

A new record of Genus *Icius* Simon, 1876 for Jumping Spiders (Araneae: Salticidae) of Pakistan

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Abstract

The research studies on the jumping family of Salticidae in Pakistan are rare due to several reason. In this study, I present the first record of *Icius alboterminus* (Caleb, 2014) from Pakistan. Specimen for the study is collected selected area of district Swabi, Pakistan. The findings of the study constitute the first record of genus *Icius* Simon, 1876 from the country, as well as an updated distribution map is presented in this study as well.

Keywords: Salticidae, *Icius*, *Icius alboterminus* (Caleb, 2014), Genus *Icius*, distribution map, new record.

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1. Introduction

The jumping spiders of family Salticidae of Pakistan has never been the subject of intensive taxonomic studies because of two reasons lack of taxonomic knowledge and inappropriate curation of the specimens. Only few works with a few species reported to date (Ali et al. 2018; Ali et al. 2016; Azarkina 2004; Bauer et al. 2015; Caleb et al. 2019; Logunov 2021; Logunov 2020; Logunov and Azarkina 2018; Logunov et al. 2011; Wesołowska and Freudenschuss 2012). However, an ongoing project to discover the country's salticid diversity is revealing that many species are present, especially of species Palearctic, African and oriental regions distributed in Pakistan.

The Genus *Icius* Simon, 1876 members are represented worldwide except Australia. This paper presents, (a) first new record of genus *Icius* to Pakistan, (b) the first record of *Icius alboterminus* (Caleb 2014) outside its type of locality India (Caleb 2017; Parapati and Kambo 2020).

2. Materials and methods

The specimens were collected from subtropical scrub mountain in districts Swabi and observed the stereomicroscope in 70% alcohol. The species was identified by comparing the literature provided in Caleb (2014) and Caleb (2017). Male genitalia was photographed with digital camera 5MP attached stereomicroscope. Female photographed followed for male. The distribution map of *Icius alboterminus* (Caleb 2014) is presented (figure 3). Measurements are given in millimeters.

3. Results and discussion

Taxonomy

Gen. *Icius* Simon 1876

This genus *Icius* was erected from type of species *Icius hamatus* C. L. Koch, 1846. There are 36 species worldwide, of which four species from India, one from Afghanistan and three from China (Caleb 2017; Prajapati et al. 2018; Prajapati and Kamboj 2019; Prajapati et al. 2021; WSC 2021). To date, the genus has not been formally recorded from Pakistan.

Icius alboterminus (Caleb, 2014) (Fig 2-3)

Specimen Examined:

The specimen examined for the study is of 1 Male, Pakistan, Khyber Pakhtunkhwa, Swabi, Jhanda, (34°06'53.1"N 72°33'36.2"E), 560 elevation, 26 August 2018, Pir Asmat Ali, scrub mountains (specimen PAA# 2018-08-51).

Diagnosis:

Species different from other congeners by the shape of embolus, retrolateral tibial apophysis (Figs. 2 C-D) and the abdomen dorsal pattern with white setae forming dots on both sexes (Figs. 1 A-B). Males embolus claw shaped and directed to venter at end and RTA elongated (Figs. 2 C-D).

Description: Male (Fig.1; A)

Total length 2.90; carapace length 1.50 long, width 1.12; abdomen 1.50, 1.05 wide.

The Cephalothorax elongated blackish-brown almost black, with white marginal spines, whitish hairs at antero-lateral sides. Chelicerae are with one promarginal and one retromarginal teeth. Leg I strongest blackish-brown almost black streak, all other legs yellowish with brown streaks.

Abdomen oval elongated with setae and scales, brownish anteriorly and blackish brown at posterior end; the white dots on abdomen is diagnostic character of the species. Spinnerets blackish.

Description: Female (Fig.1; B)

Specimen Examined:

Another specimen examined for this is of 1 female, Pakistan, Khyber Pakhtunkhwa, Swabi, Jhanda, (34°06'53.1"N 72°33'36.2"E), 560 elevation, 26 August 2018, Pir Asmat Ali, scrub mountains (specimen PAA# 2018-08-52)

Total length 3.25; carapace length 1.51, width 1.11; abdomen 1.71 length, width 1.22.

The characteristics of female are almost similar with males but differ in brightness, lighter coloration of the body as compared to its male (Fig.1-B).

