



A New Species of The Genus- Tetragonocephalum Pulensis From A Marine Fish Trygon Zugei

KEYWORDS

Marine fish, Cestode, Trygon & Tetragonocephalum

NILIMA M. KANKALE

Assistant Professor, Department of Zoology,
Gulam Nabi Azad Arts, Commerce & Science College, Barshitakli, Dist- Akola (M.S.) 444 002 India

ABSTRACT *The present form was collected from the intestine of marine fish Trygon Zugei. Fishes were collected from the local fish catcher of Ratnagiri (M.S.). After the laboratory examination it is concluded that it deals with the new species of the cestode from the genus Tetragonocephalum Shipley Hornell, 1905, viz. Tetragonocephalum Pulensis n. sp. Collected from Ratnagiri (west coast of India) from a marine fish Trygon Zugei (Muller & Henle, 1841). The present species differ from all other known species of the genus in having scolex globular or oval, neck present, testes (39-40), ovary 'U' shape, vitellaria granular (2 or 3 rows).*

INTRODUCTION

The genus Tetragonocephalum is established by Shipley et Hornell in 1905 from Trygon walgo from Ceylon as a type species T. trygonis. Later on the following species are added to this genus. T. Uanak, Shipley et Hornell, 1905. T. raoii, Deshmukh and Shinde, 1979. T. Alii, Deshmukh & Shinde, 1979. T. Shipley, Deshmukh & Shinde, 1979. T. Sapheni, Deshmukh & Shinde, 1979. T. Shipleyi, Shinde, Mohekar & Jadhav, 1985. T. Bhagwati, Shinde, Mohokar & Jadhav, 1985. T. Yamagati, Murlidhar, A. 1988. T. Aurangabadensis, Shinde and Jadhav, 1990. T. Singhii, Powar et al., 2005.

Fishes are well known for harboring various external and internal parasites viz cestode, trematode, acanthocephalan, nematode and their larvae. They cause deterioration in their health hence their nutritive and market value is affected. To stop the loss, it is necessary to explore these kinds of exo and endo-parasites and increase the fundamental knowledge.

MATERIALS AND METHODS

The marine fish collected from Ratnagiri (west coast) of India was cut dorsoventrally and the intestine was cut. Then the live specimens were collected from marine fish Trygon Zugei and fixed in 4% formaline, stained with Harris haematoxyline, dehydrated, cleared in xylene, mounted in D.P.X. Drawings were made with the aid of camera lucida. Identification carried out with the help of systema Helminthum vol. II Yamaguti, all measurements are in millimeters.

DESCRIPTION

The parasite based on fifteen specimens are collected from the spiral valve of Intestine of Trygon Zugei at Ratnagiri. The worms were highly muscular & thick. The scolex is divided into two region, the anterior & posterior. The anterior region is somewhat oval in shape measure 0.364 (0.2912-0.4368) in length & 0.388 (0.4854- 0.2912) in breadth, partly trunked into posterior region. The posterior region is somewhat quadrangular measure 0.364 (0.2427-0.4854) in length & 0.1649 (0.2912 – 0.8737) in width, Suckers four in number, rounded in shape measure 0.2911 (0.09708-0.194) in length & 0.156 (0.8252-0.1310) in breadth. Two suckers having Papilla. The mature segment are longer than broad measure 0.4018 (0.6795-0.7223) in length & 0.8979 (0.3883-0.50967) in breadth. Testes are preovarian medium in size, oval in shape, 30-33 in number, measure 0.2815 (0.1359-0.1456) in length 0.7281 (0.02427-0.04854) in breadth. The cirrus pouch is oval, placed near the margin or middle of the segment measure 0.2184 (0.07281-0.02427) in length & 0.7281 (0.02427-0.04854) in breadth. The cirrus is thin & curve contain with in the cirrus pouch measure 0.1698 (0.07281-0.09708) in length & 0.10193 (0.004854-0.09708)

in breadth forms vas deferens is long & curve, runs to the uterus measure 0.2912 (0.1213-0.1699) in length & 0.10193 (0.004854-0.09708) in breadth forms vas deferens is long & curve , runs to the uterus measure (0.1213-0.1699) in length and 0.10193 (0.004854-0.9708) in breadth.

