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November, 1890.

THE
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Of the
* Ottawa Field-Naturalists' Club *

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NOTICE.—The Treasurer begs to call the attention of members to the advertisements.

A BIRD IN THE BUSH.

[By W. A. D. LEEB.—Read February 1890.]

The old saw about a bird in the hand, like many another old saw, needs some filing down to make it cut true. Applied literally to birds, it may appeal by its aptness to the sportsman or the working ornithologist, but to one who does not aspire to the honours of either position, but is a simple lover of birds in their native haunts, its truth will not be so apparent. I shall not stop to discuss the question of man's inherent right to slay his fellow-creatures at pleasure, or even of the expediency of so doing for useful purposes, scientific or gastronomic. I merely wish to record, in passing, my humble opinion that there is much unnecessary slaughter of birds by amateur ornithologists and others; and then to show, by a few anecdotes of bird ways from personal observation, that not a little of interest, and perhaps something of value, may be learned of the habits of these interesting creatures, without the aid of a gun. If in so doing I am fortunate enough to enlist in the ranks of the observers one recruit who has hitherto held aloof, through his aversion to killing, I shall be satisfied that I am not altogether on the wrong track. It is just about two years since I began to observe birds with any care, and when I tell you that at that time I knew barely fifty species and of many of these I had very hazy ideas, though I had lived in their midst for twenty-five years, you will be inclined to ask me where I kept my eyes all that time. It is a question I have asked myself a thousand times, but as yet I have received no answer.

One of my first finds was a flock of Pine Siskins, which I surprised feeding in a clump of cedars in February. It was a beautiful still, bright day, an ideal day for a snowshoe tramp, which I had been enjoying to the full, when I reached this bit of cedar swamp and stopped to reconnoitre. I had not waited long when I heard the contented trilling chirp of the feeding birds, and followed the sound till I came upon them busily picking out and devouring the seeds of the cedar and scattering the husks broadcast upon the snow. I immediately levelled my double-barrelled fowling piece (a field glass) upon them, and as this did not seem to disturb them in the least, I gradually moved towards

them until I was so near that I could easily distinguish the yellow markings of the feathers, and get a pretty fair mental picture of the bird for comparison with the description which, after some research, I found in my "McIlwraith." I have dwelt somewhat at length upon this as being a very fair sample of the way in which I identified the one hundred and twenty species of birds I have now the pleasure of numbering amongst my acquaintances. This number I am aware is a small showing for two years' work, but as yet I have had but little opportunity to visit the haunts of the water birds. Of course I varied my plans to suit the circumstances, and when the birds seemed unwilling to have me go to them, I reversed Mahomet's plan with the mountain and sat down and waited till the birds came to me. If many a time I got tantalizing glimpses for a moment only of some new or rare bird, which tempted me to regret my lack of a gun, there were few instances in which I was not afterwards rewarded by a longer and nearer view of the same bird, which enabled me to identify it, at least to my own satisfaction. Besides, I always consoled myself with the reflection that the noise of a gun would have driven away more birds than its use would have secured. Having thus outlined my plan of campaign, it remains to give you the promised anecdotes of bird ways, though I cannot reasonably hope that my observations will interest you as they did me, to whom everything I saw was a new revelation.

One of the first things that struck me about the birds was a very human quality in many of their actions, and strange to say it was not always the noblest traits of man they chose for imitation. For instance my admiration for the stronger sex was not much increased by watching the actions of a Downy Woodpecker, who would not respond to his wife's frenzied entreaties for help in driving from their door a big, able-bodied tramp of a Flicker who insisted on getting in. There sat Mr. Downy in a neighbouring tree, and would not stir a wing, though his better half even left the door unguarded for a moment, and went to fetch him, but when the intruder was driven away by my rapping on the the trunk of the tree with a stick, he came swaggering home, and took all the credit of it to himself. It was only when he was thus shamelessly boasting of his prowess that I noticed the scarlet fez he wore on the back of his head, and reflected that one could expect no

