New County Distribution Records of Amphibians and Reptiles from Southwestern Kansas

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Reichard et al. (1995) identified southwestern Kansas, USA, as an area where information is limited about the distribution of reptiles and amphibians. We surveyed six counties (Haskell, Grant, Gray, Seward, Stanton, and Stevens counties) in southwestern Kansas from April through August 1996. In addition, a notable frog record was obtained from Rush County.

Amphibians and reptiles were considered as new county distribution records if they were not reported in Collins (1993), or in a subsequent issue of the *Kansas Herpetological Society Newsletter*. All specimens were collected by the authors, deposited in the herpetological collections of the Sternberg Museum of Natural History (formerly Museum of the High Plains), and verified upon accession by Eugene D. Fleharty. New county distribution records are as follows:

ANURA

Rana catesbeiana (Bullfrog). GRANT CO: Ulysses Golf Course. (MHP 6715). 3 May 1996. County record; captured in a water hazard. RUSH CO: 10.5 km S Rush Center (MHP 6716). 26 July 1996. County record; found dead on US Rt. 183. STEVENS CO: 8.9 km N and 4 km W Feterita (MHP 6717). 29 June 1996. County record; captured from a windmill-fed pond.

TESTUDINES

Chelydra serpentina (Common Snapping Turtle). GRANT CO: 0.8 km N and 3.6 km E Ulysses. (MHP 6718). 4 May 1996. County record; captured in water pooled under a railroad bridge.

Kinosternon flavescens (Yellow Mud Turtle). STEVENS CO: 1.6 km N and 4 km E Cave. (MHP 6724). 30 June 1996. County record; found dead on US Highway 56.

Terrapene ornata (Ornate Box Turtle). GRANT CO: 5.6 km N & 5.6 km E Ulysses. (MHP 6719). 4 May 1996. County record; captured at an abandoned gravel pit.

Trachemys scripta (Slider). GRANT CO: 0.8 km N and 3.6 km E Ulysses. (MHP 6720). 4 May 1996. County record; captured from water pooled under a railroad bridge. GRAY CO: 1.2 km S Cimarron. (MHP 6721). 16 June 1994. County record; shot while sunbathing on a log, which was floating in a gravel pit.

LACERTILIA

Sceloporus undulatus (Prairie Lizard). STEVENS CO: Cimarron National Grasslands, 9.7 km N and 3.2 km W Feterita. (MHP 6722).

SERPENTES

Arizona elegans (Eastern Glossy Snake). STEVENS CO: Cimarron National Grasslands, 9.7 km N and 3.2 km W Feterita. (MHP 6723). 29 June 1996. County record; captured while crawling through vegetation

Five of the nine specimens reported herein were captured from artificial pools of water. These records may represent animals overlooked by previous surveys, but it is possible they represent the first evidence of a more interesting phenomenon—the invasion of artificial water sources by wildlife.

The Ogallala aquifer underlies the western one-third of Kansas. Southwestern Kansas is the most heavily irrigated area of the state (Socolofsky and Self 1988). Jenkins (1983) reported that irrigation wells pump ca. 6,615 hm² (5,000,000 acre/ft) per year to irrigate 1,214,100 hm² (3,000,000 acres) of agricultural land. This high rate of water removal from the aquifer combined with a low recharge rate from precipitation (typically 40–56 cm/yr) has led to a declining water table (Socolofsky and Self 1988). One effect of lowering the water table is a reduced amount of surface water in the natural springs, rivers, and streams (Kromm and White 1992).

In contrast, numerous artificial water sources have been created, either as a result of irrigation for agriculture, or for recreational or municipal use. These new water resources include farm ponds, gravel pits, stock tanks, municipal reservoirs, and state fishing and recreation lakes. The net effect of this change with regard to the amount of surface water in southwestern Kansas is presently unknown. However, the nature of the surface water has undoubtedly changed since the introduction of large-scale irrigation in the region. This change in the nature of surface water in a relatively short time-period may impact the distribution of organisms associated with water. Some of the new records reported herein could be the result of a distributional shift of these species in response to a change in the availability of appropriate aquatic habitats.

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LITERATURE CITED

- Collins, J. T. 1993. Amphibians and Reptiles in Kansas. Third Edition. Univ. Press of Kansas, Lawrence. xx + 397 pp.
- Jenkins, E. D. 1983. Ground-water management in western Kansas. J. Hydraulic Engineer. 109:1314–1322.
- Kromm, D. E., and S. E. White (Eds.). 1992. Ground Water Exploitation in the High Plains. Univ. Press Kansas, Lawrence. 240 pp
- REICHARD, K., T. DUNCAN, H. M. SMITH, AND D. CHISZAR. 1995. Herpetological microbiogeography of Kansas. I: Quantitative summary. Kansas Herpetol. Soc. Newsl. 102:6–10.
- Socolofsky, H. E., and H. Self. 1988. Historical Atlas of Kansas. Univ. Oklahoma Press, Norman. 182 pp.