Transactions of the Academy of Science of St. Louis.

VOL. XVIII. No. 2.

THE AMPHIBIANS AND REPTILES OF ARKANSAS.

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Issued May 14, 1909.
THE AMPHIBIANS AND REPTILES OF ARKANSAS.*

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The present list of Arkansas amphibians and reptiles has been compiled with a twofold purpose in view: (1) to place on record a number of species collected by the senior author, which have not been reported from the state previously; (2) to form as complete a list of these animals as our present imperfect knowledge of the herpetology of the state will permit.

In the United States National Museum Collection are a number of specimens obtained by Marcy, Shumard and other members of the Red River Expedition. Some of these are labeled "Red River, Ark.," and "Fort Towson, Red River, Ark.," but were not collected within the limits of the present State of Arkansas.

Such species as *Bufo cognatus* Say, *Thamnophis marciana* B. & G., *Heterodon nasius* B. & G., and *Crotalus confluentis* Say are members of an entirely different faunal region and are not likely to range east of central Oklahoma. Ruthven† has called attention to the fact that Oklahoma examples of *Thamnophis radix* B. & G. are hard to distinguish from *T. marciana*. Examples of *marciana* from north-central Texas are not typical, and it is extremely doubtful whether this snake occurs north of Texas.

Fort Towson is situated in southeastern Oklahoma. Probably all of the species collected at this station will ultimately be found in southwestern Arkansas.

We have made liberal use of the Fort Smith records in a paper by Robert Baird McLain, entitled, "Notes on a

* Presented to The Academy of Science of St. Louis, March 1, 1909.
† Bull. U. S. Nat. Mus. 61 : 69. 1908
Collection of Reptiles Made by Mr. C. J. Pierson at Fort Smith, Arkansas, with Remarks on Other Eastern Reptiles." (Wheeling, W. Va., 1899. Published by the author.) McLain's notes are based on specimens presented to the museum of the Leland Stanford Junior University. We must either doubt some of his identifications or else believe that some of Pierson's material was incorrectly labeled as to locality, for it seems hardly possible that such species as Clemmys insculptus LeConte, Testudo polyphemus Daudin and Thamnophis sackeni Kenn. should occur so far out of their natural range.

We are indebted to Dr. Seth Eugene Meek of Chicago for a list of material collected at several stations in Arkansas. This material is a part of the herpetological collection of the Field Museum of Natural History. Mr. Hurter takes this method of thanking Mr. John R. Fordyce, of Little Rock, for assistance rendered him in collecting material, as well as for other courtesies.

We did not deem it necessary to append a bibliography for the reason that in most of the literature at our disposal the Arkansas fauna is referred to in only a general way and furnishes very little authentic data.

A careful perusal of Marcy's "Report on the Red River Expedition" resulted in more eliminations than additions to our original list. The lists of specimens in Cope's "Crocodilians, Lizards and Snakes of North America," furnished us with some data, but much less than we had reason to expect, as this work is supposed to give a list of all of the specimens of these animals that were in the National Collection up to a short time prior to the author's death.

Most of the material collected by Hurter is in his private collection. The Combs lot is widely scattered, but examples of most of the species obtained by him are in the Hurter and Baylor University collections. The Hot Springs specimens in the National collection, secured through Messrs. H. H. and C. S. Brimley, were collected by Combs.
From the foregoing table the reader can very readily see that we have definite records for only about fifteen out of the seventy-five counties in the State. Hot Springs, Garland County, furnished the largest number of species as a result of the work of two collectors. Combs spent nearly three years in this locality and obtained in all thirty-six species and sub-species. Hurter visited Hot Springs on two occasions, obtaining examples of seventeen species, only one of which had not previously been collected by Combs. At Fort Smith, the earlier collectors, Eustis, Shumard and Whipple, obtained six species that were not found there by Pierson in 1896-97. The results of Meek’s work at Greenway, Clay County, and Hurter’s at Paragould, Green County, furnish an interesting contrast as the two counties are adjoining. Meek collected twenty-four species, Hurter only fourteen, but the two lots contain representatives of thirty-six different forms, Sceloporus undulatus Lat. and Ambystoma opacum Gravenhorst being the only two species obtained by both collectors.