better of a Turk. This seems to have been a bad neighbourhood to live in, for, a month or so later, when the downies had moved out and rented their cottage to that trim little housewife Jenny Wren, she, too, got into trouble with a couple of marauding English Sparrows, who forced an entrance and destroyed everything eatable in the house. The neighbours all gathered round and chirped their sympathy in loud and distressed voices. There were the gaily dressed Yellow Warblers, and Goldfinches, the Cedar Waxwings in their olive-brown silks with the yellow trimmings, a lone Catbird in his sober slate-coloured coat, and even a tiny Ruby-throat came buzzing along and perched on a dead twig to see what was the matter. All agreed that it was dreadful, but that it really could not be helped, and besides it was none of their business. Even landlord Downy when he arrived could not make up his mind that he would be strictly within his legal rights in using that murderous looking dagger, which he always carries round with him, for the protection of his tenants, or the punishment of their assailants. Turning now to a pleasanter phase of this unconscious imitation of human traits, one of the most striking instances of affection between birds that have come under my notice was that displayed by a pair of Cedar Waxwings, or as they are sometimes called, Cherry-birds. It was at the time when the fruit was beginning to form on the trees, and one of them had picked up an apple about the size of a large pea and perching close beside his mate in an old apple tree, he passed it with a great display of politeness and affection to her, and she with an equally courtly and loving air returned it to him. This operation they repeated several times, till at last they caught sight of two interlopers who had been watching them, and being too bashful to continue their billing in public, they flew away. Burroughs I think cites a similar case with reference to the same bird.

Curiosity is another characteristic, many of the birds have in common with the human race. I remember being interviewed by a Water Thrush, while standing quite still in a swampy piece of woods, watching for another bird. This shy little warbler came hopping along from branch to branch till it was within two feet of my face, looked me full in the eyes, took a careful survey of me from head to foot and then, as if satisfied with the inspection, flew away.

What fixed this somewhat trival occurrence, in my mind, was that on the afternoon of the same day, in another swamp at least three miles from the first one, the very same thing was repeated by another Water Thrush, in almost exactly the same way. At another time one of a little knot of Meadowlarks I was scrutinizing with the glass, thought he would like to see what I looked like behind, so, making a long *detour*, he flew up as near as he dared behind me to have a look. By turning my head I followed his flight, and when he alighted and saw that I was still watching him, he hurried back by the way he came in a great state of excitement, and reported to his comrades that I could look both ways at once with my big goggle eyes. Of course they knew better and laughed at him.

Of all the birds, one would think the big blustering bully known as the Crow Blackbird, the least likely to imitate the acrobatic feats of human beings. And yet I was told by a young man, whose veracity up to that time I had had no reason to doubt, that he had a short time before witnessed the spectacle of several of these birds turning somersets on the grass. He further went on to say that one of them was as far superior to the others in acrobatic proficiency as the bespangled king of the circus arena is to the common tumblers in the pink tights. These less favored birds, he averred, made a dismal failure of it, or as he put it "fell all over themselves," whenever they tried to follow the leader in his graceful evolutions. I gravely listened to this touching narrative giving no hint of my mental resolve to enquire the price of yarn at the first opportunity, a resolve I never carried out, for just six days later I surprised two of these Blackbirds sitting on a pasture fence, acting in the double capacity of spectators and sentinels, at a similar acrobatic performance given by half a dozen of their cousins, the Cowbirds. They were not just exactly turning somersets, but their actions were sufficiently unbirdlike, and bore a strong enough resemblance to the tumbling of the circus ring, to make me very glad I had expressed no open doubt of my informant's truthfulness, and when I afterwards saw two Robins playing hide and seek over the shelving edge of a railway cutting, with all the dainty tip-tosing to the edge of the bank, the springing out from the hiding place, the screams, and the laughter, that would have characterized the game had it been played by children, I was still

more ashamed of my unbelief. And now that I too have forfeited all claim to be believed I shall only ask you to listen to a few more of my bird yarns, selecting such as will not lay too great a strain on your imaginative powers.

It often puzzled me how birds did for water in winter when snow and ice covered almost all the available sources of supply, and open water was to be had in but few places. The most natural solution (in more senses than one) of the difficulty did not occur to me till I happened to observe a Goldfinch eating snow in February.

