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SIX NEW SPECIES OF *UTIVARACHNA* KISHIDA, 1940 (ARANEAE: TRACHELIDAE) FROM SRI LANKA, WITH A KEY TO THE SRI LANKAN SPECIES

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Six new species of *Utivarachna* Kishida, 1940 (Araneae: Trachelidae) from Sri Lanka, with a key to the Sri Lankan species

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ABSTRACT

Six new species of the trachelid spider genus *Utivarachna* Kishida, 1940 from natural forests of Sri Lanka are described: *U. boo* **sp. nov.** (♂♀), *U. haputale* **sp. nov.** (♀), *U. loolecondera* **sp. nov.** (♂♀), *U. mandaram* **sp. nov.** (♂♀), *U. peekaboo* **sp. nov.** (♂♀) and *U. upcotensis* **sp. nov.** (♂♀). Additionally, *U. accentuata*, a previously recorded species from Sri Lanka, is redescribed. A key to all known *Utivarachna* species from Sri Lanka is provided, and their current distribution in Sri Lanka is mapped.

Keywords: Arachnida, biodiversity, taxonomy, South Asia, systematics

INTRODUCTION

Trachelidae Simon, 1897 is a small spider family that currently includes 300 species circumscribed in 29 genera and is distributed worldwide. Four species of Trachelidae attributed to three genera, *Orthobula* Simon, 1897 (1 sp.), *Trachelas* L. Koch, 1872 (2 spp.), and *Utivarachna* Kishida, 1940 (1 sp.), are known from Sri Lanka (WSC 2025). However, none of these species have been recently studied in any detail. In particular, *Utivarachna* is a genus with significant diversity across Southeast Asia, yet its presence and distribution in Sri Lanka has been limited to a single species, *Utivarachna accentuata* Simon, 1896. The genus was first established by Kishida (1940) to accommodate *U. fukasawana* Kishida, 1940, a species from Borneo distinguished by the elongation of the posterior end of the carapace into a stalk. Deeleman-Reinhold (2001) later described the majority of the Southeast Asian species and divided the genus into four species groups based on a combination of somatic and genitalic morphology. Field work conducted by us during the last few years has shown the presence of a largely unexplored *Utivarachna* fauna living in the island's forest patches.

In this study, we aim to describe six new species, *U. boo* **sp. nov.**, *U. haputale* **sp. nov.**, *U. loolecondera* **sp. nov.**, *U. mandaram* **sp. nov.**, *U. peekaboo* **sp. nov.**, and *U. upcotensis* **sp. nov.**, based on their genital morphology, and update knowledge of the distribution of *Utivarachna* in Sri Lanka. We hope to enhance the understanding of its diversity in South Asia and contribute to the broader knowledge of sac spiders in the region.

MATERIAL AND METHODS

Fieldwork was conducted in all the climatic regions of Sri Lanka. All spiders were collected by beating vegetation and hand collection. Specimens for the morphological study were preserved in 70% ethanol and examined using an Olympus SZX7 stereo microscope. Left male palps were immersed in a few drops of methyl salicylate, slide-mounted, and illustrated with the aid of a drawing tube attached to a Leica DM3000 compound microscope (Dingerkus and Uhler, 1977). Photographs of palps, epigynes, and intact spiders were taken

with a Leica Flexcam C3 camera mounted on a Leica M205C stereomicroscope using Leica Application Suite X. Images were merged using Zerene Stacker image stacking software version 1.04. Field photographs were taken using a Nikon D7000 camera with a 100 mm macro lens. All measurements are in millimeters. The material listed is deposited in the National Institute of Fundamental Studies, Kandy, Sri Lanka (NIFS).

Abbreviations used in the text and figures: A atrium; AER anterior eye row; ALE anterior lateral eye; AME anterior median eye; B bursa; CD copulatory duct; DL dorsal lobe of RTA; E embolus; EC embolic coil; FD fertilisation duct; ML median lobe of RTA; MOA median ocular area; PER posterior eye row; PLE posterior lateral eye; PME posterior median eye; RTA retrolateral tibial apophysis; S spermatheca; SD sperm duct; ST subtegulum; T tegulum; VL ventral lobe of RTA; WSC world spider catalog.

RESULTS

Taxonomy

Order Araneae Clerk, 1757
Family Trachelidae Simon, 1897
Subfamily Trachelinae Simon, 1897

***Utivarachna* Kishida, 1940**

Type species: *Utivarachna fukasawana* Kishida, 1940, by original designation.

Diagnosis: Prosoma broad and strongly convex, wedge-shaped posteriorly (not in the *dusun* group), with deep lateral invaginations behind the cephalic region; clypeus with a broad triangular anterior extension extending medially between the cheliceral bases (absent in *Trachelas*); pleural bars present between prosoma and sternum; tegulum folded along a transverse line, pushing back the coiled embolus between the tegulum and inner side of the cymbium (Deeleman-Reinhold, 2001); embolus with a transverse folded part; epigyne usually with a large posterior atrium (Liu et al., 2020).

Species included: 31 species; see World Spider Catalog (2025) for further details.

Distribution: Tropical Asia: China, India, Indonesia (Borneo, Sumatra), Malaysia (Borneo), Myanmar, Peninsular Malaysia, Singapore, Sri Lanka, Taiwan, Thailand, Vietnam.

Key to the species of *Utivarachna* known from Sri Lanka
(Male of *Utivarachna haputale* sp. nov. and female of *Utivarachna accentuata* are unknown)

1. Male … 2
   Female … 7

2. RTA trifid, with three distinct lobes: DL, VL, and ML (Fig. 1E, F) … *Utivarachna accentuata*
   RTA bifid, with two distinct lobes: DL and VL (Figs 2F, G, 5F, G, 7F, G, 9, 10F, G, 12F, G) … 3

3. VL plate or leaf-like (Figs 5F, G, 7F, G, 9B, C) … 4
   VL rod, canoe, or thumb-shaped (Figs 2F, G, 9A, D, E, 10F, G, 12F, G) … 5

4. DL equal to VL in length, wider than VL (Fig. 9B) … *Utivarachna loolecondera* **sp. nov.**
   DL shorter and narrower than VL (Fig. 9C) … *Utivarachna mandaram* **sp. nov.**

5. Cymbial prolateral margin convex or nearly convex in ventral view (Figs 2F, 10F) … 6
   Cymbial prolateral margin straight in ventral view (Fig. 12F) *Utivarachna upcotensis* **sp. nov.**

6. EC as broad as T (Fig. 2F) … *Utivarachna boo* **sp. nov.**
   EC narrower than T (Fig. 10F) … *Utivarachna peekaboo* **sp. nov.**

7. Distal ends of B converging towards the midline of E (Figs 12D, 14I, J) … *Utivarachna upcotensis* **sp. nov.**
   Distal ends of B diverging away from the midline of E (Figs 4B, D, E, 5D, 7D, 10D, 14A–F) 8

8. Posterior margin of prosoma narrowed and subtriangular (Figs 2B, 5B, 7B) … 9
   Posterior margin of prosoma broad (Figs 4A, 10B) … 10

9. B elongated and rod-shaped (Figs 7D, 14E, F) … *Utivarachna mandaram* **sp. nov.**
   B bean-shaped (Figs 2D, 5D, 14A–D) … 11

10. B large, ovoid (Figs 4B, D, E) … *Utivarachna haputale* **sp. nov.**
    B small, rod-shaped (Figs 10D, 14G, H) … *Utivarachna peekaboo* **sp. nov.**

11. Distal portions of CD closely contiguous, touching in the region adjacent to B (Figs 2D, 14A, B) … *Utivarachna boo* **sp. nov.**
    Distal portions of CD distinctly separated, remaining apart in the region adjacent to B (Figs 5D, 14C, D) … *Utivarachna loolecondera* **sp. nov.**

***Utivarachna accentuata* Simon, 1896 (Fig. 1)**

Trachelas accentuatus Simon, 1896: 413.
Trachelas accentuatus Simon, 1906: 304, fig. 4b.
Utivarachna accentuata Deeleman-Reinhold, 2001: 370, 397.

Type material: Holotype ♂ (MNHN_AR17742): Sri Lanka, Central Province, Nuwara Eliya. No additional data given. (MNHN, bottle number 16209). Examined based on photographs.

Diagnosis: Males of *Utivarachna accentuata* differ from all other Sri Lankan *Utivarachna* species by trifid retrolateral tibial apophysis with canoe-shaped dorsal lobe, spine-like ventral lobe, and rod-shaped median lobe (cf. Simon, 1896: 304, fig. 4b; Figs 1E, F and Figs 2E–G, 5E–G, 7E–G, 9, 10E–G, 12E–G).

Supplementary description based on photos of holotype: Male in alcohol (Fig. 1). Prosoma reddish-brown, surface coriaceous and rugose; fovea short, dark; clypeus coloured as prosoma; AER procurved, PER recurved; chelicerae coloured as prosoma; sternum reddish-brown, surface rugose, longer than wide; opisthosoma oblong, narrowed posteriorly, dorsum (Fig. 1A) yellowish, median area with two pairs of dark spots, posterior region with four to five black transverse arcs; dorsal scutum oval, shiny, yellowish; venter of opisthosoma yellowish; epigastric region yellowish-brown; legs yellowish, darker anteriorly, brown annulations on femora and tibiae.

Male palp (Fig. 1E, F). Cymbium oval, prolateral margin straight ventrally; genital bulb longer than wide (Fig. 1F); RTA trifid, DL canoe-shaped, VL spine-like in retrolateral view, ML rod-shaped with distally curved acute apex (Fig. 1E); E with filiform embolic tip, EC

narrower than T; SD U-shaped in ventral view; T weakly sclerotized; ST sclerotised, visible in ventral view (Fig. 1F).

Remarks: The following supplementary description is based on the examination of photographs of the holotype of *U. accentuata*, provided by the Muséum National d'Histoire Naturelle (MNHN), Paris. A comparison of these photographs with the original description by Simon, 1896 confirmed the consistency of the key morphological features.

