A new species from Genus: *Lytocestus*, Cohen, (1908) (Cestoda: Lytocestiddae) at Pune District

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ABSTRACT-
Fishes get infected by cestode parasites and such infection finally affect the nutritive value of the fish. The taxonomic morphological and anatomical characters are considered in this work. The following information is about a new species of the genus *Lytocestus* viz. L. punensis n.sp. collected from *Clarias batrachus* a freshwater fish found in catch around Pune district M. S., India.

KEYWORDS- Lytocestus, scolex, ovary, cirrus-pouch.

INTRODUCTION-
A freshwater fish *Clarias batrachus* Linnaeus (1758) is a species of air breathing catfish found infected by cestode parasites *Lytocestus*. The present paper deals with a new caryophyllaeid species of the genus *Lytocestus* viz. L. punensis n.sp. from the freshwater catfish *Clarias batrachus L*. from Pune district (M.S.) India

MATERIAL AND METHOD-
The freshwater fish *Clarias batrachus* Linnaeus (1758) were collected from Mula river, Paud, Pune M.S. India on 7th January 2003. Cestode parasites were collected from the intestine. Cestode specimens were cleaned and fixed in 4%formalin. Fixed specimens then washed in distilled water stained in haematoxylin, after dehydration in alcohol grades the cestode specimens were cleared in xylene and mounted in D.P.X. The morphology and anatomical details studied from taxonomical point of view with the help of photographs and camera lucida drawings. The measurements of taxonomically important body parts are in mm. The identification of the parasites was done by referring the Yamaguti. S. (1956): Systema Helminthum Vol. II.

DESCRIPTION-
Specimen of the cestode parasites were collected from the intestine of *Clarias batrachus* and preserved in 4% formalin, stained in haematoxylin, and mounted.
The mature, flattened specimens are long and measures 14.132 - 14 .234 in length and 0.4 83 – 2.916 in width. The head is long, well-marked off from the body and measures 1.874 (1.785 - 1.964 in length and 0.74 (0.357 - 1.071) in width. The gonads are situated in the posterior region of the body, the testes are numerous 1450-1500 in number pre-ovarian scattered in a single field, evenly distributed, small in size, oval in shape and measure 0.366 (0.340- 0.393) in diameter. The cirrus pouch is small, oval pre-ovarian, vertically placed and measures 0.169 (0.125- 0.214) in length and 0.044(0.035-0.053) in width. The cirrus is thin, straight and measures 0.428 (0.410-0.4460) in length and 0.026(0.017-0.035) in width. The vas deference is short and measures 0.124(0.107-0.142) in length and 0.026(0.017-0.035) in width. Genital pores is small oval 0.258(0.232-0.285) in diameter. The ovary is bilobed, butterfly shaped in appearance, near the posterior region of the worm. Each lobe measures 0.883 (0.839-0.928) in length and 0.133(0.107-0.160) in width; loose follicles of lobes are 34-40 in umber and connected by isthmus which measures 0.169(0.160-0.1178) in length and 0.142 (0.125-0.160) in width. Vagina is long, coiled lube star from genital pore and runs posteriorly in middle of the worm, reaches and opens into oocyte and measures 0.758 (0.500-0.517) in length and 0.071(0.107-0.035) in width.
Uterus is wide, convoluted tube, wider coils downwards and filled with numerous eggs open separately outside the body by uterine pore and measures 5.749(4.178-7.320) in length and 0.026(0.089-0.446) in width. The uterine pore is medium, rounded and measures 0.026(0.017-0.035) in diameter. The ootype is small, oval, situated in between the ovarian lobules and measures 0.258 (0.232-0.285) in length and 0.285(0.053-0.232) in width. The vitellaria are granular and corticular in position. The eggs are operculated oval and measures 0.643(0.606-0.681) in length and 0.045(0.015-0.030) in width.

DISCUSSION-
The genus *Lycocestus* was established by Cohn in 1908 as *L. adhaerens* (1) from *Clarias fuscus at* Hong-Kong.
[1] The worm under discussion differs from *L. indicus* (5) Moghe M.A. which is having length of the body 27 to 40 and width of the same is 0.30 to 0.50, testes 230-270 in number, round in shape extends up to the cirrus pouch region,

vas deference followed by ductus ejaculates, ovary with numerous follicles connected by bagpipe shaped isthmus, the wall of uterus is thick, coiled and vitellaria follicular, in 2-3 rows on each side.

