A NEW DIGENETIC TREMATODE
PROCEROZOUM ABEI N. G., N. SP.* (DIDYMOZOIDAE),
FROM THE BODY CAVITY OF FLYING FISH FROM JAPAN

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ABSTRACT: Procerozoum abei n. g., n. sp. is described from the body cavity of Cypselurus poecilopterus caught on the Pacific coast of Japan. The present genus is distinguished from the closely related Skrijablozoum Nikolaeva et Paruchin, 1969 as follows: (1) the shape of the body is filiform without forming a prominent neck portion near the anterior end of the body; (2) the entire body length is decidedly longer (21-35 times length); (3) the testis is single; (4) the receptaculum seminis is absent; and (5) there is no genital papilla lateroventral to oral sucker.

INTRODUCTION
Two different sized gravid specimens were taken from Cypselurus poecilopterus caught off Katsu-ura, Pacific coast of Chiba Pref., Japan. They were entangled with each other free in the body cavity of the host fish. The worms were fixed in acetic Schaudinn’s fluid, stained with Heidenhain’s hematoxylin or Delafield’s hematoxylin, and mounted in balsam. All figures were drawn by the microprojection method.

PROCEROZOUM ABEI N. G., N. SP.
(Figs. 1~6)

Host: Cypselurus poecilopterus (Exocoetidae).
Location: Entangled in pairs in body cavity.
Locality: Katsu-ura, Pacific coast of Chiba Pref., Japan.
Date: August 24, 1970.
Specimens: M. P. M. Coll. No. 16909.
Frequency: Two, in one out of sixty three hosts examined.

Description: Based on two gravid specimens. Body distinctly flattened dorsoventrally, 122×2.3 mm in the holotype; 206×2.5 mm in the paratype, tapered anteriorly to a sharp point, rounded at caudal end of body. Oral sucker terminal, 37—45×37—40μ, cup-shaped, poorly developed; pharynx weakly muscular, 50×32—40 μ. Esophagus narrow, winding, 1.45—1.9 mm long in straight line; caeca running almost straight in submedian field, terminating blindly at different levels near posterior extremity of body: longer caecum terminated 26 mm from posterior extremity of the body, shorter one terminated 6 mm ahead of the longer one in the holotype. Acetabulum absent.

Testis single, tubular, twisted, situated in left half of the body, originating 40 mm from caudal end of the body in the holotype, while in the paratype it originates 109 mm from the same point: total length of the testis measured in straight line is 78 mm in the holotype and 104.6 mm in the paratype. Vas efferens short; vas deferens swollen posteriorly, winding anteriorly, functioning as seminal vesicle whose outer wall of the proximal half is covered with circular muscle fibers. Genital pore midventral, immediately posterior to pharynx.

Ovary single, originating near distal end of testis, tubular, irregularly twisted, running on right side of the body throughout its length, distal end swollen, 0.2 mm in diameter, terminating 60 mm from the anterior end in the holotype and 83 mm

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Figs. 1–4: *Procerozoum abei* n. g., n. sp.
1. anterior region of holotype, dorsal view. 2. region of the first uterine loop of holotype, dorsal view. 3. region of genital junction of paratype, intestine omitted, ventral view. 4. posterior extremity of holotype, dorsal view. (AU, ascending uterus; DU, descending uterus; E, esophagus; GP, genital pore; I, intestine; M, metraterm; O, ovary; OS, oral sucker; P, pharynx; T, testis; VT, vitellaria)
Fig. 5: holotype, dorsal view and Fig. 6: paratype, ventral view. (A, anterior end; B, level of proximal end of ovary; C, level of distal end of ovary; D, level of the first uterine loop; E, level of distal end of uterine duct; F, level of genital junction; G, level of proximal end of testis; H, level of proximal end of vitellaria; I, posterior end of body)

from the same point in the paratype. Ovary in the holotype gives off a short side branch near its proximal portion, while that of the paratype is unbranched. No seminal receptacle. Vitellaria single, narrow, 0.13—0.15 mm wide, originating near posterior extremity of body, tubular, twisted as in ovary, running in median field: total length measured in straight line is 60 mm in the holotype, 111 mm in the paratype. Vitellaria of the paratype possesses a short side branch near its proximal part, while that of the holotype is unbranched. Genital junction (i.e., junction of ovary, uterine duct, and vitelline duct) dividing body in ratio of 1:0.96 in the holotype, 1:0.65 in the paratype. Uterine duct arising from the genital junction is covered with dense coat of shell gland throughout its ascending straight portion in median field. Ascending twisted uterine coils proceed anteriorly on left side of body alongside testis, crossing caeca dorsally to form a first uterine loop at 7.6—8.1 mm from head end. The descending uterine coils proceed posteriorly on right side of body alongside ovary to extreme posterior end of body where a second transverse uterine loop is formed, and finally the uterus ascends on left side of body for some distance anterior to uterine duct, then it becomes an egg reservoir. Egg reservoir muscular, winding in median field, and becoming a muscular metraterm which opens into genital pore along with vas deferens. Eggs bean-shaped, embryonated, 14—18×7—10μ. Excretory system not made out.

Discussion: The present genus is distinguished from the most closely related Skrjabinoum Nikolaeva et Paruchen, 1969 by (1) the shape of the body being filiform, without forming a prominent neck portion near anterior end of the body; (2) the entire body length being decidedly longer (21—35 times length); (3) the testis being single; (4) the absence of a receptaculum seminis; and (5) the absence of a genital papilla lateroventral to oral sucker.

Procerozoum n. g.

Generic diagnosis: Didymozoidae, Nematobothriinae. Body filiform, long, flattened dorsoventrally. Oral sucker terminal, poorly developed; pharynx weakly muscular; esophagus narrow, winding; caeca straight, terminating at different levels some distance from posterior extremity of body. Acetabulum absent. Testis single, tubular, winding, lying on left side in anterior half of body. Seminal vesicle tubular, its proximal part covered externally with circular muscle fibers. Genital pore midventral, immediately posterior to pharynx. Ovary single, tubular, twisted, unbranched or with a short side branch, situated on right side of anterior half of body. No receptaculum seminis. Vitellaria tubular, twisted, unbranched or with a short side branch, extending between posterior extremity and genital junction in median field. Uterus at first ascending, turning backward a little posterior to proximal end of ovary and turning forward at posterior extremity to
form egg reservoir at some distance anterior to uterine duct in median field. Eggs small, bean-shaped, embryonated. Excretory system unknown. Parasitic free in pairs in body cavity of marine teleosts.

*Type species:* *Procerozoum abei* n. g., n. sp.

**LITERATURE**

1) **NIKOLAeva, V. M. et PARUCHIN, A. M. (1969):**