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THE OTTAWA NATURALIST.

VOL. XV.

OTTAWA, DECEMBER, 1901.

No. 9.

CERTAIN CANADIAN VIOLETS.

By EDW. L. GREENE.

In a recent issue of *Pittonia** I published a number of Canadian violets of that caulescent group to which the following belong, and the paragraphs here presented would have found their places in that paper, but that I was unable to find the manuscript, which, at that time, had been written more than a year and a half, and had become misplaced, as it then seemed quite hopelessly. Lately, quite unsought, it has come to light, and I hasten to offer it for the pages of THE OTTAWA NATURALIST.

V. LEUCOPETALA. Perennial, caulescent, leafy, the many stems ascending, 3 to 5 inches high; herbage wholly glabrous: leaves cordate-reniform and ovate-cordate, $\frac{1}{2}$ to $\frac{3}{4}$ inch long, crenate; stipules lacerate-toothed, or the uppermost ciliolate and entire: corolla pure white without even a coloured venation; odd petal as long as the others, somewhat broader, obtuse or retuse or almost obcordate, spur nearly straight, obtuse, compressed laterally, lateral petals notably differentiated into blade and claw, densely bearded, the hairs narrowed upwards rather than clavellate, and somewhat tangled: style papillose-hairy all around under the stigma.

The above description is drawn in part from fresh specimens sent me by Mr. J. M. Macoun from near Ottawa, in May, 1899, and partly from specimens grown in my garden at Brookland, D.C., a year later. The species has been referred to *V. Muhlenbergii* (now called *V. Labradorica*) as an albino variation; and, albino states of that may well occur, but this is something quite different. Mr. Macoun himself first intimated this, assuring me that the

**Pittonia*, Vol. IV, p. 285 et seq.

plant has its own habitat, quite apart from that of the other, and flowers two weeks earlier.

While the above, and two other closely allied species, all sent from Ottawa by Mr. Macoun in 1899, were flowering in my garden in May, 1900, I took the following notes as to their respective floral structures; and those notes may well be given here.

V. LABRADORICA, Schrank. In this the flowers are distinctly smaller than in *V. leucopetala*. Only two of the petals are bearded, and these with a small tuft of straight slender somewhat flattened hairs; the odd petal is here not only smaller than the others but also acutish rather than truncate or retuse; the style is papillose on the back and sides only.

V. SUBVESTITA, Greene. Distinguished from both the foregoing by its bractlets, these being linear, appendaged at base (laterally) with 2 or 3 gland-tipped awn-like processes, and notably auriculate at the very base, the whole bractlet only its own length below the flower: sepals faintly 1-nerved, strongly auricled, the auricles dentate: petals deep-violet, three of them bearded with slightly flattened hairs: style short, sparsely muriculate all around.

Doubtless these notes may serve as a hint to others to examine carefully in fresh specimens the particulars of floral structure in other violets of this group. Only thus may we hope to ultimately establish firmly the limits of the species.

Washington, D.C., Nov. 1st, 1901.

NOTE.—The three species referred to above may be found at Ottawa, within half a mile of one another. *V. Muhlenbergii* is common everywhere about Ottawa, but by entering Rockcliffe Park at Governor's Bay it will be found near the Electric Railway line, and by then walking to the river bank just east of Governor's Bay *V. Labradorica* will be found in abundance. *V. leucopetala* grows along the road connecting Buena Vista road with the eastern approach to St. Patrick's bridge.

J. M. M.

ALLIGATOR AND TURTLES AS PETS.

BY W. S. ODELL, OTTAWA, ONT.

In November of last year a small alligator (*Alligator Mississippiensis*) and three turtles were placed together in an aquarium. Only a few features descriptive of the alligator need to be mentioned. The skin is now used for so many purposes that by this means it has become known.

This reptile is carnivorous, head broad, flattened and having teeth of the lower jaw fitting into pits in the upper. The bright yellow bands so marked in the young, lose their color to a large extent in the adult. Tail about half the entire length of animal, and laterally compressed, terminating in a blunt point.

Approaching cold weather had a marked effect in his loss of appetite and vigor. During daytime the aquarium was placed in sunlight, at night on hot water coils in the room, with a glass cover, to retain heat and prevent escape. Remarking to a friend his loss of appetite, the suggestion was jokingly made: "Why not try cod liver oil?" The alligator's mouth was forced open and a few drops poured in. No bad results following, this novel article of diet, varied at times with fluid beef, was continued twice per week through the winter. It is questionable whether any benefit resulted from this treatment.

