

Diversity of long horned grasshopper (Orthoptera: Tettigoniidae) in Pargad fort, Chandgad, Kolhapur district of Maharashtra (India)

K. N. Nikam*¹ and S. V. More²

Department of Zoology, R.B. Madkholkar Mahavidyalaya, Chandgad, Maharashtra, India

*Email: kedarinikam@gmail.com

ABSTRACT

For the first time survey and collection of long horned grasshoppers were studied in Pargad, Chandgad, Maharashtra, during year 2014 to 2015. There were 9 species of grasshoppers collected from study region belonging to 3 subfamilies i.e. Phaneropteriane, Pseudophyllinae, and Mecopodinae of 9 genera. The subfamily Phaneropteriane dominant which represented by 5 species followed by Pseudophyllinae with 3 species and Mecopodinae with 1 species

Keywords: Grasshopper, Tettigoniidae, Mecopodinae.

INTRODUCTION

Long horned grasshoppers are belongs to family Tettigoniidae of order Orthoptera. This order is highly diversified group of grassland insects. The members of family Tettigoniidae are sometime also called as katydids. Grasshoppers are primary herbivorous insects which play a central role in food webs. They are consumed by several predators like birds, spiders, reptiles etc (Gangwere et al. 1977). Grasshoppers constitute an abundant food resource for the other groups such as lizards and raptors birds (Parr and Chown, 2003). They are economically very important insects and considered as pests of agriculture and forest. They rely on a lot of vegetation. Pfadt (2000) gave a good example if there were ten adult grasshoppers every yard square, they would destroy the whole field. Some grasshoppers are predatory in nature. These species are very active in night than day time. They are found in worldwide such as tropical and

subtropical region (Heller 1995). There are about 20,000 species of Orthoptera found in the World of which 1750 species reported from India (Tandom & Hazara 1998). There are about 6000 species of Tettigoniidae found in the world belonging to 1070 genera (Otte 1997). Among them only 159 species of 72 genera are reported from India (Shishodia et al. 2010). Some important works on the taxonomy and distribution of Tettigoniidae of India include: Barman & Srivastava (1976), Shishodia (2000), Shishodia & Tandon (2000), Barman (2003), Shishodia et al. (2003).

MATERIAL AND METHODS

Grasshoppers were collected from Pargad Fort, Chandgad, Kolhapur district of Maharashtra during the year 2014 and 2015. All the species were collected with help of sweep net and handpicking method. Then collected specimens were transferred in bottles for killing that contains cotton soaked with ethyl acetate covered with paper. The collected specimens were preserved by both dry and wet preservation methods. Identification was done with the help of Orthoptera fauna of India Kirby (1994) and webography.

Study region:

Pargad Fort is a historical place located to the south of Kolhapur in Maharashtra state in India, situated between (15°48'59"N 74°2'45"E and above 738m sea level) at a distance of around 28 km from Chandgad.

