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Taxonomic Study of Some Pyrgomorphidae and Catantopinae (Acridoidea: orthoptera) from Azad Jammu and Kashmir

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Abstract: The present study resulted in the identification of 6 species. Out of them the genera *Aularches* Stal (Pyrgomorphidae) and *Conophyma zubvoskii* (Catantopinae) are the new record from Pakistan including Azad Jammu and Kashmir.

Key words: Completely apterous, Snowy mountains, New record

Introduction

The grasshoppers are widely distributed from sea level to snowy mountains with significant economic importance due to their destructive role to almost all type of green vegetation. The genus *Conophyma* is restricted to higher mountains while the family Pyrgomorphidae is commonly found in the warmer regions. In Pakistan their taxonomy is mainly studied by Kirby (1914), Bei-Bienko and Mishchenko (1951), Kevan (1957), Kevan and Chen (1969), Perwin *et al.* (1985) and Suhail (1994). The area of Azad Jammu and Kashmir is yet mainly unexplored. Therefore, the present taxonomic study of the family Pyrgomorphidae arid subfamily Catantopinae was undertaken in Azad Jammu and Kashmir. A key for the local genera as well as deviating and additional characters from the published description of the species are also given in this manuscript.

Family Pyrgomorphidae: It is represented by 5 species under 5 genera in Azad Jammu and Kashmir.

Key to the local genera of Pyrgomorphidae

1. Prosternum with its anterior margin developed into a wide, raised collar which covers the mouth parts from the lower side-----*Chrotogonus* Serville.
Prosternum with its anterior margin not developed into a wide raised collar 2
2. Head strongly produced forward, long cone like 3
Head short, rounded, not produced forward 4
3. Antennae articulated in front of the lateral ocelli*Atractomorpha* Saussure.
Antennae articulated behind and below the lateralocelli *Pyrgomorpha* Serville.
4. Pronotum provided with distinctly projecting large tubercle and rupee; tegmina black with many small, rounded yellow spots *Aularches* Stat.
Pronotum smooth, without any tubercle and rugae; tegmina not as above.....*Poecilocerus* Serville

Genus: *Chrotogonus* Serville Type: *Ornithocheila lugubris*
The collected specimens of a single species are exactly similar in the published description (Kirby, 1914; Bei-Bienko and Mishchenko, 1951; Ahmad, 1958; Shahid, 1964; Dirsh, 1965; Baloch, 1966) of this genus.

Chrotogonus trachypterus trachypterus (Blanchard): The collected material is similar to the published description (Kirby, 1914; Kevan, 1957; Baloch, 1966) of this species

with the following additions: Wings distinctly shorter than tegmina, the latter equal or slightly shorter than abdomen. The museum collection (Insect Museum, Department of Agri. Entomology, University of Agriculture, Faisalabad, Pakistan) indicates that two species of *Chrotogonus*, i.e., *C. t. trachypterus* and *C. t. robbersi* are commonly found in hilly areas of Pakistan including Azad Jammu and Kashmir, while the latter is only met within the plains of Pakistan. Previous studies misidentified some specimens of *C. t. trachypterus* as *C. harnalorlemus* on the basis of wing characters.

Measurements (mm) 5 ♂ 5 ♀:

Male: Body length, 12.5-14.5; Antenna! length, 5.0-5.5; Tegmen length, 9.75-10.0; Hind femur length, 7.0-7.25; Hind tibia length, 6.0-6.25.

Female: Body length, 18-20; Antenna, length, 6.0-6.5; Tegmen length, 11.5-15.0; Hind femur length, 8.5-9.0; Hind tibia length, 7.5-8.5.

Material examined: Mirpur 3 ♂ 4 ♀, 4.VI. 94; Bhimber 2 ♂ 4 ♀, 5.VI. 94; Muzaffarabad 2 ♂, 24. VII. 94.

Habitat: The specimens of this species were found on dry sandy soil having sparsely growing thorny herbs and wild grasses.

New Record: All above localities except Muzaffarabad. where Perwin *et al.* (1985) collected this species.

Genus: *Atractomorpha* Saussure

Type: *Truxalis crenulatus* Fabricius

The specimens of a single species conform to the published description (Kirby, 1914; Bei-Bienko and Mishchenko, 1951; Dirsh, 1965; Kevan and Chen, 1969) of this genus.

Atractomorpha sinensis sinensis 1. Bolivar: The collected specimens greatly resemble the published description (Kevan and Chen, 1969) of this species. According to Kirby (1914), it is *psittacina*, from which it differs in not having fastieium of vertex twice as long as broad, pronotum not shorter than head and antennae not about as long as head and pronotum together. It differs from *crenulata* in not having the tegmina extending for 1/4th of their length beyond hind femora (Kevan and Chen, 1969).

Measurements (mm): 2 ♂ 3 ♀

Male: Body length, 17.0-19.5; Antennal length, 6, Tegmen length, 14.5-18.5; Hind femur length, 8-9; Hind tibia length, 7-8.

Female: Body length, 27-32; Antennal length, 5 8; Tegmen length, 23.5-24.0; Hind femur length, 11-14; Hind tibia length, 9.0-12.5.

