

Pseudodactylogyrus haze sp. nov., a Gill Monogenean from the Japanese Goby, *Acanthogobius flavimanus*

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Key words: *Pseudodactylogyrus*, Monogenea, new species, goby, *Acanthogobius*

The genus *Pseudodactylogyrus* Gussev, 1965 contains two species; *P. bini* (type species) and *P. anguillae* (= *P. microrchis*), both reported from eels (*Anguilla* spp.) in fresh-water environments from different parts of the world (Kikuchi, 1929; Yin and Sproston, 1948; Gussev, 1965). This paper deals with a new species of the genus from the Japanese goby, *Acanthogobius flavimanus*. This is the first record of the genus *Pseudodactylogyrus* from fish other than *Anguilla* spp.

Materials and Methods

The host fish, *Acanthogobius flavimanus*, were collected from the lower reaches of rivers and brackish lakes in Japan. Fresh parasite specimens were fixed either in AFA solution and stained with iron haematoxylin for observation of the internal structures, or in ammonium picrate-glycerin solution for observation of the hard parts. The drawings were made with the aid of a camera lucida. Measurements are given in μm .

Pseudodactylogyrus haze sp. nov.

Host and habitat. Gills of *Acanthogobius flavimanus*.

Localities and dates. River Tone, Chiba Prefecture, 28 Oct. 1981 (prevalence of infection 1/11*, intensity 0-4); Lake Nakaumi, Shimane Pref., 04 Nov. 1981 (prevalence 32/36*, intensity 0-46); Lake Hamana, Shizuoka Pref., 11 Sep. 1981 (prevalence 1/46*, inten-

sity 0-1); River Miyakoda, Shizuoka Pref., 09 and 19 Jul. 1982 (prevalence 31/35*, intensity 0-12).

Specimens. Holotype and 10 paratypes are deposited in the Meguro Parasitological Museum, Tokyo (M.P.M. Coll. No. 19392) and 25 paratypes in the author's collection.

Description (Figs. 1, 2). Body elongate, 370-970 long by 110-180 wide. Opisthaptor triangular, directing ventrally, 69-105 long by 104-143 wide.

Hamulus (= Anchor) slender, 60-71 in total length. Base of hamulus 43-50 long; point directing ventrally, 22-25 long; external root short, 7-12 long, making an angle of about 60° with internal root (27-38 long). A small supplementary piece of hamulus triangular 5.5-8 long, attaching to posterior end of internal root. Connecting bar almost straight with two small knob-like swellings in middle, slightly widened at both ends, 36-46 long by 7-12 wide. Marginal hooks of larval type, 12-14 long, in seven pairs; one in middle and the other six on margin of haptor.

Anterior end of body somewhat truncate with openings of head organ. Two pairs of eye-spots antero-dorsal to pharynx. Pharynx rounded and well developed, 42-122 long by 39-105 wide. Esophagus present. Intestine bifurcating at level of genital pore, united near posterior end of body proper.

Ovary rounded, located in middle of body, 50-132 long by 26-66 wide. Oviduct emerging at anterior end of ovary, receiving vaginal duct to form fertilization chamber (12-29 long by 11-24 wide), followed by ootype, where Mehlis' gland opens, and finally lead-

* Number of fish infected/number of fish examined

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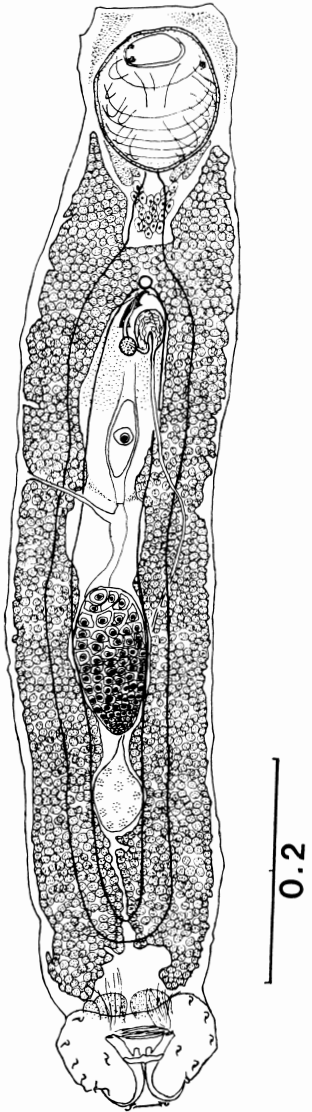


Fig. 1 *Pseudodactylogyrus haze* sp. nov., whole worm of holotype, ventral view.
(scale in mm)