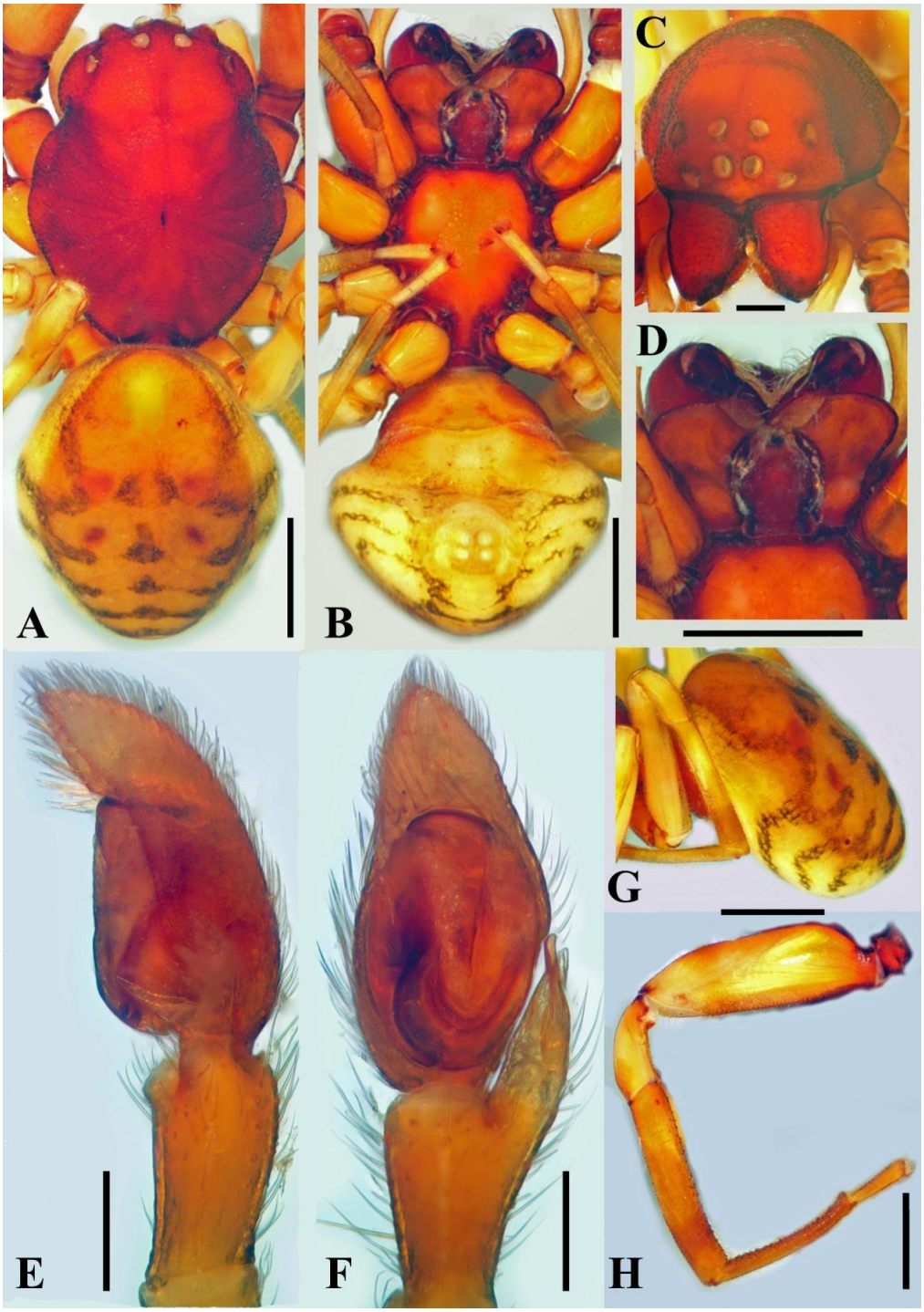

Fig. 1: *Utivarachna accentuata*. A–H holotype male (MNHN_AR17742). A habitus, dorsal; B habitus ventral; C eyes; D labium and chelicerae, ventral; E left palp, retrolateral; F idem, ventral; G opisthosoma, lateral; H leg I. Scale lines: A–B, D, G = 1 mm; C, H = 0.5 mm; E–F = 0.2 mm.

***Utivarachna boo* sp. nov. (Figs 2, 3, 9A, 14A, B, 15A, F, K, 16A)**

LSID urn:lsid:zoobank.org:act:B5FF47EF-6F71-4502-BF7E-8924630FC795

Type material: Holotype: ♂ (IFS_Tra_008): Sri Lanka, Central Province, Kandy District, Deenstone, Knuckles, Dothalugala, 1104 m, 07°20'19"N 80°51'03"E, 3 May 2018, beating, S.P. Benjamin *et al*.. Paratype. ♀ (IFS_Tra_007): same locality and collection data as holotype. Other material examined. 1♂ (IFS_Tra_009): same locality and collection data as holotype.

Diagnosis: Males of *Utivarachna boo* **sp. nov.** are most similar to those of *U. mandaram* **sp. nov.**, as both share a bifid retrolateral tibial apophysis with prominently curved dorsal lobe shorter than the ventral lobe, but can be separated from it by the rod-shaped ventral lobe (leaf-like in *U. mandaram* **sp. nov.**) and embolus with three rather than two coils (Figs 2E–G, 3A–C, 9A and Figs 7E–G, 8A–C, 9C). Females are most similar to those of *U. upcotensis* **sp. nov.**, as both share similar atrium in shape and pear-shaped arrangement of copulatory duct, but can be separated from it by copulatory duct coiled four times (three times in *U. upcotensis* **sp. nov.**) and bean-shaped spermathecae (globular in *U. upcotensis* **sp. nov.**) (cf. Figs 2C, D, 14A, B and Figs 12C, D, 14I, J).

Etymology: The specific name boo is inspired by Boo, a lovable ghost from children's books who looks spooky but is afraid of his own shadow. Like its namesake, this spider may seem fearsome at first glance, but it is just a harmless little critter. The name is used as a noun in apposition.

Description: Male in alcohol (holotype; Fig. 2A). Body length 5.59. Prosoma: 2.67 long, 1.98 wide. Opisthosoma: 2.92 long, 1.91 wide. Habitus as in Figs 2A, 16A. Prosoma reddish-brown, surface granulated, dorsally domed, posteriorly wedge-shaped, lateral margins undulating; fovea short, dark; clypeus coloured as prosoma, 0.19 high; eye sizes and interocular distances: AME 0.12, ALE 0.15, PME 0.15, PLE 0.15, AME–AME 0.07, AME–PME 0.15, AME–ALE 0.18, ALE–ALE 0.62, PME–PME 0.18, PME–PLE 0.24, PLE–PLE 0.92, ALE–PLE 0.24, MOA 0.40 long, front width 0.30, back width 0.48, AER procurved, PER recurved; chelicerae coloured as prosoma, 0.80 long; labium longer than wide, 0.50 long, 0.35 wide; sternum heart-shaped, yellowish-brown, surface granulated, longer than wide, 1.58 long, 1.14 wide; opisthosoma ovoid, narrowed posteriorly, dorsum (Figs 2A, 15A) yellowish-brown, anterior marginal area with regions of scattered dark spots, three pairs of dark transverse arcs followed by posterior U-shaped opisthosomal arc, two pairs of sigilla on opisthosoma in subrectangular position; dorsal scutum oval, pale brown; venter of opisthosoma coloured as dorsum; four longitudinal rows of sclerotised dots present between epigastric furrow and spinnerets; spinnerets yellowish, anterior spinnerets as long as posterior laterals; legs I yellowish-brown (Fig. 15F), II–IV yellow, striated with black bands distally on tibiae I–IV and femora II and IV, ventral side of anterior legs filled with leg cuspules from tibiae to tarsi, metatarsi III and IV with distal preening comb followed by brush of setae (Fig. 15K), leg measurements: I 7.85 (2.30, 0.95, 2.05, 1.70, 0.85), II 6.55 (1.90, 0.80, 1.70, 1.45, 0.70), III 4.65 (1.35, 0.55, 1.00, 1.25, 0.50), IV 5.85 (1.55, 0.70, 1.25, 1.75, 0.60), leg formula: 1243.

