**AN OCCURRENCE OF Diplopylidium govindae (Sp. Nov.) (EUCESTODA-DILEPIDIDAE) FROM Felis domesticus AT SANGLI DIST. (M.S.) INDIA**

Dr. Patil S. U

Asst. Professor, Department of Zoology, K.R.P. Kanya Mahavidyalaya, Islampur, Dist. Sangli (M.S.) India

**ABSTRACT**

The present paper deals with the description of the genus Diplopylidium (Beddard, 1913) Viz, Diplopylidium govindae (Sp. Nov.) which has the distinct characters such as globular scolex, four suckers, slightly overlapping, armed rostellar, claw hammer shaped rostellar hooks, 24-26 in number, mature segment somewhat squarish, testes 26-28 in number, cirrus pouch bean shaped, ovary medium with irregular margin, small, rounded ootype, vitelline gland small, round in shape, gravid segment elongated, cucumber seed like in shape filled with oval to spherical egg capsules containing egg and larval stages.

**MATERIAL AND METHOD**

Twenty specimens of the cestode parasites were collected from the intestine of cat, Felis domesticus collected at Islampur, Tal. Walwa, and Dist. Sangli, (M.S.) India, in the month of September, 2009.

The worms were flattened first and then preserved in 4% formalin, stained with Harris haematoxylin, passed through various alcoholic grades, cleared in xylene, mounted in D.P.X. and whole mount slides were prepared for further studies. Drawings were made with the aid of camera lucida and all the measurements are in millimeters.

**Description:** All the worms were medium in size, with thick musculature, white in color, with scolex, mature and gravid proglottids. The scolex is medium, globular sharply marked off from the strobila, and measures 0.198 (0.184-0.308) in length and 0.198 (0.184-0.308) in breadth. Suckers are large, oval, in two pairs, laterally placed not overlapping each other and measure 0.079 (0.068-0.084) in length and in 0.086 (0.074-0.098) breadth. Rostellum is rounded, armed with hooks and measures 0.042 (0.038-0.052) in length and 0.084 (0.078-0.092) in breadth.

The rostellar hooks are 24 to 26 in number, typical claw hammer shaped and present in 4-5 rows. Rostellar hooks are different in size and number, in each row, that is in 1st row 8
hooks, in 2nd row 6-7 hooks and in 3rd row 6, 4th row 4-5 hooks, and 5th row 3-4 hooks. The larger hooks measure 0.0310 (0.0297-0.0324) in length and 0.0162 (0.0152-0.0174) in breadth while smaller hooks measure 0.0108 (0.0095-0.0118) in length 0.0054 (0.0042-0.0065) in breadth.

Neck is long with medium width and measures 0.398 (0.382 - 0.408) in length and 0.255 (0.243 -0.266) in breadth. The mature proglottids are medium in size roughly barrel shaped in appearance, longer than broad, each segment with a double set of reproductive organs, with bilateral genital pores acraspedote, with convex lateral margins and measures 0.192 (0.188 -0.206) in length and 0.274 (0.262 -0.286) in breadth.

Testes are medium in size, oval in shape, and 26 to 28 in number, situated in two fields, pre and post ovarian, bounded laterally by the lateral longitudinal excretory canals, and placed in the central medulla and measures 0.048 (0.042 -0.056 in length and 0.044 (0.038 -0.052) in breadth.

The cirrus pouch on each side is large in size, first directed towards posterior side, takes a turn runs anteriorly, roughly elongated, bean shaped in appearance, crosses the longitudinal excretory canal reaches up to middle of the segments, situated in the anterior 1/3 to 1/4 of the segments, opens by the genital pore, on lateral margin and measures 0.172 (0.164-0.176) in length and 0.082 (0.078-0.087) in breadth.

The cirrus is thin, coiled, curved anteriorly, and present within the cirrus pouch and measures 0.175 (0.168-0.184) in length and 0.005 in breadth.

The vas deferens is thin, medium in length, highly coiled directed anteriorly, extends up to middle of the segments and measures 0.115 (0.104 – 0.118) in length and 0.005 in breadth.

The ovary, on each side, is medium in size, compact, with irregular margins, situated in the middle of the segment, somewhat anterior, elongated, and measures 0.066 (0.058-0.070 in length and 0.026 (0.018-0.032) in breadth.

The vagina is a thin tube, situated anterior to the cirrus pouch, arises from the genital pore, runs straight or obliquely, crosses longitudinal excretory canals, and measures 0.187 (0.178-0.195) in length and 0.005 in breadth.

The ootype is small in size, round in shape, situated close to the ovary and measures 0.012 (0.010 -0.018) in length and 0.012 (0.009-0.014) in breadth.

The genital atrium is large, situated marginally, at anterior side of the segments, measures 0.042 (0.038 -0.052) in length and 0.005 in breadth. The genital pores are small in size, oval in shape, bilateral, situated in the anterior 1/3 to 1/4 regions of the segments and measure 0.008 in length and 0.009 in breadth.

