

On Some Tapeworms from the Crow Collected at Beppu City

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Abstract

Fifty-six cestode specimens were obtained from 66 crows (8 carrion crows and 58 jungle crows). Crows were captured at a dumping ground in Beppu City, Oita Prefecture between March 21 and April 8, 1990. *Variolepis beppuensis* n. sp., differs from all of four known species of the genus *Variolepis* from the crow in the number of rostellar hook. *Raillietina (Paroniella) orientalis* n. sp. is related to but differs from *R. (P) japonica* in the few number of rostellar hook, the larger size of cirrus sac and egg, and the possession of poral filament in egg. *Passerilepis microscolecina* n. sp. is related to but differs from *P. crenata* is the smaller size of scolex, rostellum, rostellar sac and embryonic hook, and the larger size of internal seminal vesicle. *Passerilepis passeris* (Gmelin, 1790) is reported from *Corvus corone* and *C. coronoides*.

Key words: avian cestode, *Variolepis beppuensis* n. sp., *Raillietina (Paroniella) orientalis* n. sp., *Passerilepis microscolecina* n. sp., *P. passeris*., crow, morphology

Introduction

Since 1972, the author has investigated cestodes parasitic on crows collected in Oita Prefecture, mainly in Beppu City. The present paper deals with the morphology of the cestodes obtained from 8 carrion crows, *Corvus corone* and 58 jungle crows, *C. coronoides*.

Material and Methods

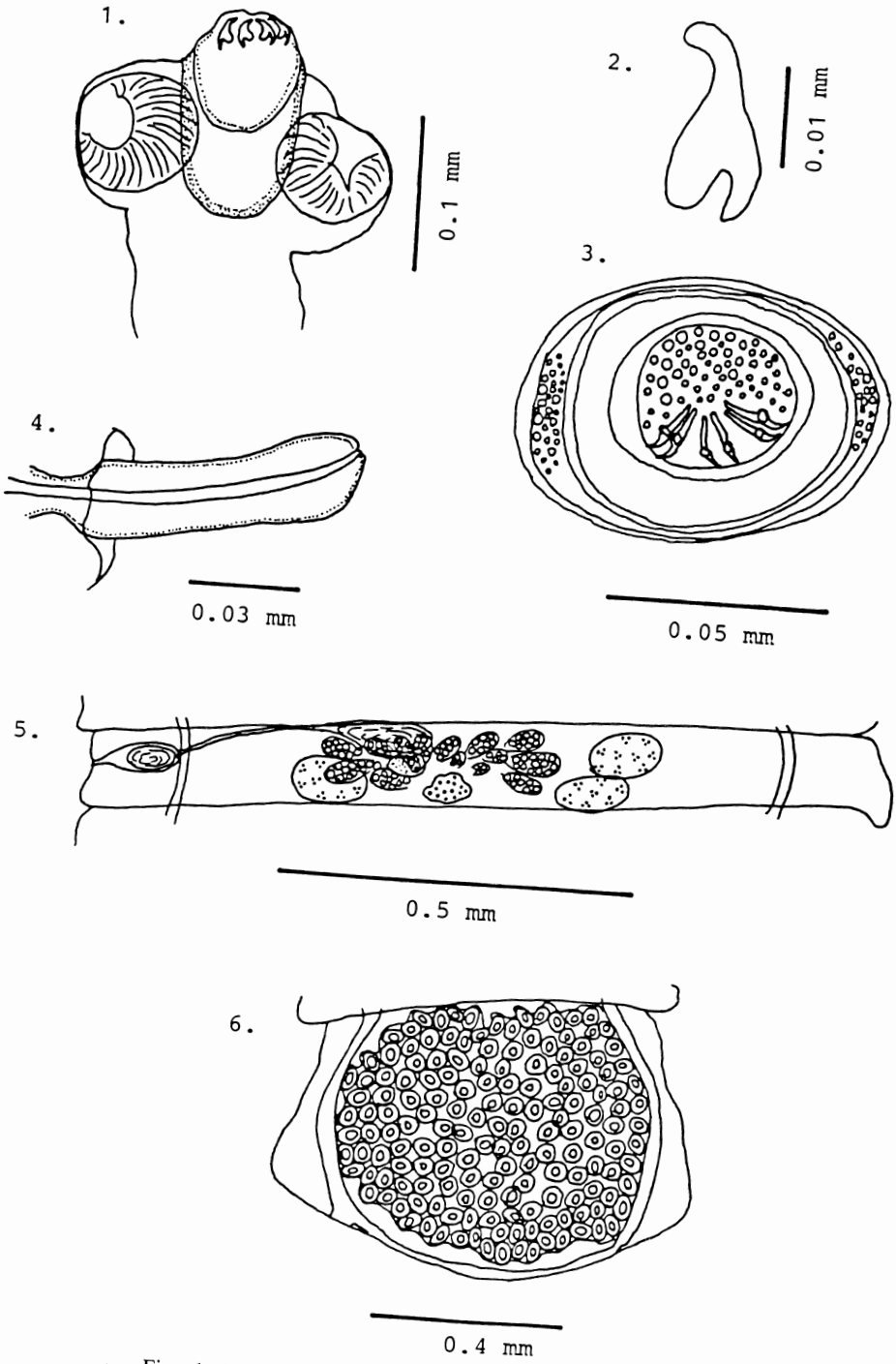
26 cestode specimens were obtained from the small intestines of 36 crows (7 *Corvus corone* and 29 *C. coronoides*) at Beppu City, from March 21 to April 8, 1990. The specimens were fixed in 70% alcohol after pressed between two slides, stained with Heidenhain's hematoxylin, dehydrated in a alcohol series, cleared in xylene, and mounted in Canada balsam.

