Volume: 2 Issue: 12 Pages: 40-43

New Specise *Gangesia Pandeyae* from *Wallago Attu*

[*1] Dr. Chandrashekhar R Kasar

[*1] Associate Professor, Head, Department of Zoology, S. P. M. Science and Gilani Arts, Commerce Collage, Ghatanji, Yavatmal, Maharashtra, India.

Article Info.
E-ISSN: 2583-6528
Impact Factor (SJIF): 5.231
Peer Reviewed Journal
Available online:
www.alladvancejournal.com

Received: 23/Nov/2023
Accepted: 26/Dec/2023

***Corresponding Author**
Dr. Chandrashekhar R Kasar
Associate Professor, Head, Department of Zoology, SPM Science Gilani Arts, Commerce College, Ghatanji, Yavatmal, Maharashtra, India.

Abstract
The present communication deals with the description of a new species as *Gangesia pandeyae* (n. sp.) collected from the intestine of fresh water fish *Wallago attu* from Wardha River at Dhamangaon (Rly.) District Amravati, (M.S.) India. During the period Jan. 2003-Dec. 2005. The present cestode under discussion is having scolex triangular, narrow anteriorly and broader at the middle, It bears four suckers two on either side with slightly overlapping each other, the rostellum is rounded and prominently by single row of hooks, rostellar hooks are 24-25 in numbers. The mature segment broader than long somewhat squarish. The testes are 180-200 in numbers, small, oval in shape, scattered throughout the anterior 3/4thof the segment cirrus pouch, large oval in shape, transversally placed, situated at the centre region of the segment. The vasicula semini long, runs downward posteriorly, reaches up to the ootype, The genital pore, oval, marginal, unilateral, placed in middle of the segment, the ootype almost rounded, cirrus long, tubular, The ovary distinctly bilobed, having oval lobes, placed at posteriorly rigion of the segments. Vagina thick, long tube, posterior to cirrus pouch, Vitellaria follicular with two rows.

Keywords: *Gangesia pandeyae, Wallago attu,* Intestine, cestode parasites, cirrus pouch, Vitellaria.

Introduction
The genus Gangesia was erected by Woodland in 1924. The description of Gangesia by Southwell (1913) was vary Meager and Verma (1928) gave a fresh account of the same form. In the same paper Verma also described *G. pseudotropii* from *Silurus gangia* and *G. agraensis* from *Wallago attu.* Southwell (1930) however recognized only four valid species of the genus, however recognized only four valid species of the genus, other being regarded as synonyms. Later on in presented research paper the author according to differentiating characters, described a new species were added in this genus. The differentiating characters are valid enough to erect a new species for those worm and hence name *Gangesia pandeyae. (*N. Sp.) is proposed after Prof. K. C. Pandey, HOD, Department of Zoology, Lucknow, University Lucknow. Who is well known Helminthologist.

Objectives
The present communication deals with the description of a new species as *Gangesia pandeyae* (n. sp.) collected from the intestine of fresh water fish *Wallago attu* from Wardha River at Dhamangaon (Rly.) District Amravati, (M.S.) India .During the period Jan.2003-Dec.2005. Which is important to provide a knowledge to new researcher know about the genus Gangesia, having a many species of tapeworm parasites in additional to this species author again introduced a new species i: e *Gangesia pandeyae* (n. sp.) collected from the intestine of fresh water fish *Wallago attu.*

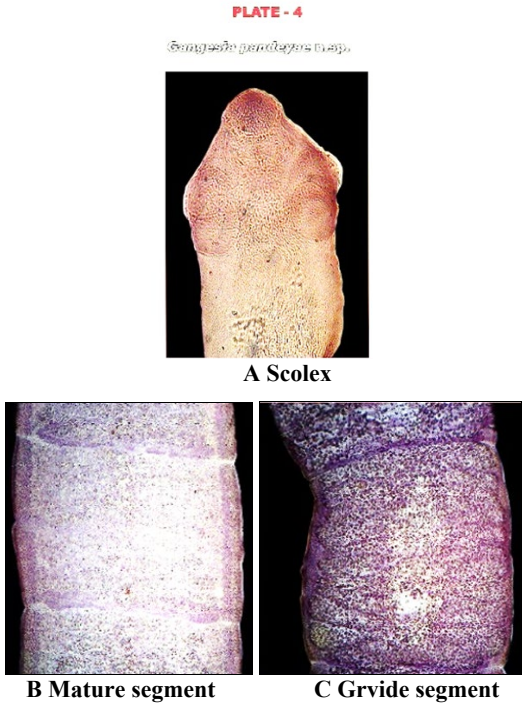
To Awareness in people about the infection of helminth parasites, which is found in vertebrate animals and these animals are suffering with helminth infection and when the people who are eating uncooked or poorly cooked meat, unhygienic habits and poor sanitation infection leads to anaemia, complications and protracted illness. Parasitic diseases are among the major public health problems of tropical countries including India.

