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Avian cestodes, *Polycercus japonensis* n.sp. and *Passerilepis crenata* (Goeze, 1782) from a grey starling, *Sturnus cineraceus* collected at Beppu City

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Abstract

Three cestode specimens were obtained from a grey starling, *Sturnus cineraceus,* at Beppu City, Oita Prefecture on May 23, 1991. Two specimens are assigned to a new species, *Polycercus japonensis* n.sp. and the other one is a known species, *Passerilepis crenata* (Goeze, 1782) Sultanov et Spasskaja 1959. *P. japonensis* n.sp., which differs from all the 46 known species of genus *Polycercus* in the number of rostellar hooks: 8 in *P. japonensis* n.sp. but 10 or more in the other 46 species. The grey starling is a new host of *P. crenata.*

Key words: avian cestode, *Polycercus japonensis, Passerilepis crenata,* grey starling, morphology

Introduction

Three reports on *Polycercus* spp. have been published from Japan. Yamaguti (1954) first recorded *P. barbara* (Meggitt, 1926) Schmidt, 1986 from *Prunella collaris erythropygius* at Mt. Ontake in Nagano Prefecture, Machida (1967) *Polycercus* sp. from *Larus argentatus vegae* at Hokkaido, and Kawano (1969) *Polycercus* sp. from *Tringa ochropus* at Ichikawa City, Chiba Prefecture. The present paper deals with the morphology of *Polycercus* and *Passerilepis* species from a grey starling in Beppu City, Oita Prefecture.

Materials and Methods

Three cestode specimens were obtained from the small intestine of a grey starling, *Sturnus cineraceus,* captured at Beppu City on May 23, 1991. The specimens were fixed in 70% alcohol after being pressed between two slides, stained with Heidenhain's hematoxylin, dehydrated in an alcohol series, cleared in xylene, and mounted in Canada balsam. All measurements are given in millimeters.

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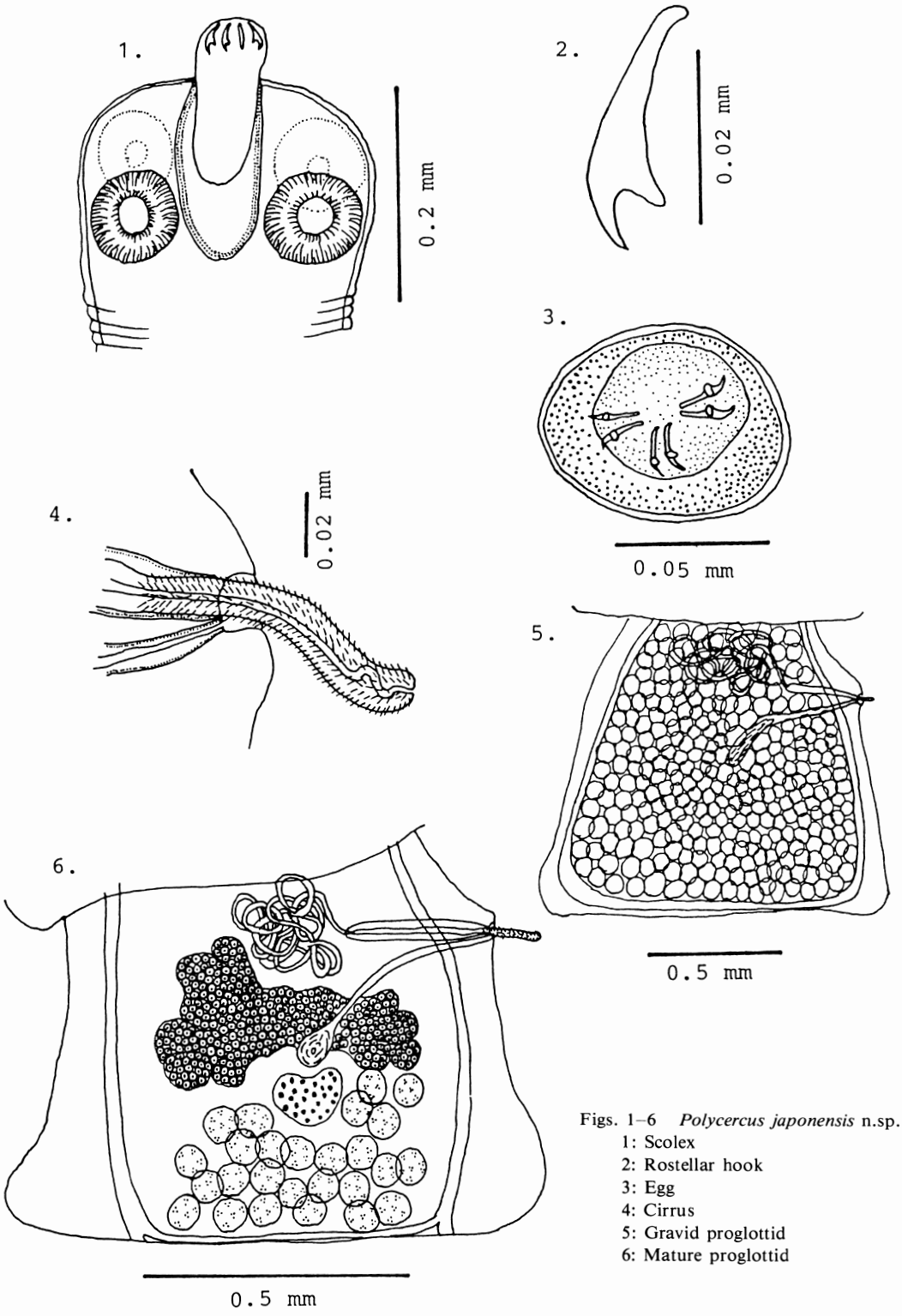
久木義一（別府市南的ヶ浜2—27）