If I am not mistaken the tail, in its capacity of rudder, is generally supposed to be an indispensable part of a birds outfit, and I must confess to a similar opinion, held till August of last year, when I saw in broad daylight, and watched for some time, a Night Hawk so utterly devoid of tail that it seemed as if the after half of the body had been chopped off with it. And yet this bird was hawking for its daily meal of insects, among its brothers, and performing all those graceful aerial evolutions for which the species is noted, with apparently as much ease as any of them. I also read in the last number of the *Ornithologist and Oologist* (one of our exchanges), of a Yellow-billed Cuckoo without a tail having been observed on its nest, and the question at once suggested itself, by what kind of accident are birds deprived of this useful appendage, or do these instances merely indicate the beginnings of a new phase of avian evolution, analogous to that by which man has attained his present tail-less eminence?

Though birds in general conform more or less strictly to certain rules in the selection of their building materials, we occasionally find an individual who sets these rules at defiance, and displays the originality of a master mind in the selection. For instance a Robin's nest found in this vicinity a year or two ago embodied in its composition art, literature, finance, and the manufactures, art being represented by a skein of colored embroidery silk, literature by a newspaper clipping, finance by a cancelled cheque on the Bank of British North America, and a fragment of a promissory note, and the manufactures by a piece checked cotton shirting. It will be noticed that the builder showed great impartiality except perhaps, as above indicated, an undue preference for checks.

When we reach the last chapter in the life of a bird many perplexing questions arise. One of these is, what^o becomes of the large numbers of birds that must of necessity die from old age or other natural causes? Is it, as has been suggested, that on the approach of death they instinctively hide themselves from view, and thus concealed await their doom, or is it that they are at once removed from sight by nature's industrious scavengers, the insects and other animals? Whatever be the reason, the fact remains that comparatively few dead birds are found whose deaths cannot be traced to violence or accident. In the latter class of cases the inventions of man play an important part. Lighthouses, railways, and telegraph wires all contribute their quota to the large number of accidental deaths in the bird world. Many instances are reported of birds meeting their deaths by flying against moving railway trains, and last summer a black-billed Cuckoo was brought me which had been found dead upon the cowcatcher of the locomotive, on the arrival of the evening express from Montreal on the Canada Atlantic Railway. This bird was brought me by a bright-eyed and observant boy, who sometimes accompanies me on my tramps, evincing much intelligent interest in bird life. He tells me that last summer, while on an excursion train on the same railway, he saw a Crow fly against a wire fence, and, becoming entangled with one of the barbs, it hung there, struggling and fluttering as long as he could see it from the window of the moving train. Another curious instance was that of a Sparrow Hawk brought me last fall, which had been found in one of the flues of the boiler at Lansdowne Park, just before the Exhibition there last fall. The boiler had not been opened since the year before, and the poor creature had evidently, at some intervening time, flown down the smokestack, and, being unable to fly up again, had starved to death. What little flesh remained on its bones was completely dried up, and the plumage, except for a slight abrasion on the head, was in perfect condition, its colour, however, being slightly darkened with soot. I congratulated myself on having a ready-preserved specimen, but although it had been very dead when I got it, in less than forty-eight hours it was very much alive, and I speedily lost my faith in that method of embalming, and with it my specimen.

These are a few instances, taken somewhat at random, of what may be seen by any one who will use ordinary powers of observation, and if my hasty and imperfect account of them has interested any of you one half as much as the observations themselves interested me, I think you will be inclined to agree with me that, for some purpose at least, a bird in the bush is worth two in the hand.

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A NATURALIST IN THE GOLD RANGE, B. C.

By James M. Macoun,

(*Read March 7, 1890.*)

While the Gold Range proper includes the Selkirk, Purcell, and several other ranges of the Rocky Mountains, the term "Gold Range" is more frequently applied to that part of the system termed by geologists the Columbia Range. Lying between the N. E. arm of Shuswap Lake and the Canadian Pacific Railway is a group of mountains forming a part of this range, but to which no distinguishing name has yet been given; one of the mountains in this group, however, is known as Mount Queest, and I shall restrict myself to a brief account of an expedition made to it last summer in search of Natural History specimens. If my paper assume the form of a personal narrative it is only because I have thought it the best means of conveying impressions of the mountains and what is to be found on them, to those who have never been among them.

