

Raillietina (Raillietina) beppuensis n.sp. from a Pigeon,
Columba livia domestica

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Abstract

Eight cestode specimens were obtained from the small intestine of a pigeon, *Columba livia domestica* at Beppu City, Oita Prefecture on September 16, 1991. 36 species of *Raillietina (Raillietina)* have been reported from the pigeon. The present new species closely resembles *Raillietina (Raillietina) singhi* Malviya and Dutt, 1971 but it differs from that in the smaller strobila, the shape of rostellar hook, the lack of neck, the smaller number of testes, the smaller number of rows of acetabular spines and the smaller size of egg.

Key words: avian cestode, *Raillietina (Raillietina) beppuensis*, pigeon, morphology

Introduction

Thirty six species of the subgenus *Raillietina (Raillietina)* Stiles et Orleman, 1926 have been recorded from the pigeon. In Japan, *R. (R.) taiwanensis* Yamaguti, 1935, *R. (R.) tokyoensis* Sawada, 1960, *R. (R.) kunisakiensis* Sawada and Kugi, 1979 and *R. (R.) bungoensis* Sawada and Kugi, 1986 have been reported. The present paper deals with the morphology of a new cestode species of the subgenus *Raillietina (Raillietina)*.

Materials and Methods

Eight cestode specimens were obtained from the small intestine of a pigeon, *Columba livia domestica*, at Beppu City, on September 16, 1991. The specimens were fixed in 70% alcohol after pressed between two slides, stained with Heidenhain's hematoxylin, dehydrated in graded series of ethanol, cleared in xylene, and mounted in Canada balsam.

All measurements are given in millimeters.

Raillietina (Raillietina) beppuensis n.sp.
(Figs. 1–6)

Strobila 160–190 in length, 1.7–1.9 in maximum width. Proglottids broader than long, serrate; young gravid proglottids widest, but old ones equal in width and length. Scolex 0.16–0.17 long by 0.30–0.32 wide. Rostellum 0.080–0.088 long by 0.13–0.15 wide, armed with 2 rows of 280–300 hammer-shaped rostellar hooks 0.0175–0.020 long. Suckers round, measuring 0.05–0.08 by 0.063, marginally armed with 5 rows of hooklets, 0.0075–0.01 long. Neck absent. Genital pores unilateral, located slightly anterior to middle of each proglottid margin. Mature proglottid 0.23–0.25 long by 1.0 wide. Testes 38–40 in number, 0.035–0.043 by 0.030–0.035 in size, located in two groups on each side of proglottid and behind ovary; 11–12 poral and 27–29 aporal. Cirrus pouch pyriform, 0.080–0.084 long by 0.038 wide, reaching longitudinal osmoregulatory canal. Cirrus without spines. Vas deference located near midline, and extending laterally, forming many convolutions toward base of cirrus pouch. Vagina opening posterior to male genital opening, swollen out in distal portion, 0.065–0.075 by 0.025. Ovary polylobate, composed of a number of follicles, situated in midline of proglottid, 0.19–0.20 across. Vitelline gland irregular reniform, 0.05–0.07 by 0.045–0.083, situated just behind ovary. Young gravid proglottid 0.38–0.40 long by 1.5–1.9 wide. Senile

