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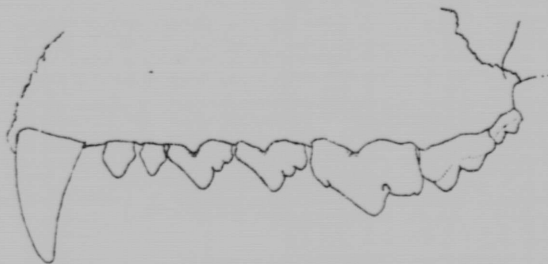
OTTAWA, MAY, 1907

No. 2

NOTE ON THE OCCURRENCE OF A SUPERNUMERARY TOOTH IN A DOG.*

By LAWRENCE M. LAMBE, F.G.S., F.R.S.C., Geological Survey of Canada.

Last summer whilst engaged in field work in the vicinity of Kamloops Lake, B.C., the writer found, near the mouth of Tranquille River, the skull of a dog, probably that of a collie, that is of some interest. In this skull the teeth of the mandible appear to be normal, but in the upper jaw a supernumerary first premolar is present on both sides.



‡ Natural size

Between the second premolar and the canine (see the above figure) are two small, single-rooted teeth with simple conical crowns. Of these the one next behind the canine, and separated from it by a space measuring 3.3 mm., is apparently the normal first premolar. Between this tooth and the second premolar is the tooth considered to be the supernumerary one. It is slightly smaller than the first premolar, and its posterior edge is less sloping; in other words, its crown, in side view, is more bilaterally symmetrical, a point possibly not sufficiently accentuated in the figure. It almost entirely occupies the interval between the first and second premolar, touching the latter but leaving a very narrow space between it and the former. The other teeth in the upper jaw, including the incisors, are apparently quite normal.

In comparison with the skull of a white wolf (*Canis lupus occidentalis* var. *albus*) from Fullerton, Hudson Bay, the Tranquille specimen is slightly shorter with almost the same

* Communicated by permission of the Acting Director of the Geological Survey of Canada.

breadth as measured across the zygomatic arches; its teeth, however, are decidedly less robust. Whilst in the wolf skull the maxillary teeth (canine, premolars and molars) occupy a space of 103 mm., a like measurement in the Tranquille skull gives 91 mm. It is thought that the latter skull is that of a collie. Mr. W. Fortune, the owner of one of the ranches, of which there are two at Tranquille, informs the writer that he has had a number of Scotch collies of which several have died during the past few years.

In the wolf skull the first premolar has a small interval (about 1 mm.) between it and the second premolar with a wider space (about 2 mm.) separating it from the canine. Here the first premolar has the same proportions as the anterior tooth in the supposed collie skull, but is larger, with a similarly sloping posterior edge.

The collie shows its affinity to the wolf in its narrow skull and lengthened muzzle. It would be interesting to have records of the occurrence of extra-teeth, in breeds of dogs having elongated skulls, and in the wolf if such teeth occur, as they probably do, in this animal. Supernumerary upper first premolars are known in the domestic cat.

MEASUREMENTS OF SKULLS.

	Dog.	Wolf.
Length of skull, occipital condyle to anterior end of premaxilla.....	210 mm.	216 mm.
Breadth of cranium at greatest constriction behind the orbits.....	43	43
Breadth of same at greatest expansion below squamoso-parietal suture.....	65	70
Breadth of frontals at postorbital processes..	63.5	55.5
Breadth of skull at alveolar border above second premolar.....	41	42
Breadth across zygomatic arches.....	118	120
Length of nasals.....	88	87
Length of premolar-molar series.....	77	88
Antero-posterior diameter of crown of upper carnassial.....	20	24.5
Anterior transverse diameter of same.....	10	14
Antero-posterior diameter of crown of upper first premolar.....	6.5	8

The upper teeth of the Tranquille skull are shown, in the figure accompanying this note, three-fourths the natural size.

The writer is indebted to Mr. Andrew Halkett, Naturalist and Curator, Fisheries Museum, Ottawa, for the loan of the skull of the white wolf above mentioned.

