made good his escape. To duly impress the difference between hare and rabbit for future occasions, our indefatigable President, Mr. Attwood, quickly drew up this set of differences:—

The Hare.

Ears longer than head.  
Lives above ground.  
Young born with eyes open.  
Solitary.  
Hind legs longer than head.  
Fur turning white in winter.

The Rabbit.

Ears equal in length to head.  
Lives in burrows.  
Young born with eyes closed.  
Gregarious.  
Hind legs not longer than head.  
Fur not turning white.

It was interesting to note the zigzag course of the hare's flight, which proved rather puzzling for Mr. MacMurray and the two dogs accompanying him.

At the close of our walk short addresses were made by Mr. McNeill on the weather which, by reason of the poor brand he had supplied for the day, caused more hilarity or resentment than would otherwise have been the case. He, however, made

a strong plea that the members should use the barometer and weather charts to better advantage. Mr. Halkett, our expert in herpetology and "frogology," made some general remarks, not pertaining to his branch, since batrachians, etc., and insects, were absent on account of the cold weather. Only in one pool of the swamp below St. Louis Dam a vigorous chorus of frogs could be heard, and not one in the other pools. Beside these two gentlemen Messrs. Macoun, Attwood and the undersigned spoke briefly.

G. EIFRIG.

### COUNCIL MEETINGS.

The first meeting of the Council for the year 1909-1910 was held in the Carnegie Library on March 23rd.

Members present: Messrs. A. E. Attwood, A. Halkett, C. H. Young, A. G. Kingston, A. McNeill, L. H. Newman, and T. E. Clarke; Miss F. Burt, Miss B. Gilbertson, and Miss M. McK. Scott.

Ordinary members elected:

Miss C. P. Grenfell, B.A., Ottawa.

Miss Frances Moule, B.A., Ottawa.

At this meeting standing committees and leaders for the excursions were appointed. The name of the Publishing Committee was changed to Publications Committee, and the duties of the committee were enlarged to include all business relating to exchanges. The following motion was carried: That for the ensuing year it be the duty of the Chairman of the Excursion Committee, after an excursion is held, to have a report of the same sent to the Editor of the OTTAWA NATURALIST for publication; and similarly that it be the duty of the Chairman of the Soirées Committee to have reports of the soirees sent to the Editor.

Mr. L. J. Burpee, Librarian of the Carnegie Library, appeared before the Council at the request of the Library Committee. He extended to the Club the privilege of placing its important exchanges on file in the Carnegie Library, and he submitted a list of scientific periodicals not now received by either the Club or the Carnegie Library, with the proposal that the Club might secure a number of these in exchange for the OTTAWA NATURALIST.

April 29.—Members present: Mr. A. E. Attwood, Rev. C. G. Eifrig, Messrs. A. Halkett, J. W. Gibson, A. McNeill, L. H. Newman, and T. E. Clarke; Miss F. Burt, Miss B. Gilbertson, and Miss M. McK. Scott.

Ordinary members elected:

Mr. Wm. Smeaton, B.A., Ottawa.

Mr. A. D. Watson, Ottawa.

Miss A. J. Wilson, Ottawa.

Mr. A. Effingham Fleck, Vancouver, B.C.

The President suggested the formation of branches or small affiliated clubs in places near Ottawa such as Carp and Stittsville. These branches would carry on local field work and could be visited each year by the Club at some time when a joint field day could be held. The Council approved of the plan and appointed Mr. J. W. Gibson to make preliminary arrangements for the organization of such a branch at Carp.

T. E. C.

#### NOTES.

*DIOSCOREA VILLOSA*.—On page 184, Vol. XXII. of THE OTTAWA NATURALIST, Mr. W. A. Dent describes a delightful retreat for the nature lover where Lake Huron has gradually narrowed into the St. Clair River.

Referring to the rarity of the slender twiner found there popularly known as the Wild Yam (*Dioscorea villosa*) he invites reports of its distribution. It is not rare in wooded flats along the Thames River westward from London. There is a fine patch of it in a thicket by the bank of the River within the city limits.

J. DEARNESS, London, Ont.

**SNAKE BEHAVIOR.**—The observation which follows seems worthy of presentation, if not as an unusual occurrence, yet as one which may be new to many. My own opinion is that it might be less unusual than it probably is, if the reception almost invariably accorded to members of the snake fraternity did not render it next to impossible.

