

SEP 29 1903

SECOND CONTRIBUTION TO THE HERPETOLOGY
OF MISSOURI.*

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In 1897 I had the honor to report on a number of reptiles and batrachians that I had ascertained to occur in the State of Missouri, and this evening I am able to add nineteen new species not before found nor reported for the State. But before I proceed let me give you an idea of the difficulty in finding co-workers in my line of collecting. Prof. H. M. Whelpley, editor of the *Meyer Brothers' Druggist*, had the kindness to distribute with that periodical a circular, asking for assistance in collecting and sending in specimens from their respective counties. This circular reached about 1,300 druggists in the State of Missouri, and in response to it I received fifteen answers from persons that would like to help; but to my great regret I found out that even they were more interested from a financial than from a scientific standpoint. This gives an idea how difficult it is to get assistance from outside parties in this particular branch of study. Still, I am under obligations to the following gentlemen who offered their services and procured me a good deal of material from their respective counties, viz.: J. H. Black, Esq., Newton County; J. C. Miles, Jasper County; J. M. Parker, Montgomery County; Prof. R. R. Rowley, Pike County; Fuller Smith, Clark County; Robt. Lotze, Oregon County; Dr. A. Schaffraneck, St. Charles County; George Miller of our city, who brought in quite a number of specimens from Stoddard County; also Mr. H. N. Force, Ozark County; Dr. J. R. Terry who collected in Adair County, and W. K. Smith, Crawford County. All of these gentlemen brought in valuable additions, which are mentioned in their proper places. The increase over my previous list consists of nineteen species as before mentioned, viz., six batrachia and thirteen reptilia.

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Class BATRACHIA.

Order URODELA.

The Tailed Batrachians.

1. *AMBLYSTOMA PUNCTATUM*, L. — The spotted salamander.

This salamander when alive is one of our prettiest specimens, being of a dark bluish-black color with a number of yellowish-white shining spots on the back and abruptly light olivaceous underneath. The legs are of the color of the under parts, not of the upper. This animal is one of those that uses its tail as an organ of prehension. When taken up and held so that it expects to be dropped, it is its habit to take a hold of some support with the tail and if one is not found at once, the tail is moved about in search of an object that might answer this purpose.

It is mostly found under decaying logs in damp shady places, but is in no way plentiful: — Drake, St. Louis County, April 24; Butler County, April 16 and July 17; Stoddard County, October 26.

2. *HEMIDACTYLUM SCUTATUM*, Tschudi. — The scaly salamander.

This is a small species. I copy the description from Cope's "Batrachia of North America," as one of the best: Back, dark chestnut, but above much lighter, both sprinkled with black, the latter more especially along the dorsal line. Snout above, eyes above and in certain lights the furrows above the lateral longitudinal lines light chestnut approaching to golden bronze, faintly clouded in spots with darker. Sides of body finely mottled brown and bluish-white. Head, body, and tail below, chalk white with a tinge of blue. Sparingly and irregularly marked with rather large black spots; spots disposed along sides and the white of tail beneath. Central tract unspotted. One or two furrows or constrictions go entirely around the tail behind the vent, marking the narrow base of the tail, which then swells abruptly in many specimens.

Neither the late Professor Cope nor the museum catalogue

of the Smithsonian mentions the animal as being ever caught west of the Mississippi. I am under obligations to my friend Dr. George W. Bock, who found one specimen near Bourbon, Crawford County, October 15, 1899, and presented it to me.

3. *SPELERPES MACULICAUDUS* Cope. — The western cave salamander.

In 1880 Professor E. D. Cope described this as a new salamander from a spring at Brookville, Indiana. This species has since been found to be the common cave salamander of the Mississippi Valley along with *Spelerpes longicaudus*. It is similar in build to the cave salamander, *Spelerpes longicaudus* and also to the next species, the newly discovered *Spelerpes stejnegeri*, but differs in color. All the specimens, old or young, are of a Chinese orange color in life and have the back and sides of the body, tail and limbs covered with sharply defined irregular rounded and elongated spots. It is a twilight species.

