

The Canadian Field-Naturalist

VOL. XXIX

OTTAWA, ONTARIO, MAY, 1925

No. 5

NOTES ON THE HERPETOLOGY OF POINT PELEE, ONTARIO

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IN *The Canadian Field-Naturalist* for September, 1919, Volume XXXIII, Number 3, pp. 60, 61, Mr. Clyde L. Patch gives a list of reptiles taken at Point Pelee, with some notes of observations and a short description of the general characteristic of the place. In closing his article he remarks: "As the foregoing is probably not a complete list of the reptiles of Point Pelee, additional records would be of interest".

During the summer of 1920, I was fortunate in having the opportunity to visit this interesting place where I spent about six weeks in field work with a party from the Royal Ontario Museum of Zoology, Toronto, and as a result will be able to add four species of reptiles to Mr. Patch's list and Mr. C. W. Nash has kindly furnished me with a fifth. I am able also to present a list of amphibians, nine species in all.

The first in the list, a Urodele, of which I found none, was taken by Mr. P. A. Taverner in 1915. and the record was sent me by Mr. Patch. The succeeding eight species are all Anura and were taken by myself while at the Point.

The attention which I was able to devote to the search for amphibians and reptiles was limited as much of my time was occupied in other work. It seems certain that a summer devoted to the herpetology of Point Pelee would add still more species to the list of both amphibians and reptiles. I was struck by the apparent absence of both newts and salamanders and believe that a more careful search would reveal at least a few besides the one species recorded below.

The marsh, with its open ponds, with bottom varying from clean sand to soft mud, sustaining so much aquatic vegetation and small animal life, should afford an ideal breeding place for the green newt and for several species of *Ambystoma* within whose range it occurs, and also a home for *Necturus*.

In the more densely wooded areas with their shady, moist conditions, and so rich in small insect life, one would expect to find the red-backed salamander at least fairly common, but none were found.

The apparent absence of wood-frogs was also more or less of a puzzle to me, for the conditions seemed to be good enough; the many temporary rain pools should serve—in rainy summers at any rate—to tide the species over the larval stage which is usually finished in July, and, these failing there is always water in the marsh which is fringed with woods on much of its western side.

Considering the geographic location of Point Pelee, its variety of landscape, its abundance of water and of sheltering vegetation, it should be an ideal place for many species of amphibians, so I have no doubt that the list herewith presented is far from complete.

AMPHIBIANS

1. TIGER SALAMANDER, *Ambystoma tigrinum* (Green).—One specimen was taken at Point Pelee by Mr. P. A. Taverner on October 2nd, 1915, but he does not recall the circumstances of the capture. This record, which was kindly supplied me by Mr. Patch, is the only one I know of of any kind of salamander from there.

2. AMERICAN TOAD, *Bufo americanus* Holbrook.—This species was common and generally distributed over the Point, being found in a variety of locations, in the woods, on farm lands, around the borders of the marsh, and under drift timber on the beach at the edge of the woods.

Their songs were sometimes heard in the evenings from the rainpools which were so numerous from the frequent showers of that humid, thundery summer. Along the sides of the wagon road which runs through from the east to the west beach, immediately south of Gardiner's property, were several of these pools which were more or less permanent in the early part of the summer, and the toads had resorted to them to breed. Here the tadpoles were seen in great numbers, but they were destroyed in multitudes by the drying of some of the pools before transformation was completed.

3. FOWLER'S TOAD, *Bufo fowleri* Garman.—Three specimens of this toad were taken late in the forenoon of July 1st, in the grass bordering the motor road on the west side of the point, just

outside Mr. Grubb's property. The three of them were very close together when discovered, all within about a square foot, disporting themselves in the bright sunshine and seemed to be very wide awake. At first sight they seemed different to the American toad by reason of their unusual coloration, and, on closer scrutiny, by the vertical profile of the snout; the rather slender, elongated and relatively straight parotoid glands which were not like the broad, and often somewhat kidney-shaped glands of the latter species; and by the smaller size of the warts, which numbered from two or three to seven or eight, in the black blotches on the back. In the American toad usually one or two warts are enclosed in any of these blotches. The ground colour between the blotches was of a greyish yellow, irregularly mottled with dusky greenish shade. The under parts of the throat, body and limbs were yellowish and without markings of any kind.

