

**FALCAUSTRA CATESBEIANAE**  
**WALTON, 1929 (NEMATODA:**  
**KATHLANIIDAE) IN THE**  
**SMALLMOUTH SALAMANDER,**  
**AMBYSTOMA TEXANUM**  
**(MATTHES, 1855) (CAUDATA:**  
**AMBYSTOMATIDAE) FROM ILLINOIS**

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ABSTRACT

*Falcaustra catesbeianae* was detected in 1 of 5 *Ambystoma texanum* examined from southern Illinois. This constitutes the third report of this nematode in a caudate amphibian and the first in *Ambystoma texanum*.

INTRODUCTION

The geographic range of the smallmouth salamander, *Ambystoma texanum* (Matthes, 1855) extends from extreme southeastern Michigan and Pelee Island Ontario, west to southern Iowa and south to the Gulf coast of Texas, Louisiana, and Mississippi (Anderson, 1967). While a few surveys on the endoparasites of *A. texanum* have been conducted, reports on their nematode fauna are indeed scarce. Perhaps this may be due in part to their nocturnal and fossorial habits which limits the collection of large numbers of specimens to breeding periods in late February throughout March (Price and St. John, 1980). Only two nematodes, namely, *Cosmocercoides dukae* (Holl, 1828) and *Rhabdias* sp. have thus far been reported in *A.*

*texanum*. Harwood (1932) reported *C. dukae* in 1 of 4 *A. microstomum* (= *A. texanum*) from southern Texas. In an unpublished thesis, Landewe (1963) recorded *C. dukae* and *Rhabdias* sp. in 61 *A. texanum* examined from southern Illinois. Price and St. John (1980) examined 57 *A. texanum* from Williamson County, Illinois and reported 5% infected with *C. dukae* and 72 and 77% infected with larval and adult *Rhabdias* sp., respectively. This report is based on a collection of nematodes heretofore not reported from *A. texanum*.

## MATERIALS AND METHODS

Five *Ambystoma texanum* collected in Jackson County, Illinois during March 1987 were examined for helminths. Nematodes detected in the large intestine of one smallmouth salamander were fixed in hot glycerin-alcohol (nine parts 70% ethanol and one part glycerin) and cleared for study in glycerin. Representative specimens have been deposited in the Helminthological Collection of the Zoological Museum, Southern Illinois University at Carbondale, No. 120A.0.

## RESULTS AND DISCUSSION

*Falcaustra catesbeianae* Walton, 1929 has been recorded in several anuran amphibians from North America. Walton (1929) described *F. catesbeianae* from *Rana catesbeiana* and listed the geographic range of this nematode as Illinois, Oklahoma and Louisiana. In a preliminary study of the parasitic fauna of Oklahoma anurans, Trowbridge and Hefley (1933) found 6 of 21 *R. catesbeiana* and 1 of 38 *R. sphenoccephala* infected with *F. catesbeianae*. Later, Walton (1938) listed *Gastrophyrne carolinensis*, *Hyla gratiosa*, *H. cinerea*, *Limnaeodius ocularis*, *Rana grylio*, *R. sphenoccephala* and *Siren lacertina* as hosts of *F. catesbeianae* from Florida. Reiber et al. (1940) recovered about two dozen specimens of *F. catesbeianae* from *R. catesbeiana* from Athens, Georgia. Kunts and Self (1943) reported 139 of 226 *R. catesbeiana* from Comanche County, Oklahoma to be infected with *F. catesbeianae*. Ashton and Rabalais (1978) found 5 (20.8%) of 24 *R. catesbeiana* from northwestern Ohio infected with *F. catesbeianae*. Recently, Baker (1986) reported *F. catesbeianae* in *R. catesbeiana* from southern Ontario.

Dyer (1975) found 1 (0.8%) of 119 grotto salamanders, *Typhlotriton spelaeus* Stejneger, 1893 collected from Wet Cave, Shannon County, Missouri infected with *F. catesbeianae*. This plus the above report for *Siren lacertina* are the only two reports of caudate amphibian hosts for *F. catesbeianae* known to me.

Previous studies on the helminths of *A. texanum* in Illinois have failed to detect *F. catesbeianae*. This nematode was neither found by Landewe (1963) who examined 61 *A. texanum* from Jackson, Alexander and Union Counties nor by Price and St. John (1980) who examined 57 *A. texanum* from Williamson County. The finding of *F. catesbeianae* in 1 of 5 *A. texanum* in the present study constitutes a third report of this nematode in a caudate amphibian and the first in *A. texanum*.

## LITERATURE CITED

- Anderson, J.D. 1967. *Ambystoma texanum*. Catalogue of American Amphibians and Reptiles 37.1-37.2.  
 Ashton, A.D. and F.C. Rabalais 1978. Helminth parasites of some anurans of northwestern Ohio. Proc. Helm. Soc. Wash. 45:141-142.

- Baker, M.B. 1986. *Falcaustra* species (Nematoda: Kathlianiidae) parasitic in turtles and frogs in Ontario. *Can. J. Zool.* 64:228-237.
- Dyer, W.C. 1975. Parasitism as an indicator of food sources in a cave-adapted salamander habitat. *Bull. S. Calif. Acad. Sci.* 74:72-75.
- Harwood, P.D. 1932. The helminths parasitic in the Amphibia and Reptilia of Houston, Texas and vicinity. *Proc. U.S. Nat. Mus.* 81: art. 17, 1-71.
- Kuntz, R.E. and J.T. Self. 1943. An ecological study of the metazoan parasites of the Salientia of Comanche County, Oklahoma. *Proc. Oklahoma Acad. Sci.* 24:35-38.
- Landewe, J.E. 1963. Helminth and arthropod parasites of salamanders from southern Illinois. M. Sc. Thesis, Southern Ill. Univ. at Carbondale.
- Price, R.L. and T.S. St. John. 1980. Helminth parasites of the smallmouth salamander *Ambystoma texanum* from Williamson County, Illinois. *Proc. Helm. Soc. Wash.* 47:273-274.
- Reiber, R.J., E.E. Byrd, and M.V. Parker. 1940. Certain new and already known nematodes from Amphibia and Reptilia. *Lloydia* 3:125-144.
- Trowbridge, A.H. and H.M. Hefley. 1933. Preliminary studies on the parasite fauna of Oklahoma anurans. *Proc. Oklahoma Acad. Sci.* 14:16-18.
- Walton, A.C. 1929. Studies on the nematodes of North American frogs. *J. Parasit.* 15:227-240.
- Walton, A.C. 1938. The Nematoda as parasites of Amphibia IV. *Trans. Amer. Microsc. Soc.* 57:38-53.