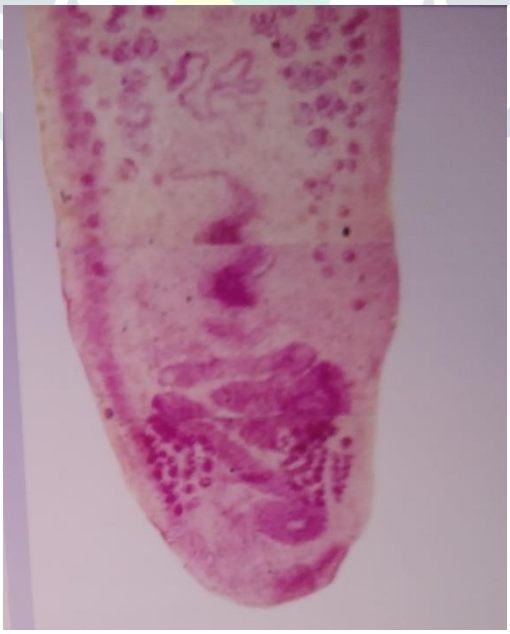
[2] The worm under discussion differs from *L. biramanicus* (10) Linsdale ,J.A.which is having length of body 10-12 and width of body 0.9 and long neck, testes medullary, extending up to the genital pore, cirrus pouch medullary in position, ovary wing like, numerous follicles, and vitellaria follicular.

[3] The worm under discussion differs from *L. longicollis* (16) Ramadevi P.which is having the length of 10.8-20.0 and width 0.50 0.84, neck, 5.3 -5.6, testes 105 to 140 in number, spherical broadly oval shape, vas deference much convoluted, ovary 'H' shaped and vitellaria corticular, large, all around, testes, extending from the base of neck to the anterior tip of the ovary, in 1-2 rows on each lateral side.

[4] The worm under discussion differs from *L. marthwadensis*.(22) Shinde and Phad (1988), in testes arranged in 2 or 3 rows; cirrus pouch, ovaries large H shaped, vitellaria small and oval , single row on lateral side , uterus saccular.

[5] The worm under discussion differs from *L. clariasa*, Jadhav and Gavhane (1991) in scolex bluntly rounded ovary bilobed like bunch of grapes, number of testes 700-750.

A



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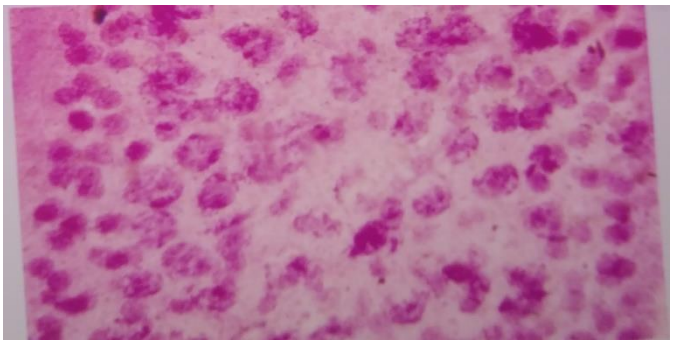
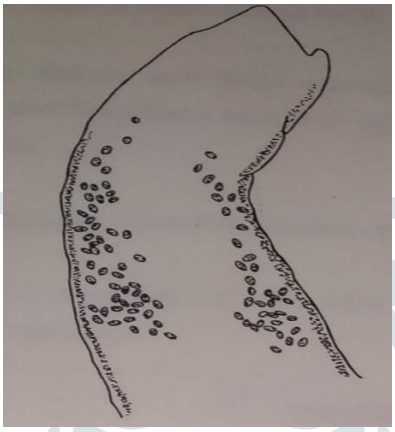
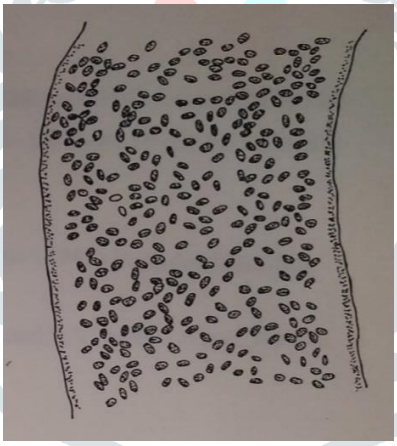


C

(Photo plates: A-Anterior body part, B-Posterior body part, C- Middle body part)



(A)



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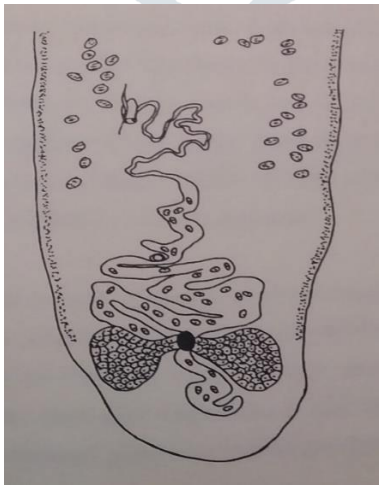