Early in May, he for the first time, snapped at a piece of meat which was being fed to the turtles. From this time onward all kinds of meat, small toads, young tadpoles, newly hatched catfish, etc., were fed him. Fish cut into small pieces was greatly relished, but earthworms were preferred above all else. On receiving food it was carried into the water and was there eaten, considerable motion being made in swallowing, the throat appearing too small to admit of its passage. While feeding, his usual torpid appearance underwent a change. The pupils of his eyes, at other times contracted to a narrow slit, now become greatly dilated; and with open mouth and tail gracefully curved upward his appearance was rather formidable. A hissing noise when disturbed, and a sort of grunt in a high key, were the only sounds he appeared capable of making.

At night he sleeps with the body hidden under the plants, leaves, etc., of aquarium, the nostrils and part of head only being visible; but in day time he prefers to bask in sunlight on a small raised landing. At this time a small common turtle, probably for warmth, generally slept perched on his back.

Efforts in taming have not been very successful. One attempt to bite was made.

Although considerable attention is required in changing water frequently in warm weather, and watchfulness in keeping the aquarium at all times covered to prevent escape, still the pleasure derived from observing his habits, more than compensates for the trouble taken.

A Japanese turtle and a Chinese turtle were companions to the alligator. The Japanese was a fine specimen, kindly donated by one of the curators of the New York Aquarium.

They would have hibernated, if given opportunity. Most of their time was spent hidden under the leaves, weeds, etc., of the aquarium. When called they only extended their necks, occasionally taking a little meat, but on bright days, they came out to enjoy the heat of the sun. When spring came they were lively and became quite tame, taking flies from the hand as long as one had the patience to catch them, but tearing off and rejecting the wings. They were called Jap and John, the former being the livelier and responding to a whistle or to his name when called.

Everything of a carnivorous character seemed to suit their palates; their food while in mouth was torn into pieces by the claws. It was great amusement feeding them worms; each taking hold of an end, a tug-of-war would follow, lasting till the worm was torn asunder. The best sport was when a turtle tried to take a worm from the alligator; if the worm were strong enough to stand the strain the former would be towed round and round the aquarium and handled very roughly.

Some Salamanders (*Spelerpes bilineatus*) were placed in the aquarium, as companions, but inside of an hour the turtle had bitten a large piece out of the tail of one: they had to be at once removed. Fish were placed with them as companions, but the turtles gave them no peace. Turtles are very courageous and

will tackle everything that comes in their way, and will eat everything they can hold. *Sagittaria* and lily leaves put in for shade were relished for food, and were supplied while available.

Our common turtle (*Clysemys picta*) is, in many localities, not rare. Its bright red markings along the margin of the shell make it an attractive object. It is hardy and easily kept. After a short time it will become quite tame and be a source of instruction, and amusement as well. To any one wishing to start an aquarium it will be a good specimen.

NOTES ON THE WOODCOCK'S LOVE SONG.

By WM. H. MOORE, Scotch Lake, N.B.

(Read before the Ornithological Section of the Entomological Society of Ontario.

[Transcript from field note-book.]

May 17, 1898.—Woodcocks are about at nights now. They begin their antics soon after sunset. On the ground the male struts about the ♀ uttering a note sounding like zeet, and much like the nighthawk's note but finer (not so harsh and loud). Then with the whistling twitter takes flight, and in gradually widening circles mounts high in the air—to a height, I should say, of 200 yards. Near the last of this upward flight he begins his song—which is a pleasant twitter, and more of a musical call than many song birds have—which sounds like chip-t-chee chip-t chee tweep. This is given forth several times, and towards the last the bird's flight is undulating in narrower circles, when of a sudden the song stops and the bird descends to its mate on the ground. Descending in nearly a straight line, at varying angles to the earth, he again begins the nighthawk call and so on. The ♀ evidently feeds while the ♂ is on his honeymoons. The notes, as you say in the O. N., are somewhat ventriloquil. I attributed this to the circling of the bird, and assisted by the fact that one must have things sort of convenient (such as light sky and distance) to see the bird. When I was able to see the bird during flight the ventriloquil effect was not so much in evidence.

May, 1, 1901—Heard the woodcock singing this evening. The day was cloudless, so I could see him plainly.

