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Research Note

Circomoncobothrium Jadhavi A New Species Found In Clarious Batraehus At Shivpur Tq. Nalegaon Dist. Latur.

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Abstract: The cestode parasites found in plenty of the vertebrates, like fishes, amphibians, reptile's birds and mammals. Parasitic diseases are among the major public health problems of tropical countries including India. The worm under discussion is having the scolex large triangular narrow anteriorly broad posteriorly, having two bothria, rostellam medium, armed, the rostellar hooks 32 in mumber arrange in single circle, stout, slightly curved mature proglottids medium in size, squash in shape broader than long testes 250-254 (252) on number, small to medium oval arranged in a single field, overy large distinctly bilobed dumb-bell shaped, situated near the posterior margin of the segments, vitellaria follicular, small around in 1-2 rows on each side.

Keywords: Vertebrates; worm; scolex; overy

INTRODUCTION

Among the recent workers working on taxonomy, histopathology, histochemistry and histomorphology of cestode parasites of vertebrates are Bhalerao, Capoor, Shinde and Jadhav [1-4] made tremendous contribution in the field of vertebrate histopathology. The vertebrates are one of the components of the food cycle. As the cestodes are of common occurance in the vertebrates, from the class pisces to class mammals, they may be transferred in the body of man, due to which many diseases are caused. Hence to begin with basis fundamental research on helminth parasites, of the vertebrates in a urgent necessity to day [1-4].

So far, little work has been done, on the cestode parasites of vertebrates and keeping in mind the economic importance and food value of the vertebrates, developing poultry, inland fisheries, dairy, goat and sheep tarmes etc. The author has decided to carry out the work on studies on systematic and morphology of cestode parasite of vertebrates from Latur district (Maharashtra state) in India.

MATERIALS AND METHODS

Eight specimens of the cestode parasites were collected from the intestine of fresh waterfish, clarius batrachus from Shivpur mear Nalegaon, Tq. Nilanga, Dist. Latur (MS), India in the month of September. The worms were considerably long, thin and white in color, with scolex, numerous immature and mature segments. These cestodes were flattened, preserved in 4% formalin, stained with harris haematoxylin, passed through various alcoholic grades clear in xylon, mounted in D.P.X and whole mounted slides were prepared for further anatomical studies. Sketches are drawn with the help of camera Lucida and all measurements are in millimeters.

RESULTS AND DISCUSSION

Fig. 1 shows the new species found which is named circumoncobothrium jadhavi. The scolex is large in size, triangular in shape, distinctly marked off from the strobila narrow interiorly, broad posteriouly and measures 1.262 to 1.742 in length and 0.436 to 0.684 in breadth. It bears two bothria, which are large in size, sac like in appearance, short form the rostellum, extend up to the posterior margin of the scolex, narrow, tube like interiorly, broad posteriorly, do not overlap on each other and measures 0.854 to 0.946 in length and 0.276 to 0.0286 in breadth.

The scolex bears the rostellum at its anterior end, which is medium in size, oval is shape, transversely elongated, having construction at the middle and measures 0.067 to 0.077 in length and 0.126 to 0.208 in width.

The rostellar hooks are 32 in number arranged in a single circle, in 4 quadrants, 8 hooks in each quadrant which are long, stout, two slightly curved, round at base, pointed posteriorly at the tip, longer hooks present in the centre of the quadrant and later on decreases in length on both the sides. The longer hooks measures 0.069 in length and 0.010 in width. The shorter hooks measures 0.036 in length and 0.007 in width. The neck is short, broader than long and measures 0.011 to 0.016 in lengths and 0.063 to 0.075 in breadth.The mature proglottids are broader than long nearly twelve to thirteen times broader than long with straight, irregular, slightly concave or convex lateral margin and measure 0.227 to 0.272 in length and 2.283-2.920 in breadth.

The testes are small in size, oval in shape 250 to 254 (252) in number, arranged to ovary unevenly distributed, mostly bounded laterally by the anterior to posterior margin and from one lateral to the margin of the segments and measure 0.011 to 0.013 in size.The cirrus pouch is a small in size, cylindrical in shape transversely placed, preovraian position, situated just aterrior to the middle of the segments, either to left or right of the central margin of the segments, opens in the middle of the same not opening on the lateral margin and measures 0.090 in length and 0.034 in breadth.

