

## DISTRIBUTION AND DIVERSITY OF HEMIPTERA FAUNA OF SINGHORI WILDLIFE SANCTUARY, RAISEN DISTRICT, MADHYA PRADESH, INDIA

**Kailash Chandra\* and Sandeep Kushwaha\*\***

\* Zoological Survey of India, 'M' Block, New Alipore, Kolkata-700 053 West Bengal, INDIA. E-mail: kailash611@rediffmail.com

\*\* Zoological Survey of India, Central Zone Regional Centre, Scheme No. 5, Plot No. 168-169, Vijay Nagar, Jabalpur-482 002 Madhya Pradesh, INDIA. E-mail: sandeepkushwaha\_17@yahoo.com

[Chandra, K. & Kushwaha, S. 2013. Distribution and diversity of Hemiptera fauna of Singhori Wildlife Sanctuary, Raisen District, Madhya Pradesh, India. *Munis Entomology & Zoology*, 8 (2): 677-681]

ABSTRACT: The study yielded the identification of 38 species belonging to 13 families of the order Hemiptera and all these species are reported first time from this sanctuary.

KEY WORDS: Singhori Wildlife Sanctuary, Hemiptera.

Singhori Wildlife sanctuary is located in Raisen district of Madhya Pradesh with headquarter at Bari, which is situated on NH 12, 249 km away from the Jabalpur. Sanctuary lies between 22°45' and 22°55' N latitudes and 77° 15' and 78° 00' E longitudes (Fig-1). This SWLS was notified on 2<sup>nd</sup> July 1976 vide Govt. of Madhya Pradesh notification no. 15/4/76/10/2 dated 02.07.1976. Most of the area of sanctuary is hilly and consist of hills, valleys, gorges and at places plains. There are two main streams in the sanctuary, Ghoghar and Barna respectively. Barna dam is the only permanent water source for sanctuary and its wildlife, whereas a large area of the sanctuary gets dry during summers. Mixed and deciduous are two main forest type. *Tectona grandis* is dominant species of the sanctuary, *Anogeissus latifolia*, *Pterocarpus marsupium*, *Boswellia serrata*, *Terminalia alata*, and *Dendrocalamus strictus* are the others crops of the sanctuary.

Hemiptera is a diverse group of true bugs. There are 133 families of Hemiptera found worldwide, consisting about 184000-193000 species (Hodkinson & Casson, 1991). A detailed account of Hemiptera fauna of central India had been done by Distant (1902, 1904 & 1906). Later on brief account of this order were described by Ghosh & Biswas (1995), Ramakrishna et al. (2006), Chandra (2000, 2008 & 2009), Chandra et al. (2010), Chandra et al. (2011), Chandra et al. (2012), Chandra et al. (2012) respectively from Madhya Pradesh. Present paper reports 38 species of bugs from the sanctuary.

### MATERIAL AND METHODS

During the four years survey (2009-2012) of the sanctuary by the Zoological Survey of India Jabalpur, altogether 256 bugs were collected from various localities of the WLS viz., Bamhori, Belgaon, Sitapur, Jaitagarh, Siyalwada, Peer Badanala, Gaganwada, etc. (Fig. 2) by hand picking, net trap and light tarp methods. The specimens were shorted out and bugs were pinned and dried and identified with the help of literature available. Morphology of bugs were studied by Leica microscope M 205-A.

## RESULTS

List of Hemiptera studied from Singhori Wildlife Sanctuary, Madhya Pradesh.