HOW THE SEEDS OF PLANTS ARE SPREAD IN NATURE.

By NORMAN GRIDDLE, Awerne, Man.

In the common natural objects about us there is an endless field for Nature Study. So vast indeed that the difficulty would be not in seeking a subject, but rather in selecting from the abundant material at hand one that is both interesting and instructive, and is at the same time not too difficult for the beginner to understand.

The remarkable though simple methods adopted by the different plants for the propagation of their kind, in so many cases very dissimilar, should be known to every one, and, for a Nature Study, form excellent subjects both for observation and deduction, to say nothing of the interest they might awaken and the pleasure they might give to any one making a study of the subject. In this paper I shall try to treat part of this subject under the above heading.

Before going into details it may be well to state for the benefit of the beginner, that every species of plant, however simple or complex its structure may be, is specially adapted for its advantage in the struggle for existence; and that however much one genus may vary from another in essential particulars, the object is always the same. Namely, to multiply to the utmost limit. A student, therefore, when examining a plant, should bear in mind that whatever the structure, it is for the plant's benefit, and that it has maintained the species in the struggle with other plants and with animals, for a number of centuries. There is in fact a reason for every detail.

I. SEEDS THAT ARE CARRIED BY WIND.

Seeds under this heading always have attached to them some fluffy material to catch the wind, like the pappus of the dandelion, or they are winged like the seeds of maples and conifers. The common dandelion and other close allies offer simple objects for study, as some form can be found nearly everywhere. The seeds of this plant, as the pappus shows, depend almost entirely on the wind for transportation and migration. In many instances the pappus undoubtedly enables them to travel several miles. There is, however, a condition that is absolutely necessary. The plant will not let the seeds go in damp or wet weather, and if the air becomes damp while the seeds are travelling, they soon drop to the ground. This applies to all the fluffy seeds and in a lesser extent to the winged kinds. The

willows and poplars provide good examples of fluffy seeds, but though the air on some occasions seems almost choked with little pieces of fluff—all of which contain one or more seeds—it will be observed that a very small percentage indeed alight on a suitable place for the growth of the seedlings, and that a still smaller percentage of these latter ever attain the size of their parents. Yet who can find a moist place in nature, where the conditions are favourable, that does not contain willows? Showing that the object for which these countless millions of seeds went forth has been accomplished.

The milk-weeds, willow-herbs, bull-rushes and many anemones are examples of this class of seeds. While ashes, maples, conifers and docks are examples of the winged kinds. There are some interesting details in this latter class for the student to work out, which may be discovered by throwing up into the air a few of the seeds on a moderately windy day.

II. SEEDS THAT ARE SCATTERED BY 'TUMBLING' PLANTS.

This is a class of plants that depends upon the wind for the locomotive power to take their seeds about the country. The best known examples are commonly known as 'tumble weeds.' These plants usually grow in the shape of a ball with their branches rather tightly packed together. As soon as their seeds are ripe they rot or break off close to the ground, and with the first strong wind are sent rolling over the country, scattering their seeds as they go. In the West where there are large plains it is a common and interesting sight to see thousands of these plants sweeping over the prairie, looking in the distance like huge herds of cattle or sheep. In such places the country for miles is sown with the seeds of these plants, especially *Amarantus Albus*, Persian thistle, tumbling mustard, *Cycloloma*, etc. Several grasses are also examples of this class, and many others will occur to the reader.

III. SEEDS THAT ARE SCATTERED BY THE WIND.

We now come to a class of plants which though dependent on the wind to a large extent for their spread, yet have neither downy nor winged seeds nor the power of tumbling. These are plants that have the seed-capsules pointing upwards and which open at the top. Many of these are so constructed that a strong wind is required to shake the seeds out; they are then not only scattered by the swing of the plant, but are caught up by the wind as they are thrown out and are borne some distance away.