The Genital pore is oval in shape, placed marginally & unilateral measure 0.3543 (0.02427-0.03398) in length & 0.1941 (0.01456-0.04854) in breadth. The vagina is a thin tube, runs posteriorly to the cirrus pouch start from the genital pore measure 0.3155 (0.1456-0.1699) in length & 0.10193 (0.004854-0.09708) in breadth. Extend transversely up to the center of the segment, takes a turn, runs posteriorly & form receptaculum semini's measure 0.6067 (0.2912-0.3155) in length & 0.10193 (0.004854-0.09708) in breadth and opens into the ootype.

Ovary is situated near the posterior region of the segment, ovary is bilobed 'H' shaped, measures 0.4611 (0.2184-0.427) in length & 0.07281 (0.02427-0.04854) in breadth. The ovary it consist of small, rounded ovarian follicles or acini. The two ovarian lobe it consist of of small oval ootype , on the posterior margin of the segment measure 0.1407 (0.04854-0.09223) in length & 0.4268 (0.01941-0.02427) in breadth.

The uterus is long or elongated , globular in shape, placed middle of the segment or originated from the ootype measure 0.8979 (0.4368-0.4611) in length & 0.12135 (0.02427-0.09708) in breadth. Uterus is filled with small, rounded eggs. Vitellaria are granular or arrange in 2 to 3 rows.

DISCUSSION

The Present Parasite differs from (Scolex length 0.26 Vs. 0.16) T.trygonis Scolex length (0.26 vs. 0.16) Scolex width (0.33 Vs.0.66) no. of testes (7-12 Vs. 30-33) Shape of ovary (massive with follicular Vs. H shaped) differs from T.Uanak Scolex length ; (0.22-0.28 Vs.0.16) Scolex width (0.21-0.41 Vs.0.66) no. of testes (16-27 Vs. 30-33) External seminal Vesicle (Absent Vs. Present) Shape of ovary (bilobed Vs. 'H' shaped) differs from T.minutum Scolex length (0.53 Vs. 0.16) Scolex width (0.44 Vs. 0.66) no. of testes (38.63 Vs. 30-33) shape of ovary (Quadrangular Vs. H shaped) differs from T.raoii Scolex length (0.63-0.89 Vs. 0.16) Scolex width 0.45-0.54 Vs. 0.66) no. of testes (50-55 Vs. 30.33) shape of ovary (follicular Vs. 'H' shaped) seminal vesicle (Absent Vs. Present) differs from T.alii Scolex length (0.74 Vs. 0.16) Scolex width (0.80 Vs. 0.66) Neck (Absence of neck Vs. Presence of neck) shape of ovary (follicular Vs. 'H' shaped) no. of testes (40-45 Vs. 30-33) differs from T.sepheni Scolex length (0. 53-0.62 Vs. 0.16) Scolex width (0. 53 – 0.55. Vs. 0.66) no. of testes (36-38

