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On a new species of the genus *Ascometra* (Cestoda: Dilepididae) from an edible bird *Gallus domesticus* from Maharashtra, India.

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Abstract: A new species of dilepididaecestode *Ascometra indiana*, residing as gut parasite of *Gallus domesticus* from Nashik district of Maharashtra state, India. This species shows differences with closely related species of the genus *Ascometra* in size of scolex, number and length of rostellar hooks, number of testes, size and shape of ovary, vitelline gland, excretory canals, cirrus and cirrus pouch.

Introduction:

The genus *Ascometra* was erected by Cholodkovsky in 1913 with its type species *A. vestita* from the Houbara bustard *Chamydotis undulata* (Gruiformes: Otidae) in Southern Kazakhstan. Baer (1955) placed the genus *Octopentalum* Baylis, 1914 in synonymy with *Ascometra*. Matevosian and Movsesian (1970) presented evidence that these genera are distinct and the genus *Ascometra* include not more than two species *A. vestita* Cholodkovsky, 1913 and *A. haeri* Matevosian and Movsesian 1970. After that A.M. Adams and R.L. Rausch (1986) reported two more species of the genus *Ascometra*, viz *A. chorioidis* and *A. scheuermani* from the host *Choriotiskori* (Burchell), in Kenya.

After that no species is reported from the genus *Ascometra*. The present communication deals with the description of a new species *A. indianan*.sp. which is first time reported from the host *Gallus domesticus* Linnaeus, 1758 in India at Dindori Dist. Nashik, Maharashtra.

Key words: *Ascometra indiana*, Cestode, Dilepididae, *Gallus domesticus*.

Materials and method: Alimentary canal of *Gallus domesticus* examined for cestode infection. Cestode parasites collected from the intestine of *Gallus domesticus* were flattened and preserved in 4% formalin for overnight. Then these tapeworms were stained with Harris haematoxylin and dehydrated by through ascending alcohol grades, cleared in xylene and mounted in DPX. Studied under low and high power of compound microscope. With the aid of camera lucida drawings were made and measurements were calculated. All the measurements are in millimeter.

Description: Seven cestode parasites were collected from the intestine of *Gallus domesticus* at Dindori. Dist. Nashik M.S., India during the month of October, 2005. The worms are large in size, the strobila measures 271 to 312 in length and maximum width attained in the gravid segment is 1.597. Scolex is large, cone shaped, somewhat narrow anteriorly and broader posteriorly, followed

by 4-6, muscular, transversely placed folds with constrictions, which is followed by neck and measures 0.276 to 0.332 in length and 0.304 to 0.476 in breadth. Suckers are four in number, large in size, oval in shape. Each sucker provided with bilateral papillae at floor (generic character as per Cholodkovsky, 1913) and measures 0.122 to 0.149 in length and 0.124 to 0.151 in breadth. Rostellum is absent.

Neck is medium in length with regular lateral margins and measures 0.497 in length and 0.155 to 0.187 in breadth. Mature segments are medium in size, broader than long, lateral margins are serrate and measures 0.395 to 0.483 in length and 1.359 to 1.448 in breadth. The testes are variable in shape and size small and large, oval to elongated, 20-23 in number, surrounded the ovary in polar half of the segment and measures 0.026 to 0.044 in length, 0.026 to 0.070 in width. The cirrus pouch is small, elongated in shape; do not reach to the longitudinal excretory canal and measures 0.069 in length and 0.258 to 0.439 in breadth. Cirrus is coiled, protrucible and measures 0.129 to 0.147 in length. The vas deferens is small in size, does not crosses the longitudinal excretory canal and measures 0.062 in length and 0.003 to 0.005 in breadth.