A SIMPLE ILLUSTRATION OF THE CONSERVATION OF ENERGY.

By J. C. SUTHERLAND, B.A., Richmond, Que.

The other day when blowpiping some silver nitrate on the "charcoal splinter," I observed what seemed to be a good, although simple, illustration of the law of the conservation of energy. It is possible that the phenomenon has been observed many times before, but I cannot recall any instance of the particular explanation which I believe to be the correct one having been offered for it.

As possibly some readers may not be acquainted with the reduction process which is carried on by means of a charcoal splinter, it may be well to give a brief account of it before proceeding to the particular phenomenon and the offered explanation.

To prepare a charcoal splinter, the head of a common match is broken off and the wood is then smeared for about an inch of its length with ordinary washing soda melted in the flame of a spirit lamp. The smeared end is then gently heated in the flame for a few moments until a charred mass of wood and soda is obtained. Upon this is placed carefully a small mass of the particular substance to be reduced, mixed with some fused soda. The blowpipe is then directed on the flame, the mass being held in the "reduction" part of it. In a few minutes separation of the elements is obtained, and in the case of silver nitrate a beautiful small sphere of metallic silver is left upon the splinter.

But in the first few seconds of the operation, the unsmeared part of the match tends to burst into flame. Once, however, that the reduction process is fully started, this does not occur. This is the phenomenon. What is the explanation?

It is possible that in some instances, and then in part only, it is due to the formation of combustible gases at the outset which cease to be formed as the reduction proceeds. But I think the more general explanation of the fact is to be found in the consideration that during the first few seconds of the blowpiping, the only work that is done by the flame is that of raising the temperature of the mass and driving off moisture—comparatively light work

compared to that which immediately follows. The moment the real reduction begins, an enormous amount of work is being done. In the smallest mass of silver nitrate treated before the blowpipe, millions of atoms of silver are torn from the strong embrace of millions of atoms of nitrogen and oxygen. May we not conclude that in the first few seconds of the process, the small amount of work done allows a surplus of heat to raise the uncharred part of the match to combustion but that when the genuine work of reduction has begun all of the available heat is required to work at the one point? If this explanation is tenable we have here an incidental, if simple, illustration of the correlation of the physical forces.

THE KING EIDER IN MIDDLESEX COUNTY.

By ROBERT ELLIOTT. Bryanston, Ont.

(Read before the Ornithological Section of the Entomological Society of Ontario.)

The capture of the first specimen of *Somateria spectabilis* known to have been taken in this county was effected under the following circumstances:—

On the 24th November, 1900, my young friend Mr. Roger Hedley, of Lobo, walking for his mail, being on game intent, brought his gun along and visited Duncriff mill-pond—a sheet of water which covers about six acres, and is near his home. That morning he saw one duck only, and shot it at a range of sixty yards. He preserved it and lately very kindly presented it to me.

I find, after carefully consulting Ridgeway's Manual, that it is a genuine specimen of the King Eider. It is a young bird, and as the sex was not determined by dissection, I cannot pronounce on the question, although probably a reference to a more detailed work on our birds, such as that of Baird, Brewer and Ridgeway, would settle this point. Mr. Hedley further informs me that the bird was in very thin condition and that strong and cold westerly winds prevailed at the time.

NOTE ON THE OVIPOSITION OF THE MUD TURTLE.

By MAILES COWLEY, Bristol, Que.

In the month of October, 1896, my hired man was ploughing near the Ottawa River in the Township of Clarendon, and about nine feet above the level of the water he ploughed up a mud turtle's nest, which contained about fifty eggs. They were about eight inches under ground and covered with a solid grass sod, there being no entrance to the nest except from the top, where there was a hole about one inch and a quarter in diameter. The field in which the nest was situated had not been cultivated for more than forty-five years. The nest was shaped like an inverted soup-tureen, the hole being in the top of the dome, and how the young turtles got out when hatched is not easy to guess. These eggs were seen in the fall and not a thing was found in the shells when the snow was going off in the month of April, the following spring. Were they hatched by the early spring sun, or did some animal eat them?