Measurements are given in millimeters.

Results

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

Strobila 28–32 in length, 1.2–1.3 in maximum width. Proglottides wider than long. Scolex 0.125 long and 0.175–0.225 wide. Neck 0.25 long and 0.09 wide. Rostellum 0.068 long and 0.043 wide, armed with a single row of 8 hooks, 0.018 long. Rostellar sac 0.1 long and 0.08 wide, extending posteriorly beyond posterior margin of suckers. Suckers unarmed, 0.075 in diameter. Genital pores unilateral, situated at middle of proglottid margins. Testes 3 in number, subglobular, 0.12–0.14 by 0.06–0.08 in size, arranged in a shape of triangle: one poral and two aporal. Cirrus pouch 0.075–0.1 long and 0.05 wide, not extending longitudinal excretory canal. Cirrus 0.08 long and 0.023 maximum wide. Vas deferens not coiled, running along anterior margin of proglottid. Internal seminal vesicle 0.063–0.075 long and 0.03–0.035 wide. Ovary 0.35–0.38 across, bilobated. Vitelline gland 0.075 long and 0.063–0.07 wide, situated immediately behind ovary. Vagina opening posteriorly to male genitalia. Seminal receptacle not conspicuous, oval, 0.93 long and 0.038 wide. Uterus in gravid proglottid, saccular, situated between longitudinal excretory canals. Eggs oval, with 2 shells; outer shell 0.08–0.085 by 0.063, inner shell 0.05–0.063 by 0.043–0.05. Onchosphere 0.043 by 0.035; embryonic hooks



Figs. 1-6. *Variolepis beppuensis* n. sp.
1: Scolex
2: Rostellar hook
3: Egg
4: Cirrus
5: Mature proglottid
6: Gravid proglottid

0.018–0.02 long.

Host: *Corvus corone* Linnaeus

Habitat: Small intestine

Locality and date: Beppu City; March 21, 1990

Type specimen: Holotype deposited in the
Meguro Parasitological
Museum, MPM Coll. No.
19544

Remarks: At the present, the number of the genus *Variolepis* Spasskii et Spasskaja, 1954 from the crow (Schmidt, 1986) amount to four: *V. farciminoso* (Goeze, 1782), *V. bilharzi* (Krabbe, 1869), *V. coronoides* (Tubangui et Masilungan, 1937) and *V. variabilis* (Mayhew, 1925). *V. beppuensis* n. sp. differs from all of three known species except *V. variabilis*, which the number of rostellar hook was not described, in the fewer number of rostellar hook (eight vs. ten).

