International Journal of Parasitology Research, ISSN: 0975-3702, Volume 2, Issue 2, 2010, pp-08-11

Taxonomic study of two new species of the genus *Mogheia* (Lopez Neyera, 1994) from Skyes

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Abstract-Two new species of the genus *Mogheia*, Lopez-Neyra in 1994 i.e., *Mogheia yasini n.sp*. and *Mogheia shahadensis n.sp.* were collected from *Turdoides malcomi* (Skyes) from different part of Maharashtra State India. The present parasites are differ from all the known species of the genus *Mogheia*, Lopez-Neyra,1994 in having length of worm, number and shape of testes, shape of cirrus pouch, shape of ovary, position of vagina and structure of vitellaria
Keywords- *Taxonomic study, Mogheia yasini n.sp., Mogheia shahadensis n.sp.,Turdoides malcomi (Skyes)*

Introduction

The genus *Mogheia* was erected by Lopez-Neyra in 1994. Moghe, 1933 synonimyzed it is a Baria with the type species *M. orbiuterina* from the intestine and gizzard of *Turdoides somervillei* in India. Since then eight species have been reported till to date under this genus. The genus *Mogheia* is the sole representative of the family *Thysanosomidae* from birds. The present communication deals with the description of a new species under the same genus viz. *Mogheia yasini n.sp.* and *Mogheia shahadensis n.sp.* collected from *Turdoides malcomi* (skyes), at Shahada M.S. India.

Material and Methods

The segmented cestode were collected intestine of from *Turdoides malcolmi* (skyes), preserved in hot 4% formalin, stained with Harris haematoxylin and Borax carmine, passed through various alcoholic grades, cleared in xylene, mounted in D.P.X. and drawings are made with the aid of Camera Lucida. All measurements are given in millimeters.

Moghea yasini n.sp. (Fig- 1)

Discription (Based on fourteen specimens)

The scolex is fairly large, roughly quadrangular, blunt anteriorly, with rostellum and rostellar hooks, highly muscular and measure 0.558-0.800 in length and 1.029-10162 in breadths. It bears four suckers, which are prominent, large in size, oval in shape,arranged in irregular manner and measures 0.310-0.412 in length and 07310-0.388 in breadth. The neck is absent. The mature segment are highly muscular crowded together, broader than long, almost six time broader than long, convex lateral border, with unequal lateral margins, some with lateral posterior projections and measure 0.164-0.291 in length and 1.963-0.997 in breadth. The testes are ten in number round in shape, small and large in size, evenly distributed, and bounded laterally by longitudinal excretory canals and measures 0.063-0.077 in diameter. The testes are present in antiporal side. The cirrus pouch is cylindrical, at ½ from anterior margin of the same, enlarged proximally and narrows distally and measures 0.196 in length and 0.024-0.038 in breadth. The cirrus is very thin, either straight or slightly curved and measures 0.196 in length and 0.009-0.014 in breadth. The vas difference is very thin of considerable length, runs in zigzag, curves and measures 0.592 in length and 0.009 in breadth. The ovary is of median size, a single mass, in poral half of the segment, bean shaped, with almost even width, compact and measures 0.378 in length and 0.092-0.111 in breadth. The vagina is a thin tube, long, posterior to cirrus pouch, narrow is the beginning, run parallel to the anterior margin of the segment then forms a small receptaculum seminis and finally becomes narrow and curved, reaches and open in to the ootype and measures 0.825 in length and

0.009 to 0.029 in breadth The receptaculum seminis is elongated small, lying in the posterior half of the segment, posterolateral to ovary, parallel to the anterior margin of it and measure 0.164 in length and 0.029 in breadth. The ootype is small,oval,posteroventral to ovary and measure 0.058 in length and 0.043 in breadth. The genital atrium is of medium size,either oval or projected like a cone,marginal,at 1/2 of the segment,highly muscular and measure 0.029 in length and 0.048 in width. The genital pores are small in size, oval in shape, irregularly alternate and measure 0.014in length and 0.029 in breadth respectively. The vitelline gland is of medium size, oval in shape, obliquely placed, compact and measure 0.131 in length and 0.087 in breadth. The gravid segments are broader than long, nearly three times broader than long and measure 0.454 to 0.560 in lengths and 1.287 to 1.590 in breadth. The uterus is saccular, develops like cap on one side of the ovary in mature segment but, later forms a paruterine organ in each segment. The paruterine organ is quite large in size, oval in shape and sac like, one in each segment; contain numerous egg and measure 0.772 in length and 0.348 in breadth. The eggs are oval broad at one end,narrow at other and measure 0.381 in length and 0.225 in width.

