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# Two new *Stenaelurillus* species (Araneae, Salticidae, Aelurillina) from Western Ghats, India

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# Abstract

Two new species – *Stenaelurillus megamalai* **sp. nov.** ( $\mathscr{F}$ ) from the colorful group and *Stenaelurillus neyyar* **sp. nov.** ( $\mathscr{F}$ ) from the black and white group – are described from the southern Western Ghats of India. Detailed morphological descriptions, illustrations, as well as the distribution maps are provided. New distributional data for three other species, *Stenaelurillus albus* Sebastian, Sankaran, Malamel & Joseph, 2015, *S. arambagensis* (Biswas & Biswas, 1992) and *S. wandae* Logunov, 2020 are also provided.

# Key Words

Jumping spider, Kerala, species discovery, Tamil Nadu, taxonomy

# Introduction

Stenaelurillus Simon, 1886, is a diverse genus within Salticidae Blackwall, 1841, that includes 53 described species (World Spider Catalog 2023). The genus belongs to the subtribe Aelurillina of the tribe Aelurillini in the subfamily Salticinae (Maddison 2015). They are ground-dwelling, small to medium-sized, dark-colored, and hairy-bodied spiders (Wesołowska 2014; Logunov and Azarkina 2018), found in the Afrotropical, Madagascan, and Indo-Malayan regions of the world (Marathe et al. 2022). The genus has 14 species reported from India (Caleb and Sankaran 2023), sorted into two groups based on their distinctive coloration (Marathe et al. 2022). While examining the spiders collected during the field surveys in the southern Western Ghats of India, two undescribed jumping spiders belonging to the genus Stenaelurillus were identified - one belonging to the black and white group of species and the other belonging to the colorful group, with colorful iridescent scales on their clypeus (Marathe et al. 2022). Here we describe these two as species new to science and provide data on their distribution based on specimens collected from India.

# Materials and methods

A total of 136 salticid specimens (8033 and 5699) preserved in 70% ethanol were examined. Morphological examination and measurements were made with a Leica M205A stereomicroscope. The images were taken by means of a Leica DFC4500 digital camera attached to the Leica M205A stereomicroscope combined with the software package Leica Application Suite (LAS), version 4.1.2. Distribution maps were prepared by using the online mapping software SimpleMappr (Shorthouse 2010). All measurements are in millimeters (mm). Description of the length of palp and leg segments is as follows: total length [femur, patella, tibia, metatarsus (except palp), tarsus]. The terminology follows Logunov and Azarkina (2018) and leg setation follows Bossellaers and Jocque (2000). The studied specimens are deposited in the National Zoological Collections of Zoological Survey of India (NZC-ZSI), Kolkata, India.

Abbreviations used in the text and figures: ALE = anterior lateral eye, AME = anterior median eye,

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C = cymbium, CD = copulatory duct, CO = copulatory opening, do = dorsal, E = embolus, FD = fertilization duct, pl = prolateral, PLE = posterior lateral eye, PME = posterior median eye, plv = prolateral ventral, rl = retrolateral, RTA = retrolateral tibial apophysis, rlv = retrolateral ventral, v = ventral, VTA = ventral tibial apophysis, WLS = Wildlife Sanctuary.

### Results

Family Salticidae Blackwall, 1841 Tribe Aelurillini Simon, 1901

#### Genus Stenaelurillus Simon, 1886

**Type species.** *Stenaelurillus nigricaudus* Simon, 1886; by subsequent designation by Simon (1903: 669).

#### Stenaelurillus megamalai sp. nov.

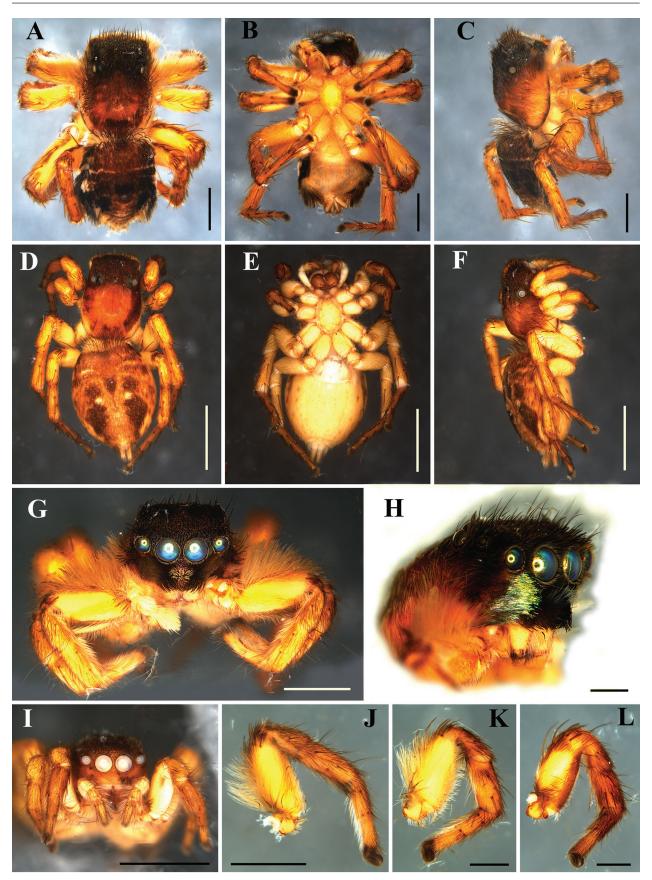
https://zoobank.org/3C022979-3865-4852-841F-476C7E37E247 Figs 1A–L, 2A–F, 3A–D, 7C