One of my neighbors, Mr. John Telfer, a reliable man, who has done much hunting and fishing, says that some years ago he came across a good sized turtle about six acres from the Ottawa River at Clarendon Front, in the county of Pontiac, and as its movements were peculiar he decided to watch it. He climbed a leaning tree and from his position a few feet above the ground he saw the turtle lift up her hinder part and drop an egg. Then with one of her hind legs she took the egg and reaching far down in the hole placed it in the nest. After about a minute the same process was again gone through with, and so on until she had laid about a dozen eggs. Mr. Telfer says that he is satisfied that a turtle lays all its eggs at one time, not at intervals like a hen. He affirms that they hollow out the nest first and then cover it over, leaving a small hole in the top large enough to allow a hind leg to enter it with an egg. Mr. Telfer also expressed his wonder at the length to which a turtle could stretch her leg and the care she displays in placing the eggs in the nest. Though he never saw a young turtle come out of a nest his belief is that the mother watches the nest, and when the young are hatched, either pulls the

top off the nest or puts down her claws and lifts the little ones out. Mr. Telfer also says that he once dug a turtle up in the spring in a cow-path that had been walked over daily by fifty head of cattle for four or five months. All that could be seen of the turtle was a claw sticking up out of the clay, and when he dug it out it was still living.

The eggs of the turtle are richer and better flavoured than those of a hen. Mr. McKillop, whom I know to be a reliable man, tells me that he once killed a large "moss-back," and when he had cut her open he took from her sixty eggs, which he boiled. Most of them were eaten by a neighbor and himself and found to be excellent.

AUTUMN NOTES ON BIRDS, SABLE ISLAND, N.S., 1901.

By RICHARD BOUTELIER.

The list of birds which follows, though not complete, will give a pretty good idea of the bird migrants which visit Sable Island in the autumn. We are not sure about the Knot, but the bird we have so named was larger than the Jack Snipe and agrees well with the illustration and description in the bird book we use.

Incidentally it may be mentioned that we have a tame black duck here which we raised during the summer of 1900. It flies all over the island but always comes home again. Once it was away for two months, but when it flew home it came under the window to be fed as usual. We have two other black ducks with clipped wings, and attracted by them what looked like a pintail nearly settled down in our yard a few weeks ago.

1. Kingbird, one, Aug. 3rd.
2. Crossbills, in flocks, Aug. 19th.
3. Various kinds of hawks, in numbers, Aug. 30th.
4. Buff-breasted Sandpiper, in numbers, Sept. 2nd.
5. Flicker, one, Sept. 25th.
6. White-throated Sparrow, in numbers, Sept. 26th.
7. Orchard Oriole, one, Sept. 28th.
8. Pine Warbler, in numbers, Sept. 28th.
9. American Pipit, in numbers, Sept. 28th.
10. Knots, (?) in numbers, Sept. 30th.
11. Horned or Shore Lark, one, Sept. 30th.
12. Hermit Thrush, one, Oct. 1st.

13. Blackbird, one, Oct. 1st.
 14. Slate-coloured Junco, two, Oct. 2nd.
 15. House Sparrow, in flocks, Oct. 4th.
 16. Yellow-headed Blackbird, one, Oct. 5th.
 17. Heron, one, Oct. 5th.
 18. Swallows, in numbers, Oct. 5th.
 19. Snowflake, two, Oct. 5th.
 20. Connecticut Warbler, one, (found dead), Oct. 6th.
 21. Kingfisher, one, Oct. 8th.
 22. Robin, one, Oct. 16th.
 23. Bluebill, seven, Oct. 18th.
 24. Pipits, }
 25. Warblers, } in numbers: Oct. 18th. Left the Island.
 26. Sparrows, }
 27. Semipalmated Sandpiper, in numbers, Oct. 22nd. Leaving the Island.
 28. White-rumped Sandpiper, in numbers, Oct. 22nd. Leaving the Island.
 29. Long-tailed Squaw, in numbers, Oct. 20th.
 30. Ring-necked duck, five, Oct. 20th.
 31. Golden-eye, three, Oct. 20th.
 32. Vesper Sparrow, one, }
 33. Juncos, in numbers, }
 34. Golden-crowned Kinglets, in numbers, } Oct. 22nd. { These all
 35. Hermit Thrush, one, }
 36. King Bird, one, }
 37. Brown Creeper, one, Oct. 28th. }
 38. Snowflake, in numbers, Oct. 28th. }
 39. Kittiwake, in numbers, Oct. 28th. }
 40. White-winged Crossbill, one, Oct. 28th. }
 41. Lapland Longspur, one flock, Nov. 2nd. }
 42. Stormy Petrel, one, (found injured in the Island), Nov. 4th. }
- Sable Island, N. S.,
Nov. 10th, 1901.

