



## MORPHOLOGICAL ANALYSIS ON CESTODE PARASITE FROM DOMESTIC DOG IN UDGIR DISTRICT, LATUR, (M.S.) INDIA.

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**ABSTRACT** The present communication deals with a new species of the genus *Dipylidium canisi*, Sp. Nov. from domestic dog (*Canis lupus familiaris*) at Udgir (M.S.), India. The worm comes closer to all the known species of the genus *Dipylidium* in general topography of organs but differs due to scolex is small to medium in size, dome shaped. The suckers are medium in size, oval in shape. The rostellum is armed, medium in size, oval in shape, 18 in number. Mature segments large in size, acraspedote, each with a double set of reproductive organs, longer than broad, almost 4 to 5 times longer than broad, testes small medium in size, 235 to 240 in number, cirrus pouch medium in size, oval in shape, medium in width, slightly curved, Vas deferens thin, directed anteriorly, and coiled, running parallel to the vagina, vagina is thin tube, posterior to cirrus pouch, genital pores are bilateral, of medium size, oval in shape. Ovary bilobed, having 5-6 short, round, blunt, acini, Ootype medium in size, oval in shape, Vitelline gland large in size, oval in shape.

**KEYWORDS** : *Canis lupus familiaris*, *Dipylidium*, Udgir

### INTRODUCTION

*Dipylidium* is the most common cestode of domestic dogs. It can also infect cats. Humans, usually young children (0.5–5 years old) probably acquire infection after accidental ingestion of fleas or lice during contact with pets. *D. canisi*, Sp. Nov. is taxonomically located in the *Dipylidium* genus, Dilepidiidae family, order Cyclophyllidea, and subclass Eucestoda

The genus *Dipylidium* is established by Leuckart, 1863 as type species *D. canium*, Linne, 1758. Later on the following species are added to this genus:

1. *D. ascalabotidis* (Marchi, 1873) Hughes, Baker et Dawson, 1941.
2. *D. bueccaminoi*, Tubangui, 1925.
3. *D. carracidoi*, Lopez-Neyra, 1928 syn. of *D. caninum*, Witenberg, 1932.
4. *D. catus*, Gulati, 1929.
5. *D. compactum*, Millzner, 1926 syn. of *D. caninum*, Witenberg, 1932.
6. *D. crissum*, Millzner, 1926 syn. of *D. caninum*, Witenberg, 1932.
7. *D. diffusum*, Millzner, 1926 syn. of *D. caninum*, Witenberg, 1932.
8. *D. genettae*, (Gervais, 1847) Diamare, 1893.
9. *D. halli*, Tubangui, 1935 syn. of *D. caninum*, Witenberg, 1932.
10. *D. longulum*, Millzner 1925 syn. of *D. caninum*, Witenberg, 1932.
11. *D. monticellii*, Diamare, 1893.
12. *D. oerleyi*, Ratz, 1900 syn. of *D. caninum*, Venard, 1939.
13. *D. otocynis*, Joywex, Baer et Martin, 1936.
14. *D. poromammillanum*, Lopez-Nerya, 1928 syn. of *D. caninum*, Witenberg, 1932.
15. *D. sexcoronatum*, Ratz, 1900 syn. of *D. coninum*, Witenberg, 1932.
16. *D. walker*, Sondhi, 1923 syn. of *D. coninum*, Witenberg, 1932.
17. *D. gracile*, Millzner, 1923 syn. of *D. coninum*, Witenberg, 1932.

The genus *Dipylidium* is the sole representative of the family Dilepidiidae from domestic dog. Later on no species is added to this genus. The present communication deals with new species *Dipylidium canisi*, Sp. Nov. collected from domestic dog at Udgir, Dist. Latur (M.S.), India.

### DESCRIPTION

Twelve specimens of the cestode parasites, were collected, from the intestine of domestic dog, dead due to accident, *Canis familiaris* Udgir, Tq. Udgir, Dist. Latur, M.S, India; in the month of November 2018. All the cestodes were of medium length, with thin, musculature, white in colour, with scolex, numerous immature and mature proglottides.

These worms were flattened, preserved in 4% formalin, stained with Harri's haematoxylin, passed through various alcoholic grade, cleared in xylol, mounted in D.P.X. and hole mount slides were prepared, further anatomical study. The scolex is small to medium in size, dome shaped in appearance, slightly longer than broad narrow anteriorly, broad posteriorly, having four sucker, armed rostellum and measures 0.075 to 0.079 in length and 0.026 to 0.093 in breadth. The four suckers are medium in size, oval in shape, occupying the half or more than portion of the scolex, suckers two pairs, one pair in each of the scolex, suckers overlapping on each other in each pair, obliquely placed and measure 0.024 to 0.036 in length and 0.014 to 0.024 in breadth. The rostellum is armed. Medium in size, oval in shape, slightly narrow