The general impression on viewing the toads from above, as when I first saw them on the ground, was that of uncommonly green toads. One of these specimens was later sent to E. R. Dunn, who confirmed my provisional identification of *Bufo fowleri*.

4. CRICKET FROG, *Acris gryllus* LeConte.—One specimen of this frog was found in the most southerly pond in the marsh.

On the afternoon of July 15th, while sketching beside this pond, my attention was caught by what to me was a new frog-note, and which sounded something like the tapping together of two pebbles. This call, which like the calls of our other diminutive frogs had considerable carrying power, was uttered intermittently, that is, the frog would call several times and then remain silent for a while. By following the sound I finally located the tiny producer, hiding among the rushes in the shallow water at the pond's margin. It dived when I attempted to capture it, but was dragged ashore in a net full of bottom trash. When landed it did not make for the water as frogs usually do, but took a few jumps further ashore as if in an effort to hide itself in among the shore vegetation. At the time of capture there were some rich emerald green blotches on the brownish ground colour of the back of this specimen, but, strange to say, these completely disappeared after a few weeks in captivity, although the little frog fed ravenously and seemed in the best of health. No more frogs of this species were taken or heard calling.

5. SPRING-PEEPER, *Hyla crucifer* Wied.—Judging by the chorus, this frog was present in very considerable numbers in the swampy land and strip of woods on the east side of the Point just south of the marsh. In the twilight of damp or

rainy evenings, and frequently all through the night, especially in the early part of June, its shrill notes were incessant.

Two specimens were taken. One was found in the woods on the southern part of the Point on June 13th. The other one, taken on the 15th of June, was found snugly resting in a deserted caterpillar tent which served it as a hammock, suspended in the bushes. This was at the west side of the marsh and exposed to the full heat of the morning sun, and both the frog and the tent felt warm to the hand on grasping them.

6. COMMON TREE-FROG, *Hyla versicolor* LeConte.—This species was much in evidence by its voice, although not frequently seen. Its brief, trilling notes could usually be heard mingled with the nightly chorus of *Hyla crucifer*. Two specimens were taken, these were found in the daytime hiding in a small well composed of a buried barrel with the top open.

7. LEOPARD-FROG, *Rana pipiens* Schreber.—This was the most abundant *Rana*; it was very plentiful in the marsh and was also found wandering up over the farmlands which were more or less moist from the frequent rains of that summer.

8. GREEN FROG, *Rana clamitans* Latreille.—Not as plentiful as the Leopard Frog, but no doubt the next most abundant *Rana*. Common in the marsh, but I have no distinct recollection of having found it anywhere else on the Point.

9. BULLFROG, *Rana catesbeiana* Shaw.—This species, residing in the more inaccessible parts of the marsh, was probably more plentiful than sight records would lead one to think. The lonesome booming call of at least a few individuals could be heard there any evening at twilight; but, considering that the latter part of June and first two weeks of July are the period of full chorus for this species at Ithaca, (Wright, 1914), and that Point Pelee would not differ very greatly from Ithaca in the advance of the season, the notes of the bullfrog were comparatively few on the evenings when I visited the marsh.

REPTILES

Mr. Patch's list of eleven species of reptiles no doubt includes all the forms (excepting the Pilot Snake) actually recorded from Point Pelee up to the date at which his article was published, i.e. September, 1919. His list is as follows*:

1. Blue-tailed skink, *Eumeces fasciatus* (Linné).
2. Hog-nosed snake, *Heterodon contortrix* (Linné.)
3. Black racer snake, *Coluber c. constrictor* (Linné).

*The nomenclature which I am using is that of the second edition of Stejneger and Barber's Check List, 1923. This necessitates revising the generic names of the Blue-tailed skink and the Musk turtle. Mr. Patch, of necessity, having followed the earlier edition.