Raillietina (Paroniella) orientalis n. sp.
(Figs. 7–12)

Strobila 165–320 in length, 2.8–3.5 in maximum width. Proglottides much wider than long. Scolex 0.23 long and 0.32 wide. Rostellum 0.08 long and 0.105 wide, armed with 2 rows of 220–240 hooks, 0.017 long. Suckers 0.15 by 0.075–0.1 in size, armed with 5 rows of hooklets, 0.01–0.013 long. Genital pores unilateral, located at anterior one third of proglottid margins. Testes 25–28 in number, 0.03 by 0.038 in size, arranged in 2 unequal groups on each side of ovary, 8–9 poral and 18–19 aporal. Cirrus pouch pyriform, 0.1–0.12 long and 0.045–0.05 wide. Cirrus unarmed, 0.03 long and 0.0075 wide. Vas deferens not coiled, running almost parallel to and in front of vagina to median line. Vitelline gland, oval, situated behind ovary, 0.08 by 0.08–0.1 in size. Vagina opening posteriorly to cirrus pouch. Uterus breaking up into many egg capsules, each containing a single egg and extending laterally beyond excretory canals. Eggs 0.108–0.13 by 0.09–0.12. Onchosphere 0.063–0.065 by 0.053–0.063, with at each pole a round projection provided with polar filament. Embryonic hooks 0.025 long.

Host: *Corvus corone* Linnaeus, *Corvus coro-*

noides Momiyama

Habitat: Small intestine

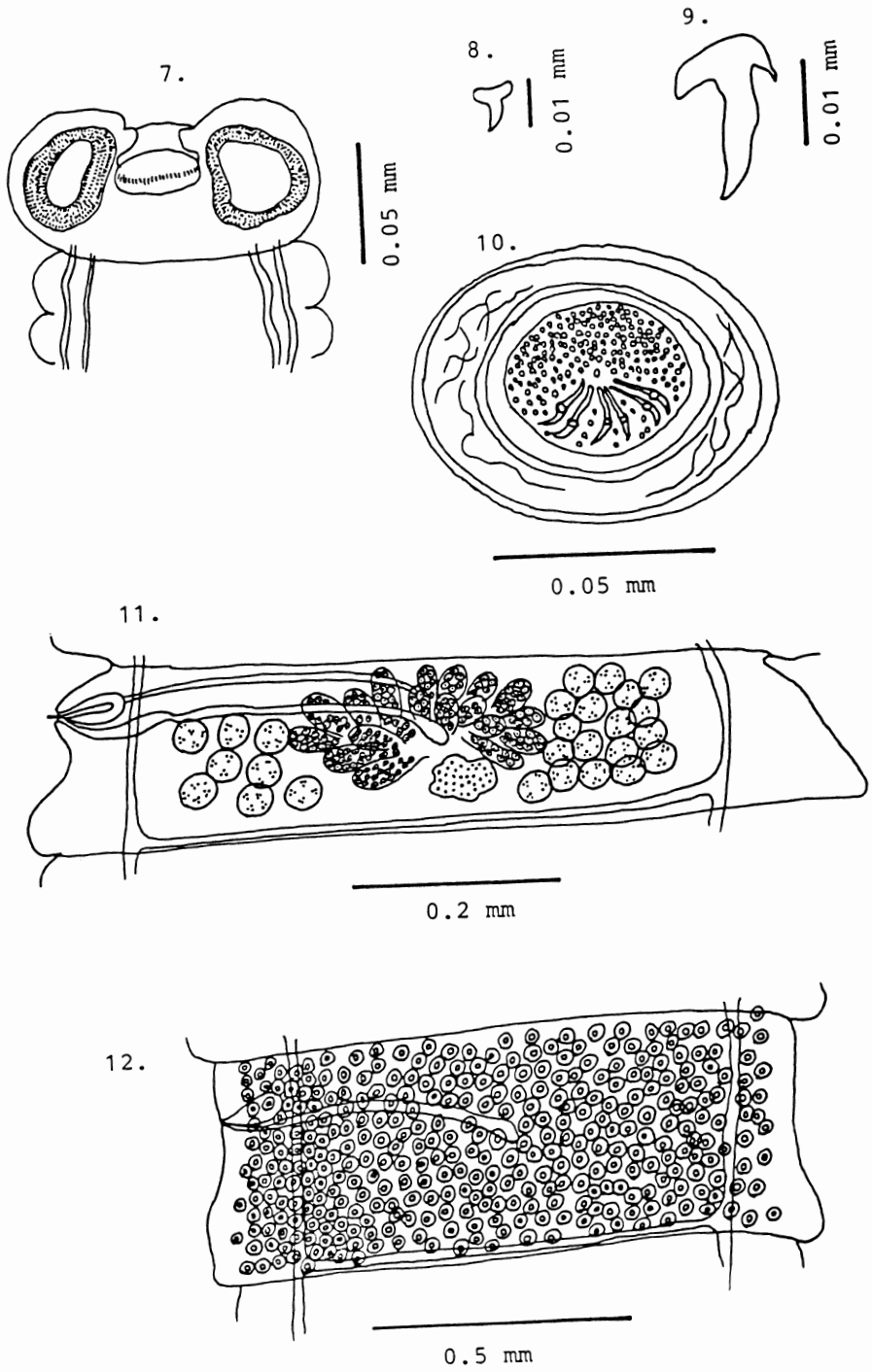
Locality and date: Beppu City; March 21, 1990

