



***PLACOBDELLA GODAVARIENSIS* SP. NOV. (HIRUDINEA :
GLOSSIPHONIDAE) : A NEW LEECH FROM MAHARASHTRA, INDIA**

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INTRODUCTION

Out of 700 species of leeches known in the world, 64 species are recorded in India (Mandal, 2009). There are 26 species of leeches belong to the genus *Placobdella* Blanchard 1893 in the world. Sixteen species of the genus *Placobdella* are described from North America, one species from Europe, three species from South America and 6 species from Asia. Out of six species of this genus reported from India, five species are endemic. Soos (1965) is the pioneer in Taxonomy of leeches in the world. He has described a number of new species. Majority of the new species of leeches were described by Harding and Moore (1924, 1927), Bhatia (1931). Mandal (2004a and 2004b) has described two new species, collected from West Bengal. Bandyopadhyay (2004 and 2005), Mandal (2004 and 2010), have done some work on ecology of leeches. Soota (1977), Chandra (1983), Ghosh (1998) also contributed considerably to the taxonomy of leeches of India.

MATERIAL AND METHODS

After making the collection, leeches were sorted out and cleaned. Then the cleaned leeches 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. Leeches 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 *Placobdella godavariensis* has been collected from Godavari river, Nasik district (Latitude 20.0014° North and Longitude 73.7869° East), Maharashtra, India during recent faunistic survey carried out by Zoological survey of India. The new species is compared with the material of other species available in hand and information on other species is taken from literature.

Placobdella godavariensis sp. nov.

Holotype: Z.S.I. Reg. No. An 3812/1, 1 ex., Coll. C.K. Mandal, 19.xii.2012, Ganga ghat, Godavari river, Nasik, Maharashtra, India.

Paratype: Z.S.I. Reg. No. An 3813/1, 8exs. Collection details as of Holotype.

Diagnosis: Body (Fig. 1): Flattened almost beetle-vine leaf shaped. Black papillae are seen on the mid dorsal and four dorsal lines.



A

Fig. 1. A. *Placobdella godavariensis* sp. nov. (Dorsal view),



B



C



D

Fig. 1. B. *Placobdella godavariensis* sp. nov. (In a pair),
C. *Placobdella godavariensis* sp. nov. (Ventral view),
D. *Placobdella godavariensis* sp. nov. (Dorsal view)

Length: The total length of the body is 8.5mm including anterior sucker and posterior suckers.

Breadth: 4.3 mm. Middle part almost half of the body.

Head: It is somewhat elongated, contains anterior sucker, mouth and eyes.

Sucker: Anterior sucker 0.9 mm in diameter, posterior sucker 1.2mm. in diameter. Posterior

sucker is round, anterior sucker almost round. Mouth is with muscular ridges but without jaws. Posterior sucker bears 8 visible and 8 obscure ash coloured parallel lined stripes.

Stripe: One median dorsal, two pairs dorsal. All stripes are chain like structured.

Papillae: Papillae large, 19-21 black papillae along the median dorsal stripe. Each stripe of 1st dorsal-pair bears 14-16 black papillae and 2nd pair bears 6-7 papillae. Papillae of 2nd are not in a line.

Eyes: One pair almost round shaped situated at the last end of median stripes.

Rings: Total number of body rings is 69.

Crop: Crop is with seven pairs of single branched caeca. First two pairs are obscure. Last pair is coiled.

Male and female pores: Open between the rings 21/22 and 23/24 respectively. Small to medium sized.

Eggs: Number of egg is 17-19.

Colour: Brownish black in living condition. Two sides are whitish. Colour fade up in preserved state.

Host and habitat: The animal on which leech sticks on and suck blood for their food is called host. The mollusc which having operculum on the body to protect them and body is not divided into two parts called gastropod mollusc. *Placobdella godavariensis* found in the water bodies of river and sucks the blood of gastropod molluscs (*Lymnea* sp.) sticking on them. It is also found attached with the submerged part of water hyacinth.

Distribution: India: Maharashtra.

Etymology: The specific name is proposed according to the name of the place where from the first example was collected.

