SHORT COMMUNICATION

SOME NEW RECORDS OF KATYDIDS (ORTHOPTERA: TETTIGONIIDAE) FROM UTTAR PRADESH, INDIA

Ramesh Singh Yadav & Dharmendra Kumar

26 April 2020 | Vol. 12 | No. 5 | Pages: 15655–15660
DOI: 10.11609/jott.4331.12.5.15655-15660
Some new records of katydids (Orthoptera: Tettigoniidae) from Uttar Pradesh, India

Ramesh Singh Yadav & Dharmendra Kumar

1 Government School Dehariya, Post - Rohuna (Zamania), District- Ghazipur, Uttar Pradesh 232331, India.
2 Janta Vedic College Baraut, Baghapat District, Uttar Pradesh 250611, India.

1ramesh_bhu@rediffmail.com (corresponding author), 2vermaento@gmail.com

Abstract: In the present investigation intensive field surveys were undertaken to explore katydids of Uttar Pradesh. Five species of katydids from four genera, namely, Letana cf. megastridula Ingrisch, 1990, Parasanaa donovani (Donovan, 1834), Sathrophyllia femorata (Fabricius, 1787), S. rugosa (Linnaeus, 1758), and Acanthoprion suspectum (Brunner 1895) were recorded for the first time from Uttar Pradesh, India.

Keywords: Acanthoprion, Chandauli, Ghazipur, grasshoppers, Letana, Mirzapur, Parasanaa, Sathrophyllia.

Grasshoppers and katydids are an important group belonging to the order Orthoptera. Globally, more than 28,530 valid species of orthoptera have been catalogued in which more than 7,500 species of tettigoniids are known worldwide (Cigliano et al. 2018). Exploration of tettigoniids from Uttar Pradesh, India is not much more explored as compare to Maharashtra (Chandra & Gupta 2012). However, due to the scattered reporting on this group, exact estimation is unavailable also at the national leve as well as from Uttar Pradesh. However, Shishodia et al. (2010) mentioned some 160 species from 72 genera of tettigoniids in his checklist of Orthoptera from India. Due to the scattered reporting on this group, exact estimation is unavailable at the national level, however, Shishodia et al. (2010) mentioned some 160 species from 72 genera of tettigoniids in his checklist of Orthoptera from India. They are dominant fauna of tropical and subtropical ecosystems. In India, most of the taxonomic studies of katydids are carried out from the northeastern Indian states as compare to other states (Shishodia et al. 2010).

Katydids are also called long-horned grasshoppers. They belong to the suborder Ensifera and the superfamily Tettigonioidae. They are very easily identified by their very long antennae, (hence the common name) and sword- or sickle-shaped long ovipositor with four segmented tarsi. They are more similar to crickets than other grasshoppers. The Indian katydids are grouped in nine subfamilies of which Phaneropterinae is the most diverse and Phyllophorinae is the least diverse subfamily. Letana is a highly diverse genus of katydids (Tettigoniidae) in India (Shishodia et al. 2010). Some important notable works on the taxonomy and distribution of Tettigoniidae from India are done by Barman & Srivastava (1976), Barman (1993, 2003), Ingrisch & Shishodia (2000), Shishodia (2000), Shishodia & Tandon (2000), Kulkarni & Shishodia (2004, 2005), Shishodia & Barman (2004), Senthilkumar et al. (2006), Chandra et al. (2007), Senthilkumar (2010), Shishodia
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Uttar Pradesh is one of the largest states in India and considered biogeographically diverse ranging from plains to dry and plateau areas. Here, floral and faunal diversity is very varied but katydids are under-studied probably because of their nocturnal habit. Farooqi & Usmani (2016) recorded 13 species of katydids from this state. Hence, the authors have tried to explore the long-horned grasshoppers from Uttar Pradesh.

