

# One new Terrestrial Leech *Haemadipsa kaushiki* from West Bengal, India

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**Abstract-** *Haemadipsa kaushiki* is described as a new species from West Bengal. Short elongated body. Segment 93. The total length of the body is 3.7cm including anterior sucker and posterior suckers. Breadth 7mm (almost one fifth of the total length of the body). Anterior sucker and posterior sucker bluish in colour. Anterior sucker almost semicircular, bluish coloured 2mm in diameter, posterior sucker 7mm. in diameter. Posterior sucker is round and bluish coloured, mouth with jaws. Presence of one black median dorsal stripe, two pairs of lateral black and one creamed coloured chain stripe on each lateral side. Papillae large, 19 -21 black papillae along the median dorsal stripe. Each stripe of 1st dorsal pair bears 14-16 black papillae and 2<sup>nd</sup> pair bears 6-7 papillae. Papillae of 2<sup>nd</sup> are not in line. Eyes five pair almost round shaped situated at the last end of head region forming a curvature. Total number of body rings is 93. Male and female pores bluish in colour. Open between the rings 25/26 and 30/31 respectively. Small to medium sized. Two pores are separated by five annuli.

**Index Terms** – *Haemadipsa kaushiki* sp. nov. Hirudinea, Haemadipsidae, West Bengal, Stout elongated body.

## I. INTRODUCTION

More than 700 species (510 Freshwater, 100 marine and 90 terrestrial) of leeches (Annelida: Hirudinea) are known in the world (Siddall, 2008) distributed in 91 genera and 7 families (Sket and Trontelj, 2008), with one family, Americobdelidae, endemic to America. Blanchard (1917) was first to describe two terrestrial species of leech from India. Harding and Moore (1924, 1927) contributed to description of a number of new species of aquatic

and terrestrial leeches found in India. Soos (1965) has pioneered the work in Taxonomy of leeches of world. This was followed the valuable contributions from Soota (1977), Chandra (1983) and Ghosh (1998) with regard the taxonomy of leeches of India. Bandyopadhyay and Mandal, (2006) published a new terrestrial leech from Tamil Nadu. Mandal (2009) published another new land Leech from the same state. Till to date, 70 leech species under 25 genera and 6 families have been recorded from India (Mandal and Misra, 2017). During recent survey, one interesting species of leech has been collected from West Bengal which is identified as new to science and described herewith as *Haemadipsa kaushiki sp. nov.* in the family Haemadipsidae.

## II. MATERIAL AND METHODS

One specimen from Buxa Fort, Buxa Tiger Reserve forest, Alipurduar district, West Bengal (23°37' 79" N and 89°25' 55" E) have been collected during recent faunistic survey carried out by Zoological Survey of India. After making the collection, leeches were sorted out and cleaned. They were placed in a tray with a small quantity of water and were slowly killed by the anaesthetizing with drop-wise addition of alcohol allowing them to expand before death. Just after death, the leeches were kept in 70% alcohol for permanent preservation. The measurements were taken by dial calipers with 0.1 mm accuracy. The identified specimens are deposited with the National Zoological Collections of the General Non-Chordata Section, Zoological Survey of India, Kolkata.

### *Haemadipsa kaushiki sp. nov.*

Holotype: Z.S.I. Reg. No. An 4083/1, 1 ex., collected by Dr. Kaushik Deuti, 02.VI.2014, from 1 meter above the ground on the leaf of a plant beside a meadow at Buxa fort, Buxa Tiger Reserve, Alipurduar district, West Bengal (23°37' 79" N and 89°25' 55" E, India.



Fig. 1. *Haemadipsa kaushiki* (in habitat, live)



Fig. 2. *Haemadipsa kaushiki* (Dorso-lateral view, after preservation)



Fig. 3. *Haemadipsa kaushiki* (Ventral region showing gonopores)

*Diagnosis:*

*Haemadipsa kaushiki* is a brilliant coloured significant leech of West Bengal (Photograph 1). Posterior sucker is round and bluish coloured. Both gonopores are bluish in colour (Photograph 3). Presence of one black median dorsal stripe, two pair's lateral black and one creamed coloured chain stripe on each lateral side (Photograph 2). It is a diagnostic character of the species. Papillae large, 19 -21 black papillae along the median dorsal stripe.