The vitelline gland is small in size, somewhat round in shape, touching to the ovary, post ovarian, almost at 1/3 from the lateral margin of the segments and measures 0.032 (0.028-0.037) in length and 0.022 (0.018-0.026) in breadth. The longitudinal excretory canals are of medium width and measure 0.005 in breadth.

The gravid segments are large in size, cucumber seed like in appearance, with slightly convex lateral margins, filled with uterine capsules, in central medulla, and measure 0.976 (0.948-1.068) in length and 0.298 (0.278 -0.306) breadth.

Each uterine capsule contains only one egg. The eggs are larger in size, oval to spherical in shape, some of them containing cysticercus and oncosphere stages and measures 0.6- 0.7 in diameter.

DISCUSSION

The genus Diplopylidium was raised by Beddard, 1913 (syn. Progynopylidium, Skrjabin, 1924) with type species D. genettae from Genetta dongolana. The 11 species are considered by Yamaguti, 1969. Later on seven species are added to this genus by shinde et.al (1994), Patil et.al (1997), Shinde and Pawar et.al (2001), Shinde et.al (2004), Patil and Jadhav et.al (2007), Suryawanshi et.al (2010), and Sawarkar (2014).

After going through the literature the present worm resembles with D.acanthotretum (Parona, 1887) Witenberg, 1932, D. trinchesii Diamare, 1892 and D.triseriale Luhe, 1898 and D. quinquecoronatum Lopez – Neyra et al., Munoz – Medina, 1921, but differs from the same in some characters which are as follows.

The present worm differs from D. acanthotretum (Parona, 1887) which is having 3 to 5 circles of hooks, each circle with 18 to 24 hooks, neck as wide as holdfast organ. Testes 30 to 60 in number Genital pores not mentioned. Ovary also not mentioned. The host also not mentioned.

The present worm differs from D. triseriale Luhe, 1898 which is having 3 rows of hooks, neck not mentioned, testes 40 to 44, and ovary not mentioned and the worm reported from cat in Tunisia.

The present worm differs from D. trinchesii Diamare, 1892 which is having 78 hooks in 4 rows, testes 41 in no. ovarian lobes spherical genital pore in first, third, or fourth segment. The worm is reported from cat in Alexandria.

The present worm differs from D. quinquecoronatum Lopez – Neyra et al., Munoz – Medina, 1921 which is having no. of testes 48 to 64, 4 to 5 rows of hooks ,genital pore in first, fourth or fifth segment. The worm is reported from cat in Spain. The present worm differs from D. udgirensis Shinde G.B. and Pawar S. B. which is having number of rostellar hooks and testes are 480 to 500 in number.
The present worm differs from *D.chandensis* Suryawanshi S.G.et.al 2010 which is having dome shaped scolex, bipronged hooks 52 in 7 rows , testes 30 in number unevenly distributed.

The present worm differs from *D. murtizapurensis* Sawarkar 2014 which is having scolex saucer shaped, hooks bifurcated 88 in number, arranged in 4 circles, testes 85 to 90 in number, Ovary irregular, compact and oval.

The above mentioned characters are valid enough, to erect a new species, to accommodate these worms and hence the name *Diplopylidium govindae* (Sp.Nov.) is proposed in honour of my grand guide, Prof. G. B. Shinde former registrar Dr. B.A.M.University Aurangabad and well-known Helminthologist in India.

**Taxonomic Summary**

<table>
<thead>
<tr>
<th>Genus</th>
<th><em>Diplopylidium</em> Beddard, 1913</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td><em>Diplopylidium govindae</em> (Sp.Nov.)</td>
</tr>
<tr>
<td>Type host</td>
<td><em>Felis domesticus</em> (Linnaeus, 1758)</td>
</tr>
<tr>
<td>Habitat</td>
<td>Intestine</td>
</tr>
<tr>
<td>Type locality</td>
<td>Islampur Dist. Sangli (M. S.) India.</td>
</tr>
</tbody>
</table>

**References**


Skrjabin 1924. Progynopylidium nooleri nov. Gen; nov spec. einneuer Band wurm der Katze Berl Tierartzl wschr 32, 420-422.


Meggitt F. J. On a Collection of Burmese Cestodes Jun 1926 Parasitology


Sawarkar 2014. An occurrence of new tapeworm *Diplopylidium murtizapurensis* N.sp. from the intestine of cat, (Felis domesticus) at murtizapur, Maharashtra.


**How to cite this article:** Dr. Patil S. U.2020, An Occurrence of Diplopylidium Govindae (sp. nov.) (Eucestoda-Dilepididae) from Felis Domesticus at Sangli dist. (m.s.) India. *Int J Recent Sci Res.* 11(1), pp. 36728-36730. DOI: http://dx.doi.org/10.24327/ijrsr.2020.1101.4982

**********