CIRCUMONCOBOTHRIUM SINGHII (CESTODE)N.SP.FROM CLARIAS BATRACUS (FISH) FROM SAVITRI RIVER AT DAPOLI DISTRICT RATNAGIRI M.S. ,INDIA

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Abstract : Present paper deals with study of cestode parasites of genusCircumoncobothrium from fresh water fishClariusbatracus at Savitri river ,(Dapoli) during january 2011 to December 2011 i.e. one year period.The The percentages of infection occurance during summer season,minimum during winter and Tolret during rainy season.The parasite mainly infect the intestine of host and feeds on nutrients from digested food. It complete its life cycle in the intestine of host. By camparing different characters it is identify that the species is ne

IndexTerms - Cestode, Scolex, Mature segments, formalin

I. INTRODUCTION

The genus Circumoncobothrium is erected by Shinde G.B., (1968). From the intestine of fresh water fish OphiocephalusLeuconpunctatus as a type species C. ophiocephali .Shinde and Jadhav 1976 reported C. described two new species of this genus C. aurangabadensis and C. raoi from Mastacembellusarmatus. Jadhav and Shinde, 1976 reported C. gachuai from ophiocephalusgauchua.Shinde and Chincholikar, 1977 described two new species of this genus Chincholikar (1976) described two new species of the genus as C. Shindei from fresh water fish Mastacembellusarmatus and C. bagariusifrom Bagarius sp. Shinde (1977) reported C. khamifrom Ophiocephalusstriatus. C. yamaguti, (1990) described by Jadhav et al from MastacembellusarmatusShinde et.al, 1994 added C. alii from Mastacembellusarmatus.Patil et al (1998) added C. vadgaonensis as a new species. C. vadgaonesis as a new species C. Wongsawad and Jadhav, 1998 added C. baimaii from Mastacembellusarmatus, C. manjari, 2004 added by Tat and Jadhav. Later on no species is added to this genus.

The present communication, deals with the description of a new species as Circumoncobothriumsinghii n sp. collected from fresh water fish Clariasbatracusfrom Savitririver at Dapoli Dist. Ratnagi The name proposed in honour of Prof. H.S. Singh, a well knownHelminthologist in our country.

II.RESEARCH METHODOLOGY

The Collection of Cestodes from fish fresh water fish Clariasbatrachus (Jerdon, 1849) from Savitri river at Dapoli Dist. Ratnagiri M.S. from January 2011 to December 2011.The collected cestodes were fixed in 4% formalin for flattening .The drawing was made by cameralucida. All measurements are in millimeter

III. DESCRIPTION

Sixteen specimens of the cestode parasites were collected from the intestine of fresh water fish Clariasbatrachus (Jerdon, 1849) from Savitririver at Dapoli Dist. Ratnagiri M.S. from January 2011 to December 2011The worms were considerable long. The scolex is large, pear shaped, slightly triangular tapering towards anterior end where as broad at the posterior end, measures 2.670 (2.499-2.840) in length and 0.092 (0.303-1.530) in breadth. It bears two bothria, which are large in size, sac like in appearance, start from the rostellum, extend posteriorly, almost upto the posterior margin of the scolex, narrow towards anteriorly and broad posteriorly, overlapping to each other and measures 2.075 (2.0681-0.083) in length and 0.0480 (0.166-0.795) in breadth.