Discussion

The genus *Mogheia* was erected by Lopez-Neyra in 1944, as a type species *Mogheia orbiuterina* (Moghe, 1933) from the intestine of *Turdoides somervillei* in india. Later on the following eight species are added to this genus. There after no species is added to this genus. The present communication deals with the description of the new species, under the same genus i.e. *Mogheia yasini n*.sp. from *Turdoides malcolmi* at Shahada, M.S., India.

1. After going through the literature, the worms under discussion, in having testes 10 in number comes under to *M. orbiuterina* Moghe,1933 and *M. copsychi* Gupta and Sinha,1984.
2. In the present cestode, the testes are 10 in number and situated in the antiporal side, differ from *M.orbiuterna*, which is having testes 9 in number but situated on its poral side.
3. In the present tapeworm the ovary medium,bean shaped, whereas same in *M.orbiuterina* is small.
4. In the present worm the receptaculum seminis is small in size and posterolateral to ovary,whereas the same in *M.orbiuterina* is absent.
5. In the present form the paruterine organ is large, sac like, in the central medulla, contains numerous eggs, whereas the same in *M. orbiuterina* is small, almost circular, with large uterus, containing 3-4 eggs.
6. The worm under discussion is having the testes 10 in number, whereas the same in *M .copsychi* are 10 to 13 in number.
7. In the present cestode the ovary is medium in size,bean shaped, portal and compact, whereas the same in *M. copsychi* is small and poral
8. In the present tapeworm the receptaculum seminis is small,posterolateral to ovary, whereas the same in *M. copsychi* is absent.

The noted character are enough, to distinguish these worms, from the earlier species, hence it is desirable to erect a new species for this worm and hence the name *Mogheia yasini n.sp*.is proposed, in honors of ,the father of the author who was has encouraged so much, for the completion of this work.

***Mogheia shahadaensis n. sp* (Fig No. 2)**

Discription (Based on thirteen species)

The scolex is fairly large, almost oval,blunt anteriorly, without rostellar hooks, highlymuscular and measures 0.726 to 0.873 in length and 0.726 to 0.995 in breadth. It bears four suckers, which are prominent, large in size, oval,in shape, arranged in two pairs, one pair on each side and measure 0.255 to 0.265 in length and 0.215 to 0220 in breadth. The neck is absent. The mature segments are highly muscular, almost three and half times broader than long, with convex lateral borders, with almost equal margins,some with lateral

posterior projection and measures 0.138 to 0.156 in length and 0.519 to 0.528 in breadth. The testes are 5 in number, small and large in size, oval in shape in two lateral groups, preovarian, arranged in two lines, in central medulla, bounded laterally by longitudinal excretory canals and measure 0.039 to 0.048 in length and 0.034 to 0.039 in breadth. The testes are present on both the lateral sides of the ovary and two are slightly dorsal to it. Testes on the poral side are two in number,whereas the same on antiporal side are three in number. The cirrus pouch is big, oval at 1/3from the anterior margin of the segment , almost parallel to the anterior margin the same, slightly obliquely placed, narrow proximally,enlarged distally and measures 0.064 un length and 0.017 to 0.029 in breadth. The cirrus is wide, slightly coiled and measure 0.069 in length and 0.006 in breadth. The vas difference very thin, if medium length runs straight, but sometimes with 2-3 zig-zag curves and measures 0.079 in length and 0.003 to 0.005 in breadth. The ovary is indistinctly bilobed large, near the posterior margin of the segment,transversally elongated, lobes extend laterally, up to the longitudinal excretory canals, situated in posterior half of the segment and measure 0.363 in length and 0.033 to 0.058 in breadth. The ovarian lobes are almost cylindrical. The vagina is a thin tube, posterior to cirrus pouch, starts from the genital atrium, runs straight up to the middle of the segment,slightly curved, takes turn obliquely,reaches and open in to the ootype and measure 0.253 in length and 0.003 to 0.010 in breadth. The vagina after a short distance from genital pore,enlarged in to a poorly developed receptaculum seminis. The receptaculum seminis is obliquely placed,curved,posterior to cirrus pouch,small in size,broader in middle,tapering at both the ends and measures 0.058 in length and 0.005 to 0.010 in breadth. The ootype is small, round ,anterior to the isthmus and measure 0.017 in diameter. The genital atrium is of medium size,oval,marginal, at1/3 from the anterior margin of the segment, highly muscular and measures 0.018 in length and 0.024 in breadth. The genital pores are medium in size,oval in shape, marginal, irregularly alternate and measures 0.010 in length and 0.018 in breadth. The vitelline gland is of medium size, almost oval in shape, post ovarian in position, with irregular margin, near the posterior margin of the segment, transversally elongated and measure 0.043 in length and 0.024 in breadth. The excretory canals measure 0.005 in breadth. The gravid segments were not available.