**Type material.** *Holotype* 3. INDIA: Tamil Nadu, Theni District, Megamalai Wildlife Sanctuary, 09°38'34.1"N, 77°24'06.5"E, 871 m, 01.vii.2019, R. Venkitesan coll. (NZC-ZSI-7941/18). *Paratypes:* 12 9 & 25 3, same data as holotype, (NZC-ZSI-7942/18).

Diagnosis. S. megamalai sp. nov. can be separated from other species of the colorful group by the following combination of characters: males with distinct three subequal white spots arranged in a transverse row on the abdomen (Fig. 1A); clypeus covered with gravish black hairs, medially with a tuft of pale white hairs (Fig. 1G, H); chelicerae covered with white hairs (Fig. 1G); palpal femur pale yellow, dorsal and prolateral sides with a bunch of white hairs (Fig. 2C, D); RTA ventro-basally with a short tooth-like outgrowth (Fig. 2B); cymbium with a bunch of erect white hairs prolateral (Fig. 2C, D); prolateral margin of the salticid radix not rounded but with gentle prolaterally protrusion in ventral view (Fig. 2A); distal projection short and pointed (Figs 2B-D, 3B). The female with yellow spinnerets; epigyne with broad epigynal pocket and short, broad copulatory ducts (Figs 2E, 3C).

**Description.** Male (Holotype, NZC-ZSI-7941/18) (Figs 1A–C, G–H, J–K, 2A–D, 3A, B): Measurements: body length 4.76; carapace length 2.57, width 1.76; abdomen length 2.21, width 1.85. Ocular area length 1.01, width 1.35. Eye diameters: AME 0.37, ALE 0.24, PME 0.11, PLE 0.28. Eye interdistances: AME–AME 0.05, ALE–AME 0.09, ALE–ALE 0.96, ALE–PME 0.34, PLE–PLE 1.03, PME–PME 1.17, PME–PLE 0.20. Clypeus height 0.25. Length of chelicera 0.51. Measurement of legs: leg I 3.66 [1.26, 0.57, 0.86, 0.47, 0.50], II 3.27 [1.01, 0.51, 0.77, 0.52, 0.46], III 6.48

[2.15, 0.81, 1.43, 1.42, 0.67], IV 6.59 [1.96, 0.78, 1.36, 1.60, 0.89]. Leg formula: 4312. Leg setation: femur I, IV pl 2 rl 2 do 3, II–III pl 3 rl 2 do 3; patella I–II pl 1, III–IV pl 1 rl 1; tibia I pl 2 plv 2 rlv 1, II pl 3 rl 1 plv 3 rlv 1, III pl 3 rl 3 do 1 plv 2 rlv 1, IV pl 3 rl 3 do 1 plv 3 rlv 1; metatarsus I pl 2 rl 1 plv 1 rlv 1, II pl 2 rl 2 do 1 plv 2 rlv 2, III pl 3 rl 3 plv 3 rlv 4, IV pl 3 rl 4 plv 2 rlv 1. Carapace yellowish-brown, with yellowishwhite lateral sides, covered with brown setae, carapace margin with black lines, anterolateral sides densely covered with long dull white setae (Fig. 1A, C); eye field black, densely covered with dark brown bristles, anterior row of eyes encircled with white setae, a tuft of black erect setae present at anterior margin of PLEs, they appear as short horns in front view (Fig. 1A, C). Clypeus high, covered with greyishblack setae, medially with a tuft of white setae, either side of it with a tuft of black setae, and lateral sides with lustrous scales (Fig. 1G-H). Chelicerae short, yellow, dorso-laterally with long white setae (Fig. 1H), retromargin with one and promargin with two teeth. Fangs short. Endites light yellow with pale white inner tips. Labium light yellow. Sternum oval, light yellow, covered with short white setae (Fig. 1B). Leg segments pale yellow; femur I prolaterally and dorsally provided with fringe of white setae, the dorsal one prominent, ventrally with thick black setae (Fig. 1J); patella I and tibia I ventrally with black setae (Fig. 1J); femur II prolaterally and dorsally provided with fringe of white setae (Fig. 1K), the femur I prominent. Abdomen oval, covered with black setae, dorsum with an anterior transverse white line and mid-dorsal three black patches with three white spots (Fig. 1A); abdomen lateral edges fringed with black setae interspersed with patches of white setae; abdomen posterior end covered with grey white setae (Fig. 1A). Spinnerets light grey. Venter densely covered yellowish white setae, interspersed with few light brown setae (Fig. 1B). Palpal segments pale yellow covered with white and brown setae (Fig. 2C, D); femur dorsal and prolateral sides provided with bunch of long white setae, their length decreases towards the distal region, retrolateral side with light brown setae (Fig. 2C, D); patella proximoretrolateral region with black markings; tibia distally with a stiff and long black dorsal setae (Fig. 2D); RTA simple, basally broad with a short tooth-like outgrowth, distally narrowing, with the tip slightly bent ventrally (Figs 2B, D, 3B); tibia with two ventral apophyses, VTA 1 broad, rounded, VTA 2 conical, projecting ventrally (Figs 2A, C, 3A); cymbium oval, densely covered with setae (Fig. 2B-D); functional tegulum with well-developed proximal projection (Figs 2A–D, 3A); tegulum with anterior transversal rim decorated with stiff bristles (Figs 2A, 3A); tegular process finger shaped, directed at 10 o'clock position in ventral view (Figs 2A, 3A); embolus short, with blunt tip directed at 11 o'clock position in ventral view (Figs 2A, 3A).



