



Studies on cestode Genus *cotugnia* (Diamare, 1893) from *Columba livia intermedia* with description of a new species

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Abstract

A new species of cestode *cotugnia hafeezullahae* was erected from the bird *Columba livia intermedia* (Diamare, 1893) collected from Ashiv Tq. Ausa Dist. Latur. I have described this new species in detail discussed its systematic position and have compared it with other species. I found *C. hafeezullahae* new species to be different from others in body measurement, scolex length, breadth, sucker, neck, testes, ovary, genital pore, vitellaria etc. It found in different locality.

Keywords: cestode₁, *cotugnia*₂, *C. hafeezullahae*₃, *Columba livia intermedia*₄

1. Introduction

The genus *cotugnia* was erected by Diamare in 1893^[1], with its type species *C. diganophora* (pasquale, 1830) collected from the domestic fowl, *Gallus domesticus* from Africa, India, burma, Indonesia and phillipines. so far 20 species of *cotugnia* are reported from *Columba* formes, which are as under:

C. diagnophora (pasquale, 1890) diamare, 1893^[8], *C. polyacantha*, fuhrmann, 1909^[21], *C. joyeuxi*, Baer, 1924^[3], *C. cuneata* tenceis, Meggitt, 1924^[18], *C. parva* Baer, 1925^[3], *C. heari*, Meggitt, 1927^[18], *C. nervosa*, meggitt, 1929^[18], *C. bahli*, Johri, 1934^[6], *C. intermedia*, Johri, 1934^[6], *C. taiwanensis*, Yamaguti, 1935^[7], *C. rimandoi*, Tubangui et. Masilungon, 1937., *C. magna*, Burt, 1940; *C. aurangabadensis*, Shinde, 1969^[14]; *C. columbae* Shinde, 1969^[14]; *C. shrivastavai*, Malviya and Datta, 1970^[9]; *C. magdoubii*, Magzoubi and Kaim, 1980; *C. satpudensis* melhotra and capoor, 1983^[11]; *C. yamaguti*, shinde, Jadhav and Kadam, 1983^[12]; *C. vishakhapatnamensis*, Kolluri, Laxmi and Rao, 1988; *C. rajivaji*, Jadhav, Kadam, Bawane and Nanware, 1994^[13]; *C. kamatiensis*, Kharade and shinde, 1995^[14]; *C. mohakarae* s.s. kale, 2017.

The present communication, deals with the description, of a new species i.e. *C. hafeezullahae* n. sp. Under the same genus, which is collected from *Columba living intermedia* at Ashiv Tq. Ausa, Dist. Latur, M.S., India.

2. Material and Method

Eight specimens of the cestode parasite, were collected from the intestine of *Columba livia intermedia* at Udgir Dist. Latur (M.S) India. The cestode were fixed in 4% formalin. The parasites are stained with Harris haematolixin and prepared whole mount slides, for anatomical studies. The drawing are made with aid of camera lucida. All measurement in mm.

3. Description

The worms are small in size. The scolex is large in size, quadrangular in shape and measures 0.898 – 1.146. In length and 0.767 – 1.093 In breadth. The suckers are somewhat oval in shape, medium in size, 4 in number,

arranged in two pairs at laterally, and measures 0.165-0.209 in length and 0.155-0.209 in breadth. The rostellum is medium in size, oval in shape and measuring 0.029 – 0.072 in length and 0.209 in breadth. The rostellum is medium in size, oval in shape and measuring 0.029 - 0.072 in length and 0.209 in breadth. A circle of hooks are present on the rostellum, 150-200 in numbers straight, thin, pin shape, pointed at posterior and measures 0.029 in length and 0.003 – 0.004 in breadth.

The neck is medium in size, wide, broader long and measures 0.427 – 0.481 in length and 0.776 – 0.801 in breadth.

The mature segments are broader than long, almost times broader than long, each with a doubles set of reproductive organs with convex lateral margins, and measures 0.398 – 0.461 in length and 0.912 – 1.175 in breadth.

Testes are 85 – 90 (90) in number, variable in size, oval in shape situated in posterior half of the segment, entirely post ovarian, in a single field, in between longitudinal excretory canal, evenly distributed and measures 0.010 – 0.015 in length and 0.019 – 0.029 in breadth.

