



## The first report of *Enochrus nigropiceus* Gunderson (Family: Hydrophilidae) from Loktak lake of Manipur

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(Received 08 July, 2014, Accepted 09 August, 2014)

**ABSTRACT:** A species *Enochrus nigropiceus* Gunderson, 1977 is recorded for the first time in Loktak Lake of Manipur, and also from India. Important morphological features are figured, including male genitalia (aedeagus). Further study may increase the number of species of these beetles from the Loktak lake of Manipur.

**Key words:** Coleoptera, Hydrophilidae, *Enochrus*, New records, Loktak Lake, Manipur, India

### INTRODUCTION

The family Hydrophilidae is one of the large families of the order Coleoptera having 146 genera and about 3335 known species (Hansen, 1999; Short and Herbauer 2006; Short and Ficacek, 2011). Hydrophilidae are distributed throughout the world in wide variety of habitats. Sub family Hydrophilidae comprising more than 1600 described species are mostly aquatic. A total of 34 genera of aquatic Hydrophilidae are known from Oriental region. So far 17 genera and 45 species of Hydrophilidae have been recorded from India (Deepa Jaiswal, 2010). Hydrophilidae are usually found in most kind of stagnant water but commonly inhabits stream, river and lakes. The family also has terrestrial representative that inhibit mostly leaf litters and other kinds of decaying organic materials. Larvae are predaceous preying on various smaller invertebrates while adult are mostly saprophagous, feeding on different kinds of decaying organic matter.

The genus *Enochrus* Thomson, 1859 is a large genus of Hydrophilidae. At present it comprises 222 described species distributed worldwide (Short and Ficacek 2011). From India only two species viz: *Enochrus esuriens*, and *Enochrus rubrocinctus* has been reported earlier (Deepa Jaiswal, 2010). The genus *Enochrus* is separated from other genera of Hydrophilids by moderate body size 2.00 – 8.50mm, elytra with distinct sutural stria on posterior two third. Second segment of maxillary palps bowed outward, with apical two segments bowed inward. *Enochrus nigropiceus* is recorded here for the first time from the Loktak lake of Manipur, a part of the North Eastern India.

### MATERIALS AND METHODS

Samples were collected from different sites of Loktak Lake of Manipur and specimens were studied in the Entomology Research Laboratory, P.G. Department of Zoology, Dhanamanjuri College of Science, Imphal. The materials examined for this study were collected by means of sieve, ladle and a net having meshes size of 1mm. The beetles were killed using 70% ethyl alcohol solution. Aedeagophores were dissected under a stereomicroscope and cleared in 10% KOH solution for 1-2 h. The photographs were taken using an Olympus type BX51 compound microscope and a Nikon type SMZ 1500 stereomicroscope. Three specimens were deposited in the Laboratory of Entomology, P.G. Department of Zoology, Dhanamanjuri College of Science, Imphal, Manipur. Two specimens were deposited in the Division of Entomology Museum, Indian Agricultural Research Institute (IARI), New Delhi, India.

### RESULT

*Enochrus interruptus* Gunderson 1977

*Enochrus interruptus* Gunderson 1977: 255-256.

Phubala (Loktak Lake, Manipur) wetland, 2 , 39 Km S. from Imphal, N 24° 27. 327'E 093°51. 295', 763 m on 21.xi.13. M Bhubaneshwari, O.Sandhyarani and S.Dineshwar.

Longum (Loktak Lake, Manipur), wetland, 1 &1 45 Kms S from Imphal, N 24°31. 011'E 093°49. 066', 822 m on 7.ii.2014. M. Bhubaneshwari, O. Sandhyarani and S. Dineshwar.

Ngaikhong (Loktak Lake, Manipur), wetland, 1 30 kms S from Imphal N 24° 29.221'E 093°48.571', 800 m on 13.i.2014. M. Bhubaneshwari, O. Sandhyarani, S. Dineshwar

**Differential diagnosis**

Total length 5.90 – 5.95 mm. dorsally dark brown to black colouration, edges of pronotum, elytra paler, coarse punctuation and distinct genitalia serve to differentiate this species from all other known species from India.

**Description**

Colour, form and punctuation: Head, pronotum black with anterolateral margin of anterior margin and lateral margin of pronotum pale, maxillary palp

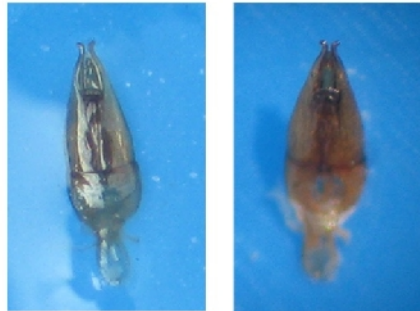
yellow, ventral face of head dark brown with mentum, stipes and cardo distinctly paler; ventral face of thorax dark brown, abdominal ventrites dark brown, femora, tibia dark brown with tarsi paler, puncture on head, pronotum moderately coarse and denser than elytra.