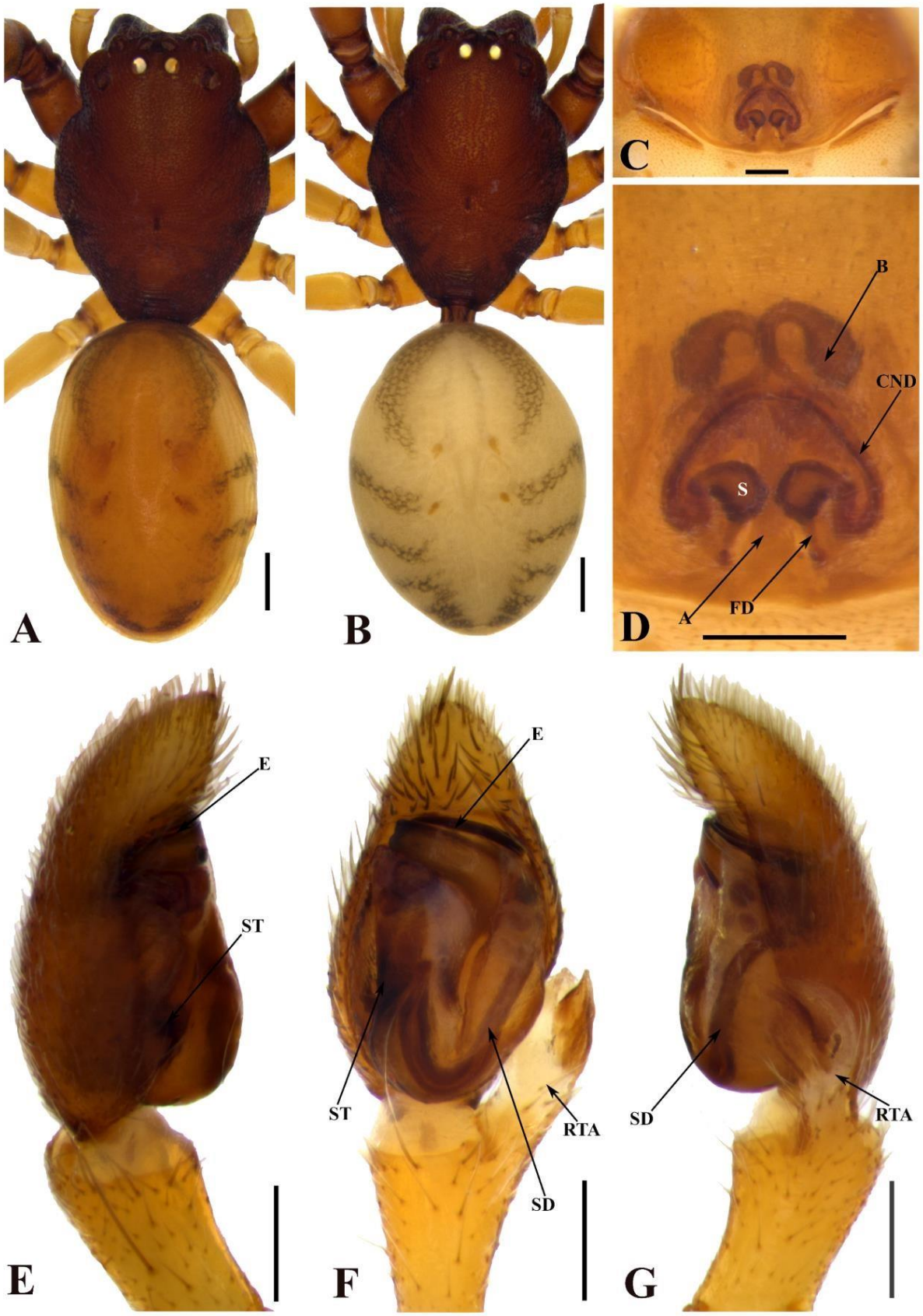

Fig. 2: *Utivarachna boo* **sp. nov.** A, E–G holotype male (IFS_Tra_008) and B–D paratype female (IFS_Tra_007). A–B habitus, dorsal; C–D epigyne intact, ventral; E left palp, prolateral; F idem, ventral; G idem, retrolateral. Abbreviations: A, atrium; B, bursa; E, embolus; FD, fertilisation duct; RTA, retrolateral tibial apophysis; S, spermatheca; SD, sperm duct; ST, subtegulum. Scale lines: A–B = 0.5 mm; C–G = 0.2 mm.

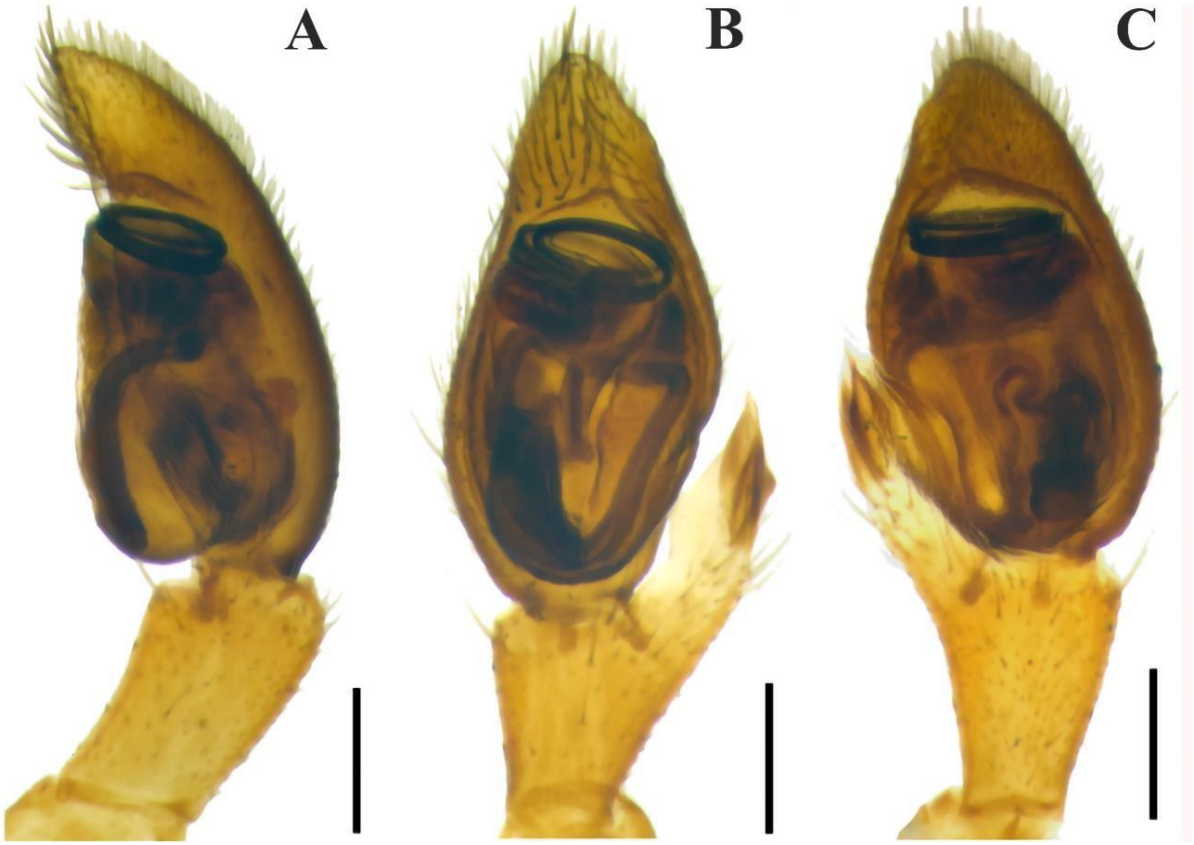

Fig. 3: *Utivarachna boo* **sp. nov.** A–C left male palp cleared in methyl salicylate; A retrolateral; B ventral; C dorsal. Scale lines: A–C = 0.2 mm.

Male palp (Figs 2E–G, 3A–C). Cymbium and genital bulb oval, cymbial prolateral margin convex ventrally; RTA bifid (Fig. 9A), VL rod-shaped, long, ending in round tip, DL curved more prominently than VL, tip rounded, shorter and wider than VL; E long, coiled horizontally, looping thrice, embolic tip filiform; EC broad as T; SD long, U-shaped in ventral view; T mostly membranous; ST sclerotised, visible in ventral and prolateral view.

Female in alcohol (Fig. 2B). Body length 6.02. Prosoma: 2.85 long, 1.94 wide. Opisthosoma: 3.17 long, 2.35 wide. Habitus and details as in male except for the following (Fig. 2B). Clypeus 0.15 high; eye sizes and interocular distances: AME 0.12, ALE 0.12, PME 0.14, PLE 0.14, AME–AME 0.07, AME–PME 0.12, AME–ALE 0.16, ALE–ALE 0.52, PME–PME 0.18, PME–PLE 0.26, PLE–PLE 0.92, ALE–PLE 0.25; MOA 0.38 long, front width 0.27, back width 0.48; AER procurved, PER slightly recurved; chelicerae coloured as prosoma, 1.01 long; labium longer than wide, 0.56 long, 0.40 wide; sternum yellowish-brown, longer than wide, 1.63 long, 1.17 wide; leg measurements: I 6.70 (2.10, 0.80, 1.95, 1.55, 0.80), II 6.85 (2.05, 0.75, 1.85, 1.50, 0.70), III 4.85 (1.55, 0.70, 1.00, 1.10, 0.50), IV 6.40 (1.75, 0.75, 1.50, 1.80, 0.60), leg formula: 1243.

Genitalia (Figs 2C, D, 14A, B). Atrium large, posteriorly located; CO small, semicircular, located on posterior margin of the epigyne; CD long, strongly convoluted, coiled four times around its initial stretch; S posteriorly located, bean-shaped, separated by less than their diameter; B nearly bean-shaped, ovoid, symmetrically arranged, distal ends diverging from the midline of the epigyne.

Distribution: Known only from the type locality (Fig. 17)

***Utivarachna haputale* sp. nov. (Fig. 4)**

LSID urn:lsid:zoobank.org:act:0C0FD963-94F6-4EAA-9E27-67B89CDEFFD2

Type material: Holotype: ♀ (IFS_Tra_034): Sri Lanka, Uva Province, Badulla District, Haputale, Thangamale Sanctuary, nr. Adisham Banglow, 1572 m, 06°46'20"N 80°55'52"E, 16 January 2025, beating, leg. N.P. Athukorala *et al*. Paratype. ♀ (IFS_Tra_035): same locality and collection data as holotype.

Diagnosis: Females of *Utivarachna haputale* **sp. nov.** differ from all other Sri Lankan *Utivarachna* species by the lack of coiling in the copulatory duct around its initial stretch. In *U. haputale* **sp. nov.**, copulatory duct coil along the transversal axis of the vulva, whereas in other species it coils more vertically around its initial stretch.

Etymology: The specific name is a noun in apposition referring to the type locality, Haputale.

Description: Female in alcohol (holotype; Fig. 4A). Body length 4.57. Prosoma: 2.21 long, 1.77 wide. Opisthosoma: 2.36 long, 1.90 wide. Habitus as in Fig. 4A. Prosoma dorsally domed, posteriorly wedge-shaped, reddish-brown medially, black marginally, with small black granulations on dorsum, covered with small white hairs; fovea dark, short; clypeus brown, 0.22 high; eye sizes and interocular distances: AME 0.12, ALE 0.13, PME 0.12, PLE 0.12, AME–AME 0.07, AME–PME 0.10, AME–ALE 0.13, ALE–ALE 0.53, PME–PME 0.16, PME–PLE 0.24, PLE–PLE 0.93, ALE–PLE 0.20; MOA 0.35 long, front width 0.28, back width 0.43; AER procurved, PER recurved; chelicerae coloured as prosoma, 0.82 long; labium longer than wide, 0.42 long, 0.37 wide; sternum yellowish-brown, longer than wide, 1.25 long, 0.90 wide; legs yellowish, with dark annulations (Fig. 4F) on each segment except tarsi, leg measurements: I 5.97 (1.82, 0.72, 1.54, 1.28, 0.61), II 5.63 (1.72, 0.57, 1.42, 1.30, 0.62), III 3.92 (1.21, 0.41, 0.85, 0.96, 0.49), IV 5.09 (1.45, 0.50, 1.20, 1.36, 0.58), leg formula: 1243; opisthosoma ovoid, narrowed posteriorly; dorsum yellowish-brown (Fig. 4A, C), anterior marginal area with regions of scattered dark spots, dark patch in middle of opisthosoma, and marginally with four to five black transverse arcs followed by thin horizontal band; venter coloured as dorsum; spinnerets yellowish-brown.

Genitalia (Fig. 4B, D, E). Atrium large, posteriorly located; CO large, located on posterior margin of the epigyne; CD long, strongly convoluted, coiled three times along transversal axis of the vulva; S posteriorly located, globular-shaped, closely arranged; B large elongated, symmetrically arranged, distal ends diverging from midline of epigyne.

Distribution: Known only from the type locality (Fig. 17).

