

NEW RECORDS OF HEMIPTERA (INSECTA) FROM GREAT NICOBAR BIOSPHERE RESERVE, ANDAMAN AND NICOBAR ISLANDS, INDIA

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ABSTRACT

A total of 73 species belonging to 57 genera 26 families and 7 infraorders from suborders Auchenorrhyncha and Heteroptera. Fifteen species reported through the survey made during the year 2010 in Great Nicobar Biosphere Reserve (GNBR) is provided including 12 new records. A list of Hemiptera known from GNBR is also given in the table.

Keywords: Bugs, species list, distribution, endemism, GNBR

INTRODUCTION

The order Hemiptera is the fifth largest group of insect in world comprising 100,428 extant named species (Adler and Foottit, 2009). It includes four suborders namely Auchenorrhyncha, Sternorrhyncha, Coleorrhyncha and Heteroptera (Wheeler *et al.*, 1993). Bourgoin & Campbell (2002) and Brambila & Hodges (2004) further divided Auchenorrhyncha into two infraorders, Fulgoromorpha and Cicadomorpha. Suborder Heteroptera includes seven infraorders namely Gerromorpha, Nepomorpha, Leptopodomorpha, Enicocephalomorpha, Dipsocoromorpha, Cimicomorpha and Pentatomorpha (Štys and Kerzhner, 1975). Studies on the Hemiptera fauna in Andaman and Nicobar Islands are very scarce, particularly in Great Nicobar Island. Great Nicobar Biosphere Reserve is blessed with perennial rivers and seasonal rainfall, and evergreen rain forests make the area favourable for supporting huge biota. Due to its diverse habitats and isolation from other land mass (may be connected under seawater), high degree of endemism is observed here. Chandra (1997) reported 41 species of Hemiptera from GNBR. Later, Chandra *et al.* (2012) recorded 13 species of aquatic Heteroptera from GNBR. Subsequently, Chandra & Jehamalar (2012) and Jehamalar & Chandra (2013) described two new species of aquatic bugs from GNBR. Jehamalar and Chandra (in press) studied the genus *Anisops* (water-boatman, aquatic bug)

belongs to the family Notonectidae from Andaman and Nicobar Islands, which includes one new record to GNBR. In the present study total 73 species of Hemiptera are reported from GNBR, including new records of 12 species.

MATERIALS AND METHODS

In order to draw the faunal profile of GNBR, faunistic surveys were undertaken by the Research Scholars of GNBR Project, Zoological Survey of India, for the project entitled "Studies on the Faunal Diversity of Great Nicobar Biosphere Reserve" funded by MOEF, Government of India. The Hemiptera fauna were collected by using various methods such as sweeping from vegetation by insect net, hand picking under stones, leaf axils, loose bark, with the help forceps. Night collections were also carried out on a spread white thick cloth illuminated with mercury bulb, which attracts more insects than the ordinary incandescent bulbs. The specimens were studied under Leica Stereo Zoom Microscope (M205 A). Identification was done by literature concerning the group viz. Distant (1902 a & b, 1904 and 1906), (Chandra, 1997), various state fauna series of ZSI and other authentic literature. All the material examined in the present study were collected by third author, for GNBR project, during October, 2010 to December, 2010. The studied materials are registered and deposited in National Zoological Collection, CZRC, ZSI, Jabalpur, Madhya Pradesh. While listing the species, the

valid scientific names, authors and years were checked by using the databases of Bourgoïn (2013), Guilbert (2013), McKamey (2013) and Schuh & Seltmann, 2013, for aquatic bugs Thirumalai (2002) and Thirumalai (2007) was followed.

RESULTS AND DISCUSSION

Seventy three species including 12 new records of Hemiptera, belonging to 57 genera, 26 families and 7 infraorders from suborders Auchenorrhyncha and Heteroptera are reported from Great Nicobar Biosphere Reserve (GNBR) Table 1.

Table 1: Total list of species of Hemiptera reported from Great Nicobar Biosphere Reserve

