



RESEARCH ARTICLE

**Taxonomic Report of *Camallanus oxycephalus* Ward and Magath, 1916 (Spirurida-Diesing, 1861) Parasitic In *Mastacembelus armatus* Lacepede, 1800**

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**ABSTRACT**

Present investigation deals with morpho-taxonomic report of the nematode parasites *Camallanus oxycephalus* Ward and Magath, 1916 of freshwater fish *Mastacembelus armatus* from Mahur, District Nanded M.S. India. Present worm resembles *C. oxycephalus* Ward and Magath, 1916 in having all the essential morphological characters as body medium, buccal capsule consist of two valves, tridents present, cuticle thin, spicules unequal, eleven pairs of caudal papillae; but differs due to, number of Longitudinal ridges (30 Vs. 21); Pre-anal caudal papillae (05 pairs Vs. 06 pairs); Post-anal caudal papillae (06 pairs Vs. 05 pairs); Position of Vulva (Post-equatorial Vs. Pre-equatorial). As the characters are minor, it is therefore identified and redescribed as *Camallanus oxycephalus* Ward and Magath, 1916.

**Key words:** *Camallanus oxycephalus* Ward and Magath, 1916, *Mastacembelus armatus* Spirurida Diesing, 1861.

**INTRODUCTION**

The genus *Camallanus* was established by Railliet and Henry (1915) to include *C. lacustris* (Zoega, 1776). Species of the genus are widely distributed over the world. It has been studied that many species of this group of nematode are described from stomach or intestine of frog, turtle and most frequently from numerous fish species.

**MATERIAL AND METHODS**

During February, 2011-January, 2013, a survey of nematode parasites of freshwater fishes was undertaken. Twenty Seven male and eleven female nematodes belonging to genus *Camallanus* Railliet et Henry, 1915 were collected from the Eighteen infected intestines out of One Hundred Twenty examined freshwater fish host, *Mastacembelus armatus* (Lacepede, 1800) from Mahur, District Nanded M.S. India. These nematodes were fixed in hot 75% alcohol or AFA, 10% glycerol, cleared in lactophenol, mounted in glycerin under supported coverslips. Both living and fixed specimens were examined with Phase Contrast Microscope and drawings are made with the aid of camera lucida. All measurements are recorded in millimeters.

**RESULTS (Description Based on Five Specimens)**

Body medium, thin, transparent, wide anteriorly and tapering posteriorly. Cuticle thin, delicate and bears thin striations. Mouth opens dorso-ventrally slit like. Buccal capsule chitinous, consist of two valves, each with 30 longitudinal ridges of varying size in both sexes. Buccal capsule forms a chitinous ring with the junction of oesophagus. Tridents present. Oesophagus consists of muscular and glandular parts. The posterior part of oesophagus joins to intestine. Intestine leads into short rectum that opens directly to the exterior at the anus in female and in male into the cloaca.

**MALE CHARACTERS:**

Males are smaller than females and measures 6.95(6.80-7.10) in length and 1.05 (0.90-1.20) in width. Buccal capsule long, identical lateral valves, each valve internally armed by 30

longitudinal ridges and measures 0.589(0.561-0.618) in length and 0.674 (0.427-0.921) in width. Tridents are present. Nerve ring surrounding the muscular portion of oesophagus, measures 0.101 (0.089-0.112) in length and 0.370 (0.359-0.382) in width and lies at 1.5056 mm from anterior extremity. Excretory pore lies at 2.870 mm from anterior extremity. Oesophagus consisting muscular and glandular parts and measures 2.415(2.359-2.471) in length and 0.393 (0.337-0.449) in width. Caudal papillae are eleven paired, out of them five pairs are pre-anal and six pairs are post-anal in position. Spicules are unequal and dissimilar in shape. The right spicule is small and measures 0.438(0.427-0.449) in length and 0.0281 (0.0225-0.0337) in width, while left spicule is long and measures 0.662(0.651-0.674) in length and 0.0281 (0.0225-0.0337) in width. Tail is curved, pointed and measures 0.966(0.898-1.033) in length and 0.269 (0.134-0.404) in width.



