



POLYPOCEPHALUS RAKHAMAJII N.SP. *TRYGON SEPHEN* (CUVIER, 1871) AT BHAGAWATI DIST RATNAGIRI M.S. INDIA

R.R. Dandawate

Department of Zoology, Arts, Commerce and Science College, Sonai Dist. Ahmednagar M.S., India
Corresponding author email- d_rajendra2006@rediffmail.com

ABSTRACT

The Researcher Braun (1878) erected a new genus *Polypocephalus* with the type species *P. rariatus*. The cestode parasite collected from Spiral intestine of *Trygon sephen* (Cuvier, 1871) Bhagawati Ratnagiri, India (West Coast of India) from January 2002 to December 2004. The worm measures about 21 in length and 0.9 in breadth, with 22 segments. Scolex is broader anteriorly and narrows posteriorly with spherical shape the mature segments are longer than broad. Testes are five in number, oval in shape situated in the center of the mature segments The uterus is oval in shape, broader at anteriorly and narrow posteriorly. Vagina arises from genital pore takes the gravid segments are always longer than broad. Vitellaria are follicular

KEYWORDS- Scolex, Suckers, Cestode, gravid segment, follicular.

INTRODUCTION

Braun (1878) erected a new genus *Polypocephalus* with its type species *Polypocephalus radiatus*, which was characterized by the presence of tentacles and suckers on the head. Linton (1889) obtained a new species of cestode from the intestine of *Trygoncen trura*, which he named *Parataenia medusia*, n. gen. n. sp. The head of Linton's species bears a close resemblance to that of Braun's *Polyocephalus radiatus*, Shipley and Hornell (1906) described two new species of cestodes *Thysanobothrium uarnakense* and *Anthemobothrium pulchrum* gen. sp. n. from *Trygon uarnak* and *Trygon sephen* respectively. Both these species resemble to the genus *Polypocephalus*, Braun, 1878 in the characters of their scolices. It seems evident that these authors had not seen either Braun's or Linton's work, for they refer to the tentacles as being "Very curious and as far as we know unique amongst cestode". In 1912 Southwell described a new cestode, *Parataenia elongata*, from the intestine of *Trygonkuhli*. Subsequently in 1925 Southwell reduced *Parataenia*, Linton, *Thysano bothrium*, Shipley and Hornell and to synonymy with *Polypocephalus*, Braun, as the scolices of these, closely resemble each other in being globular or sub globular, in possessing tentacles and in the presence of suckers on the surface. Woodland (1930) made a detailed study of *Parataenia elongata*, Southwell and *Parataenia medusia*, Linton and confirmed Southwell's view that the genera *Polypocephalus* and *Parataenia* were synonymous. Southwell considered *Thysanobothrium uarnakense*, Shipley and Hornell and *Parataenia elongata*, Southwell to be synonymous with *Polypocephalus radiatus*, but as neither Braun nor Shipley and Horne have described the genital organs; it is doubtful whether these three species are synonymous. Subhadrappa (1951) described *P. radiatus*. Braun and *P. medusia*, Linton from *Rhynchobatus djeddensis* and *Rhinobatus granulatus* respectively. She reported six new species i.e. *P.*

rhinobatidis from *Rhinobatus granulatus*, *P. vitellaris* from *Rhynchobatus djeddensis*, *P. lintoni* from *Rhynchobatus djeddensis*, *P. rhynchobatidis* from *Rhynchobatus djeddensis*, *P. coronatus* from *Rhynchobatus djeddensis*, and *P. affinis* from *Rhinobatus granulatus* from Madras (East Coast of India). cestode parasites were collected from the spiral valve of marine fish, *Trygon zugei*, from Mumbai, west coast of India. The present form of *Polypocephalus govindii* sp. nov. differs from all known species of genus *Polypocephalus* in many characters as in number of tentacles on head, testes number, shape and position of cirrus pouch, position of vagina and shape and position of vitellaria. Yamaguti (1960) reported *P. vesicularis* from *Rhinobatus schegeli* in Japan. Shinde (1981) reported *P. brauni* from *Rhynchodontypus* at veraval. Shinde and Jadhav (1981) erected four new species of the same genus such as *P. katpurensis*, *P. singhii*, *P. ali*, *P. thapari* collected from *Rhynchobatus djeddensis* at Ratnagiri and Veraval.

Deshmukh *et al.* (1982) created five new species of the genus like *P. maharashtrii* and *P. pratibhii* collected from *Trygonsephen*, *P. digholensis* and *P. karbharae* obtained from *Dicerobatis eregoodoo* and *P. indicus* from the same host. Then Jadhav *et al.* (1986) added *P. trygoni* collected from *Rhinobatus granulatus*. Later on Jadhav *et al.* (1986) reported *P. ratnagiriensis* from *Trygonzugei*. In (1991) *P. bombayensis* is added by Shinde *et al.* from *Aetobatus flagellum* at Kakinada, (A.P.).