S. No.	SUBORDER / INFRAORDER / SUPERFAMILY / FAMILY / SPECIES	No. of Ex.	Locality In SWLS	Occurrence	Date of Collection
	<b>SUBORDER: AUCHENORRHYNCHA INFRAORDER: CICADOMORPHA SUPERFAMILY: CERCOPOIDEA FAMILY: CERCOPIDAE</b>				
1	<i>Callitettix versicolor</i> (Fabricius), 1794	2	Bajani	R	08.xii.10
	<b>FAMILY: APHROPHORIDAE</b>				
2	<i>Poophilus costalis</i> (Walker), 1851	1	Jaitgarh	VR	17.ix.11
	<b>INFRAORDER: FULGOROMORPHA SUPERFAMILY: FULGOROIDEA FAMILY: DICTYOPHARIDAE</b>				
3	<i>Dictyophara pallida</i> (Don.) 1800	1	Bamhori	VR	01.iv.11
4	<i>Dictyopharina consanguinea</i> Distant 1906	1	Sitapur	VR	21.ix.11
	<b>SUBORDER: HETEROPTERODEA INFRAORDER: CIMICOMORPHA SUPERFAMILY: CIMICOIDEA FAMILY: REDUVIIDAE</b>				
5	<i>Tribelocephala indica</i> (Walker) 1873	3	FRH Baddi	L	04.ix.2009
6	<i>Scadra annulipes</i> Reuter 1881	5	Bamhori	H	17.ix.09
7	<i>Etrychotes dispar</i> Reuter, 1881	5	Jaitgarh	H	21.ix.2011
8	<i>Polididus armatissimus</i> Stal, 1859	8	Naya Kheda	VH	11.iv.11
9	<i>Onchocephalus schioedtei</i> Reuter 1883	2	Bamhori R H	R	03.iii.11
10	<i>Prostemma carduelis</i> Dohrn 1858	2	Siyalwada	R	27.ix.11
11	<i>Ectomocoris cordiger</i> Stal 1855	1	Purtala	VR	24.ix.11
	<b>INFRAORDER: PENTATOMORPHA SUPERFAMILY: LYGAEOIDEA FAMILY: LYGAEIDAE</b>				
12	<i>Spilostethus hospes</i> (Fabricius), 1794	2	Purulia	R	24.xi.11
13	<i>Spilostethus pandurus militaris</i> (Fabricius), 1775	3	Purulia	L	24.xi.11
14	<i>Metochus uniguttatus</i> (Thunberg), 1822	5	Bamhori R.H.	H	31.iii.11
15	<i>Elasmolomus sordidus</i> (Fabricius), 1787	2	Kartholi	R	25.ii.10
	<b>SUPERFAMILY: PYRRHOCOROIDEA FAMILY: PHYRRHOCORIDAE</b>				
16	<i>Physopelta gutta</i> (Burmeister), 1834	5	Sitapur	H	10.iv.11
17	<i>Dysdercus koenigii</i> (Fabricius), 1775	5	Bamri	H	11.ii.10
18	<i>Antilochus coqueberti</i> , (Fabricius)1803	8	Bamhori RH	VH	01.iv.11
	<b>SUPERFAMILY: COREOIDEA FAMILY: COREIDAE</b>				
19	<i>Anoplocnemis phasiana</i> (Fabricius), 1781	1	Bamhori RH	VR	10.iv.11
20	<i>Elasmomia granulipes</i> (Westwood), 1842	2	Kartoli	R	13.xii.10
21	<i>Serinetha abdominalis</i> (Fabricius), 1803	3	Kukwara	L	06.xii.10

	<b>FAMILY: ALYDIDAE</b>				
22	<i>Riptortus fuscus</i> (Fabricius), 1798	8	Ramgada	VH	17.ix.09
23	<i>Leptocoris varicornis</i> (Fabricius), 1803	7	Purtula	VH	24.ix.11
	<b>SUPERFAMILY: PENTATOMOIDEA</b>				
	<b>FAMILY: PENTATOMIDAE</b>				
24	<i>Piezodorus rubrofasciatus</i> (Fab.)	1	Bamhori R.H.	VR	19.ix.11
25	<i>Antestia cruciata</i> (Fabricius), 1775	2	Sitapur	VH	10.iv.11
		2	Bamhori R.H.		08.iv.11
		2	Bamhori R.H.		14.iv.11
		4	Bajhiya Gaon		3.iv.11
26	<i>Bagrada picta</i> (Fabricius), 1775	5	Bamhori R.H.	H	03.iv.11
27	<i>Canthecona furcellata</i> Wolff, 1851	2	Belgaon	R	15.ix.09
28	<i>Erthesina fullo</i> (Thunberg), 1783	5	Ekeyavan river	H	03.xii.10
29	<i>Halys dentatus</i> Fabricius, 1775	12	Bamhori	VH	17.ix.11
30	<i>Nezara viridula</i> (Linnaeus), 1758	6	Gaganwada	VH	22.ix.11
		4	Ekeyavan River		03.xii.10
31	<i>Plautia fimbriata</i> (Fabricius), 1787	3	Purtulia	L	24.ix.11
32	<i>Eusarcocris ventralis</i> (Westwood), 1837	1	Sukand River	VR	01.xii.10
33	<i>Eusarcocris montivagus</i> , Distant, 1904	1	Bamhori R H	VR	09.iv.11
	<b>FAMILY: ASOPINIDAE</b>				
34	<i>Asopus malabaricus</i> (Fabricius) 1775	2	Bamhori R.H.	R	3. iv. 2011
	<b>FAMILY: DINIDORIDAE</b>				
35	<i>Coridius ianus</i> (Fabricius), 1775	3	Barha rest house	L	15.ii.10
36	<i>Cyclopelta siccifolia</i> (Westwood), 1837	3	Gaganwada	L	02.iv.2011
	<b>FAMILY: CYDNIDAE</b>				
37	<i>Cydnus indicus</i> Westwood, 1803	6	Jaitagarh forest	H	13.iv.11
	<b>FAMILY: SCUTELLERIDAE</b>				
38	<i>Poecilocoris interruptus</i> (Westwood), 1837	1	Gaganwada	VR	02.iv.2011

