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THE

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THE CANADIAN SPORTSMAN AND NATURALIST.

Nos. 11 AND 12.

MONTREAL, DECEMBER, 1885.

Vol. III.

WILLIAM COUPER, Editor.

TO OUR SUBSCRIBERS.

This number terminates the third volume of the *Canadian Sportsman and Naturalist*. We regret to inform our subscribers that the publication ends with this issue. For some time past it became necessary to devote more time to our business than heretofore, owing to the large amount of work we have been favoured with; therefore we could not give the magazine the attention and labour required to continue it. We take this opportunity of thanking our friends who have assisted us. Although the publication will cease, our efforts will not have been in vain, as many valuable records can be found in its pages.

To subscribers who have remitted in advance, we will return the money, and those in arrears will oblige us by remitting subscriptions now due.

"THE AUK."

We have received the first number of "The Auk," a continuation of "The Bulletin of the Nuttall Ornithological Club," now issued as a quarterly journal of ornithology by the American Ornithological Union. It is an 8vo. of 108 pages, beautifully printed and full of interest to the student of North American birds. We are quite interested in the discussion by Drs. Merriam and Coues on bird nomenclature. It is only by the investigations of such talented men that we can ultimately arrive at a proper knowledge of ornithological literature. The writers will doubtless arrive at a proper understanding regarding "Ornithophilicalities;" they have commenced the matter and it must now be ended satisfactorily on one side or the other. In the meantime we think Dr. Coues has found a strong, energetic rival and critic in

Dr. Merriam. "The Auk" is published at \$3.00 a year, and it is really a cheap, useful and intelligent journal, which we commend to all lovers and students of Canadian birds.—C.

THE ART OF DECEIVING.

HOW FISH CAN BE INDUCED TO NIBBLE ARTIFICIAL FLIES.

The *Pall Mall Gazette*, in discussing the question of artificial flies for piscatorial purposes, says: Flies are commonly regarded as a necessary evil, but apart from this popular prejudice they have a special interest for fish and for fishermen. Though the flies on which fish delight to feast are legion in number, the artificial flies employed by the angler, are many more. Walton confines his list to twelve, which he quaintly calls "a jury likely to betray and condemn all the trouts in the river." But his knowledge of the subject was very limited, and it is plain from his description that he regarded them rather as fancy creations than as imitations of real insects. Many are the materials and many the devices wherewith art seeks to imitate nature. Perhaps the closest approach to a real fly body is the strip of twisted quill, taken from the opaque part of the feather stem, which is used in the construction of the "blue upright" and some other flies. Here the joints of the real fly's body, and its alternations of color, are closely imitated by the windings of the quill along the hook. Woolly bodies, however, are commoner. A very good body is made by twisting strips of peacock's "hurl" (the fibres of the peacock's feather) closely round the hook. This is deservedly held in high esteem, but probably not one angler in twenty knows wherein its excellence consists. The artificial fly known as the "governour," intended to represent the ground bee, as a body of this kind; yet if the bodies of the natural and the artificial insects be compared they seem widely different. The one is a sober brown, covered like many other winged insects, with a short crop of very fine hairs; the other gleams resplendent with all the rainbow hues of the peacock's plumage. But sink both in the water, and each will appear of a sivery gray color. The short fluff of the natural bee and

the harl of the "gouverneur's" body each retain a number of imprisoned air bubbles; hence the similarity of effects, and hence, too, the value of harl as a "body."

But, indeed, with all that ingenuity can devise, the artificial fly is but a poor imitation of its living prototype. And hence the much-vexed question. Do fish take a specific artificial fly for the specific natural fly that it is intended to represent? Now, salmon and sea trout flies cannot possibly be mistaken for any natural insects, inasmuch as there is nothing in nature which they resemble. It has been suggested that the gaudy salmon fly may be mistaken for some species of dragon fly. But, in the first place, dragon flies are not accustomed to career up stream eight inches or a foot below the surface of the water, which is the method of working the fly in salmon-fishing; and secondly, neither salmon nor salmon trout feed on dragon flies. It must, therefore, be something in the color which allures them, and not any similarity to a familiar object of food. It is more doubtful whether the same explanation holds good for trout and other fish. In the case of a distinctive fly, like the mayfly, the imitation must be taken for the real fly. So, too, when fish will rise only to an imitation of the fly on the water. Sometimes all depends on successfully imitating this, but at others the fish seem to prefer a different fly, or, what is stranger still a fancy fly. And this readmits the old element of perplexity. There are various kinds of fancy flies, but besides these many flies, originally intended as imitations, have become, by alterations in their size, fancy flies for all intents and purposes. The "red palmer" is a good instance of this. Originally intended to represent the "wooly bear," a caterpillar at least two inches long, the fly, as now tied, rarely exceeds $\frac{3}{4}$ of an inch in length and is usually much smaller. Yet is hardly a more successful fly, though what it is taken for is still a mystery. The trout of the Scotch lochs again greatly prefer fancy to natural flies. There is plenty of the latter on these waters, but the artificial flies always used are entirely fancy creations. Again, the perch, which does not feed on natural flies at all, will often rise boldly to a large artificial. Thus it seems that if fish in some cases certainly regard the artificial fly as an imitation of a familiar insect, in other they certainly do nothing of the kind, and are prompted to rise to it either with the idea that though strange to them, it is probably good to eat, or from