**Comparative Table of Missouri and Arkansas Reptiles and Amphibians.**

<table>
<thead>
<tr>
<th>Amphibia</th>
<th><em>Missouri</em></th>
<th>Arkansas.†</th>
</tr>
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<tbody>
<tr>
<td>Caudata</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>Salientia</td>
<td>15</td>
<td>32</td>
</tr>
<tr>
<td>Reptilia</td>
<td>—</td>
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</tr>
<tr>
<td>Testudinata</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>Ophidia</td>
<td>43</td>
<td>38</td>
</tr>
<tr>
<td>Lacertilia</td>
<td>8</td>
<td>68</td>
</tr>
</tbody>
</table>

* Based on Hurter’s list (1907).
† The present list.
The following species have been recorded from Missouri, but not from Arkansas:

**AMPHibia.**
- Cryptobranchus alleghaniensis Daudin
- Plethodon erythronotus Green
- Spelerpes maculicaudus Cope
- Spelerpes longicaudus Green
- Spelerpes stejnegeri Eignm.
- Spelerpes guttolineatus Holbr.
- Spelerpes melanopleurus Cope
- Typhlotriton spelaeus Stejn.
- Acris gryllus LeConte
- Hyla versicolor LeConte
- Hyla carolinensis Pennant
- Rana sylvatica LeConte
- Rana cantabrigensis Baird
- Rana areolata circulosa R. & D.

**REPTilia.**
- Trionyx spiniferus LeSeur
- Chrysemys cinerea Brown
- Chrysemys bellii Gray
- Terrapene carolina Linn.
- Carphophis helenae Kenn. = C. amoenus Say
- Coluber vulpinus B. & G.
- Coluber spiloides D. & B.
- Lampropeltis doliatus triangulus Cope
- Storeria occipitomaculata Storer
- Thamnophis radix B. & G.
- Sistrurus catenatus Raf.
- Zamensis constrictor flaviventris Say

The following species occur in Arkansas, but have not been recorded from Missouri:

**AMPHibia.**
- Amphiuma means Linn.
- Ambystoma annulatum Cope
- Ambystoma jeffersonianum Green
- Desmognathus brimleyorum Stejn.
- Spelerpes multiplicatus Cope
- Scaphiopus holbrookii Harlan
- Chorophilus occidentalis B. & G.
- Hyla squirella Daudin
- Hyla versicolor chrysoseelis Cope

**REPTilia.**
- Anolis carolinensis Cuvier
- Sceloporus consobrinus B. & G.
- Thamnophis eques Reuss
- Tropidonotus leberis Linn.
- Chemidophorus gularis B. & G.

**Amphiuma means Linn., Ambystoma jeffersonianum Green, and Scaphiopus holbrookii Harlan** probably range northward into the “sunken lands” of southeastern Missouri. **Ambystoma annulatum Cope and Desmognathus brimleyorum Stejn.** are at present known only from the State of Arkansas, and **Spelerpes multiplicatus Cope**

† These species may occur in western and southwestern Arkansas. An exploration of the caves of the Ozark Mountain region will probably disclose the presence of cave salamanders (Spelerpes maculicaudus and S. longicaudus). Typhlotriton spelaeus Stejn. may be discovered in some of the Ozark caves but the chances are against it. It has been collected in Barry and Stone Counties, Missouri, but in Carroll County, Arkansas, just across the line, Hurter failed to find any suitable caves.
from Arkansas and Oklahoma. *Cnemidophorus gularis* B. & G., *Sceloporus consobrinus* B. & G., *Thamnophis eques* Reuss, and *Hyla versicolor chrysoscelis* Cope are southwestern forms, whose range is extended to central Arkansas. *Chorophillus occidentalis* B. & G., *Hyla squirrells Daudin*, and *Anolis carolinensis* Cuvier are typical Austroriparian species that are not likely to occur as far north as Missouri.