anteriorly and posteriorly, situated at the tip of the scolex and measures 0.003 to 0.008 in length and 0.004 to 0.016 in breadth. The rostellar hooks are small in size, in a single circle, 18 in number, each row with equal number of hooks. The hooks are rose thorn shaped in appearance, with oval basal disc and single curved prong and measures 0.005 to 0.010 in length and 0.001 to 0.004 in breadth. The rostellar sack is medium in size, oval in shape, broad at the middle, narrow anteriorly and posteriorly and measures 0.021 to 0.034 in length and 0.004 to 0.026 in breadth. The neck is medium length and width, with curved lateral margins and measures 0.170 in length and 0.063 to 0.079 in breadth. The mature proglottids are large in size, acraspedote, each with a double set of reproductive organs, longer than broad, almost 4 to 5 times longer than broad, barrel-shaped in appearance, short, blunt, round projection at the anterior and posterior corners of the segments and measures 0.026 to 0.256 in length and 0.033 to 0.066 in breadth. The testes are small medium in size, 235 to 240 in number, distributed throughout segment, oval and round in shape, in single filed, from the anterior to posterior margins of the segments, almost evenly distributed, in the central medulla and measure 0.002 to 0.006 in length and 0.002 to 0.006 in breadth. The cirrus pouch is medium in size, oval in shape, anteriorly directed, opens marginally on each side, placed almost in the centre or middle region or just anterior to the middle of the segments, obliquely placed and measures 0.009 to 0.013 in length and 0.003 to 0.006 in breadth. The cirrus is medium in width, slightly curved, contained within cirrus pouch and measure 0.001 in length, and 0.001 in breadth. The vas deferens is thin, directed anteriorly, and coiled, running parallel to the vagina and measures 0.004 to 0.006 in length and 0.001 in breadth. The ovary is indistinctly bilobed, having 5-6 short, round, blunt, acini, situated almost in the middle of the segments and measures 0.019 to 0.022 in length and 0.002 to 0.010 in breadth. The ovarian lobes are medium in size, slightly, unequal in shape, size and length in directed posteriorly and measures 0.803 to 0.839 in length and 0.125 to 0.142 in breadth. The vagina is a thin tube, situated posterior to the cirrus pouch, runs in the posterior direction, runs obliquely reaches and open into ootype and measure 0.041 to 0.043 in length and 0.001 to 0.002 in breadth. The ootype is medium in size, oval in shape, post-ovarian, compact placed obliquely and measure 0.004 to 0.005 in length and 0.004 to 0.006 in breadth. The vitelline gland is large in size, oval in shape, with irregular margin, with 4 to 5 short, blunt, round acini, post ovarian and measures 0.015 to 0.016 in length and 0.002 to 0.015 in width. The genital pores are bilateral, of medium size, oval in shape, marginal, at the middle of the lateral margin of the segments and measure 0.005 to 0.006 in length and 0.002 to 0.003 in breadth. The gravid segments were not available.

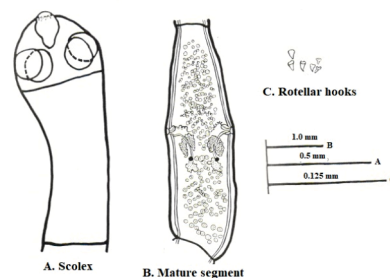


Fig. *Dipylidium canisi*, Sp. Nov.

**DISCUSSION**

The worm under discussion, is having the scolex medium, dome shaped in appearance; rostellar hooks 18 in number, neck medium, testes small to medium, 255 to 265(258) in number; cirrus pouch medium, oval, placed in centre of segments; ovary indistinctly bilobed, having 5-6 short, blunt, acini, in the middle of the segments and vitelline gland large, oval, with irregular margin, post ovarian.

After going through literature, the worm under discussion, comes closer to *D. longulum*, *D. gracile* and *D. waleri* in having the number of these more but different from them, in many character, which are as follows:

1. The present tapeworm, differ from *D. longulum* which is having the scolex 0.440 x 0.440, suckers 0.170 x 0.175, rostellum 0.0650 x 0.110. Neck long, cirrus pouch pyriform, 0.270 to 0.175; ovary bilobed, compact, 0.365 to 0.400 and vitelline gland smaller than lateral ovarian lobes, compact.
2. The present form, differs from *D. gracile* which is having the scolex 0.410 to 0.460, rostellar in 5-7 rows, rostellum diffused and eggs 0.036 in diameter.
3. The cestode, differs from *D. walker* which is having the scolex 0.200 – 0.360, suckers 0.118- 0.150 in diameter, rostellar hook in 6-7 rows, neck short, cirrus pouch 0.050 to 0.0220 and vitelline gland larger than lateral ovarian lobes.

On the basis of above significant morphological variation, it is proposed, to accommodate the present worm, as a new species i.e. *Dipylidium canisi*, sp. Nov., after the generic name of the host.

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