I was accompanied by one man, and late in July we left Sicamous, at the mouth of Eagle River, and rowing up the N. E. arm of Shuswap Lake camped, after a long day's pull, at the mouth of a small creek which we were to ascend the following day. Before sunrise we had packed a few pounds of bacon and flour in our blankets, and tying them securely on our backs, set out, my companion carrying a repeating shotgun and I a plant press well filled with papers. It was our intention to follow the creek to its source, and by doing so we hoped to reach a mass of snow almost due south of where we had camped. A well-defined path ran along the creek, and as we had heard that the plateau

which formed the summit of the range was a favorite hunting ground of the Indians, we imagined that by following it we should be able to ascend the mountain with little difficulty. For perhaps a hundred yards the trail was broad and well worn, trees on all sides had been "blazed," and there was every evidence that it had been much used, but we then came suddenly upon an opening in the woods and found that our supposed mountain trail led only to an old camping ground where canoes had been made the previous year. Our disappointment was somewhat lessened by the discovery of a faint trail which still led up the creek, and although in many places it was imperceptible we had always two or three marked trees in sight before us, and had no difficulty in making fair progress, for while there were fallen logs and trees without number, our path wound in and out, over and under them, in such a manner that there were no obstructions to delay us; suddenly all traces of the trail were lost, nor were there markings of any kind upon the trees. After some time spent in a fruitless search for a continuation of the trail we concluded that we had been following an old line of traps; why it should have ended so abruptly we could not understand until having decided that trail or no trail we would push on, we looked about us and saw that the creek valley had been gradually narrowing, so that where we stood the bottom of the valley was not more than thirty yards across; the hills rose steeply on either hand, and on moving forward a short distance and rounding a "shoulder" of a hill that had before prevented us from seeing what was ahead, the reason for the sudden termination of the trail was evident. The valley had grown still narrower, or rather there was no longer any valley at all, the creek flowing through a canyon about half a mile in length, in which distance it fell several hundred feet. As we looked up the gorge we saw something darting in and out of the water, now disappearing behind a log or rock and again coming into view twenty or thirty yards off, it was a dipper, or water-ouzel (*Cinclus Mexicanus*). A pair at least of these wonderful little birds is to be found somewhere on every stream in the Gold Range, and yet it is nowhere common. Until mated it leads a life which, did the bird not always appear to be active and happy, would seem the essence of loneliness, for two of them are never seen together except in the breeding season. The splashing of swiftly-running water

against logs and stones, or its roar as in little cascades it falls over obstructions to its course, is all the company the dipper asks, and all day long never resting, never wearying, it moves from place to place. It walks under water as if on dry land, and seems almost as much at home there as anywhere else; it knows of but one way of getting behind the waterfall, where perhaps it has built its nest, and that is to go straight through it. Its song is described as "exquisitely sweet and melodious," but although I have seen many of them I have never heard one sing.

We decided that we could follow the creek no further, and after a short rest began the ascent of the shoulder. As we left the low, dark woods of the creek valley a mountain chipmunk (*Tamias Asiaticus var. borealis*), the smallest of the squirrel family in America, ran chattering across a ledge of rock above us. This tiny animal possesses to the full the characteristic activity of its family and is seldom at rest; it is to be found everywhere in these mountains, and one soon grows to feel lonely when none happen to be near enough to make their presence known by their merry chatter. No more industrious animal is to be found anywhere; all through the last weeks of summer and the short autumnal days, before the first heavy fall of snow drives him into winter quarters, he is employed in gathering and storing away roots and seeds for use during the winter. With his fore feet he fills the pouches with which nature has provided him—one on either side of his mouth—and returning to his snug little home beneath some stump or fallen tree, packs his harvest away in his store-room, for not satisfied with making the chamber he is to occupy warm and comfortable with moss and leaves he stores his food in another apartment than that in which he is to doze and dream away the long winter.