The following nineteen of the ninety species and sub-species of Arkansas amphibians and reptiles enumerated in this paper do not occur in eastern Texas:

**AMPHIBIA.**

| Desmognathus brimleyorum Stejn. | Ambystoma jeffersonianum Green |
| Spelerpes multiplicatus Cope       | Amphiuma means Linn.           |
| Hemidactylium seutatum Schlegel    | Necturus maculatus Linn.       |
| Ambystoma annulatum Cope          | Rana palustris LeConte          |
| Hyla pickeringi Holbrook           |

**REPTILIA.**

| Chrysemys dorsalis Agass.         | Tropidonotus sipedon sipedon Linn. |
| Chrysemys troosti Holbrook        | Tropidonotus cyclopium D. & B.     |
| Graptemys pseudo-geographica LeSeur | Coluber obsoletus confinis B. & G. |
| Amyda mutica LeSeur               | Diadophis punctatus Linn.          |
|                                  | Carphophis vermis Cope             |

The majority of these are eastern and southeastern forms which find their western limit in Arkansas and the eastern half of Louisiana. Sixty-three of the seventy-one species and sub-species that occur in both Arkansas and the eastern half of Texas are also found in the State of Missouri.

The number of species known to occur in Texas at the present time is as follows:

| Tailed amphibians | 10* |
| Frogs and toads   | 40* |
| Turtles           | 22† |
| Lizards           | 45† |
| Snakes            | 70† |

* 177

Based on Strecker's List (Proc. Biol. Soc. Wash. 21: 53-62) with addition of *Rana clamitans* which has since been found to occur in northeastern Texas.

† From Strecker's Check-List, which is now in press.
Deducting the Arkansas species found in eastern Texas (71) leaves 106 species. After carefully reviewing the work of recent collectors in eastern and northeastern Texas, we feel safe in saying that the greater per cent of future additions to the Arkansas list may be expected to come from the Austroriparian fauna of Louisiana and the Ozarkian fauna of southwestern Missouri rather than from the central of western Oklahoma and the Sonoran of Texas. Such forms as *Cnemidophorus gularis, Sceloporus consobrinus* and *Thamnophis eques* are merely outrunners from the Sonoran, whose relationships are not yet fully understood. Probably few true Sonoran species range east of the 98th meridian of longitude in Texas.

**LIST OF ARKANSAS AMPHIBIANS AND REPTILES.**

**Class Amphibia.**

**Order CAUDATA.**

**Family Pleurodelidae.**


Southern Missouri, eastern Oklahoma, northern Louisiana, and northeastern Texas. No definite localities for Arkansas, but it probably inhabits the entire State.

**Family Desmognathidae.**


This species is abundant in the type locality, Hot Springs (Combs and Hurter) and at Little Rock (Hurter). At Little Rock Hurter placed examples of this species and *Spelerpes multiplicatus* Cope in the same bucket just as he captured them. On returning to his room, he discovered that the *Spelerpes* had all been devoured by the hungry *Desmognathus.*
Dr. O. P. Hay in "The Reptiles and Batrachians of Indiana" (p. 452) records Desmognathus fusca Hald. from southwestern Arkansas. His record was doubtless based on examples of D. bromleyorum, which was not described until some three or four years later.

Family Plethodontidae.


The types of this species (No. 4938 U. S. Nat. Mus. Coll. 4 examples, "Red River, Arkansas," Dr. L. A. Edwards, U. S. A.) were doubtless from some locality near the Red River in what is now eastern Oklahoma and not from within the limits of the present State of Arkansas. It is tolerably common at Little Rock (Hurter) and Meek obtained examples at Fayetteville.


Hurter obtained two specimens of this species at Hot Springs. This makes the second record from west of the Mississippi River, the other locality being Bourbon, Crawford County, Missouri.


Hot Springs (Combs), Little Rock (Hurter).

Family Ambystomidae.