4. Fox snake, *Elaphe vulpina* (Baird & Girard).
5. Garter snake, *Thamnophis s. sirtalis* (Linné).
6. Rattlesnake, *Crotalus horridus* (Linné).
7. Musk turtle, *Sternotherus odoratus* (Latreille).
8. Snapping turtle, *Chelydra serpentina* (Linné).
9. Spotted turtle, *Clemmys guttata* (Schneider).
10. Blanding's turtle, *Emys blandingii* (Holbrook).
11. Painted turtle, *Chrysemys m. marginata* (Agassiz).

The rattlesnake recorded in this list was an old specimen measuring 56 inches in length. It was taken near the end of the Point in September, 1918, by Captain G. Wilkinson, and is now in the collection of the Victoria Memorial Museum, Ottawa. As this one was such an old specimen and as no others have been taken there in recent years, Mr. Patch is of the opinion that it was probably the last of its race.

Of the other species listed the black racer is the only one I did not find. One of the residents of the Point told me that this snake is more often seen early in the summer before the grass has grown tall in the marsh. The specimen recorded by Mr. Patch was taken in 1906 by Mr. P. A. Taverner. Mr. C. W. Nash, of the Ontario Provincial Museum, tells me that he has records of fifteen or sixteen specimens of this snake being taken in Essex County and at Point Pelee in 1913 and some years following. Some of these he himself collected, and some were taken by other persons and sent to him. He also tells me that all these specimens were of the blue or blue-green colouration, but that none of them showed any yellow on the ventral parts.

Green colouration is characteristic of the species in the more western reaches of its range. Cope (1898) writes: "Specimens from the west and southwest exhibit a more or less bright olive-green with the whole under surface greenish-white to bright yellow." "Transitions between the eastern black and the western green forms of this species are frequently met with in the region connecting the two habitats. Thus, in Michigan the species is generally of a bluish green or greenish blue tint above, and is known as the 'blue racer'."

Ruthven (1912a) speaking of this species, says: "Michigan specimens when adult usually uniformly dull bluish green above . . . Colour of ventral surface nearly always greenish or bluish white, although frequently tinged with yellow."

The "blue racer" is evidently the prevailing colour form of Western Ontario as it is of Michigan, and at present I know of no record of the black form from that part of the Province.*

Mr. Nash is of the opinion that records of black snakes from there may prove to refer to the Pilot

black snake (*Elaphe o. obsoleta*) of which he has several records from Essex County. The racer, by reason of its smooth scales, may be readily distinguished from the pilot snake in which the scales are keeled.

To the above list I can add the following five species:

1. PILOT BLACK SNAKE, *Elaphe o. obsoleta* (Say.).—Mr. Nash has taken several examples of this snake at the base of the Point. A specimen measuring 6 feet 3 inches in length was taken there on November 2nd, 1915.

2. MILK SNAKE, *Lampropeltis t. triangulum* (Lacépède).—One individual of this species was found on June 14th, hiding in a hollow stump on the west side of the Point. The ground in this region was comparatively dry and not very thickly wooded, and deer mice and blue-tailed skinks, both of which enter into the diet of this snake, were plentiful.

3. COMMON WATER-SNAKE, *Natrix s. sipedon* (Linné).—Two specimens of this snake were taken at the marsh, one on the 24th and the other on the 25th of June. A few others were seen occasionally through the summer.

One of the individuals captured was an adult female, and in November following gave birth to a litter of 41 young while in captivity at the Museum, Toronto.

4. BROWN SNAKE, *Storeria dekayi* (Holbrook).—One adult specimen was found early in June. No others were seen.

5. MAP TURTLE, *Graptemys geographica* (Le Sueur).—One young specimen was taken in the marsh on July 16th, the carapace measured 94 mm.

GENERAL REMARKS

We found blue-tailed skinks very common in the lightly wooded and drier parts of the Point, they were most frequently found beneath the loose bark of dead stumps and logs. Most of those seen were either females or young individuals, only three old males with the characteristic coppery heads were found. Several of these skinks were brought back to Toronto alive and by the third of August about twenty eggs had been laid. None of these eggs hatched, owing to the unnatural conditions under which they were deposited and kept.

The females usually make individual nests in decayed logs and remain with their eggs until hatched.

