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## The Occurrence of *Cotylaspis insignis* Leidy (Aspidogastridae) in Clams and Turtles of Lake Texoma<sup>1,2</sup>

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During the summer of 1953 a study was made of the Aspidogastrid flukes of clams in Lake Texoma. They were taken from thirteen members of the genera *Proptera* and *Anodonta* collected in the vicinity of the University of Oklahoma Biological Station. Eleven hosts were infected with one to ten flukes each and one harbored twenty-six.

These flukes occurred in, or near, the crotch between the upper part of the foot and the gills. Only one specimen was as far away from this site as the labial palps. Specimens were killed and fixed in formalin-alcohol-acetic mixture (F. A. A.) and stained in Mayer's paracarmine. All are *Cotylaspis insignis* Leidy, family *Aspidogastridae*.

*C. insignis* was first described by Leidy (1) from the Unionidae of the Schykill River, New York. His description was elucidated by Stunkard (2) as "Translucent white or pinkish-white, upper lip snout-like, conical; ventral disk crenate at margin; acetabula 29, oblong, quadrate, the outer rows continuous in front and behind forming a circle." The flukes in this study conform to this description, but certain details are added here.

The living animal is approximately 2 millimeters in length and can be seen easily with the aid of a hand lens. Their cornucopia-shaped bodies which rise from the ventral disk can be extended, first in one direction then in another, as if exploring their environment. Locomotion is achieved either by movement of the ventral disk, or by attaching the anterior end of the body to the substrate and looping the body thus pulling the entire animal forward. The total length of the ventral disk in one fixed specimen is 1.2 millimeters and its width is 0.3 millimeter. The nine alveoli (acetabula) in

<sup>1</sup> Work done at the University of Oklahoma Biological Station under the direction of Dr. J. Teague Self.

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the middle row have a width of approximately twice their length while the twenty in the outer rows are more nearly equal in length and width, with an outcurving at the peripheral edge giving the ventral disk a scalloped effect. The marginal organs are near the edge of the disk, between two adjacent alveoli.

The mouth has some hold fast properties but lacks the musculature of a true sucker. The prominent muscular pharynx is nearly spherical in shape with a very narrow lumen. The sac-like intestine extends almost to the posterior end of the worm.

The osmoregulatory ducts make a hairpin loop at the anterior end of the body. An excretory reservoir is located near the posterior end.

The genital pore is median and ventral, anterior to the ventral disk. The single testis (250 by 180 micra in a well fixed specimen) is in the posterior half of the body a little to the right of the median line. The long seminal vesicle loops back and forth and passes anteriorly to the left of the intestine. Between the anterior margin of the ventral disk and the genital pore it turns sharply to the right, makes several more loops and becomes the cirrus sac in which the muscular cirrus organ lies. The ovary (200 by 180 micra) lies anterior to and somewhat to the right of testis. The uterus is long and loops posteriorly from near the ovary to the level of the testis, and then passes forward on the left side of the intestine to the uterine pore. It is small and inconspicuous except where it holds a large (200 by 90 micra) bright yellow egg. Few eggs are found in the uterus at one time. In one specimen observed there were five, but generally there were not that many. Just anterior to the testis, in some specimens, is a mass of material from which two blind sacs extend, one of which is quite large and the other is considerably smaller. This is thought to be the oötype as the vitelline ducts seem to enter it. The vitellaria consists of from 24 to 30 well defined follicles on each side. They lie lateral to the intestine and toward the periphery of the ventral disk.

These flukes conform in many respects to Stunkard's description of *Cotylaspis cokeri* (2) but differ from it in having alveoli on the ventral disk while *C. cokeri* has 32; also the vitellaria are more numerous than in *C. cokeri*.

On June 14, 1954 four *C. insignis* were removed from the intestine of a soft shelled turtle, *Trionyx ferrow amoryi*, taken from Lake Texoma. While *C. cokeri* has been reported from turtles this is believed to be the first report of this species in turtles. It is interesting that it maintains itself both as an ectoparasite in clams and as an endoparasite in turtles.

#### LITERATURE CITED

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