After leaving the creek we forced our way through a dense growth of small fir trees and underbrush until we were out of the creek valley and about 500 feet above the water. We were now between two creeks and on a ridge that seemed to extend to the summit, and up this we toiled for three hours. The whole mountain side had a few years before this been burned over, and the second growth timber was as yet very small; the dense undergrowth effectually concealed the burnt logs with which the ground was strewn, and which could seldom be seen

before they were stumbled against. Not a trace of water had been seen since we had forsaken the creek, and dinner without it was out of the question. We had seen no berries yet, but a little higher up found *Vaccinium parvifolium* in abundance. Its fruit, although refreshing, could be eaten in small quantities only, as at this altitude it was hardly ripe yet and far from sweet. By three o'clock we were both pretty tired, as we had not only been climbing steadily, but all our strength had to be exerted a great deal of the time to enable us to force our way through thickets of balsam or alder; and now we decided that water must be had even at the cost of losing some of the ground we had gained. We had been moving parallel to the creek, but had risen much more quickly than it, so that we were now nearly a thousand feet above it. Turning almost a right angle we began the descent, but so thickly grew the underbrush, and so many detours had to be made to avoid precipices, that it was five o'clock before we reached the water and found that we were just at the head of the canyon, half a mile from where we had been in the morning; supper was soon ready, and before dark we were quite rested. The canyon was now behind us, and we resolved that come what might we would not again leave the creek, nor did we, and although the road was far from smooth and there were rocks and logs in abundance to climb over, shortly after noon the following day we saw the snow glistening through the trees, and knew that we had not much further to go. A few rods higher the woods ended abruptly, and before us was a meadow (if a meadow may be formed of flowers instead of grass) reaching to the foot of the mountain two hundred yards away. This little flat is about one-fourth of a mile wide and two hundred yards deep at the centre, the hills rising from it in the form of a semi-circle, so that the meadow made an arc of a circle, a veritable amphitheatre. Just at the edge of the woods our packs were thrown down, and we hurried across the intervening level ground to the foot of the last steep incline that led up to the snow, and had hardly begun to ascend it when we were startled by a sharp, clear whistle not unlike that used by yardmen about a railway station. Almost instantly it was answered from all sides, and we saw scampering toward an immense pile of rocks at the foot of a cliff, a dozen or more Hoary Marmots, or "whistlers," as they are generally called, (*Arctomys caligatus*.) Arrived

at their own quarters, and imagining themselves in safety, they soon recovered from their surprise and fright, and as we climbed the hill we saw here and there above a rock a head apparently watching us. Soon the animals themselves appeared, and by degrees returned to the agreeable occupation of fattening themselves for the long hibernation of the coming winter. The whistling went on at intervals, but the note of fear was changed to one that savored ever so slightly of impudence. Our minds were now at rest. Here was food in plenty, and although we discovered afterwards that the flesh of the whistler is neither very tender nor very palatable, it was easily procured and furnished us with several good meals when nothing better had been shot; but at no other time did we attempt to take them. Only a few days before, the surrounding hills had been entirely covered with snow, but on many exposed places it had melted away and we ran up a grassy slope dotted with spring flowers. There was the beautiful *Erythronium giganteum*, a larger and much more handsome species than its brother the familiar Adder's Tongue or Dog-toothed Violet of our Ottawa woods, beside it grew *Anemone occidentalis*, the western mountain Anemone, a far larger and more attractive flower than any of our eastern forms of this genus. The little arctic buttercup *Ranunculus Eschscholtzii* was everywhere in profusion, and in the little rivulets running from the snow *Epilobium alpinum* grew in dense clumps, its delicate pink flowers massed together to attract attention. *Claytonia Caroliniana*, var. *sessilifolia*, was abundant too, but is not nearly so pretty as our Spring Beauty, of which it is a variety. Merely glancing at these as a foretaste of what was in store for us, we lost no time in climbing to the summit of the hill, which we soon reached, and from which we had a magnificent view of the surrounding country. Due north of us lay Shuswap Lake, and it was not difficult to trace with the eye the course of the creek from our feet to where it entered it. Far to the north and northeast were snow-capped mountains, and one glacier could be seen glittering in the sun. Towards the south the prospect was brighter. A mountain prairie, about three miles across, stretched from where we stood to a higher mountain. Further inland, a few groves of trees and frequent dashes of brilliant color, where the flowers of one species predominated, gave the whole an appearance of an im-

mense park, the innumerable rivulets and brooks defined by the deeper green of the grass that grew along them, appearing to be so many intersecting paths and heightening the effect of artificiality.