Icius alboterminus (Caleb, 2014) is currently distributed in Pakistan and India (Fig.3). The salticid spiders of Pakistan need extensive taxonomic work to understand the genera and species distribution in Palearctic and oriental. Moreover, to overcome taxonomic studies gaps, a proper curated museums and taxonomic experts can make great contribution for future work on Salticid spiders exploration.



Figure 1 (A-B). Male and female of *Icius alboterminus* (Caleb, 2014) dorsal view, scale bar 2mm.

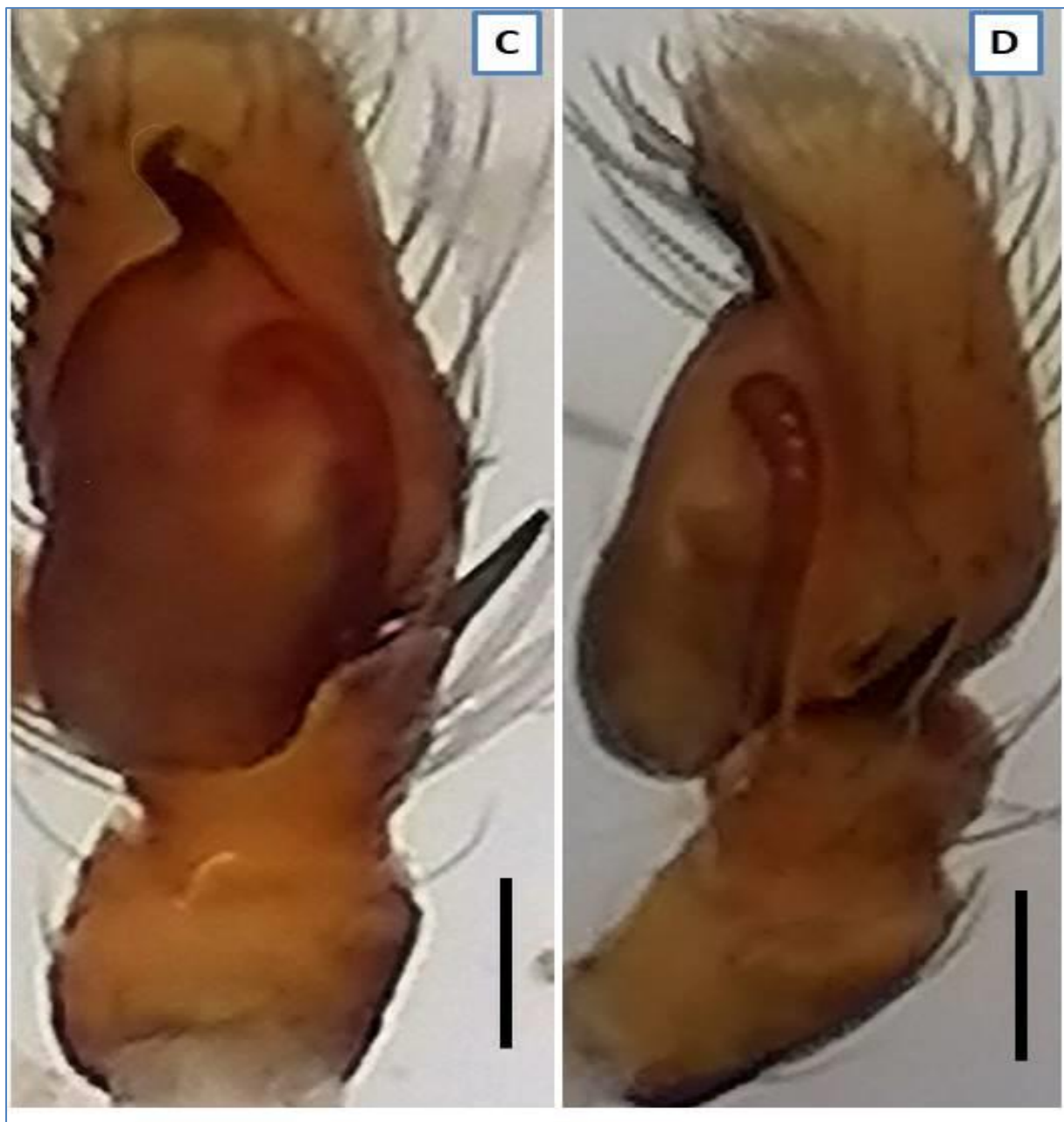


Figure 2 (C-D). Male palp ventral and retrolateral view of *Icius alboterminus* (Caleb, 2014)

