

Reptiles of the Wichita Mountains Wildlife Refuge, Comanche County, Oklahoma¹

ROBERT G. WEBB and A. I. ORTENBURGER,
University of Oklahoma, Norman

Since Ortenburger's list of amphibians and reptiles from the Wichita Mountains appeared (12), additional collections by various workers have increased the number of known species of reptiles from the region. It seems advisable to assemble the existing records of the reptilian fauna so that a recent summary will be available.

This list includes all the reptiles known from Comanche County. Most of the records however, are from the Wichita Mountains Wildlife Refuge and reflect more intensive collecting in this mountainous area than in the adjacent lower parts of the county. A few species reported from the lowlands have not as yet been collected in the mountains. There are no reptiles confined to the Wichita Mountains. Notes on the taxonomy and habits of certain species are included when pertinent.

Localities are given for those species that have not been taken in the Refuge. All specimens are deposited in the University of Oklahoma Museum of Zoology (UOMZ) (Now the University of Oklahoma Museum, Division of Zoology). Mr. Frank B. McMurray, former biologist at the Refuge is responsible for many of the records and has donated a large series of specimens to the University of Oklahoma.

The Wichita Mountains are located mostly in Comanche County but extend westward through Kiowa County to eastern Greer County. The Refuge, comprising 61,480 acres, is located in the northwestern part of Comanche County about 25 miles north of Fort Sill, and occupies a dissected plateau at an elevation of approximately 1600 feet. It is in a rugged, mountainous area largely composed of granite and gabbro; the slopes and hillsides are in many places covered with large boulders. There are many man-made lakes and several permanent creeks with cool, clear water. Forests of oak, elm, ash, and walnut border the streams and occur in protected valleys. Grassland associations comprise the lowlands of Comanche County and are transitional from the tall-grass prairies of the east to the short-grass plains of the west. The climate is hot and dry in the summer and usually free from extreme cold and snow in the winter. The physical, climatic, and biotic conditions of the Wichita Mountains have been treated in some detail by Blair and Hubbell (1), and have also been commented upon by Sturgis (22).

Actual specimens cannot be found to substantiate the reports from Comanche County of *Trionyx muticus* Le Sueur, *Eumeces anthracinus* Baird, or *Natrix fasciata confluens* Blanchard. The latest edition of the check list (14) has been used as a guide; following Schmidt we are omitting parentheses enclosing author's names.

SPECIES LIST

Ohelydra serpentina serpentina Linnaeus, Common snapping turtle.

Kinosternon flavescens flavescens Agassiz, Yellow mud turtle.

Two specimens, UOMZ 19990-91, from 6 miles southeast Lawton. There is also a record from Lawton (Smith and Leonard) (18).

Terrapene ornata ornata Agassiz, Ornate box turtle.

Graptemys pseudogeographica ouachitensis Cagle, Ouachita sawback turtle.

Five specimens (Am. Museum Nat. Hist. 65522-26) from Medicine Creek near Fort Sill, discussed by Carr (6, 7), have been relegated to this subspecies by Cagle (5).

Pseudemys scripta elegans Wied, Red-eared turtle.

Cagle (4) reported the occurrence of two separate postocular red spots in individuals from northwestern Louisiana and central Texas; this condition is prevalent in specimens collected near Lawton.

Of a total of 22 specimens, 14 individuals have a large single postocular blotch on each side of the head; the blotch is entire posteriorly (not continuous with the lateral stripe) and enters the orbit; it is somewhat constricted anteriorly. In one specimen, UOMZ 23018, the anterior constriction is very pronounced and near the point of separation. The blotch in two specimens, UOMZ 12987 and 23001, is continuous with the lateral stripe posteriorly. On two specimens, UOMZ 23006-07, the postocular blotch is separate on one side of the head but continuous posteriorly with the lateral stripe on the other side of the head. Four individuals, UOMZ 22996, 23008, 23009, and 23013, have two separate postocular blotches on either side of the head, the smaller one anterior. The two blotches are barely separated in 22996; a thin vertical light stripe separates the two blotches in 23008.

Trionyx ferox emoryi Agassiz, Emory's soft-shelled turtle.

Holbrookia maculata maculata Girard, Northern earless lizard.