The cirrus is thin coiled obliquely placed contained within the cirrus pouch and measures 0.102 in length and 0.011 in width.The vasdeferens is short, thin, extends obliquely and measures 0.068 in length and 0.008 in breadth. The ovary is large in size distinctly bilobed, roughly dumb bell shaped in appearance, transversely placed, near the posterior margin of the segments on one side and measures 1.261 in length and 0.170 in breadth.The ovarian lobes are club shaped with globular distal end, large in size, with irregular margin and measures 0.397 in length and 0.170 in breadth.The isthmus is connecting the two ovarian lobes, slightly curved, uneven in width, transversely placed, near the posterior margin of segment and measures 0.568 in length and 0.045 in breadth.

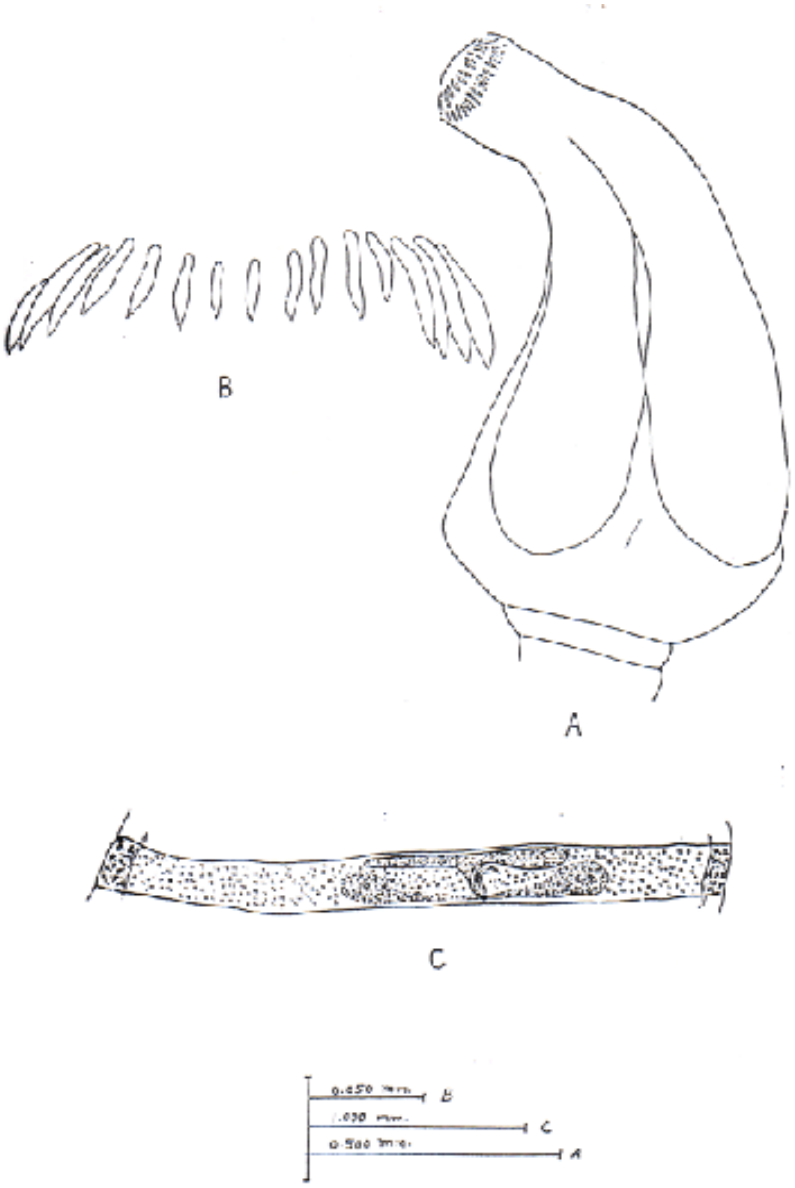

Fig. 1: Corcumoncobothrium jadhavi a new species. A- Scolex ; B- Hooks; C- Mature segment

The ovarian is thin, short, arises genital pore run posteriouly, slightly curved, reaches and opens into ootype and measures 0.113 in length and 0.011 in width.The ootype is medium in size, oval in shape at middle, near the posterior margin of the segment, either to the right or to the left of the middle line of the segments and measures 0.022 in length and 0.022 in breadth.The genital pore is small in size, round in shape, preovarion, either to the left or to the middle line of the segment and measures 0.011 in diameter.

