



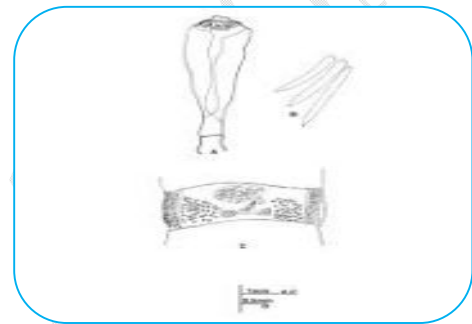
A NEW CESTODE *CIRCUMONCOBOTHRIUM MEHDII* N.SP. (CESTODA : PSEUDOPHYLLIDEA, CARUS) FROM *OPHIOCEPHALUS*

D. P. Patil

Department Of Zoology, Bhagwan Mahavidyalaya, Ashti (M.S.)

ABSTRACT:

The scolex is large, triangular, it bears large, sac like two bothria, rostellar hooks are 32 in number, arranged in a single circle in four quadrants, mature proglottids are medium, squarish, broader than long. Testes medium, oval, 120-130 (122), cirrus pouch is small, cylindrical, cirrus is thin, straight, vas deference is short, ovary is large, distinctly bilobed, roughly dumb bell shaped, isthmus is long, wide, straight slightly curved anteriorly, connects the two ovarian lobes, vagina is wide, arrises from the genital pore, ootype is medium, oval, genital pores are medium, oval, transversely elongated. Vitellaria are follicular, follicles are small, round, 4-5 rows on each lateral side, longitudinal excretory canals are of medium width.



KEYWORDS: Cestode, New species, *Circumoncobothrium mehdii* n.sp.

MATERIAL AND METHOD :

Six specimens of the cestode parasites were collected from a fresh water fish, *Ophiocephalus* at Chittapur, Dist. Gulbarga, K.S., India in the month of March. All the worms were flattened, fixed in 4% formalin, stained with Harris haematoxylin, passed through various alcoholic grades and mounted in D.P.X. Drawings are made with camera lucida. All measurements are in millimeters.

DESCRIPTION :

All the cestodes were long, with thick musculature, whitish in colour, with scolex,

mature proglottids. The scolex is large in size, triangular in shape, broader at the base, narrow at the apex, distinctly marked off from the strobila and measures 0.873 to 0.996 in length and 0.379 to 0.44 in breadth. The scolex bears two bothria, large in size, sac like in appearance, start from the rostellum, extend posteriorly, almost up to the posterior margin of the scolex, a narrow tube like anteriorly, broad posteriorly, overlapping on each other and measure 0.898 to 0.092 in length and .072 to 0.417 in breadth. The scolex bears the rostellum, at the anterior end, which is medium in size, oval in shape, transversely elongated and measures 0.267 in length and 0.072 to 0.097 in

32 in number, arranged in a single circle in four quadrants, 8 hooks in each quadrant. The hooks are long, stout, slightly curved, round at the base, pointed at the apex, longer hooks present in the center of each quadrant and later on decrease in length and breadth on both the sides. The longer hooks measure 0.061 in length and 0.007 in width. The shorter hooks measure 0.016 in length and 0.005 in width. The neck is short, squarish, broader than long one and half times broader than long, with concave or straight lateral margins, slightly wider, uneven in length and measures 0.121 to 0.169 in length and 0.557 to 0.058 in breadth.