Ortenburger (11) reported *Holbrookia m. lacerata* from Oklahoma based on one specimen from Comanche County; the specimen is now in the U. S. Nat. Museum, #44981. The single specimen available, UOMZ 26671, has a dorsal pattern of large well-defined, sharp-edged brown spots and lacks the sprinkling of white dots, thus approaching the dorsal coloration ascribable to *H. m. lacerata* (16). However, there are no black spots under the tail as is characteristic of *lacerata*. Of the 189 specimens of *Holbrookia maculata* examined from Oklahoma, none have any semblance of black subcaudal spots.

Crotaphytus collaris collaris Say, Eastern collared lizard.

Home range and/or territoriality tendencies have been noticed on different occasions as individuals seemed to have specific retreats and basking sites.

Sceloporus undulatus consobrinus Baird and Girard, Southern prairie lizard.

Evidence resulting from a study of a series of *Sceloporus undulatus* from Comanche County is perhaps indicative of intergradation between the two subspecies, *S. u. garmani* and *S. u. consobrinus*.

Males have definite blue gular and belly patches and are thus not referable to *S. u. garmani*. Smith (15) gives a femoral pore count average for *S. u. consobrinus* of 16.2 with extremes of 11-21 based on 231 counts in which 88.7 percent were 15 or more. This is significant from his comparable findings for *S. u. garmani* which had a femoral pore count average of 12.9 with extremes of 10-16 based on 163 counts in which 6.7 percent were 15 or more. The available series of lizards

shows a femoral pore count average of 13.8 with extremes of 10-18 based on 197 counts in which 18.3 per cent were 15 or more.

It is realized that a comparison of a restricted geographic sample (Comanche County) with the material utilized by Smith, which included specimens scattered throughout the known geographic range of the sub-species, may result in erroneous conclusions.

Phrynosoma cornutum Harlan, Texas horned lizard.

Lygosoma laterale Say, Little brown skink.

Eumeces fasciatus Linnaeus, Common five-lined skink.

Only one specimen available, UOMZ 1881, from 9 miles southeast Cache.

Eumeces obsoletus Baird and Girard, Great Plains skink.

Eumeces septentrionalis obtusirostris Bocourt, Southern prairie skink.

Cnemidophorus sacki gularis Baird and Girard, Blue-bellied racerunner.

Cnemidophorus sexlineatus Linnaeus, Six-lined racerunner.

Ophisaurus attenuatus attenuatus Baird, Glass-snake lizard (9).

Remarks from Ortenburger's field notebook for June 10, 1928 state that "when I tried to step on it, it ran into water, I was able to step on it as it lay on the bottom. The water at this place was one foot deep." This specimen was taken from West Cache Creek on the east side of Elk Mountain.

Leptotyphlops dulcis dulcis Baird and Girard, Texas blind snake.

Leptotyphlops dulcis dissecta Cope, New Mexico blind snake.

Klauber (8) reduced the two blind snakes in Oklahoma to sub-species of *Leptotyphlops dulcis*. He regarded Comanche County as a region of intergradation, but discusses the possibility of hybridization.

Two specimens, UOMZ 26613 and 26879, not examined by Klauber, have dorsal scale counts of 210 and 223 respectively (*dulcis*); the count of 223 is high for *dulcis* in this region, and low for *dissecta*. The anterior supralabial is entire on both sides of the head in 26613 (*dulcis*), but vertically divided on both sides of the head in 26879 (*dissecta*). Neither specimen has a divided occipital (*dissecta*), but both have a widened fifth dorsal scale (*dissecta*).

Smith and Taylor (19) regard the blind snakes in question as distinct species.

Diadophis punctatus arnyi Kennicott, Prairie ring-necked snake.

All sixteen specimens available from Comanche County have 15 dorsal scale rows at mid-body. This emphasizes the findings of Blanchard (3), who reported a preponderance of 15 scale rows at mid-body in examples from western Oklahoma in contrast to the normal count of 17 scale rows in specimens from eastern Oklahoma.

Heterodon platyrhinos Latreille, Eastern hog-nosed snake.

Heterodon nasicus nasicus Baird and Girard, Western hog-nosed snake.

Ophedryx aestivus Linnaeus, Rough green snake.

Coluber constrictor flaviventris Say, Blue racer.

Masticophis flagellum testaceus Say, Western coachwhip.