Polycercus japonensis n.sp. (Figs. 1–6)

Description: Strobila 30.2–39.7 in length, 1.1–1.2 in maximum width, with 206–215 proglottids, wider than long, craspedote, trapezoidal. Scolex 0.08–0.1 long by 0.11–0.12 wide. Rostellum 0.035 long by 0.030–0.033 wide, armed with a single row of 8 hooks, 0.03 long. Rostellar sac 0.09 long by 0.038 wide, extending not beyond posterior margin of suckers. Suckers 4 in number, unarmed, 0.058–0.063 in diameter. Neck absent. Genital pores irregularly alternate and located on anterior one-fourth of proglottid lateral margin. Cirrus pouch elongate, 0.18–0.21 long by 0.025–0.028 wide, crossing longitudinal osmoregulatory canal. Cirrus 0.10–0.13 long by 0.018 wide, armed with small and stout spines, 0.0075 long. Testes 24–27 in number, 0.07–0.08 by 0.045–0.063 in size, arranged posterior to ovary and surrounding vitelline gland. Vas deferens much coiled, situated in mid-line of anterior proglottid margin. Vagina opening posterior to male genital aperture, crossing longitudinal osmoregulatory canal, and dilated in distal end to seminal receptacle, 0.045–0.050 in diameter, which situated between ovary and vitelline gland. Ovary lobated, 0.32–0.38 across. Vitelline gland median, behind seminal receptacle, compact, 0.058–



Figs. 1–6 *Polycercus japonensis* n.sp.
1: Scolex
2: Rostellar hook
3: Egg
4: Cirrus
5: Gravid proglottid
6: Mature proglottid

0.063 by 0.059–0.060 in size. Gravid uterus filling area between bilateral longitudinal osmoregulatory canals. Egg spherical, 0.058–0.062 by 0.050–0.055. Onchosphere 0.030–0.038 by 0.028–0.030; embryonic hook 0.015 long.