S. No.	Name of Species	S. No.	Name of Species
	Order: HEMIPTERA	36.	<i>Enithares rogersi</i> Distant, 1910
	Suborder: AUCHENORRYNCHA		Family: PLEIDAE
	Infraorder: CICADOMORPHA	37.	<i>Paraplea frontalis</i> (Fieber, 1844)
	Family: CICADIDAE		Infraorder: LEPTOPODOMORPHA
1.	<i>Mogannia obliqua</i> Walker, 1858		Family: LEPTOPODIDAE
2.	<i>Platypleura affinis</i> (Fabricius)	38.	<i>Valleriola cicindeloides</i> (Distant, 1908)
	Family: CICADELLIDAE		Infraorder: CIMICOMORPHA
3.	<i>Nephotettix bipunctatus</i> (Fabricius, 1803)		Family: MIRIDAE
4.	<i>Nephotettix nigropicta</i> (Stål, 1870)	39.	<i>Cyrtorrhinus lividipennis</i> Reuter, 1885
5.	<i>Recilia dorsalis</i> (Motschulsky, 1859)	40.	<i>Idatius priscillianus</i> Distant, 1910
	Family: MEMBRACIDAE		Family: TINGIDAE
6.	<i>Leptocentrus insignis</i> Distant, 1951	41.	<i>Cantacader quinquecostatus</i> (Fieber, 1844)
	Infraorder: FULGOROMORPHA		Family: NABIDAE
	Family: DELPHACIDAE	42.	<i>Pygolampis foeda</i> Stål, 1859
7.	<i>Cemus pulchellus</i> (Distant, 1912)		Family: REDUVIIDAE
8.	<i>Sogatella furcifera</i> (Horváth, 1899)	43.	<i>Androclous granulatus</i> Stål, 1863
9.	<i>Sardia rostrata</i> Melichar, 1903	44.	<i>Sirthenia flavipes</i> (Stål, 1855)
	Family: FLATIDAE	45.	<i>Ectomocoris</i> sp.
10.	<i>Anaya nicobarensis</i> Distant, 1910	46.	<i>Ischnonyctes alatus</i> Distant, 1903
11.	<i>Salurnis marginella</i> (Guérin-Ménéville, 1829)	47.	<i>Oncocephalus annulipes</i> Stål, 1855
	Family: FULGORIDAE	48.	<i>Oncocephalus schioedtei</i> Reuter, 1882
12.	<i>Pyrops rogersi</i> (Distant, 1906)	49.	<i>Polytoxus femoralis</i> Distant, 1903
13.	<i>Penthicodes (P.) nicobarica</i> Stål, 1869	50.	<i>Polytoxus maculatus</i> Distant, 1903
	Family: RICANIIDAE	51.	<i>Polididus armatissimus</i> Stål, 1859
14.	<i>Ricanula stigma</i> (Walker, 1851)	52.	<i>Rhynocoris costalis</i> (Stål, 1867)
15.	<i>Ricania pulversa</i> Stal	53.	<i>Triatoma rubrofasciata</i> (De Geer, 1773)
16.	<i>Ricanoptera inculta</i> Melichar, 1898		Infraorder: PENTATOMOMORPHA
17.	<i>Ricanoptera polita</i> Melichar, 1898		Family: COREIDAE
	Suborder: HETEROPTERA	54.	<i>Clavigralla horrens</i> Dohrn, 1860
	Infraorder: GERROMORPHA	55.	<i>Notobitus meleagris</i> (Fabricius, 1787)
	Family: MESOVELIIDAE	56.	<i>Odontoparia nicobarensis</i> Mayr, 1865
18.	<i>Mesovelgia vittigera</i> Horvath, 1895	57.	<i>Physomerus parvulus</i> Dallas, 1852
	Family: VELIIDAE	58.	<i>Cletus feanus</i> Distant, 1902