6. Ambystoma annulatum Cope.


7. Ambystoma punctatum Linn. Spotted Salamander.

Greenway (Meek).


Paragould (Hurter), Greenway (Meek).


Fort Smith (Shumard. U. S. Nat. Mus. Coll.)


**Family Amphiumidae.**

12. *Amphiuma means* Linn. Congo Eel or Snake. Pine Bluff (Hurter), Greenway (Meek), Little Rock (Hay).

**Family Proteidae.**

13. *Necturus maculatus* Linn. Water-dog or Mud Puppy. A specimen from the Arkansas River, Arkansas, is in the U. S. National Museum Collection. It was collected by Shumard.

**Family Sirenidae.**

14. *Siren lacertina* Linn. Siren or Two-legged Eel. Little Rock (Hurter and Fordyce), Greenway (Meek).

**Order Salientia.**

**Family Ranidae.**


18. *Rana palustris* LeConte. Swamp Frog. This species occurs in the "sunken lands" of southeastern Missouri and in northern Louisiana, so we feel no hesitancy in including it in the list.
Family **Engystomatidae**.


Family **Hylidae**.


   This tree frog is a common species in Kansas, Missouri, Oklahoma, Louisiana and northeastern Texas.

22. *Acris gryllus crepitans* Baird. Western Cricket Frog.

   Fort Smith (Shumard), Paragould (Hurter).


   Greenway (Meek).


   Greenway (Meek).


   Hot Springs (Combs and Hurter). All of the Arkansas Hylas of this type (*versicolor*) that we have examined are referable to this sub-species. All of these were collected in Garland County in the central part of the State. The typical sub-species probably occurs throughout eastern and northern Arkansas.

Family **Bufonidae**.


   Fort Smith (Shumard), Hot Springs (Hurter and Combs), Little Rock (Hurter), Clarksville and Greenway (Meek).
Family Pelobatidae.


Class REPTILIA.
Subclass Chelonia.
Order TESTUDINATA.
Family Chelydridae.

Hot Springs (Combs), Paragould (Hurter), Pine Bluff (Hurter).

Little Rock (Hurter), Greenway (Arkansas University Museum), Fort Smith (Pierson).

Family Cinosternidae.

Texarkana (Hurter).

31. Sternothoerus odoratus Lat. Musk Turtle or Stink Pot.
This turtle occurs in southern Missouri, Oklahoma and northeastern Texas.

32. Sternothoerus tristycha Agass.
A specimen of this species from Sevier County, Arkansas, is in the Baylor University Museum. It is indistinguishable from central Texas examples. Ditmars* gives the range of this species as "the southeastern portion of the United States—Florida to Texas," but Hurter has examples from as far north as Ozark County, Missouri.

Paragould (Hurter).

* The Reptile Book. N. Y., 1908.
34. **Chrysemys dorsalis** Agass.  
Paragould (Hurter).

35. **Chrysemys troosti** Holbrook. Troost's Turtle.  
Greenway (Meek).

36. **Chrysemys texana** Baur.  
The range of this species extends from southwestern Missouri (Jasper and Newton Counties) south through western Arkansas and eastern Oklahoma to the Gulf of Mexico and the Rio Grande River. West in Texas to the Pecos. The specimens recorded from Hot Springs under the name of *Chrysemys concinna* are probably referable to this species. The material on which this record was based consisted of several very young examples, too immature for very satisfactory determination. Dr. Baur considered *C. texana* the western representative of *C. concinna*, from which, according to his diagnosis, it differed in many important characters.

37. **Graptemys pseudo-geographica** LeSeur.  
Pine Bluff (Hurter).

38. **Graptemys geographica** LeSeur. Geographic Turtle.  
We have examined specimens of this species from a number of localities in Missouri and Texas. It also occurs in the rivers of eastern Oklahoma.

39. **Terrapene triunguis** Agass. Three-toed Box Turtle.  
Hot Springs (Combs and Hurter).