***Utivarachna loolecondera* sp. nov. (Figs 5, 6, 9B, 14C, D, 15B, G, L)**

LSID urn:lsid:zoobank.org:act:5FF22F92-32A0-4A53-97FE-229494AD28D5

Type material: Holotype: ♂ (IFS_Tra_028): Sri Lanka, Central Province, Kandy District, Deltota, Loolecondera, 1480 m, 07°08'45"N 80°41'53"E, 22 June 2016, beating, N.P. Athukorala *et al*. Paratype. ♀ (IFS_Tra_029): same locality and collection data as holotype. Other material examined. 2♀ (IFS_Tra_030, 031): same locality and collection data as

holotype: 2♂ (IFS_Tra_020, 021): same locality as the holotype, 11 October 2018, leg. S.P. Benjamin *et al.* 1 ♂ (IFS_Tra_025): same locality as the holotype, 15 November 2017, N.P. Athukorala *et al*. 2 ♀ (IFS_Tra_026, 027): same locality as the holotype, N.P. Athukorala *et al*.

Diagnosis: Males of *Utivarachna loolecondera* **sp. nov.** are most similar to those of *U. upcotensis* **sp. nov.** as both share an embolus with two coils, but can be separated from it by the plate-like ventral lobe with a blunt tip (canoe-shaped sharp tip in *U. upcotensis* **sp. nov.**) and the dorsal lobe and ventral lobe that are similar in length (dorsal lobe shorter than ventral lobe in *U. upcotensis* **sp. nov.**) (cf. Figs 5E–G, 9B and Figs 12E–G, 9E). Females are most similar to those of *U. boo* **sp. nov.**, as both share symmetrically arranged bursae, but can be separated from it by copulatory ducts loosely coiled three times (quadruple tight coils in *U. boo* **sp. nov.**) and non-overlapping copulatory ducts (overlapping copulatory ducts in *U. boo* **sp. nov.**). (cf. Figs 5C, D, 14C, D and Figs 2C, D, 14A, B).

Etymology: The specific name is a noun in apposition referring to the type locality, Loolecondera.

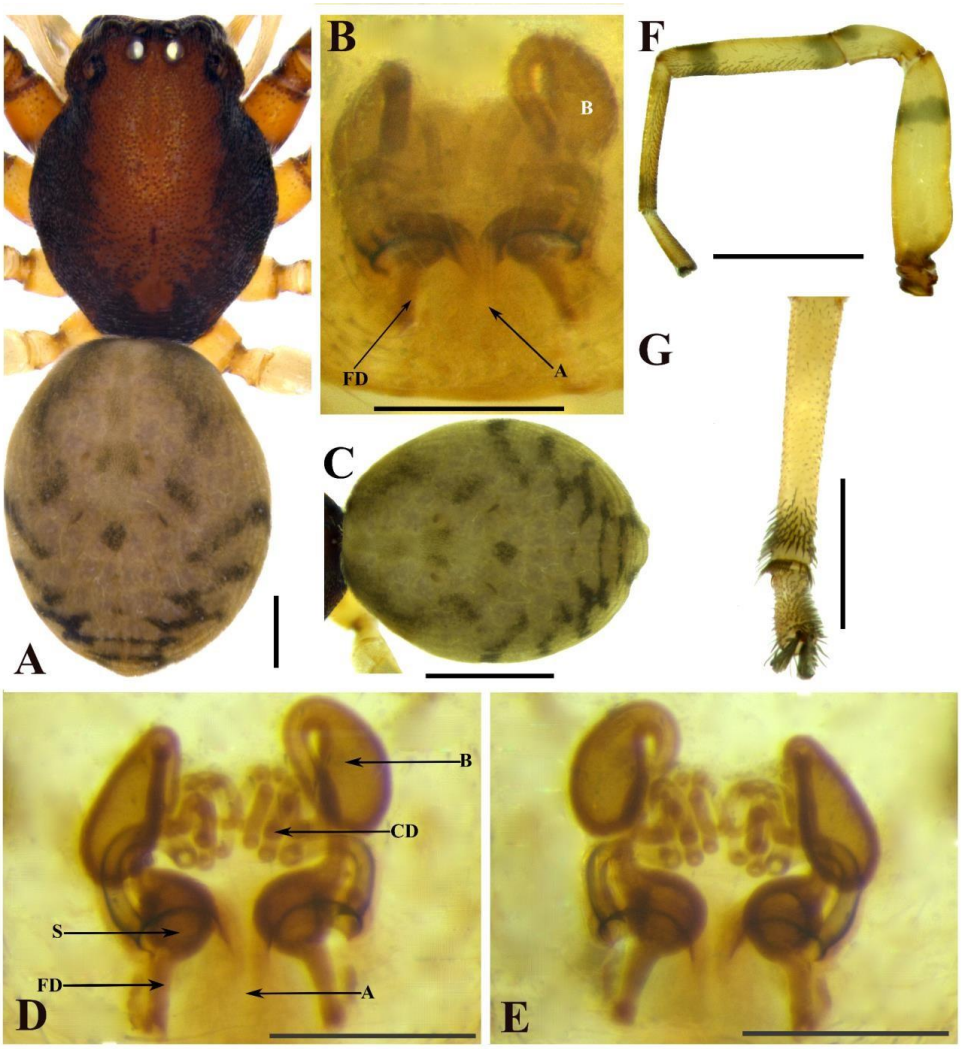

Figure 4: *Utivarachna haputale* **sp. nov.** A–G holotype female (IFS_Tra_034). A habitus, dorsal; B epigyne intact, ventral; C opisthosoma, dorsal; D vulva, ventral; E vulva, dorsal; F leg I; G metatarsus IV and tarsus IV. Abbreviations: A, atrium; B, bursa; CD, copulatory duct; FD, fertilisation duct; S, spermatheca. Scale lines: A, F–G = 0.5 mm; B, D–E = 0.2 mm; C = 1 mm.

Figure 5: *Utivarachna loolecondera* **sp. nov.** A, E–G holotype male (IFS_Tra_028) and B–D paratype female (IFS_Tra_029). A–B habitus, dorsal; C–D epigyne intact, ventral; E left palp, prolateral; F idem, ventral; G idem, retrolateral. Abbreviations: A, atrium; B, bursa; E, embolus; FD, fertilisation duct; RTA, retrolateral tibial apophysis; S, spermatheca; SD, sperm duct; ST, subtegulum. Scale lines: A–B = 0.5 mm; C–G = 0.2 mm.

Description: Male in alcohol (holotype; Fig. 5A). Body length 5.50. Prosoma: 2.69 long, 1.98 wide. Opisthosoma: 2.81 long, 1.78 wide. Habitus as in Fig. 5A. Prosoma dorsally domed, posteriorly wedge-shaped, reddish-brown, radiating rows of black granulations; fovea dark, short; clypeus brown, 0.13 high; eye sizes and interocular distances: AME 0.13, ALE 0.15, PME 0.14, PLE 0.15, AME–AME 0.06, AME–PME 0.09, AME–ALE 0.17, ALE–ALE

0.60, PME–PME 0.18, PME–PLE 0.26, PLE–PLE 0.99, ALE–PLE 0.24; MOA 0.40 long, front width 0.30, back width 0.49; AER procurved, PER recurved; chelicerae coloured as prosoma, 0.78 long; labium longer than wide, 0.45 long, 0.39 wide; sternum yellowish-brown, longer than wide, 1.53 long, 1.15 wide; legs I yellowish-brown (Fig. 15G), II–IV yellow, ventral side of anterior legs filled with leg cuspules from tibiae to tarsi, metatarsi III and IV with distal preening comb followed by brush of setae, leg measurements: I 7.85 (2.30, 1.05, 2.10, 1.60, 0.80), II 7.00 (2.10, 0.90, 1.65, 1.60, 0.75), III 4.96 (0.95, 0.40, 0.80, 0.55, 0.45), IV 6.10 (1.60, 0.75, 1.35, 1.80, 0.60), leg formula: 1243; opisthosoma ovoid, posterior margin straight, dorsum (Fig. 15B) yellowish-brown, anterior marginal area with regions of scattered dark spots, three pairs of dark transverse arcs followed by pair of posterior opisthosomal arcs; opisthosoma entirely covered with pale brown, oval scutum; venter coloured as dorsum; four longitudinal rows of small oval sclerites between epigastric furrow and spinnerets; spinnerets yellowish-brown, lightly colored, anterior spinnerets as long as posterior laterals.

Palp (Figs 5E–G, 6, 9B). Cymbium and genital bulb oval, cymbial prolateral margin convex ventrally; RTA bifid (Fig. 9B), VL plate-shaped with blunt tip, DL curved slightly, blunt, length equal to VL, wider than VL; E long (Fig. 6), coiled horizontally, looping twice, with filiform embolic tip; EC broad as T; SD long, U-shaped in ventral view; T weakly sclerotised; ST sclerotised, visible in ventral and prolateral view.

Figure 6: *Utivarachna loolecondera* **sp. nov.** A–C left male palp embedded in methyl salicylate; A retrolateral; B ventral; C dorsal. Scale lines: A–C = 0.2 mm.

Female in alcohol (Fig. 5B). Body length 5.43. Prosoma: 2.45 long, 1.90 wide. Opisthosoma: 2.98 long, 2.27 wide. Habitus and details as in male except for the following (Fig. 5B). Clypeus 0.18 high; eye sizes and interocular distances: AME 0.13, ALE 0.14, PME 0.14, PLE 0.14, AME–AME 0.06, AME–ALE 0.15, AME–PME 0.12, PME–PME 0.16, PME–PLE 0.28, ALE–PLE 0.24; MOA 0.40 long, front width 0.30, back width 0.45; AER procurved, PER recurved; chelicerae coloured as prosoma, 0.91 long; labium longer than

wide, 0.49 long, 0.41 wide; sternum yellowish-brown, longer than wide, 1.43 long, 1.17 wide; legs I yellowish-brown, II–IV yellow, leg measurements: I 7.15 (2.05, 1.00, 1.80, 1.50, 0.80), II 6.50 (1.85, 0.85, 1.60, 1.45, 0.75), III 4.35 (1.30, 0.50, 0.95, 1.10, 0.50), IV 6.15 (1.80, 0.70, 1.35, 1.70, 0.60), leg formula: 1243.

Genitalia (Figs 5C, D, 14C, D). Atrium large, posteriorly located; CO small, semicircular, located on posterior margin of epigyne; CD long, strongly convoluted, coiled three times around its initial stretch; S posteriorly located, bean-shaped, closely arranged; B oval, symmetrically arranged, distal ends diverging from midline of epigyne.