numerous immature and | breadth. The rostellar hooks are |

The mature proglottids are medium, squarish, broader than long, two to three times broader than long, with straight, irregular, slightly concave or convex lateral margins, with short or long blunt, round projections at the anterior and posterior corners of the segments and measure 0.364 to 0.476 in length and 0.160 to 1.782 in breadth. Testes are medium, oval, 120-130 (122) in number, arranged in a single field, majority of them preovarian, few lateral to ovary, unevenly distributed, bounded laterally by the longitudinal excretory canals, few on or outside the same, present from the anterior to the posterior and from one lateral to the other lateral margin of the segments and measure .029 to 0.050 in length and 0.024 to 0.029 in breadth. The cirrus pouch is small in size, cylindrical in shape, obliquely placed, preovarian in position, situated in the anterior half of the segments, or just anterior to the middle of the same, either to left or right of the central line of the segments, opens in the middle of the same, not opening on the lateral margin and measures 0.087 in length and 0.015 to 0.039 in breadth. The cirrus is thin, straight, obliquely placed contained within the cirrus pouch and measures 0.058 to 0.063 in length and 0.005 in breadth. The vas deference is short, thin, extends obliquely, anteriorly and measures .0049 in length and 0.005 in breadth. The ovary is large, distinctly bilobed, roughly dumb bell shaped, transversely placed, near the posterior margin of the segments, situated in the centre of the same and measures 0.078 to 0.839 in length and 0.049 to 0.121 in breadth. The ovarian lobes are large, oval, elongated, each lobe with many short, blunt, round acini and measure 0.218 to 0.248 in length and 0.102 to 0.058 in breadth. The isthmus is long, wide, straight slightly curved anteriorly, connects the two ovarian lobes, transversely placed and measures .024 to 0.049 in length and 0.403 to 0.047 in breadth. The vagina is wide, arises from the genital pore, runs posteriorly, obliquely and opens in to the ootype and measures 0.228 in length and 0.015 to 0.019 in width. The ootype is medium, oval, present on the ventral side of the isthmus and measures 0.034 in length and 0.034 in breadth. The genital pores are medium, oval, transversely elongated, obliquely placed, just anterior to the middle of the segments, preovarian, either to the left or to the right of the middle line of the segments and measures 0.010 in length and 0.005 in breadth. The vitellaria are follicular, follicles are small, round, 4-5 rows on each lateral side, from the anterior to the posterior margin of the segments and measure 0.005 in diameter.

The longitudinal excretory canals are of medium width and measure 0.010 in breadth. Fully gravid segments are not available but in the mature segments the uterus is seen in a developing stage, which contains numerous eggs and measures 0.296 in length and 0.019 to 0.345 in breadth. The uterine pore is medium, round double walled and opens to the outside ventrally and measures 0.043 in length and 0.034 in breadth. The eggs are medium, oval operculated and measure 0.027 in length and 0.010 to 0.016 in breadth.

DISCUSSION:

The genus *Circumoncobothrium* is erected by G.B. Shinde in 1968 as a type species *C. ophiocephali* from *Ophiocephalus leucopunctatus*. Later on the following species are added to this genus.

Sr. No.	Name Of the Species
1	<i>C. khami</i> Shinde, 1976
2	<i>C. shindei</i> Shinde and Chincholikar, 1976
3	<i>C. bagariusi</i> Chincholikar and Shinde, 1976
4	<i>C. raoi</i> Shinde and Jadhav, 1976
5	<i>C. aurangabadensis</i> Jadhav and Shinde, 1976
6	<i>C. yamaguti</i> Jadhav et al, 1990
7	<i>C. alii</i> Shinde et al, 1994
8	<i>C. gachuai</i> Jadhav and Shinde, 1998
9	<i>C. vadgonesis</i> Patil, et al, 1990
10	<i>C. baimaii</i> Wangsawad and Jadhav, 1998

11	<i>C. armatus Pawar, et al,2003</i>
12	<i>C. vitellariensis Supugade,2005</i>
13	<i>C. cirrhinae Kharade et,al,2007</i>
14	<i>C. ambajogaiensis Pardeshi et,al, 2007</i>
15	<i>C. laxmiae Menkudle et,al, 2011</i>

* The present cestode, differs from *Circumoncobothrium ophiocephali* 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 shaped bend, thinner in the middle and expanded at lateral ends, lobes with 2 to 3 acini and vitellaria follicular, in 14-15 rows on each side

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

* The present cestode differs from *C. shindei* which is having the rostellar 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.

