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On some common Acridinae Grasshoppers found in Tandojam

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Abstract: In present study grashoppers were collected from various localities of Tandojam, This revealed the occurrence four species under two tribes; Acridini MacLeay 1821 and Truxalini Serville 1838.

Keywords: Grasshoppers, Acridinae, Tandojam,

1. INTRODUCTION

Grasshoppers are known to be the most important group of Phylum Arthropoda for their contribution to diversity and abundance. They are an important component of agricultural fields and grasslands and their global pest status has been reviewed in detailed (Jago, 1998, Wagan, 1990).

This subfamily from sub-continent has been studied by Kirby (1914), Bei-Bienko and Mischenoko (1951) and Dirsh (1965), Whereas, Ahmed (1958), Moeed (1971), Perwin and Ahmed (1883).Wagan (1990) studied and described some species from Pakistan.

As far as Tandojam (Sindh) is concerned, the subfamily Acridinae enjoys less importance. Although, lot of work has been done on the various aspects of Orthoptera from Sindh, but less is known about the Acridinae fauna from Tandojam .Therefore, present attempt has been made to know the available species of Acridinae fauna in Tandojam.

2. MATERIALS AND METHODS

Place of work: Grasshoppers were collected from Tandojam and the identification was made at the department of Entomology, Sindh Agriculture University Tando Jam.

Method of collection: For the collection ofgrasshoppers (Acridinae) sweep net was used.

Methods of Killing and preserving: For killing grasshoppers killing bottle containing potassium cyanide was used and pinned.

Method of imaging: Canon Sx510 HS Power Shot was used for habitus images.

Method of identification: Specimnes were run through the available keys for the region.

About study area: Tandojam is a town and Union Council of Hyderabad District in the Sindh province of Pakistan. It is located at 25°25'60N 68°31'60E and lies about 20 km away from Hyderabad city Pakistan, along Hyderabad and Mirpurkhas Road.

3. RESULTS

In present study about 634 members of the subfamily Acridinae were collected from Tandojam Sindh Pakistan. This revealed the occurrence four species under two tribes; Acridini MacLeay 1821 and Truxalini Serville 1838. Two species are recorded under tribe Acridini MacLeay 1821; Acrida exaltata (Walker, 1859) and *Acrida gigantea* (Herbst, 1786). Two species are recorded under tribe Truxalini Serville 1838; *Truxalis eximia eximia* Eichwald, 1830 and *Truxalis fitzgeraldi* Dirsh, 1950. From Sindh seven species of subfamily Acridinae are know to occur. These all species are studied from Tandojam for the first time.

Hierarchial Characteristics Of Subfamily Acridiane

Category	Taxon	Characteristics
Kingdom	Animalia	Sensitivity, voluntary movement, requires oxygen and organic food, fixed organs.
Phylum	Arthropoda	Ringlike segments, jointed appendages, exoskeleton.
Class	Insecta	Three body regions, three pairs legs, one pair antennae, tracheal system, usually two pair wings.
Order	Orthoptera	Forewings leathery, hindwgins membranous, chewing mouthparts, hindwings enlarged for jumping, simple metamorphosis.
Family	Acrididae	Short antennae, short ovipositor, tympanum on first abdominal tergum, three segmented tarsi.
Subfamily	Acridinae	Lack stridulatory pegs on their hind legs, antennae flattend and sword-like, lack the posternal spine, hindwings range from nearly colorless to colorless

TAXONOMY
Order: Orthoptera Latreille, 1793
Suborder: Caelifera Ander, 1939
Infraorder: Acrididea MacLeay, 1821
Superfamily: Acridoidea MacLeay, 1821
Family: Acrididae MacLeay, 1821
Tribe: Acridini MacLeay, 1821

Acrida exaltata (Walker, 1859) (plate 1a-c)
Material examined. Pakistan: 7♂, 8♀, Sindh Prov., Khaisana mori, 12.iv.2013, Razzaque, grass. Several specimens from various localities of Tandojam.

