

**A New Species of the Genus *Allocreadium* (Digenea:
Allocreadiidae) from a Freshwater Fish of Hokkaido, Japan**

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Abstract

A new species, *Allocreadium brevivitellatum* sp. n. (Digenea: Allocreadiidae), is described and figured from the intestine of a freshwater fish, *Moroco percunurus sachalinensis* (Cyprinidae), taken in Saruruto-numa, Toro, Shibecha, eastern Hokkaido, Japan. It is most closely similar to *A. tosai* Shimazu, 1988, in the small testes and the long excretory vesicle that extends to the midlevel of the posterior testis, but different from the latter in the shorter anterior extent of the vitellaria that reach forward barely to the ovary in the hindbody, and larger eggs.

Key words: a new species, *Allocreadium*, Digenea, a freshwater fish, Japan

In a previous paper (Shimazu, 1988), I briefly described an unidentified specimen of the digenean genus *Allocreadium* Looss, 1900, from a freshwater cyprinid fish of Saruruto-numa, eastern Hokkaido. New specimens of the digenean have recently been found in the same species fish from the same locality. This paper proposes a new species in the genus for the digenean.

This paper is the seventh in a series on the digenetic trematodes of the Japanese freshwater fishes. The materials and methods and the diagnoses of the family Allocreadiidae Looss, 1902, and genus *Allocreadium* Looss, 1900, are given in the first paper (Shimazu, 1988).

Family Allocreadiidae Looss, 1902
Subfamily Allocreadiinae Looss, 1902
Genus *Allocreadium* Looss, 1900
Allocreadium brevivitellatum sp. n.
(Figs. 1–3)

Allocreadium sp. of Shimazu, 1988, p. 18, fig. 15.

Material examined. 1) Lot 1. One gravid whole-mount (NSMT-P1 3055) of *Allocreadium*

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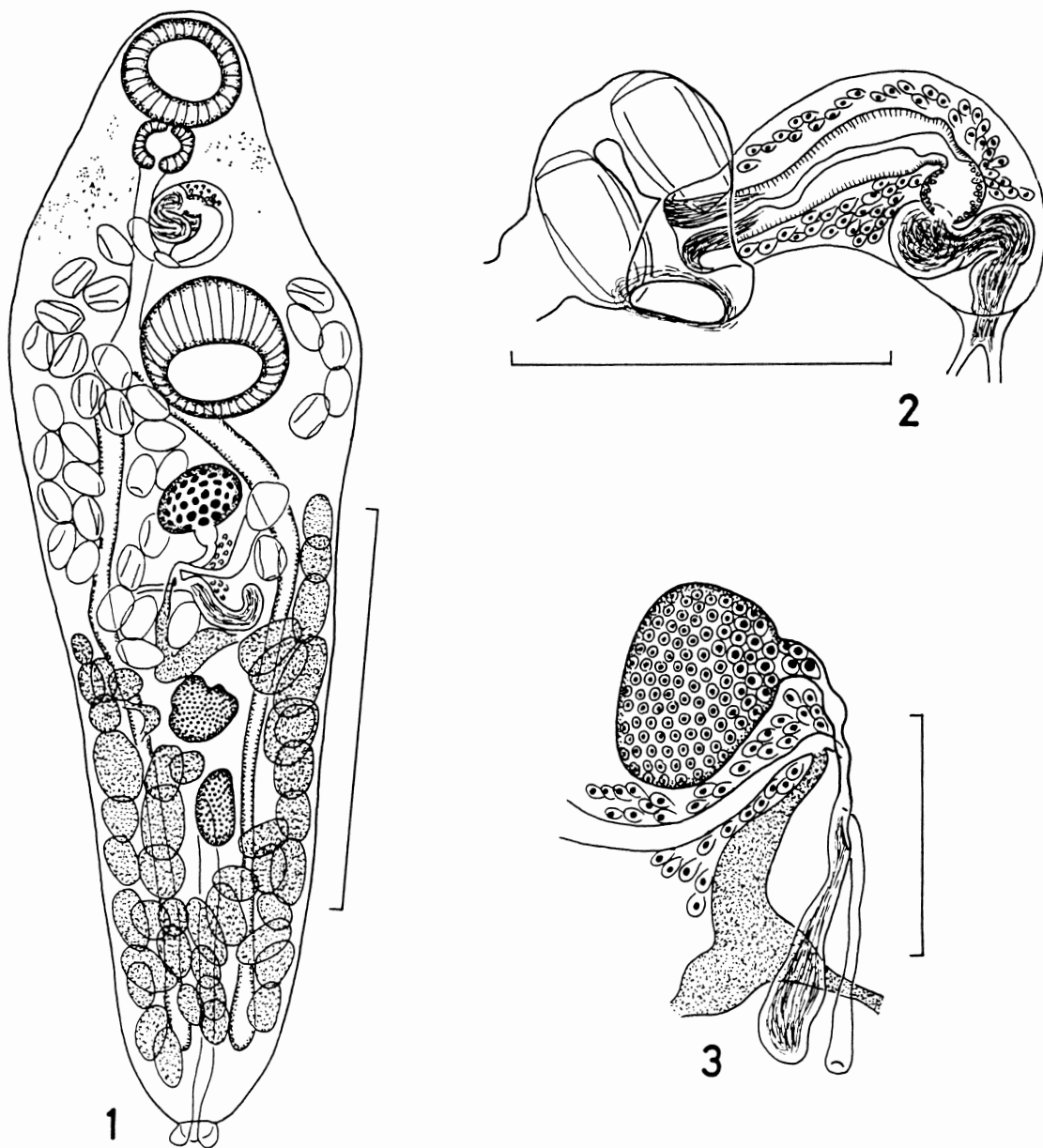
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sp. of Shimazu (1988) found in the intestine of 1 of 20 *Moroco percunurus sachalinensis* (Cyprinidae) collected from Saruruto-numa (a shallow pond in a marsh) in Toro, Shibecha, eastern Hokkaido, on July 4, 1984.