In a number of these plants the seed-capsules split at the top and form a toothed edge. The night-flowering catchfly and other members of the allied genera, *Silene* and *Lychnis*, are examples of this class. The teeth, although in appearance looking as if they were merely the result of the top splitting open to let out the seeds, in reality also answer quite another purpose, namely, to scatter the seeds as they are shaken out, so that they may not fall too closely together. A rather more complicated example to gain the same end is shown in the seed pod or capsule of the common garden poppy. Here there is a cap to prevent the seeds from being shaken out too fast, and small holes round the sides just below the cap. In fact, it is a natural sifter from which the seeds are shaken out a few at a time, usually by the wind. Indeed the only method whereby the seeds can get out is by the plant being shaken or broken down, and this latter alternative would be only accidental and therefore does not need to be taken into consideration here.

There are a great many other modifications of this group which will suggest themselves to the observant student. A large number of seeds are, however, scattered by the wind that are only partly modified for the purpose, and with some plants it is difficult to tell whether they are in any way adapted for that special purpose.

IV. SEEDS THAT ARE SPREAD BY CLINGING AND STICKING.

Seeds of this group depend principally upon mammals for their distribution. They contain among their best known forms those seeds which are commonly called 'burs,' though several grasses are also included in the group.

'Burs' are known to most people, especially to owners of thick haired dogs. Yet how few consider why they cling to almost any thing that comes in contact with them!

To a Nature student the reason is at once apparent. They have become adapted to clinging so that they may be carried to new localities and so become spread by degrees over wide areas.

Examples of this class of seeds or seed pods will be found everywhere. The different blue-burs, cockle-burs, bur marigolds and wild liquorice (*Glycyrrhiza*) are common examples, but there are many more, some consisting of a single seed, while in others the whole pod with several seeds is carried.

A different method of distribution is found in seeds which

are also carried by animals. These when wetted become sticky. The moisture causes a coat of mucilage to form all round them, so that they stick to any thing that touches them, and as they dry they become securely gummed to the object, and may then be carried for many days before becoming dislodged. An example of this class will be found in pepper-grass and shepherd's purse, as well as in several others of the cress family.

V. SEEDS THAT ARE SPREAD BY PROPULSION AND SEEDS THAT ARE SPREAD BY TRAILING AND CLIMBING PLANTS.

In this class are to be found some rather complicated methods of seed distribution. In the case of the violets, the pod bursts open when the seeds are ripe like a great many other seed pods, but in this case the seeds remain in the separate valves or partitions until they are expelled slowly by the drying and contracting of the sides of the valve, which forces the seeds out by squeezing so that in some cases they are thrown several feet away. Anyone who has collected pansy seeds should have noticed this.

An interesting example of a plant throwing its seeds, as if from a sling, is shown by the common cranesbill, though the method here employed is quite different from the last.

Another interesting plant is the jewel-weed, or touch-me-not (*Impatiens*). To thoroughly appreciate the methods employed by this plant in scattering its seeds, I would suggest the readers trying to collect some seeds. When, if a beginner, I am sure he or she will be surprised at the rapidity with which the seeds vanish at the slightest touch, just as if they knew one was after them.

The peas and beans are also examples of this class of plants, which by the rapid curling up of the sides of the pod when dry, part of the seeds are thrown some distance away. Many other examples of plants which have special ways of propelling their seeds will be found in any district if looked for.

The peas and beans also come under the class of plants that spread their seeds by trailing and climbing. Perhaps the best examples of these are members of the gourd family, melons, cucumbers, etc., the seeds of which under natural conditions, by being left where the fruit ripens, would be spread over an area of several feet. Convolvulus and other climbing plants will also drop their seeds in many cases some distance from the parent plant, but as these plants prefer some sort of brush to climb up,

they will seldom drop seeds outside of such places, so that they nearly always have something to climb.

VI. SEEDS THAT ATTRACT AND ARE SPREAD BY BIRDS.

Who has not noticed the brilliantly colored berries on many a shrub and tree? And who has not watched the birds eating them? But ask the average person why the fruit is brightly colored, and probably not one in twenty will give the correct answer. Yet, as with the 'burs,' the reason is at once apparent. Fruits of this nature are brightly colored to attract birds, and for no other reason. This is also why so many berries remain on the trees in winter time. The birds eat the fruit; but the seeds are so constructed that many of them are not damaged, and they are eventually dropped where they have a chance of growing, in most cases far removed from their parents and brethren. In this way the species is spread. This of course does not apply so much to cultivated fruits, which have been altered and improved by man. Strawberries, raspberries, cherries, mountain ash, and practically all the other small berries that are brightly colored, can be used as examples of this method of seed distribution. Seeds are also carried by sticking to the muddy feet of birds and animals.