**Figure 1.** *Stenaelurillus megamalai* sp. nov. **A.** Male, dorsal view; **B.** Same, ventral view; **C.** Same, lateral view; **D.** Female, dorsal view; **E.** Same, ventral view; **F.** Same, lateral view; **G.** Male, frontal view; **H.** Same, fronto-lateral view; **I.** Female, frontal view; **J.** Male, left leg I, prolateral view; **K.** Same, left leg II, prolateral view; **L.** female, left leg I, prolateral view. Scale bars: 1 mm (A–C, G, J); 2 mm (D–F, I); 0.5 mm (H, K–L).

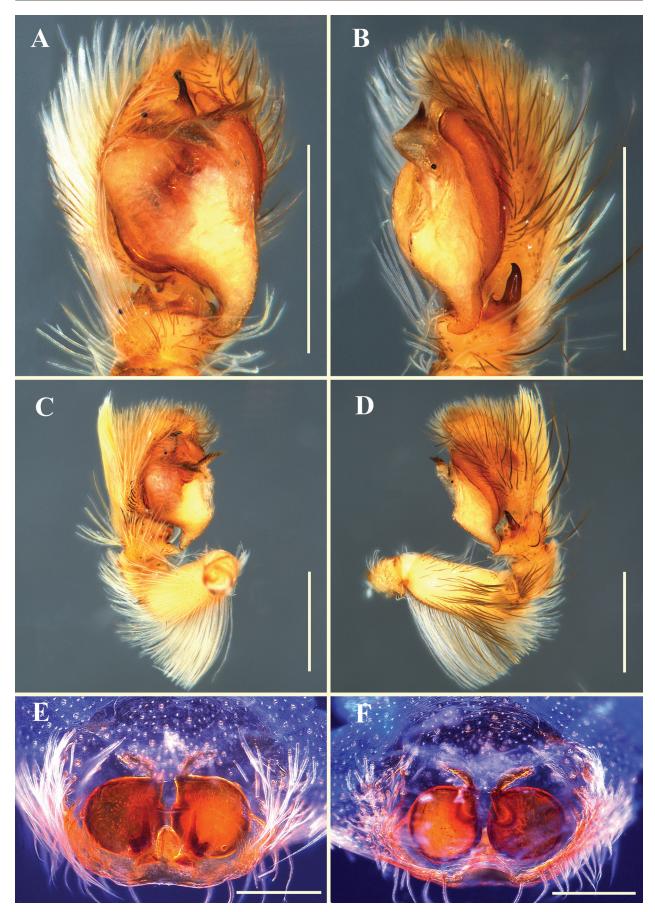


Figure 2. *Stenaelurillus megamalai* sp. nov. A. Left male palp, ventral view; B. Same, retrolateral view; C. Same, prolatero-ventral view; D. Same, retrolateral view; E. Female epigyne, ventral view; F. Vulva, dorsal view. Scale bars: 0.5 mm (A–D); 0.2 mm (E–F).