Definitely, all description mention in this presented research paper will provides able guidance to new researcher.

Methodology
Material and Method: The freshwater host fishes were collected from the local fishermen from Wardha River at

Dhamangaon (Rly.) District Amravati, (M.S.) India .During the period Jan.2003- Dec.2005. After collection fishes were brought to the laboratory for further study. The host fishes were dissected out and intestines were cut open for parasitological examination. Dissected intestines were examined to observe the degree of infection. The cestode parasites were collected, placed in saline solution and freed from the mucus by shaking well. Further the parasites were flattened, and preserved in 4% formalin. These preserved parasites were dehydrated by passing through various alcohol grades such as 30%, 50%, 70%, 90% and 100%. Harry"s haematoxylin stain was used for staining the cestode parasites. Then cleared in xylene and mounted in DPX for taxonomical study. The drawings were made with the aid of camera Lucida and identified with the help of "Systema Helminthum" by Yamaguti 1961. The cestode parasites were collected from the intestine of fresh water fishes Wallago attu, Two hundred and sixty five specimens of cestode parasites were collected from fresh water teleost fish Wallago attu, Twelve cestode parasites were collected from fresh water teleost fish Wallago attu in Wardha River at Dhamangaon (Rly.) District Amravati, M. S. India, during the period Jan. 2003- Dec. 2005.Out of them Ten cestode were taken for Taxonomical studies, These parasite are considerably long with 70 mm in length consisting of Scolex, immature, mature and gravid Segments.

Descreption and Discussion



A Scolex

B Mature segment **C Grvide segment**

Fig 1: Photos under microscope.

The Scolex is triangular, anterior end rounded, broader in middle and posterior side distinctly marked off from the segment. It bears a four suckers and prominent rostellum measures 0.351 (0.291-0.412) in length and 0.371 (0.281-0.461) in width.

The Suckers are four in numbers, two on either side with slightly overlapping each other, placed in middle to posterior side of scolex, almost rounded and measure 0.150(0.135-0.165) in length and 0.121(0.101-0.140) in width.

The Rostellum is rounded and prominently by single row of hooks and measure 0.099(0.072-0.126) in length and 0.131(0.106-0.155) in width. Rosteller hooks are somewhat, 24-25 in numbers and measure 0.070(0.063-0.077) in length and 0.016(0.014-0.019) in width. Neck absent.

The mature segments are broader than long, squarish and measure 1.791(1.786-1.796) in length and 2.606(2.504-2.708) in width. The Testes are 180-200 in numbers, oval in shape, small in size , scattered throughout the 3/4th of the segment pre-ovarian and measure 0.041(0.038-0.043) in length and 0.024-(0.019-0.029) in width.

Cirrus pouch is larger somewhat oval in shape, transversally placed, situated at the central region of the segments and measure 0.584(0.558-0.611) in length and 0.167(0.131-0.203) in width. Cirrus long, tubular, straight and runs transversely and measure 0.371(0.368-0.373) in length and 0.016(0.014-0.019) in width. Vas deferens long tube like, runs transversely slightly curved and measure 0.560(0.558-0.563) in length and 0.012(0.009-0.014) in width.

The Ovary is distinctly bilobed long, having oval lobes, placed posterior region of the segment and extends from central to lateral side of the segment and right lobe is measure 1.014(0.946-1.082) in length and 0.162(0.135-0.189) in width.