Many plants retain their seeds until the winter time, which are then drifted along with the snow, in some cases several miles. Small mammals and birds also carry many seeds to store them up as food for winter use. Large numbers of these are lost and if the situation is favourable they grow.

Many seeds are only partly developed for certain methods of migration, and in some cases a few plants will be found to bear two distinct forms of seeds. An example of this occurs in Russian pig-weed (*Axyris amarantoides*), some of the seeds of which are winged while others are not.

A number of aquatic plants and plants growing near water, have seeds well adapted to water migration, the seeds or seed capsule floating, and in still water are often drifted long distances by the wind, or when in running water are carried along with the current. A number of other seeds not specially adapted for this purpose are also accidentally carried by running water, especially when there are floods.

Many details and variations will be found by the Nature student to supplement the above methods of migration among seeds, the study of which should be a stimulus both to observation and deduction—the faculties that Nature Study specially aims at developing.

HOW TO MAKE A BIRD SANCTUARY ANYWHERE.

BY C. de BLOIS GREEN.

Birds have their own little quarrels and struggles all the time, but these don't matter a bit if only you can keep down the vermin; and by that I mean keep hawks and the largest owls scarce, crows and magpies scarcer still, skunks and pet cats about as scarce as the megalosaurus, and squirrels scarcer than anything which Nature has yet invented. Under these conditions the little jealousies and quarrels amongst themselves will only lead to enough tragedies to give the birds a wholesome stimulus in selecting their nesting sites wisely and in watching over the eggs and young. Ordinary care may be a nuisance, but birds don't seem to mind that. I remember working on a hillside near Okanagan Lake in April last year. Two white-headed eagles were building, or rather patching up their nest, and I had that nest commanded by my transit telescope nearly all day and every day—I mean I was seldom where I could not turn it on and take a look. The second day they finished and went off on the hunt, next day I saw a white head on the nest. First egg, no doubt, thought I; now you can go off on another hunt till tomorrow, but not much; when that egg was laid, ordinary care put in its appearance and the old hen spent the balance of the day in flying north twenty chains, then south twenty chains (a slight flip of the wings gave her a close look at the egg). Thence south twenty chains, thence north twenty chains (sight of that egg, looks all right). Thence north twenty chains, thence south twenty chains (egg again), and so on all day without a halt. Ordinary care seemed to me a bit overdone in this case, for I haven't yet found out what possible danger that egg was in. No common ordinary mortal baby was ever more closely watched. The old bird must have known she hadn't left any pin sticking in its leg, did she expect it to wake up and shriek for its bottle every minute? The old birds had picked out for their nesting-place a tree four miles from anywhere, and six feet through at the base, without limbs for 50 feet. I stood at the foot of the tree twice later and could not think of any way to get those eggs. I certainly think she overdid it. However, perhaps, even she is afraid of crows. But every bird is not a white-headed eagle, some are humming-birds, and from what I can see, any relaxation or ordinary care leads to trouble for most small birds. Apart from the vermin, which is always hunting them, there is the next-door neighbor who covets come part of the house; while the hen kingbird sits on her nearly hatched eggs, two cedar birds may be as busy as possible dragging out the bottom of her nest to build