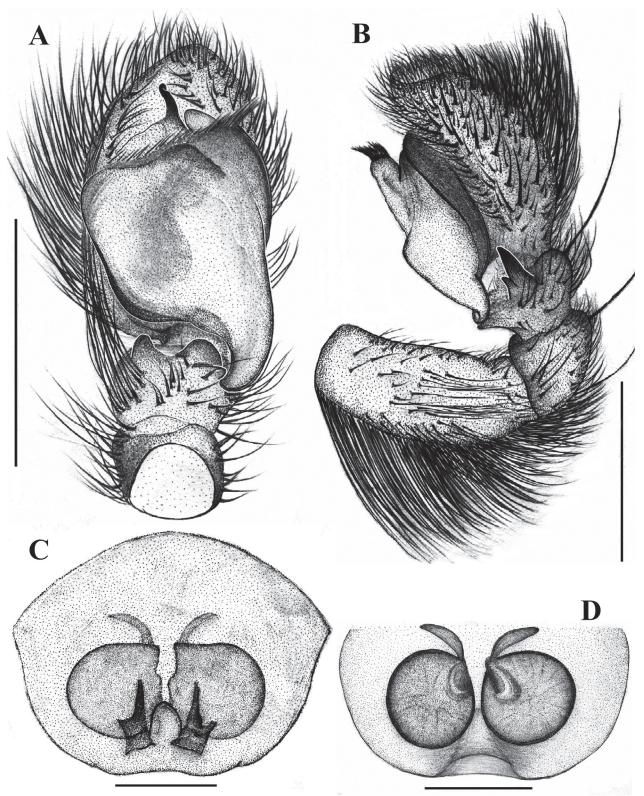


Figure 3. *Stenaelurillus megamalai* sp. nov. A. Left male palp, ventral view; B. Same, retrolateral view; C. Female epigyne, ventral view; D. Vulva, dorsal view. Scale bars: 0.5 mm (A, B); 0.2 mm (C, D).

**Female** (paratype) (Figs 1D–F, I, L, 2E–F, 3C–D): Measurements: body length 7.68; carapace length 3.34, width 2.26; abdomen length 4.05, width 3.26. Ocular area length 1.22, width 1.83. Eye diameters: AME 0.50, ALE 0.30, PME 0.12, PLE 0.27. Eye inter distances: AME– AME 0.08, ALE–AME 0.13, ALE–ALE 1.23, ALE– PME 0.36, PLE–PLE 1.49, PME–PME 1.65, PME–PLE 0.26. Clypeus height 0.40. Length of chelicera 0.85. Measurement of palp and legs: palp 2.03 [0.65, 0.36, 0.37, 0.65], leg I 4.22 [1.50, 0.60, 0.91, 0.55, 0.66], II 4.30 [1.48, 0.70, 0.90, 0.64, 0.58], III 7.08 [2.20, 0.78, 1.74, 1.60, 0.76], IV 7.12 [2.12, 0.82, 1.50, 1.66, 1.02]. Leg formula: 4321. Leg setation: femur I, IV pl 2 rl 2 do 3, II pl 3 rl 3 do 3, III pl 3 rl 2 do 3; patella I-II pl 1, III-IV pl 1 rl 1; tibia I–II pl 2 plv 2 rlv 3, III pl 2 rl 2 plv 2 rlv 1, IV pl 4 rl 4 plv 2 rlv 1; metatarsus I–II pl 2 rl 2 plv 2 rlv 2, III pl 4 rl 4 do 2 plv 2 rlv 2, IV pl 4 rl 4 plv 3 rlv 3. In all details as male, except the following: eye field covered with yellowish-brown bristles, anterior row of eyes encircled by yellowish-brown setae (Fig. 1D). Clypeus light yellow, covered with yellowish-brown setae (Fig. 1I). Chelicerae slightly longer, yellowish-brown. Abdomen light yellowish brown, lightly covered with black and gray setae, dorsum medially with a triangular black patch, medially with a pair of white spots and a white spot further down, and laterally with two broad irregular black stripes extending from middle to the posterior tip (Fig. 1D); abdomen lateral sides with brown longitudinal stripes and few brown patches (Fig. 1F); venter pale white, scarcely covered with black setae (Fig. 1E). Epigyne with broad epigynal pocket located in between the copulatory openings (Figs 2E, 3C); copulatory openings large, located just above the posterior margin of the epigyne, separated by a distance that is almost less than the diameter of each opening (Fig. 2E); copulatory ducts short, and broad (Figs 2E, 3C); spermathecae round, separated from each other (Figs 2F, 3D); fertilization ducts oriented anterolaterally, situated at anterior region of spermathecae (Figs 2F, 3D).

**Etymology.** The species is named after the Megamalai Wildlife Sanctuary from where it was collected. The name is treated as a noun in apposition.

**Distribution.** Known only from the type locality (Fig. 7C).

**Variation.** Body length: Male: 3.70–5.00 (n=26); female: 4.60–7.68 (n=12).

#### Stenaelurillus neyyar sp. nov.

https://zoobank.org/AF55521D-61BE-4002-9ACC-62595C21D2C5 Figs 4A–H, 5A–E, 6A–D, 7C

**Type material.** *Holotype*  $\Im$ . INDIA: Kerala, Thiruvananthapuram District, Neyyar Wildlife Sanctuary, 8°32'03.9"N, 77°08'54.8"E, 118 m, 26.vi.2022, P. Girish Kumar coll. (NZC-ZSI-7943/18). *Paratypes:* same data as holotype,  $6 \Im \Im$  (NZC-ZSI-7944/18).

