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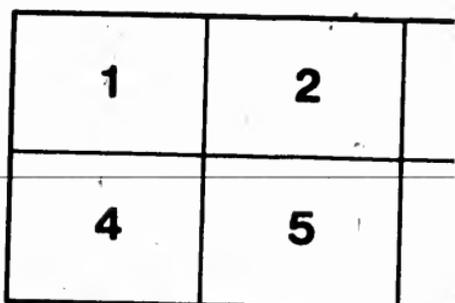
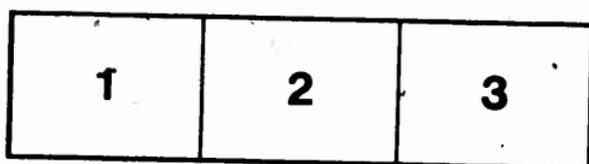
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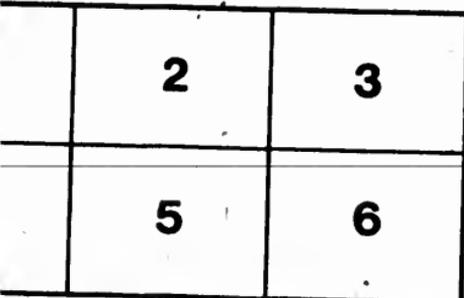
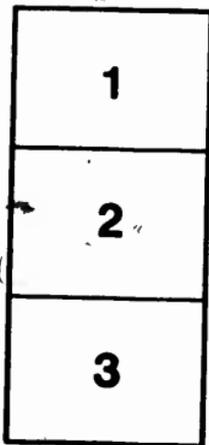
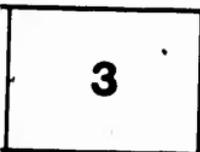
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(From the Transactions of the Nova Scotian Institute of Science, Ser. 2, Vol. I.)

VI.—NOTES ON NOVA SCOTIAN ZOOLOGY, NO. 2.—BY HARRY PIERS.

(Read March 14th, 1893.)

In the following paper it is my desire to bring before the Institute of Science such notes of new, rare or otherwise interesting occurrences as have come to my knowledge or observation and been recorded in my note-book. The present contribution is the second of a series which, if acceptable, will be prepared as often as time and material warrant.* Had a periodical record of similar kind been previously published in our Transactions, I do not doubt it would have been of interest and service to such persons as myself who are occupied in studying the fauna of Nova Scotia. As it is, much valuable information has been lost through neglect to preserve it in such a way that it could be of future use in the formation of elaborate and more particular treatises. It is to remedy this that the present and previous collections of notes have been made. I wish to thank those who have always allowed me to inspect their collections, and who have ever been willing to stimulate me in my very pleasant duty of keeping Nature under police surveillance.

BIRDS.

KING EIDER (*Somateria spectabilis*). Mr. T. J. Egan informs me that during the present spring (1892) he mounted three of these rare ducks. They were shot at Lawrencetown, Sambro and Musquodoboit.

CANADA GOOSE (*Branta canadensis*). It was reported—whether correctly or not, I cannot say—that a flock of wild geese had been observed during its northern migration on February 23rd of this year (1892)†. The main body, however,

* The first number was published in the *Trans. N. S. Inst. of Nat. Sc.*, vol. vii, pp. 467-474.

† A letter in *Forest and Stream* said that a flock had been seen moving in Connecticut on February 10th, but that, no doubt, was merely a short local flight.

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did not pass our locality until March 10th. During the afternoon of that day no less than ten very large flocks were seen within a short interval of time. Last year (1891) I noted the species on March 11th: in 1890, on March 17th; and in 1889, on March 8th. According to this, the average date of their first passage is about March 11th.

GREEN HERON (*Ardea virescens*). This is an uncommon species in our avifauna. Mr. W. A. Purcell, taxidermist of Halifax, obtained a specimen from Lawrencetown about April 20th, 1890, and shortly before the 15th of November, 1891, Mr. Arthur P. Silver was equally fortunate.

BLACK-CROWNED NIGHT HERON (*Nycticorax nycticorax naevius*). On July 4th, 1889, Mr. Harry E. Austen, of Dartmouth, obtained a specimen of this rare wader, in full breeding plumage, at Cole Harbour, Halifax County.