Distribution: Known only from the type locality (Fig. 17).

Figure 8: *Utivarachna mandaram* **sp. nov.** A–C left male palp cleared in methyl salicylate; A retrolateral; B ventral; C dorsal. Scale lines: A–C = 0.2 mm.

***Utivarachna mandaram* sp. nov. (Figs 7, 8, 14E, F, 15C, H, M)**

LSID urn:lsid:zoobank.org:act:614ED241-5EF7-4AE3-B289-E2C6D057740A

Type material: Holotype: ♂ (IFS_Tra_016): Sri Lanka, Central Province, Nuwara Eliya District, Mandaram Nuwara, 1821 m, 07°01'42"N 80°46'03"E, 8 February 2018, N.P. Athukorala *et al*.. Paratypes: 1♀ (IFS_Tra_013): same locality and collection data as holotype; 2♀ (IFS_Tra_014, 015): same locality and collection data as holotype.

Diagnosis: Males of *Utivarachna mandaram* **sp. nov.** are most similar to those of *U. boo* **sp. nov.**, as both share a bifid retrolateral tibial apophysis with a prominently curved dorsal lobe shorter than the ventral lobe, but can be separated from it by the leaf-like ventral lobe (rod-

shaped in *U. boo* **sp. nov.**) and embolus with two coils (embolus with three coils in *U. boo* **sp. nov.**) (cf. Figs 7E–G, 8A–C, 9C and Figs 2E–G, 3A–C, 9A). Females are most similar to those of *U. boo* **sp. nov.**, as both share a similar coiling pattern of the copulatory duct, but can be separated from it by the elongated bursae (ovoid in *U. boo* **sp. nov.**) (cf. Figs 7C, D, 14E, F and Figs 2C, D, 14A, B).

Etymology: The specific name is a noun in apposition referring to the type locality, Mandaram Nuwara.

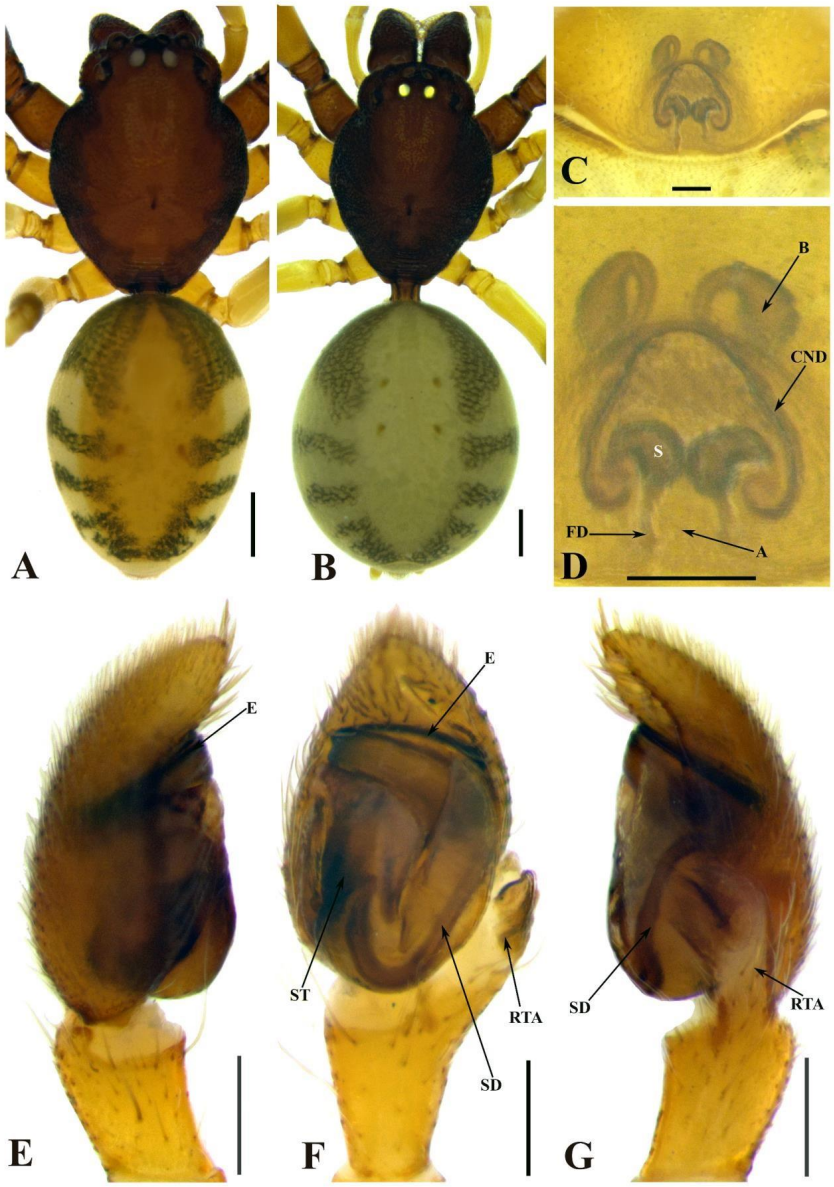

Figure 7: *Utivarachna mandaram* **sp. nov.** A, E–G holotype male (IFS_Tra_016) and B–D paratype female (IFS_Tra_013). A–B habitus, dorsal; C–D epigyne intact, ventral; E left palp, prolateral; F idem, ventral; G idem, retrolateral. Abbreviations: A, atrium; B, bursa; E, embolus; FD, fertilisation duct; RTA, retrolateral tibial apophysis; S, spermatheca; SD, sperm duct; ST, subtegulum. Scale lines: A–B = 0.5 mm; C–G = 0.2 mm.

Description: Male in alcohol (holotype; Fig. 7A). Body length 4.38. Prosoma: 2.11 long, 1.61 wide. Opisthosoma: 2.27 long, 1.67 wide. Habitus as in Fig. 7A. Prosoma dorsally domed, posteriorly wedge-shaped, brown, black marginally; fovea dark, short; clypeus brown, 0.10 high; eye sizes and interocular distances: AME 0.11, ALE 0.15, PME 0.15, PLE

0.14, AME–AME 0.07, AME–PME 0.10, AME–ALE 0.11, ALE–ALE 0.44, PME–PME 0.14, PME–PLE 0.24, PLE–PLE 0.84, ALE–PLE 0.18; MOA 0.37 long, front width 0.25, back width 0.43; AER procurved, PER recurved; chelicerae coloured as prosoma, 0.74 long; labium longer than wide, 0.38 long, 0.34 wide; sternum yellowish-brown, longer than wide, 1.15 long, 0.96 wide; legs I yellowish-brown (Fig. 15C), II–IV yellow, striated with black bands distally and proximally on tibiae I–IV while femora I –IV with distal bands only, ventral side of anterior legs filled with leg cuspules from tibiae to tarsi, metatarsi III and IV with distal preening comb followed by brush of setae, leg measurements: I 5.95 (1.75, 0.75, 1.55, 1.25, 0.65), II 5.30 (1.55, 0.70, 1.25, 1.15, 0.65), III 3.70 (1.05, 0.50, 0.90, 0.80, 0.45), IV 5.00 (1.30, 0.65, 1.10, 1.35, 0.60), leg formula: 1243; opisthosoma ovoid; narrowed posteriorly, dorsum (Figs 7A, 15C) yellowish, anterior marginal area with comparatively large regions of scattered dark spots, three pairs of dark transverse arcs followed by dark posterior opisthosomal patch, two pairs of dorsal sigilla on opisthosoma in subrectangular position, venter coloured as dorsum; four longitudinal rows of small oval sclerites between epigastric furrow and spinnerets; spinnerets yellowish brown, lightly colored, anterior spinnerets as long as posterior laterals.

Male palp (Fig. 7E–G). Cymbium and genital bulb oval; cymbial prolateral margin convex ventrally; RTA bifid (Fig. 9C), VL leaf-like, DL more prominently curved than VL, tip rounded, shorter and narrower than VL; E long, coiled horizontally, looping twice, embolic tip filiform; EC broad as T; SD long, U-shaped in ventral view. T weakly sclerotised. ST sclerotised, visible in ventral and prolateral view.

Female (IFS_Tra_013) in alcohol (Fig. 7B). Body length 5.43. Prosoma: 2.45 long, 1.78 wide. Opisthosoma: 2.98 long, 2.48 wide. Habitus and details as in male except for the following (Fig. 7B). Clypeus 0.20 high; eye sizes and interocular distances: AME 0.12, ALE 0.14, PME 0.14, PLE 0.13, AME–AME 0.08, AME ALE 0.14, AME–PME 0.10, PME–PME 0.15, PME–PLE 0.27, ALE–PLE 0.22; MOA 0.37 long, front width 0.28, back width 0.44; AER procurved, PER recurved; chelicerae coloured as prosoma, 1.01 long; labium longer than wide, 0.45 long, 0.38 wide; sternum yellowish-brown, longer than wide, 1.43 long, 1.03 wide; legs I yellowish-brown, II–IV yellow, leg measurements: I 6.70 (2.00, 0.75, 1.70, 1.45, 0.80), II 6.10 (1.65, 0.70, 1.60, 1.40, 0.75), III 4.30 (1.15, 0.50, 1.10, 1.00, 0.55), IV 5.75 (1.65, 0.55, 1.35, 1.60, 0.60), leg formula: 1243.

Genitalia (Figs 7C, D, 14 E, F). Atrium large, posteriorly located; CO small, semicircular, located on posterior margin of epigyne. CD long, strongly convoluted, coiled four times around its initial stretch; S posteriorly located, bean-shaped, closely arranged; B elongated, rod-shaped, symmetrically arranged, distal ends diverging from midline of epigyne.

Distribution: Known only from the type locality (Fig. 17).

***Utivarachna peekaboo* sp. nov. (Figs 10, 11, 14G, H, 15D, I, N, 16B, C)**

LSID urn:lsid:zoobank.org:act:5FF22F92-32A0-4A53-97FE-229494AD28D5

Type material: Holotype: ♂ (IFS_Tra_022): Sri Lanka, Central Province, Matale District, Riverstone, Knuckles range, 1088 m, 07°31'48"N 80°44'23"E, 5 January 2010, beating, S.P. Benjamin *et al*. Paratype. ♀ (IFS_Tra_017): same locality and collection data as holotype.

Other material examined: 1 non-type ♂ (IFS_Tra_033): Pitawalapathana, 856 m, 07°33'02"N 80°46'34"E, 4 April 2024, in litter, N.G. Dayananda *et al*.