Type specimen: Holotype deposited in the
Meguro Parasitological
Museum, MPM Coll. No.
19545

Remarks: Eight species of subgenus *Paroniella* Fuhrmann, 1920 have been recorded from the crow (Schmidt, 1986, Mukherjee, 1970 and Kugi, 1990): *R. (P.) compacta* (Cleac, 1906), *R. (P.) cornea* Tubangui et Masilungan, 1937, *R. (P.) corvina* (Fuhrmann, 1905), *R. (P.) reynoldsae* Meggitt, 1826, *R. (P.) barmerensis* Mukherjee, 1970, *R. (P.) japonica* Kugi et Sawada, 1972, *R. (P.) beppuense* Sawada et Kugi, 1976, and *R. (P.) oitaensis* Kugi, 1990. Compared with the above-mentioned species, the present new species closely resembles *R. (P.) japonica* in the size of strobila and rostellum, however, it differs from that in the following characteristics. Scuh as (1) the fewer number of rostellar hook (220–240 vs. 280–320), (2) the larger size of cirrus pouch (0.1–0.105 vs. 0.07), (3) the smaller size of egg (0.035 vs. 0.108–0.13 by 0.09–0.12) and the possession of poral filament in eggs.

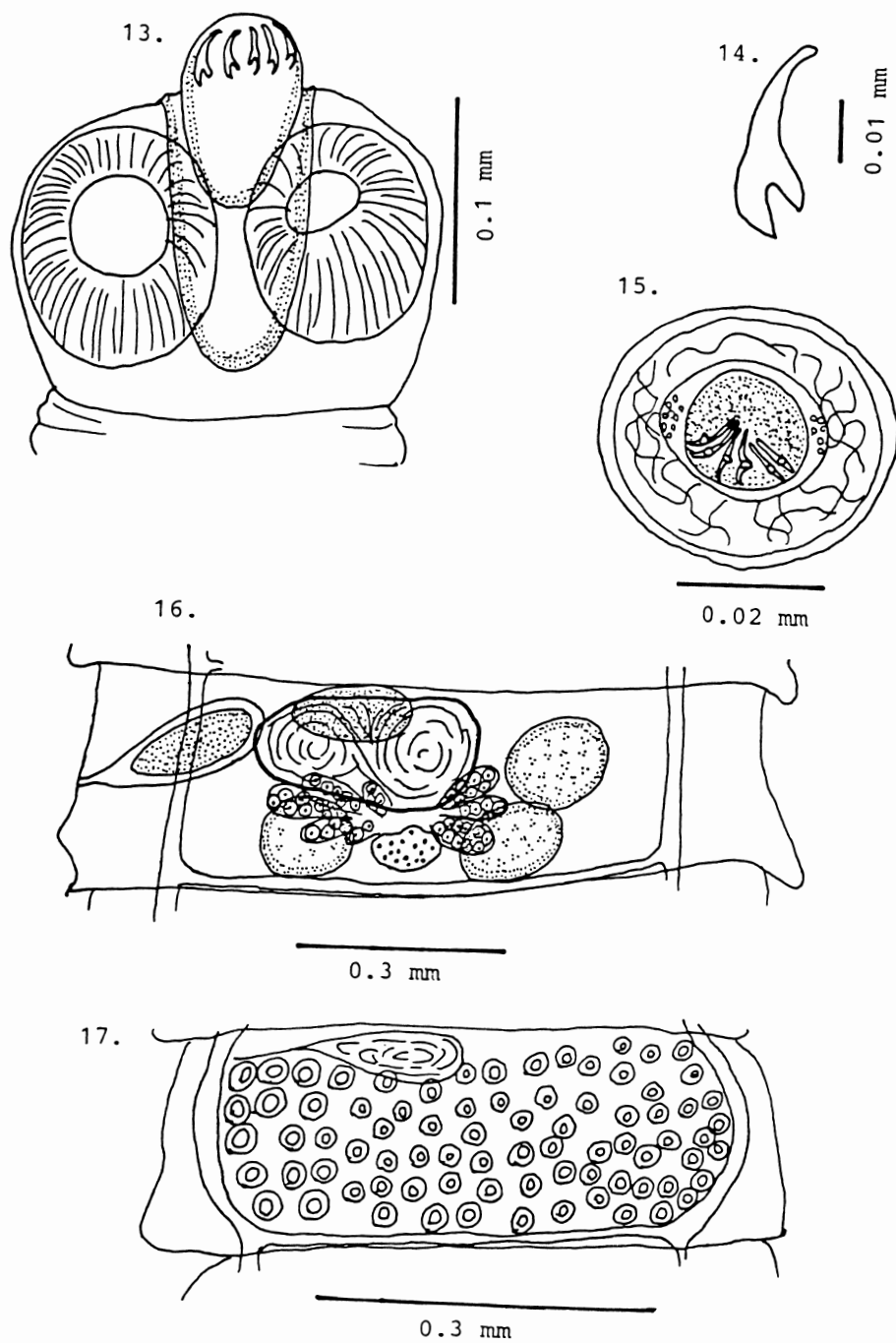
Passerilepis microscolecina n. sp.
(Figs. 13–17)

Strobila 38–56 in length, 0.9–1.8 in maximum width. Proglottides wider than long. Scolex 0.08–0.095 long and 0.1–0.12 wide. Neck 0.5–0.6 long and 0.12 wide. Rostellum 0.038 long and 0.03–0.038 wide, armed with a single row of 10 hooks, 0.028 long. Rostellar sac 0.08–0.083 long and 0.045–0.05 wide, extending posteriorly beyond posterior margin of suckers. Sucker 0.048–0.05 in diameter. Genital pore unilateral, located in middle of proglottid margin. Testes 3 in number, 0.14–0.15 by 0.1–0.12 in size, arranged in a form of triangle: one poral and two aporal. Cirrus pouch 0.16–0.17 long and 0.06 wide, extending beyond longitudinal excretory canal. Cirrus unarmed, 0.05 long and 0.018 wide. Vas deferens not coiled. Internal seminal vesicle 0.1–0.12 long and 0.04–0.045