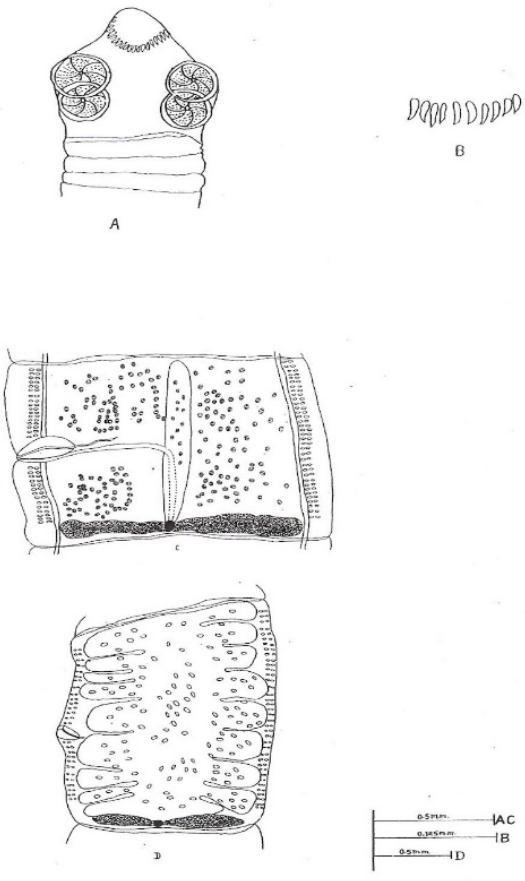


Fig 2: Diagram draw by Camera Lucida

The Vagina is thick tube, posterior to cirrus pouch, start from genital pores runs transversely and measure (0.771-0.776) in length and 0.033(0.024-0.043) in width.

The Vasicula semini is long takes upward turn slightly then runs downward posteriorly, reaches up to the ootype and measure 1.123(1.092-1.155) in length and 0.043(0.038-0.048) in width. The genital pores oval in shape, unilateral, situated in the middle of the segment, marginal it is a common opening of vagina and cirrus pouch and measure 0.048(0.043-0.053) in length and 0.026(0.024-0.029) in width. The ootype is almost rounded and measure 0.106(0.097-0.116) in length

and 0.084(0.077-0.092) in width. Gravid segment are measure 1.449(1.344-1.553) in length and 1.201(1.140-1.262) in width. Uterus secular, folded extents anterior to posterior region of the segment placed transversely, filled with non-operculated eggs and measure 1.308(1.213-1.402) in length and 1.058(1.053-1.063) in width.

Vitellaria follicular with two rows cortically placed, Excretory canal present on both side of the segment and measure 1.815(1.810-1.820) in length and 0.046(0.038-0.053) in width.

The present cestode under discussion is having scolex triangular, narrow anteriorly and broader at the middle, It bears four suckers two on either side with slightly overlapping each other, the rostellum is rounded and prominently by single row of hooks, rostellar hooks are 24-25 in numbers. The mature segment broader than long somewhat squarish. The testes are 180-200 in numbers, small, oval in shape, scattered throughout the anterior 3/4thof the segment cirrus pouch, large oval in shape, transversally placed, situated at the centre region of the segment. The vasicula semini long, runs downward posteriorly, reaches up to the ootype, The genital pore, oval, marginal, unilateral, placed in middle of the segment, the ootype almost rounded, cirrus long, tubular, The ovary distinctly bilobed, having oval lobes, placed at posteriorly region of the segments. Vagina thick, long tube, posterior to cirrus pouch, Vitellaria follicular with two rows. The present cestode parasites differs from *G. bangalnsis*, [Southwell 1913], *G. macrones* [Woodland 1924], *G. pseudotropii* [Verma 1928], *G. parasiluri* [Yamaguti 1934], The present worm differ from *G. lucknowia*, Singh (1948) which is having the neck short, testes 130-150 in numbers, ovary bilobed, squarish, uterus 16-18 diverticulae. The present worm differs from *G. polyonchis*, [Riotman and Freze, 1964], *G. sanehensis*, [Malhotra et.al.1982], *G. haryanae*, [Gupta and Arora, 1982], *G. indica* [Gupta and Parmar, 1982], *G. godavarii*, [Kadam et.al.1983], *G. paithanensis*, [Kadam et.al. 1983], *G. fotedari*, [Dhar and Majdah, 1984], *G. maharashtrii*, [Jadhav et.al, 1995], *G. dharurensis,* [Jadhav and Tat, 1997], *G. seenghali*, [Hiware,1999], *G. clariusae*,[Jadhav et.al,2001], *G. rohitae*,[Pawar et.al,2004] and *G. mastacmbali*, [Wankhade,2004] which is having scolex, triangular in shape with marked rostellum, rosteller hooks 18 in numbers, neck is absent, testes 103 in numbers, oval to round in shaped, ovarian lobe with 5-6 acini, vagina thin, tube like enlarge at genital pore, uterus, tubular, long, which extends up to the anterior end.

Later on author described a new species were added in this genus. The above description and discussion characters are valid enough to erect a new species for those worm and hence the name *Gangesia pandeyae* [n. sp.] is proposed after Prof. K. C. Pande, H.O.D. Dept. of Zoology, Lucknow, University Lucknow. Who is well known Helminthologist.

