



Research Paper

Diversity of Hemiptera fauna of Daman and Diu, India

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Abstract: Daman and Diu, Union Territory of India, comprising two widely separated districts on the country's western coast. Daman is an enclave on the state of Gujarat's southern coast, situated 100 miles (160 km) north of Mumbai. Overall mangrove of Daman and Diu are 1.56 km². Six species had been reported first time from Fudam Bird Sanctuary, Diu and 5 species from Dadra and Nagar Haveli respectively. The study yielded the identification of 50 species belonging to 11 families of the order Hemiptera, all these species are reported first time from this area.

Keywords: Daman and Diu, Fudam Bird Sanctuary, Hemiptera, Mangrove.

Abbreviation used: VH-Very high; H-High; L-Low; R-Rare; VR-Very Rare; FRH-Forest Rest House; DDN- Dadra and Nagar Haveli.

INTRODUCTION

Daman and Diu comprises two districts namely Daman and Diu. Both Districts are situated on western coast of India at a distance of about 700 km². Daman is the

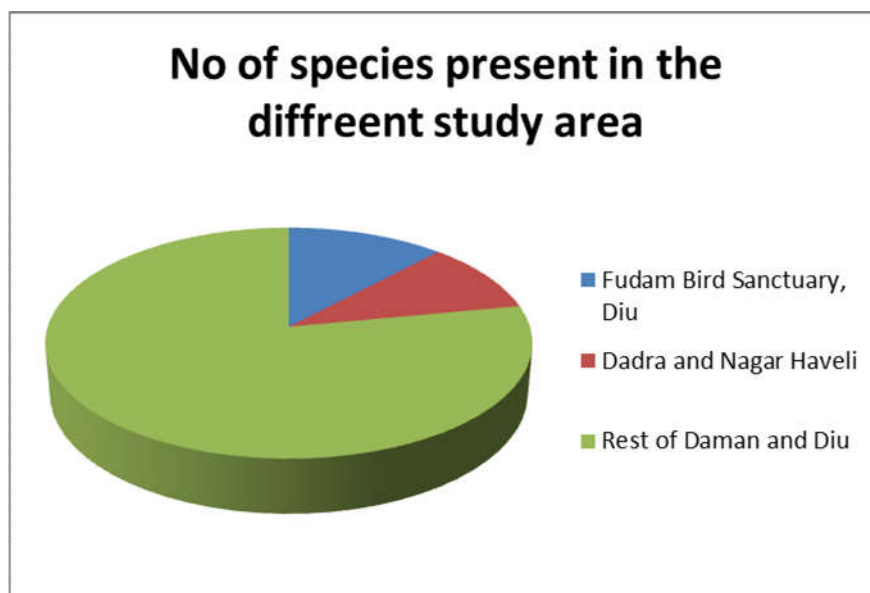
head Quarter of this. After Liberation on 19th December, 1961 from Portuguese Rule of more than four centuries, Daman and Diu became a part of the U.T. of Goa, Daman and Diu under Government of India. After delinking of Goa, which attained statehood, U.T. of Daman and Diu came into existence on 30th May, 1987. Both the Districts of Daman and Diu are near Gujarat State separated by about 700 km² from one another. Diu is a very small Forest Range, presently manned by the Range Forest Officer & three Forest Guards. The forests in Diu are maintained with sole objectives of environmental protection. Plantations, raised on coastal stretches, are very instrumental in arresting coastal erosions. The present study reports the occurrence of true bug's diversity of Daman and Diu, Union Territory of India. In the '*Fauna of British India*', a detailed account on Hemiptera of Indian region is dealt by Distant (1902a & b, 1904, 1906). Later on publication on Hemiptera of central India were published by Chandra (2008, 2009), Chandra *et al.* (2010, 2012) and Chandra and Kushwaha (2013, 2014 a & b). Present paper deals with the study of 50 species under 11 families of order

Hemiptera reported first time from Daman and Diu, in which 6 species were recorded first time from Fudam Bird Sanctuary, Diu and 5 species from Dadra and Nagar Haveli.

MATERIAL AND METHODS

The tour party of Zoological Survey of India, Headquarters, Kolkata, made an effort for exploration of faunal diversity of Daman and Diu and collected about 187

bugs specimens from various localities by hand picking, net trap and light tarp methods, collected specimens were sorted out and bugs were pinned and drayed and handed over to identification lab for their identification, pinned bugs were identified with the help of literature available in ZSI library and Fauna of British India. Morphology of bugs were studied by Leica microscope M205-A.