mere curiosity, or possibly under some sort of fascination akin to that which attracts moths, birds, and indeed fish also, to a light. The best way of presenting flies to the fish is a much less perplexing question; but even in this matter piscine tastes display some curious variations. In certain rivers, such as the Wandle, the fly must be kept dry, but in most streams it answer better when slightly submerged. This, indeed, might be expected. Since it is impossible to make a close estimation of a living fly, there is a better chance of deceiving the fish by presenting the bait to them as a drowned fly washed down by the current. It should be remembered also that the actual insects, when so carried down, present anything but a tidy appearance, and consequently that an old and tumbled fly will often succeed where a pick-and-span specimen has utterly failed.

ANIMALS THAT HAVE DISAPPEARED IN RECENT TIMES.

In examining a collection of fossils, where the sand of limestones are almost entirely made up of organic remains, the most natural impression conveyed is that their extinction has been the result of a mighty cataclysm, some unexpected throeb of nature that produced at one fell swoop the destruction of the continental fauna, but investigation shows the reverse to be the case. When extinction is not produced by man, it is the outcome of certain natural causes, reached only through long eras of time. Ethnologists have shown beyond a doubt that early man lived contemporaneously with many huge forms that are now extinct. Within a very few years some of these animals have passed away. One of the most interesting of recent cases is that of the great auk or *Alca impennis*. The skins or bones are so rare that each individual has its history and price: the latter might be quoted at \$1000 or more, as only 60 specimens are known in the world. No living specimen has been obtained for 40 years. In 1869 the Museum of Natural History at Central Park purchased one in London for \$750, and the bird and egg, both fine specimens, can be seen there. The auk was about three feet in height, its wings only three or four inches long. It was an inhabitant of the very highest latitudes, and at one time extremely common in the Arctic seas. The ancient shell heaps on the Atlantic coast shows abundant remains of this bird as far

South as the New England coast. Nuttall, in 1834, records the birds as then breeding in great numbers. "As a diver he is unrivaled," he says, "having almost the velocity of birds of the air. They breed in the Faroe Islands and in Iceland. Greenland and Newfoundland, nesting among the cliffs, laying but one egg each. They are so unprolific that if the egg be destroyed no other is laid during the season. It is sometimes known to lay at St. Kilda and in Papa Wastra." The last seen alive were at the Funks, a small island in the coast of Newfoundland. In 1844, the last known to be alive on the eastern continent were seen at Iceland. In 1870 a dead, frozen specimen was found at Labrador, which though in poor condition, was sold in London for \$200. The only specimens in this country are at Central Park, Vassar College, Philadelphia Academy of Sciences, Cambridge University, and the National Museum. The single egg that the great auk yearly deposited was evidently not enough to insure its preservation, and year after year it became less abundant, perhaps killed by the Indians along our coast. Finally, the last one was destroyed, and in 200 years more its existence will be a legend and the steel engravings of the present specimens the only reminders of the giant of the auks.

Of the Labrador duck (*Camptolæmus*) still less is known. In former years it was common on the north-eastern coast of North America and as far south as New Jersey, but for many years not a specimen has been seen or found, and the presumption is that they have met the fate of the great auk.

Among the Maoris, natives of New Zealand, there are traditions that many years ago there lived in their country a race of gigantic birds—the moa—that served as food for their remote ancestors. They are also positive that some of the largest birds have lived within the modern times, while in the interior the natives say that the gigantic bird may yet exist. They called the bird moa from its gigantic size, and the legends tell of its wonderful plumes and tail feathers, that were only worn by the great chiefs of the ancient Maoris. Its enormous bones were made into fish-hooks and various implements. These facts or rumours fell into the hands of the Rev. Dr. Colenso, a missionary in New Zealand some years ago, and his efforts to investigate them resulted in the discovery of a number of huge bones that at least confirmed the existence of the birds. A few years later, Mr. Walter Mantell,

the naturalist, went into the interior and settled himself among the Maoris, as Mr. Cashing, of the Smithsonian, has among the Pueblo Indians, to learn all he could of their traditions. As a result of his work he collected seven or eight hundred bones of a number of different species, which are now in the British Museum, and settled to his own satisfaction at least that the birds had flourished within comparatively modern times, and had been exterminated by the early inhabitants of the country. Some of the remains found by Mr. Mantell, standing upright, point to the conclusion that some of the larger ones became mired in the swamp, becoming victims of their own weight. Mr. Mantell secured a number of fine specimens and of great eggs, one of which would have been a meal for ten men. The bones of these birds are much larger than those of an ox, and some of the birds themselves were 14 feet in height. The finest collection of them in this country is owned by the Museum of Natural History at Central Park.