their own with, and unless the old man comes home pretty often, his hen might need a new nest, and perhaps new legs too, for I have seen two cedar birds pull so hard on the loose strings in the bottom of a nest that they both swung to and fro, hanging free in the air. Young birds with their first nest have a good deal to learn. They have "inherited instinct" in large quantities, but the longer they live the more they learn, and in that we have no advantage ourselves. For instance, I never knew till last year that a pair of Parkman's wrens might, through jealousy on their part and a little want of ordinary care on the other side, destroy nest after nest of their neighbours. On our verandah the wrens certainly were the ancient Britons, they found the place uninhabited and they unfurled their flag. I didn't notice the skull and cross bones on it, but welcomed them with open arms. I am bound to say they were careful to keep away from open arms but they got tame enough to go about all their little affairs and pay no attention to the big two-legged incumbances, who certainly did sometimes get in the way by keeping them off the back of a chair that would have been a good place to sit on for a minute and shriek with joy. Two years' sole possession is probably enough to make any wrens feel absolute lords and sole owners of a chosen nesting place. This may account for the anger of our wrens when the Saxons came over in the shape of two swallows, and built a house within ten feet of their house. I don't think the Britons felt strong enough to fight in the open but they held much counsel in the dark, and I noticed that those young Saxons had a hard time in feathering their nest. They carried feathers from all over British Columbia without filling the nest; for, what the wrens could not use themselves, I think they sold or gave away to cedar birds, kingbirds, yellow-throats, etc., in fact, to any bird in need. Finally, the swallows decided that it took years of experience to feather a nest, and they laid four eggs on such material as was left. This so upset the wrens that they were at a loss what to do for some time. I know this because I was laid up sick on the verandah, and they had several chances of revenge which they did not take. There must have been a thorough discussion of the whole case about the time the swallows' eggs were three days incubated. For several days the swallows had never been both absent together, as one came in the other went out, and so on all day, in from five to ten minute intervals. One day, however, this care was relaxed for a few minutes; I suppose the hen met a friend and began some discussion as to how feathers were to be worn or not worn, and overstayed her time; then the old man having as much patience as most of us would have if we had to help with the incubating,

went off in a rage to hunt her up. In a moment the opportunity those wrens had been days in waiting for came and before I knew what was going on, the four swallows' eggs were lying on the verandah floor and a most delighted wren was standing on the edge of the nest with his head on one side looking down at them.

I was so sorry for the young swallows when they came home and talked it over that I went off to the nearest Traill's fly-catcher's nest and divided up, giving my swallows two nearly hatched eggs. The next day the same thing happened again, showing that the wrens had now got an idea and were going to watch closely enough to carry it out at a moment's notice. I began to be afraid the swallows would think the place unlucky if they lost their first family, so I set out at once, and, to make quite sure this time, I gave them a nearly hatched kingbird's egg. This they hatched before either of them had forgotten to go home in time, in fact it hatched within a few hours.

This was rough on the young kingbird, and on the young couple too, for the only idea of the latter was to get flies, and lots of flies, and more flies, and to cram them down the throat of the young bird and also to be as quick as possible about it.

The young kingbird grew as fast as possible; but his appetite never quite satisfied the supposed parents. I've seen them hold a consultation as to its loss of appetite (the thing had been gorging incessantly for five hours). Then one swallow would poke the baby up into a sitting posture and pry open the beak while the other watched his chance to cram down another daddy longlegs. This affair ended, as far as I could see, in absolute disgust on both sides; as soon as the kingbird was able to leave, it left; it didn't sit in a long bow on the nearest tree while the swallows fed it in the sun. And the swallows were apparently so much annoyed about it that they migrated without waiting for autumn. If they come back next year I may let you know what kind of birds they rear. Shall I make it wrens or eagles!

REMARKABLY EARLY ARRIVAL OF THE FIRST
MIGRANTS OF THIS SEASON.

By REV. G. EIFRIG.