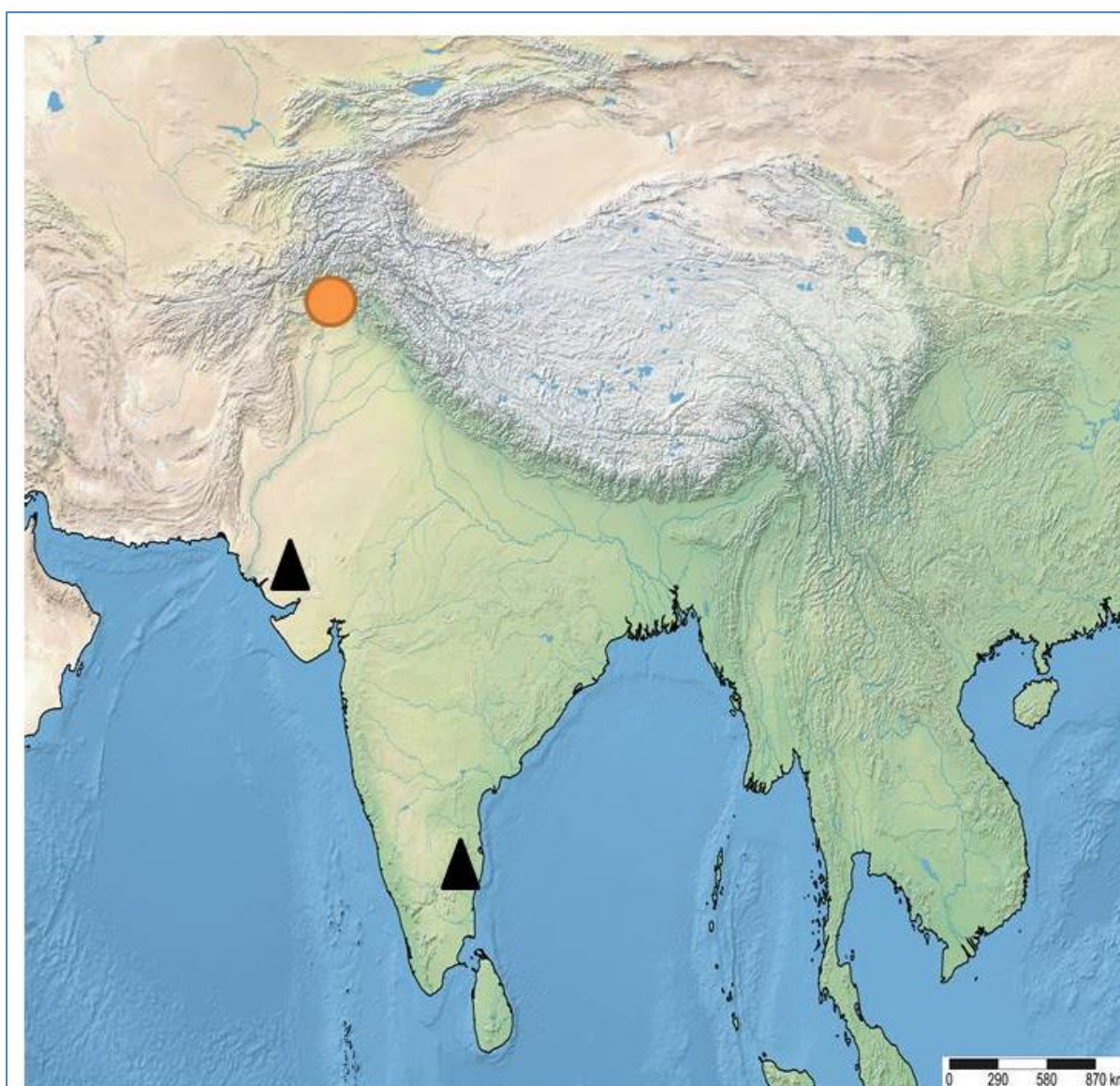


Figure3. Distribution Map of *Icius alboterminus* (Caleb, 2014) in the subcontinent

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