In 1817 an English scientist discovered the remains of a new bird in the menacconite sand at Waingogore, New Zealand. The bones consisted of the cranium, mandibles, sternum, humerus, femur, tibia, and tarsometatarsals, of a gigantic rail. Prof. Owen examined them, and stated from their osteological characteristics they belong to a large modified fowl of the same family of the *Grallæ* as the Porphyrion and Brachypteryx, and, like the latter birds, without the power of flight. From his deductions a new genus was established for its reception—the *Notornis*. Up to 1850 these fossil remains were thought to be only remnants of the bird; but in that year, much to the astonishment of scientists, a living representative of the species and genus was found in an unfrequented part of the island of New Zealand; since then a living one has never been seen, and it was undoubtedly the last of the race. The Maoris have a tradition that the bird was once very common, and a favorite article of food with their ancestors. It was called by them the Dodo, and by the natives in the south Tokohé. Mr. Mantell was the fortunate finder of the bird, obtaining the skin from some sealers who were fishing among the unfrequented islets of Dusky Bay. It appeared, according to Mr. Mantell, that when frequenting the coast in search of seals and other game, the men observed on the snow with which the ground was covered the foot-tracks of a large and

strange bird, and after following the trail for a considerable distance they caught sight of the object of their search, which ran with great speed. For a long time it distanced the dogs, but was at length driven up a gully in Resolution Island and captured alive. It uttered loud screams and fought and struggled violently: it was kept alive three or four days, and then (the men being ignorant of its value) was killed and the body roasted and eaten by the crew, each partaking of the dainty, which was said to be delicious. The skin, with the skull and bones of the feet and legs, was preserved, and obtained by Mr. Mantell, and in this manner the last of the race was preserved. The bird was a magnificent creature, about two feet high; the beak was short and strong and the legs were beautiful scarlet color. The neck and body were dark purple, the wings and back being shot with green and gold. The wings were short and round and remarkably feeble both in structure and plumage. The skeleton is now in the collection of the British Museum: price, \$800. Here also can be seen the remains of a nocturnal parrot (*Ustia productus*) that years ago inhabited Phillips Island, an isolated spot in the Southern Ocean, five miles in length, but now, according to the Norfolk Islanders who are only a few miles distant, has entirely disappeared.

ON LABRADOR.

DEAR SIR.—A few words about the Natural History of Labrador, while you are on the subject, seem to me to be especially appropriate here now as you are finishing my report on that region in the *Sportsman*. The forthcoming Bulletin of the U. S. National Museum Vol. V, I believe, will contain a report on the Invertebrates which I collected in dredging in the odd moments of three weeks on the coast, while upon an excursion there. I have not seen at this time, January 22, any sheets of the report myself, but understand that it combines, or adds a resumé of the work done in that region by Prof. Packard in 1860 thereabouts and published in the *Memoir* of the Boston Society of N. H. Now that good work remains to be done in that part of the coast can easily be seen. These preliminary reports show *part* of the field. What could be expected if one acquainted well with the coast should go there and spend the summer collecting and dredging, with apparatus for this and for fishing; and with plenty of alcohol

and cans and jars. I could confidently predict a perfectly magnificent harvest for any private individual or any institution who should make a small outlay for this purpose. A small house could be easily obtained for the summer, or better one built for the purpose at a small cost, and a permanent station where renewed investigation could be carried on each year with a select corps, say of one good man with one or two assistants, and the result might even compare well with the work at present being done by the U. S. Fish Commissioners of the National Museum at Washington. There is no doubt but that the results would be invaluable in the investigations into the Labrador and northern fisheries. I believe that \$1000 would cover *all* expenses for the first year's work, and bring in such a host of rich and valuable material as to fully pay for all first cost of outfit and the season's work.

I want to say here, that I believe that this would aid in devising means of increasing the yearly "catch" in the Labrador and neighbouring waters. It is a fact past dispute, at least to one who has spent all the seasons with the poorly fed and cared for inhabitants,—though the majority have none to blame but themselves and their own idleness—that the fisheries are not what they need to be on this coast. Yet to show that the fish *are* there yet, and in a goodly number, note the success of several large firms during the summers of '83 and '82. I believe that the establishment of such a station by the Canada Government would give a new impulse to the fisheries there, and everywhere within Canada waters. I believe that it is possible to revive the spirits of the "faint hearted," and that even the "habitually lazy," of which there are a great number on the coast would turn to and pick up more courage, and I wish to improve their conditions and what is \$1000 if it accomplishes the double result of awakening renewed impulses of thrift in two to three hundred people, besides bringing in a harvest of its own peculiar kind in a complete display of the marine products of the fishing grounds: a complete series of the fishes in their different and peculiar stages of growth; and a complete practically illustrated collection of the Natural History of one of the most interesting regions of northern North America. How *much* more profitable this would be for science, and the world in general, than the fly away cruise of some "flying Dutchman"

to "Cape Fly-away" as Irving calls it, or the North Pole, with its loss of life, its expense, and its "no results." I believe the one as fully and as utterly practicable as the other is fully and utterly impracticable. It would probably not be difficult to find a man properly fitted for the work and ready and willing to undertake it.

Very respectfully, yours,

WINFRID A. STEARNS.

Acting curator of

Mass. State Ag'l. College.

Amherst, Mass., U. S. A., Jan. 22nd 1884.

American Ornithologists' Union.

BIRD MIGRATION.