The first Spring migrants among birds have come here earlier than usual. That is rather remarkable, when we consider that climatic conditions in February were severer than in most years, and that there was nothing especially tempting for birds here in March. The first robins and bluebirds looked and sounded strangely out of tune with the snow-covered fields and city-lots, and the prevailing ice and frost of the second half of March and the first half of April. What is the reason for this unusually early arrival, when there was so little here to tempt them? In my opinion it is the following: During the first half of March a wave of phenomenally warm or even hot weather struck that part of the United States which is in the latitude of Washington, D.C., New York, and westward to Chicago. The thermometer is reported at Washington to have climbed up as far as 92°, showing the highest temperature ever registered there for that part of the year, with perhaps one exception. Previous to this hot spell there would already be a great number of birds in those regions, their numerous permanent residents and the thousands of winter residents from Canada, *e.g.*, the juncos, tree sparrows, song sparrows, etc. Now this warm wave would have the effect of attracting further untold numbers of migrants from further south, which in the normal course of events would have begun their northward move somewhat later. This must have caused a great congestion in the bird life of that section, which in plant and insect life was also not yet sufficiently advanced to support this teeming bird life. This would, in my opinion, have the effect of inducing the hardiest of the northward migrants, those who would have gone northward first at any rate, to leave somewhat earlier than usual. And no doubt, the song sparrows, bluebirds and robins which came here first this year, were again in their class, in their respective species, the pioneers, the leaders, the most hardy and intrepid ones, which would at the same time be able to withstand adverse conditions most successfully. And that some of them have to suffer more or less for their bravery and pluck, there can be no doubt. Some probably, when they found weather conditions so uncongenial here, promptly returned to points further south. Thus I saw a flock of about 50 tree swallows merrily flying over the Rideau River, then full of ice, at Cumming's Bridge at 2 o'clock in the afternoon, on March 30th. Two hours later not a one was there, and I have seen no more since. And now there has been a lull in the migration for about two weeks; few, if any, new species having come in addi-

tion to the first arrivals, only the numbers of those already here must have been slightly augmented. Another curious fact in the migration of this year is, that, while the purple finch was extremely abundant last year at this time, in and out of the city, I have not seen one so far this season, nor have I heard of others having seen them. There are always surprises in store for the observers of birds, especially during their migrations.

Appended is a list of birds that have come here so far, and the date of their arrival, together with lists of 1906 and 1905, for comparison's sake. It must be remembered, however, that last year's migration was unusually late; that of 1905, however, normal. From this latter list it will be seen that the first comers this season were from one to three days earlier than usual, some even more. It must also be remembered that the main part of the spring migration falls into May, when the countless hosts of the warblers, in all their variety, liveliness and beauty, come; also the thrushes, vireos, swallows, many of the finches, kinglets, etc. Then new pleasures await the observer at every turn. It is to be hoped that many members of the Field Naturalists' Club may take part in observing and recording the May migrations of this year, and send in their records of species seen and *positively* identified, together with date and place, to the writer. Here is the list so far:—

	1907	1906	1905
Prairie Horned Lark.....	Feb. 10 (a)	Feb. 20	Feb. 28 (b)
Redpoll (c).....	Feb. 18	_____	_____
Crow (d).....	Mar. 2	Mar. 9	Feb. 18
Song Sparrow.....	Mar. 13	Apr. 2	Mar. 18
Blue Heron.....	Mar. 17 (e)	Apr. 5	Apr. 27
Robin.....	Mar. 16	Mar. 31	Mar. 19
Bluebird.....	Mar. 21	Apr. 3	Mar. 24
Cowbird.....	Mar. 21	Apr. 8	Mar. 29
Bronzed Grackle, Blackbird	Mar. 23	Apr. 2	Mar. 27
Red-winged Blackbird.....	Mar. 23	Apr. 2	Mar. 24
Tree Sparrow.....	Mar. 23	Apr. 9	Mar. 24
Meadowlark.....	Mar. 23	Apr. 5	Apr. 3
Shrike, Butcherbird.....	Mar. 25	Apr. 16	Mar. 30
Marsh Hawk.....	Mar. 25	Apr. 12	Apr. 1
Junco, Snowbird.....	Mar. 25	Apr. 6	Mar. 23
Golden-eye, Whistler (duck)	Mar. 26	Mar. 29	_____
Flicker, Yellowhammer.....	Mar. 26	Apr. 16	Apr. 10
Winter Wren.....	Mar. 26	Apr. 18	Apr. 17
Golden-crowned Kinglet.....	Mar. 26	Apr. 14	Apr. 8
Killdeer.....	Mar. 26	Apr. 16	Mar. 28
Tree Swallow.....	Mar. 26	Apr. 8	Apr. 3