THE GLAUCOUS GULL IN MIDDLESEX COUNTY.

During the last week in January, 1901, a large white gull was seen on the Thames river, six or eight miles west of London. After staying there for a few days it found a carcass on the farm of Mr. Elson, a few miles from Byron on which it fed for two or three days, when it was shot by Mr. Will Elson, on February 1st, who kindly let me have it, and it is now in my collection. It proved to be a female glaucous gull in the plumage of the second year, white, uniformly speckled with light gray all over. Considering that there is no definite record of the herring gull in Middlesex, it is rather surprising that this should be the first of the larger species of gulls to be obtained in the country.

W. E. SAUNDERS.

THE OTTAWA FLORA.

In working up the flora of Ottawa the writer has been much impressed with the narrow limits ascribed to some species, and the few localities that have been even cursorily examined. The intention of this note is to encourage beginners and show how much is yet to be done in this vicinity.

The herbaria of those who worked in past years show that most of their work was done in the seventies. Mr. R. B. Whyte did his work chiefly in 1875, 76, 77, 78 and 79. Dr. H. M. Ami in 1879, Dr. James Fletcher chiefly in 1878 and 1879, though he has been doing active botanical work ever since. My own work and that of my son, J. M. Macoun, commenced in 1883 and has been continued ever since. Mr. William Scott, Head Master of Toronto Normal School, did a great deal of good work from 1891 up to the time he left for Toronto. The above names are given because the collections made by each of them may still be studied. Each collector had apparently his own "beat."

Mr. R. B. Whyte, first in the field, did most of his collecting on the east of the city, but the Gatineau river, Hull, Beechwood, and the Bank street road on the Glebe property, were his chief hunting grounds. Dr. Fletcher made his earliest collections in old Stewarton and the vicinity of Billings' Bridge. Later the writer collected in the Beaver Meadow beyond Hull, and the above with Dow's Swamp, Rockcliffe Park and Beechwood are the only localities which have been exhaustively examined by him around the city.

Dr. Fletcher, in his *Flora Ottawaensis*, intended to include a radius of 30 miles from Ottawa, but outside of five miles from the city scarcely anything has been done. The only points we have specimens from are Eastman's Springs, Casselman, South Indian, Carleton Place, Stittsville, Aylmer, Chelsea, King's Mountain, Kirk's Ferry, Templeton and Buckingham.

Since the building of electric roads and the multiplication of railways there is no difficulty now in getting about, and the writer makes an earnest appeal to the members of the Ottawa Field-Naturalists' Club to commence active work in all branches in the spring, and he can assure them that in no branch is the field exhausted.

JOHN MACOUN.

Nov. 30th, 1901.

BIBLIOGRAPHY OF DR. GEORGE MERCER DAWSON.*

By H. M. AMI, of the Geological Survey of Canada.

In a new country like Canada, pioneer scientific work must of necessity be of a general rather than of a more specialized and restricted type, and the numerous contributions to the scientific lore of the Dominion from the pen of Dr. George Dawson partake essentially of the former type, though in not a few instances has that eminent geologist and thinker left behind him a record of facts of a particular and special nature which show clearly that he had a mind capable of grasping the minutest details of a critical study.

His scientific activities extend over a period of some thirty-two years, and during that time not a single year elapsed without some contribution from his pen. His writings are chiefly geological, but they also include important reports and papers on the natural history of Canada. He devoted much of his leisure hours in preparing succinct reports on the economic resources of the Dominion, but first and foremost with regard to the mineral products of British Columbia and adjacent portions of the North West Territories.

Dr. Dawson's contributions to forestry are well known and supply a fund of useful and ready information whose value cannot be overestimated. The climatic conditions which prevail over the wide areas which he explored have been carefully tabulated and described, and will serve as a permanent record of the greatest interest and value. In the varied and abundant nature of his researches, Dr. Dawson was ever looking to the future growth and development of Canada and the Empire.

In preparing the accompanying list of Dr. Dawson's writings the writer has made liberal use of the bibliographies published by the Royal Society of England, the Royal Society of Canada, and N. H. Darton's Index of Contributions to the Geology and Palæontology of North America, supplemented references from his own card Catalogue.

* For Biographical sketch of Dr. Dawson, see OTTAWA NATURALIST, Vol. XV, No. 2. pp. 43 to 52, May, 1901.

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