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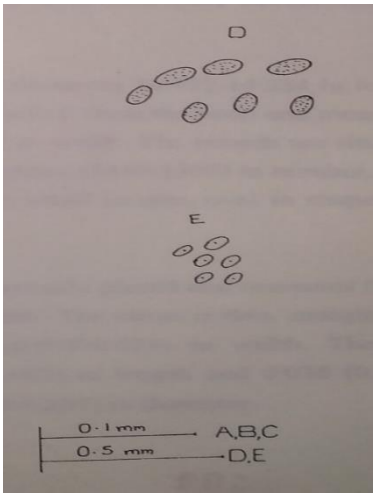

(D)

(Camera lucida drawing – A: Upper Body Part, B: Middle Body Part, C: Lower Body Part, D: Eggs)

Discussion

The genus *Lycocestus* was established by Cohn in 1908 as *L. adhaerens* (1) from *Clarias fuscus at* Hong-Kong.

1] The worm under discussion differs from *L. indicus* (5), Moghe M.A, which is having length of the body 27 to 40 and width of the same is 0.30 to 0.50, testes 230-270 in number, round in shape extends up to the cirrus pouch region, vas deference followed by ductus ejaculates, ovary with numerous follicles connected by bagpipe shaped isthmus, the wall of uterus is thick, coiled and vitellaria follicular, in 2-3 rows on each side.

2] The worm under discussion differs from *L. biramanicus* (10) which is having length of body 10-12 and width of body 0.9 and long neck, testes medullary, extending up to the genital pore, cirrus pouch medullary in position, ovary wing like, numerous follicles, and vitellaria follicular.

3] The worm under discussion differs from *L. longicollis*, (16) Ramadevi P. which is having the length of 10.8-20.0 and width 0.50 0.84, neck, 5.3 -5.6, testes 105 to 140 in number, spherical broadly oval shape, vas deference much convoluted, ovary 'H' shaped and vitellaria corticular, large, all around, testes, extending from the base of neck to the anterior tip of the ovary, in 1-2 rows on each lateral side.

4] The worm under discussion differs from *L. marthwadensis*, (22) Shinde and Phad (1988), in testes arranged in 2 or 3 rows; cirrus pouch, ovaries large H shaped, vitellaria small and oval , single row on lateral side , uterus saccular.

5] The worm under discussion differs from *L. clariasa*, (20) Jadhav and Gavhane (1991) in scolex bluntly rounded ovary bilobed like bunch of grapes, number of testes 700-750.

6] The worm under discussion differs from *L. naldurgensis*,(21) Kadam et.al (1999), in long headed, conical, blunt spatulated, short neck, testes 500-600 in number, scattered in medullary region, cirrus pouch small, oval, vertical obliquely placed, ovary bilobed, butterfly shaped, vagina wide tube, uterus wide tube, convoluted, vitellaria follicular smaller in 3-4 rows .

7] The worm under discussion differs from *L. caryophyllid* (22), by D.N Patil and B.V. Jadhav (2002) in head long well marked off from body. Testes numerous, 1425 -1475. In number, pre-ovarian, evenly distributed, scattered in single field, small oval. Cirrus sac small, oval, pre-ovarian, obliquely placed and measures 0.22-0.24mm. Cirrus is thin, inside the cirrus sac it measures 0.22-0.24. Vas deferens short thin straight 0.11-0.12 mm ovary bilobed butterfly shaped, near posterior region of body, each lobe measures 0.31-0.67mm. Vagina long, coiled tube starts from genital pore and runs posteriorly to open into ootype and measures 2.88-2.89mm uterus wide, convoluted, transversely situated, filled with eggs and opens outside by uterine pore. Oocyte is small, oval 0.26-0.28 mm vitellaria granular and corticular in position. Eggs operculated, oval, 0.080-0.087mm.

The characters of the cestode discussed above, justify the recognition as a new species and therefore the name *Lytocestus punensis* n.sp. is proposed after the name of locality, Pune dist. M.S.India.

Taxonomic Summary-

Genus - Lytocestus, Cohn 1908

Type species: *Lytocestus punensis* n.sp.
Host: Clarias batrachus, Linnaeus (1758)
Habitat: Intestine
Locality: Pune, M.S. India
Holotype - Deposited in the Helminthology Research Laboratory, Department of Zoology,
Dr. B.A.M. University, Aurangabad, (M.S.) India.
Date of Collection – 7th January 2003.
Etymology - Named after locality

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