Materials and Methods

The present exploration was part of a series of surveys at several locations in eastern Uttar Pradesh during 2017 (Image 1). The katydids were collected using sweep nets, light traps, and by hand picking. Most collections were made during night and morning hours, i.e., 19.30–23.00 h and 07.00–10.00 h, respectively. The collected katydids were killed in a container containing ethyle acetate. Subsequently, the materials were cleaned with hair brush, pinned and relaxed (as per need) on the handmade stretching board of thermacol. It was kept for more than 60–72 hours for drying to avoid decomposition of the specimens. The identification is based on the morphological and genital features and classification was done according to Cigliano et al. (2018). The specimens collected were deposited in the Department of Entomology and Agricultural Zoology (RGSCCE), Faculty of Agriculture, Rajiv Gandhi South Campus, Banaras Hindu University, Mirzapur, Uttar Pradesh, India. The coordinates of the survey sites are presented in Table 1.

Results

Order: Orthoptera
Suborder: Ensifera
Superfamily: Tettigoniioidea
Family: Tettigoniidae
1. Subfamily: Phaneropterinae

Tribe: Letanini

*Letana cf meagastridula* Ingrisch, 1990 (Image 1)


Table 1. Coordinates of survey sites.

<table>
<thead>
<tr>
<th>Site</th>
<th>Coordinate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Barkachchha, Mirzapur</td>
<td>25.133°N &amp; 82.564°E</td>
</tr>
<tr>
<td>2. Chahaniya, Chandauli</td>
<td>25.418°N &amp; 83.211°E</td>
</tr>
<tr>
<td>3. Gai Ghat , Ghazipur</td>
<td>25.415°N &amp; 83.559°E</td>
</tr>
<tr>
<td>4. Jangipur, Ghazipur</td>
<td>25.654°N &amp; 83.557°E</td>
</tr>
<tr>
<td>5. Mauji, Chandauli</td>
<td>25.260°N &amp; 83.266°E</td>
</tr>
<tr>
<td>6. Nagra, Ballia</td>
<td>25.968°N &amp; 83.871°E</td>
</tr>
<tr>
<td>7. Sahadatpur, Mau</td>
<td>25.924°N &amp; 83.452°E</td>
</tr>
</tbody>
</table>

Figure 1. Survey sites in Uttar Pradesh

Diagnosis characters: Bluish-green, medium-sized insect. An antenna is about a double the length of the body. The tegmina is narrow, dorsal portion of tegmina is brown in colour, surpassing the hind knees and with forked radial areas (Ra); the left tegmina with broad stridulatory field. Body along with legs is reddish or blackish dots. Cerci expanded internally.

Distribution: Bihar, Chhattisgarh, Himachal Pradesh, Maharashtra, and Tamil Nadu (Shishodia et al. 2010), and Uttar Pradesh (present study).

Habitat: The species is more common in grasses.

Remark: The genus *Letana* is the most diverse taxon of katydids in India.

2. Subfamily: Pseudophyllinae

i. Tribe: Cymatomerini

*Parasanaa donovani* (Donovan, 1834) (Image 2)


Diagnosis characters: Medium to large insect. Beautifully decorated. Antennae are brownish in colour. The head and body are brownish in colour whereas the pronotum is light yellow in colour with two brown spots. The tegmina are with three reddish-brown irregular spots between the radius and cubitus region. The ovipositors are reddish-brown in colour.

Distribution: Rajasthan, Sikkim (Shishodia et al. 2010), and Uttar Pradesh (present study).

Habitat: Small bushes are the preferred habitat of the species.

*Sathrophylla femorata* (Fabricius, 1787) (Image 3)


Diagnosis characters: It is the large insect with brownish colour. The vertex of head excavated at the apex portion with two horny projections. The pronotum is strongly crested over. The tegmina is rounded at apex. Wing is close to the tegmina. The all femora are waved below. Subgenital plate is broad, styli conical and epiproct rounded with curved cerci. Sword shaped ovipositors with black at tip.

Distribution: Karnataka, Maharashtra, Sikkim, Tamil Nadu and West Bengal. (Shishodia et al. 2010), and Uttar Pradesh (present study).

