

Further Studies on Avian Cestodes in Iraq

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Abstract

A new davaineid and a new dilepidid cestodes were removed from wild birds collected at the various localities in Iraq from June 1985 to September 1986. *Cotugnia paucitesticulata* sp. nov. from *Alectoris kurdestanica* is related to but differs from *C. transvaalensis* Ortlepp, 1963 in the size of strobila, vitelline gland and ovary, and the shape of ovary. *Dilepis passeris* sp. nov. from *Passer domesticus* is related to but differs from *D. orientalis* Yamaguti, 1956 in the number and size of rostellar hooks, the number of testis and the size of cirrus sac. And two davaineid species, *Cotugnia satpuliensis* Malhotra and Capoor, 1983 and *Raillietina (Raillietina) carpohagi* Joyeux and Houdemer, 1927 were also isolated from *Columba livia domestica*.

Key words: Davaineid cestode, Dilepidid cestode, wild birds, Iraq

As a continuation of the serial studies on cestode parasites of the Iraqi wild birds (Sawada, Molan and Saeed, 1987; Sawada and Mahammad, 1989), the materials described in this paper were mainly collected during 1985–1986.

Materials and Methods

A number of wild birds were collected from various parts in Iraq from June 1985 to September 1986, by the second and third authors. The cestodes obtained from the birds were fixed in 4% formalin and were sent to the first author for identification. The cestodes were washed in running water over night to remove formalin and the features of scoleces and eggs were examined without staining. The strobilae were stained with alcohol-hydrochloride-carmin, dehydrated in alcohol, cleared in xylene, and mounted in Canada balsam. Measurements are given in millimeters.

Cotugnia Diamare, 1893

Cotugnia latiproglottina sp. nov.

(Figs. 1–4)

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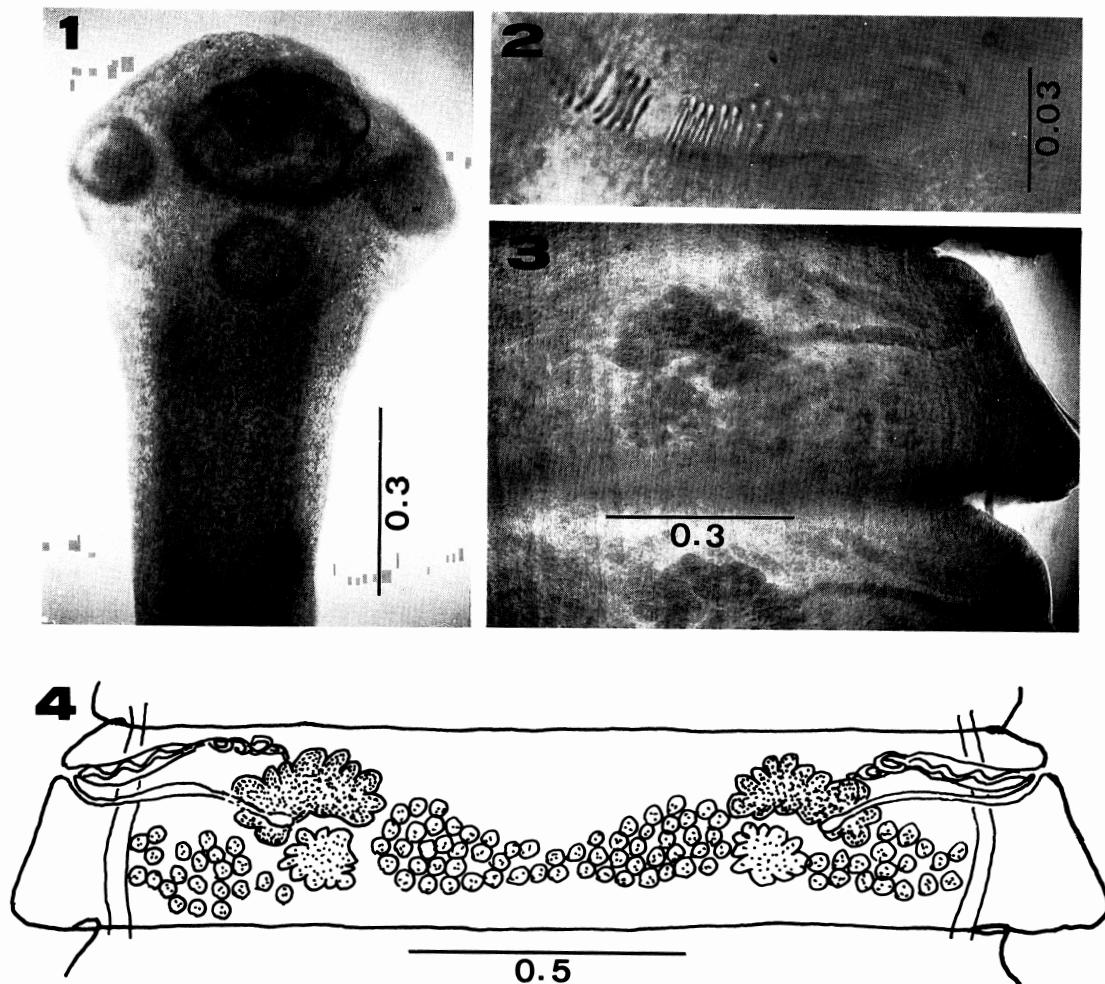
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On June 11, 1985, three specimens of the partridge, *Alectoris kurdestanica*, were captured at Arbil, Harrer. One of them was infected with this cestode. The cestode was fully mature, but not gravid.

