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An Additional Trematode from Tortugas, Florida, and a New Name for *Opisthoporus* Manter, 1947, Preoccupied*

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Professor José M. Ruiz of Sao Paulo, Brazil, has kindly called my attention to the fact that the generic name *Opisthoporus* Manter, 1947 had been used several times previously, a condition which I had indeed checked but thoughtlessly forgot. For *Opisthoporus* Manter, 1947 (nec *Opisthoporus* Benson, 1851; *Opisthoporus* Minot, 1877; *Opisthoporus* Fukui, 1929), the name *Postporus* is proposed. The two species become *Postporus epinepheli* (Manter, 1947) and *Postporus mycteropercae* (Manter, 1947).

The combination *Pleurogonius candidulus* (Linton, 1910) (misspelled "candibulus" in my paper) had been made in 1946 by Ruiz (1946: 295) where, however, it was first printed "candulus". Its correct name is, therefore, *Pleurogonius candidulus* (Linton, 1910) Ruiz, 1946.

The author's report on trematodes of marine fishes of Tortugas, Florida (Manter, 1947) refers (p. 258) to a few species not described because they were represented by single specimens deemed inadequate for satisfactory identification. One of these has since been studied in the light of Dollfus' (1946) description of some interesting trematodes from *Kyphosus sectatrix* from Dakar, Africa. It is a spiny distome from a related host (*Kyphosus incisor*) and is closely related to *Cadenatella cadenati* (Dollfus, 1946) Nagaty, 1948.

As Nagaty (1948) has noted, *Enenterum pseudoureum* Dollfus, 1946 from *Kyphosus sectatrix* at Dakar, Africa is a synonym of *Enenterum pimelepteri* Nagaty, 1942 from "*Pimelopterus tahmel*" in the Red Sea. The host genus *Pimelepterus* Lacapède, 1802 is listed as a synonym of *Kyphosus* by Jordan, Evermann and Clark (1930). Nagaty's spelling "*pimelepteri*" seems to be from "*Pimelopterus*" of Schinz, 1822 apparently a misspelling of *Pimelepterus*.

Cadenatella americana n. sp.

Fig. 1

Host.—*Kyphosus incisor* (Cuv. & Val.), yellow chub; in 1 of 5 hosts examined.
Location.—Intestine.

Description (based on a single specimen).—Body elongate, muscular, considerably contracted; length 3.367 mm.; greatest width 0.628 mm.; almost equally wide along most of length; spined anteriorly with numerous scales which extend only to acetabular level on dorsal surface but to level of ovary (almost to midbody) on ventral surface. Oral sucker completely retracted into anterior end of body, with 8 lobes. Lobes not very distinct but seemingly

* Studies from the Department of Zoology, University of Nebraska, No. 235.

absent directly ventral to mouth; transverse diameter of oral sucker 0.234 mm.

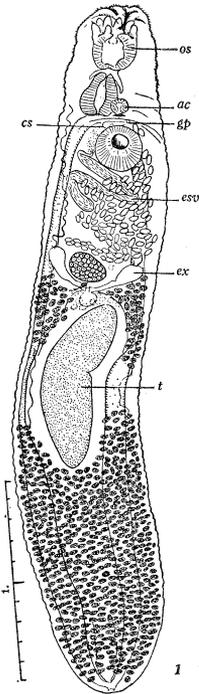


Fig. 1.—Ventral view of *Cadenatella americana*. Made with the aid of a camera lucida. The projected scale has a value of 1. mm. Abbreviations: *ac*, accessory sucker; *cs*, cirrus sac; *esv*, external seminal vesicle; *ex*, excretory vessel, swollen terminal portion; *gp*, genital pore; *os*, oral sucker; *t*, testis.

Acetabulum 0.234 mm. in transverse diameter, 0.583 mm. from anterior end of body with the forebody somewhat contracted; sucker ratio 1:1. Ventral accessory sucker present opposite basal portion of pharynx; embedded in body; 0.087 mm. in diameter. Prepharynx short but with lateral outfoldings perhaps resulting from contraction of body; probably never longer than pharynx; pharynx large, 0.219 mm. in length, 0.204 mm. in width; esophagus very short or lacking; ceca reaching to near posterior end of body where they unite and open through a conspicuous, dorsal, subterminal pore. The excretory vesicle seems to open through the same pore but this point could not be certain from the totemount.

Genital pore slightly to the left near anterior border of acetabulum. Testis single, elongate, slightly indented on one side near its middle; located near middle of hindbody; length 0.824 mm., width 0.255 mm.; posttesticular space 1.095 mm. Cirrus sac thin-walled, small and very inconspicuous; extending from genital pore almost horizontally to the right along anterior edge of acetabulum; pyriform; 0.153 mm. long by 0.058 mm. wide; containing a few prostatic cells; pars prostatica extending along right margin of acetabulum; prostatic cells free in parenchyma; seminal vesicle external, immediately postacetabular; tubular; with two loops, one extending to the left cecum, the second reaching to the right cecum; posterior end of vesicle about halfway between acetabulum and ovary. Ovary ovoid, 0.088 mm. anterior to testis; seminal receptacle probably represented by a small spherical vesicle just posterior to ovary, but it is empty of sperm cells and its connections are not clear; Mehlis' gland at anterior border of ovary; sperm cells in early coils of uterus; uterus preovarian. Vitelline follicles beginning at posterior edge of ovary; ventral, dorsal and lateral to ceca, confluent

but not ventrally between testis and ovary; interrupted opposite middle half of testis; filling most of posttesticular space; confluent posterior to testis. Eggs thin-shelled; 61 to 66 by 32 to 34 μ .

