

Diversity and the distribution of the spider genus *Utivarachna* in Sri Lanka: Discovery of five new species

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The genus Utivarachna Kishida, 1940, represented by 31 species globally distributed across Southeast Asia. Its presence and distribution in Sri Lanka are limited to a single species, Utivarachna accentuata Simon, 1896, which may be attributed to the limited research conducted on the genus on the island. Thus, this study aims to enhance our understanding of the biodiversity and taxonomy of Utivarachna spiders in underexplored regions by identifying and describing species of Utivarachna in Sri Lanka, based on their morphology. Fieldwork was conducted in 11 localities across five districts in Sri Lanka: Nuwara Eliya, Kandy, Rathnapura, Matale, and Puttalam, representing diverse habitats. All ground-dwelling spiders were collected from litter by sieving and hand collection. The collected specimens were preserved in 70 % ethanol, identified, and photographed using Olympus SZX7, and Leica M205C microscopes using standard methodology. A total of 18 males and 15 females were identified. Five new species of Utivarachna were recognized based on differences in genital morphology and were validated by comparing these features with previously described species. They were provisionally named Utivarachna sp. A, Utivarachna sp. B, Utivarachna sp. C, Utivarachna sp. D, and Utivarachna sp. E. The newly identified species were distinct by the arrangement of the dorsal lobe and dorsal spine of the retrolateral tibial apophysis and the highly recurved posterior eye row from the existing species. Utivarachna sp. A and Utivarachna sp. C recorded from Nuwara Eliya District, whereas Utivarachna sp. B and Utivarachna sp. D were recorded from Deanston and Riverston of the Knuckles mountain range, respectively. Utivarachna sp. E was reported from the Loolecondera estate of Kandy District. The discovery of five new species of Utivarachna from Sri Lanka, belonging to the Kinabaluensis species group, significantly enhances our understanding of the biogeography of this group, which is currently known to span across South and Southeast Asia, including regions of India, China, Taiwan, and Thailand. The discovery of these new species highlights the ecological importance of Sri Lanka's unique habitats and underscores the need for their conservation. All five Utivarachna species are novel discoveries and will be formally described in an upcoming publication.

Keywords: Araneae; biodiversity; morphology; taxonomy; trachelids

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