At the first congress of the American Ornithologists' Union, held in September 1883, a Committee was appointed on the Migration of Birds. The purpose of this Committee is to investigate in all its bearings, and to the fullest extent possible, the subject of the migration of birds in the United States and British North America. The work will not be limited to the accumulation of records of the times of arrival and departure of different species, but will embrace the collection of all data that may aid in determining the causes which influence the progress of migration from season to season. For example, severe storms, gales of wind, protracted periods of unusually high or low temperature (for the locality and time of year) are among the atmospheric conditions that are known to exert marked effects upon the movements of birds. The opening of the leaves and the flowering of certain plants, with the correlative appearance of a multitude of insects, are also among the actors that have to do with the abundance of many species. Hence the careful registration of certain meteorological phenomena, and of the state of advancing vegetation from day to day, will constitute prominent items in the record books of the observer.

For the purpose of rendering the result of the season's work as full and valuable as possible, the Committee earnestly solicits the co-operation of every ornithologist, field-collector, sportsman, and observer of nature in North America. Indeed, a large corps of observers is absolutely essential to the success of the undertaking, and the Committee hopes to receive substantial aid from many who profess no knowledge of ornithology.

PLAN OF THE WORK.—For convenience in collecting and arranging the enormous mass of material which will be accumulated by the joint labors of this army of field workers, it has been deemed advisable to divide the vast expanse of territory embraced in the United States and British North America into thirteen Districts, each of which will be placed under the immediate direction of a competent Superintendent. The Districts, with their respective Superintendents, are:—

ALASKA, Supt., John Murdock, Smithsonian Inst., Washington, D. C.

NORTH-WEST TERRITORIES, Supt., Ernest E. T. Seton, Assinabola, *via* Carberry, Manitoba.

NEWFOUNDLAND, Supt., James P. Howley, St. John's, Newfoundland.

BRITISH COLUMBIA, Supt., (not yet determined).

MANITOBA, Prof. W. W. Cooke, Caddo, Indian Territory.

CANADA, Supt., Montague Chamberlain, St. John, New Brunswick.

ATLANTIC SEABOARD, (Lighthouse and Lightships from Canada to the Gulf of Mexico), Supt., (not yet determined).

NEW ENGLAND, Supt., John H. Sage, Portland, Conn.

ATLANTIC DISTRICT, (N. York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina), Supt., Dr. A. K. Fisher, Sing Sing, New York.

MIDDLE-EASTERN DISTRICT (Southern Michigan, Indiana, Ohio, West Virginia, Kentucky and Tennessee east of the Tennessee River, Alabama, Georgia, Florida) Supt., Dr. J. M. Wheaton, Columbus, Ohio.

MISSISSIPPI VALLEY (Dakota, Minnesota, Wisconsin, Nebraska, Iowa, Illinois, Kansas, Missouri, Indian Territory, Arkansas, the small portions of Kentucky and Tennessee west of the Tennessee River, Texas, Louisiana, Mississippi), Supt., Prof. W. W. Cooke, Caddo, Indian Territory.

ROCKY MOUNTAIN DISTRICT (Idaho, Montana, Wyoming, Utah, Colorado, Arizona, New Mexico), Supt., Dr. Edgar A. Mearns.

PACIFIC DISTRICT (Washington, Oregon, California, Nevada), Supt., L. Belding, Stockton, California.

The home of each observer is called a Station, and is recorded by number upon the books of the Committee. The Committee particularly requests that all persons who read this circular, and are willing to aid in the work, will *immediately* communicate with the Superintendents, of their respective Districts. Those residing in Districts whose Superinten-

dents have not as yet been named may address the Chairman.

It is the duty of each Superintendent to exert himself to the utmost to increase the number of observers in his District; to answer the questions they may put to him concerning the details of the work, etc.: to collect at frequent intervals the product of their labors; to ascertain from these data the whereabouts of certain species in winter, and the times of leaving their winter homes; to determine if possible the number and extent of the chief avenues of migration within the limits of his District, and the average of speed at which the different species travel; to locate the *breeding areas* of the summer residents; and, finally, to submit the result of the season's work to the Chairman of the Committee. The Chairman shall, in turn, arrange, condense, and systematize the material received from Superintendents of the several Districts, and shall present to the Union the fruits of the joint labors of all the collaborators, together with any comments, deductions or generalizations he may have made upon the same.

INSTRUCTIONS TO COLLABORATORS.—The data collected may conveniently be arranged in three general classes: *a.* Ornithological Phenomena. *b.* Meteorological Phenomena. *c.* Contemporary and Correlative Phenomena.

(a) *Ornithological Phenomena.*

Each observer is requested to prepare, at his earliest convenience, a complete list of the birds known to occur in the vicinity of his Station, and to indicate (by the abbreviations enclosed in parentheses) to which of the following five categories each species pertains:—
1. *Permanent Residents*, or those that are found regularly throughout the entire year (R).
2. *Winter Visitants*, or those that occur only during the winter season, passing north in the spring (WV).
3. *Transient Visitants*, or those that occur only during the migrations, in spring and fall (TV).
4. *Summer Residents*, or those that are known to breed, but which depart southward before winter (SR).
5. *Accidental Visitants*, or stragglers from remote districts (AV).

It is also desirable to indicate the relative abundance of the different species, the terms to be employed for this purpose being: *Abundant, Common, Tolerably Common, Rare.*

In many species the males arrive in advance of the females, hence it is important to note the sex of the first comers, and the date at which the opposite sex is first seen.

