

A New Hymenolepidid Cestode, *Dicranotaenia microcephala*,  
from the Whooper Swan, *Cygnus cygnus*

ISAMU SAWADA

(Received for publication; April 27, 1987)

Abstract

A new hymenolepidid cestode, *Dicranotaenia microcephala* was isolated from, a whooper swan, *Cygnus cygnus* in Ibaraki Prefecture. The present new species closely resembles *D. aequabilis* (Rud., 1810) López-Neyra, 1942 and *D. creplini* (Krabbe, 1869) Stossich, 1898 in the number and shape of rostellar hooks, but, it differs from them in larger rostellar hooks.

**Key words:** Hymenolepidid cestode, *Dicranotaenia*, swan, *Cygnus cygnus*

Introduction

A number of specimens of a cestode species belonging to the genus *Dicranotaenia* Railliet, 1892 were found in a whooper swan, *Cygnus cygnus* from Ibaraki Prefecture. Up to date, there have been no published accounts of *Dicranotaenia* from *C. cygnus* in Japan. On the other hand, the helminths of whooper swan are still little known also in foreign countries and only a few species of this genus have been reported from *C. cygnus* of west Siberia and Europe (Fuhrmann, 1932, Hughes, 1940 and 1941, Schmidt, 1986).

Materials and Methods

A whooper swan, *C. cygnus*, died of illness was taken at Lake Kôtoku, Urizura-machi, Ibaraki Prefecture on December 22, 1986. On dissection, the swan was found infected with a large number of specimens of this cestode. The cestodes stored in 70% alcohol were rinsed in water 12 hr and soaked in 45% acetic acid for about one hr for expanding. The morphological features of scoleces and eggs were observed without staining. In order to study rostellar hooks a part of scolex was cut up. The strobilae

were stained with alcohol-hydrochloride-carmin, dehydrate in alcohol, cleared in xylene, and mounted in Canada balsam. The materials comprise four microscope slides bearing in toto mounts of strobila. Measurements are given in millimeters.

*Dicranotaenia* Railliet, 1892

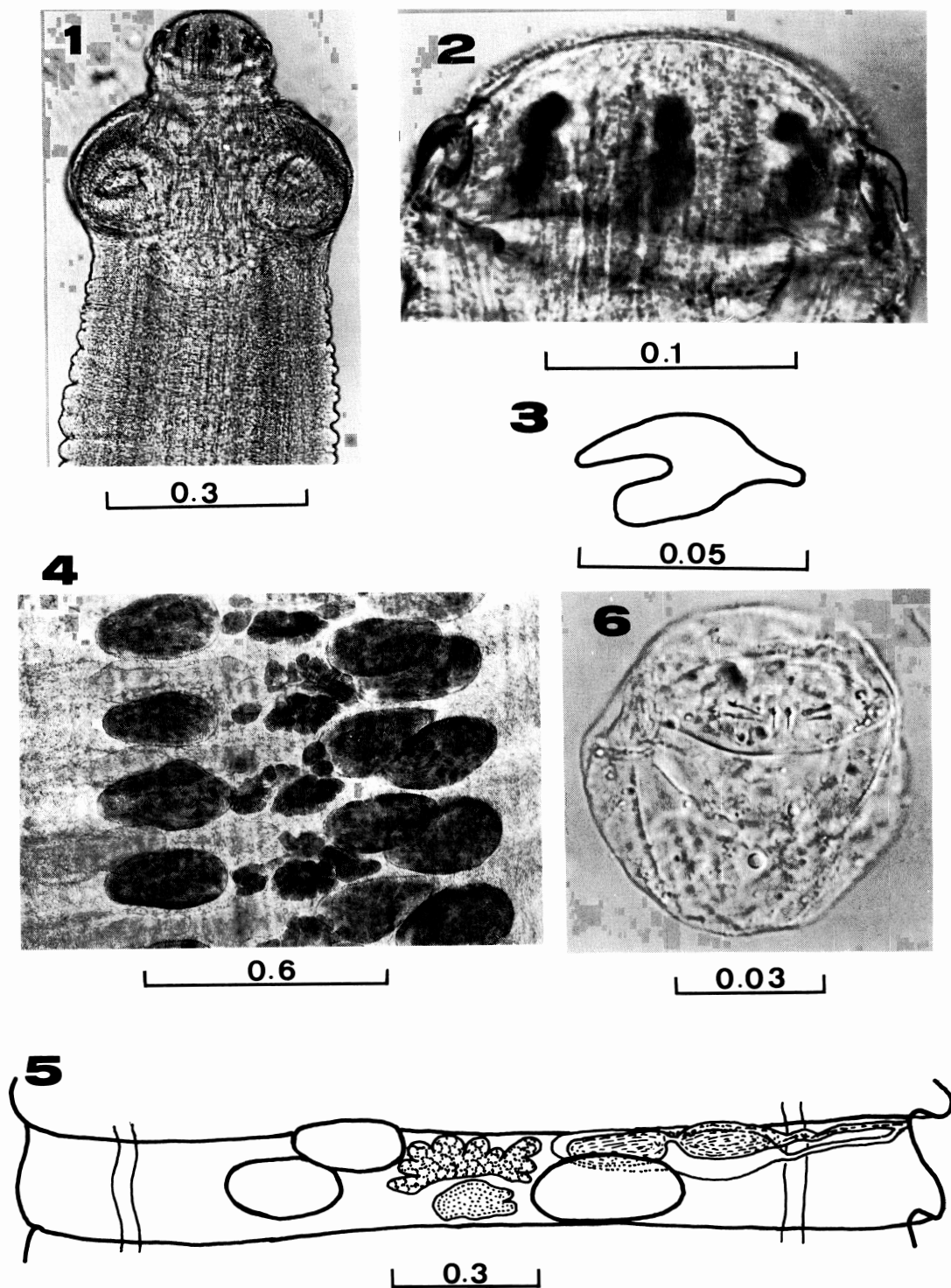
*Dicranotaenia microcephala* sp. n.

