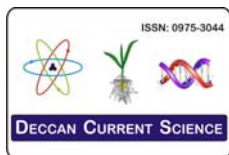


Research Article



DCSI 07: 101 - 108 (2012)

Received: 29 Feb, 2012

Revised: 06 April, 2012

Accepted: 05 June, 2012

www.dcsi.in

Studies on the Hemiptera Fauna of Barnawapara Wildlife Sanctuary, Chhattisgarh, India

Kailash Chandra¹ & Sandeep Kushwaha²

Zoological Survey of India, New Alipore Kolkata, West Bengal¹

Zoological Survey of India, Jabalpur Madhya Pradesh²

(Correspondence: kailash611@rediffmail.com)

Abstract:

While working on faunal profile of Barnawapara Wildlife Sanctuary, Chhattisgarh, an intensive survey of the sanctuary was carried out from 1st July to 4th July, 2011 and the specimens of true bugs were also collected. The study revealed the identification of 26 species of true bugs belonging to 26 genera and 11 families. All the species are reported for the first time from this sanctuary as well as from Chhattisgarh state. Data revealed that, the region is quite rich in faunal diversity, because of variety of food plants, varied ecological conditions, rainfall, temperature and topography.

Keywords: Hemiptera, Barnawapara Wildlife Sanctuary, Chhattisgarh.

Introduction:

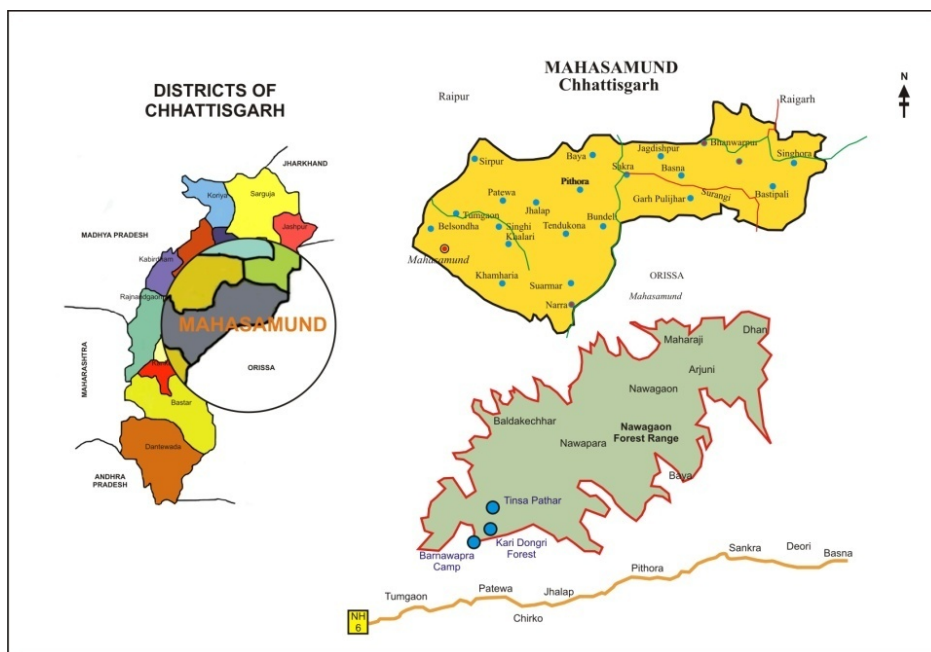
Barnawapara Wildlife Sanctuary (BWLS) was notified in 1976 under Wildlife (Protection) Act -1972 and biogeographically province 4.8.4 (Indus-Ganges Monsoon Forest). The area of the sanctuary is 244.66 sq km and situated at northern part of Mahasamund district of Chhattisgarh. Altitude ranges from 265-400m. The vegetation is tropical dry deciduous forest with teak, bamboo, *Terminalia* and other miscellaneous species. Other important plants found in the sanctuary are semal, mahua, ber and tendu. Sanctuary comprises of two village ranges, i.e. Barrange and Nawapara range. The Heteropterans or "true bugs" are among the most diverse groups within the Hemiptera, and are commonly identified by the strong odour produced by the metathoracic scent glands (Schuh and Slater, 1995). The Heteroptera being the largest group with more than 35000 species (Slater, 1982). They pierce tissues of plants and feed on their juices (Knight, 1941;

McGavin, 1992) live as entomophagous (Hassanzadeh *et. al.*, 2009) and many of them are serious plant pests (Safavi, 1973). Many species of bugs catch other insects and spiders and hence beneficial from an agricultural point of view (Linnavuori and Hosseini, 2000). Roy *et. al.*, (1988) studied faunistic composition of aquatic bugs of Eastern Bihar and 22 species were reported. A detailed account of Hemiptera fauna of central India had been done by Distant (1902a & b, 1906). Later on brief account of this order from Indravati Tiger Reserve, Chhattisgarh was studied by Ghosh & Biswas (1995). Although, a series of revisionary studies have been subsequently carried out from different geographical regions, no exhaustive survey has so far been carried out especially from the BWLS. Therefore, for the first time an attempt was made to study the Heteropteran fauna of BWLS, Chhattisgarh, India.