METHODOLOGY

Five mature specimen were collected from the Spiral intestine of *Trygon sephen* (Cuvier, 1871) at Bhagawati, Ratnagiri, India (West Coast of India) from January 2002 to December 2004. The Collected worms were placed in 4% formalin for Morphological study. The species were identified by Morphometric method. Drawing was made

with the help of camera Lucida. All measurements are in millimeters

DESCRIPTION

The worm measures about 21 in length and 0.9 in breadth, with 22 segments. Scolex is broader anteriorly and narrow posteriorly with spherical shape. It measures 0.241 (0.235-0.247) in length and 0.081 (0.023-0.140) in breadth. Anterior region is represented by 10-12 tentacles, which evaginate through the central cavity and posterior region with four suckers which are oval to round in shape. The suckers measures 0.024 (0.023-0.025) in length and 0.017 (0.045-0.012) in breadth. The neck is short, cylindrical in shape and measures 0.022 in length and 0.024 in breadth. The mature segments are longer than broad, measures 0.075 (0.074-0.75) in length and 0.058 (0.053-0.064) in breadth. Testes are five in number, oval in shape situated in the center of the mature segments measures 0.018 (0.017-0.018) in length and 0.0058 (0.004-0.008) in breadth. Cirrus pouch is elongated, oval, measures 0.021 (0.020-0.022) in length and 0.004 (0.0025-0.0087) in breadth. Cirrus is short, slightly curve forms seminal vesicles, reaches up to middle of segment, measures 0.05

(0.048-0.053) in length and 0.009 (0.0048-0.014) in breadth. The vagina and cirrus pouch open through a common pore known as genital pore arranged unilateral is oval, measures about 0.03-0.04 in length and 0.017 in breadth. Vagina arise from genital pore takes a turn posteriorly and opens into the receptaculum seminalis measures 0.042 (0.041-0.042) in length and 0.012 (0.0098-0.015) in breadth. Receptaculum seminis measures 0.020 (0.015-0.025) in length and 0.0046 (0.015-0.098) in breadth. Vas deferens is short. Ovary bilobed, elongated laterally and placed at the posterior side of the segment measures 0.016 (0.015-0.017) in length and 0.0038 (0.0037-0.0039) in breadth. The ootype is situated at the middle region of the ovary, measures 0.012 in diameter. Vitellaria are follicular, cortically placed in a single row, except the cirrus pouch and pre-ovarian. The gravid segments are always longer than broad, measures 0.095 (0.094-0.096) in length and 0.055 (0.048-0.063) in breadth. The uterus is oval in shape, broader at anteriorly and narrow posteriorly, measures 0.101 (0.099-0.103) in length and 0.028 (0.015-0.041) in breadth. It consists of number of eggs, which are rounded, measures 0.011 x 0.011 in diameter.

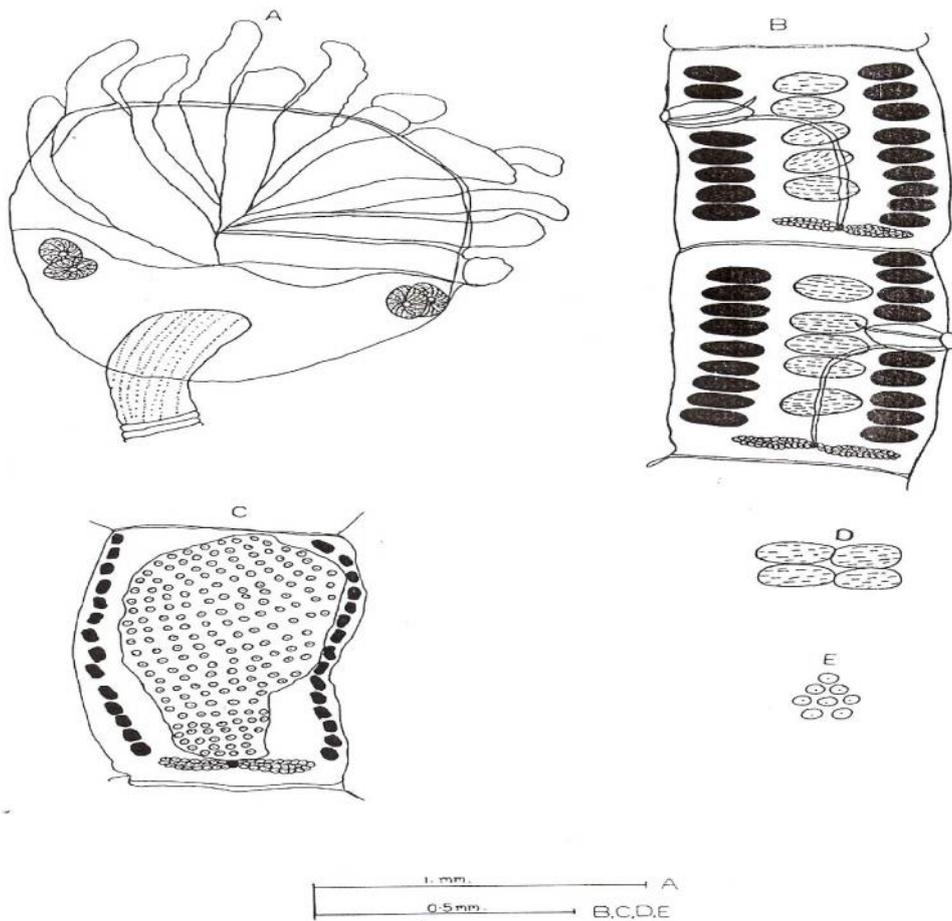


FIGURE 1: A. Mature segments B. Scolex C. Gravid segments D. Testes E. Eggs

DISCUSSION

The present tapeworm is having scolex, broader anteriorly and narrows posteriorly with spherical shape, tentacles 10-12 in number, suckers are four which are oval to round, the mature segments longer than broad, testes five, cirrus