Forty-seven specimens available from the county are a uniform light tan throughout their length, and are considered to be *testaceus*. One individual, UOMZ 1748, (no exact locality) is dark brown to black

anteriorly, light brown posteriorly, and thus resembles *Masticophis f. flagellum*; this specimen probably came from the eastern part of Comanche County as the subspecies *flagellum* occurs in Stephens County directly to the east. The specimens here called *flagellum* are more probably representatives of an extensive intergrading population which occurs roughly along the 97th meridian in Oklahoma.

Elaphe guttata emoryi Baird and Girard, Emory's rat snake.

Elaphe obsoleta obsoleta Say, Pilot black snake.

Arizona elegans blanchardi Klauber, Kansas glossy snake.

Pituophis catenifer sayi Schlegel, Bull snake.

Rhinocheilus lecontei tessellatus Garman, Eastern long-nosed snake.

Two specimens, UOMZ 12595 and 12714, from Sterling and 6 miles south, 1 mile east of Sterling.

Lampropeltis calligaster calligaster Harlan, Blotched king snake.

Lampropeltis getulus holbrooki Stejneger, Speckled king snake.

Lampropeltis getulus splendida Baird and Girard, Sonoran king snake.

Blanchard (2) first reported this subspecies from the State, based on a single specimen (U. S. Nat. Museum 1697) collected between Cache Creek and Red River. A king snake, UOMZ 26893, from the Refuge is tentatively regarded as *L. g. splendida*. It is a female measuring approximately 520 mm. in body length and 70 mm. tail length. The dorsal scale rows number 21-23-21-19. The black dorsal blotches are spotted for only a short distance back of the head. The crossbands are not speckled but solid yellow and average about one scale in width. There is a distinct alternating series of smaller black blotches on the sides. The head is black and yellow-speckled; the venter is evenly checked with black and yellow. The specimen agrees with the description of *splendida* (2) in having 23 scale rows but the dorsal pattern of solid yellow bands and evenly-checked black and yellow venter does not conform to the description of typical *splendida* in which the dorsal bands are speckled and the belly is mostly black.

This specimen may represent an extreme variant of *L. g. holbrooki*, since there are 23 scale rows occasionally in this subspecies. Some large specimens from western Oklahoma have fairly well-defined, speckled, dorsal crossbands, with a venter that is mostly black, but all have 21 scale rows. Stejneger (20) mentions western examples of *holbrooki* from Arkansas and Indian Territory that approach the color pattern of *splendida*, and Smith (17) comments on specimens of *holbrooki* from southwestern Kansas that approach the color pattern of *splendida*.

Lampropeltis triangulum gentilis Baird and Girard, Western milk snake.

Sonora episcopa episcopa Kennicott, Great Plains ground snake.

This species usually has a loreal, but its occasional absence makes it a rather weak key character (21). Twenty-one specimens had a loreal on both sides of the head. In two specimens, UOMZ 26635 and 25021, the loreal was absent on both sides of the head, and in UOMZ 26849 it was lacking on the right side only. All specimens were a uniform light brown above except one individual, UOMZ 26469, which had dark crossbands on the body.

Natrix erythrogaster transversa Hallowell, Blotched water snake.

Natrix grahami Baird and Girard, Graham's water snake.

Natrix rhombifera rhombifera Hallowell, Diamond-backed water snake.

Storeria dekayi texana Trapido, Texas brown snake.

Thamnophis marcianus marcianus Baird and Girard, Marcy's garter snake.

Thamnophis marcianus nigrolateris Brown, Western checkered garter snake.

Intergradation between *T. m. marcianus* and *T. m. nigrolateris* occurs in southwestern Oklahoma. Mittleman (10) in his erection of the two subspecies, examined six specimens from Oklahoma and allocated five as *marcianus* (four from Comanche County) and one as *nigrolateris*, from the southwestern and northwestern parts of the State respectively. A study of 31 specimens from Oklahoma reveals that the bulk of the *Thamnophis marcianus* population inhabiting Oklahoma is *T. m. nigrolateris*, with the influence of *T. m. marcianus* most prominent in southwestern Oklahoma. Seven individuals from Comanche County, none examined by Mittleman, may be separated into four *nigrolateris* (UOMZ 27451, 8268, 26633, and 8369 with respective ventral counts of 162, 158, 158 and 159), and three *marcianus* (UOMZ 22904, 26841, and 13162 with respective ventral counts of 152, 153 and 154). Subspecific differentiation is based on ventral counts alone (155 or less, *marcianus*; 156 or more, *nigrolateris*).