In recording arrivals and departures it is highly important to distinguish between the movements of the great bulk of the species and those of the forerunners or advance guard. For this purpose two dates should be recorded for the incoming, and two for the outgoing of every non-resident species, as follows:—
1. The first appearance of the species (F).
2. The arrival of the bulk (BA).
3. The departure of the bulk (BD).
4. The last individual seen (L).

In addition to the above, which may be regarded as *essential data*, there are many other noteworthy details that bear more or less directly upon the complicated problems involved in the study of migration. Among such may be mentioned the bodily condition of the bird (whether fat or lean), the moult and the periods of song. The time of mating, when observed, should always be recorded.

(b) *Meteorological Phenomena.*

Extended meteorological data are not required, though the observer would derive material assistance from a systematic weather record. The Committee desires information upon:—
1. The direction and force of the wind.
2. The direction, character and duration of storms.
3. The general conditions of the atmosphere, including rainfall.
4. The succession of marked warm and cold waves, including a record of all sudden changes of temperature.

(c) *Contemporary and Correlative Phenomena.*

The Committee desires that the data under this head be as full and complete as possible, and requests exact information upon:—
1. The date at which the first toad is seen.
2. The date at which the first frog is heard.
3. The date at which the tree-toad or "peeper" is heard.
4. The dates at which certain mammals and reptiles enter upon or emerge from the state of hibernation.
5. The dates at which various insects are first seen.
6. The dates of the flowering of various plants.
7. The dates of the leafing and falling of the leaves of various trees and shrubs.
8. The dates of the breaking up and disappearance of the ice in rivers and lakes in spring, and of the freezing over of the same in the fall.

C. HART MERRIAM,

Chairman of Committee on Migration,
Locust Grove, Lewis County,
New York.

ON THE MOLE.

DEAR SIR,—I herewith send you some observations on the mole leaving you to add the scientific names to the little animals mentioned further on.

I believe that very few people know how voracious the common meadow mole is. I have read stories told by Indians about the Carcajou, or Wolverine killing and eating two moose in a single night, but my doubt have been almost dispelled by witnessing the glutony of this little creature.

One day last week two White-bellied or Wood Mice were caught in a trap; I cannot say whether the mole or the mice were caught first but in the evening one living mole was found in the trap, and two full grown Wood mice, dead, one of the latter being about half eaten. The evening of that same day, the mole was placed in an old laundry boiler and the entire dead mouse given to it, which by morning was entirely eaten bones and all except the hair. We then gave the mole a large rat just killed, when it at once proceeded to eat out its eyes, and by 4 o'clock next afternoon one side of the rat's head, bone, together with the brains, were eaten, and strange to say the mole looked no larger.

The Indians of Hudson Bay say that the Carcajou, after eating one moose, squeezes himself between two trees, which process packs what he has devoured and makes room for moose No. 2; be that as it may, our mole had no chance for any such cheating, but did all by fair eating. Our curiosity was aroused to know by what means a mole or shrew could kill mice which were larger than itself; so four large meadow mice being procured, they were placed in the boiler with the mole, which as soon as it met a mouse, showed fight, but the mouse knocked it away with its front feet and leaped as far away as it could. The mole from the first seemed not to see very plainly and started around the boiler at a lively rate reaching and scenting in all directions with its long nose like a pig that has broken into a back yard and smells the swill barrel. The mice seemed terror stricken momentarily rising on their hind legs, looking for some place to escape leaping about squeaking in their efforts to keep out of the way of the mole which pursued them constantly. The mole's mode of attack was to seize the mouse in the region of the throat. This it did by turning its head as it sprang at the mouse, at the same time utter-

ing a chattering sound. The mice would strike at, and usually knock the mole away with their front feet but if the latter got a hold of a mouse, it would then try to bite, and they would both tumble about like dogs in a fight. The little chap at last attacked one mouse and kept with it, and in about ten minutes had it killed; but even before it was dead the mole commenced eating its eyes and face. About ten minutes later the mole had devoured all the head of the mouse and continued to eat. I have captured and caged several moles this winter and they all display the same untiring greedy nature. According to my observations the little mammal under consideration eats about twice or three times its own weight of food every 24 hours and when we consider that their principal food consist of insects, it is quite bewildering to imagine the myriads one must destroy in a year. I think they are quite likely to kill hundreds of insects more than they need to eat, amongst which there may be many of our greatest pests, yet many people destroy moles and bats at every opportunity, both of which may be numbered amongst our most beneficial and harmless creatures. I would here like to mention that I think whoever kills a toad is doing wrong as they also live upon insects. I once saw a dead one that a waggon wheel had crushed, and to all appearance its stomach must have contained at that time about a score of potato beetles besides other insects.

JOHN A. MORDEN.

Hyde Park, Ont., 8 Dec. 1888.

NESTING OF THE COMMON RAIL

(*Porzana Carolina*), Niell.