The vitellaria are follicualrs, small in size, round in shape, in 3-4 rows on each lateral side extending from the anterior to the posterior margin of segments and measures 0.011 in diameter.Fully gravid segments are not available but in the mature segments, the uterus is seen in a developing stage, containing eggs.

1. The present cestodes, differ from Circomoncobothrium ophicocephali which is having the scolex distinct hooks 80 in number, rod shaped, testes 70-80 in number, in two lateral fields round in shape, ovary a single, conical mass to irregular shape band thinner in middle and expanded at lateral ends, lobes with 2-3 acini and vitellaria follicular in 14-15 rows on each sides.

2. The present form differs form C. Khami which is having the scolex cylindrical, with even width, apical disc separated by a notch rostellar hooks 48 in number, loncet shaped testes 190-200 (194) in number, round ovary bilobed, each lobe compact situated near the posterior end and in the centre of the segments and vitelline follicles around in a single layer near the lateral margins.

3. The present worm differs from C. Shindei which is having the rosteller hooks 49 in number, rod shaped, testes 260-275 (273) in number, round in shape, ovary dumb-bell shaped, lobes rounded, compact in the centre of the segments and vitellaria granular.

4. The worm under discussion differs from C. Bagariusi which is having the rosteller hooks 55 in number, rod shaped testes 275-285 (276) in number, in two fields, ovarian lobes each with 5-6 globular acini in the middle one third of the segments and vitellaria follicular with irregular in 4-5 rows on each side.

5. The present tapeworm differs from C. Raoi which is having the scolex broad in the middle, narrow at both the ends rostellar hooks 46 in number, rod shaped testes 210-215 in number, round shaped in two fields, ovary bilobed, situated at almost near posterior margin of the segments and vitellaria granular, at the lateral sides of the segments.

6. The present worm differns form C. aurangabadensis which is having the scolex broad in the middle, narrow at both the ends, the rostellar hooks 42 in number, rod shaped testes 135-145 in number round in shaped, ovary bilobed each lobe with 3-4 acini near the posterior margin of the segments and vitellaria granular, near lateral margins.

7. The worm under discussion differs from C. Yamaguti which is having the scolex distinct rostellar hooks 56 in number, straight, stout in a single circle testes 130-150 in number, round , ovary centrally placed near posterior margin and vitellaria granular, corticular along the lateral margins.

8. The present cestode, differs from C. alli which is having the rostellar hooks 34 in number, testes rounded, 230-240 in number, ovary compact, centrally placed lobes long, oval and vitellaria granular.

9. The present tapeworm differs from C. gachuai which is having scolex pear shaped in appearance, rostellar hooks 48 in number, testes 375-400 in number, round, densely placed in two fields, ovarian lobes each with 5-6 shout blunt arini and vitellaria, follicular corticular in position, in 1-2 rows on each side.

10. The present worm differs from C. vadgaonensis which is having scolex triangular, rostellar hooks 56 in number, testis 490-510 in number, evenly distributed, ovary distinctly bilobed in posterior half of the segment, vitellaria follicular, in 2 rows, on each side.

CONCLUSIONS

Circumoncobothrium Jadhavi is a new species found in clarius batrachus. The present worm differs from circumoncobothrium ophiocephali, C. Khami, C. Shindei, C. bagariusi, C. raoi, C. aurangabadensis, C. yamaguti, C. alii, C. gachuai and C. vadgaonesis in various aspects as like scolex, hooks, neck, mature segment, testes, ovary and vitellaria.

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