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Exploring the Rhinoceros Beetles of a Tropical Forest of Eastern Himalayas

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Abstract : Beetles of the subfamily Dynastinae under the family Scarabaeidae of the insect order Coleoptera are popularly known as 'Rhinoceros beetles' because of the characteristic horn borne by the males on their head. These horns are dedicated in mating battle against other males and have evolved as a result of phenotypic plasticity. Scarabaeidae is the largest of all families under Coleoptera and is composed of 11 subfamilies, of which the subfamily Dynastinae is represented by approximately 300 species. Some of these beetles have been reported to cause considerable damage to agriculture and forestry both in their larval and adult stages, while many of them are beneficial as they pollinate plants and recycle plant materials. Eastern Himalayas is regarded as one of the 35 biodiversity hotspot zones of the world and one of the four of India, which is exhibited by its rich and megadiverse tropical forests. However, our knowledge on the faunal diversity of these forests is very limited, particularly for the insect fauna. One such tropical forest of Eastern Himalayas is the 'Buxa Tiger Reserve' located between latitudes 26°30" to 26°55" North and Longitudes 89°20" to 89˚35" East of India and occupies an area of about 759.26 square kilometers. It is with this background an attempt has been made to explore the insect fauna of the forest. Insect sampling was carried out in each beat and range of Buxa Tiger Reserve in all the three seasons viz, Premonsoon, Monsoon, and Postmonsoon. Sample collections were done by sweep nets, hand picking technique and pit fall traps. UV light trap was used to collect the nocturnal insects. Morphological examinations of the collected samples were carried out with Stereozoom Binocular Microscopes (Zeiss SV6 and SV11) and were identified up to species level with the aid of relevant literature. Survey of the insect fauna of the forest resulted in the recognition of 76 scarab species, of which 8 belong to the subfamily dealt herein. Each of the 8 species represents a separate genus. The forest is dominated by the members of Xylotrupes gideon (Linnaeus) as is represented by highest number of individuals. The recorded taxa show about 12% endemism and are of mainly oriental in distribution. Premonsoon is the most favorable season for their occurrence and activity followed by Monsoon and Postmonsoon.

Keywords : Dynastinae, Scarabaeidae, diversity, Buxa Tiger Reserve
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