Assuming that some account of the nesting, and other habits of this bird may be interesting to your readers, I send you a few remarks in regard to my experience during the past season. Excepting stuffed specimens seen in different collections, I had never noticed one of them in our part of the country, until the evening of the last of July of the present year. In the evening while returning from my farm — *Wildwood* — which lies on the north-west of this corporation, I got a glimpse of a strange bird running along the edge of a pond. The farm is near the line, which is a continuation of the Main Street of this town and adjacent are a number of small ponds formed by excavating clay for brick-making. Some

of these ponds contain water throughout the year, but owing to the continuous rain-fall of the past summer they have been constantly full. In some of these laklets there are islets covered with grass; on others tall flags and bunch grass have grown, while a few of them are partially open. It was between the most western part of these ponds that I was passing when I caught sight of this rail, and as I approached to get a nearer view, I was surprised to see it apparently walking on the water, and then, as I drew still nearer, it rose, flew over to an islet in the centre of the pond, where it disappeared. The stranger was doubtless a rail and upon reaching home I informed my family of the interesting ornithological discovery, also stating my belief that the strange voices that we had heard among the flags for some time past was now solved, and with the hope of making further interesting "finds" among the rushes, we determined to follow the search next day. Accordingly, I waded out to the islet where the bird had flown the evening before, but made no discovery. I was about to return when I got a sight of the bird rising from some bunch grass that rose out of the water near the road where we had passed almost every day since the opening of spring. On examining the place I was delighted with a view of a nest placed in a tuft of grass; it contained six eggs. This nest was formed of course dry grass, partly interwoven with the standing stalks, and raised to nearly a foot above the water. The eggs though much smaller, were of the same color, and marking as those of the American coot, being of a fleshy-brown, or dull yellow hue, dotted with different shades of purplish-brown, and averaging about one inch in length. These I took and though considerably incubated, I succeeded in saving them for my collection. After this "find" I proceeded with my boys to make a further search among the flags and grasses of the other ponds. We relished the bird and we were interested and amused at its peculiar movements in the water, and her mode of concealment among the water grasses. In the third pond I discovered another nest. It was similarly situated to the first one, but more concealed among tall flags. The female was sitting on it, but when I approached within a few feet, she leaped from the nest into the water. This nest contained nine eggs, and one young bird which also took to the water, and exhibited much agility at swimming and concealment. I caught it and noticed that it

was covered with black down, having a bright yellow spot on the throat, and a scarlet mark around the base of the bill. It uttered a plaintive cry somewhat like that of a young Spotted Sand-piper. Its alarms brought both the parents toward it; they splashed in the water, uttering notes resembling the "crake" of the Guinea-fowl, when excited. The common call of these rails resemble a shrill "peep," repeated a few times and ending in a rapid twitter. The eggs in this nest were nearly incubated, and when I returned to it some days after, three of the young were hatched and departed, the rest of the eggs were in the nest; these I attempted to blow, but only succeeded in the case of two, which were only partly incubated. I also noticed in the case of the first nest, that some of the eggs were much more hatched than others, from which it would seem that incubation begins when the first egg is laid and I would also infer that the male takes charge of the first part of the brood, while the female if not disturbed still remains on the nest until the whole or greater part of her set are hatched. I also found several other nests among the flags, but no more eggs of this species, but in one nest on a small islet, which appeared to have contained a large number, I found an addled egg, which, however, from its larger size, and different markings I think belonged to another species, perhaps the Virginian Rail, which I have reason to believe nested here, earlier in the season. From reading, and other sources, I conclude that this bird is the Sora, or Carolina Rail (*Porzana Carolina*). Up to the early days of October, we occasionally heard the notes, or saw specimens of the birds among the flags, or by the margins of the ponds. On the 6th of that month, we picked up one of this species—dead—but apparently uninjured and in full plumage. It may have been killed by the severe frost of the previous night. Intending, it acceptable, to continue my observations of our feathered visitant, I remain your truly,

WILLIAM L. KELLS.

Listowel, Ontario.

ST. NICHOLAS A. A.

In the November number of the *St. Nicholas* there appeared a suggestion, for the organization of a National Association for the Study of Nature, which met with a qualifying response as it was unexpected. The eager

interest which the more thoughtful of our young people take in Natural Science, was immediately shown by the great number of letters which were received by Mr. H. H. Ballard (its founder), in answer to the invitation. Chapters (branches) of the A. A. were organized in different towns, and where this was impracticable, individuals joined the Central Lenox Chapter as corresponding members. So rapid has been the growth of the Association, owing to the wide spread influence of "St. Nicholas," that there were in January, 1884, upwards of 547 Chapters and more than 1000 members which is increasing more rapidly than ever. The work is apparently only begun, and in a few years it seems likely that they shall have more than 10,000 active members. The A. A. was originally started as a children's society, but, to our great delight, parents and teachers have taken as great an interest in it as the younger ones, and the Lenox Chapter have on their register the names of many fathers, mothers, teachers and college professors, without them it would be impossible to conduct so large an organization. But by the aid of their advice, and wisdom, we are enabled to refer nearly every question to some one in the society, able and willing to answer all his enquiries.

Among the many branches of the A. A. is the Montreal which was organized on January 4, 1883, with a membership of six which has steadily increased and now numbers forty-six resident and eight corresponding and honorary members. The branch is in possession of a small library and museum but on account of the difficulty in obtaining a hall in the municipality of Cote St. Antoine (at which place the Society is established), the collection had to be stationed in a room which is far from accommodating, as a number of the members cannot gain access to the library, the greater part of the books are loaned and will not be circulated, therefore the library must remain closed to the members until some individual or individuals take compassion upon them and open up a way whereby the Society and all its possessions may be accessible to the public, so that the friends of the Association may see what our young naturalists are doing.

