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PRELIMINARY STUDY ON DIVERSITY OF DUNG BEETLES FROM VARIOUS REGIONS OF WANI TEHSIL, DISTRICT YAVATMAL, MAHARASHTRA

D. B. Khamankar[1*] and C. K. Deshmukh[2]
1. Lokmanya Tilak Mahavidyalaya, Wani, Dist- Yavatmal
2. Shri Vasantrao Naik Mahavidyalaya, Dharni, Dist- Amravati

ABSTRACT:

Coleoptera is the largest order of the class insecta consisting of 330,000 species. All insects of this order are collectively called as beetles which varry in their habits. The present survey was carried out from September 2011 to August 2015 around Wani Tehsil to identify the diversified species of dung beetles in this area for further research. A total of 18 genera and 27 species belonging to three families of beetles viz. Geotrupidae, Hybosoridae and Scarabaeidae, were collected and identified from various habitats of Wani Tehsil..

KEYWORDS: Aquatic beetles, Diversity, Dytiscidae, Hydrophilidae Wani

INTRODUCTION:

These beetles are characterized by the presence of fore wings modified into more or less hardened, non-folding rigid elytra, which meet edge to edge, at rest, and partly or wholly cover the hind wings and abdomen. Dung beetles are major group of beetles in order Coleoptera from which the family Scarabaeidae is one of the largest families; these are world's most fascinating beetles noticeable due to their relatively large size, bright colors, elaborate ornamentation and interesting life histories.

Dung beetles (Coleoptera: Scarabaeoidea) serve an important role in the function of many ecosystems (Perrin et al. 2020). Dung beetles scavenge dung from the soil surface and transport it underground where they then use it as a food resource (Halffter and Matthews 1966, Simmons and Ridsdill-Smith 2011, Nunes et al. 2018). Kailash Chandra *et al.*, (2015) reported scarab beetles belonging to 53 species, 27 genera and 6 sub families from Sidhi district of Madhya Pradesh, India. Patole (2018) represent taxonomic account of 33 coleopteran beetles belonging to 8 families from Sakri region, Dist- Dhulia (M.S.).

A series of taxonomic publications on Geotrupidae were made by Krikken (1977ab, 1978ab, 1979, 1980, 1984), Carpaneto *et al.* (1993), Masumoto (1984), Li *et al.* (2008) and Ochi *et al.* (2010, 2011).

Dung beetles already have attracted attention of researchers in other parts of Maharashtra State, where considerable work has been done on various aspects. However, no research work has been carried out in this region on any of its aspect. Therefore, attempt has been made for first time to study diversity and relative abundance of dung beetles in Wani region of Yavatmal district (M.S.).

MATERIAL & METHODS:

i) Study Area:

Wani town is situated in the south- east corner of the Maharashtra state. It is at south-east border of the Yavatmal district. The town measures about 13 sq. km. and fairly linear in shape along north to south direction. It lies between the Latitudes: 20^0 03' to 20^0 06'N and Longitudes: 79^0 01' to 79^0 03'E. The city has hot

and dry tropical climate with moderate rainfall of 950 mm per annum.

ii) Surveying:

Intensive search for beetles is performed from September 2011 to August 2015 at different sites in the vicinity of the Wani, District-Yavatmal of Maharashtra. Sampling is carried out twice a month. The study was performed each month throughout the year and the observations are confirmed for the successive years.

iii) Sample collection:

Collection was done by hand picking and pit fall methods. Samples after collection were preserved in 70% alcohol in glass vials and brought to laboratory.

RESULT

The collection from the survey consist of 150 examples of dung beetles of family Geotrupidae, Hybosoridae and Scarabaeidae including 27 species of 18 genera (Table-1). Of these, Scarabaeidae were found to be dominant family (92%) over Geotrupidae (4%) and Hybosoridae (4%).

CONCLUSION :

This is the first report of dung beetles from Wani Tehsil, district Yavatmal (M.S.). A total of 150 specimens of 18 genera and 27 species of 3 families are recorded including *Bolbogonium sp.-1,Hybosorus orientalis-3, Anomala dorsalis-1, Anomala ruficapilla-1, Catharsius molossus-15, Catharsius pithecius-8, Catharsius sagax-20, Digitonthophagus gazella-10, Digitonthophagus sp.-5, Eophileurus perforatus-1, Eophileurus platypterus-1, Gametis versicolor-6, Garreta dejeani-5, Gymnopleurus cyaneus-1, Gymnopleurus gemmatus-10, Heliocopris bucephalus-24, Holotrichia serrata-4, Onitis philemon-4, Onitis virens-5, Onthophagus agnus-2, Onthophagus pactolus-1, Onthophagus ramosus-4, Phyllognathus dionysius-4, Protaetia alboguttata-1, Scarabaeus sanctus-2, Sisyphus longipes-8 and Tiniocellus spinipes-3.* This indicates the significant diversity of dung beetles in the Wani region. On the basis of observation it is concluded that the members of family Scarabaeidae are dominant amongst dung beetles in study area.

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Family	Generic name
Geotrupidae	*Bolbogonium sp.*
Hybosoridae	*Hybosorus orientalis* (Westwood,1846)
Scarabaeidae	*Anomala dorsalis* (Fabricius,1775)
	Anomala ruficapilla (Burmeister,1855)
	Catharsius molossus (Linnaeus,1758)
	Catharsius pithecius (Fabricius,1775)
	Catharsius sagax (Quensel,1806)
	Digitonthophagus gazella (Fabricius,1787)
	Digitonthophagus sp.
	Eophileurus perforatus (Arrow,1908)
	Eophileurus platypterus (Wiedemann,1823)
	Gametis versicolor (Fabricius,1775)
	Garreta dejeani (Castelnau,1840)
	Gymnopleurus cyaneus (Fabricius,1798)
	Gymnopleurus gemmatus (Harold,1871)
	Heliocopris bucephalus (Fabricius,1775)
	Holotrichia serrata (Fabricius,1787)
	Onitis philemon (Fabricius,1801)
	Onitis virens (Lansberge,1875)
	Onthophagus agnus (Gillet,1925)
	Onthophagus pactolus (Fabricius,1787)
	Onthophagus ramosus (Wiedemann,1823)
	Phyllognathus dionysius (Fabricius,1792)
	Protaetia alboguttata (Vigors,1826)
	Scarabaeus sanctus (Fabricius,1798)
	Sisyphus longipes (Olivier,1789)
	Tiniocellus spinipes (Roth,1851)