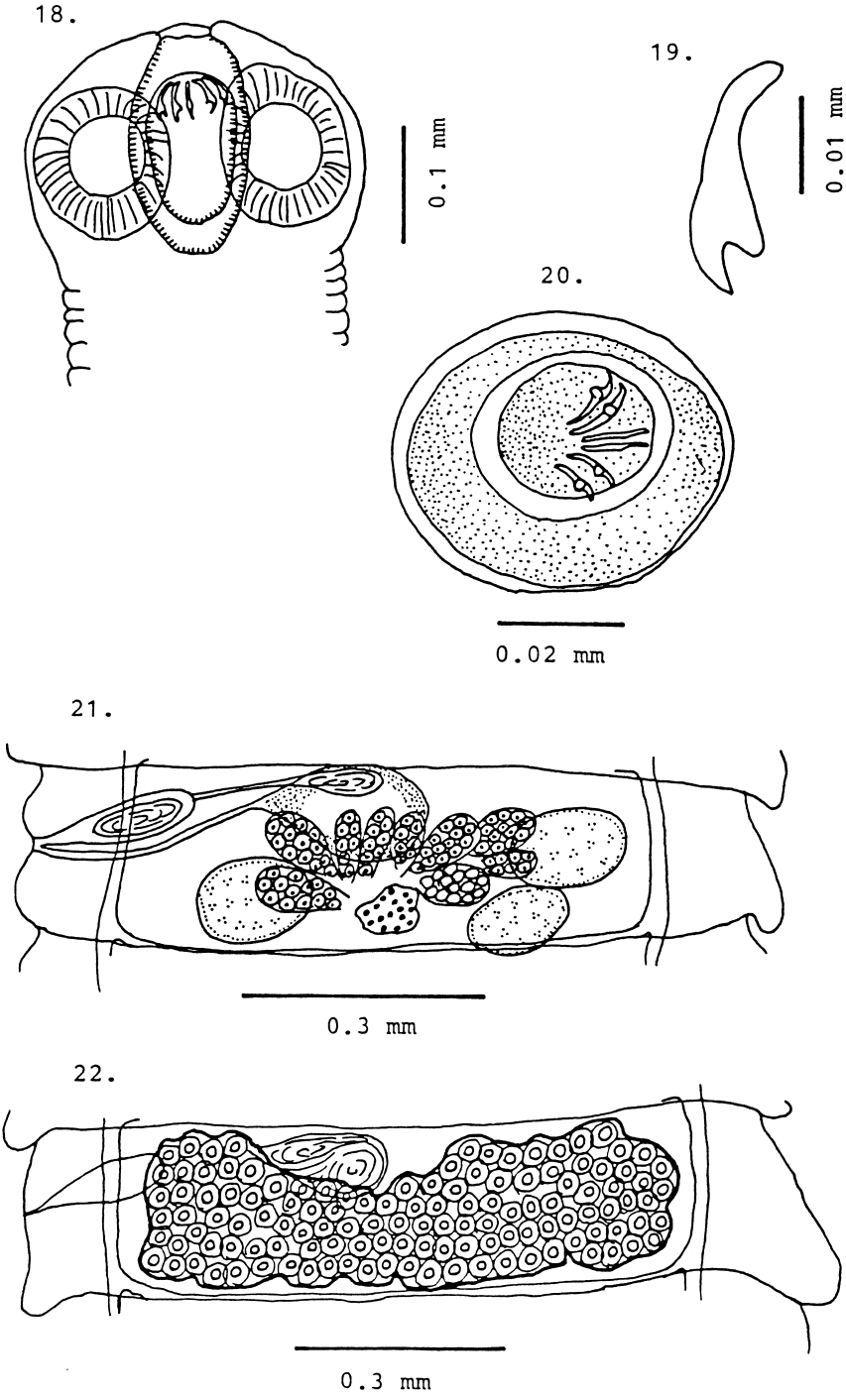
Figs. 7-12. *Raillietina (Paroniella) orientalis* n. sp.