So far I have only found it in Jefferson County, in a small ravine, but it has been found also by other collectors at the mouth of Fisher's cave near Springfield, Green County; near Marble cave, Stone County; Rockhouse cave, Barry County; and Wilson's cave, near Sarcoxie, in Jasper County.

4. *SPELERPES STEJNEGERI*, Eigenmann.

The latest discovered species. I have not yet seen this species and therefore have to give the description from its discoverer, Professor Eigenmann: — The back is raw sienna with many spots, coalescing in places and irregularly arranged in two series on each side of the median line. The median line and a streak from the eye back to above the hind limbs are free from spots. Sides dark brown with irregular dots of marbling of sienna. The belly is clear.

This salamander has been found in Rockhouse cave, Barry County; near Marble cave, Stone County; Wilson's cave, Jasper County; and Fisher's cave, Green County: all in southwestern Missouri.

5. *TYPHLOTRITON SPELAEUS* Stejn. — Blind cave salamander of Missouri.

The first specimen of this salamander was collected by F. A. Sampson, of Sedalia, in Rockhouse cave, Barry County, and described by Dr. L. Stejneger of the National Museum. Afterwards Professor E. D. Cope found some in Marble cave, Stone County. It is rather a rare species. The color in life is pale flesh color. I have not yet been able to secure a specimen for my collection.

Order SALIENTIA.

The Frogs.

1. *ACRIS GRYLLUS* Le Conte. — The cricket frog.

I include it in my list because it is mentioned in Cope and Yarrow's list as No. 35601 of the Smithsonian collections: — six specimens from New Madrid County, collected by R. Kennicott, one of the pioneer collectors.

The best character to distinguish this frog from its western representative, *Acris gryllus crepitans*, is that in the former when the hind limb is carried forward along the side of the body, the tibio-tarsal articulation reaches to the tip of the snout or a little beyond, whereas in *crepitans* the same articulation hardly reaches to the tip of the snout. Also, *Acris gryllus* is the longer one of the two, measuring $1\frac{4}{10}$ inch, where *crepitans* reaches only $1\frac{2}{10}$ to $1\frac{1}{4}$ in. in length of body.

Class REPTILIA.

Order CHELONIA.

The Turtles.

1. *CHRYSEMYS MARGINATA* Agassiz.

C. cinerea Brown.

A so-called painted turtle from the lively red markings on the edge of the carapace. This turtle is common in the lowlands across the Mississippi, in Illinois. Some specimens are found in the back-waters of this river on the Missouri side. The plastron in the adult is usually all blood red, hiding a

large dull black mark that extends from near the gula on the center of the belly to the anals without any lateral branches as in *Chrysemys bellii*. The young are very different in the marking of the plastron from *Chrysemys marginata* of Indiana, Eastern Illinois, and Michigan. The shields of the plastron are alternately red and yellowish-white on each side of a dark center streak. This turtle is called by the fishermen "Red belly" and with right, as in spring nothing of the dark central mark of the plastron can be seen.

2. CHRYSEMYS DORSALIS Agz.

This is another rather scarce turtle that I have found in our most southeastern counties in the so-called "sunken lands." It is easily recognizable from a wide reddish streak along the center of the back. So far I have specimens from Butler County, May 1, 1898.

3. PSEUDEMYX TEXANA, Baur. — The Texas Cooter.

This turtle has gone so far under the name *Pseudemys concinna*, Le Conte. Le Conte says it inhabits the rivers of Georgia and Carolina. I have never seen it below Augusta on the Savannah or Columbia on the Congaree; we have therefore to consider specimens from these localities as typical. The species is characterized by its broad and low shell and its small head.