Host: Grey starling, *Sturnus cineraceus* Temminck

Habitat: Small intestine

Locality and date: Beppu City; May 23, 1991

Type specimen: Holotype deposited in the Meguro Parasitological Museum, MPM Coll. No. 19559

Discussion

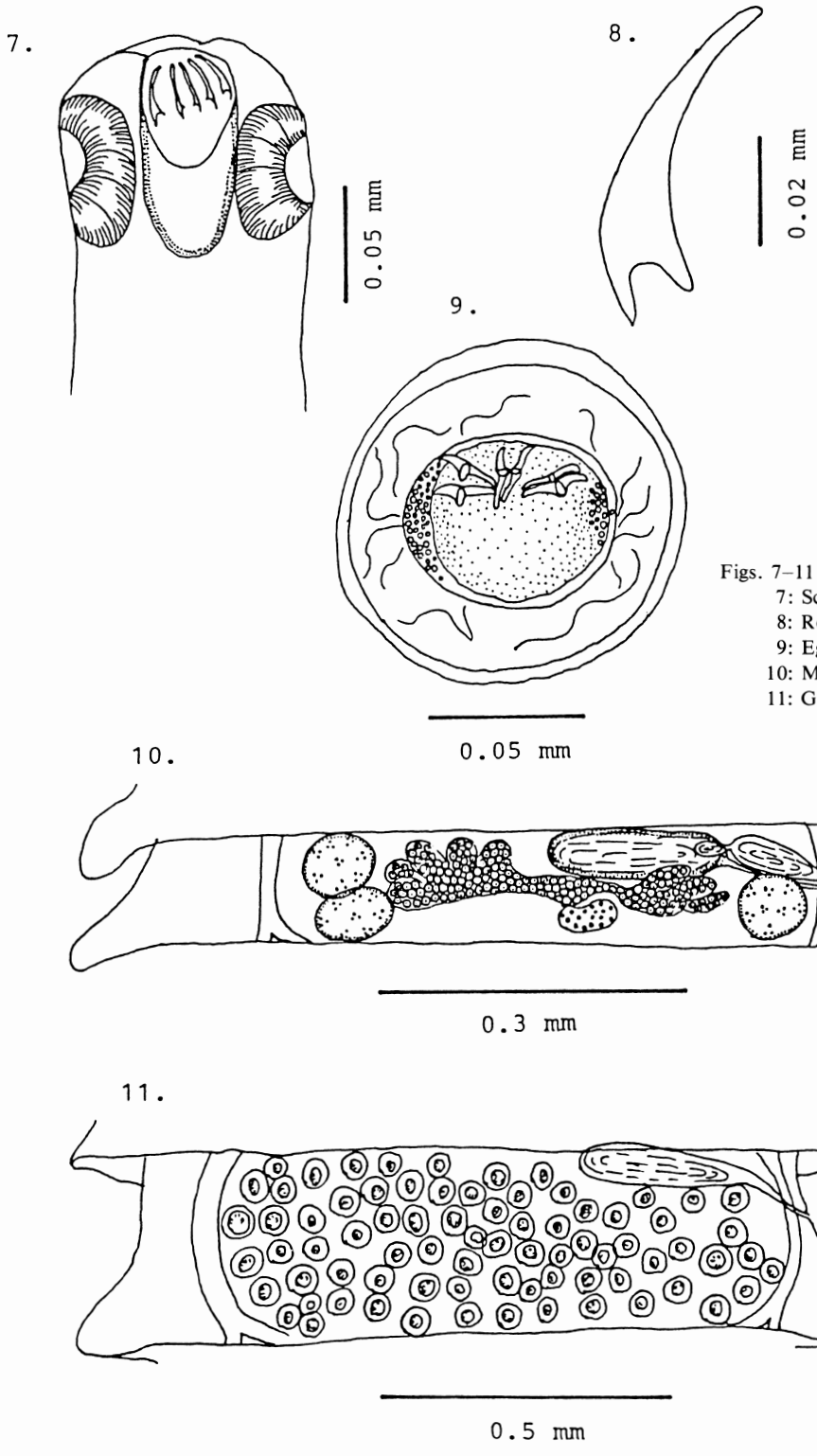
The genus *Polycercus* includes 46 species (Schmidt, 1986), of which *P. barbara* and *P. magnicirrosa* resemble *P. japonensis* n.sp. in the number of testis, but they differ from the new species in the following morphological features, as shown in Table 1. The new species differs from *P. barbara* in the smaller sizes of strobila, scolex, rostellar hook, and cirrus pouch, in the distribution of egg in proglottid. The new species also differs from *P. magnicirrosa* in the larger size of strobila and rostellar hook, in the smaller number of rostellar hook, in the position of genital pore, and in the shape of rostellar hook. Consequently *P. japonensis* n.sp. can be easily discriminated from *P. barbara* and *P. magnicirrosa* by the number of rostellar hooks.