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|--------------------|-----------------------|
| 7: Scolex | 10: Egg |
| 8: Acetabular hook | 11: Mature proglottid |
| 9: rostellar hook | 12: Gravid proglottid |



Figs. 13–17. *Passerilepis microscolecina* n. sp.

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|--------------------|-----------------------|
| 13: Scolex | 16: Mature proglottid |
| 14: Rostellar hook | 17: Gravid proglottid |
| 15: Egg | |



Figs. 18-22. *Passerilepis passeris*

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|--------------------|-----------------------|
| 18: Scolex | 21: Mature proglottid |
| 19: Rostellar hook | 22: Gravid proglottid |
| 20: Egg | |

wide; external one 0.22–0.25 long and 0.1–0.12 wide.

Ovary transversely bilobate, 0.23–0.25 across. Vitelline gland 0.09–0.12 by 0.053–0.075, situated behind ovary. Seminal receptacle prominent, 0.2–0.23 long and 0.15–0.16 wide, extending beyond midline. Vagina opening posterior to male genitalia. Eggs spherical, 0.083–0.085 by 0.058–0.063, containing a single spherical onchosphere each, 0.035–0.038 by 0.043–0.048, with at each pole a round projection provided with polar filament. Embryonic hooks 0.015 long.

Host: *Corvus corone* Linnaeus, *Corvus coronoides* Momiyama

Habitat: Small intestine

Locality and date: Beppu City; March 21, 1990

Type specimen: Holotype deposited in the Meguro Parasitological Museum, MPM Coll. No. 19546

Remarks: About five species of the genus *Passerilepis* Spasskii et Spasskaya, 1954 have been recorded from crows (Schnidt, 1986): *P. passeris* (Gmelin, 1790), *P. crenata* (Goeze, 1782), *P. dahurica* (Linstow, 1903), *P. japonensis* Sawada et Kugi, 1980, and *P. stylosa* (Rudolphi, 1809). This new species resembles *P. crenata* in the situation of genital pores and the size of external seminal vesicle, seminal receptacle and eggs. However, it differs from that in the smaller size of scolex, rostellum, rostellar sac and embryonic hook (0.15 by 0.19 vs. 0.08–0.09 by 0.1–0.12, 0.08 by 0.05 vs. 0.038 by 0.03–0.038, 0.17 by 0.14 vs. 0.08–0.083 by 0.045–0.05 and 0.02 vs. 0.015 respectively) and in the larger size of internal seminal vesicle (0.028–0.032 vs. 0.1–0.12 by 0.04–0.045).

Passerilepis passeris (Gmelin, 1790)
(Figs. 18–22)

Redescriptions: Strobila 65–84 in length, 1.2–1.4 in maximum width. Neck 0.5–0.6 long and 0.12 wide. Proglottides craspedote, wider than long. Scolex 0.2 long and 0.27 wide. Suckers discoid, 0.1 in diameter. Rostellum 0.08 long and 0.05 wide, armed with a single row of 10 wrench-

shaped hooks, 0.027 long. Rostellar sac, 0.16 long and 0.1 wide. Genital pore unilateral, opening in middle of proglottid margin. Testes 3 in number, 0.13–0.15 by 0.11–0.14 in size, arranged in a form of triangle, one poral and two aporal. Internal seminal vesicle 0.163–0.188 by 0.05; external one 0.25–0.3 by 0.08–0.09. Cirrus pouch elongate, 0.028–0.038 long and 0.025 wide. Cirrus 0.025 long and 0.005 wide. Vas deferens straight. Ovary bilobate, 0.23–0.4 wide. Vitelline gland 0.08–0.09 by 0.06–0.09, located just behind ovary. Seminal receptacle prominent, 0.2–0.24 by 0.15–0.17. Uterus in gravid proglottid, saccular, situated between both longitudinal excretory canals. Eggs 0.08–0.085 by 0.063. Onchosphere 0.05–0.063 by 0.043–0.05; embryonic hook 0.0225 long.

Host: *Corvus corone* Linnaeus, *Corvus coronoides* Momiyama

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