Description: Medium-sized davaineid; worm length 75; maximum width 2.1. Metamerism distinct, segment margin serrate and all segments much broader than long. Scolex well developed, 0.525 long by 0.560 wide. Rostellum prominent, measuring 0.140 long by 0.280 wide, bearing T-shaped hooks 0.014 long. Round suckers, unarmed, situated at corner of quadrangle, measuring 0.126–0.140 long by 0.119–0.126 wide. Neck slender, 0.42 long by 0.27 wide. Genitalia double in each segment; genital pores located a little anterior to middle of segment margins. Testes spherical to oval, 84–100 in number, measuring 0.049–0.056 by 0.049–0.063, located between excretory canals and latero-posteriorly to ovary. Cirrus sac elongate, 0.238–0.241 long by 0.049 wide, extending beyond longitudinal excretory canals. Cirrus unarmed. Vas deferens extremely convolute. Ovary coarsely lobate, composing of 10–12 lobes. When fully developed, ovary measuring 0.252–0.301 in across. Vagina 0.224–0.280 long by 0.035–0.049 wide. Seminal receptacle swollen, 0.070–0.105 long by 0.028–0.035 wide.

Host: *Alectoris kurdestanica*.



Figs. 1-4. *Cotugnia latiproglottina* sp. nov.

1: Scolex. 2: Rostellar hooks. 3: Genitalia in mature segment. 4: Outline tracing of mature segment. Scales in mm.

Site of infection: Small intestine.

Locality and date: Arbil, Harrer, Iraq; June 11, 1985.