Diagnosis: Males of *Utivarachna peekaboo* **sp. nov.** are most similar to those of *U. upcotensis* **sp. nov.**, as both share a curved dorsal lobe with a blunt tip, but can be separated from it by the thumb-shaped ventral lobe (canoe-shaped in *U. upcotensis* **sp. nov.**) (cf. Figs 9D, 10E–G, 11 and Figs 9E, 12E–G, 13). Females are most similar to those of *U. mandaram* **sp. nov.**, as both share irregular copulatory duct convolutions, but can be separated from it by the oval bursae (rod-shaped in *U. mandaram* **sp. nov.**) (cf. Figs 10C–D, 14G–H and Figs 7C–D, 14E–F).

Etymology: The specific name peekaboo is inspired by the classic children's game "peekaboo", often associated with gentle surprises and playful hiding, just like this elusive spider, which may be hiding in plain sight. The name evokes both the light-hearted spirit of the genus naming theme and the species' secretive nature. The name is used as a noun in apposition.

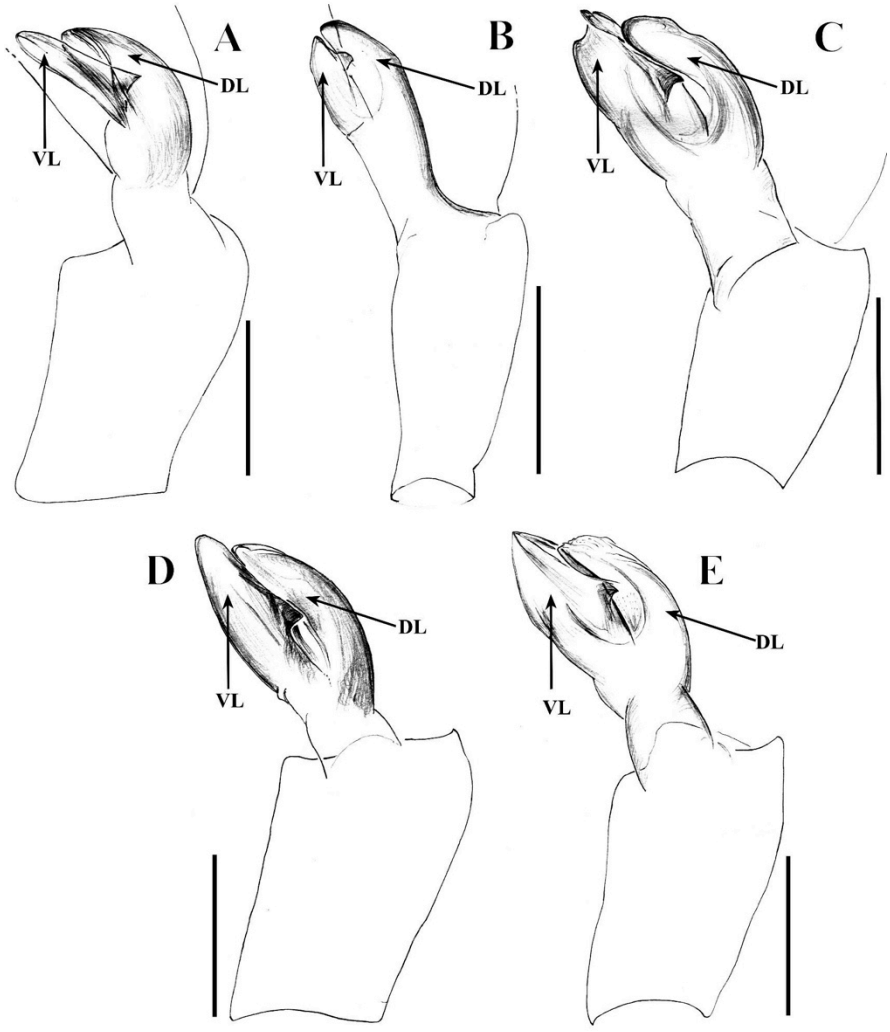

Fig. 9: A–E RTA left male palp. A *Utivarachna boo* **sp. nov.**; B *U. loolecondera* **sp. nov.**; C *U. mandaram* **sp. nov.**; D *U. peekaboo* **sp. nov.**; E *U. upcotensis* **sp. nov.**. Abbreviations: DL, dorsal lobe of RTA; VL, ventral lobe of RTA. Scale lines: A–E = 0.2 mm.

Figure 10: *Utivarachna peekaboo* **sp. nov.**. A, E–G holotype male (IFS_Tra_022) and B–D paratype female (IFS_Tra_017). A–B habitus, dorsal; C–D epigyne intact, ventral; E left palp, prolateral; F idem, ventral; G idem, retrolateral. Abbreviations: A, atrium; B, bursa; E, embolus; FD, fertilisation duct; RTA, retrolateral tibial apophysis; S, spermatheca; SD, sperm duct; ST, subtegulum. Scale lines: A–B = 0.5 mm; C–G = 0.2 mm.

Description: Male in alcohol (holotype; Fig. 10A). Body length 4.18. Prosoma: 2.04 long, 1.56 wide. Opisthosoma: 2.14 long, 1.57 wide. Habitus as in Figs 10A, 16B–C. Prosoma dorsally domed, posteriorly wedge-shaped, reddish-brown; fovea dark, short; clypeus brown, 0.11 high; eye sizes and interocular distances: AME 0.10, ALE 0.13, PME 0.11, PLE 0.13, AME–AME 0.05, AME–PME 0.07, AME–ALE 0.13, ALE–ALE 0.46, PME–PME 0.14, PME–PLE 0.22, PLE–PLE 0.77, ALE–PLE 0.19; MOA 0.33 long, front width 0.23, back width 0.39; AER procurved, PER recurved; chelicerae coloured as prosoma, 0.74 long; labium longer than wide, 0.38 long, 0.311 wide; sternum yellowish-brown, longer than wide,

1.14 long, 0.94 wide; legs I yellowish-brown, II–IV yellow, ventral side of anterior legs filled with leg cuspules from tibiae to tarsi, metatarsi III and IV with distal preening comb followed by brush of setae, leg measurements: I 5.05 (1.40, 0.50, 1.50, 1.05, 0.60), II 4.50 (1.55, 0.70, 1.25, 1.15, 0.65), III 3.15 (0.95, 0.40, 0.80, 0.55, 0.45), IV 4.45 (1.15, 0.45, 1.00, 1.30, 0.55), leg formula: 1243; opisthosoma ovoid; narrowed posteriorly, dorsum (Figs 10A, 15D) yellowish-brown, anterior marginal area with regions of scattered dark spots, two pairs of sigilla on opisthosoma in subrectangular position; venter of opisthosoma coloured as dorsum; four longitudinal rows small oval sclerites between epigastric furrow and spinnerets; spinnerets yellowish-brown, lightly colored, anterior spinnerets as long as posterior laterals.

Male palp (Figs 9D, 10E–G, 11). Cymbium and genital bulb oval, cymbial prolateral margin nearly convex ventrally; RTA bifid (Fig. 9D), VL thumb-shaped, long, ending in round tip, DL more prominently curved than VL, tip rounded, shorter than VL. E long, coiled horizontally, looping twice, with filiform embolic tip; EC narrower than T. SD U-shaped in ventral view; T sclerotised, small globular in shape. ST sclerotised, visible in ventral and prolateral view.

Female in alcohol (Fig. 10B). Body length 5.43. Prosoma: 2.24 long, 1.73 wide. Opisthosoma: 2.75 long, 2.27 wide. Habitus and details as in male except for the following (Fig. 10B). Clypeus 0.20 high; eye sizes and interocular distances: AME 0.12, ALE 0.14, PME 0.12, PLE 0.13, AME–AME 0.07, AME ALE 0.13, AME–PME 0.08, PME–PME 0.15, PME–PLE 0.24, ALE–PLE 0.20; MOA 0.35 long, front width 0.26, back width 0.45; AER procurved, PER slightly recurved; chelicerae coloured as prosoma, 0.75 long; labium longer than wide, 0.46 long, 0.35 wide; sternum yellowish-brown, longer than wide, 1.24 long, 1.03 wide; legs I yellowish-brown, II–IV yellow, leg measurements: I 5.90 (1.75, 0.80, 1.60, 1.15, 0.60), II 5.25 (1.60, 0.60, 1.45, 1.00, 0.60), III 3.95 (1.25, 0.55, 0.95, 0.70, 0.50), IV 5.05 (1.40, 0.60, 1.15, 1.35, 0.55), leg formula: 1243.

Genitalia (Figs 10C–D, 14G–H). Atrium large, posteriorly located; CO small, semicircular, located on posterior margin of epigyne; CD long, irregularly convoluted; S posteriorly located, oval-shaped, closely arranged; B rod-shaped, asymmetrically arranged, distal ends diverging from midline of epigyne.

Distribution: Known only from the type locality (Fig. 17).

***Utivarachna upcotensis* sp. nov. (Figs 12, 13, 14I, J, 15E, J, O)**

LSID urn:lsid:zoobank.org:act:5A18E822-3512-4D89-B055-6E63F2830381

Type material: Holotype ♂ (IFS_Tra_002): Sri Lanka, Central Province, Nuwara Eliya District, Upcot, 1850 m, 06°46'N, 80°36'E, 17 January 2017, in leaf litter, leg. N.P. Athukorala *et al*. Paratype. ♀ (IFS_Tra_001): same locality and collection data as holotype.

Diagnosis: Males of *Utivarachna upcotensis* **sp. nov.** are most similar to those of *U. peekaboo* **sp. nov.**, as both share a curved dorsal lobe with a blunt tip, but can be separated from it by canoe-shaped ventral lobe (thumb-shaped in *U. peekaboo* **sp. nov.**) (Figs 9E, 12E–G, 13 and Figs 9D, 10E–G, 11). Females are most similar to those of *U. loolecondera* **sp. nov.**, as both share a large arched atrium and coiled copulatory ducts, but can be separated from it by having copulatory ducts tightly coiled (loosely coiled in *U. loolecondera* **sp. nov.**)

and globular spermathecae (oval in *U. loolecondera* **sp. nov.**) (cf. Figs 12C, D, 14I, J and Figs 5C, D, 14C, D).

Etymology: This species name is an adjective in the nominative singular, after its type locality Upcot.