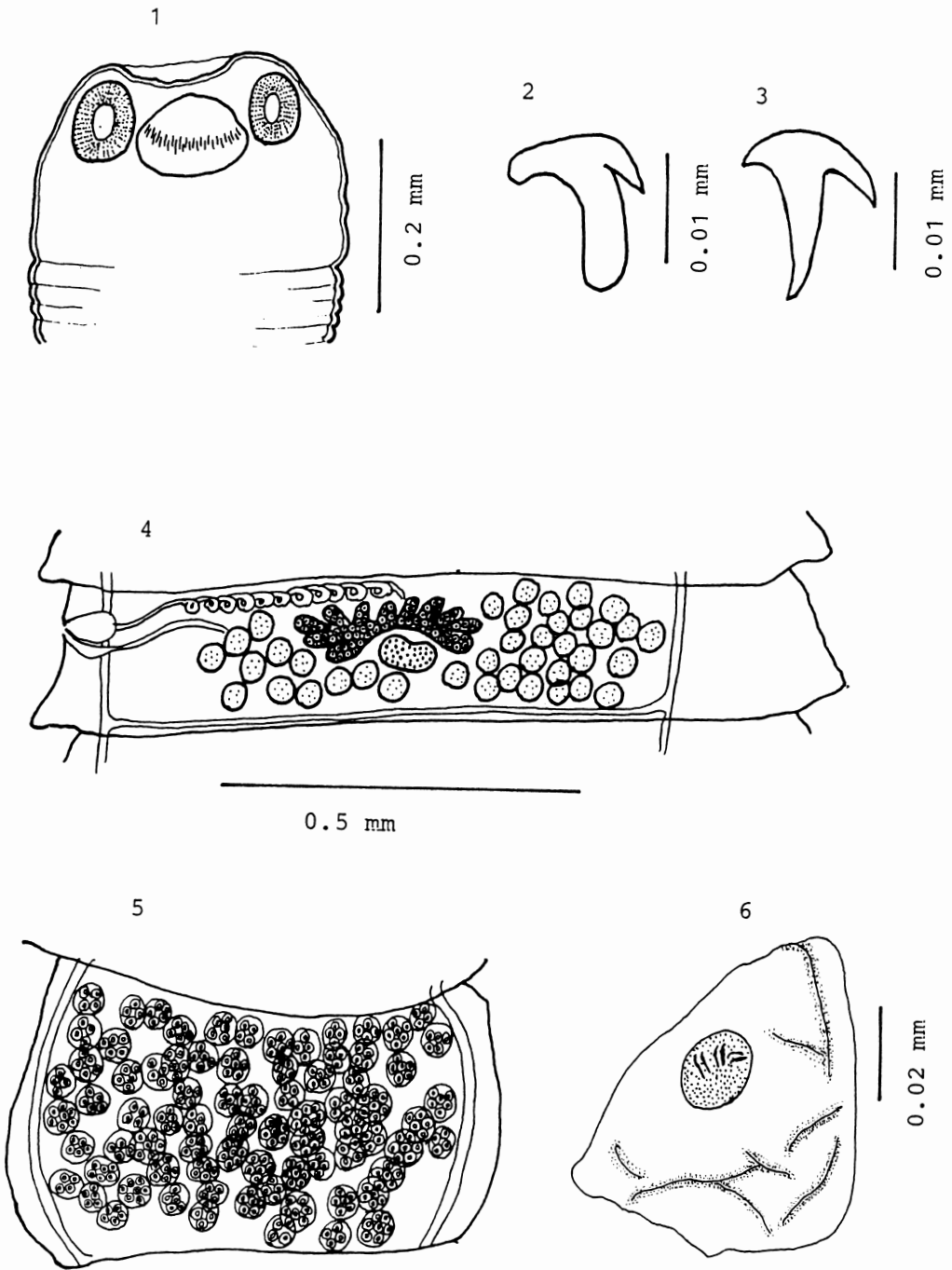


Fig. 1 Scolex
 Fig. 2 Rostellar hook
 Fig. 3 Rostellar hook (*R. (R.) singhi*)
 Fig. 4 Mature proglottid
 Fig. 5 Gravid proglottid
 Fig. 6 Egg

proglottids 0.9–1.0 long by 1.0–1.05 wide, containing 78–95 egg capsules, 0.10–0.15 in diameter, situated between both longitudinal osmoregulatory canals. Each egg capsules containing 4–8 eggs. Eggs spherical 0.035–0.039 in diameter, surrounded by a thin membrane. Onchosphere subspherical 0.020–0.023 by 0.018–0.023; embryonic hooks 0.005–0.006 long.

Host: pigeon, *Columba livia domestica*

Habitat: Small intestine

Locality and date: Beppu City; September 16, 1991

Type specimens: Holotype and Paratype deposited in Megulo Parasitological Museum, MPM Coll. No. 19560

Discussion

Thirty six species of the subgenus *Raillietina* (*Raillietina*) Stiles et Orleman, 1926 (Fuhrmann, 1932, Sawada, 1965, Schmidt, 1986) have been recorded from the pigeon. The present new species closely resembles *Raillietina* (*Raillietina*) *singhi* Malviya and Dutt, 1971 in the rostellar hook number, the position of genital pore, the egg number in each egg capsule and the size of embryonic hook. However, it differs from that in the smaller size of strobila (160–190 by 1.7–1.9 vs. 220–260 by 2.86), the absence of neck (absent vs. 0.172–0.267), the smaller number of acetabular spine rows (5 vs. 7), the larger number of testes (38–40 vs. 22–28), the

smaller size of egg (0.035–0.039 vs. 0.072–0.086 by 0.072–0.082), the shape of rostellar hook (Fig. 2 vs. Fig. 3), and the location of cirrus pouch (crossing longitudinal osmoregulatory canal vs. not reaching canal).

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