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Newly Reported Snake Hosts for Two Ochetosomatid Digeneans in Illinois

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ABSTRACT

The oral cavity of single specimens of *Nerodia erythrogaster*, *Nerodia rhombifer* and *Lampropeltis getula* from Jackson County, Illinois were examined for the presence of helminths. *Ochetosoma aniarum* was detected in *Nerodia erythrogaster* and *Nerodia rhombifer* and *Ochetosoma elongatum* in *Lampropeltis getula*. This extends the host spectrum record of ochetosomatid digeneans in this state.

INTRODUCTION

Several species of ochetosomatid digeneans in snakes of Illinois have been reported over the past 28 years. Dyer (1970) reported *Ochetosoma elongatum* (Pratt, 1903) in the lungs of the eastern hognose snake, *Heterodon platirhinos* Laterille, 1801 from Williamson County, *Ochetosoma kansense* (Crow, 1913) in the mouth of the gray rat snake, *Elaphe obsoleta spiloides* (Duméril, Bibron and Duméril, 1854) and in the esophagus of *Lampropeltis* sp. also from Williamson County, and *Ochetosoma ellipticum* (Pratt, 1903) in the mouth of *H. platirhinos* from Jackson County. Dyer and McNair (1974) reported *O. elongatum* in the mouth, esophagus and stomach of *H. platirhinos* and *O. kansense* in the mouth of the common kingsnake, *Lampropeltis getula* (Linnaeus, 1766) from Jackson County. Dyer and Ballard (1989) reported *O. elongatum* in the oral cavity of *H. platirhinos*, *O. kansense* in the oral cavity of *L. getula* and *O. ellipticum* in the oral cavity of the plainbelly water snake, *Nerodia erythrogaster* (Forster, 1771), the diamond-back water snake, *Nerodia rhombifer* (Hallowell, 1852) and the mouth of the racer, *Coluber constrictor* Linnaeus, 1758 from Johnston and Jackson Counties. Later, Dyer and Ballard (1991) reported *Ochetosoma aniarum* (Leidy, 1891) in the oral cavity of the Mississippi green water snake, *Nerodia cyclopion* (Duméril, Bibron and Duméril, 1854) from Union County. The present report adds to our knowledge of ochetosomatid digeneans in snakes of Illinois.

MATERIALS AND METHODS

Single specimens of *Nerodia rhombifer*, *Nerodia erythrogaster* and *Lampropeltis getula* were captured in Jackson County, Illinois during May 1988. The oral cavity of each snake was examined within a few hours of capture for the presence of parasites. Parasites were removed with a cotton swab saturated with tap water and then transferred to a con-

tainer of tap water where egg release was observed. Five digenean specimens were removed from *N. rhombifer*, three from *N. erythrogaster*, and four from *L. getula*. After all or most of the eggs were released from the uterus, each digenean was trasferred to a slide and a crystal of urethane added to the water to induce relaxation. A coverslip was then added and the specimen fixed in AFA (alcohol-formalin-acetic acid), stained with Harris' hematoxylin, dehydrated, cleared in beechwood creosote and mounted in Canada balsam.

RESULTS AND DISCUSSION

The five specimens from *Nerodia rhombifer* and the three specimens from *Nerodia erythrogaster* were identified as *Ochetosoma aniarum* (Leidy, 1891). *O. aniarum* was first described by Leidy (1891) under the name *Distomum aniarum*. Dubois and Mahon (1959) listed *Renifer acetabularis* (Crow, 1913), *Renifer natricis* (MacCallum, 1921), *Renifer texanus* (Harwood, 1932), *Renifer orula* (Talbot, 1934), and *Renifer wardi* (Byrd, 1936) as synonyms of *O. aniarum* and provided a key for the differentiation of the various species of *Ochetosoma*. According to the key given by Dubois and Mahon (1959), *O. aniarum* may be differentiated from all other species of *Ochetosoma* according to the position of the genital pore which is even with the oral sucker, the distribution of the vitelline glands which are divided into two groups of follicles (pre-and postacetabular) and by a ventral sucker which is 1.5 time longer than the oral sucker.

The four specimens from *Lampropeltis getula* were identified as *Ochetosoma elongatum* (Pratt, 1903). *O. elongatum* was first decribed by Pratt (1903) under the name *Renifer elongatus*. Dubois and Mahon (1959) listed *Lechriorchis validus* (Nicoll, 1911), *Lechriorchis inermis* (Lebour, 1913), *Lechriorchis abduscens* (Byrd and Denton, 1938), *Renifer magnus* (Byrd and Denton, 1938), *Neorenifer heterodontis* (Byrd and Denton, 1938), *Neorenifer drymarchon* (Bryd and Denton, 1938), *Renifer grandispinus* (and *Renifer longispinus*, pl. 111, fig. 3 *lapsus calami*) (Caballero, 1938), as synonyms of *O. elongatum*. According to the key proposed by Dubois and Mahon (1959), *O. elongatum* may be differntiated from other known species of *Ochetosoma* by the location of the genital pore which is medio-lateral (found either closer to the mid-line than to the body margin or equidistant between the two), between the level of the attachment of the prepharynx and the bifurcation of the intestine, such that the cirrus pouch is orientated obliquely, and by the distribution of the vitelline glands which are distributed in small groups (6-12 on each side) in an area beginning midway between the gut bifurcation and the acetabulum and ending at the level of the testes or slightly behind.

In a study of the differences in measurements of morphological features between live and fixed specimens of *Ochetosoma*, Dronen and Guidry (1977) presented data suggesting that the absolute dimensions of various body parts are inadequate criteria for differentiating species of *Ochetosoma*. This may be because fixation techniques are not standardized and some specimens have been described from live material and other from fixed material. Identifications in the present report are based on the criteria used by Brooks (1979) in differentiating specimens of *Ochetosoma*, namely: the vitelline configuration, the sucker ratio, the location of the genital pore, the posterior extent of the cirrus sac, and the amount of glandulation inside the cirrus sac.

The present report of *Ochetosoma aniarum* in *Nerodia rhombifer* and *Nerodia erythrogaster* and *Ochetosoma elongatum* in *Lampropeltis getula* adds to our knowledge of the host spectrum of ochetosomatid digeneans in snakes of Illinois. Voucher specimens have been depoited in the United States National Parasite Collection (USNPC), U. S. Department of Agriculture, Beltsville, Maryland and designated as No. 88231 for *O. aniarum* in *N. rhombifera*, No. 88232 for *O. aniarum* in *N. erythrogaster* and No. 88230 for *O. elongatum* in *L. getula*.

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