VIRGINIA RAIL (*Rallus virginianus*). Rare in Nova Scotia. Mr. Purcell "set up" one which had been shot in the Province in November, 1890.

RED PHALAROPE (*Crymophilus fulvicularius*). On June 10th, 1891, Mr. H. E. Austen obtained one of these uncommon summer visitors from a couple of fishermen who, early in the morning of that day, had rowed up to the bird and captured it with their hands.* As it was alive, Mr. Austen took it home and kept it about a week. An account of the capture appeared in the *Ornithologist and Oologist*, Boston (vol. xvi, p. 111.), a periodical which frequently contains notes relating to our birds. While uncommon in this vicinity, I understand it is more abundant in the Bay of Fundy and at Cape Sable.

KILLDEER (*Egialiteis vocifera*). This plover is usually very rare in Nova Scotia, but in the fall of 1888 a flight of large size was driven northward by a severe storm and for a while the birds were numerous along our shore. Dr. Arthur P. Chadbourne, who made a special study of the movements of this flock, and contributed his views to *The Auk* for July, 1889, con-

* According to Mr. Austen, the fishermen called it a "Gale Bird," but as in Chamberlain's recent revision of Nuttall's Ornithology I find "Whale Bird" given as one of the vernaculars of this species, I am led to think that the similarity of sounds may have caused Mr. Austen to mistake the name by which his informers knew it.

siders that the birds while moving along the coast of Carolina had been blown to sea by a heavy gale and from thence driven in our direction. For several days after this occurrence, the birds were abundant from this Province to Rhode Island. In November, 1890, Mr. Purcell obtained a single specimen.

AMERICAN ROUGH-LEGGED HAWK (*Archibuteo lagopus sanctijohannis*). This bird has been becoming more rare than formerly, but during the past season several were taken. Two (a male and a female) were brought to Mr. Purcell, at different times, by "Josh" Umlah, who lives about seven miles from the city. I saw them both "in the flesh." The male was taken in a trap or snare about December 10th or 11th, 1891, and the female was shot on New Year's Day, 1892. Umlah said there was also a black-coloured hawk about his place: this was evidently one of the same species, but of the melanistic phase of plumage. About the middle of January, 1892, George Umlah of Harrietsfield shot a very dark-coloured hawk, but failed to bring it out of the woods, excusing himself on the ground that, as it was almost crow-black, he thought it would be of no interest. This was doubtless another of the very rare, dark individuals, a variety which is known by the name of "Black Hawk." Mr. T. J. Egan tells me that he had four of the birds in immature plumage, and of the adult or melanistic colour. They were all taken in the early part of 1892.

SAW-WHET OWL (*Nyctala acadica*). This pretty little owl which is becoming a rarity in Nova Scotia, was very frequently observed during February, 1892.* I do not attribute this to an increase in number, but rather to the fact that, owing to a great scarcity of their usual food, the birds were forced to leave the woods and come to the vicinity of dwellings. Just previous to February 18th, I recorded six which were observed by various people about my own home. Of this number two or three were picked up dead—evidently starved to death. In a single week preceding February 19th, Mr. Purcell received three specimens, one of which was found dead beneath a quantity of lumber on one of the city wharves. Mr. Downs informs me that several

*The ground was then covered with snow.

were brought to him, and Mr. Egan also mounted a number. The birds were extremely thin. To exemplify the courage of this little owl when oppressed by hunger, I may relate the following incident. My father, when a boy, possessed a rat which he had trained and taught to draw a small cart. One day he and Mr. George Piers discovered a Saw-whet which they captured and placed in the room with the rat, and waited to see the result. Immediately the owl pounced upon the latter and fastened its claws in the animal's back. The rat feeling the bird upon him, ran a few times around a table, and then *both* fell over, dead. The Saw-whet, evidently in a starved condition, had spent all its energy in killing the rat, so that when the latter succumbed, the former also died from extreme exhaustion. Both owl and rat were given to Mr. Andrew Downs, who stuffed the two, and afterwards sent them to the first great exhibition held in London, 1862.