Vs. 30-33) shape of ovary (Quadrangular with follicular Vs. 'H' shaped) Seminal vesicle (Absent Vs. Present) differs from *T. Shipleyi* Scolex length (0.50-0.56 Vs. 0.16) Scolex width (0.38-0.48 Vs. 0.66) no. of testes (12 Vs. 30-33) differs from *T. Yamagati* Scolex length (0.12-0.16 Vs. 0.16) Scolex width (0.21-0.26 Vs. 0.66) no. of testes (54-56 Vs. 30-33) seminal vesicle (Absent Vs. Present) shape of ovary (Rectangular Vs. 'H' shaped) differs from *T. bhagawati* Scolex length (0.40-0.46 Vs. 0.16) Scolex width (0.48-0.54 Vs. 0.66) Neck (Absence of Neck Vs. Presence of Neck) no. of testes (37-38 Vs. 30-33) differs from *T. ratnagirinesis* Scolex length (0.843 Vs. 0.16) Scolex width (0.459-0.537 Vs. 0.66) no. of testes (40-44 Vs. 30-33) Seminal vesicle (Absent Vs. Present) Shape of ovary (rectangular Vs. 'H' Shaped) differs from *T. aurangabadensis* Scolex length (0.722 Vs. 0.16) Scolex width (0.445-0.533 Vs. 0.66) Neck (Absence of neck Vs. Presence of neck) no. of testes (105-110 Vs. 30-33) Shape of ovary (oval Vs. 'H' shaped) Seminal vesicle (Absent Vs. Present) differs from *T. singhii* Scolex length (0.55-0.56 Vs. 0.16) Scolex width (0.29-0.60 Vs. 0.66) no. of testes (39 Vs. 30-33) Shape of ovary ('U' Shaped Vs. 'H' Shaped).

As discussed, the present form, *Tetragonocephalum Pulensis* differs from other known species of the genus in having scolex globular or oval, neck present, testes (39-40), ovary 'U' shape, vitellaria granular (2 or 3 rows).

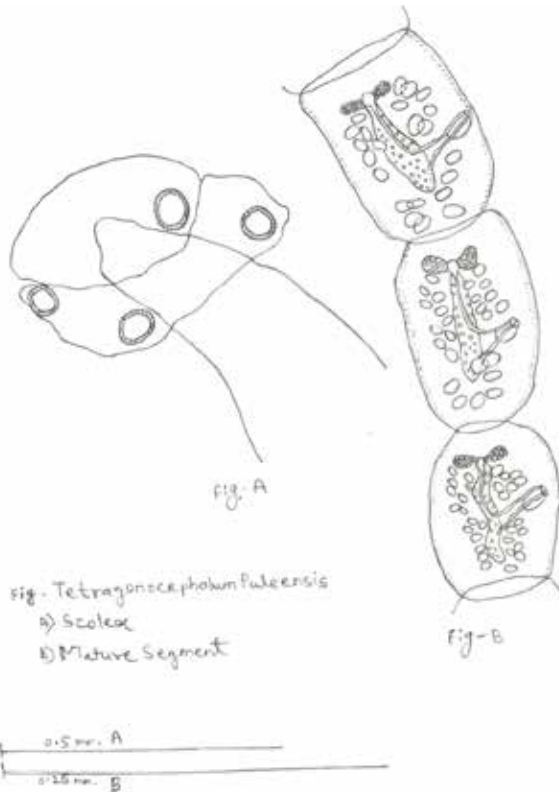


fig. *Tetragonocephalum Pulensis*
 A) Scolex
 B) Mature Segment

REFERENCE

1. Shipley, A.E. and Hornell, J. (1905): Two new species of the genus *Tetragonocephalum* (cestoda: Lecanicephalidae) from west coast of India., Indian J. of Parasitology 9(1): 79-82 | 2. Deshmukh, R.A. and Shinde, G.B. (1979): Three new species of *Tetragonocephalum*, Shipley et Hornell, 1905 (cestoda: Tetragonocephalidae) from marine fishes, west coast of India. Bio-research Ujjain 3, 19-23. | 3. Shinde, G.B. Mohokar, A.D. and Jadhav, B.V. (1985): Two new species of the genus *Tetragonocephalum* Shipley and Hornell, 1905 (cestoda: Lecanicephalidae) from west coast of India., India J. of parasitology 9(1): 79-82. | 4. Murlidhar, A (1988): A new cestode *Tetragonocephalum yamaguti* n. sp. (cestoda: Tetragonocephalum) from a marine fish *Trygon walgo* at madras (East coast of India) Rivista D: Parasitology, Vol. V (XLIX) N-2 pp. 257-260. |