	1907	1906	1905
Phoebe.....	Mar. 26	Apr. 9	Apr. 8
Herring Gull.....	Mar. 30	Apr. 3	Apr. 10
Sparrow Hawk.....	Mar. 30	Apr. 7	Apr. 18
Savanna Sparrow.....	Mar. 31	Apr. 15	Apr. 11
Vesper Sparrow.....	Apr. 1	Apr. 15	Apr. 12
Brown Creeper.....	Apr. 2	Apr. 15	Mar. 30
Chipping Sparrow.....	Apr. 3 (j)	Apr. 15	Apr. 12
Kingfisher.....	Apr. 13	Apr. 16	Apr. 8

(a) This is an approximate date from the rifle range. The keeper is positive that they were there the first week in February. 1800 sheep had been pastured there all winter.

(b) In more favorable places it probably would have been seen earlier.

(c) There have been unusually many great swing bands of these around the city in March and April.

(d) A few crows remain here all winter, in the neighborhood of slaughter houses, so it is hard to say, whether any seen before March are migrants or residents.

(e) Recorded at Germanicus, Renfrew Co.

(f) Recorded at Germanicus, Renfrew Co., which is more northerly than Ottawa.

Ottawa, April 22nd, 1907

COYOTE AND BADGER.

During the progress of my survey in southern Alberta, I noticed on two occasions a badger and a coyote travelling in company. The same thing was observed and reported by the men who did my mounding on three different occasions, all of which were in different localities.

The men reported having seen the animals travelling in company in Tp. 1, R. 13, W. 4th Mer. The first time that I saw them together was in Tp. 6, R. 17, and the second time in Tp. 7, R. 17, W. 4th. This last time I had the best view. Seated one day eating our noon lunch, I noticed two animals coming towards us and drew the attention of my men to the fact. We remained perfectly quiet so that they came within 20 to 30 feet of us before seeing that we were so near. The coyote travelled ahead, and the badger followed along as fast as he could, right at the heels of the coyote.

I could see no reason nor could I explain it in any way satisfactory to myself, and although I asked several people in the West about it, the occurrence is still a mystery to me.

Listowel, Ont., March 20, 1907.

A. H. HAWKINS.

LIST OF PLANTS COLLECTED ON THE PEEL RIVER
IN 1906 BY MR. CHARLES CAMSELL.

- Papaver nudicaule*, L., Braine Creek.
Lupinus arcticus, Wats., Stewart River.
Myosotis alpestris, Koch., Bear Creek.
Echinosperrnum deflexum, Lehm., Bear Creek.
Pyrola rotundifolia, L. var. *pumila* Hook., Beaver River.
Primula Mistassinica, Michx., Beaver River.
Pinguicula vulgaris, L., Beaver River.
Phlox Richardsonii, Hook., Wind River.
Cypripedium guttatum, Swartz., Hungry Creek.
Linum Lewisii, Pursh., Wind River.
Dryas octopetala, L., Beaver River.
Epilobium latifolium, L., Wind River.
Hedysarum Mackenzii, Richards, Wind River.
Potentilla fruticosa, L., Beaver River.

WILSON'S PHALAROPE.*

On June 9th, 1885, a nest containing three eggs of the above bird was found on the south bank of the Grand River a half mile below Dunnville, Haldimand Co., Ontario. As the nest and eggs were strange and neither parent bird was present it was determined to leave it until the next morning and to visit it again in the hope that one or both parents would be at home. On the morning of the 10th a second visit was made when the male bird flew off the nest and was shot. When the nest was examined I was disgusted to find that two of the three eggs were hatched. The young birds were tiny bits of down, stripped and sotted with dark brown on a buff ground color. The egg was $1\frac{1}{4}$ inch in length by $\frac{3}{8}$ in width and very dark in color, in fact the large end was covered with two dark brown colors, while the rest of the shell was of a dark buff color spotted with dark brown.

The nest was situated on the bank of the river a few feet from its edge, near a tall tussock of marsh grass and was fairly well formed and made of a little moss and weeds such as grow in that locality. A depression seemed to have first been made in the soft marsh soil which was then lined with moss and fine grass.