**Description:** Large-sized hymenolepidid; mature worm length 373–385; maximum width 6.4–7.1. Metamerism distinct and craspedote. Proglottid margins serrate. All proglottids much broader than long. Scolex small, 0.415–0.490 long and 0.385–0.443 wide. Rostellum 0.221–0.280 long and 0.207–0.210 wide; armed with a single circle of ten cheliform hooks 0.046–0.049 long. Hook handle short; guard round at its end, slightly shorter than blade; blade sharp at its end. Rostellar sac, elongated, 0.490 long and 0.280 wide, extending posteriorly to suckers. Suckers unarmed, round, 0.140–0.166 in diameter. Neck region short, 0.8 long and 0.18 wide.

Genital pores unilateral, situated in anterior portion of anterior one fourth of a proglottid length. Cirrus sac elongated, 0.692–0.719 long and 0.111–0.125 wide, extending laterally beyond osmoregulatory canals. Cirrus spiny. Internal seminal vesicle, occupying most of

Biological Laboratory, Nara Sangyo University, Sangyo, Nara 636, Japan

沢田 勇 (奈良産業大学生物学教室)



Figs. 1-6 *Dicranotaenis microcephala* sp. n.

1. Scolex. 2. Rostellum. 3. Rostellar hook. 4. Mature proglottid, showing arrangement of genitalia. 5. Schematic diagram of mature proglottid, dorsal view. 6. Egg. Scales in mm.

cirrus sac, 0.387–0.498 long and 0.069–0.111 wide. External seminal vesicle elongated, 0.277–0.346 long and 0.055–0.069 wide, directly dorsal to seminal receptacle. Tests three in number, ovoid, 0.304–0.377 by 0.166–0.235, arranged in form of triangle, one poral and two aporal. Vagina running transversely along posterior border of cirrus sac to midline, gradually expanding into voluminous seminal receptacle measuring 0.717–0.899 long and 0.152–0.166 wide. Ovary transversely elongated, frequently irregularly lobate, 0.194–0.221 by 0.152–0.194, in anterior field of proglottid. Vitelline gland weakly lobate, 0.235–0.277 by 0.140–0.152, directly posterior to ovary. Eggs oval or spherical, 0.070–0.084 by 0.053; outermost coat thin; inner membrane spindle-shaped, 0.046–0.053 long and 0.025–0.028 wide; onchospheres also spindle-shaped, 0.028–0.032 by 0.021–0.025; embryonic hooks 0.007 long.

Host: *Cygnus cygnus*.

Site of infection: Small intestine.

Locality and date: Urizura-machi, Ibaraki Prefecture; December 22, 1986.

Type specimen: Holotype: NSU Lab. Coll. No. 8701; Paratypes: No. 8702.

Remarks: Of the four known species of the genus *Dicranotaenia* from members of swan, the present new species closely resembles *D.*

*aequabilis* (Rud., 1810) López-Neyra, 1942 and *D. creplini* (Krabbe, 1869) Stossich, 1898 in the number and shape of rostellar hooks. However, it differs from them in larger rostellar hooks (0.046–0.049 vs. the former 0.027–0.032 and the latter 0.024).

#### Acknowledgments

The author desires to express his obligation to Dr. H. Itagaki, Azabu University and the members of North Ibaraki Livestock Hygiene Service Center, for supplying with cestodes obtained from *Cygnus cygnus*.

#### References

- 1) Fuhrmann, O. (1932): Les Ténias des oiseaux. Mém. Univ. Neuchâtel, 8, 1–381.
- 2) Hughes, R. C. (1940): The genus *Hymenolepis* Weinland, 1858. Oklahoma Agr. Exp. Sta. Tech. Bull., 8, 1–42.
- 3) Hughes, R. C. (1941): A key to the species of tapeworms in *Hymenolepis*. Trans. Am. Micr. Soc., 60, 378–414.
- 4) Krabbe, H. (1869): Bidrag til Kundskab om Fuglenes Baendelorme. Kgl. Danske Videnska. Selsk. Skr. Naturvidenskab. Math. Afd., 8, 248–363.
- 5) López-Neyra, C. R. (1942): Revisión del género *Hymenolepis* Weindand (s.l.) en otros mas naturales. Rev. Ibér. Parasit. 2, 46–93, 113–256.
- 6) Rudolphi, C. A. (1810): Entozoorum sive vermium intestinalium historia naturalis, Vol. II. Amstel., 386 pp.
- 7) Schmidt, G. D. (1986): Handbook of tapeworm identification. CRC Press, Florida, 675 pp.