* The worm under discussion, differs from *C. bagariusi* which is having the rostellar 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 1/3rd of the segments and vitellaria follicular, with irregular shape, in 4-5 rows, on each side.

* 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 in shape, in two fields; ovary bilobed, situated at almost near the posterior margin of the segments and vitellaria granular, at the lateral sides of the segments.

* The present worm, differs from *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 shape; ovary bilobed, each lobe with 3-4 acini, near the posterior margin of the segments and vitellaria granular, near the lateral margins.

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

* The present cestode, differs from *C. alii* 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

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

* The present worm differs from *C. vadgonesis* which is having triangular scolex, rostellar hooks 56 and testes 490-510 in number. Ovaries are posterior half of the segments.

* The present cestode differs from *C. baimaii* having scolex pear shaped, testes 88-100 in numbers, ovary compact, vitellaria granular.

* The present worm differs from *C. armatus* sac having rostellar hooks 23, scolex broader at the base, testes 90-100(95) in number, ovary single, vitellaria small, oval.

* The present worm, differs from *C.vitellariensis* in having scolex triangular, rostellar hooks 48 in number, hooks rounded at base pointed at apex, mature segments 3-4 times broader than long, testes 250-260 in number

* The present worm differs from *C. cirrhinae* in having scolex cylindrical, barrel shaped, rostellar hooks 56 in number, mature segments slightly longer than broad, testes 300-305 in number, ovary multilobed with 7-8 acini, vitellaria granular

* The present worm differs from *C. ambajogaiensis* in having scolex triangular, rostellar hooks 48 in number, mature segments two times broader than long, testes 155-160 in number, ootype small, postovarian.

* The present worm differs from *C.laxmiae* in having scolex, large, oval, broad in the middle, narrow anteriorly and posteriorly, rostellar hooks 43 in number, in a single circle, mature segments broader than long, testes 105-115(110), evenly distributed, preovarian, ovary large bilobed in the posterior half of the segment, dumb-bell shaped, lobes globular, short, blunt, round, 20-22 acini, vitellaria follicular in two lateral fields in 4-5 rows on each side

These characters necessitate, the erection of a new species, for these worms and hence the name *Circumoncobothrium mehdii* n.sp. is proposed, after Dr.Syed Mehdi Ali, Ex-professor and Head, Department of Zoology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, who has contributed a lot, in our knowledge of helminthology.

Type species : *Circumoncobothrium mehdii* n.sp.

Host : *Ophiocephalus gachua*

Habitat : Intestine

Locality : At. Chittapur, Dist. Gulbarga, K.S., India.

Type specimens : Holotype and paratype are deposited in Helminthology Laboratory, Department of Zoology, Dr. B. A. M. University Aurangabad.

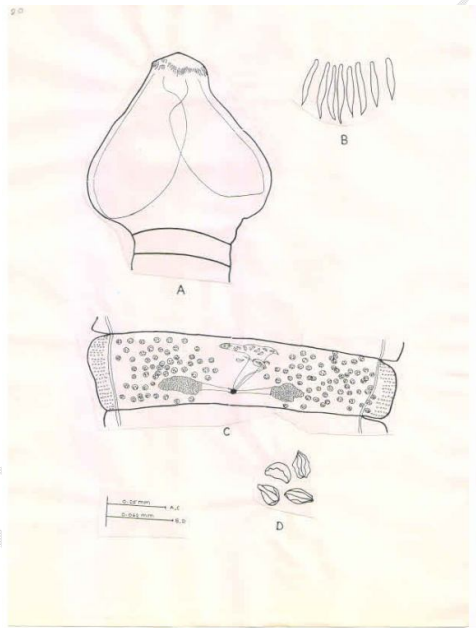
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D. P. Patil

Department Of Zoology, Bhagwan Mahavidyalaya, Ashti (M.S.)