SNOWY OWL (*Nyctea nyctea*) Usually the Snowy Owl is an uncommon visitor, but during occasional seasons they have been rather plentiful. The latter was the case during the winter of 1890-91, and a fair number were shot throughout the province. They were also reported more numerous than usual in other localities. During the same winter, the Snowflake (*P. nivalis*), another northern bird, visited us in far greater numbers than has been its wont for many years. I noted many flocks of large size.

AMERICAN HAWK OWL (*Surnia ulula cuparock*). This owl has now become very rare. Mr. Andrew Downs, was fortunate in securing one early in 1889, and I understand Mr. Austen has two in his collection.

YELLOW-BILLED FLYCATCHER (*Empidonax flaviventris*). On June 29th, 1891, Mr. Austen collected two nests of this species at Dartmouth. They were each about three feet from the ground, the one in the fork of an alder and the other attached by its rim to a spruce-branch. The outside was formed of coarse grass, while the lining was of the same material but of a finer kind. Measurements: circumference of top, outside, 10 inches; diameter and depth of cavity, $2\frac{1}{2}$ inches. Each nest contained three eggs whose colour Mr. Austen describes as cream-white

with considerable variations in the markings. Some have a ring of red or reddish-brown blotches near the larger end, between which are minute red dots. Others have one or two reddish blotches on one side only, near the larger end, and some dots around the egg. In others, again, there is only a ring of little red spots.

CANADA JAY (*Perisoreus canadensis*). On May 3rd, 1889, Mr. Austen found a nest of this species, containing three eggs. It was built in a grove of spruces, and was six feet from the ground. On April 22nd of the present year (1892), he obtained another nest in the vicinity of Porter's Lake, near Dartmouth. It was a large structure, placed on one of the limbs of a low spruce tree. Outside, it was composed of twigs of the Balsam Fir, (*A. balsamea*); within this, was a thickness of fine grass, moss, and small twigs; and inside of all, the bird had arranged a complete lining of feathers of the Ruffed Grouse (*B. umbellus togata*). There were two eggs, which Mr. Austen tells me were coloured yellowish gray and rather light green, dotted *very* finely with brown and slate. The eggs of this Jay are very rare, and the price of a single specimen is as high as a dollar and a quarter.

AMERICAN CROW (*Corvus americanus*). A curious freak of nature was shot at McNab's Island, near Halifax, in the early part of October, 1891. This rarity was a Crow, one of whose tail feathers was altogether *pure white*, while the remaining ones were of the normal colour. The rest of the plumage was as usual black, and the eyes were likewise of the ordinary colour. It is in Mr. Purcell's collection.

BAY-BREASTED WARBLER (*Dendroica castanea*). On June 20th, 1891, Mr. Austen observed this uncommon species at Dartmouth, and thinking it probable that a nest was in the neighbourhood, he proceeded to make a thorough search. Nearly three hours had elapsed before the structure was discovered. It was placed on a hemlock bough, about seven feet from the trunk, and some twenty feet from the ground, while above was another branch covering and concealing it. At that time the birds had not completed its construction. On June 24th it contained one egg, and on the 29th, two. Thus it remained until

July 3rd, when, still holding only the pair of eggs, Mr. Austen took both them and the nest. The outside of the latter was formed of grass with pine-needles and pieces of twigs. Without, the diameter was $4\frac{1}{2}$ inches, and depth, 2. Breadth of cavity, $2\frac{1}{4}$ inches; depth, 1 inch. Mr. Austen describes the eggs as being of a "bluish green tinge, speckled with reddish brown, and with a complete ring of dark-red blotches around the larger end." The identification was complete. Eggs of this species have been priced at a dollar and seventy-five cents each, which shows that their rarity is such that any description of them will be of interest.