The cirrus pouch is medium in size, long, cylindrical, obliquely placed, anteriorly directed, opens marginally on each side and measures 0.131 in length and 0.019 – 0.034 in breadth. The cirrus is thin, narrow tube containing in cirrus pouch and measures 0.141 in length and 0.005 – 0.010 in breadth.

The vas deferens is long, coiled, anteriorly directed and measures 0.141 in length and 0.005 in breadth.

The ovary is bi-lobed, lobulated, lobes unequal in size, with irregular margins, placed just posterior to the middle of the segment and measures 0.067 – 0.078 in length and 0.058 in breadth.

Vagina is a thin tube, posterior to cirrus pouch, curved, run transversely, reaches and open into the ootype and measures 0.184 – 0.189 in length and 0.005 – 0.010 in breadth.

The ootype is small, oval in shape, in between the two ovarian lobes and measures 0.010 – 0.015 in length and 0.024 – 0.029 in breadth.

Genital pore are small in shape, oval in shape, marginal, bilateral, placed middle of the segment and measures 0.029

– 0.034 in length and 0.015 – 0.019 in breadth.

The vitelline gland is medium in size, post-ovarian, oval and measures 0.015 – 0.019 in length and 0.029 – 0.039 in breadth. The longitudinal excretory canals are 0.010 in breadth.

The longitudinal excretory canal are 0.010 in breadth.

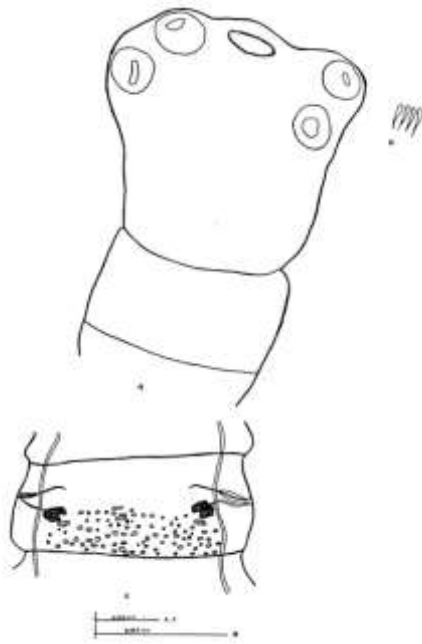


Fig 1: *Cotugnia hafeezullahae* n.sp.

a. Scolex, B. Hooks, C. Mature segment

4. Discussion and Result

After going through the literature the present worm in having rostellar hooks 150 – 200 in number comes closer to *C. joyeuxi*, Baer, 1924 and having number of testes 85 – 90 comes closer to *C. intermedia*, Johri, 1934^[6] but differs from them in many characters as follows:

1. The present worm differs from *C. diganopora*, Pasquale, 1890 in number of hooks (150 – 200 as against vary numerous); in the size of rostellum (0.029 – 0.072 x 0.209 as against 0.15 mm) and the number of testes (150 – 200 as against 100 – 158).
2. The present cestode differ from *C. prava*, Baer, 1925^[3] in the size of scolex (0.898 – 1.446 x 0.767 – 1.093 vs. 0.5 mm); in the size of rostellum (0.029 – 0.072 x 0.209 vs. 0.15 mm); the number of rostellar hooks (150 – 200 vs. 378 – 396); The number of testes (85 – 90 vs. 32 – 41).
3. The present species differs from *C. aurangabadensis*, Shinde, *et al.*, 1969^[14], in the size of scolex (0.898 – 1.146 x 0.767 – 1.093 as against 0.483 mm in the diameter), in the size of rostellum (0.029 – 0.072 x 0.209 as against 0.3 mm); the rostellar hooks (150 - 200 as against about 500) and number of testes (85 – 90 as against 130 - 140).
4. The present form is differ from *C. yamaguti* in the size of scolex (0.898 – 1.146 x 0.767 – 1.093 vs. 0.51 – 0.60 mm); the number of rostellar hooks (150 – 200 vs. numerous) and the number of testes (85 – 90 vs. 190 - 200).

5. Conclusion

The above noted characters are sufficient to erect the new species for these worms and hence the name *Cotugnia hafeezullahae* sp.

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