A new species of Genus *Ochrilidia* Stal (Gomphocerinae: Acrididae: Orthoptera) from Pakistan

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Abstract

Genus *Ochrilidia* was established by Stal in 1877, *Ochrilidia jagoi* was described as a new species collected from Multan Pakistan; present new species update the world checklist of *Ochrilidia* with 33. Present species was closely related to *beybienkoi* Cejchan, but differs from it in the shape of antenna, fastigial foveolae and epiphallus, further this species differed from the other species occurring in Punjab, it differed from *O. ahmadi* Wagan & Baloch 2001 by lateral carinae of pronotum less well developed, and from *O. geniculata* (I. Bolivar) by antenna not flattened at base and fastigial foveolae ramboid

Keywords: Gomphocerinae, Punjab, acrididae, new species

1. Introduction

Genus *Ochrilidia* was established by Stal in 1877 [1]. Jago [2] provided the history, ecological and economic importance of this important genus *Ochrilidia*. Thirty five species were described in this genus, this number was reduced to eleven following the revisionary work [3]. Three more species namely, *O. alshatiensis* [3], *O. nuragica* [4] and *O. ahmadi* [5] were listed. However, thirty two species are listed in the Orthoptera Species file [6]. The addition of *O. jagoi* makes a total of 33 species in this genus. As grasshoppers are important from Agriculture and ecological point of view, so a survey was carried out throughout Punjab to explore grasshopper fauna of the Punjab.

2. Materials and Methods

2.1 Study area
The material was collected from the agricultural fields of Bahauddin Zakariya University during October 1995; and from Rawalpindi during October 1997.

2.2 Method of collection and preservation
The grasshoppers were collected through the traditional hand net (8.89 cms in dia and 50.8 cms in length), hand picking was also made.

2.3 Dissection of Phallic complex
For the study of male genitalia the procedure described by McEKevan *et al.* [7] was followed. For softening the material desiccator was used for 24 hours by adding few drops of phenol/70 % alcohol to prevent fungal growth. Further to study male genitalia, the maceration of abdomen was done with 10% KOH for overnight.

2.4 Statistical analysis
Measurement is provided for 1 holotype (male), 1 paratype (female) and 1 allotype (female), due to individual representative no further analysis was required.

3. Results

*Ochrilidia jagoi*, new species (Fig. 1a-d)

3.1 Diagnosis

*Ochrilidia jagoi* was closely related to *O. beybienkoi* Cejchan [8], but differed from it in the shape of antenna, fastigial foveolae and epiphallus. The basal portion of antennae in *O. jagoi* was not flattened, fastigial foveolae was broad and Ancorae of epiphallus was pointed and
curved distally, whereas, in O. beybienkoi antenna was flattened in the basal part, fastigial fevoloae was broader and ancorae of epiphallus decurved distally.

3.2 Description of holotype male (Fig. 1a)
Size was small, antenna (Fig.1c) filiform with elongated segments and broken towards apex. Fastigium of vertex angular, with obtuse apex, almost flat in middle, with transverse basal furrow and strong marginal carinae merging with carinae of vertex; median carina begins behind basal furrow and merging with strong carina of vertex; fastigial foveolae visible from above, somewhat rhomboid shape with rugose surface, frontal ridge wide with carinae well developed. Pronotum (Fig1b) subcylindrical with sharp median, lateral carinae indicated by ridges and thickened at certain places in prozona and absent in metazona; posterior sulcus crossing median carina placed behind the middle, metazona shorter than prozona, its posterior margin obtuse angular. Mesosternal interspace wider than long. Tegmina and wings well developed. Folded tegmina apex surpassing apex of abdomen. Hind femur moderately slender, lobes of hind knee rounded. Hind tibia slightly shorter than femur with 14 inner and 13 outer spines. Arolium large. Male supra-anal plate angular, cerci narrow and conical, sub-genital plate short, sub-conical with obtuse apex. Epiphallus (Fig. 1d) bridge shaped, ancorae broad at base narrow and strongly curved distally; posterior lobe of lophus slightly larger than anterior lobe of lophus.

3.3 General coloration
Yellowish with a dark band on the lateral carinulae of fastigium of vertex running behind the posterior margin of eyes upto posterior end of pronotum. Hind femur reddish brown from the insides, hind tibia straw coloured.

3.4 Allotype
As the holotype but slightly larger. Antennae slightly shorter than head and pronotum together. A yellowish white stripe extend from apex of head to hinder end of pronotum.

3.5 Paratype
In every respect like holotype and allotype.

3.6 Measurements (mm)

<table>
<thead>
<tr>
<th>Measurements</th>
<th>Holotype</th>
<th>Allotype</th>
<th>Paratype</th>
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<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Female</td>
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<tr>
<td>Antennal length</td>
<td>----</td>
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<tr>
<td>Pronotal length</td>
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<td>Tegminal length</td>
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<td>Hind femur length</td>
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<td>11.2</td>
</tr>
<tr>
<td>Total length</td>
<td>18.9</td>
<td>20.5</td>
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3.7 Material examined
Pakistan, Punjab, Multan: 1 male holotype B.Z. University field 1.x.1995.(M.S.Wagan& N. Baloch); Rawalpindi: 2 females allotype and paratype near Rawalpindi 17.x.97 (M.S. Wagan)

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3.8 Habitat
This species was collected from grasses along cultivated field of Maize and Jowar.

3.9 Etymology
This species was named after Dr. N. D. Jago, Natural Resource Institute London

3.10 Repository
The male holotype was in possession to Dr. N. D. Jago. Most of the collection of Natural Resource Institute London was deposited to the British Museum of Natural History.

4. Discussion
Ochrilidia jagoi differed from the other species occurring in Punjab. It differed from O. geniculata (I. Bolivar) and O. gracilis gracilis (Ckrauss) by smaller size, antenna not flattened at base and fastigial foveolae ramboid whereas, it differed from O. ahmadi Wagan & Baloch 2001 by larger size and the lateral carinae of pronotum is less well developed.

5. Conclusion
The present research concluded with the description of one new species Ochrilidia jagoi, and updated the world checklist of genus Ochrilidia with 33 species.

6. Acknowledgements
Author wish to thank late Dr. N.D. Jago of Natural Resource Institute London, for his invaluable help with specimen...
identification by comparing holotype with related material and confirmed that this is new species. Financially supported by Pakistan Science Foundation project NO. S-SU/Bio (198).

7. References