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STUDIES ON A NEW SPECIES OF LEECH OF THE GENUS *HAEMADIPSA* (HIRUDINEA : HAEMADIPSIDAE) FROM THE KODAIR FOREST OF TAMIL NADU, INDIA

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INTRODUCTION

Leeches belong to the Class Hirudinae of Phylum Annelida. *Hirudin* an anti-coagulant present in the salivary glands of leeches help them in sucking the blood of living organisms. It commonly parasitize on Molluscs, Fishes, Amphibians, Reptiles and Mammals, thus controlling their populations. Leech acts as a vector for protozoan parasites. It acts as a causative agent for Trypanosomiasis disease. Leeches are used for medical purposes from time immemorial. More than 312 species of leeches have been described by different authors from India of which 27 species from West Bengal and 21 species from Tamil Nadu were described by Mandal in 2004. Out of five families of leeches available in India, leeches belonging to two families (Hirudidae and Haemadipsidae) have medicinal value. The described new species is collected from Tamil Nadu during summer. Harding and Moore (1924, 1927), Sanjeeva Raj and Gladstone (1981) have contributed a lot to Indian science by describing many new species of leeches. The pioneer work on taxonomy of leeches was done by Soos (1965). Bandyopadhyay and Mandal (2005) have done some work on taxonomy and ecology of leeches of West Bengal. Blanchard (1917), Soota (1956), Julka and Chandra (1980), Chandra (1983), Ghosh (1998) and Mandal (1996, 2002, 2004) contributed a lot in the taxonomy of Indian leeches.

KEY WORDS : Leech, *Haemadipsa kodairensis* sp. nov., Tamil Nadu, India.

MATERIAL AND METHODS

Whenever leeches were found in the study sites attempts were made to note the population density of these creatures (in or under) per 30 cm² area. After making the collection, they were

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sorted out. Then placed in a tray with a small quantity of water and were slowly killed by anaesthetizing them with alcohol in which leeches usually die in an extended condition. Just after maceration the leeches were kept in 70% alcohol for permanent preservation to study before maceration begin, they were rapidly passed between the fingers to remove the excess mucus and then straightened out and laid extended side by side in a flat dish. 4% formalin was used as fixative.

OBSERVATION

A new species of leech *Haemadipsa kodairensis* is described from Tamil Nadu (Figs. 1 and 2). It is distinguished in possessing the following characters. One black stripe on the median, dorso anterior region (one third of the body). Papilla all over the dorsal part. Lateral side bear one pair of pseudoline (brownish coloured). Body bears black spots all over the dorsal and ventral region. Length of a full grown preserved specimen is 20 mm width 5 mm. Posterior sucker is 4 mm in diameter. A living specimen becomes double in length at the time of preying. Clitellum is not prominent, stomach three chambered. One pair crop caeca placed posteriorly beside the stomach, vaginal stalk short and caecum rudimental (Table 1).

REMARKS

Of the five species of leeches described so far under the family Haemadipsidae, the present species presented here differs from the other species in respect of body colour, stripe, clitellar region. From the available data it appears that present species also differs from *H. dussumieri* in structure of stomach, caeca, crop, vaginal stalk. Considering all these, the present species is a new one and the name *Haemadipsa kodairensis* is designated.

Holotype : Z.S.I. Reg. No. An. 3257/1, 1 ex., Coll. C.K. Mandal, 18.11.2004, Kodair forest, Tirunelveli, Tamil Nadu, India.

Paratype : Z.S.I. Reg. No. An. 3258/1, 1 ex., Coll. C.K. Mandal, 18.11.2004, Kodair forest (South), Tirunelveli, Tamil Nadu.

SUMMARY

During survey in the Kodair forest of Tamil Nadu a new species of leech of the genus *Haemadipsa* has been observed for the first time in India. The leech measures 20 × 5 mm. Anterior and posterior suckers are present. Clitellum is not prominent. Body is yellowish green in colour. Body bears black spots in dorsal and ventral region.

Table 1 : Showing comparission of *Haemadipsa kodairensis* sp. nov. with other five species of the genus *Haemadipsa* in India.

