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First record of the Genus *Lichnofugia* from India with description of a new species (Orthoptera: Tettigoniidae; Conocephalinae; Agraeciini; Liarina)

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Abstract

The genus *Lichnofugia* is reported for the first time from India with a description of *Lichnofugia umshingensis* sp. nov. from Shillong, Meghalaya. The distribution of *Lichnofugia* thus extends eastward from Peninsular Malaysia and Thailand to north-eastern India.

Key words: Orthoptera, *Lichnofugia umshingensis* Hajong, new species, India

Introduction

The genus *Lichnofugia* was first described by Ingrisch (1998) based on five species discovered from Thailand. Tan & Ingrisch (2014) added another species, *Lichnofugia malaya* Tan & Ingrisch, from Peninsular Malaysia. *Lichnofugia* belongs to the Tribe *Agraeciini* subtribe *Liarina* in the subfamily *Conocephalinae* within the family *Tettigoniidae*. The katydids are nocturnal in their habit and hide in refuges during daytime. Species of the genus *Lichnofugia* were presently known to be distributed only from Thailand and Peninsular Malaysia (<http://orthoptera.speciesfile.org/Common/basic/Taxa.aspx?TaxonNameID=1132673>). The present species is the first record of *Lichnofugia* from India. Description of *L. umshingensis* sp. nov. is presented in this paper based on a single male individual.

Materials and methods

The specimen was collected during day time from soil crevice, where it was hiding. It was preserved in ethanol (70%). Morphological observations and photos were taken with a Motic SMZ-168 and a Moticam 3 CMOS camera, habitus photo was taken with Olympus E-420. Portion of the tegmen containing the stridulatory file was mounted directly on a slide and observed under a Motic Binocular Microscope under 10x to determine the number of teeth.

Taxonomy

Lichnofugia Ingrisch, 1998

Type species : *Lichnofugia cornuta* Ingrisch, 1998

Diagnosis. Fastigium verticis conical, slightly shorter than antennal scapus. Frons shining, moderately punctured, Tegmen micropterous in male, squamipterous in female; profemur with spines on both ventral margins, meso and postfemur with spines only on ventro-external margin.

Holotype (Fig.1): 1 male, Umshing, Shillong, India (co-ordinates N 25°36'44.3";E091° 53' 57.9") Altitude 1450 mts asl, 28v2012, from grassy plot near edge of pine forest. Wet preserved in ethanol (70%). To be deposited in Museum of National Centre for Biological Sciences (NCBS), Bangalore, India.

Diagnosis. *Lichnofugia umshingensis* is similar to *L. nigra* Ingrisch, 1998 and *L. malaya* Tan & Ingrisch, 2014 in terms of the black coloration of the frons. It differs from all other species except *L. malaya* of which only the female is known by the shape of the genitalia. In *L. umshingensis* the tenth tergite is split into two lobes. The genital sclerite is longer and the apex is terminated into two lobes; the cerci are cylindrical with a single internal projection with an acute apex.

Description. Male: Fastigium verticis conical (Fig. 2). Frons shining and moderately punctured (Fig. 3). Pronotum undifferentiated somewhat rugose, disc rounded into paranota; apical margin concave, paranota longer than high. Abdomen elongate, extending beyond tip of extended postfemur. Tenth abdominal tergite extended behind with apex excised in the middle into two lobes; thinly hirsute (Fig. 4). Cerci subcylindrical with single apical projections (Fig. 5). Subgenital plate elongated triangular separated into two lobes, apex bearing styli. Styli black in colour (Fig. 6) Titillators compressed, sclerotised along inner margin, apex rounded (Fig.7). Stridulatory file with around 70 teeth (Fig. 8). First antennal segment swollen slightly.

Colouration. Frons and mandibles black and shining; clypeus and labrum light brownish, fore femur light yellowish, other legs light brownish; head, pronotum shining and brownish; abdomen smooth, shining with numerous light spots and a central longitudinal pale band, ventrally pale.

Measurements. Body length 26mm; abdomen length 16mm; pronotal length 4.99 mm; notum 1.66mm; length of postfemur 9 mm.

Female. Unknown.

Discussion. The genus *Lichnofugia* was first described by Ingrisch with five new species all from Thailand. These include *Lichnofugia cornuta* Ingrisch 1998; *L. symfioma* Ingrisch, 1998; *L. petria* Ingrisch, 1998; *L. rufa* Ingrisch, 1998 and *L. nigra* Ingrisch, 1998. Some of these species are based only on a single specimen. Another new species - *Lichnofugia malaya* Tan & Ingrisch, 2014 was described from Peninsular Malaysia. With the addition of *L. umshingensis* the total number of species of *Lichnofugia* totals seven.

The present species of *Lichnofugia* viz. *L. umshingensis* is the only record of this genus from India. In terms of its distribution the discovery of this species from north east India extends the distributional range of the genus *Lichnofugia* considerably eastward.

The specimen was kept alive in a plastic specimen container for a week during which it was feed with grass and pieces of a grasshopper, which it quickly devoured. No other information exists on the biology of this species.

Members of the Tribe *Agraeiini* are nocturnal and are rarely encountered during the daytime, as they hide among crevices, tree cracks, bamboo hollow etc (Ingrisch, 1998). The present specimen was collected during daytime close to a patch of grass near the edge of pine forest from a crevice in the ground where it was apparently hiding. Attempt to find more specimens during night time with a torch have proved futile.

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