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New *Tylocephalum shindei* (Cestoda:Lecanicephalidae) from *Rhynchobatus djiddensis* at Bhate in Maharashtra, India

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The present paper deals with the description of new a species, under the genus *Tylocephalum* Linton, 1890, as *Tylocephalum* Linton *shindei* n.sp. ,which is having scolex large, globular, divided into anterior & posterior region having 4 circular suckers. The neck is short & wide; mature segments are longer than broad. Testes are medium in size, round, pre-ovarian, anterior to cirrus pouch. Cirrus pouch is large in size, oval, vas deferens is short & thin; ovary is large , quadrangular, bilobed, numerous acini. Vagina is a wide tube, ootype is large, round in shape, post-ovarian; genital pores are regularly alternate, big in size, oval in shape. Uterus is saccular, vitellaria are granular.

Keyword: *Tylocephalum shindei*, *Rhynchobatus djiddensis*, pre-ovarian.

1. Introduction

The genus *Tylocephalum* was erected by Linton, 1890 with its type species *T. Pingue* from *Rhinoptera quadriloba* at Ceylon & *T. dierma* from *Myliobatis meculata* at Ceylon. Linton (1916) reported *T. Marsupium* from *Aetobatis nari nari*, Yamaguti (1934) recorded *T. squatinae* from *Squatinae japonica* at Japan, Toyama Bay, Japan. Southwell (1925) describe, *T. yorkei* from *Aetobatis narinari* at Puri, Orissa, India. Subhpradha (1955) described *T. elongatum* & *T. minimum* from *Rhynchobatus djiddensis* in India. Chincholikar (1976) added one new species to this genus i.e. *T. madhukari* from *Trygon* sp. At Ratnagiri. Jadhav & Shinde (1981) described *T. singhii* from *Trygon zugei* at Bombay. In 1983 Jadhav erected a new species to this genus *T. bombayensis* which is collected from Bombay, Jadhav et al (1988) described *T. aurangabadensis* from *Aetobatis narinari* collected from Arabia sea.

The present communication deals with the new species of the genus i.e. *T. shindei* n. Sp. Collected from *Rhynchobatus djiddensis* at Bhate, M.S., India.

2. Description

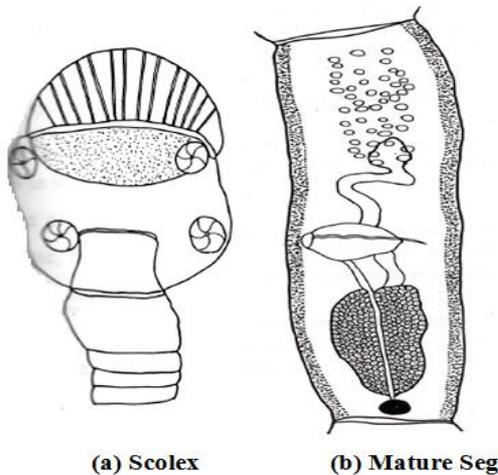
Five cestode parasites were collected from the intestine of a marine fish *Rhynchobatus djiddensis* (Forsskal) at Bhate (West Coast of India), India in the month of November, 2010. The scolex is large in size, globular in shape, divided into two regions, anterior and posterior. The posterior part appears some what 'H' shaped. The scolex measures 0.844-0.892 in length and 0.625-0.820 in breadth. The anterior region is blunt, round, oval in shape and measures 0.413-0.509 in length and 0.509-0.640 in breadth. The posterior region is large, quadrangular, bearing four prominent circular accessory suckers and measures 0.417-0.645 in length and 0.306-0.679 in breadth.

2.1 Accessory Suckers

Suckers are small in size, oval in shape, situated in corners, equidistantly placed and measures 0.112-0.146 in length and 0.087-0.121 in breadth.

The neck is short, wide and measures 0.461 in length and 0.301 in breadth.

The mature segments are longer than broad, loosely connected with each other. They are longer than broad, almost 3-4 times longer than broad, with convex or convex lateral margins and measures about 0.072-0.083 in length and 0.282-0.301 in width.