Passerilepis crenata (Goeze, 1782)
Sultanov et Spasskaja, 1959
(Figs. 7–11)

Description: Strobila 75 in length, 1.7 in maximum width, with 313 proglottids, craspedote, wider than long. Scolex 0.115 long by 0.105 wide. Rostellum 0.065 by 0.038 in size, armed with a single row of 10 hooks, 0.03–0.033 long. Rostellar sac 0.08 by 0.043 in size. Suckers discoidal, 0.053–0.055 in diameter. Neck 0.3 long by 0.15 wide. Genital pores unilateral, situated in middle of proglottid margin. Testes 3 in number, 0.05–0.065 in diameter, arranged trianglarly: one on polar side and the other two on apolar side. Cirrus pouch elongated, 0.09 long by 0.02 wide. Internal seminal vesicle 0.13 by 0.045–0.05 in size. External seminal vesicle small, 0.05 by 0.025–

Table 1 Morphological comparison of *Polycercus japonensis* n.sp. with the closely resembling species

	P. japonensis n.sp.	*P. barbara*	*P. magnicirrosa*
Strobila (mm)	30.2–39.7 × 1.1–1.2	20–30 × 0.85	15 × 0.6
Scolex (mm)	0.08–0.1 × 0.11–0.12	0.02 across	0.25–0.3 across
Rostellar hook Number	8	23	22–24
Rostellar hook Length	0.03	0.017	0.018–0.019
Testis number	24–27	24–26	27
Cirrus pouch (mm)	0.18–0.21 × 0.025–0.028	0.019	0.25–0.35
Position of genital pore on proglottid margin	Anterior 1/4	Anterior corner	Anterior 1/3
Egg Size (mm)	0.058–0.062 × 0.050–0.55	Not described	Not described
Egg Distribution	Between both osmoregulatory canals	Beyond both osmoregulatory canals	Not described



Figs. 7–11 *Passerilepis crenata*
7: Scolex
8: Rostellar hook
9: Egg
10: Mature proglottid
11: Gravid proglottid

0.03 in size. Vaginal opening posterior to male genitalia. Ovary transversely bilobate, 0.35–0.37 across. Vitelline gland compact, 0.088–0.12 by 0.063 in size, situated just behind ovary. Seminal receptacle prominent, 0.16–0.17 by 0.063–0.070 in size. Egg spherical, 0.12 by 0.1 in size. Onchosphere 0.063 by 0.055 in size, with granular body and terminal filaments on each side. Embryonic hook 0.02–0.023 long.

Host: Grey starling, *Sturnus cineraceus* Temminck

Habitat: Small intestine

Discussion

After careful investigation, one of the three specimens was identified as *Passerilepis crenata*. *Sturnus vulgaris* was recorded as the host of *P. crenata* by Spasskaja in 1966, but *Sturnus cineraceus* is a new host of the cestode species.

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