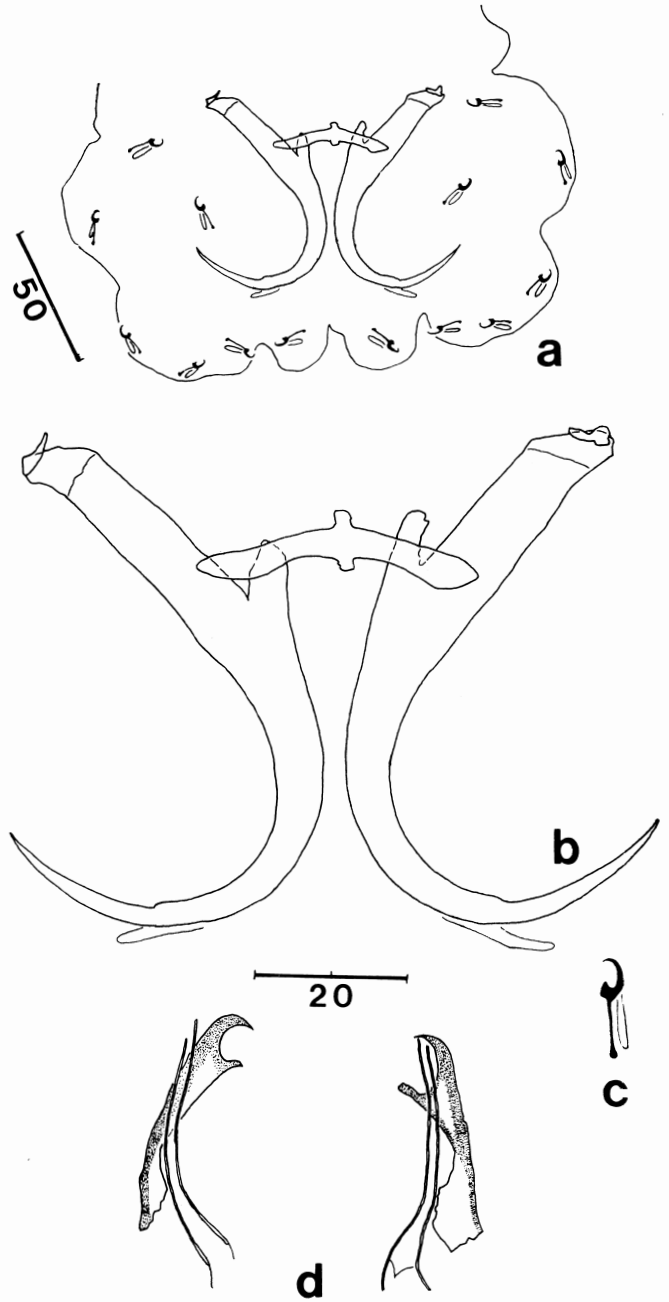


Fig. 2 *Pseudodactylogyrus haze* sp. nov., a: opisthohaptor, b: hamuli and connecting bar, c: marginal hook, d: cirrus and accessory piece (all paratypes).
(scale in μm)

ing to genital pore at level of intestinal bifurcation. Vagina opening at right lateral margin of body without any armature. Vitellaria almost co-extensive with intestine.

Testis rounded, located just behind ovary, 26-78 long by 23-50 wide, always smaller than ovary. Vas deferens looping around left intestinal caecum and forming vesicula seminalis by its mere dilatation. Vesicula seminalis inverted U-shaped, 7-20 wide, leading into cirrus through prostatic reservoir. The latter rounded, 7-15 in diameter and attached to base of cirrus. Hard parts of male copulatory organ consisting of cirrus and its accessory piece. Cirrus arcuate, widened at base, 27-37 long, with distal width of 1-1.5 and basal width of 4-7.5. Accessory piece almost straight, with divided, hook-shaped distal ends, 25-32 long.

Discussion

Pseudodactylogyryrus haze sp. nov. is most similar to *P. anguillae* (Yin et Sproston, 1948) Gussev, 1965 in general morphology, but can easily be separated from it by the shape of the supplementary piece of the hamulus and of the male copulatory organ, and the absence of vaginal armature.

The systematic position of the genus *Pseudodactylogyryrus* has not yet been well established. The eels (*Anguilla* spp.) and the goby, the hosts for *Pseudodactylogyryrus*, are phylogenetically quite remote from each other.

However, they both are of marine origin, having changed their habitats from sea water to brackish or freshwater; the goby spends most of its life in brackish water, while the eels in freshwater. This may give a clue for the phylogeny of this group of monogeneans.

Summary

A description is given of a monogenean *Pseudodactylogyryrus haze* sp. nov. from the gills of the Japanese goby, *Acanthogobius flavimanus*. The new species is most similar to *P. anguillae* (Yin et Sproston, 1948), but differentiated from it by the shape of the supplementary piece of the hamulus and of the male copulatory organ and by the absence of vaginal armature. This is the first record of *Pseudodactylogyryrus* from fish other than eels (*Anguilla* spp.)

References

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マハゼの鰓に寄生していた単生類の一新種 *Pseudodactylogyryrus haze*

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本州各地の汽水域(千葉県利根川下流, 静岡県浜名湖および都田川下流, 島根県中海)で採集されたマハゼの鰓から単生類の一新種 *Pseudodactylogyryrus haze* を得て, 形態を記載した。本種はウナギに寄生する *P. anguillae* (Yin et Sproston, 1948) によく似るが, 錨鉤

(hamulus)の付属片や雄性交接器の形態および腔に硬化した部分を欠くことで区別される。ウナギ類(*Anguilla* spp.)以外からの *Pseudodactylogyryrus* の記録は本報告が初めてである。