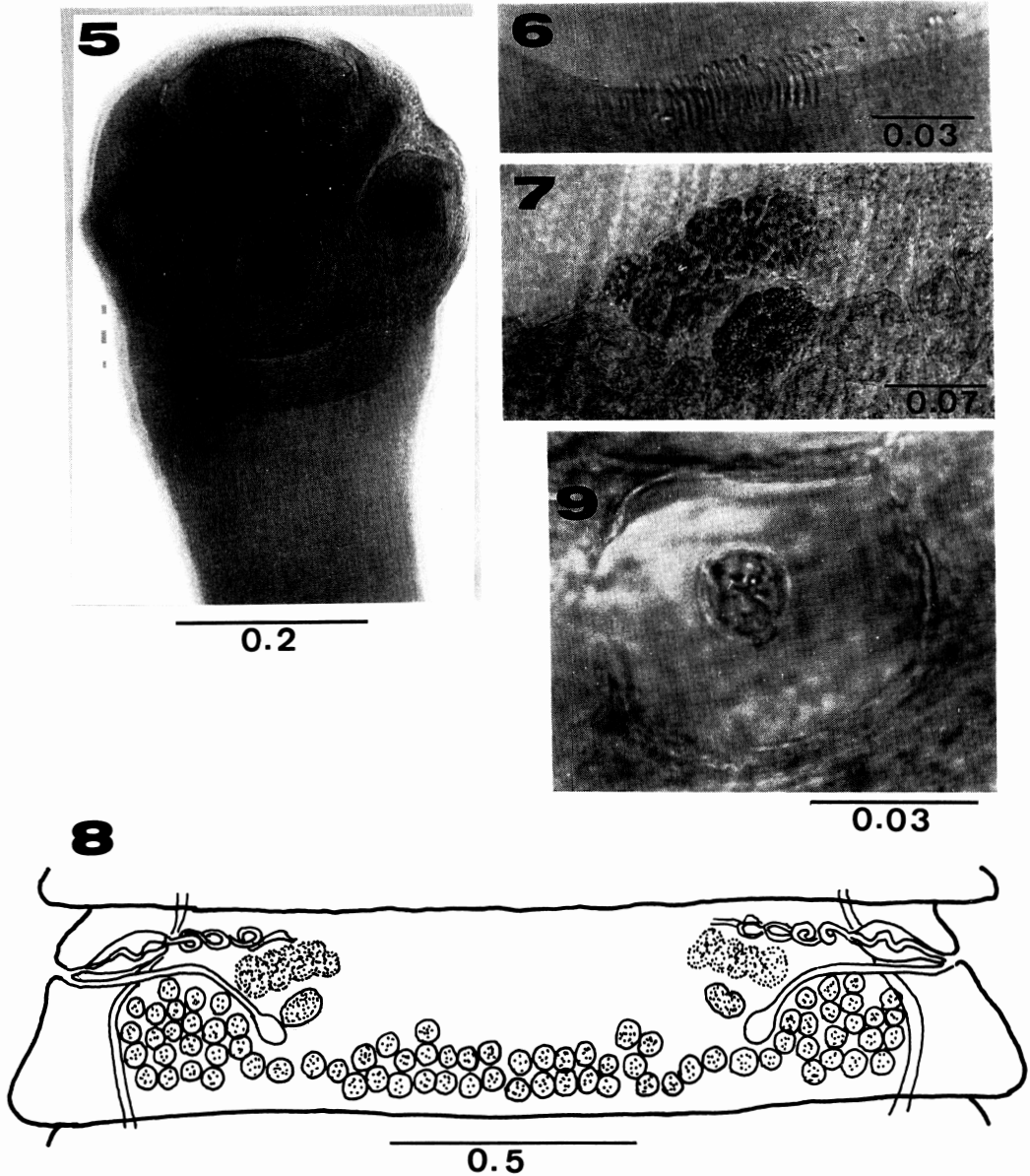
Type specimen: Holotype, NSU Lab. Coll. No. 9001; Paratype No. 9002.

Remarks: At present, the number of the species of the genus *Cotugnia* Diamare, 1893, from the Galliformes amounts to about 14 (Schmidt, 1986). Of these, the present new species most closely resembles *C. transvaalensis* Ortlepp, 1963 from *Numida meleagris* in the number and the length of rostellar hooks. However, it differs from that species in longer strobila (75 vs.

25), the longer vitelline gland (0.119–0.150 by 0.091–0.140 vs. 0.09 by 0.05), and the larger size and the shape of ovary (0.252–0.301 vs. 0.18 broad, and finely lobate vs. coarsely lobate in outline).

Cotugnia satpuliensis Malhotra and Capoor,
1983
(Figs. 5–9)

Of 34 pigeons, *Columa livia domestica*, collected at Arbil, on November 13, 1985 and February 19, 1986, 10 were found infected with



Figs. 5-9. *Cotugnia satpuliensis* Malhotra and Capoor.

5: Scolex. 6: Rostellar hooks. 7: Ovary and vitelline gland. 8: Outline tracing of mature segment. 9: Egg. Scales in mm.