There seemed to be a great many species of flowers growing on this prairie, but a closer examination the next day showed that after all there were but three conspicuous species, the red blue and yellow blossoms of which blended in so many different ways and formed such novel combinations that it seemed incredible that there should not be at least a dozen species represented. Others indeed there were, but not such as formed noticeable patches of color, but the three colors in some form or other were everywhere. In one place could be seen many yards covered with *Lupinus Noctkatensis*, a common British Columbia lupine, but one could never tire of its spikes of beautiful blue flowers, which exhibit all the varying shades between the lightest caerulean and the deepest smalt blue. Again, it would be mixed with the bright scarlet flowers of *Castilleia miniata*, or those of the yellow *Arnica*. As a rule, however, while all three flowers were present one was generally sufficiently in excess of the others to give the impression that it alone was to be seen, but on turning the eyes a little to one side some other color filled them. As we turned to descend the hill a porcupine was seen walking slowly towards us along its crest, and my companion could not refrain from picking up a stick and giving chase. Beyond a slight increase in his speed, as he turned away, the animal gave no evidence of being in the least frightened or even aware of our presence. A blow from the stick ruffled his equanimity a little, but before he could show fight a second had fractured his skull and he was hauled in triumph down the hill to camp, for we had decided to camp just where we had left our packs, and at once set about making ourselves comfortable. A level spot was soon found; *Bryanthus empetriformis*, the nearest approach to heather we have in Canada, grew everywhere, and enough of it was soon pulled to make a bed. There was dry wood in abundance; the pot was soon boiling, and after a cup of tea we felt quite at home. We did not ascend to the summit again that night, but in the immediate vicinity of the camp forty species of plants were collected before dark; many of them were small and of little interest to any but a botanist, but there were among them flowers that

would have added to the beauty of any garden, *Mimulus Lewisii*, the Western monkey-flower, being one of the most conspicuous. To my mind none of the species in ordinary cultivation are at all to be compared with it. On a ledge of rock grew a solitary clump of *Epilobium latifolium*, but its dwarf habit and larger flowers make it much more attractive than its weed-like brother *E. spicatum* which grew near it. Beside and in every rivulet grew *Caltha leptosepala*, in general appearance not at all like *Caltha palustris*, the marsh marigold or cowslip of the East; the flowers are bluish-white instead of yellow, and the whole plant is much smaller than *Caltha palustris*. The porcupine was the largest animal seen while we were on this mountain, although there must have been caribou, bear, deer and mountain goats in considerable numbers, as fresh tracks were seen every day, but we never caught a glimpse of the animals themselves.

Besides the locality near our camp which I have mentioned, colonies of the Hoary Marmot were found in many other places; with them were frequently Parry's Spermophile (*Spermophilus empetra*) and the Little Chief Hare (*Lagomys princeps*), although the spermophile preferred more open ground in which it could burrow easily. It is one of the largest of the ground squirrels, and was our principal food while on the mountain; we found its flesh to be delicate in flavour, tender, and much to be preferred to that of the marmot. The Little Chief Hare is an exceedingly interesting animal, and much has yet to be learned of its habits. Very little larger than the common rat, it is a typical hare in appearance as well as structure, with many of the habits of the common hare of Eastern Canada. Small and much the colour of the rocks which it frequents, it is seldom seen except when it attracts attention by its sharp whistle, and as the whistle is generally given just as it dives into a safe place among the rocks, specimens are not as a rule easy to procure. They are said to hibernate in nests made of moss, dried leaves and similar material, but it is hard to believe that so much time is spent in the careful cutting and drying of leaves that are to be used in the composition of a nest and not for food, when everywhere about are dried leaves of all sorts and sizes, and in sufficient quantity to furnish homes for all the animals that frequent the place; but it is said that they eat nothing when in winter quarters.