**Diagnosis.** The male of *S. neyyar* sp. nov. is distinct from all other species by the thin embolus arising from 10 o'clock position, with the tip directed at 12 o'clock position in ventral view; RTA short and thick with obtuse dorsal margin, tip pointed directed apically in retrolateral view. The female epigyne with sclerotized W-shaped projections on the posterior margin; copulatory openings lie close to each other; spermathecae nearly oval (Figs 5B–E, 6A–D).

**Description. Male.** (Holotype, NZC-ZSI-7943/18) (Figs 4A–C, G, 5A–C, 6A, B): Measurements: body length 4.22; carapace length 2.12, width 1.54; abdomen length 1.94, width 1.41. Ocular area length 1.01, width

1.23. Eye diameters: AME 0.36, ALE 0.24, PME 0.07, PLE 0.21. Eye interdistances: AME-AME 0.05, ALE-AME 0.05, ALE-ALE 0.91, ALE-PME 0.35, PLE-PLE 1.01, PME-PME 1.10, PME-PLE 0.16. Clypeus height 0.17. Length of chelicera 0.45. Measurement of legs: leg I 3.06 [1.03, 0.45, 0.70, 0.36, 0.52], II 3.11 [1.13, 0.44, 0.63, 0.52, 0.39], III 4.89 [1.59, 0.69, 0.97, 1.11, 0.53], IV 5.07 [1.38, 0.49, 1.01, 1.65, 0.54]. Leg formula: 4321. Leg setation: femur I, IV pl 2 rl 2 do 3, II pl 2 rl 3 do 3, III pl 3 rl 2 do 3; patella I–IV pl 1 rl 1; tibia I–II pl 2 plv 2 rlv 3, III-IV pl 3 rl 3 do 1 plv 2 rlv 1; metatarsus I-II pl 2 rl 2 plv 2 rlv 2, III–IV pl 4 rl 4 do 1 plv 2 rlv 2. Carapace pear-shaped, moderately high, densely covered with black setae, laterally with dense white setae forming a white band, and dorsally with a pair of white longitudinal bands extending from behind PLEs (Fig. 4A, C); eye field densely covered with black bristles (Fig. 4A). Clypeus high, light yellowish-brown with irregular dark brown patches, clothed with sparse white setae (Fig. 4G). Chelicerae short, vertical, dorsal region light yellowishbrown, covered with black setae (Fig. 4G), retromargin with one and promargin with two teeth. Fangs short, light brown. Endites yellowish brown with paler inner tips. Labium light brown with paler tip. Sternum oval, light yellow, lateral region with light brown lines, covered with elongated white erect setae (Fig. 4B). Legs: coxae and trochanters yellow; femora and tarsi pale yellow; patellae, tibiae, and metatarsi darker than other leg segments. Abdomen nearly oval, black, densely covered with black setae, anteriorly with inconspicuous transverse white band and posteriorly with three white spots, which together form an inverted triangle (Fig. 4A). Lateral abdomen dull yellow with a black longitudinal line and few black spots (Fig. 4C). Venter dull yellow, densely covered with light yellow and few long black setae (Fig. 4B). Spinnerets brownish. Palpal segments pale yellow, the distal region of femur with prolateral black patch; femur distally with a short macrosetae and dorsally with several long yellowish-white setae; patella and tibia with long black setae; RTA black, short and stout, with flat dorsal side, and tip sub-acute directed apically in retrolateral view (Figs 5C, 6B); VTA broad, with round end, directed at 2 o'clock position in ventral view (Figs 5B, 6A); cymbium oval, densely covered with setae; tegulum with broad and rounded tegular process, almost reaches height of embolus, sperm duct visible in ventral view; functional tegulum with well-developed and pointed proximal projection and without a distal projection (Figs 5B, 6A); embolus base wide, embolus thin and medium sized, initially oriented retrolaterally, which is slightly bent medially, with sub-acute tip directed at 12 o'clock position in ventral view (Figs 5B, 6A).

Female (paratype) (Figs 4D–F, H, 5D, E, 6C, D): Measurements: body length 6.23; carapace length 2.65, width 1.85; abdomen length 3.25, width 2.75. Ocular area length 0.88, width 1.51. Eye diameters: AME 0.46, ALE 0.26, PME 0.11, PLE 0.25. Eye inter distances: AME– AME 0.06, ALE–AME 0.06, ALE–ALE 1.08, ALE–PME 0.35, PLE–PLE 1.23, PME–PME 1.38, PME–PLE 0.19.