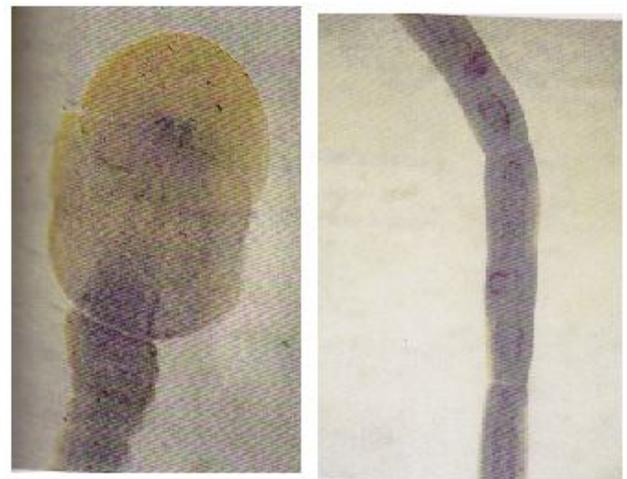


The testes are medium in size, round in shape, 40-50 in number, pre-ovarian, anterior 1/3 region of the segment, anterior to the cirrus pouch, in a single field, unevenly distributed, in the central medulla and measures 0.010-0.019 in diameter. The cirrus pouch is large in size, oval in shape, opens submarginally, extends upto the other lateral margin of the segment, curved and measures 0.136-0.155 in length and 0.058-0.116 in width. The cirrus is wide, straight contained within the cirrus pouch and measures 0.432-0.461 in length and 0.291-0.301 in width. The vas deferens is short, thin and measures 0.343 in length and 0.299 in width.

The ovary is large in size, almost quadrangular in shape, near the posterior margin of the segment, bilobed, lobes with irregular margin, with numerous acini and measures 0.316-0.330 in length and 0.122-0.155 in width, preoral lobes of the ovary are almost equal sized. The vagina is a wide tube, starts from the common genital pore,

postero ventral to the cirrus pouch, takes a curve posteriorly, runs obliquely and medially, reaches and opens into the ootype and measures 0.349 in length and 0.219-0.259 in width. The ootype is large in size, round in shape, post ovarian, near the posterior margin of the segment and measures 0.043 in diameter. The genital pores are regularly alternate, big in size, oval in shape, submarginal, subcortical in position and measures 0.043 in length and 0.019 in width.

The uterus is saccular, uterine tube is coiled arises from the ootype, runs anteriorly ventral to the ovary, extends anterior to the cirrus pouch, enlarges into a large sac, which extends upto the anterior margin of the segments. The vitellaria are granular, wide strips, in cortical parenchyma, on each lateral side of the segments and extend from anterior to the posterior margin of the proglottids.



3. Results and Discussion:

- The present form differs from *T. pingue*, Linton, 1890, which is having the scolex globose, absence of neck, testes 20-27 in number, ovary transverse band are follicular vitellaria.
- The present worm differs from *T. artiobatidis* [11], which is having scolex circular at the anterior part and swollen at the base, neck absent, segment 50 in number, testes 7-12 in number and ovary massive.
- The present cestode differs from *T. squatinae* [10], which is having the scolex sub globular, long neck, testes 40-50 in number, cirrus

- pouch oval, ovary with elongated acini and follicular vitellaria in 2-3 rows.
- The form under discussion differs *T. mosupium*. Linton 1916 which is having scolex relatively large, neck absent, segment vase shaped, constricted at the anterior end, testes 30-32 in number, cirrus pouch relatively small and oval, ovary lobed and granular vitellaria.
 - The present worm differs from *T. diorama* Shipley et al, Homell 1906, which is having the scolex variable in size, presence of neck, testes about 50 in number, ovary bilobed and composed of very small, elongated club shaped acini and follicular vitellaria.
 - The present cestode differs from *T. yorkeri* Southwell 1925 which is having the scolex cushion shaped, testes 30-36 in number, ovary small and bilobed and follicular vitellaria in one row.
 - The present worm differs from *T. elongatum* Subhpradha 1955, neck absent, testes 40 in number, ovary bilobed with numerous small acini and vitellaria follicular arranged in bands.
 - It differs from *T. minnum* Subhpradha 1955, anterior region much smaller than posterior region, neck absent, testes 33 in number and vitellaria follicular in one row.
 - The present form differs from *T. madhukari* Chincholikar 1976, which is having the scolex divided in two regions anterior region composed of subglobular plate, neck absent, segment 16 in number, testes 10 in number, cirrus pouch saccular, ovary compact, granular and bean shaped and granular vitellaria.
 - The present cestode differs from *T. singhii* Jadhav and Shinde, 1981, in shape of scolex globular, neck short, testes 76-80 in number, pre-ovarian genital pores regularly alternate submarginal, vagina posterior to cirrus sac, ovary 'U' shaped, uterus saccular and vitellaria follicular.
 - The present tapeworm differs from *T. bombayensis* Jadhav, 1982, in the shape of scolex, rounded segmentation square, testes

31-38 in number, ovary transverse band and vitellaria granular.

- The present cestode differs from *T. aurangabadensis* Jadhav et al, 1988, in the shape of the scolex quadrangular, absence of neck, testes 20-25 in number, genital pore unilateral, submarginal and follicular vitellaria.
- As the above noted characters are valid enough to erect a new species as *T. shinedi* n.sp. The name is proposed in honour of Prof. G.B. Shinde, who is a well-known cestodologist.

Type species	<i>Tylocephalum shindei</i> n.sp.
Host	<i>Rhynchobatus djeddensis</i> (Forsskal)
Habitat	Intestine
Locality	Bhate.
Date of collection	3 rd November, 2010

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