

STUDIES ON AVIAN CESTODE GENUS *COTUGNIA DIAMARE* FROM *COLUMBA LIVIA*

Shinde A.R. and \*Pathan A.V.

Department of Zoology, Azad Mahavdyalaya, AUSA, District Latur (M.S.) 413520, India

\*(Email [khanamjed777@gmail.com](mailto:khanamjed777@gmail.com))**ABSTRACT**

The present investigation deals with a taxonomic study of cestode parasites were carried out from *Columba livia*. A new species of the genus *Cotugnia*, *Diamare* from the intestine of *Columba livia*, Latur (M.S.) of India. The new species *Cotugnia diamarei* Sp. Nov. comes closer to all known species of the genus *Cotugnia* in general topography of organ but differs due to scolex large, quadrangular, suckers four, oval to rounded, arranged in four corners, rostellum oval, large, placed in anterior region of scolex diameter of scolex 0.58 to 0.62 mm and number of hooks 480-500 arranged in a single circle, neck short, mature proglottids three times broader than long, which is having diameter of rostellum about 500 mm and length of cirrus pouch 1.130 to 1.040 mm.

**KEYWORDS:** *Cotugnia diamare*, *Columba livia*, Cestoda, Latur.**INTRODUCTION**

Birds are important components of ecosystem. They are important from the ecological and economical point of view. Man uses many birds as delicious and nutritious food. Similarly birds also produce some important products like meat, eggs and beautiful feathers. The infections of cestode parasites are found in birds. There are no estimates of population suffering from cestode infection but infections are very common in people who are eating poorly cooked or uncooked meat, unhygienic habitats and poor sanitation. Infection leads to anemia. Parasitic diseases are the major public health problem of tropical countries including India. They infect man and also invade domestic birds and wildlife. Although the morbidity and mortality due to such infection is not alarming they adversely affect the general health, physical and mental health, growth of children and productivity of an adult.

**MATERIALS AND METHODS**

Ten specimens of cestode parasite were collected from the intestine of *Columba livia* at Chakur Dist. Latur, M.S. India, in the month of October, 1998. The collected worms washed, relaxed, preserved in 4 % formalin, stained with Harris Haematoxylin, cleared in Xylol, and mounted in DPX. Drawing was made with the help of Camera lucida.

**DESCRIPTION**

All measurements are in millimeter (mm). Scolex Scolex (figure.1 A) was medium size with convex irregular margin, distinctly marked off from the strobila, with four suckers. Rostellum was large, oval, sucker like and measure 0.1329 to 1.500 mm in length and 1.613 to 1.727 mm in width. The suckers are medium in size, oval in shape, spinose, muscular, placed at four corners, arranged in two pairs, one pair in each half of the scolex, equidistantly placed and measure 0.352 to 0.375 mm in length and 0.386 to 0.397 in breadth.

Neck seems short and measures 0.170 to 0.306 mm in length and 1.363 to 1.420 mm in width. Mature proglottids proglottids (Figure.1C) were medium, broader than long, craspedote, double set reproductive organs and measures 0.351 to 0.555 mm in length and 1.388 to 1.481 mm in breadth. Testes oval, medium, 74 to 80 in number and measures 0.024 to 0.027 mm in diameter. Cirrus pouch on each side, medium in size, oval, obliquely placed, and measures 0.185 to 0.194 mm in length and 0.055 to 0.064 mm in breadth, cirrus medium, coiled and measures 0.185 to 0.038 mm in length and 0.009 mm in breadth. Vas deferens medium coiled and measures 0.037 to 0.170 mm in length and 0.005 mm in breadth. Ovary medium, oval, indistinctly bilobed, round acini, obliquely and measures 0.136 to 0.155 mm in length and 0.043 to 0.049 mm in breadth.

Vagina was medium wide; it runs posteriorly to cirrus pouch, starts from genital pore, forms receptaculum seminis, reaches and opens into the ootype and measures 0.324 to 0.351 mm in length and 0.009 to 0.018 mm in breadth.

Ootype small, round, anteroventral to the ovary and measures 0.018 mm diameter. A genital pore was medium, oval, bilateral, and measures 0.324 to 0.351 mm in length and 0.009 to 0.018 mm in breadth. Eggs capsules was small, oval and measure 0.074 mm in length and 0.027 mm in breadth.