Material examined: Mirpur 1 ♂ 1 ♀, 4. VI. 94; Iftikharabad 1 ♂ 6.VI. 94; Rawalakot 1 ♀, 2. VIII. 96; 1 ♀, 28.x. 96.

Habitat: These specimens were collected from the fields having millet and wild grasses.

New Record: This species has been recorded for the first time from Azad Jammu and Kashmir.

Genus: *Pyrgomorpha* Serville
Type: *Acridum conicum* Olivier

The specimens of a single species are similar to the published description (Kirby, 1914; Bei-Bienko and Mishchenko, 1951; Ahmad, 1958; Dirsh, 1965; Hsiung and Kevan, 1975) of this genus.

***Pyrgomorpha bispinosa deserti* (Bei-Bienko):** Two male specimens collected conform to the published description (Bei-Bienko and Mishchenko, 1951; Hsiung and Kevan, 1975) of this species.

Measurements (mm): 2♂: Body length, 15.5-16.5; Antennal length, 5.5-6.5; Head length, 2.5-3.0; Tegmen length, 12.5-15.5; Hind femur length, 8.0-9.5, Hind tibia length, 7.0-8.5.

Material examined: Mirpur 2 ♂, 4. VI. 94.

Habitat: These specimens were collected from a thorny field near road side.

New Record: This species has been recorded for the first time from Azad Jammu and Kashmir.

Genus: *Aularches* Stal
Type: *Aularches miliaris* (L.)

A single species recorded under this genus exactly conform to the published description (Bei-Bienko and Mishchenko, 1951) of this genus.

***Aularches miliaris* (L.) var. *punctatus* Drury:** A single male specimen with broken antennae collected, exactly similar to the published description (Bei-Bienko and Mishchenko, 1951) of this species except the measurements.

Measurements (mm): 1 ♂: Body length, 65.00; Tegmen length, 40.00; Hind femur length, 22.00; Hind tibia length, 19.00.

Material examined: Rawalakot 1 ♂, 9.X.97

Habitat: This specimen was collected from a green pasture surrounded by thick forest at an height of 1700 m from sea level.

New Record: This species and genus have been recorded for

the first time from Pakistan including Azad Jammu and Kashmir. Earlier, Bei-Bienko and Mishchenko (1951), recorded this species from Indian held Kashmir.

Genus: *Poecilocerus* Serville
Type: *Gryllus picrus* Fabricius

A single species collected entirely resembles the published description (Kirby, 1914; Dirsh, 1965) of this genus.

***Poecilocerus pictus* (Fabricius):** The collected specimens are very similar to the published description (Kirby, 1914; Ahmad, 1958; Shahid, 1964; Suhail, 1994) of this species.

Measurements (mm): 5 ♂ 5 ♀

Male: Body length, 44-54; Antennal length, 16.6-20.0, Tegmen length, 31-37; Hind femur length, 18-22; Hind tibia length, 17.5-19.5.

Female: Body length, 48-65; Antennal length, 16.5-23.5; Tegmen length, 32.5-42.0; Hind femur length, 21.0-28.5; Hind tibia length, 18.5-23.5.

Material examined: Bhimber 8 ♂ 6 ♀, 5. VI, 94

Habitat: The specimens of this species have been found in abundance on *Calotropis procera* near streams and roadside. Earlier, Yunus *et al.* (1980) recorded it from cotton in parts of Sukkur and D. G. Khan in Pakistan,

New Record: This species has been recorded for the first time from above locality. Earlier, Perwin *et al.* (1985) recorded is from Muraffarabad Arad Jammu and Kashmir.

Sub family Catantopinae

Genus: *Conophyma* Zubovskii
Type: *Conophyma semenovi* Zubovskii

The collected specimens of a single species totally agree with the published description (Bei-Bienko and Mishchenko, 1951) of this genus except that the hind tibia has 7 spines on outer dorsal aspect excluding the apical one.

***Conophyma indicum* Mishchenko:** The collected specimens exactly agree with published description (Bei-Bienko and Mishchenko, 1951) of this species, with the following additions. Male dorsally green, ventrally light yellow; female olive brown; frontal ridge narrow, flat in both sexes; interocular space in female very wide, almost equal to the vertical diameter of eye; fastigiurn with low median canna in bet sexes; hind femora with inner and ventral sides light yellow in male; red, tinged with black in female.

Note: These are medium sized, beautifully colored arc) completely aptrous grasshoppers which are restricted to higher snowy mountains.

Measurements (mm): 5 ♂ 5 ♀

Male: Body length, 14.5-16.5; Antenna) length, 5.0-6.5; Head length, 2.5-3.0; Hind femur length, 8-9; Hind tibia length, 7-8.

Female: Body length, 15.0-19.5; Antennal length, 6.0-6.5;

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Head length, 2.5-3.5; Hind femur length, 9.5-10.5; Hind tibia length, 8.5-9.5.

Material examined: Surgon 6 ♂ 6 ♀, 13. VIII. 94

Habitat: This species has been collected from the tall herbaceous flora at an altitude of 3500-4000 m.

New Record: This species has been recorded for the first time from Pakistan. Earlier, Bei-Bienko and Misnchenko (1951) reported this species from Indian held Kashmir.

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