40. **Terrapene ornata** Agass. Painted Box Turtle.  
Near Magnolia, Columbia County, Arkansas. (Carapace in Baylor University Museum).

**Family Trionychidae.**

41. **Amyda mutica** LeSeur. Leather Turtle.  
Fort Smith (Pierson), Pine Bluff and Little Rock (Hurter).
Subclass **Squamata.**

Order **LACERTILIA.**

Family **Iguanidae.**

42. *Anolis carolinensis* Cuvier. Chameleon Lizard or Green Lizard.
    Hot Springs (Combs and Hurter).

    Fort Smith (Whipple and Pierson), Fayetteville (Meek), Eureka Springs (Hurter), Little Rock (Fordince).

44. *Sceloporus undulatus* Lat. Fence Lizard.
    Little Rock and Paragould (Hurter), Greenway (Meek), Fort Smith (Pierson).

    Monilton (F. C. Test, U. S. Nat. Mus. Coll.) This is a common species at Hot Springs, where Combs and Hurter obtained large series. Combs collected examples of this lizard among rocks as well as on trees and fences.

    Fort Smith (Shumard).

Family **Anguidae.**

47. *Ophisaurus ventralis* Linn. Glass or Joint Snake.
    Fort Smith (Pierson, Eustis, and Shumard).

Family **Teiidae.**

    Hot Springs (Combs and Hurter).
    Swifts from this locality are typical *gularis* and are fully as large as examples from west Texas and New Mexico.
    Fort Smith (Whipple and Pierson), Fayetteville (Meek), Pine Bluff (Hurter).

**Family Scincidae.**

    Hot Springs (Combs and Hurter), Altus, Little Rock and Paragould (Hurter).

    Fort Smith (Shumard and Pierson), Greenway (Meek), Little Rock (Hurter), Hot Springs (Combs).

    The specimens of this species from the Arkansas River (Woodhouse) in the National Museum Collection, may not have been collected in the State of Arkansas, but as the animal is without a doubt found throughout the entire Ozark region, we feel safe in listing it here. In the adjoining States, *P. anthracinus* has been collected in the following localities:
    Missouri: Laclede County (Clark), Pevely, Jefferson County (Hurter).
    Oklahoma: Fort Towson (Shumard).
    Texas: Brazos River (Shumard).

**Order Ophidia.**

**Family Colubridae.**

    Paragould (Hurter).

    Hot Springs (Combs), Texarkana (Hurter), Fort Smith (Pierson). *T. s. pleuralis* (Cope).

    Greenway (Meek).


58. **Tropidonotus cyclopium** D. & B. Cyclop Snake. Paragould (Hurter).

59. **Tropidonotus leberis** Linn. Brown Queen Snake. Hot Springs (Combs and Hurter).

60. **Thamnophis proximus** Say. Ribbon Snake. Hot Springs (Combs), Greenway (Meek), Little Rock (Museum of the Leland Stanford Junior University).

61. **Thamnophis sirtalis** Linn. Common Garter Snake. Missouri, Louisiana, Oklahoma, northern Texas, but no definite records from Arkansas.


63. **Thamnophis eques** Reuss. Hot Springs (Combs).

64. **Storeria dekayi** Holbrook. DeKay's Brown Snake. Hot Springs (Combs and Hurter), Little Rock (Hurter).

65. **Tropidoclonium lineatum** Holbrook. Lined Snake. Missouri, Kansas (Fort Scott), Oklahoma, Texas.

66. **Haldea striatula** Linn. Brown Snake. Hot Springs (Combs), Texarkana (Hurter), Fort Smith (Pierson).

67. **Coluber obsoletus** Say. Black Snake. Eureka Springs (Hurter), Fort Smith (Pierson).
68. **Coluber obsoletus confinis** B. & G. Red-headed Black Snake.
   Fort Smith (Whipple). Type specimen of *C. loctus* B. & G. Brown considers this the same as *C. spiloides* B. & G., but we do not agree with him.

69. **Coluber guttatus** Linn. Spotted Snake.
   Greenway (Meek).

