

## Species Diversity of Short Horned Grasshopper (Orthoptera: Acrididae) in Selected Grasslands of Solapur District, Maharashtra, India

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### Abstract

In the class insects, grasshopper is one of the largest and diverse group. They are dominant above ground invertebrates in cultivated and in natural grasslands ecosystems and they are functionally important. For the first time survey and collection of short horned grasshopper (Orthoptera: Acrididae) was carried out from selected grasslands of Solapur district, Maharashtra, India.

Short horned grasshopper species were surveyed in selected grasslands of Solapur district, Maharashtra, India. 7 species belonging to 7 different genera i.e. Acrida, Gastrimargus, Trilophidia, Catantops, Calaptenopsis, Chrotogonus and Atractomorpha and 4 different subfamilies Tryxalinae, Cedipodinae, Catantopinae and Pyrgomorphinae were recorded.

**Keywords:** Grasshopper; Diversity; Acrididae;

### Introduction

In India only 1,750 species of orthoptera have been documented out of 20,000 species found in the world [1]. The number of known species of orthoptera from around the world is about 20,000 out of which only 1,750 species (nearly 8.75%) are known from India [1]. Majority of the species are tropical but are also well represented in temperate areas. Kirby [2] and Chopard [3] are the major contributor in the work on orthoptera in India but so far few data about orthoptera of Maharashtra state is available; only some scattered information on faunal diversity of orthoptera of this state has been published by some workers like Hancock [4] Bhowmik [5], Shishodia [6], Vasanth [7], Dey and hazra [8], Chandra [9] have worked on the fauna of other state including the distribution of some species in Maharashtra. Very recently Koli et al. [10] has worked on fauna (Orthoptera) of area near the Chandoli National park, Kolhapur, Maharashtra, India.

The present study on grasshopper diversity was carried out in different localities of Barshi taluka and few patches in Karmala taluka of Solapur district of Maharashtra state. The short horned grasshoppers were collected from these areas during the July 2012 to November 2012. Different areas were chosen with the intension of survey amongst different habitats which includes open grasslands, bushy vegetation with grass land patches, bushy areas, ground surfaces and cultivated areas.

### Materials and Methods

The collection was done on every fortnight period during July 2012 to November 2012. Collected specimens were brought to laboratory and processed for dry preservation. Identification was done in Zoological Survey of India, Western Regional Centre, Akurdi, Pune with the help of taxonomic keys (Figures 1 and 2).

### Observations

A survey has been done on 7 species of grasshopper belonged to 7 different genera Acrida, Gastrimargus, Trilophidia, Catantops, Calaptenopsis, Chrotogonus and Atractomorpha as shown in figure 3.

### Result and Discussion

Presented checklist is an outcome of field work carried out between

months July to November of year 2012 which is strictly short horned grasshopper survey based from selected areas of Solapur district. 7 species documented were found to be present in various habitat studied like hilly area, grasslands, shrubby area, grasslands plus shrubby area and agricultural fields from Solapur districts. 7 species found belonged to 7 different genera Acrida, Gastrimargus, Trilophidia, Catantops, Calaptenopsis, Chrotogonus and Atractomorpha. Genus Acrida and Gastrimargus were found to be dominant genera in grasslands where as Chrotogonus were the dominant genera in harvested agricultural fields and genus Trilophidia was found only on branches of shrubs during night survey.

### Conclusion

On the basis of this study we can conclude that the some areas of Solapur district shows the variety of short horned grasshoppers belonging to order Orthoptera and family Acrididae. The continuous

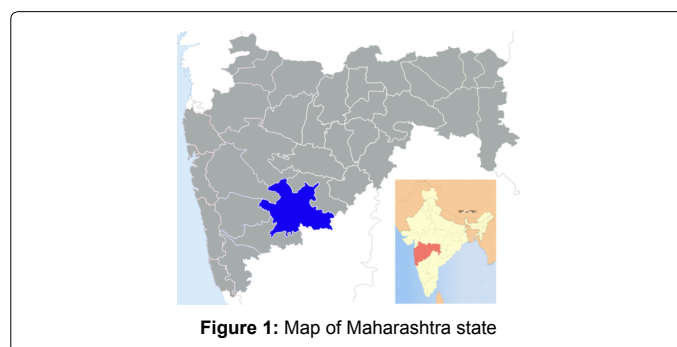


Figure 1: Map of Maharashtra state

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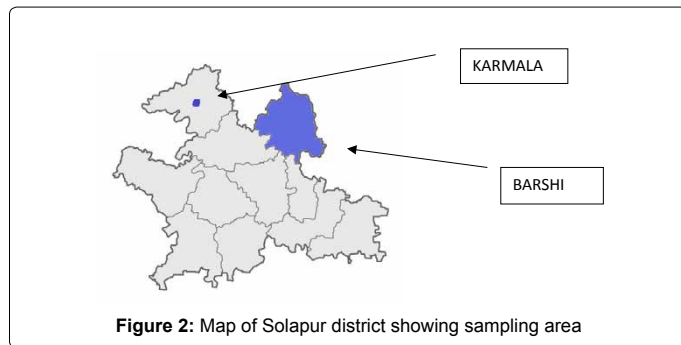


Figure 2: Map of Solapur district showing sampling area

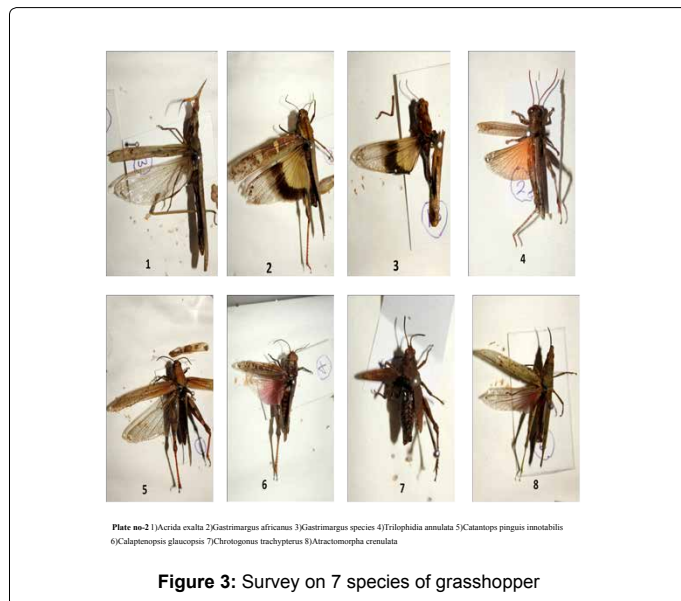


Figure 3: Survey on 7 species of grasshopper

study from these areas will add the more numbers of species in the current list of the species.

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