Fig. 1: Photoplate of *Camallanus oxycephalus* Ward and Magath, 1916

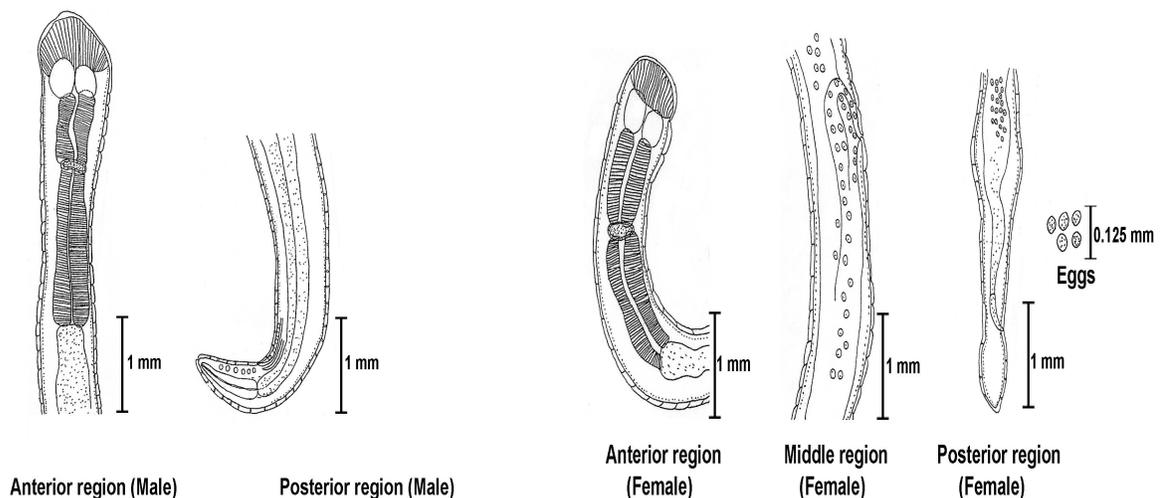


Fig. 2: Camera lucida diagram of *Camallanus oxycephalus* Ward and Magath, 1916

#### FEMALE CHARACTERS:

Females are longer than males and measures 8.1 (8.0-8.2) in length and 0.93(0.90-0.96) in width. Buccal capsule long, identical lateral valves, each valve internally armed by 30 longitudinal ridges and measures 0.337(0.280-0.393) in length and 0.702(0.674-0.730) in

width. Nerve ring surrounding the muscular portion of oesophagus, measures 0.168 (0.157-0.179) in length and 0.359 (0.337-0.382) in width and lies at 1.573 mm from anterior extremity. Excretory pore lies at 2.970 mm from anterior extremity. Oesophagus consisting muscular and glandular parts and measures 2.303(2.022-2.584) in length and 0.421 (0.393-0.449) in width. Vulva is post-equatorial. Vulvar opening is an oval, small, with slightly elevated lips. Vagina muscular, runs posteriorly. Vagina gives of two opposed, distended uterine tubes; posterior uterine tube ends blindly, there is no ovary. Anterior uterine tube ends in a single anterior ovary. Eggs are oval to rounded in shape and measures 0.032(0.028-0.036) in length and 0.027 (0.025-0.030) in width. Tail is pointed and measures 0.814(0.786-0.842) in length and 0.151 (0.134-0.168) in width.

### DISCUSSION

The genus *Camallanus* was established by Railliet et Henry, 1915. After going through the literature the present worm resembles *C. oxycephalus* Ward and Magath, 1916 in having all the essential morphological characters, body medium, elongated, buccal capsule consist of two valves, presence of tridents, cuticle thin oesophagus divided into two parts i.e. muscular anterior and glandular posterior one, spicules unequal, eleven pairs of caudal papillae but differs due to Number of Longitudinal ridges (30 Vs. 21); Pre-anal caudal papillae (05 pairs Vs. 06 pairs); Post-anal caudal papillae (06 pairs Vs. 05 pairs); Length ratio of spicule (0.438×0.0281 mm: 0.662×0.0281mm Vs. 1:1.75mm); Position of Vulva (Post-equatorial Vs. Pre-equatorial) and host and locality (*Mastacembelus armatus*(Lacepede, 1800), Mahur Dist. Nanded Vs. *Morone chrysops*, *Perca flavescence*) United State. As the characters are minor, it is therefore identified and redescribed as *Camallanus oxycephalus* Ward and Magath, 1916. This appears to be another record of the species from different fish host and locality.

### TAXONOMIC SUMMARY

<b>Genus</b>	:	<i>Camallanus</i> Railliet et Henry, 1915
<b>Species</b>	:	<i>Camallanus oxycephalus</i> Ward and Magath, 1916
<b>Type host</b>	:	<i>Mastacembelus armatus</i> (Lacepede, 1800)
<b>Habitat (Site)</b>	:	Intestine
<b>Type locality</b>	:	Mahur, District Nanded, (M.S.), India
<b>Period of collection</b>	:	February, 2011 to January, 2013
<b>Accession number</b>	:	PGDZ/YMN/1-05/ February, 2011 to January, 2013
<b>Deposition</b>	:	Department of Zoology, Yeshwant Mahavidyalaya, Nanded

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