70. **Coluber emoryi** B. & G. Emory’s Snake.
   A specimen of this species in the National Museum Collection is labeled “Arkansas.” As the range of this snake includes Missouri, Kansas, Oklahoma and northern Texas, it may prove to be of common occurrence in the western half of Arkansas.

71. **Pityophis sayi** Schlegel. Bull Snake.
   Strecker has a poorly preserved example of this species, which was collected near Mena, Polk County.

72. **Zamenis flagellum** Shaw. Coach-whip Snake.
   Fort Smith (Pierson).

73. **Zamenis constrictor** Linn. Blue Racer.
   Hot Springs (Combs), Little Rock (Hurter), Greenway (Meek), Fort Smith (Pierson).

74. **Cyclophis aestivus** Linn. Keeled Green Snake.
   Hot Springs (Combs), Little Rock (Hurter), Greenway (Meek), Fort Smith (Pierson).

75. **Liopeletis vernalis** Harlan. Grass Snake.
   Arkadelphia (Meek).

76. **Diadophis punctatus** Linn. Ring-necked Snake.
   Greenway (Meek).

77. **Diadophis regalis** B. & G. Regal Ring-necked Snake.
   Hot Springs (Combs and Hurter), Eureka Springs (Hurter). These are examples of the color variety *arnyi* (Kenn).
78. **Lampropeltis doliatus** Linn. Scarlet King Snake.
   Hot Springs (Combs and Hurter), Fort Smith (Pierson). The variety *gentilis* B. & G. occurs in western Louisiana, Texas, Oklahoma, and, in all probability, Arkansas.

79. **Lampropeltis getulus holbrooki** Stejn. Holbrook’s King Snake.
   Hot Springs (Combs and Hurter), Fayetteville (Meek), Pine Bluff (Hurter).

80. **Lampropeltis calligaster** Say. Evans’s King Snake.
   Greenway (Meek).

81. **Carphophis vermis** Cope. Western Ground Snake.
   Little Rock (Hurter), Fort Smith (Pierson).

82. **Farancia abacura** Holbrook. Hoop Snake.
   Greenway (Meek).

83. **Virginia elegans** Kenn. Virginia’s Snake.
   Missouri, Louisiana, northern Texas.

84. **Heterodon platyrhinus** Lat. Spread Head or Blowing Adder.
   Greenway (Meek), Fort Smith (Pierson), Hot Springs (Combs), Altus (Hurter).

85. **Tantilla gracilis** B. & G. Graceful Tantilla.
   Hot Springs (Combs and Hurter), Little Rock (Hurter), Fort Smith (Pierson).

86. **Elaps fulvius** Linn. Coral or Harlequin Snake.
   A specimen from “Arkansas” (no definite locality) is in the National Museum Collection. Students of Baylor University from southwestern Arkansas have repeatedly identified *Elaps* from Texas as the same species of “red, yellow, and black snake” that occurs in their own part of the country.
Family Viperidae.

87. Ancistrodon contortrix Linn. Copperhead.
    Hot Springs (Combs and Hurter), Greenway (Meek),
    Fort Smith (Pierson).

88. Ancistrodon piscivorus Lacepede. Cotton-mouth
    or Water Moccasin.
    Hopedale (Hay), Fort Smith (Shumard and Pierson).
    Hot Springs (Combs), Paragould (Hurter).

89. Sistrurus miliarius Linn. Ground Rattlesnake.
    Sans Bois Creek, Ark. (Jeffers. U. S. Nat. Mus. Coll.)

90. Crotalus horridus Linn. Timber Rattle Snake.
    Hot Springs (Combs), Paragould (Hurter), Donaldson
    (Meek). A specimen of the eastern diamond rattlesnake
    (Crotalus adamenteus Beau., in the National Museum
    Collection, is labeled "Arkansas," but probably
    through error. Crotalus horridus is the prevailing form
    of large rattlesnake throughout Missouri, Arkansas,
    eastern Oklahoma, and northeastern Texas.

Issued May 14, 1909.