Certain it is that in early autumn the industrious little creature sets to work, and much of its time is spent in cutting and piling up leaves which it conveys to some hole among broken rocks, that has been chosen for the winter.

Three species of trees grow about our camp, all conifers : a spruce, *Picea Engelmani* ; a hemlock, *Tsuga Mertensiana* ; and a balsam, *Abies sub-alpina* ; none of them were of large size, but although we were camped within a few hundred feet of the snow, they were almost as large as the same species had been a thousand feet below. No fruit of any kind was found at the altitude of our camp, but about a mile lower down the mountain *Vaccinium myrtilloides* and *Vaccinium ovalifolium* formed in many places the principal undergrowth ; the berries of the latter resemble our common blueberries in appearance, but are much more acid, and not valued highly when other fruit is to be had. *Vaccinium myrtilloides* is unequalled among Canadian wild fruits ; its berries are large, about half the size of the cultivated black cherry, which it exactly resembles in colour, the flavour is exquisite, and it possesses the rare quality of leaving no feeling of satiety, no matter how many of them may be eaten.

Of small birds there were about a dozen species on the mountain, several of them forms of common occurrence in Eastern Canada ; the pine siskin (*Spinus pinus*) and white-winged cross-bill (*Loxia leucop-tera*) were flocking together, the rasping note of the red breasted nut-hatch and the assertive call of the kinglet (*Regulus calendulus*) were frequently heard, several little winter wrens sang continually behind our camp, and a family of mountain blue-birds (*Sialia arctica*) occupied a hollow tree near us. Although we were camped at an altitude of more than 6000 feet the rufous-backed humming bird (*Trochilus rufus*) was almost as common as it had been at the coast. Of game birds but two species were shot, the blue or sooty grouse (*Dendragapus obscurus fuliginosus*) and the rock ptarmigan (*Lagopus rupestris*) ; the former is a common bird throughout Western British Columbia, and we had counted upon shooting as many of them as we should need for food ; the ptarmigan is found only on the summits of high mountains, generally near the snow.

The descent of the mountain was not so difficult as disagreeable,

for we now knew the best way to go and did not leave the creek valley except at the canyon, and there by climbing a few hundred feet the steep rocks were avoided; the great trouble was to move slowly enough, for in four hours after we had left our camp on the mountain, scratched and torn we had reached our boat at the lake.

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EXCURSIONS.

The excursions held by the Club during the past season have been remarkably successful in every way. In addition to the general excursions sub-excursions have also been made under the guidance of the leaders upon the Saturday afternoons throughout the summer. These will be mentioned in the Annual Reports of the Branches.

Excursion No. 1.—May 31, 1890.—A most successful field-day was held to Butternut Grove, in the Chelsea Mountains, as the first General Excursion of the Club. The locality was a new one, and proved to be all that could be desired. The members and their friends, to the number of 130 availed themselves of this opportunity to spend a pleasant and instructive day in the woods. The weather was simply perfect, and the interest shewn by all was a guarantee of the thorough enjoyment which everyone shared. At 4 o'clock the genial and popular President, Dr. R. W. Ells, having called the party together beneath the refreshing shade of a grove of beech trees, congratulated all present upon the complete success of the day; he then asked the leaders to speak of the various treasures collected in their several branches during the Excursion. Mr. Fletcher was first called upon; he spoke of the rarer and more interesting plants. Mr. Kingston, who followed him with observations upon birds seen during the day, found an attentive and eager audience. Mr. T. J. MacLaughlin, when speaking of the insects which had been taken, made an eloquent address and touched upon some of the points of the theory of development as illustrated in the insect world. Mr. H. M. Ami explained concisely the geological formation of the district, and was followed on the same subject by Prof. Bailey, F.R.S.C., of the University of New Brunswick, and also a member of the Club, who expressed his pleasure at being able to attend one of the excursions of the Club, of which he had often read accounts. At the invitation of the President, Mr. Horace T. Martin, of the Montreal Natural History Society, addressed the meeting. He spoke in high terms of the systematic manner in which

