



Short Communication

First report of *Psechrus Inflatus* Bayer (Araneae: Psechridae) from India

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Abstract

Psechrus inflatus Bayer, 2012 previously known from China, is recorded for the first time in India. Partial sequence data of mitochondrial cytochrome C oxidase (mtCOI) was generated and is submitted in BOLD.

Keywords: Assam, DNA Barcoding, mtCOI gene, New record, Taxonomy

Introduction

There are about 46,617 species under 4,048 genera known worldwide (World Spider Catalog 2017) and 1686 species under 438 genera from India (Keswani *et al.*, 2012). The family Psechridae Simon, 1890 is represented by 61 species under 2 genera (World Spider Catalog, 2017). The lace sheet weaver spider genus *Psechrus* was erected by Thorell in 1878. Presently, 57 species are known to be distributed in the South-east Asian region and the central Indo-pacific Islands, of which three species are known from India; *Psechrus himalayanus* Simon, 1906, *P. torvus* (O.P.-Cambridge, 1869) and *P. crepido* Bayer, 2012 (World Spider Catalog, 2017). The objective of the present study is to formally record the presence of the species *Psechrus inflatus* Bayer, 2012 for the first time in India. DNA barcode data has also been provided.

Material and Methods

Specimens were hand collected and preserved in 70% ethanol. Isolation of genomic DNA was performed using QIAamp® DNA Investigator Kit, following manufacturer's instructions. Amplification of partial fragment (~650bp)

of mitochondrial cytochrome C oxidase subunit I (mtCOI) gene were performed using forward primer LCO 1490 (Folmer *et al.*, 1994) and the reverse primer Chelicerate R1 (Barrett & Hebert, 2005). The PCR product was purified by using QIAquickR Gel extraction kit. The bidirectional sequencing of the purified PCR product was carried out by using BigDye® Terminator Cycle Sequencing Kit (v3.1) on 3730 DNA Analyzer (Applied BioSystems) in the in-house sequencing facility of Zoological Survey of India. The generated forward and reverse mtCOI fragments were analysed with SeqScape software version 2.7 (Applied Biosystems) and consensus sequences were obtained after checking deletion, insertion and stop codons. The generated sequence was submitted to BOLD (Barcode of Life Data System) under the project titled "Barcoding Spiders of India". The specimens were later examined and photographed by the Leica EZ4 HD stereomicroscope. All images were then processed with the aid of LAS core software (LAS EZ 3.0). Species was identified using diagnostic keys provided by Bayer (2012). The studied specimens have been deposited in the National Zoological Collections at the Zoological Survey of India, Kolkata (NZC).

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Taxonomy

Family PSECHRIDAE Simon, 1890

Psechrus inflatus Bayer, 2012

(Figures. 1-8)

Psechrus inflatus Bayer, 2012: 72.

Materials examined: INDIA, Assam, Silchar, 1 male (ZSI-AA585) and 1 sub-adult female (ZSI-AA586), (24°52'14.664" N, 92°51'37.3284" E, 26 m) 15.x.2016, leg. Milufar Aktar Barlaskar and Boni Amin Laskar.

Diagnosis: The species can be recognized by the complex, meandering sperm duct (Figure 6, 7) and by the presence of macrosetae in the ventro-proximal region of palpal femur (Figure 3, 5). See Bayer (2012) for comparative diagnosis.

Comments: This species is known only from Yunnan Province, China (Bayer, 2012). The present record from

India represents the westernmost limit of the species' distribution.

Distribution: India: Assam (Silchar). *Elsewhere:* China.

Molecular Data

The generated DNA barcode data of *P. inflatus* was evaluated in the similarity search engine of NCBI (National Centre for Biotechnology Information) and showed 98% similarity with sequences from China.

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PLATE 1



Figures 1-8. *Psechrus inflatus*, Male. (1) carapace; (2) abdomen; (3) sternum, labium and endites; (4) chelicerae; (5) proximo-ventral view of palpal femur; (6) left palp, ventral view; (7) same, ventro-lateral view; (8) same, retrolateral view. Scales: Figs. 1-4 & 6-8, 1 mm, Fig. 5, 0.5 mm.