During the past year twenty-one regular meetings have been held, at which twenty-nine selections and three papers have been read. Two lectures were held last spring to obtain funds for the purchase of a cabinet, which met with

great success, the Society netting about \$35.00 all of which has been absorbed in the purchase of a large cabinet for the museum, and a book case. A course of lectures is proposed for next spring the proceeds to be devoted to renting a hall for the Society and also to the purchase of books and specimens.

Two field-days were held last summer on Mount Royal, at which the members gathered specimens and received prizes for the best collections, and from the number gathered it showed plainly that the members were not wanting in enthusiasm for the work.

At the annual meeting the following officers were installed for the ensuing year:

J. J. Proctor, president; E. C. Trenholme, vice-president; W. D. Shaw, sec.-treasurer; Geo. Edwards, assistant-secretary, and the members for the different committees, viz.: ZOOLOGY.—R. Mitchell, F. McCallum, J. Smith. BOTANY.—A. Hutchison, W. Bonal, A. Woodward. GEOLOGY.—J. Smith, A. Murray, A. Hutchison. ENTOMOLOGY (extra).—Geo. Edwards, E. Trenholme and W. D. Shaw. COXENOLOGY (extra).—E. Trenholme, Geo. Edwards and H. Jemieson.

In conclusion I might say that many boys and girls, and not a few men and women who like little kittens, have never yet opened their eyes to see the wonders of the earth, and some of us, like babies when they first "find their fingers" begin to catch at everything new and strange. Likewise some of us are just learning to see trunks of trees so as to recognize their infinite variety of form and color; others have likely, it may be, seen for the first time the beauties of the sky with its ever-shifting miracles of white, blue and black, while slowly upon all we trust, is breaking the grand truth of a Divine mind expressing its thought in every leaf and pebble and of a Divine Heart showing its love in every rain-drop and in every flower. This was the truth which filled the great heart of him for whom the A. A. was named,—this was the secret of his untiring zeal, and the key to his boundless love of nature.

NOTES ON THE NATURAL HISTORY OF LABRADOR.

BY W. A. STEARNS.

(Fishes, continued.)

GADES OGAC. *Greenland Codfish*.—Occasionally, but rarely, taken in deep water off the Labrador coast. Frequently taken within a mile from shore along the northern part of the coast, especially north of Belle Isle.

Often regarded as much more delicate eating than the common cod. Seldom grows large. Swims in bodies with small "tom cods," as they are called, which are probably the young of the common cod.

COTTUS SCORPIOIDES. *Sculpin*.—Common in shoal water, about the fish stages, all along the coast.

COTTUS GRESLACHIUS. *Northern Sculpin*.—Common with *scorpioides*, all along the coast.

GYMNACTIUS PISTILLIGER. *Sculpin*.—Rather common in the northern portions along the coast like the others.

HIPPOGLOSSOIDES PLATESSOIDES. *Arctic Halibut*.—Common about the stage heads along the coast.

PLEURONECTES AMERICANUS. *Common Flounder*.—Rather common, usually in deeper water than the *H. Platessoides*, along the whole coast.

SOMNIOSUS MICROCEPHALUS. This species of shark is found not rare all along the coast, some years doing more damage than others. It breaks the fish-nets, stops the fish from attacking themselves to the *tralls* of the fishermen, and is finally captured itself by some of the innumerable hooks of this same troll. After tangling and otherwise ruining the lines to the best of its power, it itself becomes the prey of the fishermen, who curse it heartily. The liver of this fish is said to yield the most delicate and pure oil of any fish known upon the coast. Several portions of the vitals are preserved by the people with the greatest of care, under the supposition that the wearing or carrying of them or the simple having them in the house will prove sure protection against not only the rheumatism, but several diseases peculiar to the male sex.

There are several other species common along the coast but of which we were not fortunate enough to obtain specimens, notably the Lancee, or Lancee, the fall bait for the codfish. Several other species of trout are also common.

PLANTS.

In reviewing and adding to the excellent list of "Labrador Plants," by the Rev. S. B. Butler (Canadian Naturalist, vol. v, 1870, September, p. 350), it seems necessary to say a few words explanatory of the nature of the regions bordering the sea coast, as well also of those in the interior of Labrador.

