



Additions to the hemiptera (Insecta: Arthropoda) fauna of Dumna Nature Park, Jabalpur, India

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Abstract

Dumna Nature Park located in Jabalpur district of Madhya Pradesh is least explored area. Only recently some workers have shown interest to work out the diversity of certain groups of animals. In this context, present paper reports three species of Hemiptera belonging to three genera and three different subfamilies. The three species are *Leptocoris varicornis*, *Riptortus fuscus* and *Lethocerus indicus*. All the three species are reported for the first time from the Park.

Keywords: punctate, fuscous, obliterate, hemiptera, unexplored, Dumna Nature Park

1. Introduction

In India 61,151 species belonging to 629 families of insects have been reported making 6.90 percent of the total insects in the world [12]. Hemiptera is among the largest group of insects after Coleoptera, Diptera, Hymenoptera, and Lepidoptera [2, 13]. It is the most diversified group of non-endopterygote insects [8]. So far 82,000 species of Hemiptera have been described worldwide and 6556 species belonging 77 families of Hemiptera reported from India, making 8 percent of the total Hemiptera species in the world [12]. Most species are phytophagous or predators, while others are ectoparasites and rely on hematophagy [1, 4]. The aquatic and semi-aquatic Hemiptera constitute a significant level of diversity [5, 10] and constitute the food for different tropic levels of fresh water ecosystem. Globally there are 3946 aquatic Hemiptera species belonging to 302 genera of Hemiptera [22, 23, 24]. The aquatic and semi-aquatic Hemiptera of India is represented by 79 genera and 284 species, out of which 57 species belonging to 27 genera has been reported from Jabalpur district of Madhya Pradesh [24]. Hemiptera insects are considered good environmental indicators and play an important role in the food chains [6, 9, 11]. The present study reports three species of Hemiptera from Dumna Nature Park, Jabalpur.

2. Methodology

2.1 Study Area: The state of Madhya Pradesh lies at 210 to 250 N and longitudes 740 to 840 E, in India. District Jabalpur is located in the Eastern half of Madhya Pradesh and lies between 23° 10' North latitude and 79° 59' East longitudes. Dumna Nature Park (DNP) is located (23° 10' North latitude and 80° 1' East longitude) on Dumna Airport Road in district Jabalpur. The Park is about 7 kilometers away from the R. D. University, Jabalpur. Only few species of Hymenoptera and Hemiptera has been reported so far from DNP [14, 15, 16, 17, 18, 19, 20, 21].

2.2 Sampling Methods: Three sampling methods viz. Sweep Net, Light Trap and Hand picking methods were used to

collect the Hemiptera species during 2014- 2015. *L. varicornis* was collected by sweep net, *R. fuscus* by mercury light trap and *L. indicus* was collected by hand picking near the Khandari water reservoir in DNP.

3. Results

Three species of order Hemiptera belonging to three different genera are reported from the DNP. The species are *Leptocoris varicornis* Fabricius, 1803, *Riptortus fuscus* Fabricius, 1798 and *Lethocerus indicus* (Lepeletier and Serville, 1825). The systematic list and systematic account of the mentioned species is given under.

3.1 Systematic list

Order	Hemiptera
Superfamily	Coreoidea
Family	Alydidae
Subfamily	Micrellyterinae
Genus	<i>Leptocoris</i> Latreille, 1829

1. Species *Leptocoris varicornis* Fabricius, 1803

Subfamily	Alydinae
Genus	<i>Riptortus</i> Stål, 1860

2. Species *Riptortus fuscus* Fabricius, 1798

Superfamily	Nepoidea
Family	Belostomatidae
Subfamily:	Lethocerinae
Genus	<i>Lethocerus</i> Mayr, 1853

3. Species *Lethocerus indicus* (Lepeletier and Serville, 1825)

3.2 Systematic Account

Genus *Leptocoris* Latreille, 1829

Diagnostic characters

Head long, lateral lobes porrect and produced in front of the

central lobe; pronotum long, slightly deflected anteriorly; antennae with the first joint very slightly and regularly thickened, its apex obscurely incrassate.

1. *Leptocoris varicornis* Fabricius, 1803

1830. *Leptocoris flavida* Guer., *voy. Coq., Ins.*, 12:12

1852. *Leptocoris chinensis* Hall, *List Hem.*, 2: 483

Diagonastic Characters

Head with eyes prominent; body ochraceous; above thickly punctate; membrane pale, colouidess, hyaline; eyes black; basal joint of antennae ochraceous, second, third, and fourth joints fuscous with their bases luteous; rostrum reaching the intermediate coxae, its apex piceous; first and fourth joints longest and subequal in lengthy second and third shortest and subequal; sternum very coarsely punctate; abdomen above testaceous. Length: 16 mm (Fig. A and B).