Ruthven (1911) during his studies of the reptiles of Huron County, Michigan, found pregnant females as early as June 19th. The first sets of eggs were found on July 2nd, and the first young lizards were observed on July 31st.

*The specimen recorded by Mr. Patch, which is represented only by a skin, is now in the collection of the Victoria Memorial Museum. He does not state what the colouration in life was.

At Point Pelee, the first egg seen by us was laid by a captive specimen on July 24th, the day we broke camp, so we had no opportunity of searching for nests or eggs in the woods after that date.

Two specimens of blowing adders were found at the marsh. One of these entertained us with a full display of its interesting antics. At first it flattened its head and neck in the usual manner, and hissed and bluffed at striking, but, failing to make the desired impression, it tried the more passive method of turning over on its back and feigning death. Each time it was righted, it again turned over on its back, quite overlooking the fact that a dead snake lies the way it is put, but when we retreated to a little distance, it righted itself and started to glide away.

One of the specimens taken was exceedingly dark in colouration and almost completely lacked any trace of markings on the dorsal region.

Three fox snakes taken were also found at the marsh. One of them, after capture, vomited up a deer mouse and a young cowbird.

The garter snakes at Point Pelee are especially interesting by reason of a strong tendency towards melanism which prevails among them. Patch (1919) refers to it and recalls the capture of three coal black individuals in which the lower jaws and throats were white.

I found only one garter snake answering to this description, but noticed that among many of the more normally coloured specimens there was a marked tendency for dark pigment to predominate, and in one dark olive coloured specimen the light dorsal stripe was almost absent.

We collected, besides the melano, a number of more normally coloured garter snakes and brought them back to Toronto alive, where they were exhibited along with the black specimens at the Canadian National Exhibition. Most of these garter snakes, including the melano, gave birth to young while in the Exhibition cages, but unfortunately all of these litters were indiscriminately mixed together without any attempt having first been made to count them or estimate the percentage of black young among the offspring of each. The black specimen, I understand, gave birth only to black young. The more normally coloured specimens, which vary considerably in the degree of their dark pigmentation, produced many coal black young along with normal ones. Judging from the very large number of black individuals in the total offspring of all these snakes, the melanistic strain must have been very generally present among them.

The black specimen measured about 26 inches in length and appeared to be normal in every way

except in its colour. It was taken at the marsh on July 15th.

On one occasion we observed a garter snake swallowing a young sparrow: the bird in question was brought to our camp on the morning of June 28th by some neighboring children. It was fledged and seemed able to shift for itself, and we let it go. It had only gone a few yards when our attention was drawn by a great commotion among the sparrows in the bushes nearby, where they had gathered in numbers and were chirping and scolding and flying about in the most excited manner. On approaching the scene of all this noisy agitation, we found our young sparrow with its head and neck engulfed in the distended jaws and throat of a garter snake; the snake, which was about two feet in length, took ten minutes to swallow the bird.

From the 15th until about the end of June we found Blanding's turtle quite common, especially along the strip of land bordering the east side of the marsh. After the end of June these turtles gradually ceased their terrestrial wanderings, which were evidently undertaken in search of nesting sites, and we saw comparatively few of them.

On the 22nd of June I saw five Blanding's turtles on the east side of the marsh. One of these which was discovered at about six p.m., was digging a nest in the sand on the top of a knoll under the shelter of some cottonwoods, but my approach had been too sudden and she would not finish the work.

At about 6.30 p.m. on the same day, Mr. L. L. Snyder found two of these turtles digging in the sand high up on the beach, and kept one of them under observation for a while. She dug a hole about 7 inches deep and shaped like a flask, i.e., wider below, with a somewhat narrower neck leading down, and deposited one egg while he watched. He returned to the spot at 10 p.m., accompanied by the writer, and found that eleven eggs had been deposited. The nest had been so carefully covered over with sand and smoothened down, that one would never suspect a hole had been dug there. We took the eggs and set them to incubate in a box of sand which was left exposed to the weather. On the 26th of August an accident happened to them, and one of the members of the party, Mr. N. K. Bigelow, who still remained at the Point, found the young turtles perfectly formed and evidently near to emerging. These eggs had been incubating for 65 days. Snyder (1921) gives a detailed account of this incident.