pouch elongated, oval, cirrus short, slightly ciurves, vagina posteroventral to cirrus pouch, ovary bilobed. Vitellrai follicular, uterus oval.

- 1) The present form differs from *P. radiatus* in number of tentacles (10-12 Vs. Six), number of testes (Five Vs. Four), cirrus pouch (elongated, Oval Vs. small Conical), uterus (Oval Vs. 'Y' shaped), vitellaria (follicular vs. granular).
- 2) The present cestode differs from *P. medusia* in no. of tentacles (10-12 Vs. single), number of testes (Five Vs. Four), uterus (oval Vs. Bent), vitellaria (follicular vs. granular).
- 3) The present tapeworm differs from *P. pulcher* in no. of tentacles (10-12 Vs. single four).
- 4) The present worm differs from *P. vesicularis* in tentacles (10-12 vs. 4), testes (five Vs. four), uterus (compact Vs. divided into compartments).
- 5) The present tapeworm differs from *P. brauni* in tentacles (10-12 Vs. 14), testes (5 Vs. 6), uterus (oval Vs. saccular).
- 6) The present cestode differs from *P. katpurensis* in tentacles (10-12 Vs. 14), testes (5 Vs. 6), cirrus pouch (oval and elongated Vs. oval and small) uterus (oval Vs. staright).
- 7) The present tapeworm differs from *P. alii* in testes (five Vs. six), ovary (elongated Vs. compact), uterus (oval Vs. saccular), vitellaria, (follicular Vs. granular).
- 8) The present cestode differs from *P. thapari* in no. of tentacles (10-12 Vs. 14), in testes (five Vs. six), cirrus pouch (elongated vs. small), ovary (elongated laterally Vs. elongated transversely), uterus (present vs. absent), vitellaria (follicular vs. granular).
- 9) The present cestode parasite differs from *P. bombayensis* in testes (five Vs. six), cirrus (short vs. long). In the view of these differentiating characters noted above,

It is necessary to erect a new species for this form *Polyocephalus rakhamaji* n.sp. and name proposed after the authors father, late Shri. R.V. Dandawate, who brought up in hard situation and educated him, later on no species is added in this genus.

ACKNOWLEDGEMENTS

The authors are grateful to the Principal Arts, Commerce and Science College, SonaiTal, Newasa Dist. Ahmednagar

for supporting this research work and providing Laboratory facilities.

REFERENCES

- Jadhav B.V. (1986): Five new species of the genus *Polyocephalus* Braun, (1978) (Cestoda: Lecanicephalidae) India Marathwada Univ. J. Sci. Vol. XXI Sci. 14: 79-86.
- Jadhav B.V. & Sarawade (1986): *Polyocephalus ratnagiriensis* sp. Nov. (Cestoda: Lecanicephalidae) from *Trygonzuegi*, India. Indian J. of Helminthology Vol. XX XVIII No. 2, 88-92.
- Shinde G.B. & Jadhav, H. (1991): *Polyocephalus bombayensis* sp. nov. (Cestoda: Lecanicephalidae) from a marine fish *Aetobatus flagellum* at Kakinada (A.P.) India.
- Shinde G.B. & Jadhav, B.V. (1981): Four new species of the genus *Polyocephalus* Braun, 1978. (Cestoda: Lecanicephalidae) from the marine fishes of India. Indian Journal of parasitology-5: 1-7. Indian J. of Hel. Vol. XX XX III No. 1. PP. 77-79.
- Shinde G.B. & Jadhav, B.V. (1985): *Polyocephalus ratnagiriensis* sp. nov. (Cestoda: lecanicephalidae) from *Trygon zuegi*. India. Indian J. of Helminthology Vol. XX XVIII no. 88-92.
- Subhprabha C.K. (1951): On the genus *Polycephalus*, Braun, 1878, (cestoda), together with description of six new species from Madras, Proc. Zool. Soc. Lond. 121, Pt, 11, 205-235.
- Deshmukh, R.A. & Shinde, G.B. (1982): Five new species of the genus *Polyocephalus* Braun (1978) (Cestoda: Lecanicephalida) India. Marathwada Univ. J. of Sci. Vol. XXI: 14= 79-86.
- Subhpradha C.K. & Edward Hidle (2009) On the genus *Polyocephalus* Braun, 1878 (Cestoda), together with descriptions of new species from Madras JZ121 (2):205 – 235.