Excretory vesicle extending to a point midway between ovary and testis where it receives two, much swollen arms or branches which extend diagonally forward to level of anterior border of ovary. While the appearance is that of a Y-shaped vesicle, the short arms are probably enlarged regions of lateral vessels. A pair of sinuous vessels extends along at least most of the body length. A uroproct is probably present but very short.

Comparisons.—The only other species in the genus is *Cadenatella cadenati* Dollfus, 1946. Dollfus' material was somewhat macerated being collected after death of the host, and my material is limited to a single specimen. Therefore, more adequate material might show the two species to be identical. At present certain differences seem evident. *C. americana* is smaller (3.367 mm. as compared with 7 mm.) yet the accessory sucker is much larger (0.087 mm. as compared with 0.064 mm.); its eggs are 61 to 66 μ long as compared with 70 μ ; an external seminal vesicle is not described for *C. cadenati*. *C. americana* has a shorter prepharynx, longer testis, and shorter posttesticular space. Dollfus did not observe the anus or the excretory system. *Enenterum aureum* has an I-shaped excretory vesicle which extends well anterior to the ovary dorsal to the uterus.

Discussion.—*Kyphosus* is a fish genus of unusual interest as a host. Its parasites tend to be distinctive and unusual. At Tortugas, Florida, *Kyphosus sectatrix* and *K. incisor* share four species of digenetic trematodes. *Cadenatella americana* was collected only from *K. incisor* but more examinations would probably show it could occur in *K. sectatrix*. Of the genera of trematodes involved, only *Haplospalchmus* is known from other hosts. The following table lists the known parasites of *Kyphosus* and their localities.

TREMATODA

Species	Locality	Reference
<i>Cadenatella cadenati</i>	Dakar, Africa	Dollfus, 1946
<i>Deontacylix ovalis</i>	Tortugas, Fla.	Linton, 1910; Manter, 1947
<i>Enenterum aureum</i>	Tortugas, Fla.	Linton, 1910; Manter, 1947
<i>Enenterum pimelepteri</i>	Red Sea; Dakar, Africa	Nagaty, 1942; Dollfus, 1946
<i>Haplospalchmus acutus</i>	American Pacific	Manter, 1940
<i>Haplospalchmus kyphosi</i>	Tortugas, Fla.	Manter, 1947
<i>Jeancadentia brumpti</i>	Dakar, Africa	Dollfus, 1946
<i>Koseiria tahmeli</i>	Red Sea	Nagaty, 1942
<i>Opisthadenia dimidia</i>	Tortugas, Fla.	Linton, 1910; Manter, 1947

ACANTHOCEPHALA

<i>Filisoma bucerium</i>	Pacific Coast of Mexico	Van Cleave, 1940
<i>Filisoma fidum</i>	Tortugas, Fla.	Van Cleave & Manter, 1948

Four of the 9 species of trematodes are in the genus *Enenterum* or in related genera. The genus *Enenterum* occurs in the Red Sea, along the west coast of Africa, and in the Gulf of Mexico. *Cadenatella* occurs in the latter two regions. *Enenterum pimelepteri* apparently occurs in the Red Sea and the African Atlantic, but species of *Enenterum* and *Cadenatella* in American waters seem to have differentiated from Old World species. Unfortunately, sufficient trematodes from Pacific species of *Kyphosus* have not been collected. Two species of Acanthocephala are known from related species of *Kyphosus* in the Atlantic and Pacific. VanCleave and Manter (1948) state "speciation within the genus *Kyphosus* has apparently been accompanied by speciation of the Acanthocephalan parasites in species of the hosts which are at present widely separated geographically from each other." Similar phenomena are known among parasites of land animals.

In view of the peculiar trematodes characteristic of *Kyphosus* species, it will be of interest to know the parasitic fauna of the various species of *Kyphosus* distributed throughout Oceania where at least 8 species occur. It is to be hoped that when such specialists as ichthyologists, herpetologists and ornithologists accompany expeditions to the more remote regions of the earth, parasitologists can also be in attendance to collect the helminths and other parasites. The helminths of fishes of Oceania constitute a large, unexplored field. My collection records from Tortugas in the Gulf of Mexico, and from the Pacific coast of tropical America indicate that the number of species of digenetic trematodes is approximately 80% of the number of species of fishes. According to Fowler (1938) there are about 1800 species of fishes known from Oceania. If the variety of trematodes there is similar to what it is in the warm seas of the New World, some 1400 species of trematodes await collection there. Other unexplored areas are those of southern Atlantic waters and, in fact, most of the Southern Hemisphere.

The type specimen of *Cadenatella americana* is deposited in the Helminthological Collection of the United States National Museum.

SUMMARY

1. The generic name *Postporus* is offered for *Opisthoporus* Manter, 1947, preoccupied.
2. *Cadenatella americana*, from *Kyphosus incisor*, is described as a new species.
3. A list of the helminth parasites of *Kyphosus* is given with notes on their geographical distribution.

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