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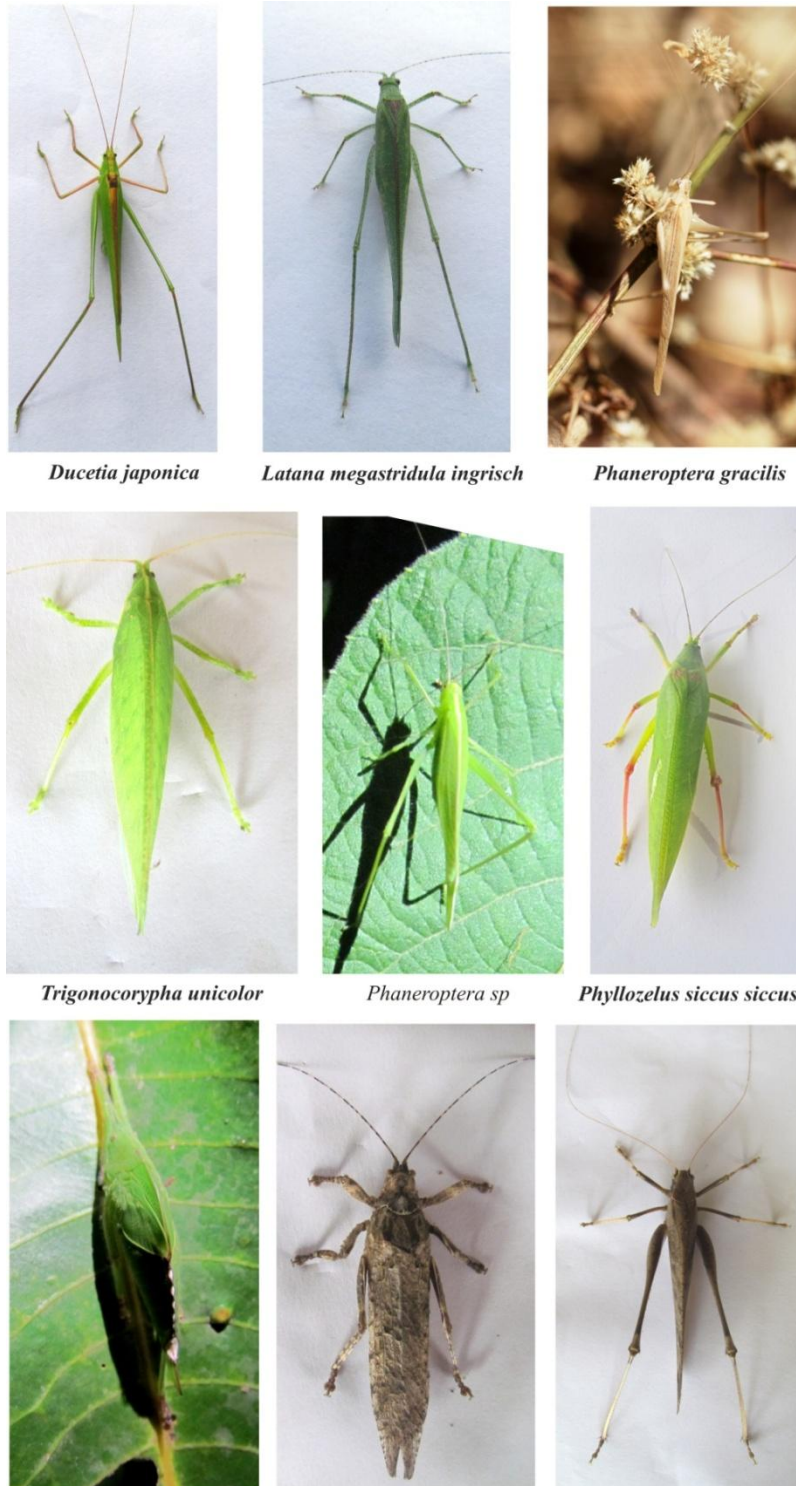
One of the major attractions of this fort is its serene environment and lush green surroundings.

RESULTS AND DISCUSSION

Tettigoniid species were collected from different habitat types, and localities of Pargad Chandgad. During the study period, 9 species of grasshoppers

belonging to 3 subfamilies viz. Phaneropterane, Pseudophyllinae and Mecopodinae were found and represented by 5, 3 and 1 species respectively (Table 1). The study revealed that, the grasshoppers from Pargad region is rich and diversified area because of variety of flora and complex ecological conditions, rainfall pattern, temperature.

Figure-1. Checklist of Grasshoppers (Tettigoniidae) in Pargad Fort



Kulkarni & Shishodia (2004), have reported 8 species of long horned Grasshopper from Pench National Park. Senthikumar et al (2006) studied on Orthopteran fauna of Gibbon wildlife sanctuary in Assam and recorded 13 species Tettigoniidae. Chandra and Shishodia (2007) reported 18 species of orthopteran insects from Madhya Pradesh and Chhattisgarh. Koli et al (2010) studied on Orthoptera fauna in Chandoli National park, and reported 12 species of Tettigoniidae. Shishodia et al. (2010) published 160 species and subspecies of Tettigoniids from India, among these 18 species were recorded from Maharashtra. Chamorro et al (2011) have recorded 77 species of Tettigoniidae from Colombia. Srinivasan and Prabakar (2012) have reported 10 species of long horned grasshopper from Arunachal Pradesh. Chandra and Gupta (2012) have reported 18 species of Tettigoniidae in Zoological Survey of India. Ambily and Aswathy (2013) have reported 2 species of long horned grasshopper from Mar Thoma college for women, Perumbavoor. Thakkar et al (2015) studied on diversity of Orthoptera fauna in south Gujarat, India in which 9 species of Tettigoniidae were reported. Arya et al (2015) have reported 6 Species from Western Himalayas, India. Gaikwad et al (2016) have reported 11 species of long horn grasshopper in Radhanagari Wildlife Sanctuary, Maharashtra (India).

Table 1: Checklist of Grasshoppers (Tettigoniidae) in Pargad Fort

Sr. No	Subfamily	Species
1	Phaneropteriane	<i>Ducetia japonica</i> <i>Latana megastridula</i> <i>ingrisc</i> <i>Phaneroptera gracilis</i> <i>Phaneroptera sp</i> <i>Trigonocorypha unicolor</i>
2	Pseudophyllinae	<i>Phyllozelus siccus</i> <i>siccus</i> <i>Phyllomimus sp</i> <i>Sathrophyllia rugosa</i>
3	Mecopodinae	<i>Mecopoda elongata</i>

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Conflict of Interests

Authors declare that there is no conflict of interests regarding the publication of this paper.

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