**Diagnosis**

Body elongated oval (Fig.1) length 5.90mm long and 2.60-2.70mm wide rather flat, shiny black, finely dense punctuate on surface.



*Enochrus nigropiceus* (Dorsal & Ventral)



Aedeagus (Dorsal & Ventral)

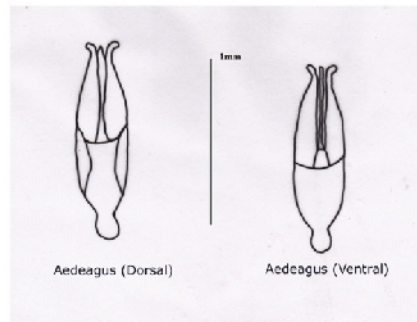


Figure 1: Male aedeagus of *Enochrus nigropiceus*

**Head**

Maxillary palps moderately long more than the width of head anterior to the eyes, with all segments appearing slightly thickened. Apical segment slightly shorter than penultimate, penultimate segment slightly shorter than 2<sup>nd</sup> segment, antennae nine segmented. Anterior margin of clypeus rounded, mentum with a few coarse punctures.

**Thorax**

Ground punctuation on pronotum slightly finer than head, systematic puncture usually distinct larger than ground punctuation and bearing a fine short seta. Prosternum finely pubescent. Prosternum without a median carina, mesoventrite broadly but sharply triangular, longitudinal carina with distinct tooth at tip. Metaventrite with posteromedial glabrous area slightly longer than wide. Glabrous area slightly less than half of total length of the metaventrite, Femora pubescent on basal fourth fifth. Elytra with distinct suture stria on posterior three fourth. Ground punctuation on elytra similar to pronotum, finer and more dispersed laterally and posteriorly. Systematic punctures same as pronotum.

**Abdomen**

Ventrites densely pubescent fifth ventrites with distinct apicomedial emargination about as wide as deep and lined with coarse yellow bristles.

**Male genitalia**

Aedeagus with parameres gradually tapered in apical third and curved outward; dorsal strut or median lobe tapering apically, apex not reaching the same distal plane as apex of parameres (Fig. 1).

**Biology**

The specimen has been collected in densely vegetated lake margin, having different kinds of decaying organic matter in the Loktak lake of Manipur.

**Distribution**

Thailand, Sri Lanka, Indo China, Indonesia, Philippines.

**Remark**

The five specimens were examined here from Loktak Lake of Manipur.

This specimen can easily be distinguished from other *Enochrus* species by its larger size, dark dorsal colouration and characteristic shape of the aedeagus.

*Enochrus nigropiceus* can easily be confused with the paler *Enochrus elongatulus*. *Enochrus nigropiceus* differs in the apically narrower parameres and broader dorsal strut of aedeagus, and dorsally projecting tooth on the dorsal strut also less developed.

**ACKNOWLEDGEMENTS**

The authors are thankful to the Ministry of Environment and Forests (MoEF), New Delhi for giving financial assistance during the course of the work. Thanks also due to the Principal and Head, P.G. Department of Zoology, D.M. College of Science, Imphal for providing laboratory facilities.

**REFERENCES**

- Deepa, J. (2010). Checklist of Aquatic Coleoptera, (*ZSI, e-publications*). www. zsi. gov.in sept. 2010.
- Hebauer, F. (1992). The species of the genus *Chasmogenus* Sharp, 1882 (Coleoptera: Hydrophilidae). *Acta Coleopterologica*, **8**(2): 61-92.
- Hansen, M. (1999). World Catalogue of Insects. Hydrophiloidea (Koleoptera. *Appollo Books*, Stenstrup, vol. **2**, P. 416.
- Hansen, M. (1991). The hydrophiloid beetles: phylogeny, classification and a revision of the genera (Coleoptera, Hydrophiloidea). *Biologiske Skrifter, Det Kongelige Danske Videnskabernes Selskab*, **40**, 1-367.
- Short, A.E.Z. and Hebauer, F. (2006). World Catalogue of Hydrophiloidea – additions and corrections, 1(1999-2005). *Koleopterologische Rundschau*, **76**: 315-359.
- Short A.E.Z. and Fikacek, M. (2011). World Catalogue of the Hydrophiloidea (Coleoptera: Additions and Corrections II (2006-2010). *Acta Entomologica Musei Nationalis Pragae*, **51**(1): 83-122.