One morning last April, while strolling among the ruins of an old building, I came upon a large garter snake, which was making strenuous efforts to get out of my way. As soon as I noticed it I stopped short, only a couple of feet away, and was rather surprised to see it do the same. Evidently it was aiming to avoid detection until I should pass on. With the object of seeing what would follow, I waited motionless, and for a whole minute or more nothing took place. Finally it began to venture on escape, and in the most cautious way drew itself forward a trifle, so slight as almost to escape notice. After another wait a slightly bolder hitch forward was made. This procedure was repeated many times with increasing confidence and more substantial progress each time, until it had got about four feet away from me, when it glided quietly off among the weeds.

I was sufficiently interested by what I had seen to wonder if the snake would repeat its successful ruse; and so I overtook it once more at a little distance, stopping when within a foot or two of it. It stopped as before, drawing back its head, and throwing its body into considerable curves. What followed was substantially the same as I have already described, but was if anything even more cautious, and longer in accomplishment. The markings of the snake were admirably suited for harmonizing with its surroundings and in doubling from side to side, the body's motion did not greatly break the homogeneity with the waving grass. The creature's self-possession and apparent confidence in its tactics, impressed one particularly, whenever the peculiarity of its mode of travel compelled it to direct its head almost squarely toward the quarter from which it sought to escape. Needless to say, its well-earned liberty was gladly granted; and, I suppose, if it succeeds in running the gauntlet of human persecution until a like occasion again presents itself, it will all the more instinctively rely on what has once proved safe wood-craft, and if the next intruder also witnesses the little drama of which he is the cause, will furnish him with another instance of the marvels of animal sagacity.

HERBERT GROH, Ottawa.

BIRD NOTES.—In the Montreal Witness of February 13th, 1909, a note reporting the appearance of a solitary robin in the vicinity of Montreal, called forth another from Ottawa. Quoting from the Ottawa Journal this correspondent says, that small flocks of robins have been frequently seen at Ottawa during the winter.† This is so unusual that we should be pleased to learn something more about these wintering robins; particularly as to their feeding habits and whether they were immature birds or not.

Pine Grosbeaks and Redpolls have been unusually common here this winter, the Grosbeaks feeding on seeds of Mountain Ash and apple trees. Prairie Horned Larks were first noticed on the 28th of February, when I saw four birds; a week later saw six, apparently mated.

On February 21st, my attention was attracted by the grating notes of a Northern Shrike. It was unusually tame, permitting a near approach to its perch in an apple tree, though becoming very nervous and excited, whilst emitting a series of cries, one of them a good imitation of an alarmed Catbird and yet another reminding me of the Blue Jay's cry. At intervals it also indulged in its customary warble, suggesting that of the Purple Finch. The body of a Redpoll impaled on a twig of the

†See also Ottawa Naturalist, March 1909, p. 265.—Ed.

apple tree explained the cause of all this outcry. The head of the Redpoll was almost completely eaten away, pointing to a fact which I have noticed with the Migrant Shrike, namely, that the head contains what is to them the greatest delicacy. In fact although I have often come across the larder of the Migrant Shrike and occasionally that of the Northern, usually in the shape of small birds or mice, I have always found the body fairly intact, while the head would be missing. Evidently, they do not suffer for want of food. We remained for several minutes in the vicinity and during that time the Shrike kept up its imitating notes, perhaps thinking to frighten us away from its booty.

L. McI. TERRILL, Westmount, Que.

INTIMACY WITH NATURE.—There are some men to whom intimacy with Nature in her obvious aspects and forms appears to be an inheritance; they are born into it, and are never conscious of the hour from which it dates. Their eyes see the world about them with a clearness and accuracy of observation which turns their hours of play into unconscious study of science. Flowers, trees, shrubs, birds and animals seem akin to them, and are recognized at first sight, and put into proper place and order. Other men, failing of this birth-gift and missing the training of the senses in childhood, must slowly and of set purpose piece out a defective power of observation by habits formed in maturity. This introductory relationship with Nature is a source of inexhaustible delight and enrichment; to establish it ought to be as much a part of every education as the teaching of the rudiments of formal knowledge; and it ought to be as great a reproach to a man not to be able to read the open pages of the world about him as not to be able to read the open page of the book before him. It is a matter of instinct with a few; it may be a matter of education with all. Even those who are born with the eyes and ears of naturalists must reinforce their native aptitude by training.

The man who goes into the woods, and by self-forgetfulness becomes a part of the woods, is aware not only of a freshening of his nature and a deepening of his thought, but also of a revelation of a knowledge through closer fellowship with the order and beauty which enfold them. There enters into his mind, in such moods, something more enduring than the scene about him, something to which a poet will give expression in verses which are not only touched with the beauty beyond that of words, but in which that beauty becomes the symbol of truth. The man who lacks the gift of expression will not write the verse, but he will see the beauty and be enriched by the truth.

HAMILTON WRIGHT MABIE, in NATURE AND CULTURE.



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