Description: Male in alcohol (holotype; Fig. 12A). Body length 4.98. Prosoma: 2.58 long, 1.88 wide. Opisthosoma: 2.40 long, 1.92 wide. Habitus as in Fig. 12A. Prosoma reddish-brown, surface granulated, dorsally domed, posteriorly wedge-shaped, lateral margins undulating; fovea short, dark; clypeus brown, 0.18 high; eye sizes and interocular distances: AME 0.11, ALE 0.12, PME 0.15, PLE 0.13, AME–AME 0.08, AME–PME 0.16, AME–ALE 0.16, ALE–ALE 0.55, PME–PME 0.18, PME–PLE 0.28, PLE–PLE 1.00, ALE–PLE 0.26; MOA 0.40 long, front width 0.27, back width 0.52; AER procurved, PER recurved; chelicerae coloured as prosoma, 0.70 long; labium longer than wide, 0.47 long, 0.40 wide; sternum heart-shaped, yellowish-brown, surface granulated, longer than wide, 1.50 long, 1.12 wide; opisthosoma ovoid, narrowed posteriorly, dorsum (Figs 12A, 15E) yellowish-brown, anterior marginal area with regions of scattered dark spots; dorsal scutum oval, yellowish-brown and lightly sclerotised, nearly as long as opisthosoma with two pairs of dorsal sigilla; venter coloured as dorsum; four small oval sclerites between epigastric furrow and spinnerets; spinnerets pale yellowish, anterior spinnerets as long as posterior laterals; legs I yellowish-brown (Fig. 15E), II–IV yellow, striated with black bands distally and proximally on tibiae I–IV, femora I–IV with distal bands only, ventral side of anterior legs filled with leg cuspules from tibiae to tarsi, metatarsi III and IV with distal preening comb followed by brush of setae. (Fig. 15O), leg measurements: I 6.80 (1.85, 0.80, 1.95, 1.50, 0.70), II 6.05 (1.70, 0.65, 1.55, 1.45, 0.70), III 4.20 (1.10, 0.60, 0.95, 1.00, 0.55), IV 5.55 (1.45, 0.60, 1.25, 1.55, 0.70), leg formula: 1243.

Male palp (Figs 12E–G, 13, 9E): Cymbium oval; genital bulb longer than wide, cymbial prolateral margin straight ventrally; RTA bifid (Fig. 9E), VL canoe-shaped, long, ending in sharp tip, DL more prominently curved than VL, tip rounded, shorter and slightly narrower than VL; E long, coiled horizontally, looping twice, embolic tip filiform, EC broad as T. SD long, U-shaped in ventral view. T weakly sclerotised. ST scleorotised, visible in ventral and prolateral view.

Female in alcohol (Fig. 12B). Body length 5.61. Prosoma: 2.50 long, 1.83 wide. Opisthosoma: 3.11 long, 2.48 wide. Habitus and details as in male except for the following (Fig. 12B). Clypeus 0.16 high; eye sizes and interocular distances: AME 0.10, ALE 0.12, PME 0.14, PLE 0.13, AME–AME 0.08, AME–PME 0.13, AME–ALE 0.16, ALE–ALE 0.52, PME–PME 0.16, PME–PLE 0.27, PLE–PLE 0.94, ALE–PLE 0.26; MOA 0.38 long, front width 0.27, back width 0.46; AER procurved, PER recurved; chelicerae coloured as prosoma, 0.70 long; labium longer than wide, 0.40 long, 0.34 wide; sternum yellowish-brown, longer than wide, 1.4 long, 1.0 wide; leg measurements: I 5.95 (1.55, 0.85, 1.70, 1.30, 0.55), II 5.80 (1.50, 0.80, 1.45, 1.40, 0.65), III 4.25 (1.10, 0.60, 1.05, 1.00, 0.50), IV 5.35 (1.15, 0.60, 1.25, 1.65, 0.70), leg formula: 1243.

Genitalia (Figs 12C–D, 14I–J). Atrium large, arched-shaped, posteriorly located; CO small, semicircular, located on posterior margin of epigyne; CD long, strongly convoluted, coiled three times; S posteriorly located, globular-shaped, separated by less than their diameter; B nearly bean-shaped, symmetrically arranged, distal ends converging towards midline of epigyne; FD falcated, separated by width of A.

Distribution: Known only from the type locality (Fig. 17).

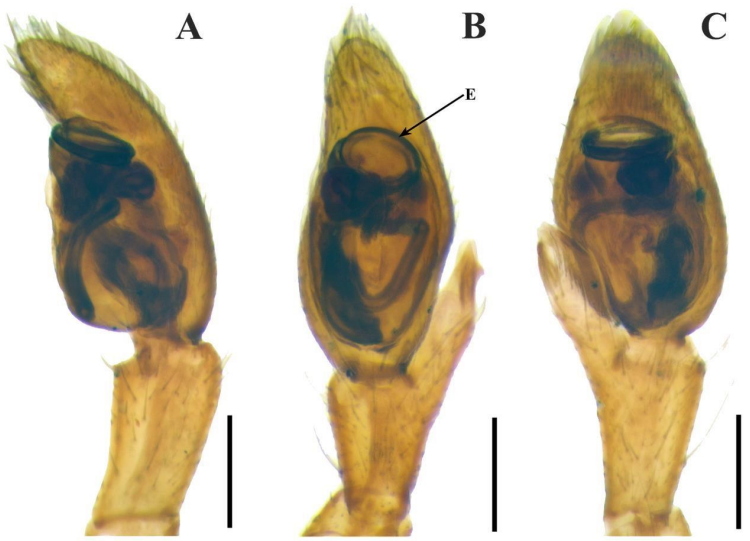

Figure11: *Utivarachna peekaboo* **sp. nov.**. A–C left male palp cleared in methyl salicylate; A retrolateral; B ventral; C dorsal. Scale lines: A–C = 0.2 mm.

Figure 12: *Utivarachna upcotensis* **sp. nov.** A, E–G holotype male (IFS_Tra_002) and B–D paratype female (IFS_Tra_001). A–B habitus, dorsal; C–D epigyne intact, ventral; E left palp, prolateral; F idem, ventral; G idem, retrolateral. Abbreviations: A, atrium; B, bursa; E, embolus; FD, fertilisation duct; RTA, retrolateral tibial apophysis; S, spermatheca; SD, sperm duct; ST, subtegulum. Scale lines: A–B = 0.5 mm; C–G = 0.2 mm.

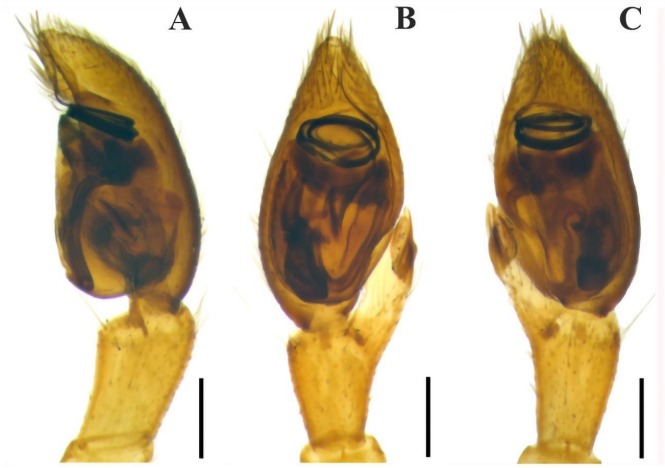

Figure 13: *Utivarachna upcotensis* **sp. nov.** A–C left male palp embedded in methyl salicylate; A retrolateral; B ventral; C dorsal. Scale lines: A–C = 0.2 mm.

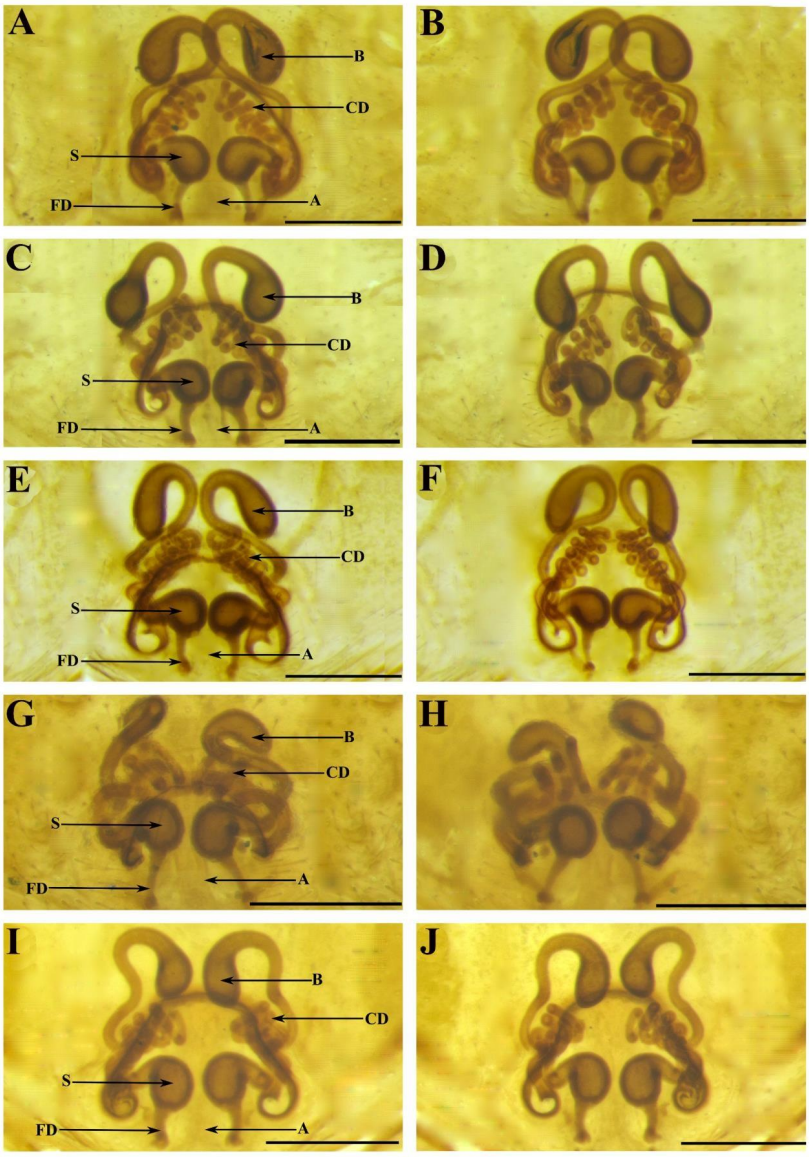

Figure 14: A–J vulvae. A–B *Utivarachna boo* **sp. nov.**; C–D *U. loolecondera* **sp. nov.**; E–F *U. mandaram* **sp. nov.**; G–H *U. peekaboo* **sp. nov.**; I–J *U. upcotensis* **sp. nov.**. A, C, E, G, I: ventral; B, D, F, H, J: dorsal. Abbreviations: A, atrium; B, bursa; CD, copulatory duct; FD, fertilisation duct; S, spermatheca. Scale lines: A–J = 0.2 mm.