Key to the Species of the Genus *Gangesia* Woodland, 1924

	Neck present	**1**
	Neck absent	**2**
1}	**Hooks below 15 in numbers**	***G.paithanensis,* Kadam et. al., 1983.**
	Hooks in between 15-30 in numbers	**3**
	Hooks in between 30-50 in numbers	**4**
2}	**Uterus Saclike**	**5**
	Uterus tabular	***G.godavari,* Kadam et. al., 1983**
	Uterus with 10-24 diverticula	***G.sanehensis,* Malhotra, et. al., 1982.**
	Uterus with 12-18 diverticula	***G.polyonchis,* Riotman, et. al., 1964.**
	Uterus with 16-18 diverticula	***G.lucknowia* Singh, 1948.**
	Uterus with 24 diverticula	***G. haryanae,* Gupta et. al., 1982.**
	Uterus with 20-24 diverticula	***G.parasiluri,* Yamaguti, 1934.**
	Uterus with 20-28 diverticula	***G.bengalensis,* Southwell, 1913.**
	Uterus with 30-40 diverticula	***G.pseudotropii,* Verma, 1928.**
3}	**Uterus tubular**	***G.mastacembeli,* Wankhede, 2004.**
	Uterus saccular	***G.pandeyae* n. sp.**
	Uterus with 18-20 diverticula	**G.indica, Gupta et. al., 1982.**
4}	**Testes 100 in numbers**	***G.macrons,* Woodland, 1924.**
	Testes in between 100-150 in numbers	***G.fotedari,* Dhar, and et. al., 1984.**
	Testes in between 150-200 in numbers	***G.maharashtrii,* Jadhav, et. al., 1995.**
	Testes above 200 in numbers	***G.seenghali,* Hiware, 1999.**
5}	**Scolex globular in shape**	***G.dharurensis,* Jadhav et. al., 1997.**
	Scolex triangular in shape	***G.clariusae,* Jadhav et. al., 2001.**
	Scolex oval in shape	***G.rohitae,* Pawar et. al., 2004.**

References

1. Woodland WNF. On a new Proteocephalidae from Indian freshwater fishes. Parasit. 1924; (16):441-451.
2. Schmidt Gerald D. Handbook of Tapeworm Identification. CRC Press, Inc. Boca Raton, Florida, 1934, 1-675.
3. Yamaguti S, Systema Helminthum. II. The Cestodes of Vertebrates. Intescience Publ NY, 1959, 860.
4. Kennedy CR. Ecological aspects of parasitology. North Holland publishing company Amsterdam 10x ford, 1976.
5. Khalil LF, Jones A, Bray RA. Keys to the cestodes parasites of vertebrates. CAB International Pub. UK, 1994, 1-751.
6. Gupta NK, Arora S. on a new species of the genus gangesia Woodland, (Cestoda: Proteocephalidea) from a freshwater fish Wallago attu, along with a Survey of its related forms. Res Bull (Sci) Punjab Univ. 1979-1924; 30:27-36.15.
7. Malhotra SK, Dixit S, Capoor VN. Taxometric evaluation of a new Fish cestode Gangesia mehamdabadensis n. sp. From Mystus tengra from Mehamdabad, Gujrat. Sci Env. 1980; 3:9-11.16.

8. Malhotra SK, Capoor VN, Shinde GB. Introduction of a taxonometric device to evaluate a new proteocephalid cestode Gangesia sanehensis n. sp. From fresh-water fishes of Garhwal Himalayas with a revised key to species of genus Gangesia .Marathwada Univ J Sci. 1981; 19(41):52.17.
9. Gupta V, Parmar S. On a new cestode Gangesia (Gangesia) Indica sp. Nov. From a fresh-water fish Wallagonia attu (Bloch.) from Lucknow, Uttar Pradesh. Ind J Helminthol. 1982; 34:44-49.18.
10. Dhar RL, Majdah M. Gangesia (Gangesia) fotedari sp. nov. (Proteocephalidae: Cestoda) from a freshwater fish of Wular Lake of Kashmir. Ind J Helminthol. 1983; 35:73.
11. Jadhav BV, Shinde GB, Kadam SS. One new species of Proteocephalid cestode from Barbus ticto. Riv Parassitol. 1983; 44:171-173.20.
12. Shinde GB, Majid MA, Solunke DG. On a new species of Silurotaenia Nybelin, 1942 (Cestoda: Proteocephalidae), from a freshwater Fish at Paithan, M.S., India, 1983.