

## *Eutyphoeus naurangiyai* sp. nov. (Clitellata: Octochaetidae) - A New Earthworm from Bihar, India

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**Abstract:-** This new species of Earthworm, *Eutyphoeus naurangiyai* is collected from Naurangiya, West Champaran (Latitude 27°31'15" N and Longitude 86°15'00"E), Bihar, India. Elongated robust body. This species belongs to Octochaetidae Family. The total length of the body is 9cm. Anterior Breadths 7 mm. Middle part is 5 mm wide. Posterior breadth is 6 mm. Mouth 2mm width. Total number of body rings is 143. Male and female pores open between the rings 18 and 14 respectively. Small to medium sized. Two round shaped genital markings on 17<sup>th</sup> segment. Colour blackish in living condition. Two sides are whitish in colour. Colour fades up in preserved state. Lumbricine setal arrangement in the ventral side of the body.

**Key words:-** *Eutyphoeus naurangiyai* sp. nov. Clitellata, Octochaetidae, Naurangiya, West Champaran, Bihar, India.

### I. INTRODUCTION

Earthworms occur in diversified habitats from organic heaps (manure, compost litter, humus, kitchen drainage, etc.) to forest land, grassland, agricultural land, plant nursery, etc. They are omnivorous, but most of them derive nutrition from dead organic matter. The beneficial effect of earthworms in increasing soil fertility has been documented since the time of Darwin (1881). Presently, earthworms are not restricted as a basic biology material but is being established as basic material for biotechnology (vermitechnology). Vast number of earthworm's species available in India and the authors have also been found another species which is new to science. Stephenson, 1916 worked on a collection of Oligochaeta belonging to the Indian Museum. Beddard, 1883 worked on some earthworms from India. Julka (1988) worked on Earthworm Fauna of India & the adjacent Countries. Goswami, and Mandal, 2014 worked on Earthworm of South 24 Parganas with ecological notes. Paliwal and Mandal, 2008. Earthworm fauna of Museum Tank. There are more than 4400 species of earthworms in the world, where as in India 560 (Julka et al. 2009).

## II. MATERIAL AND METHODS

Just after a heavy rain, earthworms came out from the soil and collection was made. Without heavy rain it is very difficult to collect because it lives in the one and half feet deep of soil. After collection it was sorted out and cleaned. Then the cleaned earthworms were placed in a tray with a small quantity of water and were slowly killed by anaesthetizing with 70% alcohol by adding drop by drop at frequent intervals. Earthworms usually die in an extended condition by this process. Just after death, the leeches were kept in 70% alcohol for permanent preservation. This new species of earthworm *Eutyphoeus naurangiyai* has been collected from Naurangiya, West Champaran Bihar, India during recent faunistic survey carried out by Zoological survey of India in 2016. The new species is compared with the material of other species available in hand and information on other species is taken from literature.

## III. EUTYPHOEUS NAURANGIYAI SP. NOV.

*Holotype:*

Z.S.I. Reg. No. An 4714/1, 1 ex., Coll. Dr. C. K. Mandal, 05.x.2016, Naurangiyai, West Champaran (Latitude 27°31'15" N and Longitude 86°15'00"E), Bihar, India.

Plate: 1



*Eutyphoeus naurangiyai* (Anterior dorsal)



*Eutyphoeus naurangiyai* (Mouth region)

*Eutyphoeus naurangiyai* (Spermathecal pore)*Eutyphoeus naurangiyai* (Male pore and genital marking)*Diagnostic character:*

Elongated robust body. This species belongs to Octochaetidae Family. The total length of the body is 9cm. Anterior Breadths 7 mm. Middle part is 5 mm wide. Posterior breadth is 6 mm. Mouth 2mm width. Total number of body rings is 143. Male pores one pair on ring 18 and female pores one pair on ring 14. Small to medium sized. Two round shaped gonopores on 17<sup>th</sup> segment. Colour blackish in living condition. Two sides are whitish in colour. Colour fades up in preserved state. Lumbricine setal arrangement in the ventral side of the body.

*Habit & Habitat:*

The species of earthworms live in the forest. It lives in the shadow place and beneath the one and half feet below of the soil. It is very difficult to collect. In the month of June -July due to rain it comes out from the soil in search of dry habitat, then collection becomes easy. As they have no eyes it is comparatively easy to collect when comes out from the mud hole early in the morning. Their breeding time is June- July.

*Distribution:*

Bihar, India.

*Etymology:*

According to the name of collection spot the name of the species of earthworm is done here.

*Remarks:*

The present described species *Eutyphoeus naurangiyai* is somewhat similar to *Eutyphoeus orientalis* in body shape. It is distinguished from *Eutyphoeus* in its colour, number of rings in the body (Plate 1). All the species of Octochaetidae family are different from the new species of the earthworm.

## IV. COMPARATIVE MATERIAL

*Eutyphoeus orientalis:*

An 3743/1, 5 ex., Madhyamgram, 24 Parganas, West Bengal; An 4018/1, 1 ex., Garden Madhyamgram, 24 parganas (North), West Bengal; An 4038/1, 3ex, Bamboo habitat of Indian botanical Garden; An 4046/1, 2ex, Flower garden habit of Botanical Garden, West Bengal.

*Eutyphoeus waltoni:*

An 4012/1, 1 ex, Forest of Assam.

*Eutyphoeus sp:*

An 4109/1, 4 ex., Jhilmili, Bankura, West Bengal.

*Eutyphoeus incommodus:*

An 4150/1, 2ex, Botanical Garden, West Bengal; An 4160/1, 4 ex, keosa habitat, Botanical Garden, West Bengal; An 4218/1, 1 ex, Near vigyan bhawan, Agartala, Tripura; An 4143/1, 1ex., Botanical Garden Habitat; An 4019/1, 1ex., Garden Madhyamgram, 24 parganas (North), West Bengal.

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