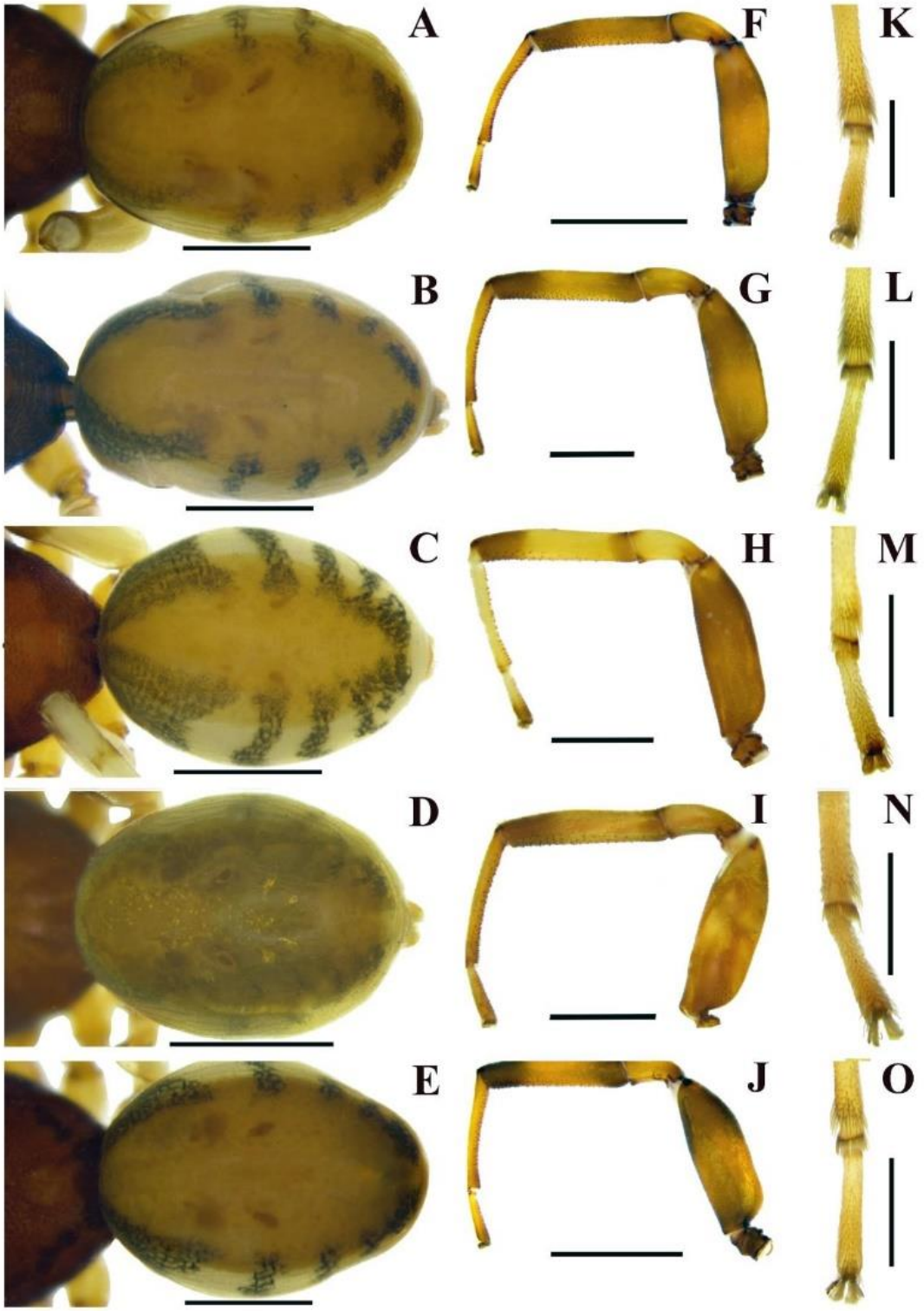

Figure 15: A, F, K *Utivarachna boo* **sp. nov.**; B, G, L *U. loolecondera* **sp. nov.**; C, H, M *U. mandaram* **sp. nov.**; D, I, N *U. peekaboo* **sp. nov.**; E, J, O *U. upcotensis* **sp. nov.**. A–E male opisthosoma; F–J male leg I; K–O male metatarsi IV and tarsi IV. Scale lines: A–E = 1mm; F–J = 1 mm; K–O = 0.2 mm.

Figure 16: Photographs of live *Utivarachna* spp. described from Sri Lanka. **A** *Utivarachna boo* **sp. nov.**, male from Deenstone (IFS_Tra_09). **B–C** *U. peekaboo* **sp. nov.**, male from Pitawalapathana (IFS_Tra_33). Photographs by S.P. Benjamin.

DISCUSSION

The six new species of *Utivarachna* described in this study significantly expand the known diversity of the genus in Sri Lanka, which was previously represented only by *U. accentuata*. Sri Lankan *Utivarachna* species can be assigned to the *kinabaluensis* group, as they present key diagnostic traits such as the short prosoma that is not produced posteriorly into a stalk, vaguely undulating sides of the prosoma, and a recurved PER (Deeleman-Reinhold, 2001; Liu *et al.*, 2020). This may suggest a shared evolutionary trajectory among these species.
However, molecular phylogenetics will be critical in testing whether these species form a monophyletic Sri Lankan clade or whether they result from multiple independent colonisations from mainland Asia.

The distinct genital morphologies observed in these new species (e.g., RTA structure, embolus coiling patterns, and epigynal configurations) provide robust diagnostic characters for taxonomy, but their evolutionary significance still needs to be explored. For instance, the trifid RTA of *U. accentuata* and the bifid RTAs of the six new species could represent either divergent adaptations or plesiomorphic traits retained from ancestral populations. In comparison, Southeast Asian species also show diverse RTA forms. Most (e.g., *U. dusun*, *U. kinabaluensis*, *U. fukasawana*) have long RTAs with dorsally curved or claw-like tips, while some (e.g., *U. convolutiva*, *U. rama*, *U. linyejiei*) possess simple hook-shaped apophyses. A

bifid RTA is seen in *U. angsoduo*, and a trifid condition in *U. trisula* from Sumatra. This indicates that the bifid RTAs in the Sri Lankan species are not unique, whereas the trifid RTA of *U. accentuata* remains exceptional across both Sri Lankan and Southeast Asian members of the genus. Integrative studies combining morphology, molecular data, and biogeographical modelling would help resolve these questions.

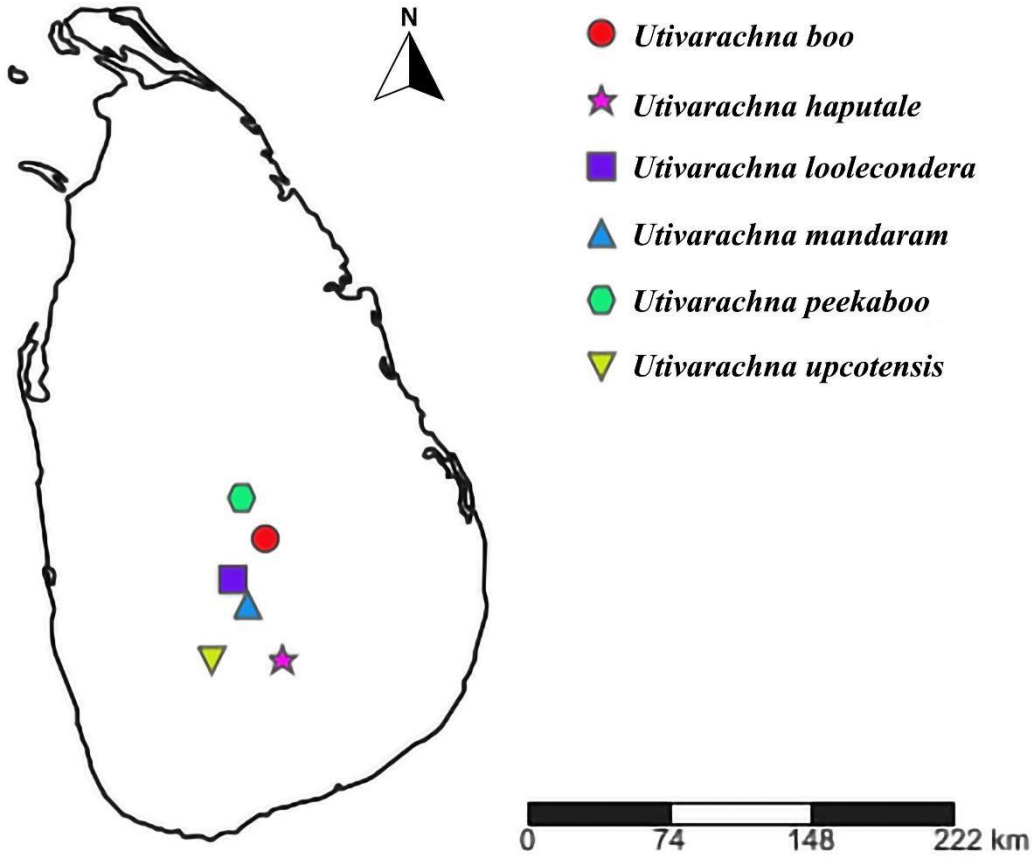

Fig. 17: Distribution map of known *Utivarachna* species from Sri Lanka.

The highly localized distributions of these species Sri Lankan *Utivarachna* species, with most known only from their type localities, suggest niche conservatism or dispersal limitations, possibly tied to Sri Lanka's complex topography and climatic gradients. Future research should investigate whether these patterns reflect historical biogeographic barriers or ecological constraints.

In conclusion, this study lays the groundwork for future systematic and ecological research on *Utivarachna* of Sri Lanka. Protecting these endemic lineages will require habitat conservation, particularly in the island's central highlands, where anthropogenic pressures threaten fragmented ecosystems. Indeed, other Trachelidae and neglected groups of sac spiders may face similar threats, highlighting the need for broader research and conservation efforts.

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