TWO NEW PARASITIC FLATWORMS

BY MARION ELIZABETH LAMONT
Zoological Laboratory, University of Wisconsin

In studying the parasites of Wisconsin fishes two new species have been discovered—a primitive tapeworm and a trematode. These are described in this paper.

**Carophyllaesus O. F. Müller**

*Characteristics of genus*: The representatives of this genus, like other Cestodaria, resemble trematodes in being without proglottids and are like cestodes in lacking an enteron. They are elongated, flattened, and possess a primitive scolex. A caudal appendix is present in larval forms but is lacking in adults. The genital pore is ventral, median, and near the posterior end. The uterus is made up of rosette-shaped coils and opens with the vagina into a genital atrium.

Lühe (1899) classifies the Carophyllidae as the first family under the order Pseudophyllidea. Other authors (Ward and Whipple, 1918, p. 429) put them in the subclass Cestodaria as distinct from the Cestoda.
Carophyllaeus laruei, new species

Type Specimen: Cat. No. 197, Museum of Zoology, University of Michigan; taken from Catostomus commersonii Forster, Lake Mendota, Wisconsin, August 22, 1919; M. E. Lamont, Collector.

Description: The body is oblong-ovate, flattened dorsoventrally, and measures 7 mm. by .8 mm. The anterior end is unarmed, has a poorly developed adhesive organ imperfectly set off as a scolex from the rest of the body. This primitive scolex has four poorly defined suckers with an obscure terminal disk at the anterior end. The body is not divided into proglottids. There is no trace of a digestive system.

The general arrangement of the reproductive system resembles that of other Carophyllaeids; there being no duplication of genitalia, merely a single set of organs. Aside from the poorly developed suckers, the anterior fifth of the body is without special organs. Three-fifths of the body length is occupied by small testes arranged in about two rows along the median line between the lateral vitelline glands. The vitelline glands extend in a single row along each side of the middle of the body to within about a fifth of the length from each end. They are elongated, oval in form and are readily distinguished from the testes, which are irregular and somewhat lobate.

In the posterior fifth of the body are found the cirrus, uterus, and ovary. The vas deferens leading from the testes appears just posterior to the area occupied by the testes. It coils upon itself several times and ends in a well-developed cirrus. The ovary is posterior to the testes; it is a lobate organ having the form of a capital H. The uterus coils between the arms of the ovary, extends nearly to the posterior end of the body, then anteriorly to the genital pore which is immediately posterior to the cirrus.

This species is similar to Carophyllaeus mutabilis Rudolphi. In Carophyllaeus mutabilis, however, the vitelline glands and
Occasional Papers of the Museum of Zoology

testes are intermingled and occupy the same regions while in 
*Carophyllaeus laruei* the testes and vitelline glands occupy separate 
areas—the vitelline glands being immediately lateral to the 
numerous small irregular testes.

One sucker caught in Green Lake, Wisconsin, August 25, 1919, 
contained twenty-four adult *Carophyllaeus laruei*. Two suckers 
captured in Lake Mendota, Wisconsin, were found to be infected 
with this same species of Carophyllaeus.

Larvae of *Carophyllaeus laruei* were found in the peritoneum 
of *Roccus chrysopt* (Rafinesque) in Lake Mendota. These larval 
forms measure from .5 to 1 mm. in length and .2 to .3 mm. in 
width. Carophyllaeus larvae are characterized by a tail-like 
structure projecting from the anterior end at the point where 
the scolex is invaginated.

**Plagiorchis Lühe**

*Characteristics of genus:* The body is elongate oval, and 
covered with minute spines. Pharynx and esophagus are present 
and of approximately equal length, crus reach to posterior end. 
Genital pore is anterior to acetabulum. Cirrus sac curves around 
and reaches posterior margin of acetabulum. Testes are round 
to oval and are separated by uterine branches. No receptaculum 
seminis. Ovary spherical, at inner end of cirrus sac. Vitellaria 
have many closely crowded follicles usually reaching posterior end. 
Eggs numerous. Found in intestine of insectivorous vertebrates, 
chiefly birds. Infection probably through insects.

**Plagiorchis corti,** new species

*Type specimen:* Cat. No. 198, Museum of Zoology, Uni-
versity of Michigan; taken from intestine of *Schilbeodes gyrinus* 
(Mitchill) from Lake Mendota, Wisconsin, September 24, 1919; 
A. S. Pearse, collector.
Description: This distome has a body which is elongated and slightly flattened; length 1 mm., width .3 mm. A short esophagus and pharynx are present. The coeca branch directly from the pharynx and extend to the posterior end of the body.

The genital pore is median and immediately anterior to the ventral sucker. The genital bursa is elongated, slender, and cylindrical, it lies dorsally and extends posterior to the margin of the ventral sucker. The testes are posterior to the ovary, they are oval in form and are situated obliquely.

The ovary is found slightly posterior and to the left of the ventral sucker. It is oval and is about one-half the diameter of a testis. The uterus coils extensively, winding between the testes, to the posterior end of body, then anteriorly to the genital pore. Many eggs are present in the uterus.

The vitelline glands extend from the region of the pharynx to the posterior testis. They are arranged in a line of single follicles lateral to coeca and do not extend across the body.

This species is similar to Plagiorchis notabilis Nicoll, found in the intestine of Anthus obscurus (rock pipit). The genus Plagiorchis has not been reported from fishes. It is found chiefly in birds. Perhaps the life-cycle may alternate between birds and fishes; this remains for further research.

Bibliography


WARD AND WHIPPLE, Fresh-Water Biology, New York (1918), pp. 404, 429.

PLATE I

Fig. 1.—Plagiorchis corti: adult seen from ventral surface as, anterior sucker; at, anterior testis; ci, cirrus; co, coeca; es, esophagus; go, genital opening; ov, ovary; ph, pharynx; ps, posterior sucker; pt, posterior testis; ut, uterus; vt, vitelline glands.

Fig. 2.—Carophyllaeus laruei: adult seen from ventral surface ci, cirrus sac; cu, colled uterus; ov, ovary; sx, scolex; ts, testes; vd, vas deferens; vt, vitelline glands.
PLAGIOCHIS CORTI
CAROPHYLLAEOUS LARUEI

Figure 1

Figure 2

PLATE I