

## FIRST REPORT OF *SCOTOPHAEUS XIZANG* ZHANG, SONG & ZHU, 2003 FROM INDIA (ARANEAE: GNAPHOSIDAE)

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**ABSTRACT:** The paper gives the first report of the ground dwelling spider *Scotophaeus xizang* Zhang, Song & Zhu, 2003 from the Himalayan state of Himachal Pradesh. The species is hitherto reported only from China with the last record dating back to 2004. The current collection locality also marks the westernmost occurrence site for the species.

**KEY WORDS:** Ground spiders, first report, range extension, Himalayas, arthropod

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Gnaphosidae Banks, 1892 represents the sixth speciose family of spiders housing 2442 species from 146 globally recognized genera (World Spider Catalog, 2023), of which *Scotophaeus* Simon, 1893 hosts 62 species, nine of which are reported from India. Members of the genus are presumed to form a complex and has been demanding to be revised (Murphy, 2007; Zamani et al., 2021). The genus has a wide global distribution, spanning the Eurasian and African continents, with introductions in North America, Peru, and Hawaii (World Spider Catalog, 2023). Species from the Indian Western Himalayan accounts for two species, viz. *S. simlaensis* Tikader, 1982 (Shimla) and *S. madalasae* Tikader & Gajbe, 1977 (Uttarkashi and Chamba), both dating back to the late 1900s with no present records.

This paper provides the first occurrence report of *S. xizang* Zhang, Song & Zhu, 2003 from the Himalayan state of Himachal Pradesh (HP), India. The species is currently reported from the Xizang Autonomous Region and Yunnan Province, China, establishing the current locality as the westernmost distribution range.

### MATERIALS AND METHODS

During a systematic elevational survey within the core and buffer zones of the Great Himalayan National Park Conservation Area (GNHPCA, HP), the specimen was actively hand collected from the forest complex of Shai Ropa. The specimen was preserved in 70% ethanol followed by examination under Carton DSZ-45T stereomicroscope. Internal genitalia was dissected and cleaned using lactic acid. Genus confirmation was based on Murphy (2007) and species was identified using Zhang et al. (2003). Specimen was photographed and measured using MICAPs camera attachment. All measurements are in millimetres (mm) and sample is deposited at the Wildlife Information Liaison Development Society (WILD), Coimbatore, Tamil Nadu, India.

Abbreviations used in text and figures. ALE = anterior lateral eye; AME = anterior median eye; fe=femur; GHNPCA= Great Himalayan National Park Conservation Area; MOA= Median Ocular Area; MOQ= Median Ocular Quadrat; mt=metatarsus; pa=patella; PLE= Posterior lateral eyes; PME= Posterior median eyes; ta=tarsus; ti=tibia; WILD = Wildlife Information Liaison Development Society.

## RESULTS

**Genus *Scotophaeus* Simon, 1893**

Type species *Aranea quadripunctata* Linnaeus, 1758

***Scotophaeus xizang* Zhang, Song & Zhu, 2003**

(Figs. 1-4)

**Material examined.** 1 female (WILD-21-ARA-1625), Shai Ropa Forest Complex, GHNPCA, N 31°38'29.5", E 77°23'14.29", 1500 m, coll. 26 February 2021. Irina Das Sarkar.

