

OCHETOSOMATID DIGENEANS FROM ILLINOIS SNAKES

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ABSTRACT

Digeneans extracted from the oral cavity of snakes captured in southern Illinois between June 1986 and August 1988 included *Ochetosoma elongatum* from *Heterodon platyrhinos*, *O. kansense* from *Lampropeltis getulus* and *O. ellipticum* from *Nerodia erythrogaster*, *N. rhombifera* and *Coluber constrictor*. *Nerodia erythrogaster*, *N. rhombifera* and *C. constrictor* represent new host records for *O. ellipticum*.

INTRODUCTION

Few reports are available on the Digenea, and in particular the ochetosomatid Digenea, of reptiles in Illinois. Dyer (1970) reported *Ochetosoma elongatum* (Pratt, 1903) in the lungs of the eastern hognose snake, *Heterodon platyrhinos* (Latreille) from Williamson County, *Ochetosoma kansense* (Crow, 1913) in the mouth of the gray rat snake, *Elaphe obsoleta spiloides* (Duméril, Bibron and Duméril) and the esophagus of *Lampropeltis* sp. also from Williamson County, and *Ochetosoma ellipticum* (Pratt, 1903) in the mouth of *H. platyrhinos* from Jackson County. Later, Dyer and McNair (1974) reported *O. elongatum* in the mouth, esophagus and stomach of *H. platyrhinos* and *O. kansense* in the mouth of the common kingsnake, *Lampropeltis getulus* (Linnaeus) from Jackson County. The present report adds to our knowledge on the spectrum of taxa of snakes in Illinois which serve as definitive hosts for ochetosomatid digeneans.

MATERIALS AND METHODS

Snakes were captured in Johnson and Jackson counties, southern Illinois between June 1986 and August 1988. The oral cavity of all snakes was examined

within two hours of capture for the presence of parasites. Digeneans were removed with a cotton swab saturated with tap water, and then transferred to a container of tap water where egg release was observed. After all or most of the eggs were released from the uterus, each digenean was transferred to a slide, and a crystal of urethane added to the water to induce relaxation. A coverslip was then added and the specimens studied alive. Later, the specimens were fixed in AFA (alcohol-formalin-acetic acid), stained with Harris' hematoxylin, dehydrated, cleared in beechwood creosote and mounted in Canada balsam. Voucher specimens have been deposited in the United States National Museum (USNM) Helminthological Collection, U.S. Department of Agriculture, Bethesda, Maryland. All measurements are in millimeters. Numbers in parentheses following the ranges are averages.

RESULTS AND DISCUSSION

Ochetosoma elongatum (Pratt, 1903)

Synonyms: *Renifer elongatus* Pratt, 1903; *Lechriorchis validus* Nicoll, 1911; *Lechriorchis inermis* Lebour, 1913; *Lechriorchis abducens* Byrd and Denton, 1938; *Renifer magnus* Byrd and Denton, 1938; *Neorenifer heterodontis* Byrd and Denton, 1938; *Neorenifer drymarchon* Byrd and Denton, 1938; *Renifer grandispinus* (and *R. longispinus, lapsus calami*) Caballero, 1938.

Observations are based on 20 sexually mature specimens from the mouth of two *Heterodon platyrhinos*. Several minor variations exist between the present material and that originally described (Pratt, 1903). The body length recorded here was 2.80-4.26 (3.62) as compared to 3.00, and the body width was 0.71-1.10 (0.78) as compared to 0.68. Oral sucker measurements ranged from 0.29-0.37 (0.32) by 0.27-0.36 (0.34) as compared to 0.32 by 0.33 and acetabular measurements ranged from 0.43-0.51 (0.47) by 0.41-0.55 (0.48) as compared to 0.40 by 0.36. Pharyngeal measurements ranged from 0.11-0.17 (0.15) by 0.13-0.16 (0.14). The original author listed the pharynx as being 0.06 long (Pratt, 1903).

Testes size was somewhat different, 0.45-0.65 (0.47) long by 0.24-0.31 (0.27) wide as compared to 0.32 long by 0.16 wide. Cirrus sac measurements ranged from 0.62-1.15 (0.91) long by 0.20-0.27 (0.19) wide as compared to 0.70 by 0.16 given originally.

Ovaries ranged from 0.09-0.20 (0.18) by 0.11-0.16 (0.13) contrasted with a length of 0.16 as stated originally. Egg size was reported as 0.035 long by 0.02 wide; ranges of 0.037-0.042 (0.034) by 0.015-0.022 (0.016) were recorded for the eggs in this study.

Ochetosoma elongatum has been reported previously from several snake hosts including *Coluber constrictor*, *Drymarchon corais couperi*, *Heterodon platyrhinos* and *Lampropeltis getulus*. Voucher specimens were deposited in the USNM Helminthological Collection (No. 80440).

Ochetosoma ellipticum (Pratt, 1903)

Synonyms: *Renifer ellipticus* Pratt, 1903; *Ochetosoma formosum* Nicoll, 1911; *Renifer septicus* MacCallum, 1921; *Renifer ophiboli* MacCallum, 1921; *Ochetosoma adenodermis* Pérez Vigueras, 1942.

Observations of *Ochetosoma ellipticum* from Illinois snakes were based on 28 specimens from the mouth of one *Nerodia rhombifera*, two *N. erythrogaster*, and one *Coluber constrictor*. The material from this study was considerably smaller in every respect than the original material described by Pratt (1903). The maximum length given originally was 4.2 mm, while the maximum in the present study was 3.2 mm. The reproductive organs were smaller in the present study than in the published data (Pratt, 1903). The relative position of the testes, ovary and vitellaria leave no doubt that the present material is conspecific with *O. ellipticum*.

Ochetosoma ellipticum has been reported from *Heterodon platyrhinos*, *Lampropeltis getulus holbrooki*, *Xenodon colubrinus*, and *Erythrolamprus aesculapii*.

Nerodia rhombifera, *N. erythrogaster* and *Coluber constrictor* represent new host records for this parasite. Voucher specimens were deposited in the USNM Helminthological Collection (No. 80439).

Ochetosoma kansense (Crow, 1913)

Synonyms: *Renifer kansensis* Crow, 1913; *Neorenifer georgianus* Byrd and Denton, 1938; *Neorenifer grandularis* Byrd and Denton, 1938; *Neorenifer serpentis* Schmidt and Hubbard, 1940; *Neorenifer elaphis* Parker, 1941; *Neorenifer crotali* Self, 1945 and *Neochetosoma crotali* (Self, 1945) Caballero, 1949; *Renifer floridanus* Kegan, 1947.

Observations of *Ochetosoma kansense* were based on 25 specimens from the mouth of two *Lampropeltis getulus*.

The present material agrees with the description of this species as reported by Dubois and Mahon (1959). It has been reported previously from *Agkistrodon contortrix*, *A. piscivorus*, *Diadophis punctatus stictogenys*, *Elaphe obsoleta spiloides*, *Heterodon platyrhinos* and *Lampropeltis getulus*. Voucher specimens were deposited in the USNM Helminthological Collection (No. 80441).

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