Thamnophis sauritus proximus Say, Western ribbon snake.

Tropidoclonion lineatum Hallowell, Lined snake.

One specimen from the county, UOMZ 1520, with no locality data.

Tantilla gracilis gracilis Baird and Girard, Slender flat-headed snake.

Tantilla nigriceps fumiceps Cope, Texas black-headed snake.

Hypsiglena torquata texana Stejneger, Texas night snake.

Ancistrodon contortrix laticinctus Gloyd and Conant, Broad-banded copper-head.

Sistrurus catenatus tergeminus Say, Western massasauga.

Crotalus atrox Baird and Girard, Western diamond rattlesnake.

Crotalus viridis viridis Rafinesque, Prairie rattlesnake.

LITERATURE CITED

1. BLAIR, W. F., AND T. H. HUBBELL. 1938. The biotic districts of Oklahoma. *Am. Midland Naturalist* 20:425-454.
2. BLANCHARD, F. N. 1921. A revision of the king snakes: genus *Lampropeltis*. U. S. Nat. Museum Bull. No. 114:iii-260
3. ————. 1942. The ring-neck snakes, genus *Diadophis*. *Bull. Chicago Acad. Sci.* 7(1):5-144.
4. CAGLE, F. R. 1950. The life history of the slider turtle, *Pseudemys scripta troostii* (Holbrook). *Ecol. Monographs* 20:31-54.
5. ————. 1953. Two new subspecies of *Graptemys pseudogeographica*. *Occas. Papers Museum Zool., Univ. Mich.* No. 546:1-17.
6. CARR, A. F. 1949. The identity of *Malacoclemys kohnii* Baur. *Herp.* 5:9-10.
7. ————. 1952. *Handbook of turtles*. Ithaca: Comstock Publ. Assoc., Cornell Univ. Press.

8. KLAUBER, L. M. 1940. The worm snakes of the genus *Leptotyphlops* in the United States and northern Mexico. Trans. San Diego Soc. Natural Hist. 9(18):87-162.
9. McCONKEY, E. H. 1954. A systematic study of the North American lizards of the genus *Ophisaurus*. Am. Midland Naturalist 51:133-171.
10. MITTLEMAN, M. B. 1949. Geographic variation in Marcy's garter snake, *Thamnophis marcianus* (Baird and Girard). Bull. Chicago Acad. Sci. 8(10):235-249.
11. ORTENBURGER, A. I. 1926. A report on the amphibians and reptiles of Oklahoma. Proc. Oklahoma Acad. Sci. 6:89-100.
12. ————. 1926. Reptiles and amphibians collected in the Wichita Mountains, Comanche County, Oklahoma. Copeia 155:137-138.
13. ————, AND B. FREEMAN. 1930. Notes on some reptiles and amphibians from western Oklahoma. Publ. Univ. Oklahoma Biol. Surv. 2(4):175-188.
14. SCHMIDT, KARL P. 1953. A check list of North American amphibians and reptiles. Chicago: Univ. Chicago Press.
15. SMITH, H. M. 1938. Remarks on the status of the subspecies of *Sceloporus undulatus*, with descriptions of new species and subspecies of the *undulatus* group. Occas. Papers Museum Zool., Univ. Mich. No. 387:1-17.
16. ————. 1946. Handbook of lizards. Ithaca: Comstock Publ. Co.
17. ————. 1950. Handbook of amphibians and reptiles of Kansas. Univ. Kansas Museum Natural Hist., Misc. Publ. No. 2:1-336.
18. ————, AND A. B. LEONARD. 1934. Distributional records of reptiles and amphibians in Oklahoma. Am. Midland Naturalist 15:190-196.
19. ————, AND E. H. TAYLOR. 1945. An annotated checklist and key to the snakes of Mexico. U. S. Nat. Museum Bull. No. 187:i-234.
20. STEJNEGER, L. 1902. The reptiles of the Huachuca Mountains, Arizona. Proc. U. S. Nat. Museum 25(1282):149-158.
21. STICKEL, W. H. 1938. The snakes of the genus *Sonora* in the United States and Lower California. Copeia 1938. 4:182-190.
22. STURGIS, R. S. 1939. The Wichita Mountains Wildlife Refuge. Chicago Naturalist 2:9-20.