Dr. Baur considers *Pseudemys texana* as the representative of *Pseudemys* in the southern portion of the country west of the Mississippi: — Texas, Indian Territory, Northern Mexico, Missouri. Professor Agassiz mentions in his monograph on turtles some that were collected by Dr. Roy, in Southwestern Missouri. I have received two nice specimens, one from Mr. F. A. Black, from Newton County, and the other from Mr. J. Carroll Miles, from Carthage, Jasper County, where he collected it from the Spring River, which empties into the Neosho, a tributary of the Arkansas River. In 1895, when on a business trip to Paris, Texas, I collected there a very fine specimen, the carapace of which is a good deal higher than of any other I have seen so far.

4. *AROMOCHELYS TRISTYCHA* Agz. — A musk turtle.

About a month ago Mr. H. N. Force, Ph. G., sent me quite a collection of reptiles from Ozark County, and amongst them I found one half-grown specimen of this variety. Professor Louis Agassiz, in his monograph on turtles, 1857, mentions specimens that were sent to him by Mr. G. Stolley from the Osage River, in Missouri. Agassiz writes: "Although *Ozotheca odorata*, its eastern congener, varies greatly not only in color but even in outline, I have no doubt that this is a distinct species characterized when young by the great prominence of the keels upon the vertebral and costal plates and by numerous dark dots between the scales of the sternum, and when adult by a marked difference in the form of the snout. In *Ozotheca odorata* the snout is much more prominent on account of the slope of the upper jaw, which extends further back and is therefore less steep than in *O. tristycha*, the lower jaw of which is broader below the symphysis than in *odorata*, and suddenly turned up."

Order SQUAMATA.

Suborder SAURIA.

Lizards.

IGUANIDAE.

1. *PHRYNOSOMA CORNUTUM* Harlan. — Commonly called "horned toad."

Mr. H. Q. Taylor, a resident of St. Louis, informed me that he captured a specimen on the sandy river shore opposite Leavenworth, in Missouri. Through advertising in the papers, I received letters from gentlemen stating that this animal had been caught in the streets of their respective places but all these seem to have been escaped specimens and were thus caught. The only authentic record of this lizard, as occurring in the State, I find in the United States National Museum reports by Dr. E. D. Cope, Crocodilians, Lizards and Snakes of North America, on page 436 under No. 17397-99:—three specimens collected by C. W. Richmond in South-western Missouri.

Suborder OPHIDIA.

Snakes.

POISONOUS SNAKES.

1. *SISTRURUS MILIARIUS* Linn. — Ground rattlesnake.

It gives me pleasure to bring to notice another pit viper, that has been caught by my friend Mr. Rob. Lotze in Oregon County. He was not aware that he had killed a poisonous snake. On an inquiry he wrote me that he captured it from under some debris of an old shanty on the slope of a hill. This specimen looks more similar to those from Texas than to some from Alabama and Florida that are in my collection.

HARMLESS SNAKES.

2. *FARANCIA ABACURA* Holbrook. — The so-called hoop snake or horn snake.

The color of this snake is bluish-black above. On the two outer rows the ground color assumes the shape of vertical bands, from one and a half to two scales broad, leaving an intermediate space from two to three scales wide, which is red in life. Both the red and bluish-black extend on the abdomen, the former being the ground color. The vertical bands of the flanks are confluent on the middle of the abdomen, either directly opposite or alternating.

My son Henry collected six specimens near Poplar Bluff, Butler County, April 24. The snake lives near the shores of stagnant waters and is generally found beneath dead logs and other objects.

3. *LIOPELTIS VERNALIS* DeKay. — The grass snake.

The scales of this little snake are smooth. It is dark green above, lighter on the flanks and yellowish-white beneath.

I received the only specimen that I have come across from Dr. A. Schaffraneck of St. Charles. The doctor caught it and two others in his garden. I have never encountered this snake in the last twenty years during which I have paid attention to the collecting of reptiles, and I am of the opinion that the Missouri river stops it from coming farther south in this

region. I remember very plainly that about twenty-five years ago I caught and played with about ten or twelve specimens that I found at one spot on the side of a fence in Madison County, Ills. R. Kennicott also reports in the Smithsonian Catalogue, under number 2204, on a specimen that he collected in Monroe County, Ills. I think that cultivation has destroyed its haunts and more or less exterminated it.