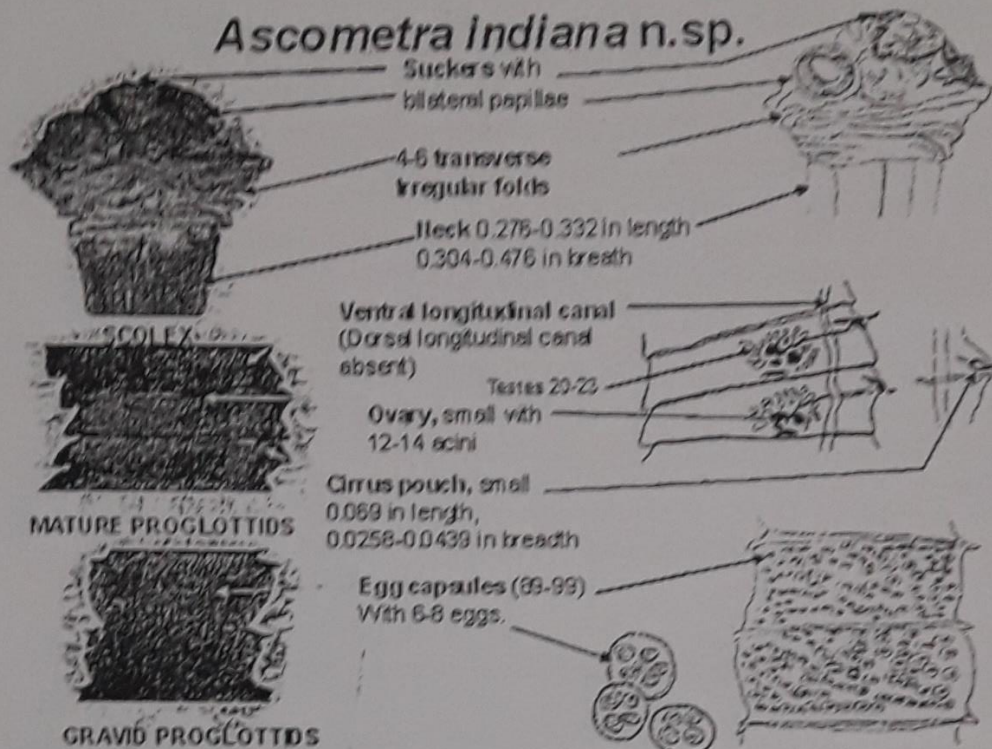
Ovary is small in size, bilobed, lobulated with small poral and large aporal lobe, cecreated with 12-14 acini, placed in poral half of the segment and measures 0.079 to 0.115 in length and 0.022 to 0.036 in breadth. Isthmus is small, tubular, connects two lobes of ovary and measures 0.035 to 0.061 in length. Vagina is thin, long tube, opens from genital pore, swells to form seminal receptacle, crosses the longitudinal excretory canal, curve posteriorly and opens into ootype and measure 0.253 to 0.319 in length and 0.004 to 0.017 in breadth. The seminal receptacle is oval in shape and measures 0.059 in length, 0.010 to 0.012 in breadth. The ootype is small in size, rounded in shape, posterior to ovary and measures 0.035 to 0.044 in length and 0.026 in breadth. Genital pore is unilateral, at one third from the anterior margin and measures 0.0671 in length and 0.031 in breadth. As per Yamaguti, S. (1935) the present worm is classified as:

| | | |
|----------------------|---|--------------------------------------|
| <i>Eucestoda</i> | : | Wardle, McLeod and Radinovsky, 1974. |
| <i>Dilepididea</i> | : | Wardle, McLeod and Radinovsky, 1974. |
| <i>Paruterininae</i> | : | Fuhrmann, 1907. |
| <i>Ascometra</i> | : | Cholodkovsky, 1913. |
| <i>A. indiana</i> | : | n.sp. |

The vitelline gland is oval in shape, postovarian and measures 0.026 to 0.053 in length and 0.035 to 0.061 in breadth. Paruterine organ present posterior to vitelline gland, near posterior margin of mature segment, transversely elongated, and measures 0.044 to 0.061 in length and 0.140 to 0.167 in breadth. Ventral longitudinal canal is wide, 0.026 to 0.050 in breadth. Dorsal longitudinal canal is absent.

The gravid proglottids are large in size, squarish in shape, broader than long, narrow anteriorly a conical projection at posterior corners of the segment, uterus is strongly pleated sac with saccular paruterine organ (Generic diagnostic feature) measures 1.053 to 1.254 in length and 1.404 to 1.597 in breadth, presence of 89-99 (94) egg capsules in uterus, each egg capsule contains

6 to 8 eggs. The eggs with outer membrane 0.019 to 0.027 in diameter and embryophores 0.014 to 0.018 in diameter.



Discussion: From the genus *Ascometra* Cholodkovsky, 1913 following species are reported.

1. *A. vestita* Cholodkovsky, 1913.
2. *A. baeri* Matevesian & Movsesian, 1970.
3. *A. chorlotidis* Adams and Rausch, 1986.
4. *A. scheuermani* Adams and Rausch, 1986.

After that no species is reported from this genus.