Material examined: India: Madhya Pradesh, Jabalpur district, Dumna Nature Park, 06.xi.2014, Coll. Altaf Hussain Sheikh.

Distribution

India: Assam; Karnataka, Rajasthan, Sikkim and West Bengal; Elsewhere: China and Srilanka^[3].

Genus: *Riptortus* Stål, 1860

Diagnostic Characters

Head no broader than the base of the pronotum; eyes prominent; fourth joint of the antennae longer than the two preceding joints taken together; rostrum with the second joint not or slightly longer than the fourth; basal margin of the pronotum bisinuate before the scutellum.

2. *Riptortus fuscus* Fabricius, 1798

1798. *Riptortus fuscus*, Fabr. (*Lygaeus*), *Ent. Syst. Suppl.*, 539

Diagnostic Characters

Head not broader than the base of the pronotum; sternum somewhat reddish-ochraceous; posterior margin of the pronotum and a lateral fascia on each side of head, not extending beyond base of antennae; conexivum ochraceous, with large fuscous spots; posterior femora thickly mottled with reddish-brown; pale laevigate sternal spots absent, which even when present are small and usually obliterated on the metasternum; abdomen above olivaceous, largely bimaculated with ochraceous; abdomen beneath and legs ochraceous. Length: 15 mm (Fig. C).

Material examined: India: Madhya Pradesh, Jabalpur district, Dumna Nature Park, 14.iii.2014, Coll. Altaf Hussain Sheikh.

Distribution

India: Karnataka, Maharastra and West Bengal; Elsewhere: Bhutan^[3].

Genus: *Lethocerus* Mayr, 1853

Diagnostic Characters

Massive head; body dorsoventrally flattened with large size; vertex of head parallel sided; pronotum with a transverse fasciae at the basal end and a fine longitudinal carination in the middle.

3. *Lethocerus indicus* (Lepeletier and Serville, 1825)

1825. *Belostoma indica* Lepeletier and Serville, *Encycl.*

Meth., 10: 272.

1927. *Lethocerus indicus* (Lepeletier and Serville), Torre-Bueno, *Bull. Brooklyn Entomol. Soc.*, 22: 30.

Diagnostic Characters

Head massive but less broader than thorax, vertex of head parallel sided; body grey, dorso-ventrally flattened with large size; pronotum with a transverse fasciae at the basal end and a fine longitudinal carination in the middle; thick sets of swimming hairs on intermediate and posterior legs on the ventral side. Length: 69 mm (Fig. D).

Material examined: India: Madhya Pradesh, Jabalpur district, Dumna Nature Park, 14.viii.2014, Coll. Altaf Hussain Sheikh.

Distribution

India: Andaman and Nicobar Islands, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chandigarh, Chhattisgarh, Delhi, Goa, Gujarat, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Odisha, Puducherry, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal; Elsewhere: Myanmar, Pakistan, Philippines and Sumatra^[7].

4. Conclusion

Hemiptera is one of the diverse orders of insects. Along with other Arthropods rely almost completely on those resources available locally and contribute significantly to conservation as they play important functional roles in nutrient cycling, improving soil structure, seed dispersal, pollination, and maintaining plant community composition as well as other animal populations. The present study reports three species viz. *L. varicornis*, *R. fuscus* and *L. indicus* from DNP and all the three species are reported for the first time from the Park.

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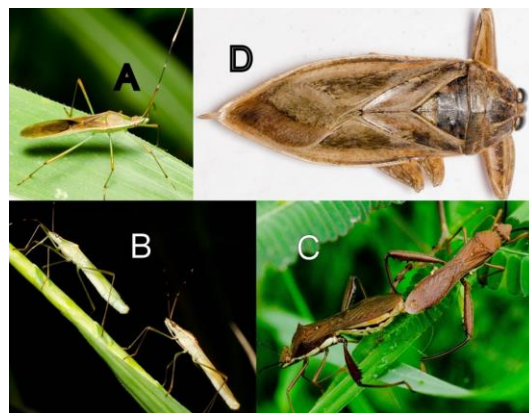


Fig 1: A. Dorsal view of *Leptocoris varicornis*. Fig. B. Lateral view of *Leptocoris varicornis*. Fig. C. *Riptortus fuscus*. Fig. D. *Lethocerus indicus*.

6. References

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