Discussion

The genus Mogheia was erected by Lopez-Neyra in 1944, with a type species *Mogheia orbiuterina* (Moghe, 1933) from the intestine of *Turdoides somervillei* in India. Later on eight species are added to this genus, as reported in the discussion of earlier species. The present communication deals with the description of a new species, under the same genus as *Mogheia shahsdaensis* n.sp.from *Turdoide smalcolmis* at shahada,M.S. India

1] The worm under discussion, in having the testes 5 in number, comes closer to *M. bayamegaparuterina*, Cappor, 1967; *M. govindi*, Shinde, Jadhav and Kadam, 1986; and *M. parabhaniensis*Shinde, Jadhav and Kadam, 1986, but differ from them in many characters, which are as follows

2] In the present tapeworm the scolex is large and oval, whereas the same in *M. bayamegaparuterina*is large but almost round in *M. govindi* is quadrangular but small in *M. parbhaniensis* quadrangular but large.

3] In the present cestode the testes are 5 in number, anterior to ovary and in two lines, in central medulla, whereas the same in *M. bayamegaparuterina* are 4 in number situated lateral and aporal to ovary, in the central medulla; in *M. govindi* 4 in number, aporal in position, oval in shape and situated in a line and in *M. parbhaniensis* 5 in number, aporal in position, round in shape and in three lines.

4] In the present tapeworm the ovary is large, bilobed, in posterior half of the segment, but differs from *M. bayamegaparuterina*, which is

having the ovary roughly oval and compact; from *M. govindi*, which is having the ovary compact, oval, in poral half and from *M. parabhaniensis* in which the ovary is compact round, which a cap of uterus.

5] In the present form the cirrus pouch is big in size, oval in shape, at 1/3 from anterior margin of the segment; but differ from *M. bayamegaparuterina* in which it is not mentioned, from *M. govindi* which is having the cirrus pouch small in size, oval in shape and at the middle of the segment; from *M. parabhaniensis* is small in size, elongated, cylindrical and 1/3 from the anterior margin of the segment.

6] In the present worm the receptaculum seminis is present which is small, anterolateral to ovary, is absent in all the three other species, which are being compared here.

The above mentioned noted characters are distinct and hence the author feels to erect a new species to accommodate these worms, into a new species and hence the name *Moghea shahadaensis* n.sp. is proposed after the locality.

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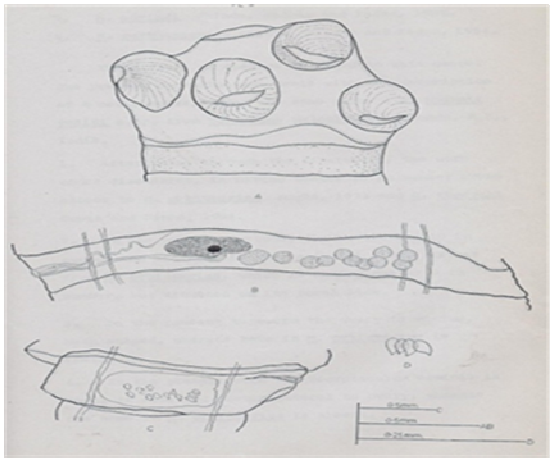

Fig no 1*Moghea yasim n.sp.*
a) Scolex
b) Mature segment
c) Gravid segment
d) eggs

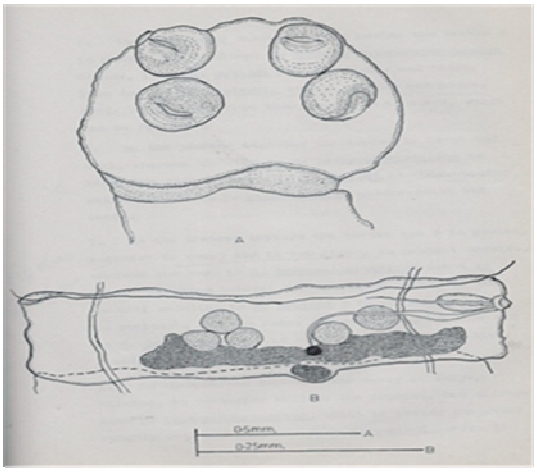

Fig no 2 *Mogheia shahadaensis n.sp.*
a) Scolex
b) Mature segment