We found the painted turtle quite common, but the spotted turtle was not so much in evidence, only three specimens being seen. Two of these were seen on June 22nd on the east side of the

marsh. One of them was discovered at about 6 p.m., and was digging a flask-shaped nest with her hind feet in the sandy sod close by the edge of the marsh.

On June 24th and 25th and on July 10th, sets of turtle eggs were found buried at or just below water level in the wet sand at the margin of the largest pond in the marsh, the nests were usually covered over with drift trash washed up by the waves. We did not succeed in hatching any of these eggs, but I feel fairly sure that they were those of the musk turtle. They were obviously not those of any other turtle known to occur at Point Pelee, and in size, shape, texture of shell, and the number of sets, they agreed well enough with Hay's description of the eggs of this species as quoted by Ruthven (1912b), but all of these characteristics taken together would not fit any other species found there.

I recently saw a set of musk turtle eggs taken from the body of a female by Mr. Edward Bensley, of Toronto, and in all the above-mentioned features they closely resemble the eggs which I found in the wet sand at Point Pelee marsh. The choice of such a wet location seems peculiar, as most turtles—even the snappers, which are very aquatic—wander some little way from the water if only a few feet, in search of a drier location in which to deposit their eggs.

Some of the fishermen told me that they sometimes caught soft-shelled turtles in their pound nets, and they spoke of these turtles as living always in the water and only coming out on the

beach to lay their eggs. The turtle in question was evidently *Amyda spinifera* (Le Sueur) as Point Pelee is well within its range. I know of two records from near Hamilton, Ontario, one by Mr. Nash, at Dundas Marsh, and one from Hamilton Bay. It also occurs at Lake St. Clair, and Ruthven (1912c) records it from the southern part of Michigan. However, I have no definite record of any specimen from Point Pelee.

The above lists of nine amphibians and sixteen reptiles include all the records for Point Pelee which I have thus far been able to obtain, but there is no doubt at all that more species could be added to both lists, and any specimens, or records by persons competent to identify their captures would be much appreciated.

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CORALLORRHIZA MACULATA AND ITS VARIETIES IN CANADA.

By HENRY MOUSLEY.

AS I UNDERSTAND this matter to-day, it is as follows.

In *Rhodora*, for August, 1922, there appeared an article by Dr. H. H. Bartlett, entitled, *Colour types of Corallorrhiza maculata Raf.*, in which the author describes three colour types of *C. maculata* (Large Coral Root), and further points out that there is every reason to assert confidently that those types are genetical entities, and not mere variations due to environment.

In our latest book on Orchids by Prof. Oakes Ames, *Enumeration of the Orchids of the United States and Canada*, 1924, pp. 21-22, these three varieties appear as var. *flavida* Cockerell, var. *intermedia* Farwell, and var. *punicea* H. H. Bartlett. The substitution of var. *intermedia* for the var. *fusca* of Bartlett in Prof. Oakes Ames's book was brought about no doubt by an article appearing in the February issue of *Rhodora*, for

1923, by Mr. O. A. Farwell, entitled *Corallorrhiza maculata Raf.*, in which the author calls attention to the fact that he had already in the *Michigan Academy of Science, 19th Report*, for 1916, page 247, published the brown type as var. *intermedia*, and that therefore Dr. Bartlett's var. *fusca* naturally became a synonym of var. *intermedia*, as dealt with under the heading of synonymy in Prof. Ames's book. Now, owing to my investigations at Hatley, it would appear as if Mr. Farwell had perhaps come to a somewhat hasty decision, in assuming that Dr. Bartlett's var. *fusca* was one and the same thing as his (i.e., Farwell's) var. *intermedia*, for on sending to Dr. Bartlett some colour sketches—from living specimens, by that well-known artist, Mr. Robert Holmes of Toronto—of some forms of *C. maculata* that I had found at Hatley during the past season (1924), I find that there is every reason to believe that var. *fusca* and var. *intermedia* are not one and the same



Logier, E. B. S. 1925. "Notes on the Herpetology of Point Pelee, Ontario." *The Canadian field-naturalist* 39(5), 91–95. <https://doi.org/10.5962/p.338520>.

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