## RESULTS AND DISCUSSION

Genus *Cotugnia* was erected by Diamare in 1893 with type species *C. digonopora* (Pasquale, 1890) collected from domestic fowl. So far the following species of the avian cestode Genus *Cotugina* are reported.

1. *C. digonopora* (Pasquale, 1890), Diamare, 1893.
2. *C. polyacantha*, Fuhrmann, 1909.
3. *C. cuneatea tenuis*, Meggitt, 1924.
4. *C. joyeuxi*, Baer, 1925.
5. *C. parva*, Baer, 1925.
6. *C. fleari*, Meggitt, 1927.
7. *C. nerosa* Meggitt, 1929.
8. *C. bahli*, Johri, 1934.
9. *C. intermedia*, Johri, 1934.
10. *C. noctua*, Johri, 1934.
11. *C. taiwanensis*, Yamaguti, 1935.
12. *C. rimandoi*, Tubangui et Masilungan, 1937.
13. *C. magna*, Burt, 1940.
14. *C. aurangabadensis*, Shinde, 1969.
15. *C. columbae* Shinde, 1969.
16. *C. srivastavi*, Malviya and Datta, 1970.
17. *C. magdoubii* Magzoubi and Kasim, 1980.
18. *C. satpulensis*, Malhotra and Capoor, 1983.
19. *C. yamagutii* Shinde, 1985.
20. *C. vishakhapatnamensis*, Kolluri, 1988.
21. *C. rajivji*, Jadhav et al., 1994.
22. *C. kamatiensis*, Kharade and Shinde, 1995.

The present communication, deals with the description of new species *Cotugnia diamarae* from *Columba livia* Chakur Ta. Chakur Dist. Latur (M.S. India) .

1. The worm under discussion differs from *C. digonopora* which is having the diameter of scolex 0.352 to 0.375 mm in length and 0.386 to 0.397 in breadth.
2. The Studied tapeworm, differs from *C. parva* which is having the diameter of scolex 0.50, The number of testes 32.
3. The experimental worm differs from *C. magna* which is having the diameter of scolex 0.58 to 0.62 mm and number of hooks 480-500 (figure.1B).
4. The tapeworm under discussion, differ from *C. aurangabadensis* which is having diameter of rostellum about 500 mm and length of cirrus pouch 1.130 to 1.040 mm.
5. The worm differs from *C. yamaguti*, which is having the diameter of scolex 0.50 to 0.60 mm, rostellar hooks numerus, the number of testes 190-200 and length of cirrus pouch, 0.132 to 0.005.

The above noted characters, are enough to erect a new species, for these worms and hence the name *Cotugnia diamarae* n.sp. is proposed, in honour Dr. V. Diamare who has contributed so much in our knowledge of Cestodology.

## Taxonomic Summary

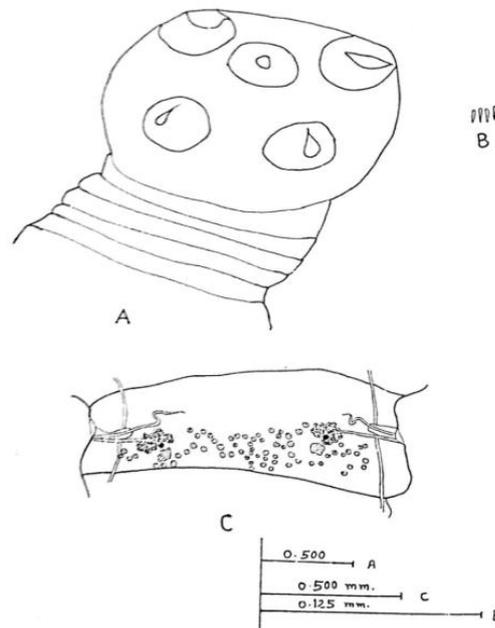
Type species - *Cotugnia diamarae* n sp.

Host - *Columba livia*

Habitat - Intestine

Locality - Chakur

Dist. - Latur (M.S.) India.



**Figure.1. Camera Lucida drawings of *Cotugnia diamare* showing  
A. Scolex B. Hooks C. Mature segment**

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