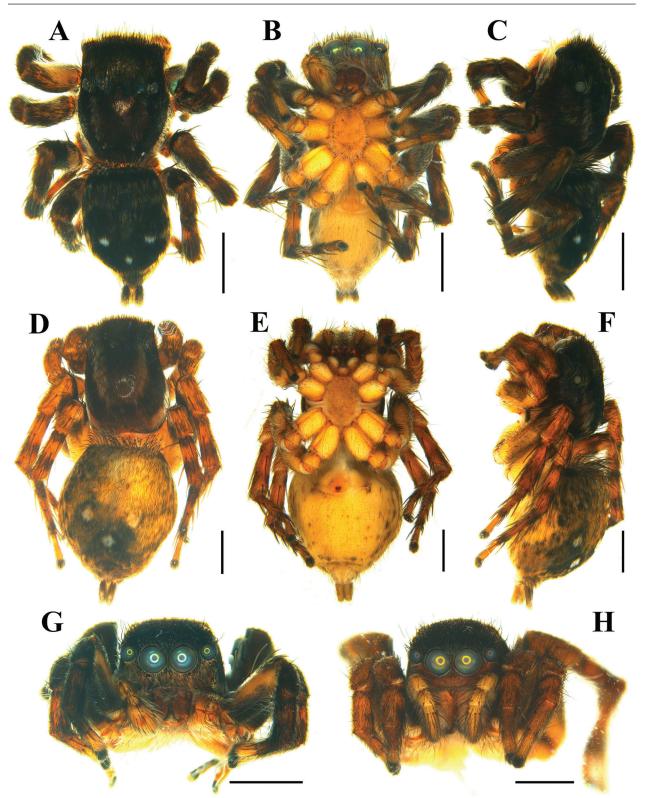


Figure 4. *Stenaelurillus neyyar* sp. nov. A. Male, dorsal view; B. Same, ventral view; C. Same, lateral view; D. Female dorsal view; E. Same, ventral view; F. Same, lateral view; G. Male, frontal view; H. Female, frontal view. Scale bars: 1 mm (A–H).

Clypeus height 0.21. Length of chelicera 0.83. Measurement of palp and legs: palp 1.82 [0.62, 0.21, 0.31, 0.68], leg I 3.57 [1.27, 0.62, 0.72, 0.41, 0.55], II 3.77 [1.40, 0.57, 0.73, 0.48, 0.59], III 6.06 [2.01, 0.80, 1.32, 1.21, 0.72], IV 6.11 [1.85, 0.74, 1.23, 1.54, 0.75]. Leg formula: 4321. Leg setation: femur I, IV pl 2 rl 2 do 3, II pl 2 rl 3 do 3, III pl 3 rl 2 do 3; patella I–II pl 1, III–IV pl 1 rl 1; tibia I–II pl 2 plv 2 rlv 3, III pl 4 rl 3 plv 2 rlv 1, IV pl 3 rl 3 do 1 plv 2 rlv 1; metatarsus I–II pl 2 rl 2 plv 2 rlv 2, III–IV pl 3 rl 3 do 2 plv 2 rlv 2. In all details as male, except the following: carapace lighter in color (Fig. 4D); chelicerae promargin with single tooth; abdomen pale-yellowish with several black

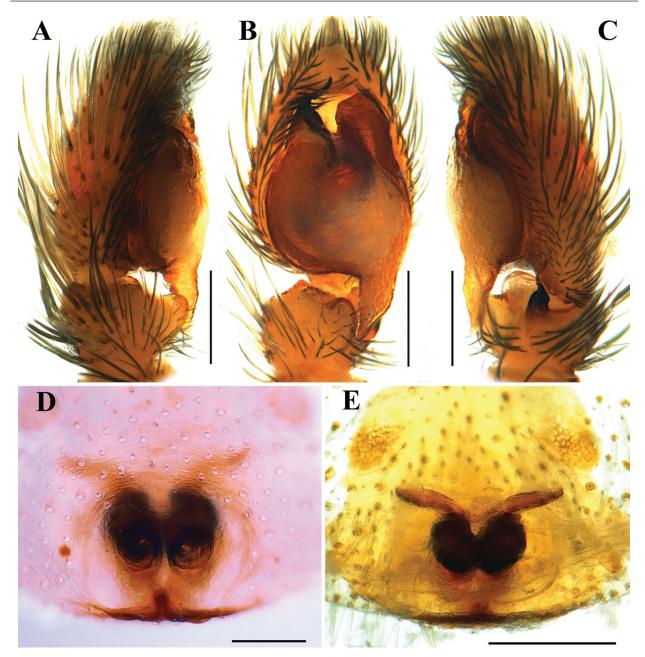


Figure 5. *Stenaelurillus neyyar* sp. nov. A. Left male palp, prolateral view; B. Same, ventral view; C. Same, retrolateral view; D. Female epigyne, ventral view; E. Vulva, dorsal view. Scale bars: 0.2 mm (A–C, E); 0.1 mm (D).

markings (Fig. 4D); spinnerets yellowish-brown. Epigyne simple, covered with long setae, posterior border line with sclerotized W-shaped projections; copulatory opening large, round, lie close to each other, situated posterior region of epigyne; copulatory ducts short, entering posteriorly into spermathecae; spermathecae nearly oval, contiguous; fertilization ducts long, oriented laterally, positioned at anterior region of spermathecae (Figs 5D, E, 6C, D).