2) Lot 2. One immature and three gravid whole-mounts (NSMT-P1 3678-3681) found in the intestine of 3 of about 100 *M. p. sachalinensis* collected from the same locality on September 1, 2 and 3, 1991.

Description. Four gravid whole-mounts measured (Figs. 1–3). Body elongate, aspinose, 2.50–3.12 by 0.76–0.88; forebody 0.70–0.96 long, 27–31% of total body length. Eyespot pigment dispersed in forebody. Oral sucker subterminal, 0.24–0.26 by 0.29–0.33. Prepharynx practically absent. Pharynx round, 0.12–0.14 by 0.10–0.16. Esophagus straight, 0.30–0.47 long, bifurcating dorsal to ventral sucker; intestinal ceca terminating blindly at a distance from posterior end of body. Ventral sucker larger than oral sucker, on border of anterior and middle one-thirds of body, 0.33–0.35 by 0.38–0.41; sucker width ratio 1: 1.19–1.41.

Testes spherical or elliptical, smooth or indented, small, almost tandem, separated or contiguous, in middle one-third of hindbody, 0.16–0.26 by 0.13–0.20. Cirrus pouch spherical



Figs. 1–3 *Allocreadium brevitellatum* sp. n. from *Moroco percnurus sachalinensis* of Saruruto-numa, Toro, Shibecha, eastern Hokkaido. 1: Holotype, entire body, ventral view. (In this specimen, a small posteriormost part of the parenchyma was artificially pressed out through the excretory pore owing to a pressure given to the specimen when it was flattened under a cover glass.) 2: A paratype, terminal genitalia, ventral view. 3: The same paratype, ovarian complex, dorsal view.

(Scale bars: 1 mm in Fig. 1; 0.3 mm in Figs. 2 and 3.)

or elongate-oval, in front of ventral sucker, 0.20–0.30 by 0.13–0.21. Seminal vesicle tubular, sinuous. Pars prostatica globular. Cirrus

fairly long. Genital atrium small. Genital pore median, prebifurcal. Ovary elliptical, median, in anterior one-fifth of hindbody or slightly

pre-equatorial, 0.16–0.30 by 0.16–0.21. Ovarian complex posterior or posterolateral to ovary. Laurer's canal as long as seminal receptacle or a little shorter than it. Seminal receptacle clavate, curved or not, between ovary and anterior testis, 0.18–0.28 by 0.06–0.07. Uterus anterior to anterior testis in three gravid specimens but extending a little farther backward than posterior testis in one gravid specimen. Eggs fairly numerous, not embryonated, 106–130 by 69–80 μm in balsam. Vitelline follicles large, distributed between ovary and posterior end of body, confluent posterior to posterior testis and ventral to excretory vesicle. Excretory vesicle I-shaped, long, reaching midlevel of posterior testis; excretory pore posteroterminal.

Type locality: Saruruto-numa in Toro, Shibeche, eastern Hokkaido, Japan.

Type host: *Moroco percnurus sachalinensis* (Cyprinidae).

Site of infection: Intestine.

Specimens: Holotype, NSMT-PI 3678 (gravid, September 3, 1991); 3 paratypes, NSMT-PI 3055 (gravid, July 4, 1984), 3679 (gravid, September 3, 1991) and 3680 (gravid, September 1, 1991).

Discussion. This new species, *Allocreadium*

brevivitellatum sp. n., most resembles *A. tosai* Shimazu, 1988 (Shimazu, 1988), in the small testes and the long excretory vesicle that extends to the midlevel of the posterior testis. However, it is distinct from the latter (Shimazu, 1988) in the shorter anterior extent of the vitelline glands that end anteriorly at the level of the ovary in the hindbody instead of at the midlevel of the esophagus in the forebody, and larger eggs (106–130 by 69–80 μm versus 84–102 by 60–70 μm). A combination of the small testes, the long excretory vesicle and the shorter anterior extent of the vitellaria also separates it from the rest of known species of the genus.

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Reference

- 1) Shimazu, T. (1988): Trematodes of the genus *Allocreadium* (Allocreadiidae) from freshwater fishes of Japan. Bull. Natl. Sci. Mus., Tokyo, Ser. A, 14, 1–21.