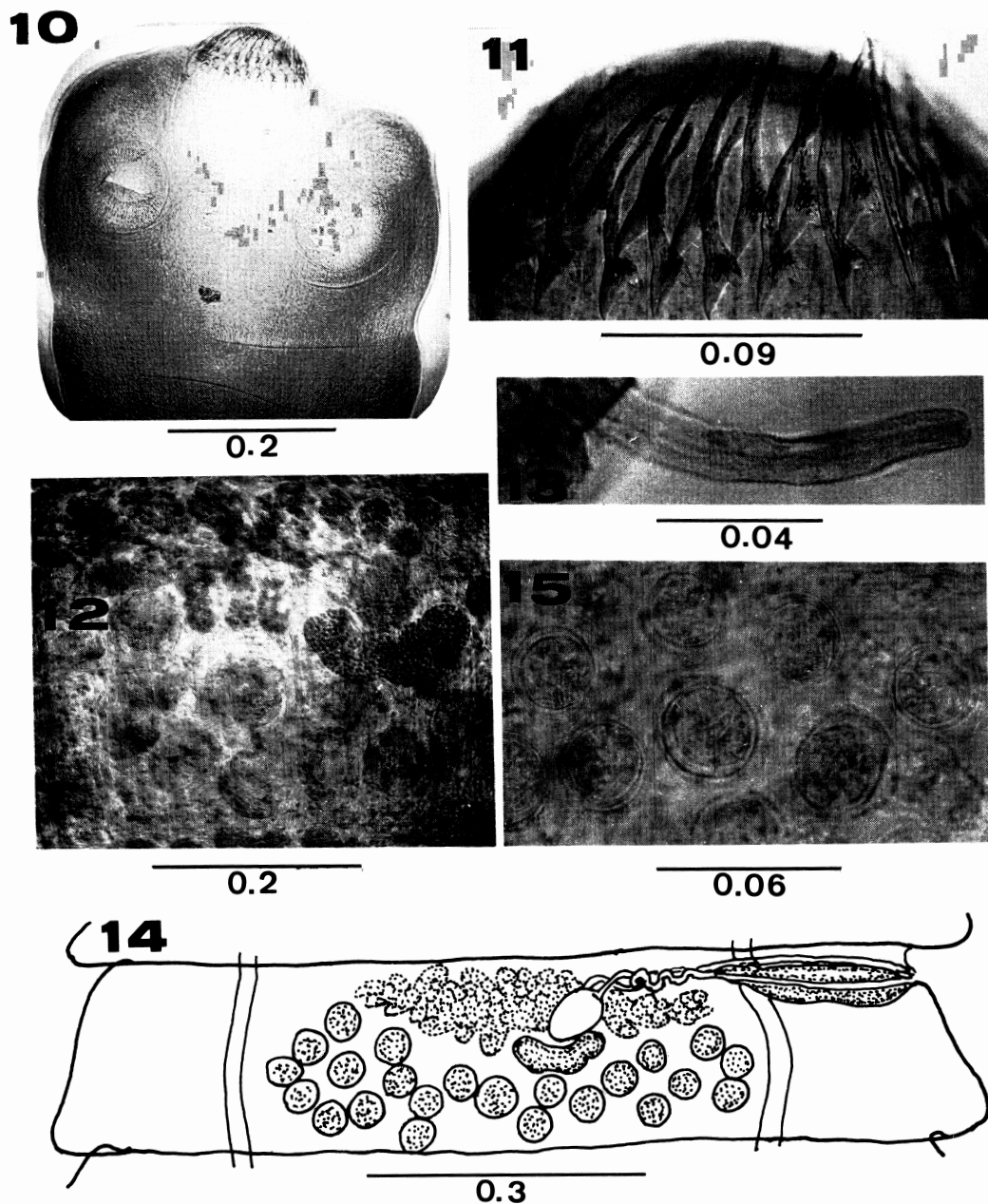
a number of specimens of this cestode.

Description: Medium-sized davaineid, strobila length 43-76; maximum width 1.8-2.7. Metamerism distinct, craspedote, margins serrate and all segments broader than long. Scolex nealy oval, measuring 0.175-0.182 long by

0.140-0.280 wide, armed with two alternate rows of about 320-350 hammer-shaped hooks, 0.014-0.018 long. Suckers unarmed, spherical, 0.126-0.133 in diameter. Neck indistinct. Genitalia double in each segment, genital pores located a little anterior to middle of segment.

Testes spherical to oblong, 60–72 in number, located between excretory canals and latero-posteriorly to ovary. Cirrus sac elongated, 0.207–0.249 long by 0.042–0.069 wide, not ex-

tending beyond longitudinal excretory canals. Cirrus unarmed. Vas deferens partially forming extremely convoluted. Ovary coarsely lobate, 0.138–0.193 across. Seminal receptacle swollen.



Figs. 10–15. *Dilepis passeris* sp. nov.

10: Scolex. 11: Rostellar hooks. 12: Genitalia in mature segment. 13: Cirrus. 14: Outline of mature segment. 15: Eggs. Scales in mm.

Vitelline gland single mass, 0.097–0.124 long by 0.042–0.055 wide. Uterus breaking up into capsules, each containing one egg. Egg spherical, 0.032–0.035 by 0.028–0.032. Onchosphere spherical, 0.014 in diameter; embryonic hooks 0.007 long.