Material and Methods:

Bugs in the present study were collected during an intensive survey from 1st July to 4th July, 2011 from three different localities of BWLS viz. Tinsa Pathar (21°28.861'N, 082°27.831'E, Altitude-1514 feet), Barnawapara camp (21°24.00'N, 082°25.314'E, Altitude-997 feet) and Kari Dongri Forest (21° 25.315'N,

082°27.316'E, Altitude-1091 feet). They were collected with the help of sweep net method; while some with handpicked and light trap method. Bugs were narcotized with benzene and preserved dry after the pinning. The pinned specimens were identified with the help of current literature. Photography of bugs were carried out by Leica Stereo Microscope-M205-A.



Map of BWLS showing the study area

Table-1: List of Hemiptera species recorded from BWLS, Chhattisgarh.

Sr. No.	Scientific name	Systematic position	No. of exs.	Collection localities	Date of Collection
		Suborder: Homoptera			
		Infraorder: Fulgoromorpha			
		Superfamily: Fulgoroidea			
1	<i>Eurybrachys tomentosa</i> (Fabricius)	Fulgoridae	3	Barnawapara camp	01.vii.2011
		Suborder: Heteroptera			
		Infraorder: Cimicomorpha			
		Superfamily: Cimicoidea			
2	<i>Tribelocephala indica</i> Walker	Reduviidae	2	Barnawapara camp	02.vii.2011
3	<i>Scadra annulipes</i> Reuter	Reduviidae	2	Barnawapara camp	03.vii.2011
4	<i>Ectrychotes dispar</i> Reuter	Reduviidae	5	Barnawapara camp	01.vii.2011
5	<i>Polididus armatissimus</i> Stal	Reduviidae	8	Barnawapara camp	04.vii.2011
6	<i>Onchocephalus</i> sp.	Reduviidae	2	Barnawapara camp	01.vii.2011
		Infraorder: Pentatomorpha			
		Superfamily: Lygaeoidea			

7	<i>Metochus uniguttatus</i> (Thunberg)	Lygaeidae	1	TinsaPathar	03.vii.2011
8	<i>Spilostethus hospes</i> (Fabricius)	Lygaeidae	1	Barnawapara camp	01.vii.2011
9	<i>Graptostethus servus</i> (Fabricius)	Lygaeidae	1	Barnawapara camp	02.vii.2011
		Superfamily :Pyrrhocoroidea			
10	<i>Dysdercus koenigii</i> (Fabricius)	Phyrrhocoridae	1	Barnawapara camp	03.vii.2011
11	<i>Antilochus coqueberti</i> (Fabricius)	Phyrrhocoridae	1	Barnawapara camp	03.vii.2011
		Superfamily:Coreoidea			
12	<i>Serinetha abdominalis</i> (Fabricius)	Coreidae	1	Barnawapara camp	01.vii.2011
13	<i>Anoplocnemis phasiana</i> (Fabricius)	Coreidae	1	Barnawapara camp	02.vii.2011
14	<i>Homocerus signatus</i> Walker	Coreidae	1	Barnawapara camp	01.vii.2011
15	<i>Notobitus meleagris</i> (Fabricius)	Coreidae	1	Barnawapara camp	01.vii.2011
16	<i>Riptortus linearis</i> (Fabricius)	Alydidae	1	Barnawapara camp	01.vii.2011
17	<i>Riptortus</i> sp.	Alydidae	1	Barnawapara camp	03.vii.2011
18	<i>Leptocorisa varicornis</i> (Fabricius)	Alydidae	1	Rest House	03.vii.2011
		Superfamily :Pentatomoidea			
19	<i>Antestia cruciata</i> (Fabricius)	Pentatomidae	2	Kari dongari forest	04.vii.2011
20	<i>Bagrada picta</i> (Fabricius)	Pentatomidae	6	Kari dongari forest	04.vii.2011
21	<i>Nezara viridula</i> (Linnaeus)	Pentatomidae	3	Barnawapara camp	02.vii.2011
22	<i>Plautia fimbriata</i> (Fabricius)	Pentatomidae	4	Barnawapara camp	02.vii.2011
23	<i>Cydnius indicus</i> Westwood	Cydnidae	5	Barnawapara camp	02.vii.2011
24	<i>Tessaratomia javanica</i> (Thunberg)	Tessaratomidae	2	Barnawapara camp	01.vii.2011
25	<i>Aspongopus brunneus</i> (Thunberg)	Dinidoridae	2	Barnawapara camp	02.vii.2011
26	<i>Scutellera nobilis</i> Fabricius	Scutelleridae	1	Barnawapara camp	03.vii.2011

