

A DESCRIPTION OF CALINELLA OPHIODONTIS N. SP.
(TREMATODA, MONOGENEA) FROM THE LING COD,
OPHIODON ELONGATUS GIRARD

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During the summer of 1942 a large specimen of *Ophiodon elongatus* was taken at Friday Harbor, Washington, of which the oral cavity was found to contain great numbers of a copepod, apparently a species of *Lepeophtheirus*. Adherent to these, in turn, were numerous adults, young, and eggs of a small, monogenetic trematode. Examination of the worms demonstrated that they markedly resembled members of the genus *Calinella* Monticelli, 1910. In a number of characters, however, they differed from previously described species of this genus. Accordingly, the worm is here considered as a species hitherto unrecognized for which the name *Calinella ophiodontia* is proposed.

SPECIFIC DIAGNOSIS

Calinella ophiodontis n. sp.

Udonellid with the characters of the genus *Calinella*. Of relatively large size; adults averaging 1.5 mm. in length, 0.25 mm. in breadth, with a posterior sucker 0.2 mm. in diameter. The male reproductive system contains a large seminal vesicle which takes the form of a double, tandem pouch. The ovary is about two-thirds as large as the testis, and a seminal receptacle is present connecting with the oviduct. The egg is 0.15 x 0.07 mm. and is equipped with a polar filament several times its length which ends in an attachment disk about 0.08 mm. in diameter (Fig. 3).

Locality: Friday Harbor, Washington.

Host: *Ophiodon elongatus* Girard.

Location in host: On copepods in the oral cavity.

Type specimen: U. S. N. M. Helminthological Collection No. 36903.

DESCRIPTION

Calinella ophiodontis (Fig. 1) is a small cylindrical worm with a ringed cuticle covering its surface. At the posterior end of the body is a large, flattened sucker into which open many unicellular glands massed in the posterior part of the body. On the ventral surface, near the posterior end of the pharynx and commonly slightly to the right of the midline is the genital pore. On the ventral aspect of the anterior tip lies the buccal opening (Fig. 2) surrounded by a number of papillae or processes and equipped with a pair of small suckers. It opens into a thin-walled, prolapsed, buccal cavity, about which a number of apparently glandular cells can be detected. The buccal cavity is followed by a large, muscular pharynx which is fully protrusible. No esophagus is present, the pharynx leading immediately to a saccular intestine which extends to the posterior sixth of the body, and is more or less reflected dorsally about the genitalia. A small, dorsal excretory vesicle has occasionally been observed to open through the dorsal body wall at about the level of the posterior part of the uterus; other portions of the excretory system have not been identified.

The testis (Fig. 1) is an oval structure lying just posterior to the midlevel of the body and averaging 0.24 mm. in length by 0.19 mm. in breadth. From its left, anterior, ventral margin a vas deferens arises. This crosses the ovary obliquely and proceeds toward the genital pore to the right of the midline of the body. Near the posterior end of the uterus it swells into a vesicle,

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narrows, then enlarges into a second vesicle, and finally resumes its original diameter before joining the terminal end of the uterus, just posterior to the genital pore. As sperm are concentrated in the two enlargements it seems probable that these, together, make up the seminal vesicle. The short length of vas deferens (ejaculatory duct) external to these vesicles is ensheathed by a cluster of cells which may function as a prostate gland.

The ovary (Fig. 1), lying immediately in front of the testis, is slightly smaller than the latter, averaging 0.15 mm. in length and 0.20 mm. in breadth. From the left, ventral, anterior surface an oviduct arises and almost at once becomes swollen into a pouch, commonly containing a single mature ovum. The duct narrows and crosses the left, ventral surface of the ovary to the posterior margin where it is joined by a small duct from the seminal receptacle which lies between the ovary and testis. It abruptly bends forward and continues along the left margin of the ovary, receiving a duct from the yolk reservoir which lies ventral to the left-hand side of the ovary. This reservoir is formed by fusion of a right and left posterior, and a left anterior, yolk duct collecting material from the vitellaria surrounding the intestine. Anterior to the ovary the oviduct takes a somewhat oblique course to the midline of the body and becomes a thick-walled vesicle closely enveloped by numerous Mehlis' glands. It is questionable whether this vesicle can properly be considered as a cotype since it is always smaller in diameter than the completed egg. Beyond this structure the oviduct continues as a thin-walled uterus divisible into three sections: a pouch containing the attachment organ, a coiled, narrow portion containing the polar filament, and a distal sac containing the body of the egg. These divisions are detectable even when no egg is present. The saccular portion of the uterus is directed toward the right-hand side of the body. It narrows sharply and joins the vas deferens just before terminating at the genital pore.

It has been impossible to determine anything about the structure of the nervous system.