The anterior region of the scolex end terminally in the truncated disc, armed with 45-47 hooks, arranged in semi circle, large hooks measures 0.104 (0.097-0.102) in length and 0.037 (0.0032-0.0043) in breadth, small hooks termed as rudimentary hooks, measures 0.034 (0.033-0.035) in length and 0.003 (0.002-0.004) in breadth. The scolex is followed by a short neck, measures 0.139 (0.090-0.189) in length and 0.303 (0.287-0.318) in breadth.The mature segments are broader than long measures 1.287 (1.164-1.407) in length and 1.434 (1.383-1.485) in breadth. Testes are unevenly distributed, 258-263 in number, measures 0.021 (0.019-0.024) in length and 0.014 (0.005-0.0097) in breadth. Cirrus pouch placed in anterior half of the segment, obliquely placed, submarginally oval in shape, opens at the distal end by a common genital pore, measures 0.1892 (0.1844-0.1941) in length and 0.072 (0.048-0.097) in breadth. The cirrus is thin, straight, obliquely placed, contained within the cirrus pouch and measures 0.126 (0.121-0.131) in length and 0.012 (0.0097-0.014) in breadth. The vas deferens is short, thin extends obliquely anteriorly and measures 0.045 b(0.043-0.048) in length and 0.009 (0.004-0.014) in breadth.The ovary is distinctly bilobed, large in size transversely placed near the posterior margin of the segment, measures 0.691 (0.679-0.703) in length and 0.094 (0.048-0.140) in breadth. The ovarian lobes are large in size, oval in shape, each lobe with many short blunt acini. The isthmus is short, connect the two ovarian lobes, measures 0.021 (0.019-0.024) in length and 0.035 (0.033-0.038) in breadth.

The vagina arises from the genital pore, runs posteriorly, slightly curve and opens into ootype, measures 0.631 (0.606-0.655) in length and 0.019 (0.014-0.024) in breadth. The shell gland is oval in shape and measures 0.019 (0.019) in diameter. The ootype is medium in size, oval in shape, present on the ventral side of the isthmus, measures 0.033 in diameter. Vagina and cirrus pouch open through a common pore known as genital pore, small oval in shape measures 0.026 (0.024-0.029) in length and 0.007 (0.005-0.0098) in breadth.Fully gravid segments are not available, but in the mature segment, the uterus is seen in developing stage, measures 0.649 (0.645-0.655) in length and

0.038 (0.0106-0.066) in breadth. The uterine pore oval towards anterior, measures 0.111 (0.106-0.116) in length and 0.053 (0.019-0.087) in breadth. Eggs are pear shaped, measures 0.031 (0.029-0.033) in length and 0.009 (0.005-0.014) in breadth.Thevitellaria are follicular and cortically arranged placed in a line, pre-ovarian.

IV.DISCUSSION

The genus Circumoncobothrium is erected by Shinde in 1968 as a type species C. ophiocephali. Later on the following species are added to this genus. The tapeworm under discussion having pear shaped, slightly triangular scolex, hooks are 45-47 in number, arranged in semicircle, neck short, mature segment broader than long, testes 258-263 in number, ovary bilobed, transversely placed nears posterior margin, vitellaria follicular, cortically arranged and pre-ovarian.**1}** The present cestode differs from C. ophiocephali, which is having scolex broad in the middle and tapering at both the ends, rostellar hooks 80 in number, neck present, testes 70- 80 in number, rounded in shape, ovary single conical mass to irregular shaped band, lobes with 2-3 well developed acini near posterior border and vitellaria in 14-15 rows on each side.**2}** The present cestode differ from C. aurangabadensis which is having the scolex broad in the middle, narrow at both the ends, the rosteller hooks 42 in number, neck present, testes 135-145 in number, rounded in shape, distributed throughout the segment and ovarian lobes with 3-4 acini, vitellaria granular near lateral margin.