YELLOW PALM WARBLER (*Dendroica palmarum hypochrysea*). In 1863, Mr. William Winton sent to Professor Baird, of the Smithsonian Institution, the eggs of this species which he had collected at Stewiacke, N. S. This was the first time Baird had ever seen them. On May 26th, 1891, Mr. Austen found a nest containing four eggs at Dartmouth. It was in a wet piece of ground, sunk a little below the level of the soil, and partially concealed by a dead branch. The structure was formed, outside, of grasses, bits of moss, and fine roots, while the inside was lined with very fine grass, then a few black horse-hairs, and within all a lining of feathers. Its depth outside was $2\frac{1}{2}$ inches; depth inside, $1\frac{1}{4}$ inches; breadth inside, 2 inches; circumference outside, at top, $11\frac{1}{2}$ inches; circumference outside, at bottom, $9\frac{1}{4}$ inches. Mr. Austen describes the eggs as white, with a faint reddish tinge, dotted indistinctly with red, and one or two scattered blotches; larger end marked with a ring of reddish and brown blotches of various sizes. The set is now in the collection of Mr. J. Parker Norris, of Philadelphia.

WINTER WREN (*Troglodytes hiemalis*). On June 5th, 1891, I obtained the nest and eggs of this species at Kidston's Lake, near the "Rocking-stone," (Spryfield, Halifax County.) As its breeding habits are very little known to naturalists, I intend to devote some space to a detailed description of this rare nest and eggs, in a paper which I hope shortly to read before the Institute. The rarity of the Winter Wren's eggs will be evident when I

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note that a New York oologist quotes them in one of his price-lists at a dollar apiece.

RUBY-CROWNED KINGLET (*Regulus calendula*). In 1891 Mr. Austen found two more nests of this Kinglet. The first was taken on June 12th, and contained six eggs. The second one, full of young, was discovered two days later at the very top (about forty feet from ground) of a black spruce, and placed under the sustaining branch, to which it was hanging by little twigs. Neither nest could be seen from the ground.

REPTILES.

RING SNAKE (*Diadophis punctatus*). On May 15th, 1891, Mr. M. Y. Gray gave me a small living snake which he had captured on the 10th of that month, in a sandy place close to the Prince's Lodge, Bedford Basin. When found, it was lying motionless, coiled like the figure 8. I easily identified it by the yellowish occipital ring, as belonging to the species *Diadophis punctatus*, a very rare snake in this province, and which Mr. John T. Mellish* does not think occurs at all in Prince Edward Island. My specimen is small—only 5½ inches in length,—but very pretty. For some time I kept it alive, and it proved of much interest. The warmth of my skin was evidently pleasant to the reptile and it crawled over the hand and went around and between the fingers, occasionally thrusting out its tongue but never attempting to bite or make its escape. The following description may be of use in comparing this individual with others from distant localities:

Upper labials 8; 6th and 7th largest, 4th and 5th forming the lower part of the orbit. Lower labials 8; 5th the largest. Colour (before fading in alcohol): Above slightly lustrous, black (or nearly so) with steel-blue reflections. Head above, same colour but more lustrous. Body and tail beneath, reddish-orange, more red on posterior part. A series of black sub-triangular spots along the lateral margins of the scutellæ, and in contact with the dark colour of the flanks. No black

*Notes on the Serpents of Prince Edward Island. *Trans. N. S. Inst. Nat. Sc.*, vol. IV., pp. 163-167.

dots along middle region of abdomen. Tip of tail for about one-thirtieth of an inch, all black (this is hardly noticeable, except when examined closely). Occipital ring of the width of two scales, not interrupted, colour of anterior part of body beneath. Head beneath and upper labials, pale flesh-colour. Iris and pupil black.

Number of abdominal scutellæ from chin to anus, 155 + 1.

Number of pairs of subcaudal scutellæ, 56.

Number of dorsal rows of scales around the body (excluding the abdominal series), 15.

Total length (tip of snout to tip of tail), 5½ inches.

Length of tail (anus to tip), 1.09 inches.

The late Mr J. M. Jones, in his paper entitled "Contributions to the Natural History of Nova Scotia: Reptilia,"* speaks of the Ring Snake as our rarest species, and Dr. J. Bernard Gilpin † likewise considered it very uncommon. The former gentleman records only two specimens—one taken at Annapolis by Dr. Gilpin, and the other captured in September, 1863, at Mr. Andrew Downs' place near Halifax. Dr. Gilpin has only recorded one, which he captured at Fairy Lake, September, 1870, and for which he sacrificed a small flask of whiskey in order to preserve the valuable specimen. Some twenty-five or thirty years ago, my father, Mr. Henry Piers, saw one of these snakes swimming with great ease across the water at "Stony Beach," about twelve miles from Halifax, on the road to Prospect. The animal was about a foot and a half long, and the yellowish occipital ring was conspicuous. In 1885 a popular English periodical contained a few notes on snakes in captivity, written at Halifax, in which the writer spoke of having a Ring Snake which had been captured near the city in the summer of 1885. It must of course be understood that this, coming from an unscientific source, cannot be vouched for. I may say that I have now been so fortunate as to have personally observed all the serpents known to occur in Nova Scotia, two of which are extremely rare.