Results and Discussion:

The paper includes new records of 26 species of Hemiptera belonging to 11 families from Barnawapara Wildlife Sanctuary, Chhattisgarh. One species is belonging to suborder Homoptera and remaining species represent suborder Heteroptera under 10 families. The super family Pentatomoidea was

found dominant representing the 8 species. All the species are new records to Barnawapara WLS, Chhattisgarh. *Scutellera nobilis* Fabricius, *Nezara viridula* (Linnaeus) and *Leptocorisa varicornis* (Fabricius) were collected from Jatropa plantation in the sanctuary.

Acknowledgments:

The authors are thankful to Dr. K. Venkataraman, Director, Zoological Survey of India for providing necessary facilities and encouragement. Thanks are also due to Chhattisgarh State (CAMP) Funds for the grants to study the faunal diversity of Protected Areas of Chhattisgarh and to the authorities for providing the facilities.

References:

- Distant W L, (1902a):** *The Fauna of British India including Ceylon and Burma I*: 42-421.
- Distant W L, (1902b):** *The Fauna of British India including Ceylon and Burma I*: 36-392.
- Distant W L, (1906):** *The Fauna of British India including Ceylon and Burma III*: 219-224
- Ghosh L.K. & Biswas B, (1995):** *Fauna of Conservation areas No. 6 Fauna of Indravati Tiger Reserve*: 19-29. Zool. Surv. India.
- Hassanzadeh, M. et. al. (2009):** A study on the Heteroptera fauna of Shend Abad region and Environ (IRAN). *Mun. Ent. Zool.* 4(2): 527-530.
- Knight, H. H. (1941):** The plant bugs or Miridae of Illinois. *Bull. Illinois Natural History Survey*. 22: 1-234.
- Linnavuori, R. F. and Hosseini, R. (2000):** *Heteroptera of Guilan* Part 1. Guilan University. p. 94.
- McGavin, G. C. (1992):** *Insects of the Northern Hemisphere*, Richard Lewington. Dragons World Ltd. Published. p. 192.
- Roy, S. P., Pathak, H. S. and Kumar, V. (1988):** Faunistic composition of aquatic insects of Eastern Bihar with notes on their some aspects of ecology. *Rec. zool. Surv. India*. 54(1): 49-57.
- Safavi, M. (1973):** Cle de determination des familles d' Hemipteres Heteropteres de l Iran. *J. E.S.I.* 1(1): 3-11.
- Schuh, R. T. and Slater, J. A. (1995):** *True Bugs of the world (Hemiptera: Heteroptera)*

Classification and Natural History. Cornell University. Press, Ithaca, NY and London. p. 336.

Slater, J. A. (1982): *Hemiptera*. In: Parker, Sp. P. (Ed.), *Synopsis and classification of living organisms*. McGraw-Hill, New York. pp. 417-447.

Plate - 5



Oncocephalus sp.



Riptortus sp.

Plate - 1



Anoplocnemis phasiana (Fabricius)



Aspongopus brunneus Thunberg



Scadra annulipes Reuter



Ectrychotes disper Reuter



Polididus armatissimus Stal



Spilostethus hospes (Fabricius)

Plate - 2



Scutellera nobilis (Fabricius)



Metochus uniguttatus (Thunberg)



Tessaratomia javanica (Thunberg)



Dysdercus koenigii (Fabricius)

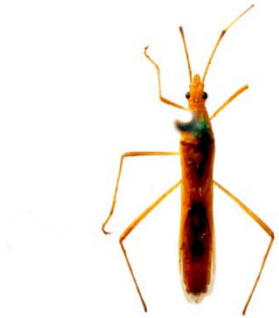


Antilochus coqueberti (Fabricius)



Notobitus meleagris (Fabricius)

Plate - 3



Leptocorisa varicornis (Fabricius)



Graptostethus servus (Fabricius)



Antestia cruciata Fabricius



Bagrada picta Fabricius



Homoeocerus signatus Walker



Tribelocephala indica Walker

Plate - 4



Eurybrachys tomentosa (Fabricius)



Nezara viridula (Linnaeus)



Plautia fimbriata Fabricius



Cydnus indicus Westwood



Riptortus linearis (Fabricius)



Serinetha abdominalis (Fabricius)