	<i>H. sylvestris</i>	<i>H. dussumieri</i>	<i>H. montana</i>	<i>H. ornata</i>	<i>H. moorei</i>	<i>Haemadipsa kodairensis</i> sp. nov.
Stripe	Complete, black, number of stripe three	No stripe	Complete, black, number of stripe three	Complete, cream coloured, number of stripe three	Complete, black, chain stripe, from the bottom of first pair of eyes to the base of posterior sucker	Incomplete, black one third of the body length, at dorso anterior region of the body
Marginal stripe	Complete, bright orange	Absent	Complete, pale yellow coloured	Complete, cream	Complete, yellow coloured	Pseudo cream coloured
Colour	Blakish brown	Yellowish, motled with black	Dark	Velvately	Dark	Yellowish green
Body length	–	–	–	–	–	20 mm
Breadth	–	–	–	–	–	5 mm
Breadth of anterior sucker	–	–	–	–	–	2 mm
Breadth of posterior sucker	–	–	–	–	–	4 mm
Clitellum	Prominent	Prominent	Prominent	Prominent	Prominent	Not prominent
Breeding season	May-July; eggs 13–15	–	June-July; eggs 5–7	June-July; eggs 3–7	–	–
Stomach	–	One chambered	–	–	–	Three chambered
Caeca	–	Three pairs short on the crop	–	–	–	One pair long beside the stomach
Crop	–	Almost unbranched	–	–	–	Posteriorly branched
Vaginal stalk	–	Long	–	–	–	Short
Distribution	Uttar Pradesh West Bengal Assam, Arunachal Pradesh	South India	West Bengal, Sikkim, Arunachal Pradesh, Tamil Nadu	West Bengal, Assam	South India, Western Ghats	Tamil Nadu (Kodair forest, District : Tirunelveli)
Altitude	1500-2000 mts	1200 mts	3000 mts	3000 mts	1500–1800 mts	1200 mts
Reerence	Blanchar, 1894	Blanchard, 1917	Moore, 1927	Moore, 1927	Sanjeva Raj and Gladstone, 1981	Present authors

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REFERENCES

- Bandyopadhyay, P.K. and Mandal, C.K. 2005. On the occurrence of five leeches, *Barbronia weberi*, *Glossiphonia annandalei*, *Glossiphonia heteroclita*, *Glossiphonia reticulata* and *Placobdella undulata* in West Bengal (in Press).
- Blanchard, R. 1917. Monographie des Hemadipsines (Sangsues terrestres). *Bull. De la Soc. Pathologie Exotique*, **10** : 640-65, Pl. vii, 16 text-figs.
- Chandra, M. 1983. A check-list of leeches. *Rec. zool. Surv. India*, **80**(3 & 4) : 256-290.
- Ghosh, G.C. 1998. State Fauna Series 3; Leeches of West Bengal. Part **10** : 227-249.
- Julka, J.M. and Chandra, M. 1980. On a small collection of leeches collected during the Daphabum and Subansir expeditions, Arunachal Pradesh. *J. Bombay nat. Hist. Soc.*, **77** : 160-161.
- Mandal, C.K. 1996. On the occurrence of two leeches *Hemiclepsis marginata asiatica* & *Placobdella fulva* in West Bengal. *Sci. cult.*, **62**(5-6).
- Mandal, C.K. 2002a. On the occurrence and breeding season of leech *Placobdella emydae* in West Bengal. *Sci. cult.*, **66**(7-8) : 267-278.
- Mandal, C.K. 2005. Leech fauna of Coastal Districts. In : *Fauna of Andhra Pradesh, State Fauna Series*, **5** (Part 5) : 339-355.
- Mandal, C.K. 2004a. Checklist of the Hirudinea (Leeches) of India, *Rec. zool. Surv. India*, **102** (Part 1-2) : 41-46.
- Mandal, C.K. 2004b. *Placobdella harasundarai*, (Hirudinea : Glossiphonidae) a new species of leech from West Bengal, India. *Rec. zool. Surv. India*, **103** (Part 1-2) : 99-102.
- Mandal, C.K. 2004c. *Paraclepsis gardensi* (Hirudinea : Glossiphonidae) a new species of leech from West Bengal, India. *Rec. zool. Surv. India*, **103** (Part 1-2) : 111-114.
- Mandal, C.K. 2004d. Leech fauna of some selected wetlands of Uttaranchal (in press).
- Mandal, C.K. 2004e. Leech Fauna of Tamil Nadu (in press).
- Mandal, C.K. 2006. On some leeches of Arunachal Pradesh, India (in press).

Moore, J.P. 1924. Notes on some Asiatic Leeches. Principally from China. *Proc. Acad. nat. Sci. Philad.*, **76** : 343-388.

Moore, J.P. and Harding, W.A. 1927. The fauna of British India, Hirudinea. Taylor & Francis, London.

Sanjeva Raj and Gladston, 1981. *Haemadipsa morei*. *Rec. zool. Surv. India*, **79**(1-2) : 1-18.

Soos, A. 1965. Identification Key to the Leech (Hirudinoidea) Genera of the World, with a catalogue of the species. 111-1V, *Acta. Zool. Hung.*, **11**(3-4) : 415-464.

Soota, T.D. and Ghosh, G.C. 1977. On some Indian Leeches. *Newsl. zool. Surv. India*, **3**(6) : 359-360.