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DESCRIPTION OF THREE PEST SPECIES OF ACRIDIDAE FROM CHOLISTAN DESERT PUNJAB

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ABSTRACT

In the result of an extensive survey carried out in the university permissive of Cholistan campus following three species were seen and reported in significantly greater numbers they include: *Acrida exaltata* (Walker, 1859), *Acrotylus humbertianus* Saussure, 1884 and *Oxya bidentata* (Willemse, 1925 belonging to family Acrididae are of considerable economic importance to agricultural fields. In this, paper their occurrences along with pest status was given.

1. INTRODUCTION

Grasshoppers belonging to the Caelifera. They are considering among the most ancient living group, dating back to the early Triassic around 250 million years ago. Grasshoppers are well-known as largest and most diverse group in the insect fauna some grasshopper species cause significant damage to agricultural crops. *Pokilocerus pictus* usually distributed in Pakistan, India, and Afghanistan as pest of many valued crops (Shumakov, 1963; Cejchan, 1969, Sheri, 1976 and Lohar 1998). This insect is not only primarily pest of Akk- plant but it also caused huge damage to cultivated crops mango orchards, betel creepers, forest trees, trees of Jasmine and mulberry cow pea, okra, brinjal, castor, citrus, papaya, wheat Bindra, (1958) and Rizvi (1992). *P. pictus* is usually present in small number however its population occasionally may increase suddenly to the extent of an outbreak and causes maximum loss to economy. Previously, Khan and Sharma (1971); Riazuudin et al., (1977); Parihar (1984); Wagan and Mughal (1992); Syed et al., (1993 &1994); Marthur, (1995); Seema and Ameenullah, (1997) have carried work on different aspects of Pyrgomorphidae group but none of these carried detailed work on the grasshoppers species from this area.

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Taking into consideration the economic importance of the group as pest, the present study is an attempt to determine the incidence of various species in this area.

2. MATERIALS AND METHODS

The stock of grasshopper was randomly collected from the fields of rice, maize, jowar, wheat and fodder crops and their surrounding vegetation of grasses with the help of traditional insect hand-net (8.89 cms in diameter and 50.8 cms in length) and by hand picking. Large insects was also be collected by using forceps. However, all the collection was made from district Bahawalpur in different seasons after the collection stander protocol for killing, storing and sorting was adopted from Riffat & Wagan (2015).

3. RESULTS AND DISCUSSION

Three species of grasshoppers were collected that include:

***1. Acrida exaltata* (Walker, 1859)**

Diagnostic characters
Size large, elongate, almost stick-like, Antenna ensiform, 18-20 segmented as long as or slightly

shorter than head and pronotum together. Fastigium of vertex narrow towards anterior margin, with obtusely rounded apex; fastigial foveolae absent, apex widely obtuse angular; frons strongly incurved; frontal ridge narrow, elongated with slightly shallow groove but flat above the clypeus. Pronotum elongate, narrower at prozona; tricarinate, median carina intersected by posterior sulcus only, posterior margin acute angular. Mesosternal interspace open, narrow about 1/6th times longer than its greatest width, shorter than its lobes. Metasternum open. Tegmina and wings fully developed, with acute angular apices. Hind femur slender, much elongated, upper knee lobes with three spines, ventro-internal carina with a series of teeth. Hind tibia slender, slightly longer than hind femur, with 25-28 black tipped spines on either side.

This species mostly distributed in Pakistan, India, Middle Asia, Turkey, Iran, and Iraq.

Material examined:

Bahawalpur: Cholistan 12 male, 26 females, 28. viii.2020 (Asif and Zain-ul-Abedin).

Comparative note:

Earlier, Ahmed (1975-80) did not report this species from the Punjab while Yousuf (1996) recorded this from Faisalabad and Rawalpindi districts of the Punjab at presently we have collected from Cholistan.

***2. Acrotylus humbertianus* Saussure, 1884**

Diagnostic characters

Smaller in size. Antenna filiform, about 24-26 segmented, longer than head and pronotum together. Head shorter than pronotum; fastigium of vertex concave, angular, with raised lateral carinulae, fastigial foveolae present, sometimes indistinct; frons vertical; frontal ridge sulcate, very narrow at the vertex junction, widened below the ocellus. Pronotum short wide and saddle shaped, strongly tuberculate, constricted in prozona, laterally with whitish convex spot, median carina well marked, lateral carinae irregular and tuberculate; dorsum intersected by two sulci, metazona longer than prozona, posterior margin rounded. Tegmina and wings fully developed.

This species is commonly distributed in Pakistan, Kashmir, India and Srilanka.

Material examined:

Bahawalpur, 31males, 23 male, 20.viii.2020 (Maheen and Afshan).

Comparative note:

This species has been collected from the cultivated fields of maize, vegetables as well as from the rocky areas and the grassy field. Earlier, Ahmed (1975-80), Mazahar (1993) and Yousuf (1996) reported this species from the Punjab. At present we have reported fair numbers.

***3. Oxya bidentata* (Willemse, 1925)**

Diagnostic characters

Size medium. Antenna filiform, with 22 segmented. Head sub-conical. Pronotum with flattened dorsum and posteriorly rounded, Prosternal process straight and conical with acute apex. Tegmina and wings fully developed. Hind femur slender spine like, hind tibia shorter than femora with 9 to 10 black tipped spines on either side.

This species only occur in Asia and Africa.

Material examined:

Bahawalpur: Cholistan 19 male, 29 females, 30xix.95 (Amna and Zahid).

Comparative note:

The species is very common and widely distributed currently; it has been collected from the rice field and vegetables. Earlier, Hollis (1971), Ahmed (1975-80) Irshad et al. (1977), and Mazher (1993) reported this from the various districts of the Punjab.

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5. CONFLICT OF INTEREST

All authors have declared that there is no conflict of interests regarding the publication of this article.

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