Dilepis Weinland, 1858
Dilepis passeris sp. nov.
 (Figs. 10–15)

Of 43 house sparrows, *Passer domesticus*, captured at Arbil, Kuisenjag on September 26, 1986, five were found infected with a number of specimens of this cestode.

Description: Medium-sized dilepidid; mature worm 32–40 in length and 0.8–1.1 in maximum width. Metamerism distinct, segment margins serrate. Segments wider than long. Scolex 0.294–0.315 long by 0.469–0.560 wide. Neck absent. Suckers discoid, unarmed, 0.175–0.182 in diameter. Rostellum 0.371 long by 0.189–0.196 wide, armed with a double row of 18–23 hooks. Hooks of two rows similar in shape, but attached at different levels. The hooks of anterior row longer, 0.098–0.105; those of posterior row 0.077–0.084. Handle of hook long, and guard short, round at its end. Rostellar sac well-developed, deep and extending beyond base of suckers, measuring 0.469–0.525 long by 0.266–0.364 wide.

Genital pores unilateral, located at anterior 1/3 of segment margin. Testes 18–23 in number, packed in posterior field of segment, measuring 0.042–0.056 in diameter. Cirrus sac elongate, 0.210–0.224 long by 0.035–0.043 wide, extending beyond longitudinal excretory canals. Cirrus armed with minute spines. Vas deferens much coiled, located near anterior field of segment and joining to posterior edge of cirrus sac. External and internal seminal vesicles absent. Ovary multilobular, transversely elongate, extending 0.692–0.830 across. Vitelline gland compact, irregularly lobate, posterior to ovary, measuring 0.140–0.161 long by 0.042–0.049 wide. Vagina opening into genital atrium, extending to median field, parallel to and anterior to cirrus sac, then enlarging, and forming seminal

receptacle measuring 0.091–0.126 long by 0.070–0.091 wide. Uterus sac-like, gradually enlarging and filling all available space of medular in senile segment. Egg spherical 0.035–0.039 by 0.035–0.042, surrounded by four thin envelopes. Onchosphere 0.025–0.028 by 0.028–0.032; embryonic hook 0.014 long.

Host: Passer domesticus.

Site of infection: Small intestine.

Locality and date: Arbil, Kuisenjag; September 26, 1986.

Type specimen: Holotype; NSU Lab. Coll. No. 9003.

Remarks: The number of the species of the genus *Dilepis* Weinland, 1858 amounts to about 56 (Polk, 1942; Yamaguti, 1959; Schmidt, 1986). Of these, about 11 species were described from the Passeriformes. The present new species most closely resembles *D. orientalis* Yamaguti, 1956 from *Turdud aureus aureus*, in the shape of rostellar hooks and vitelline gland, and the position of genital pores. However, it differs from that species in the following characteristics: (1) fewer number of rostellar hooks (21–23 vs. 28); (2) longer rostellar hooks (0.077–0.105 vs. 0.072); (3) fewer number of testes (18–23 vs. 34); (4) larger cirrus sac (0.210–0.224 by 0.035–0.042 vs. 0.090 by 0.0450).

Raillietina Fuhrmann, 1920

Raillietina (Raillietina) Stiles and Orleman,
1926

Raillietina (Raillietina) carpophagi
Joyeux et Houdemer, 1927

Of 26 pigeons, *Columba livia domestica* captured at Arbil in February, 1986, four were infected with several specimens of this cestode. The examination of the present form disclosed that the cestode agrees in all morphological details with *Raillietina (Raillietina) carpophagi* Joyeux et Houdemer, 1927.

Description: Mature strobila length 78–108, maximum width 1.6–1.8. Scolex round, 0.280 long by 0.287 wide, with retractile elliptic rostellum 0.105 long by 0.161 wide, armed with two rows of hammer-shaped rostellar hooks numbering about 250, 0.014–0.018 long.

Suckers round, 0.07 in diameter, armed marginally with 4–5 rows of minute hooks. Genital pores unilateral, located slightly anterior to middle of segment margin. Testes 14–16 in number; divided into two groups on each side of segment; 6–7 in poral side and 8–9 antiporal side. Cirrus sac pyriform, 0.084–0.140 broad, located in anterior field of segment. Vitelline gland compact, 0.056 by 0.035, located close below ovary. Egg sac occupying nearly whole segment except lateral margin of segment. Each sac containing 3–4 oval eggs; measuring 0.039 by 0.035. Onchosphere 0.014–0.018 by 0.018–0.021; embryonic hook 0.004 long.

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