3} The present parasite C. singhiin.sp. differs from C. raoii which is having scolex broad in the middle, narrow at both the ends, rod shaped rostellar hooks 46 in number, testes 210-215 in number, rounded in shape, in two fields, ovary is located almost near the posterior margin of the segments and at lateral side of the segment and granular vitellaria.**4}** The present tapeworm differs from C. gachuai which is having pear shaped scolex, rostellar hooks 46 in number, neck present testes 375-400 in number, rounded densely placed in two fields, ovarian lobes having 5-6 short, blunt acini, follicular vitellaria.**5}** The present tapeworm distinguish from C. shindei, which is having rostellar hooks 49 in number, neck present, testes 260-275 (273) in number, rounded in shape, dumb-bell shaped ovary, rounded lobes, granular vitellaria.**6}** The present tapeworm differs from C. bagariusi, which is having rod shaped rostellar hooks 55 in number, rod shaped, testes 275-285 (276) in number in two fields, ovary in middle one third of the segment, ovarian lobes with 5-6 globular acini and vitellaria large, follicles with irregular shape in 4-5 rows on each side.**7}** The present form differs from C. khami, which is having the scolex cylindrical, with even width, apical disc separated by notch, rostellar hooks 48 in number, squarish shaped, testes 190- 200 (194) and vitellaria follicular, rounded in a single layer near the lateral margin.**8}** The present form differs from C. yamaguti, which is having rostellar hooks 56 in number, testes 130 – 150 in number, round in shape, ovary bilobed, centrally placed near posterior margin of the segment, vitellaria granular, corticular, along with lateral margin of the segment.9} The present cestode differs from C. alii, which is having rostellar hooks 34 in number, neck present, testes 230 –240 in number, evenly distributed, ovary bilobed, centrally placed, compact, vitellaria granular in the lateral fields.10} The present tapeworm differs from C. vadgaonensis, which is having scolex large in size, rostellar hooks 56 in number, arranged in four quadrants, neck absent, testes 490-510 in number, oval in shape, ovary bilobed, each lobe compact, in the posterior half of the segment, vitellaria follicular in 2 rows on each side.**11}** The present cestode differs from C. baimaii which is having pear shaped scolex, hooks 48 in single circle, mature segment broader than long testes 88-100, ovary compact and vitellrai follicular.

12} The present form differs from C. manjari, which bears triangular, hooks 48, testes 128-145, bilobed ovary and follicular vitellaria Later on a new species were added in this genus. The above differentiating characters are valid enough to erect a new species for these worms and hence the name C. singhiin.sp. is proposed in honour of Professor H.S. Singh a well knownhelminthologist in our