Habitat: It is prevalent in bushes and forest tree.

Remark: Only female specimens were found.

*Sathrophylla rugosa* (Linnaeus, 1758) (Image 4)

1758. *Gryllus* (*Tettigonia*) *rugosa* Linnaeus, *Systema
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Naturae per Regna Tria Naturae, (10th ed.): 430.


Diagnosis characters: It is an ash coloured large insect. The pronotum has one anterior and several posterior teeth. The tegmina is slightly shorter than wings. The fore femur is stout with ventral margin and is strongly lamellate and with distinct lobe. The dorsal edge of mid femur is only faintly lamellar and mostly straight. Inner dorsal edge of hind tibia is with distinct teeth. The supra anal plate oval and little cut at apex. Ovipositor is toothed at apex.

Distribution: Karnataka, Madhya Pradesh, Manipur,

Keys to some recorded katydids from Uttar Pradesh

Key to subfamilies
1. Prosternal spines present; forewing oval and coastal areas with many transverse veins; ovipositor long and straight ................................................................. Pseudophyllinae
- Prosternal spines absent; forewing not like above, without transverse costal veins; ovipositor short and bent upward ................................................................. Phaneropterinae

Key to tribes of Pseudophyllinae
1. Mostly brownish in colour; bark like; pronotum with or without tubercles; tegmina rugose or not rugose; all femora compressed at exteroventral margin, more or less expanded ................. Cymatomerini
- Mostly greenish in colour, boat likes; pronotum without tubercles; tegmina not rugose always, covering the some part of pronotum; femora not like above ........................................ Phyllomimini (only one species)

Key to tribes of Phaneropterinae
1. Male having much more bifurcation into subgenital plate .................... Letanaeini (only one species)
- Not much more deep bifurcation into subgenital plate ................................................ Ducetini (not discussed here)

Key to genera of Cymatomerini
1. Pronotum mostly smooth; tegmina not rugose, wing infumated; radius of tegmina parallel, coarse with subcosta; front femora simple, only hind femora compressed ........................................ Parasona
- Pronotum mostly not smooth; tegmina rugose; anal area of wing well developed; frontal femora lamellate ................................................................. Sathrophylla

![Image 3. Sathrophylla femorata (Fabricius, 1787)](image3.jpg)
Megalaya, Sikkim, Tamil Nadu and West Bengal (Shishodia et al. 2010), and Uttar Pradesh (present study).

Habitat: The species prefers shrubs, bushes and tall grasses
Remark: The fauna was recognized by its ash colour, rugose body and crested pronotum.

ii. Tribe: Phyllomimini


Materials examined: RGSCE 0023–24, 10.xii.2017, 2 females, Uttar Pradesh, Gaighat (Ghazipur), sorghum and flower plant, coll. RS Yadav.

Diagnosis characters: Medium to large insect. The insect body is light green in colour. Fastidium conically produced with blunt apex. The head is conical in appearance. The antennal base is distinguishably elevated. The posterior portion of the pronotum is conical in shape. The tegmina are wrapping the whole body and uniformly in green colour. Ovipositor is sword-shaped, reddish-brown at apex.

Distribution: India: Kerala, Tamil Nadu and West Bengal (Shishodia et al. 2010), Meghalaya (Barman 1995), and Uttar Pradesh (present study).

Habitat: The species prefers shrubs and are more common during the month of August in this area from where the material was collected.
Remark: The fauna was much more mimics to leaves.

Conclusion and Summary

The five species of katydids discussed above are firstly recorded from Uttar Pradesh. Further more intensive field work may enrich katydids fauna of the Uttar Pradesh, India.

References

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Entomologia, Madrid 1–479.


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ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)
April 2020 | Vol. 12 | No. 5 | Pages: 15535–15674
Date of Publication: 26 April 2020 (Online & Print)
DOI: 10.11609/jott.2020.12.5.15535-15674

www.threatenedtaxa.org

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