4. *COLUBER VULPINUS* Baird and Girard. — The fox snake.

April 22 I found the first specimen of this snake at Dardenne prairie, St. Charles County. The same day I came across two other dead specimens that somebody had killed and mutilated. Mr. Charles Aldrich sent three specimens to the Smithsonian that he collected in Webster City, Iowa. Cope states that it is distributed over the northwest of the eastern district, not being known from east of Illinois, or south of the Missouri River. This is the most robust species of the genus and reaches as large a size as any.

5. *COLUBER SPILOIDES*, Dumeril and Bibron.

Professor Cope in his work "Crocodilians, Lizards and Snakes of North America," mentions on page 843 one specimen, under No. 5505 of the Smithsonian collections, as collected at Independence, Jackson County. The snake is of common occurrence in Texas and Indian Territory and should therefore be in our western counties. I have specimens only from Waco, Texas, in my collection.

6. *COLUBER GUTTATUS* Linnaeus. — The spotted racer.

For three years successively I have found a young specimen of this species near Pevely, Jefferson County, and curious to say they were found always under a small rock on the top of a large one, nearly at the same place. Last year my son had the good fortune to capture a fine adult specimen, but this time in the fields, though not far from the first place: — May 15, 1898; May 13, 1900; May 7, 1899; and May 26, 1901; the adult specimen.

7. *PITYOPHIS SAYI* Schlegel. — The bullsnake.

I have heard a good deal about this snake but never had the opportunity to capture one myself. Mr. Carroll Miles of Carthage, Jasper County, has sent me a fine living specimen. This snake was one of the most vicious snakes that I ever came across, and it may be accounted for, as Mr. Miles wrote me on inquiry that they had it for quite a while in the school where it was always teased to the utmost. This last fall Mr. Frank Schwarz gave me also a fine specimen that had been caught in the bluffs in St. Clair County, Ills., opposite the city of St. Louis.

8. *BASCANION CONSTRICTOR FLAVIVENTRIS* Say. — The green racer.

From the same place, Jasper County, and from the same gentleman, I received a specimen of this western variety, and a year ago a second specimen from Mr. W. K. Smith of Cuba, Crawford County. The color of the back of this species is olive green, and the whole under-surface greenish-white to bright yellow.

9. *NATRIX CYCLOPIUM* Baird and Girard. — Cyclope water-snake.

My son Henry found some of these in a small lake near Poplar Bluff, Butler County, May 19 and 22 and October 3, 1897. They are hard to catch as they always seek refuge in the deeper waters.

The late Professor Cope gives the following very good description of this snake: Color brown above, yellow below. On the upper surface there are on each side two rows of alternating short crossbars of a darker color, which are about one and one half scales wide, and are separated by interspaces of about three scales. The median line for a width of four scales is not spotted, or is very imperfectly so, forming a broad vertebral band of a color darker than the general ground. In young specimens the pattern is very distinctly seen; but in adults the ground becomes so dark as to obscure it very much. The head is uniform brown, the oral edge of

the superior labial plates only being yellow. On the yellow ground of the inferior surfaces there appear, on the anterior third only of the length, dark shades on the anterior parts of the gastrosteges. These extend and blend so that on the posterior two-thirds of the length in the adult the color may be said to be blackish-brown with yellow spots. This well marked species is nearest to *Natrix rhombifera*, also found in the State.

The present contribution brings the number of Batrachians and Reptiles recorded as found in the State of Missouri to ninety-three, as follows:—

16 Tailed Batrachians.

13 Toads and frogs.

18 Turtles.

7 Lizards.

39 Snakes.

I do not doubt whatever that this list will in time reach one hundred and over, as there are quite a number of species of this class in northern Arkansas, Indian Territory and Kansas, that will eventually also be found in the State of Missouri.

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