Pie Chart showing the species distribution

RESULTS AND DISCUSSIONS

Bugs are of great economic importance causing direct and indirect injuries to various plants as most of them are phytophagous and feed on roots, leaves, stem, fruits and seeds. In present work, 50 new records from Daman and Diu belonging to 11 families of order Hemiptera were recorded for the first time (6 species are belonging to suborder Auchenorrhyncha and

44 species from suborder Heteroptera). Family Pentatomidae shows the maximum diversity (33%) with respect to rest of Hemipteran families. This study adds our knowledge about the Hemiptera diversity of Daman and Diu. For better understanding of Hemiptera diversity extensive surveys are needed in Daman and Diu including Fudam Bird Sanctuary.

Table: Diversity of Hemipteran Insects present in Daman and Diu, India.

| S. No. | Suborder / Superfamily / Family / Species | Localities in Sanctuary | Status In Daman and Diu | Date of observation |
|--------|---|------------------------------------|-------------------------|---------------------|
| | Suborder: Auchenorrhyncha | | | |
| | Infraorder: Cicadomorpha | | | |
| | Superfamily: Cercopoidea | | | |
| | Family: Cercopidae | | | |
| 1 | <i>Ptyelus sexvittatus</i> Walker | Parvati village near daachi school | R | 13.ix.2016 |
| 2 | <i>Clovia puncta</i> (Walker) | Rauth pada, Galonda Nagar Haveli | VR | 13.ix.2016 |
| 3 | <i>Poophilus costalis</i> (Walker) | Rauth pada, Galonda Nagar Haveli | H | 13.ix.2016 |
| 4 | <i>Callitettix versicolor</i> (Fabricius) | Fudam Bird Sanctuary, Diu | H | 13.ix.2016 |
| | Infraorder: Fulgoromorpha | | | |
| | Superfamily: Fulgoroidea | | | |
| | Family: Ricaniidae | | | |
| 5 | <i>Pochazia pipera</i> Distant | Fudam Bird Sanctuary, Diu | L | 13.ix.2016 |
| | Superfamily : Membracoidea | | | |
| | Family: Membracidae | | | |
| 6 | <i>Olinatus oneratus</i> (Walker) | Fudam Bird Sanctuary, Diu | L | 13.ix.2016 |
| | Suborder: Heteropteroidea | | | |
| | Infraorder: Cimicomorpha | | | |
| | Superfamily: Reduvidae | | | |
| | Family: Reduviidae | | | |
| 7 | <i>Tribelocephala indica</i> (Walker) | Near Madhuban Daman, DDN | R | 15.ix.2016 |
| 8 | <i>Ectrychotes dispar</i> Reuter | Fudam Bird Sanctuary, Diu | VR | 15.ix.2016 |
| 9 | <i>Polididus armatissimus</i> Stal | Near Madhuban Daman, DDN | H | 09.ix.2016 |
| 10 | <i>Onchocephalus schioedtei</i> Reuter | Parvati village near daachi school | L | 14.ix.2016 |
| 11 | <i>Ectomocoris cordiger</i> Stal | | L | 12.ix.2016 |
| 12 | <i>Rhynocoris marginatus</i> (Fabricius) | Nagarwara North Daman | R | 11.ix.2016 |
| 13 | <i>Lisarda annulosa</i> Stal | Fudam Bird Sanctuary, Diu | VR | 11.ix.2016 |
| 14 | <i>Catamiarus brevipennis</i> | Parvati village near daachi | VR | 13.ix.2016 |