Acrida gigantea (Herbst, 1786) (plate 1d-f)
Material examined. Pakistan: 1♀, Sindh Prov., Moosa Khatian, 12.viii.2013, Razzaque, Mango orchard.

Tribe: Truxalini Serville, 1838
Truxalis nasuta (Linnaeus, 1758) (plate 1g-i)
Material examined. Pakistan: 1♀, Sindh Prov., Rahooki, 27.iv.2013, Razzaque, grass. 1♀.,Horticultral Garden, 05.vii.2013, Razzaque, grass

Truxalis eximia eximia Eichwald, 1830 (plate 1j-l)
Material examined. Pakistan: 2♀, Sindh Prov., Latif farm, 16.vii.2013, Razzaque, Channel.

Key to the acridinae of Tandojam

1. Body greenish; lateral carina of pronotum not edged within with black line; tegmina without distinct coloured arrangement; apical diverticulum of spermatheca with rounded apex. Transverse sulcus of pronotum present about the middle of pronotal disc....***A. exaltata*** (Walker, 1859)

2. Body dry grass coloured; lateral carina of pronotum edged within with black line; tegmina very normally edged with pinkish brown; apical diverticulum of spermatheca with truncated Apex. Transverse sulcus of pronotum present about the middle of pronotal disc..... ***A. gigantea*** (Herbst, 1786)

3. Tegmina green or brown with a row of blackish brown spots, female wings pinkish purple basally..... ***T. nasuta*** (Linnaeus, 1758)

Tegmina green without a row of blackish brown spots; female wings bluish purple…....***T. eximia eximia*** Eichwald, 1830

4. **DISCUSSION**

Currently tribe Acridini MacLeay, 1821 consists of 09 valid genera, genus *Acrida* consists of 41 valid species. *Acrida exaltata* (Walker, 1859) consists of 3 synonyms including; *astigmata* Prasad, 1956, *brevicollis* (Bolívar, 1893), *curta* Uvarov, 1936 and *lugubris* Burr, 1902.

The type of *Acrida gigantea* (Herbst, 1786) according Herbst is from Europe, southern Europe, as it is unspecified primary type. Two subspecies of *Truxalis eximia* Eichwald, 1830 are known; *cypria* Dirsh, 1950 and *eximia* Eichwald, 1830, later one is recorded here from Tandojam. From Pakistan *Truxalis eximia eximia* Eichwald, 1830, was previously recorded by Anjum *et al.* (1999) and Sultana *et al.* (2013).

Truxalis fitzgeraldi Dirsh, previously Anjum *et al.* (1999) recorded as *Truxalis grandis fitzgeraldi* and Sultana *et al.* (2013) as *Truxalis fitzgeraldi* Dirsh. The type of *T. fitzgeraldi* is unspecified primary type and the Type locality is from Asia-Temperate, Western Asia, Iran.

Acridinae consists of 12 species recorded by Anjuam *et al.*(1999) from various localities of Pakistan, *including Acrida gigentea* (Herbst). *A. turrita* (Linnaeus), *A. lugubris* Burr. *A. exaltata* (Walker). *Gonista rotundata* Uvarov. *Phlaeoba infumata* Brunner, *P. panteli* I. Bolivar, *Ceracris deflorata* (Brunner), *C. nigricornis nigricornis* Walker, *C. nigricornis laeta* (I. Bolivar), *Duroniella gracilis* Uvarov *and D. laticornis* (Krauss) have been recorded from various localities of Pakistan.