the Excursion had been arranged, and the way in which the work was divided up under the leadership of specialists in the different branches of Natural History. He had enjoyed his day with the Ottawa Field Naturalists' Club very much indeed, and hoped that at the annual excursion of the Montreal Natural History Society, which was to be held the next Saturday at Lachute, he might have the pleasure of meeting many of those present. Miss E. Bolton, a member of the Council of the Club, spoke a few words, at the request of the President, upon the benefits of the Club as an educational institution. She spoke in a most encouraging way of the good the Club was doing amongst the young at the public schools of the city by drawing their attention to the good and beautiful.

The benefit to the Club of having ladies on the Council was plainly seen at this and subsequent excursions during the summer.

EXCURSION TO LACHUTE.—June 7.—In response to an invitation from the Montreal Natural History Society, 17 members of the Club, including the President and several ladies, attended the excursion of that Society at Lachute. The Ottawa contingent arrived first, and received the Montreal club at the station on their arrival. A pleasant day was spent, and many interesting Natural History specimens were collected. Mr. Ami was asked to act as judge of the geological collections and Mr. Fletcher performed the same office for the botanical collections. The President, Dr. Ellis expressed the pleasure that he and his companions from Ottawa had experienced in meeting their Montreal friends, and trusted that there might be frequent similar joint excursions in the future. Mr. Whiteaves being asked to speak of the geology, said that Lachute was classic ground to the geologist, and told how Sir William Logan visited the place at a very early period of his career as Canadian Geologist, in a canoe, attended by four Caughnawaga Indians. How he had noticed the exposures of the calciferous and Potsdam formations in the neighbourhood of the Laurentian; and how he found the band of white crystalline limestone and traced it so many miles across the country. Short addresses were also given by Dean Carmichael, the Mayor of Lachute, and Professor Penhallow, who announced that in answer to the invitation of the Natural History Society, the Royal Society of Canada would hold their next meeting at Montreal. Votes of thanks were passed unanimously to the Mayor and people of Lachute, and cheers were given for the gentlemen who had addressed them and for the party from Ottawa. The company were invited to board the cars, where refreshments were provided through the kindness of the Canadian Pacific Railway Co.

WINTER SOIREEES.

All members who wish to read papers or short notes for publication during the winter should send in the titles of their papers without further delay, as the programme for the winter is now being drawn up.



SUMMARY

— OF —

Canadian Mining Regulations.

NOTICE.

THE following is a summary of the Regulations with respect to the manner of recording claims for *Mineral Lands*, other than *Coal Lands*, and the conditions governing the purchase of the same.

Any person may explore vacant Dominion Lands not appropriated or reserved by Government for other purposes, and may search therein, either by surface or subterranean prospecting, for mineral deposits, with a view to obtaining a mining location for the same, but no mining location shall be granted until actual discovery has been made of the vein, lode or deposit of mineral or metal within the limits of the location of claim.

A location for mining, except for *Iron or Petroleum*, shall not be more than 1500 feet in length, nor more than 600 feet in breadth. A location for mining *Iron or Petroleum* shall not exceed 160 acres in area.

On discovering a mineral deposit any person may obtain a mining location, upon marking out his location on the ground, in accordance with the regulations in that behalf, and filing with the Agent of Dominion Lands for the district, within sixty days from discovery, an affidavit in form prescribed by Mining Regulations, and paying at the same time an office fee of five dollars, which will entitle the person so recording his claim to enter into possession of the location applied for.

At any time before the expiration of five years from the date of recording his claim, the claimant may, upon filing proof with the Local Agent that he has expended \$500.00 in actual mining operations on the claim, by paying to the Local Agent therefor \$5 per acre each and a further sum of \$50 to cover the cost of survey, obtain a patent for said claim as provided in the said Mining Regulations.

Copies of the Regulations may be obtained upon application to the Department of the Interior.

A. M. BURGESS,

Deputy of the Minister of the Interior.

DEPARTMENT OF THE INTERIOR,
Ottawa, Canada, December 19th, 1887.

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