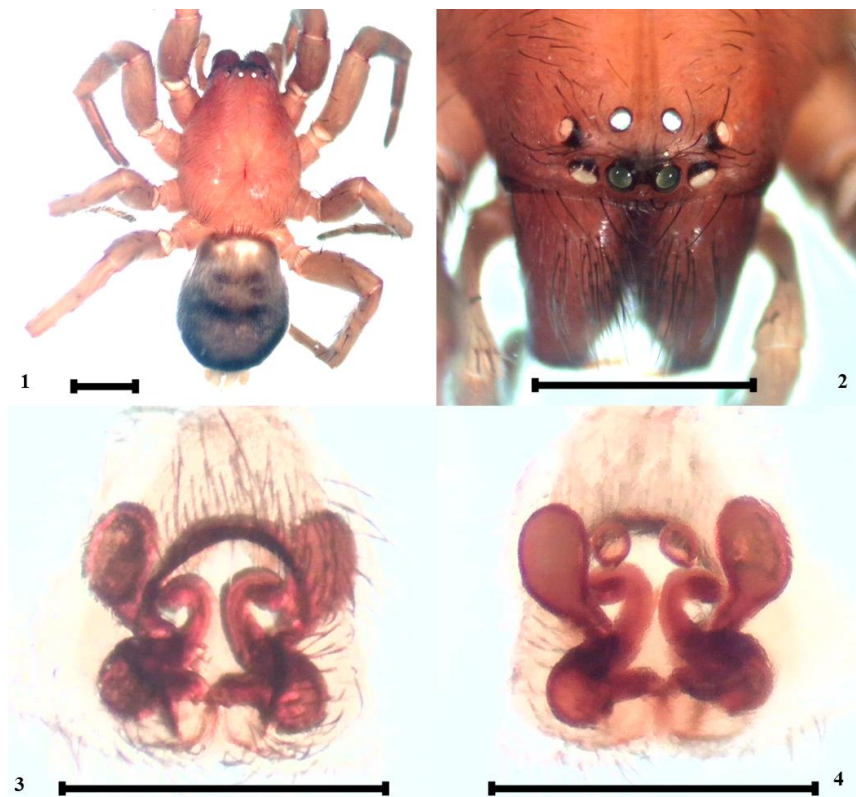
**Description.** Total length 6.14. Cephalothorax length 3.29, width 2.46, orange with light setae with no distinct pattern, oval, tapering anteriorly. Fovea small, distinct, depressed. Eyes in two rows, all with black rims that are thickest for AMEs, posterior row procurved, slightly longer than anterior row, ALEs distinctly elliptical. AME 0.12, ALE 0.16, PME 0.11, PLE 0.13. Inter-eye distances. AME-AME 0.09, AME-ALE 0.04, PME-PME 0.15, PME-PLE 0.15, ALE-PLE 0.09. Median Ocular Area (MOA) 0.46 length, 0.41 width. Median Ocular Quadrangle (MOQ) 0.46 length, 0.93 width. Chelicerae 1.17 length, 0.60 width, brown, 3 promarginal and 1 retromarginal teeth. Endites length, width. Sternum length 2.12, width 1.33, yellow-orange, oval, with small hairs converging centrally. Endites 1.04 length, 0.51 width, yellow-orange, distinct black border, with white distal tips. Labium 0.65 length, 0.39 width, brown-orange. Legs strong, robust, bearing setae and spines. Leg measurements (fe, pa, ti, mt, ta, total length): I fe 1.69 pa 1.34 ti 1.60 mt 1.26 ta 0.71 (6.6); II fe 1.83 pa 1.35 ti 1.58 mt 1.29 ta 0.79 (6.84); III fe 1.56 pa 1.08 ti 1.43 mt 1.38 ta 0.79 (6.24); IV fe 2.13 pa 1.34 ti 2.01 mt 2.13 ta 0.93 (8.54). Leg formula 4213. Abdomen length, width, dark brown, covered in long black hair with white patch on distal end, giving it mouse-like appearance. Epigyne with large arched median plate framed anteriorly and laterally, bearing lateral protrusions; spermathecae long, bulbous, and bilobed, anterior lobe elongated, posterior lobe spherical; copulatory ducts coiled ending in bulbous tips.

**Habitat.** The specimen was collected from a Temperate Forest floor within the forest complex of Shai Ropa, GHNCPA. The predominant flora of the collection locality included *Pinus* spp., *Taxus* sp., *Cedrus deodara*, and *Abies* sp.

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Chand for their dedicated support through all intensive surveys. Their help has been indispensable towards documenting spider fauna of the region. We also acknowledge the spiders that were sacrificed for the study.



Figures 1-4. *Scotophaeus xizang* Zhang, Song & Zhu, 2003 ♀. 1. Habitus, dorsal. 2. Eye arrangement. 3. Epigyne, dorsal. 4. Epigyne, ventral.

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