**Etymology.** The species is named after its type locality, Neyyar Wildlife Sanctuary. The name is treated as a noun in apposition.

**Distribution.** Known only from the type locality (Fig. 7C).

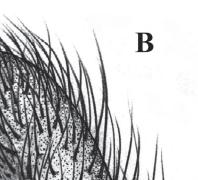
**Variation.** Body length: Male: 4.00 to 4.50 (n=9); female: 4.70 to 6.23 (n=6).

# *Stenaelurillus albus* Sebastian, Sankaran, Malamel & Joseph, 2015

*Stenaelurillus albus* Sebastian et al. 2015: 65, figs 1A, B, 2A–G, 3A–C, 7A, 8A–I, 9A–F.

Material examined. INDIA: Karnataka: 1♂ (NZC-ZSI-7689/18), Mookambika WLS, 13°49'40"N, 74°48'06"E, 18.xii.2021, V. D. Hegde coll. Kerala: 1♂ (NZC-ZSI-7763/18), Neyyar WLS, 8°32'3.91"N, 77°9'0.92"E, 02.xii.2021, P. Girish Kumar coll.; 1♂ (NZC-ZSI-7762/18), Shendurney WLS, 8°51'29.28"N, 77°13'3.15"E, 09.xii.2021, P. Girish Kumar coll.

**Distribution.** India: Karnataka, Kerala (Prajapati et al. 2016, present data) (Fig. 7A).



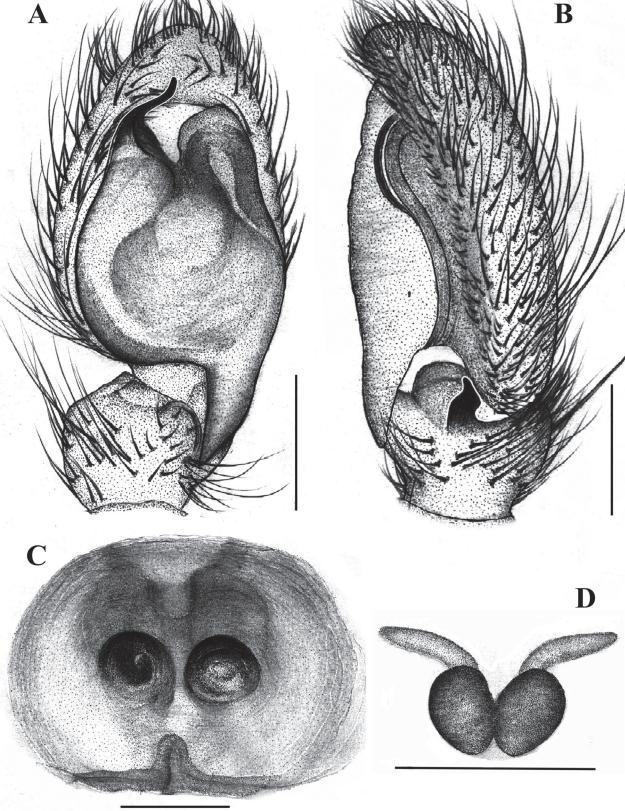


Figure 6. Stenaelurillus neyyar sp. nov. A. Left male palp, ventral view; B. Same, retrolateral view; C. Female epigyne, ventral view; **D.** Vulva, dorsal view. Scale bars: 0.2 mm (**A**, **B**, **D**); 0.1 mm (**C**).

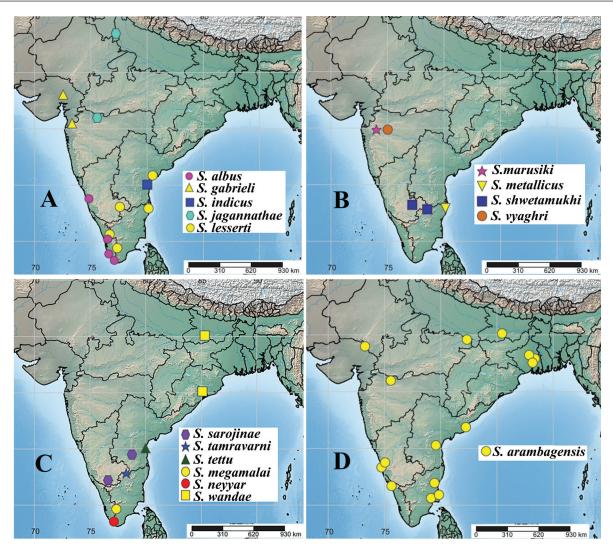


Figure 7. A-D. Collecting localities of all Stenaelurillus species in India.

#### Stenaelurillus arambagensis (Biswas & Biswas, 1992)

Marpissa arambagensis Biswas & Biswas, 1992: 390, figs 20-22.