Remarks: The present described species *Placobdella godavariensis* is somewhat similar to *Placobdella horai* in body shape. It is distinguished from *P. horai* in its eye shape, colour, number of rings and single branched crop caeca in the body (Table. 1). Numbers of eyes are same in *P. fulva* and *P. godavariensis* sp. nov., but eyes and crops

are completely different in these two species. *P. ceylanica* is clearly distinct in having three pairs of eyes. *P. indica*, *P. emydae* and *P. undulata* differs from this new species in having 70, 71 and 71 body rings. *P. godavariensis* sp. nov. is different from the new world species and others, viz., *Placobdella* sp. (Brackish water leech of Spain), *P. maurica* (Freshwater leech of New Zealand), *P. parasitica* (fresh water species), *P. lamothei* (Mexican marine leech), *P. stuhlmanni* (American marine leech), *P. costata* (brakish water leech), *P. ornata* (Marine) and Marine turtle leeches *P. translucens*, *P. bistrata*, *P. hollensis*, *P. mexicana*, *P. montifera*, *P. nuchalis*, *P. multilineata* etc. by the body pigmentation pattern, disposition of eyespots and arrangement of papillae on the body.

Comparative material (Table 1):

Placobdella emydae – An 2772/1, 1 ex., Howrah, West Bengal; An 2862/1, 1 ex., Jalpaiguri, West Bengal; An 2997/1, 1 ex. Krishna, Andhra Pradesh; An 3367/1, 1 ex. Mysore, Karnataka.

Placobdella fulva – An 2762/1, 3 exs., Calcutta, West Bengal; An 2767/1, 1 ex. Howrah, West Bengal; An 2782/1, 1 ex. Midnapur, West Bengal; An 2802/1, 1 ex. Bankura, West Bengal; An 2813/1, 1 ex. South 24 Parganas, West Bengal;

An 2825/1, 1 ex. Nadia, West Bengal; An 2839/1, 1 ex. Murshidabad, West Bengal; An 2864/1, 1 ex. Jalpaiguri, West Bengal.

Placobdella horai - An 2783/1, 1 ex. Midnapur, West Bengal.

Placobdella undulata - An 2791/1, 1 ex. Burdwan, West Bengal; 2827/1. 1 ex. Nadia, West Bengal.

SUMMARY

This new species of leech, *Placobdella godavariensis* is collected from Ganga ghat, Godavari River, Nasik, Maharashtra, India. This species is distinguished from other species by possessing the following characters. Body is flattened almost beetle-vine leaf. Eyes single pair and almost round shaped. Five chain stripes with black papillae. Caeca is seven pairs, single branched. It gives rises 17 to 19 offspring. The leech is brownish white in colour when it is alive. Length of a full-grown preserved specimen is 8.5mm and width is also 4.3mm. Posterior sucker is 1.2mm in diameter; anterior sucker measures 0.9mm in diameter. Both suckers are round. It can be easily identified by its flattened, almost beetle vine shape and distinguished combination of stripes.

Table 1. Comparison of characters of different species of the genus *Placobdella* in India.

	<i>P. ceylanica</i>	<i>P. mydae</i>	<i>P. fulva</i>	<i>P. horai</i>	<i>P. indica</i>	<i>P. undulata</i>	<i>P. godavariensis</i>
Body	Lanceolate	Elongated flattened body	Claviform	Ovate acuminate	Elipticlanceolate	Elipticlanceolate	Flattened almost beetle-vine leaf shaped
Eyes	Three pairs	Single pair Almost round	Single pair Comma shaped	Single pair, cup shaped	Single pair	Single pair	Single pair, round shaped
Caecae	Seven pairs Branched	Seven pairs not branched	Seven pairs Most branched	Seven pairs Branched	Seven pairs More branched	Seven pairs Branched	Seven pairs, single Branched, last pair spiral.
Ring	71	71	67	66	70	71	69
Colour	Brown	Grayish green	Reddish yellow	brown	Grayish	Gray	Brownish white

ACKNOWLEDGEMENTS

I am grateful to the Director, Zoological Survey of India, for lucid suggestions during the study of the leeches, and my special thanks to Dr.

Ch. Satyanarayana O/C General Non-Chordata Section and Sri S. S. Mishra, Scientist-B for their inspiration and deep gratitude to Sri K.C. Gopi the O/C Spirit Building for his valuable suggestions.

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