**Abbreviation used:** VH-Very high; H-High; L-Low; R-Rare; VR-Very Rare; FRH-Forest Rest House; SWLS- Singhori Wild Life Sanctuary, DDM -Degrees and Decimal Minutes.

**Geographical coordinates:** All GPS reading was used in DDM format.

S. No.	Locality Name	Latitude	Longitude	Altitude fit
1	Bajani	23°07.492'N	078°13.199' E	1107
2	Bamhori R.H.	23°12.178'N	078°17.536' E	1222
3	Baddi FRH	23°02.967'N	078°03.728' E	1236
4	Bajhiya Gaon	23°14.317'N	078°13.291' E	1393
5	Barha rest house	23°02.967'N	078°03.728' E	1236
6	Belgaon	23°14.317'N	078°13.291' E	1393
7	Gaganwada	23°10.086'N	078°15.260' E	1149
8	Jaitgarh	23°14.296'N	078°11.486' E	1253
09	Nava Kheda	23°11.079'N	078°12.941' E	1229
10	Purtulia	23°02.967'N	078°03.728' E	1236
11	Sitapur	23°12.586'N	078°15.144' E	1191
12	Siyalwada	23°08.752'N	078°13.620' E	1212

## DISCUSSIONS

Bugs mainly occur as a pest on various plants. Present paper deals with study of 37 genera belonging to 38 species of order Hemiptera. All of them are reported

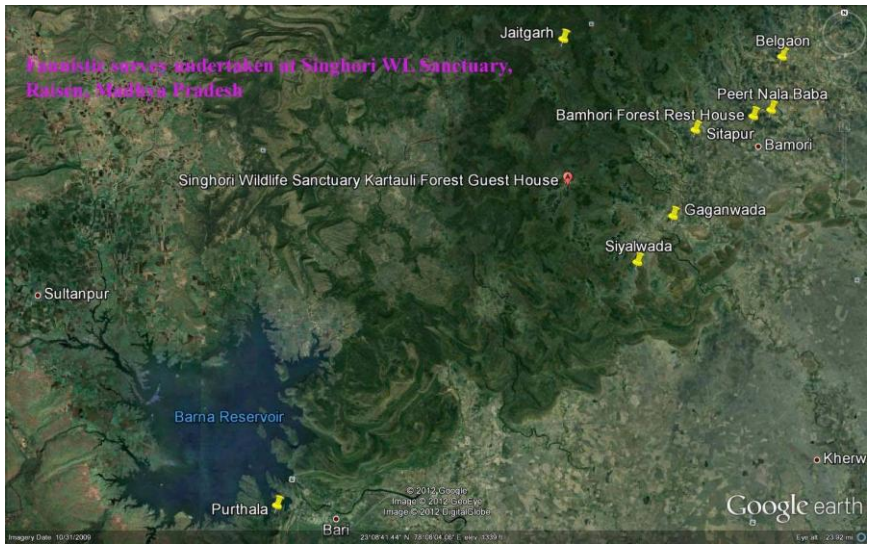
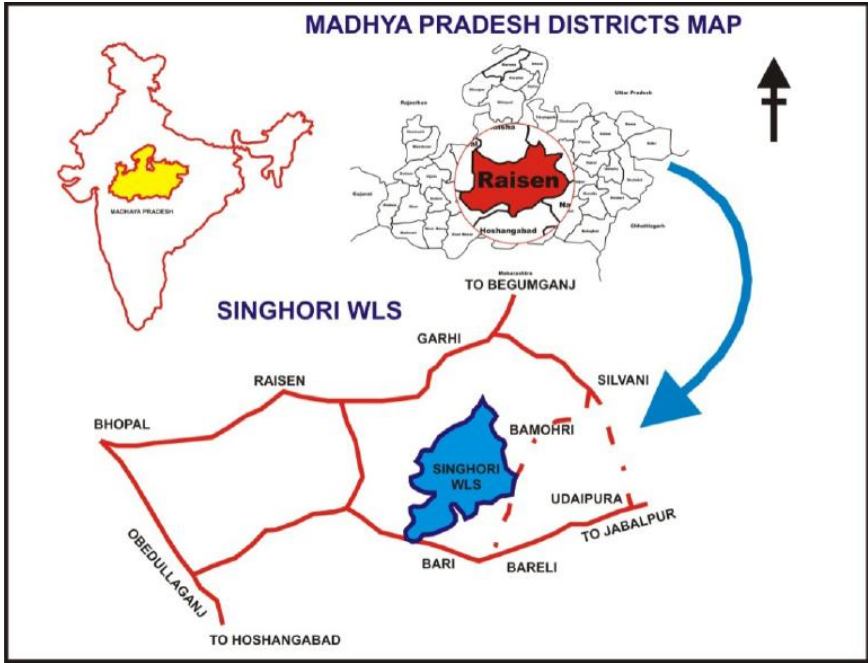
first time from records SWLS, belonging to 13 families of order Hemiptera. Of these, 4 species belong to suborder Auchenorrhyncha and 34 species to suborder Heteroptera. Family Pentatomidae and Reduviidae respectively show the maximum diversity among all the families.