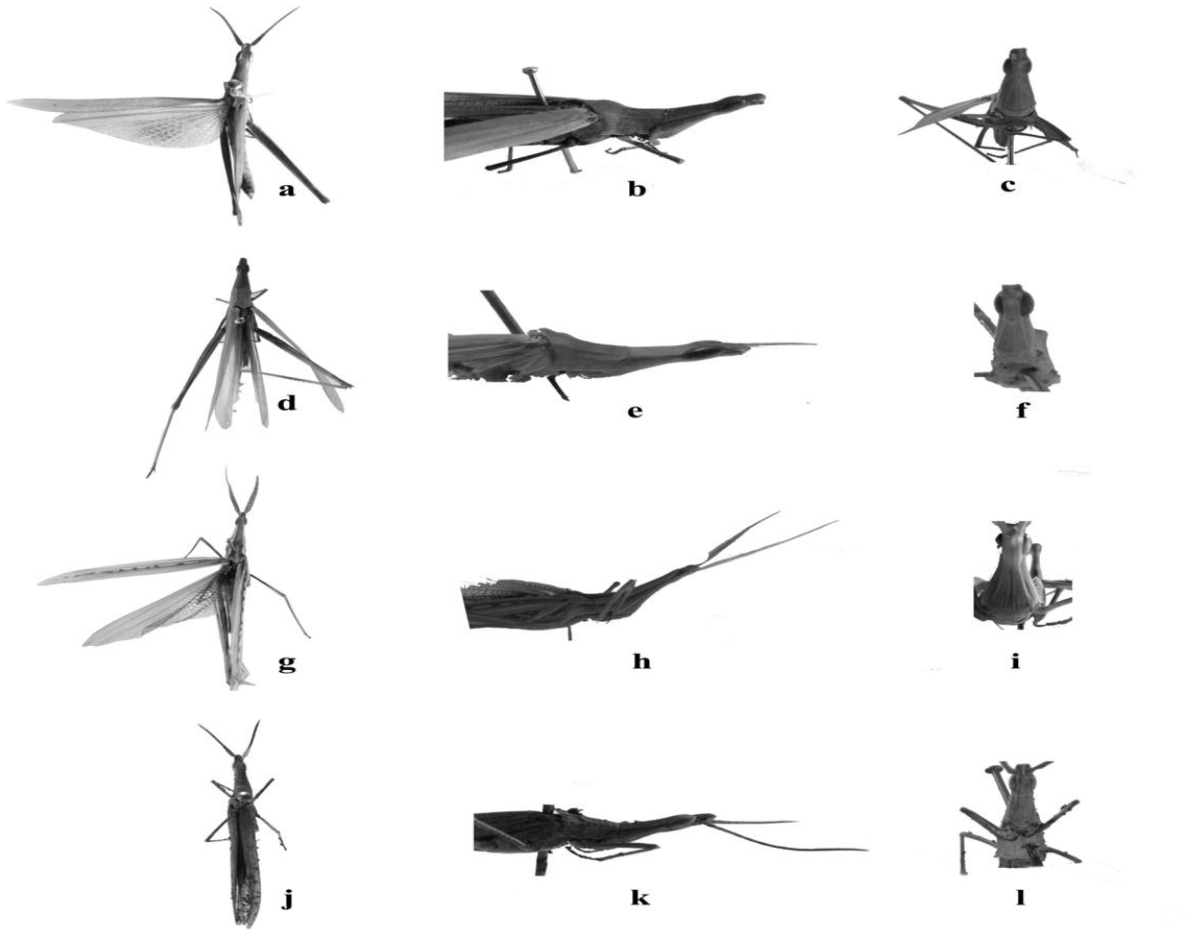


Plate 1. a-c *Acrida exaltata* (Walker, 1859) male:, a, habitus dorsal view, b, face lateral view, c, face front vew. d-f *Acrida gigantea* (Herbst, 1786): a, habitus dorsal view, b, face lateral view, c, face front vew. g-i, *Truxalis nasuta* (Linnaeus, 1758) female: a, habitus dorsal view, b, face lateral view, c, face front vew. j-l *T. eximia eximia* Eichwald, 1830 female: a, habitus dorsal view, b, face lateral view, c, face front vew.

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