The worm under discussion is having length of 31 Indiana 31 271-312, scolex is cone shaped, 0.276-0.332 in length and 0.304 to 0.476 in breadth. Suckers muscular with bilateral papillae and measures 0.122-0.149 in length and 0.124-0.154 in breadth; neck is 0.497 in length, 0.155-0.187 in width. Testes are variable in shape, 20-23 in number, surrounds ovary in poral half of the segment (generic character as per Cholodkovsky 1913). Genital pore unilateral. Cirrus pouch is small, not reaching upto ventral excretory canal and measures 0.069 in length and 0.0258 -0.0439 in breadth. Ovary small, bilobed, 0.079-0.115 in length and 0.022-0.036 in width and vitelline gland 0.026-0.053 in length and 0.035-0.061 in breadth. Eggs with outer membrane measures 0.019-0.027 in diameter and embryophores 0.014-0.018 in diameter.

After going through the literature, the worm under discussion resemble with all four species of the genus *Ascometra* in some characters but differs from them in many characters and it is first

time reported from the host *Gallus domesticus* (a new host), first time in India. The differentiating characters are as follows:

1. The present worm differs from *A. vestita* Cholodkovsky, 1913 in not having oval scolex 0.449 in length, 0.531 in breadth; suckers with single papillae arising from floor. Number of testes 150, uniformly dispersed in medial field; genital pore irregularly alternate and cirrus pouch 0.220 in length, 0.250 in breadth and locality of the host is Southern Kazakhstan.
2. The worm under discussion differs from *A. baeri* Matevosian and Movsesian 1970, in not having suckers with single papillae arising from floor, length of scolex 0.32-0.34, number of testes less than 100, unevenly dispersed and length of neck 0.287.
3. The present worm differs from *A. choritidis* (Adams and Rausch, 1986) in not having scolex length of scolex 0.638 x 0.594, testes 108-209 not surrounding female genital gland; ovary lobed 0.187-0.33 in length, 0.319-0.44 in width and vitelline gland is reniform 0.121-0.242 in length, 0.242-0.495 in width, eggs with 0.097-0.131 in diameter and embryophores 0.059-0.083 in diameters.
4. The worm under discussion differs from *A. scheuremani* Adams and Rausch 1986, in not having scolex round 0.700 x 0.737, suckers 0.264-0.297 in diameter; cirrus pouch extends upto ventral excretory canal, 0.420-0.609 in length, ovary is lobed 0.102-0.269 in length, 0.233-0.410 in width, and vitelline gland is reniform with anterior concavity 0.090-0.156 in length, 0.146-0.238 in width and eggs with 0.111-0.147 in diameter and embryophore 0.066-0.088 in diameter. Additional differentiating characters are summarized in comparative chart at the end.

The above differentiating characters are valid enough to justify a new species for these worms and hence the name *Ascometra indianan*.sp. is proposed as it is first time reported from India.

Generic Diagnosis: With rostellum rudimentary (absent – Baer, 1955) and unarmed. Proglottid short wide, thick. Testes numerous dorsal surrounding female glands. Dorsal excretory stem lacking. Genital ducts dorsal to ventral excretory stem. Genital pores unilateral. Gravid uterus strongly pleated sac, with transverse, saccular, paruterine organ directly in front. Parasites of birds (Cholodkovsky, 1913).

Key to the species of the genus *Ascometra* Cholodkovsky, 1913

1. Suckers with single papillae at the floor.....2
 - Suckers with bilateral papillae at the floor3
2. Testes about 100.....*A. baeri* (Matevosian and Movsesian, 1970)
 - Testes 150 or more.....*A. vestita* (Cholodkovsky, 1913)
3. Testes 108-209.....*A. choritidis* (Adams and Rausch, 1986)
 - Testes 180-221.....*A. scheuremani* (Adams and Rausch, 1986)
 - Testes 20-23*A. 32ndianan*.sp.

Type species : *Ascometra 32ndianan*.sp.
 Host : *Gallus domesticus* Linnaeus 1758.
 Habitat : Intestine.

Locality : Dindori, Dist, Nashik, (M.S.) India.
Accession number : HRL 103 a,b,c/2005-06.
Holotype : Deposited in Helminthology Research Laboratory.
Paratype : Dept. of Zoology Dr. B.A.M. University, Aurangabad.
Date of collection : 23rd October 2005.
Etymology : *A. Indianan*, sp. name is proposed as the species is firstly reported from India.

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