DISCUSSION

Guberlet (1936) in discussing *Calinella myliobati* raises the question of whether this worm should be included in the genus *Calinella* citing chiefly the paucity of North American records of Udonellidae and the somewhat distinctive arrangement of the vitellaria in this species. Since the parasitic fauna of North America still remains so incompletely surveyed the absence of records of this group can scarcely be adequately weighed at present. It is, also, doubtful whether any weight should be given to the arrangement of vitellaria in arriving at a generic distinction since, as Manter has shown (1926), this character may be variable within a single species. There could be little reason, then, for subdivision of the genus *Calinella* on the basis of our present knowledge. Indeed, quite the opposite view is taken by Price (1938) who regards *Calinella* as a synonym for *Udonella*.

In size, in form of the vas deferens and related structures, and in size and form of the egg there is certainly enough difference between *Calinella myliobati* and

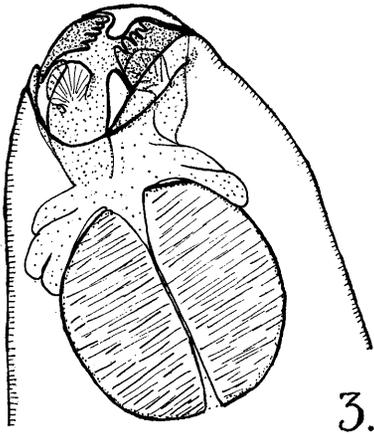
EXPLANATION OF PLATE

All stated magnifications are those at which the figures were drawn; reduction in reproduction is indicated by a 5 centimeter figure accompanying the plate.

- FIG. 1. Ventral view of entire worm with the yolk reservoir figured as semi-transparent to show the underlying structures. $\times 150$.
 FIG. 2. Anterior end showing buccal organization. $\times 250$.
 FIG. 3. Egg, removed from surface of copepod to show expanded attachment organ. $\times 200$.

LIST OF ABBREVIATIONS

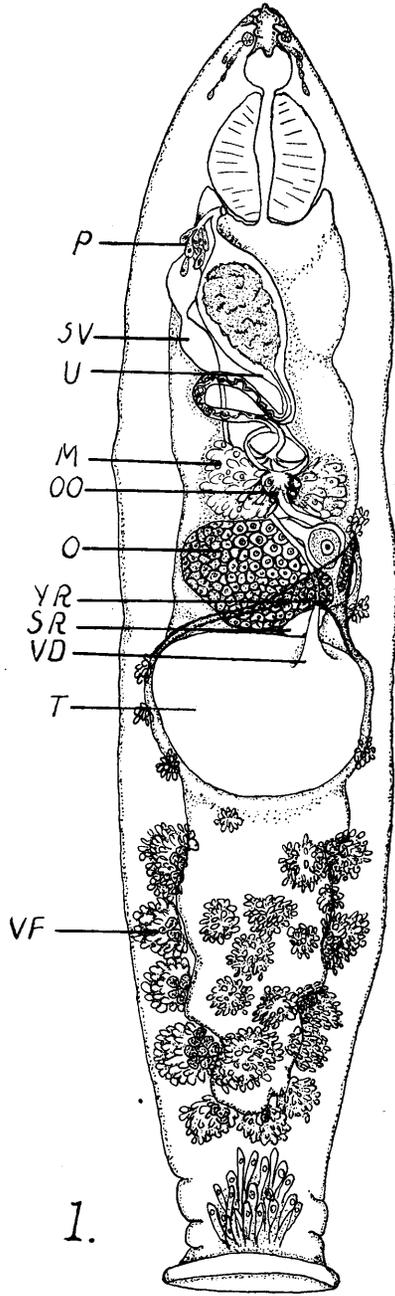
M—Mehliss' glands	SV—Seminal vesicle
O—Ovary	T—Testis
OO—Ootype	U—Uterus
P—Prostate glands	VD—Vas deferens
SR—Seminal receptacle	VF—Vitelline follicle
YR—Yolk Reservoir	



3.



2.



P

SV

U

M

OO

O

YR

SR

VD

T

VF

1.

Calinella craniola to warrant recognition of two species. The same is equally true of *Calinella ophiodontis*: it possesses fully the generic characters of *Calinella*, but it differs consistently and significantly from both *Calinella craniola* and *Calinella myliobati*. It may be distinguished from both species by the relatively large ovary and by the extremely long filament and the complex attachment organ of the egg. The form of the terminal part of the vas deferens is quite unlike that of *C. craniola* and differs somewhat from that of *C. myliobati*. The possession of glands opening into the posterior sucker has not been reported in this genus, though known in related forms. A seminal receptacle is not reported from *C. craniola*, incompletely described in *C. myliobati*, and definitely present in *C. ophiodontis*. Finally, the size of *C. ophiodontis* is considerably greater than that of *C. craniola* and slightly above that of *C. myliobati*. Taking these points into consideration it is scarcely possible to identify *Calinella ophiodontis* with either *Calinella craniola* or *Calinella myliobati*.

SUMMARY

Calinella ophiodontis n. sp. is described from *Ophiodon elongatus*. It is shown to differ from previously described species in size, in the possession of pedal glands, and in certain characters of the reproductive system and of the egg.

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