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| 20. <i>Microvelia diluta</i> Distant, 1909 | 59. <i>Riptortus linearis</i> (Fabricius, 1775) |
| 21. <i>Rhagovelia (Neorhagovelia) sumatrensis</i> Lundblad, 1936
Family: GERRIDAE | Family: LYGAEIDAE |
| 22. <i>Limnogonus (Limnogonus) fossarum fossarum</i> Fabricius, 1775 | 60. <i>Metochus uniguttatus</i> (Thunberg, 1822) |
| 23. <i>Limnogonus (Limnogonus) hungerfordi</i> Andersen, 1975 | 61. <i>Spilostethus hospes</i> (Fabricius, 1794) |
| 24. <i>Limnogonus (Limnogonus) nitidus</i> (Mayr, 1865) | 62. <i>Peritrechus aeruginosus</i> Distant, 1904 |
| 25. <i>Limnometra ciliata</i> Mayr, 1865 | 63. Family: SCUTELLERIDAE |
| 26. <i>Limnometra minuta</i> Mayr, 1865 | <i>Chrysocoris eques</i> (Fabricius, 1794) |
| 27. <i>Tenagonus nicobarensis</i> Andersen, 1964 | 64. <i>Tetrarthria variegata</i> Dallas 1851 |
| 28. <i>Tenagonus venkataramani</i> Jehamalar & Chandra, 2013
Infraorder: NEPOMORPHA
Family: NEPIDAE | 65. <i>Tetrarthria varia</i> Walker, 1868 |
| 29. <i>Ranatra parmata</i> Mayr, 1865
Family: OCHTERIDAE | 66. <i>Tetrarthria lateralis</i> Walker, 1868 (Check) |
| 30. <i>Ochterus nicobarensis</i> Chandra & Jehamalar, 2012
Family: NOTONECTIDAE | 67. Family: PENTATOMIDAE |
| 31. <i>Anisops barbatus</i> Brooks, 1951 | <i>Eocanthecona furcellatus</i> (Wolff, 1811) |
| 32. <i>Anisops naustus</i> Fieber, 1851 | 68. <i>Glaucias albomaculata</i> (Distant, 1902) |
| 33. <i>Anisops niveus</i> (Fabricius, 1775) | 69. <i>Erthesina fullo</i> (Thunberg, 1783) |
| 34. <i>Anisops occipitalis</i> Breddin, 1905 | 70. Family: CYDNIDAE |
| 35. <i>Anisops tahitiensis</i> Lundblad, 1934 | <i>Aethus indicus</i> (Westwood, 1837) |
| | 71. <i>Macroscytus aequalis</i> Walker, 1867 |
| | 72. Family: PYRRHOCORIDAE |
| | <i>Dysdercus (Megadysdercus) mesiostigma</i> Distant, 1888 |
| | 73. <i>Antilochus conquebertii</i> (Fabricius, 1803) |

Through the survey made during the year 2010 in GNBR 15 taxa belong to 14 genera and 8 families from suborder Heteroptera are recorded, of which 12 species

are newly recorded and the genus *Ectomocoris* identified only upto genus level. More number of species is observed from the family Reduviidae, followed by Pentatomidae Table 2.

Table 2: Collection localities of Hemiptera from GNBR (*) denotes new records from biosphere reserve

S. No.	Species	Families	No. of Exs.	Localities	Date of Collection
1	* <i>Cletus feanus</i> Distant, 1902	Coreidae	01	Govind Nagar	11.xi.2010
2	* <i>Pygolampis foeda</i> Stål, 1859	Nabidae	01	GNBR watch tower	18.xi.2010
3	* <i>Oncocephalus schioedtei</i> Reuter, 1882	Reduviidae	01	Govind Nagar School line	07.xi.2010
4	<i>Ectomocoris</i> sp.	Reduviidae	02	Laxmi Nagar	24.xi.2010
5	* <i>Triatoma rubrofasciata</i> (De Geer, 1773)	Reduviidae	01	GNBR watch tower	06.xii.2010

6	<i>*Polytoxus maculatus</i> Distant, 1903	Reduviidae	05	Ring Road,	12.xi.2010
			03	Govind Nagar	26.x. 2010
7	<i>*Rhynocoris costalis</i> (Stål, 1867)	Reduviidae	01	Govind Nagar, near Forest Check Post	04.xi.2010
8	<i>Antilochus conquebertii</i> (Fabricius, 1803)	Pyrrhocoroidea	01	Govind Nagar	26.x.2010
9	<i>*Eocanthecona furcellatus</i> (Wolff, 1811)	Pentatomidae	01	Govind Nagar School line	10.xi.2010
10	<i>*Glaucias albomaculata</i> (Distant, 1902)	Pentatomidae	12	GNBR watch tower	30.xi.2010
11	<i>Erthesina fullo</i> (Thunberg, 1783)	Pentatomidae	01	Govind Nagar	26.x.2010
12	<i>*Tetrarthria variegata</i> Dallas 1851	Scutelleraridae	05	GNBR watch tower	26.xi.2010
13	<i>*Tetrarthria varia</i> Walker, 1868	Scutelleraridae	02	GNBR, 2 km away from forest check post	15.xi.2010
14	<i>*Macroscytus aequalis</i> Walker, 1867	Cydnidae	01	Govind Nagar	06.xii.2010
15	<i>*Peritrechus aeruginosus</i> Distant, 1904	Lygaeidae	01	Govind Nagar	15.xi.2010

Hemiptera are usually phytophagous insects cause serious damage to the agricultural crops at the same time some bugs serve as natural enemies of crop pests and they also serve as vectors of plant diseases. So the study of Hemiptera particularly in protected areas is of great importance. Of the four suborders only Auchenorrhyncha comprising 17 species and Heteroptera with 56 species are reported from the GNBR. Since GNBR is rich in diversity and high range of endemism more species are expected to occur from this area, intensive study is needed.

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