*Description of the species:*

Body (Fig. 1, 2 and 3) is elongated colourful. Segment 93, from anterior sucker to posterior sucker. The total length of the body is 3.7cm including anterior sucker and posterior suckers. Breadth 7mm (almost one fifth of the total length of the body). Head is somewhat elongated, contains anterior sucker, mouth and eyes. Anterior sucker and posterior sucker bluish in colour. Anterior sucker almost semicircular, bluish coloured 2mm in diameter, posterior sucker 7mm. in diameter. Posterior sucker is round and bluish coloured, mouth with jaws. Presence of one black median dorsal stripe, two pairs of lateral black and one creamed coloured chain stripe on each lateral side. Papillae large, 19 -21 black papillae along the median dorsal stripe. Each stripe of 1st dorsal pair bears 14-

16 black papillae and 2<sup>nd</sup> pair bears 6-7 papillae. Papillae of 2<sup>nd</sup> are not in line. Eyes five pair almost round shaped situated at the last end of head region forming a curvature. Total number of body rings is 93. Male and female pores bluish in colour. Open between the rings 25/26 and 30/31 respectively. Small to medium sized. Two pores are separated by five annuli. Dorsally reddish coloured. Ventrally less red in colour. Colour fades up in preserved state.

*Host and habitat:*

*Haemadipsa kaushiki* is a terrestrial leech. They wait for the grazing animals and human beings at the side of bush, attacks when prey comes near.

*Distribution:*

India: Alipurduar district, West Bengal.

*Etymology:*

The specific name is proposed in the name of Dr. Kaushik Deuti, Scientist, Zoological Survey of India, Kolkata, who collected the specimen and took photograph of the live leech during Amphibian survey at Buxa fort, Buxa Tiger Reserve forest.

*Remarks:*

The present described species *Haemadipsa kaushiki* is somewhat similar to *Haemadipsa zeylanica* in body shape. It is distinguished from *H. zeylanica* in its eye shape, colour, number of rings and number of stripes. Numbers of eyes are same in every species of the genus. But crops are completely different from each other. *H. kaushiki* clearly distinct in having one dorsomedial black stripe on brilliant red colour, two pairs of lateral black stripes and one pair of cream coloured chain stripe. The new species differs from other species in having 85-90 body rings. *H. montana* is different from the new world species by the three black chain stripes, *H. ornata* having three creamed coloured stripes, *H. dussumieri* has no stripe whereas *H. annaigundiensis*, *kodairensis* and *moorei* has one stripe of each. There are 21 species of leeches belonging to the genus *Haemadipsa* in the world. *Haemadipsa cavatules*, *H. zeylanica* (Japanese mountain leech), *H. cochiniensis*, *H. crenata*, *H. hainana*, *H. interrupta*, *H. japonica*, *H. limuna*, *H. montana*, *H. ornata*, *H. picta* (Tiger leech of Borneo, Malaysia), *H. rjukjuana*, *H. sumatrana*, *H. sylvestris*, *H. trimaculosa*. Out of ten species known from India, 9 species are endemic (*Haemadipsa moorei*, *H. kodairensis*, *H. annaigundiensis*, *H. dussumieri*, *H.*

*montana*, *H. cochiniensis* of South India; *H. ornata*, *H. zeylanica agilis* and *H. zeylanica montivindicis* from Darjeeling hills of West Bengal).

### III. COMPARATIVE MATERIAL

*Haemadipsa montana* – An 2860/1, 1 ex., Darjeeling, West Bengal.

*Haemadipsa ornate* – An 2857/1, 1 ex., Kalimpong, Darjeeling, West Bengal.

*Haemadipsa sylvestris*- An 2075/1, 1 ex. Naradari, Tamluk, Midnapur, West Bengal.

*Haemadipsa anaigundiensis* - An 3258/1, 1 ex. Anaigundishola, Nilgiri, Tamil Nadu.

*Haemadipsa kodairensis* – An 3257/1. Kodair forest, Nilgiri, Tamil Nadu.

*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.

### IV. SUMMARY

The new leech, *Haemadipsa kaushiki* is collected from Buxa fort, Buxa Tiger Reserve, Alipurduar district, West Bengal India. This species is distinguished from other species by possessing one median black, two pairs lateral black and one pair of lateral creamed coloured chain stripe. Reddish in colour in life. Total no. of segments is 93. Male pores on 25-26 segment, female pores on 30-31 segment. Gonopores of leech Hirudidae and Haemadipsidae family separated by five segments where as in Glossiphonid leech gonopores are separated by two segments. In Class Hirudinea (leech) male pore is situated on the upper segments of female pore but class Clitellata (Earthworm) male pore is situated below the female pore.

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