* *Trans. N. S. Inst. Nat. Sc.*, Vol. I., pt. 3, pp. 114-128.

† "On the Serpents of Nova Scotia," *Trans. N. S. Inst. Nat. Sc.*, Vol. IV., pp. 80-88

VERMILLION-SPOTTED NEWT (*Diemyctylus viridescens*).* My brothers, Mr. Charlie and Sidney Piers, while fishing at Bayer's Lake near the St. Margaret's Bay Road, May 21st, 1891, netted one of these beautiful reptiles as it swam through the water. It was a viridescent adult. I placed the animal in water and observed its habits and movements, which interested me much. The following pigmental description, written while it was alive, should be of advantage, as specimens immersed in alcohol lose certain of their colours which are extracted or altered by the spirit:

Whole animal with exception of top and sides of head and portions of legs, spotted or punctured, in a greater or less degree, with black. Above, olive brown, slightly darker on back and head. Obscure superciliary line of a colour lighter than upper part of head. On each side of the vertebræ are three crimson spots encircled with black. They are not, however, regularly opposite each other. The anterior one on the left side is a little posterior to the fore-leg; the second one on the same side is .17 of an inch behind the anterior one; and the third or posterior one is .30 of an inch behind the second. On the right side, the anterior spot is opposite the second spot on left side; the second is .23 of an inch behind the first; and the posterior one is opposite the posterior one on the left side. Beneath, yellowish, lighter on under-side of head. Lower half of tail not much lighter than upper half. Line of demarcation between the olive-brown of the upper part of animal and the yellowish colour of the lower portion, is fairly distinct; it proceeds from the snout along the sides of the head and body to the anus (which is a little posterior to the hind-legs.) Irides golden with black mark across.

Snout to fore-leg55 ins.
" hind-leg	1.40 "
" anterior crimson spot on left side70 "

*This Newt was formerly a great puzzle to naturalists, and its red, yellow-red, viridescent, or intermediate phases of colouration, led to such being considered as distinct species. My specimen agrees with what was formerly known as the Crimson-spotted Triton (*Triton millepunctatus*), which is the viridescent or greenish state. Those who are interested in the life-history of this species and its regular change in colour as well as habitat, should consult S. H. Gage's paper entitled, "Life-History of the Vermillion-spotted Newt," in *The American Naturalist*, Vol. XXV, pp. 1094-1110 (Dec., 1891).

When laid on the carpet the reptile crawled very slowly and awkwardly, but it was perfectly at home when placed in a bottle of water. There it used its feet to assist the tail in propelling the body, and the tail when so employed, moved in a sinuous manner. Respiration in liquid occurred from two to three times a minute.

FISHES.

BAUMARIS SHARK (*Lamna cornubica*). On April 10th, 1891, a shark was found off Sambro by Captain John Brown of Her-ring Cove, pierced through the tail by a trawl-hook and unable to free itself. It was secured with much difficulty and brought to this city where I examined it and prepared detailed drawings. It proved to be the Porbeagle or Baumaris Shark, a species common to both sides of the Atlantic, and elsewhere. This is the first record I know of its capture in these waters, although of course it was to be expected. Mr. J. Matthew Jones does not include it in his excellent catalogue of our fishes, and neither does Knight nor Perley in those which they prepared. The present specimen weighed four hundred pounds, and its extreme length from tip of snout to tip of caudal, was seven feet three and a half inches. When dissected, it was found that the stomach contained a whole Cod (*G. morrhua*) weighing four or five pounds, together with the head of another Cod, and also a Hake (*P. tenuis*) of about the same size as the entire Cod. The liver was greenish-yellow.

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