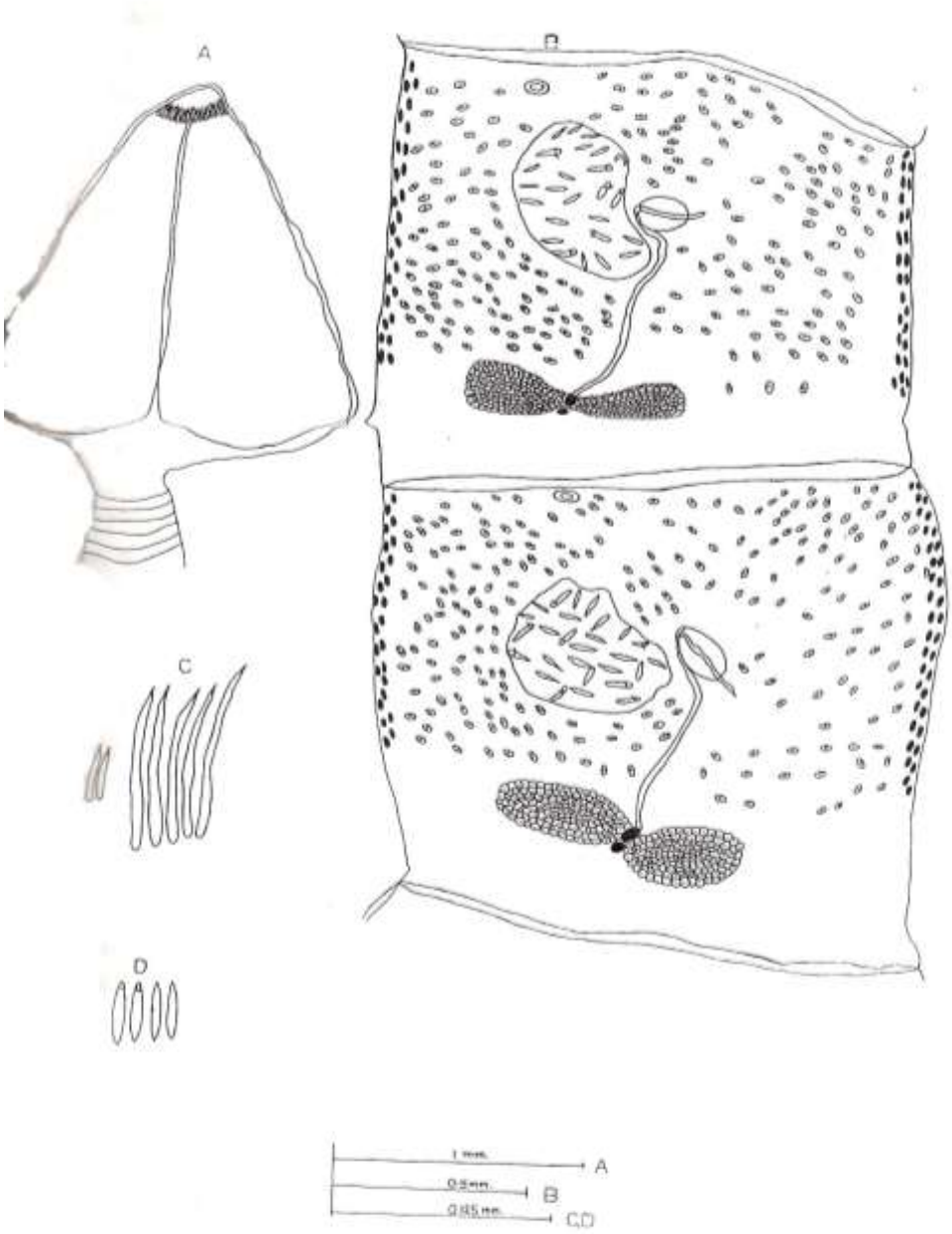

Figure A. Scolex B. Mature segment C. Hooks D. Eggs

V.CONCLUSION

In the present study, no relationship was observed between fish length and parasitism, given that the larger-sized fish were less affected by infection than the smaller-sized fishes. The highest numbers of fish infected by parasites were in the medium-sized (18.0-22.9 cm).The species is named after the well knownHelminthlogist ,Singhii for his work in helminthology

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VII. REFERENCES

[1] CHINCHOLIKAR, L.N. & SHINDE, G.B. ,1976 : On a new species of CircumoncobothriumShinde, 1986 from fresh water fish.M.U.J. Sci. No. Sci. 16(9): 183-188.

[2] CHINCHOLIKAR, L.N. & SHINDE,G.B.,1977 :O n a new species of Circumoncobothrium, Shinde 1968 (Cestoda: PseudophyllideaCarus, 1863). From a fresh water fish in India.Marathwada Uni. J. of Sci. 177.

[3] JADHAV, B.V. AND WONGSAWAD,1998 :Circumoncobothriumbaimalin.sp. (Cestoda: Pseudophyllidea) from a fresh water fish, Maesa stream Chiang Mai, Thailand.Rivista di parasitologia.

[4] PATIL, S.R., SHINDE, G.B., JADHAV, B.V.,1998: A new species of the Genus CircumoncobothriumShinde 1968 (Cestoda:

Pseudophyllid) Carus (1863) from Mastacembellusarmatus.l. XV (LIX) N-3 PP. 291-294.
[5] SHINDE, G.B. AND JADHAV, B.V.,1976 : New species of the genus Circumoncobothrium, Shinde, 1968 (Cestoda: Pseudophyllidea) from a fresh water fish, from MS.M University J. of Sci. Vol. No. XV Sci. 8.
[6]SHINDE, G.B.1968 : On a new species of Circumoncobothrium, Shinde 1968 (Cestoda: CircumoncobothriumophicephaliMarathwada Uni. J. of Science.Vol. No. XVI Sci. 9 PP.131.
[7]TAT, M.B. AND JADHAV, B.V.1997:A new species of the genus CircumoncobothriumShinde, 1968 (Cestoda: Pseudophyllidea, Carus (1963) from Ophiocephalusgachua at.Beed N.J. of life science 1(1),129
[8]MOKHTAR IBRAHIM KHALI , 1998; Studies on some fish parasites of public health importance in the southern area of Saudi ArabiMai, Thailand.Rivista Di Parastologia, Vol. XV (LIX) N-3 Dec, 1998. 132-133