There are two well-defined areas to which I would call attention; a simple designation of them as *sea-coast* and *interior* will present to you the general idea which I wish to convey. I will draw the line, as near as my own observation coincides with that of others, at somewhere between 2 and 4 miles inland. Of the interior of this whole region very little is

known. In summer, woods of mostly low, stunted spruce, with various evergreens, are everywhere abundant, and it is with the utmost difficulty that one can make any progress whatever. Few have attempted to penetrate this area, and we know but little of it. Its accessible edges abound in many plants very similar to ours, especially those crowning the summits of the White Mountains. That part styled the coast differs from the province just mentioned in that it is composed mostly of numerous low, hilly, inland crests, everywhere interposed with narrow straits of water, besides a narrow ribbon of land up and down the coast line itself. The general flora of all the islands is much the same, but there are localized species of both wild and introduced plants. Mr. Butler makes the following remarks prefatory to his enumeration of species in the above named paper: "The two places I have most thoroughly examined are Caribou Island and Forteau Bay. When a plant is marked 'Caribou,' it is meant that I found it only at that place; when 'Forteau' is mentioned, the plant may occur all around Forteau Bay, while 'Amour' means that I have found it only at 'L'Ance Amour,' and that it is not likely to occur elsewhere in the Bay; and where no locality is specified, the species may be expected to occur at many places, if not all along the coast." The collection of Miss MacFarlane, referred to in the same paper, has also afforded much valuable material. The specimens collected by myself were procured at *Harrington Harbor*, the southernmost limit visited, *Baie des Roches*, *Bonne Esperance* (in and about Salmon Bay); also the "winter quarters" of the inhabitants, a distance of 7 miles inland, up Esquimaux River, and which belongs to the mainland.

The list here presented is impartial and imperfect at best, but it will suffice until a more accurate and thorough examination of the country shall perfect it. The letter B, after a plant, signifies that the remarks are by Mr. Butler.

1. *ANEMONE PARVIFLORA*, Michx. — Common upon the high lands of Forteau. B.
2. *THALICTRUM DIORUM*, Linn. — Common on the highlands, along the margin of streams, and in the interior visited by me, August 5.
3. *THALICTRUM CORVETI*, Linn. — "(Miss MacFarlane, No. 1)."
4. *RANUNCULUS ACERIS*, Linn. — Rather common on the level grassy plats of Forteau, B., probably more or less distributed all along the coast in suitable localities.

5. *COPTIS TRIFOLIA*, Salisb.—Rather common in marshy grounds.
6. *NYMPHAEAE ADVENSA*, Aiton.—“In ponds, Caribou.” B.
7. *SARRACENIA PURPUREA*, Linn.—Very abundant in one or two confined areas on the large Mecatina Island, at Harrington Harbor, July 26, and found also in the wet places among the rocks inland, October 1880.
8. *ARABIS ALPINA*, Linn.—“Brooksides, Forteau.” B.
9. *DRABA INCAENA*, Linn.—“Caribou.” B.
10. *COCHLEARIA TRIDACTYLITIS*, Linn.—“Sea-shore, Caribou.” B.
11. *COCHLEARIA*, —, “Hilltops, Forteau.” B.
12. *CAPSELLA RUBRA-PASTORIS*, Monch.—Probably introduced, abundant at Bonne Espérance about the yard and pathways, August 11.
13. *VIOLA BLANDA*, Willd.—In greater or less abundance all along the coast in damp localities.
14. *VIOLA CANINA*, L., var. *SYLVESTIS*, Regel.—Distributed much as in the preceding, but in dry localities.
15. *DROSERAE ROTUNDFOLIA*, Linn.—Not common. It is found in several localities along the coast. I found it in moist places about Bonne Espérance, August 12.
16. *SILENE ACAULIS*, Linn.—“Hilltops of Amour, also Old Fort Island.” B.
17. *ARENARIA GROENLANDICA*, Spreng.—This was found on the summits of many hilly crests at Baie des Roches, and though I did not find it elsewhere I suspect it occurs in like situation all along the coast.
18. *ARENARIA PELOIDES*, Linn.—Quite common, springing up in the sand along the shore. Mr. Butler found it at Caribou and at Forteau. I think it occurs generally.
19. *ARENARIA VERA*, Linn.—“Hillsides, Amour.” B.
20. *ARENARIA LATERIFLORA*, Linn.—I suspect pretty generally common, as Mr. Butler remarks, in “level, grassy places.”
21. *STELLARIA LONGIPES*, Godie.—Common all along the sea-coast. Very common at Bonne Espérance, August 11.
22. *STELLARIA LONGIPES*, Godie, var., *EDWARDSII*, Torr. & Gray. (“Miss MacFarlane, No. 9. Torrey & Gray very properly reduce this to a variety of the last species.”)
23. *STELLARIA BOREALIS*, Bigelow.—Common on hilly slopes along the coast, especially at Caribou, B., and Bonne Espérance, August 11.
24. *STELLARIA CRASSIFOLIA*, Ehrh.—Dis-

- tributed much the same as *longipes* and *borealis*, occurring in damp localities, August 11.
25. *CERASTIUM ALPINUM*, Linn.—“Very common at Forteau.” B.
 26. *CERASTIUM ARVENSE*, Linn.—“Abundant about Forteau.” B.
 27. *ASTRAGALUS ALPINUS*, Linn.—“Hillsides, Amour.” B.
 28. *PELYSARUM BOREALE*, Nuttall.—“Hillsides, Amour.” B.
 29. *ONYTROPIS CAMPESTRIS*, D. C.—“Hillsides near Forteau light house.” B.
 30. *LATHYRUS MARITIMUS*, Bigelow.—More or less common all along the coast in dry and moist places and on low land. Early August.
 31. *LATHYRUS PALUSTRIS*, Linn.—“At Caribou.” B., and probably other places along the coast.
 32. *POTERIUM CANADENSE*, Benth & Hook.—Very common on the dry, sloping flats along the coast. August 6.

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