| | | | | |
|----|---|---|----|------------------------------|
| | (Serville) | school | | |
| | Family: Nabidae | | | |
| 15 | <i>Nabis capsiformis</i> Germar | Near Madhuban Daman, DDN Devka Beach burning ghat | LH | 21.ix.2016 17.ix.2016 |
| | Infraorder: Pentatomorpha | | | |
| | Superfamily: Lygaeoidea | | | |
| | Family: Lygaeidae | | | |
| 16 | <i>Elasmolomus sordidus</i> (Fabricius) | Devka beach burning ghat Daman | R | 15.ix.2016 |
| 17 | <i>Metochus niguttatus</i> (Thunberg) | Nagarwara North Daman | VH | 14.ix.2016 |
| 18 | <i>Spilostethus hospes</i> (Fabricius) | Nagarwara North Daman | VR | 12.ix.2016 |
| 19 | <i>Spilostethus pandurus militaris</i> (Fabricius) | Varavao village, Diu | VH | 21.ix.2016 |
| 20 | <i>Rhyparothesus bengallensis</i> Distant | Fudam Bird Sanctuary, Diu | L | 12.ix.2016 |
| 21 | <i>Horidipamera nietrieri</i> (Dohrn) | Devka beach burning ghat Daman | L | 12.ix.2016 |
| | Superfamily: Pyrrhocoroidea | | | |
| | Family: Phyrhocoridae | | | |
| 22 | <i>Dysdercus koenigii</i> (Fabricius) | Varavao village, Diu | VH | 12.ix.2016 |
| 23 | <i>Antilochus coqueberti</i> (Fabricius) | Fudam Bird Sanctuary, Diu | VH | 10.ix.2016 |
| | Superfamily: Coreoidea | | | |
| | Family: Coreidae | | | |
| 24 | <i>Serinetha abdominalis</i> (Fabricius) | Varavao village, Diu | H | 13.ix.2016 |
| 25 | <i>Petillia calcar</i> (Dallas) | Nagarwara North Daman | R | 13.ix.2016 |
| 26 | <i>Cletus punctulatus</i> (Westwood) | Nagarwara North Daman | L | 09.ix.2016 |
| 27 | <i>Cletus bipunctatus</i> (Herrich-Schäffer) | Varavao village, Diu | L | 13.ix.2016 |
| 28 | <i>Cletus rubidiventralis</i> | Fudam Bird Sanctuary Diu Devka beach burning ghat Daman | H | 12.ix.2016 17.ix.2016 |
| | Family: Alydidae | | | |
| 29 | <i>Riptortus fuscus</i> (Fabricius) | Nagarwara North Daman | H | 15.ix.2016 |
| 30 | <i>Leptocoris varicornis</i> (Fabricius) | Parvati village near daachi school | H | 15.ix.2016 |
| | Superfamily: Pentatomoidea | | | |
| | Family: Cydnidae | | | |
| 31 | <i>Aethus indicus</i> (Westwood) | Nagarwara North Daman | VH | 11.ix.2016 |
| 32 | <i>Macroscytus brunneus</i> | Parvati village near daachi | VH | 11.ix.2016 |

| | | | | |
|----|--|---|----|------------|
| | (Fabricius) | school | | |
| 33 | <i>Fromundus pygmaeus</i> (Dallas) | Nagarwara North Daman | VR | 14.ix.2016 |
| | Family: Pentatomidae | | | |
| 34 | <i>Halys dentatus</i> Fabricius | Parvati village near daachi school | H | 13.ix.2016 |
| 35 | <i>Erthesina fullo</i> (Thunberg) | Parvati village near daachi school | H | 14.ix.2016 |
| 36 | <i>Eysarcoris ventralis</i> (Westwood) | Fudam Bird Sanctuary, Diu | L | 12.ix.2016 |
| 37 | <i>Eysarcoris guttiger</i> (Thunberg) | Parvati village near daachi school | H | 13.ix.2016 |
| 38 | <i>Carbula biguttata</i> (Fabricius) | Fudam Bird Sanctuary, Diu | L | 12.ix.2016 |
| 39 | <i>Carbula scutellata</i> (Distant) | Kahanvel, DDN | | 17.iv.2016 |
| 40 | <i>Nezara viridula</i> (Linnaeus) | Rauth pada, Galonda Nagar Haveli | H | 11.ix.2016 |
| 41 | <i>Urochela bimaculata</i> Dallas | Parvati village near daachi school | VR | 14.ix.2016 |
| 42 | <i>Antestiopsis cruciata</i> (Fabricius) | Fudam Bird Sanctuary, Diu | VH | 11.ix.2016 |
| 43 | <i>Ecanthecona furcellata</i> (Wolff) | Varavao village, Diu | VH | 21.ix.2016 |
| 44 | <i>Adria parvula</i> (Dallas) | Rauth pada, Galonda Nagar Haveli, Daman Khanvel DDN | | 21.ix.2016 |
| 45 | <i>Placosternum obscura</i> Dallas | Magarwara Daman | H | 17.ix.2016 |
| 46 | <i>Aeschrocoris spinosum</i> , Hassan | Rauth pada, Galonda Nagar Haveli | L | 17.ix.2016 |
| 47 | <i>Acrosternum gramineum</i> (Fabricius) | Fudam Bird Sanctuary, Diu | H | 12.ix.2016 |
| 48 | <i>Cordius ianus</i> (Fabricius) | Varavao village, Diu | VH | 13.ix.2016 |
| 49 | <i>Bagrada hilaris</i> (Burmeister) | Nagarwara North Daman | H | 12.ix.2016 |
| 50 | <i>Piezodorus hybnrri</i> (Fabricius) | Varavao village, Diu | H | 13.ix.2016 |

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