### ACKNOWLEDGEMENT

The authors are thankful to Dr. K. Venkataraman, Director Zoological Survey of India for providing necessary facilities and encouragement.

### LITERATURE CITED

- Chandra, K., Kushwaha, S., Ghosh, M., Biswas, B. & Bal, A.** 2012. Diversity of Grassland Auchenorrhyncha (Cicadidae, Cercopidae, Cicadellidae And Fulgoridae) In Madhya Pradesh And Chhattisgarh, India. IJPAES, 2 (4).
- Chandra, K., Kushwaha, S., Sambath, S. & Biswas, B.** 2012. Distribution and Diversity of Hemiptera Fauna of Veerangana Durgavati Wildlife Sanctuary, Damoh, Madhya Pradesh (India). Biological Forum An International Journal, 4 (1): 68-74.
- Chandra, K.** 2000. Records of lace the-bugs Madhya Pradesh, India (Hemiptera: Tingidae). Bionotes, 2 (3): 57.
- Chandra, K.** 2008. Insecta: Hemiptera, Faunal Diversity of Jabalpur District, M.P., 141-157.
- Chandra, K.** 2009. Insecta: Hemiptera. Fauna of Pachmarhi Biosphere Reserve, Conservation Area Series, 39: 247-257.
- Chandra, K., Sharma, R. M. & Praveen, O.** 2010. A Compendium on the faunal resources of Narmada river basin in Madhya Pradesh. Rec. zool. Surv. India, Occ. Paper No., 310: 39-140.
- Chandra, K., Kushwaha, S., Gupta, D. & Singh, S. P.** 2011. Records of some insects associated with *Calotropis procera* (Asclepiadaceae) in Jabalpur District (M.P.), India. National Journal of life Sciences, 8 (2): 131-134.
- Distant, W. L.** 1906. The fauna of British India including Ceylon and Burma, Rhynchota, III: 1-502.
- Distant, W. L.** 1902. The fauna of British India including Ceylon and Burma, I: 36-421.
- Distant, W. L.** 1904. The fauna of British India including Ceylon and Burma, I: 26-416.
- Ghosh, L. K. & Biswas, B.** 1995. Fauna of conservation areas No. 6 Fauna of Indravati Tiger Reserve: 19-29.
- Hodkinson, I. D. & Casson, D.** 1991. A lesser predilections for bugs: Hemiptera (Insecta) diversity in tropical rain forests. Biological Journal of the Linnaean Society, 43: 101-109.
- Ramakrishna, Chandra, K., Nema, Ahirwar, & Alfred, J. R. B.** 2006. Faunal Recourses of National parks of Madhya Pradesh and Chhattisgarh, Conservation Area Series, 30: 1-123+27.



Locality map of SWLS.