The female bird was not seen. The rest of the family, as taken, are now in my collection.

G. A. MacCALLUM.

*See The Ottawa Naturalist, Vol. XV, page 127, where this nest is credited to the buff-breasted sandpiper.—EDITOR

ENTOMOLOGICAL BRANCH.

Meeting No. 5 was held at Dr. Fletcher's rooms on the evening of March 5th.

Mr. Gibson showed a box of specimens of *Pseudohazis eglanterina* and *shastaensis*, and also *Hemileuca maia* with its variety *lucina* from Manitoba. He also gave an account of these insects and the method of their occurrence drawn from the literature of the subject. Inflated larvae were also exhibited.

Mr. Baldwin exhibited a pocket box of insects collected during the past summer. All the species submitted were identified.

Mr. Halkett showed a specimen of a blood worm, the larvae of one of the *Chironomidae* which had caused some excitement when it came through one of the taps of the water supply in one of the Government buildings.

Mr. Nelles, of the Alaska Coast Strip Survey Staff, exhibited a collection of very interesting and beautiful photographs taken during the past summer while in the field.

Mr. Harrington showed a box of some of the rarer and more interesting flies of the locality, at the same time reporting on the progress he had made in getting the Ottawa species identified. He also showed some very handsome foreign beetles. Some of these he had collected in Japan and others had been received from European correspondents.

Mr. Metcalfe exhibited a box of Ottawa Heteroptera and pointed out the differences between some of the closely allied species.

Mr. Young showed a beautiful case illustrating the life-history of *Limenitis disippus* with its food plant. A remarkable specimen of a willow twig showing eight of the larval hybernacula on successive leaves was included in this case. A box of notodontian larvae of the old genus *Cerura*, was also exhibited.

Dr. Fletcher spoke of the Apple Maggot, Plum Curculio, and Asparagus Beetle and showed preserved specimens mounted in a special way for exhibition at meetings.—J. F.

MEETINGS OF THE COUNCIL.

The first meeting of the new Council was held in the library of the Normal School, March 25th. The members present were: The President, Misses Matthews, Ritchie and Jackson, and Messrs. Attwood, Halkett, Eifrig, Gibson, Clarke, Macoun, Lemieux and Gallup. Six new members were proposed and elected. A communication was read from Mr. Charles Pollard, Secretary of the Wild Flower Preservation Society of America, offering to lecture here under the auspices of the Club. A committee was appointed to make arrangements for this lecture. A proposal from the University of California to exchange the publications of the University for *THE OTTAWA NATURALIST* was accepted.

The Publishing, Excursion and Soirée Committees, leaders in the various branches of the Club's work and an Editor and Associate Editors were elected. A noteworthy characteristic of the new Council is the number of new members, all of whom have entered enthusiastically upon the work, and a successful Club year is anticipated.

CORRESPONDENCE.

THE EDITOR, *THE OTTAWA NATURALIST*,

Dear Sir:—In your February issue a remarkable circumstance is recorded by Mr. Geo. A. Dunlop, adding a new accident to the list of those which may befall a ruffed grouse.

This individual, apparently in sound health, was found with its tail feathers frozen into the ice crust, under a bush. In the winter they commonly sleep on the ground, entering snowdrifts only in the coldest weather. It is absolutely certain that its tail could not have been frozen down, had there not been at the place some frozen liquid. This may have been produced by a certain condition of the bird's bowels, or the sun's heat in such a sheltered spot may have melted the snow, so that it was wet when the bird went in, or finally, the bird's tail may have been wet when it went to bed, and a frosty night completed the dilemma.

This you will remember is an accident of a class which happens every year to the foxes in Alaska. They sit down on the wet ice, thereby casting a shadow over it. In 15 or 20 minutes the wet in the shadow has congealed, and the fox would be made prisoner but that he tears himself violently away, leaving much of his fur in the ice. The consequence is, that in the spring of the year all the blue foxes have their buttocks more or less denuded of fur.

ERNEST THOMPSON SETON.

Cos Cob, Conn., March 22, 1907.

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