- Stenaelurillus digitus Prajapati, Murthappa, Sankaran & Sebastian, 2016: 327, figs 1C, D, 6A–D, 7A–E, 8A–C, 9A–D.
- Stenaelurillus arambagensis Caleb et al., 2017: 120, figs 1–17; Logunov and Azarkina 2018: 20, figs 57–62.

Material examined. INDIA: Andhra **Pradesh:** 12♀♀ & 16♂♂ (NZC-ZSI-6904/18), 10♀♀ & 14♂♂ (NZC-ZSI-6920/18), Coringa WLS, 16°49'16.45"N, 82°17'53.59"E, 03.iii.2019, R. Kumar coll. Bihar: (NZC-ZSI-7754/18), Nalanda, 25°7'10.39"N, 18 85°27'17.85"E, 05.iv.2021, D. Mondal coll.; 2승승 (NZC-ZSI-7779/18), 13 (NZC-ZSI-7781/18), Kaimur WLS, 24°54'28.09"N, 83°31'52.90"E, 11.iii.2022, D. Mondal coll. Karnataka: 5  $\bigcirc$   $\bigcirc$  4  $\bigcirc$   $\bigcirc$  (NZC-ZSI-7460/18), Mookambika WLS, 13°49'40"N, 74°48'06"E, 02.xii.2021, V.D. Hegde coll.;  $1^{\circ}$  (NZC-ZSI-7478/18), Udupi, 13°20'24.91"N, 74°44'25.03"E, 31.xii.2021, V.D. Hegde coll. **Puducherry:** 1<sup>♀</sup> (NZC-ZSI-7599/18), Bahour, 11°48'29.31"N, 79°44'46.16"E, 30.vii.2019; 2♀♀ (NZC-ZSI-7511/18), Karaikal, 10°55'35.23"N, 79°50'9.84"E, 08.xii.2021, D. Mondal coll.;  $2 \bigcirc \bigcirc$  (NZC-ZSI-7560/18), Mahe, 11°42'44.66"N, 75°32'1.37"E, 14.xii.2021, D. Mondal coll. **Tamil Nadu:**  $3 \bigcirc \bigcirc$  (NZC-ZSI-7604/18), Thiruvarur, 10°46'35.43"N, 79°39'19.66"E, 03.xiii.2019. **West Bengal:**  $1\bigcirc$  (NZC-ZSI-6606/18), Palashbagan, 23°41'36.61"N, 86°59'5.47"E, 13.iv.2018, S. Pahari coll.;  $1\bigcirc$  (NZC-ZSI-7815/18), Susunia Hills, 23°23'37.48"N, 86° 58'47.55"E, 26.vii.2022, C. Bera coll.

**Distribution.** India and Pakistan (Logunov and Azarkina 2018). India: Andhra Pradesh, Bihar (new locality record), Gujarat, Karnataka (new locality record), Puducherry (new locality record), Tamil Nadu (new locality record), West Bengal (Caleb et al. 2017; present data) (Fig. 7D).

#### Stenaelurillus wandae Logunov, 2020

Stenaelurillus wandae Logunov, 2020: 210, figs 28-41.

**Material examined.** INDIA: Bihar: 4♂♂ (NZC-ZSI-7778/18), Kaimur WLS, 24°54'28.09"N, 83°31'52.90"E, 11.iii.2022, D. Mondal coll.

**Distribution.** India: Bihar (new locality record), Odisha (Logunov 2020; present data) (Fig. 7C).

### Discussion

The salticid genus Stenaelurillus currently has three centers of species diversity: western Africa, the south-eastern region of central Africa, and South Asia (Logunov and Azarkina 2018). The genus is relatively well studied in South Asia, with 18 valid species (Logunov 2020; World Spider Catalog 2023), 16 of which are known from India (including the species described here), three each from Pakistan and Sri Lanka, and one from Nepal. India has the highest Stenaelurillus species diversity ever described from any single country. A major portion of them (about 81%) were described in the past eight years (Caleb and Mathai 2014, 2016; Sebastian et al. 2015; Vidhel et al. 2015; Prajapati et al. 2016; Logunov 2020; Marathe et al. 2022). With much of the country remaining relatively unexplored many more species may be discovered with extensive systematic surveys (Sanap and Caleb 2022).

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# References

- Biswas B, Biswas K (1992) Araneae: Spiders. State Fauna Series 3: Fauna of West Bengal 3: 357–500.
- Blackwall J (1841) The difference in the number of eyes with which spiders are provided proposed as the basis of their distribution into tribes; with descriptions of newly discovered species and the characters of a new family and three new genera of spiders. Transactions of the Linnean Society of London 18(4): 601–670. https://doi.org/10.1111/j.1095-8339.1838.tb00210.x
- Bosselaers J, Jocqué J (2000) Studies in Corinnidae: Transfer of four genera and description of the female of *Lessertina mutica* Lawrence, 1942. Tropical Zoology 13(2): 305–325. https://doi.org/10.1080/039 46975.2000.10531138
- Caleb JTD, Mathai MT (2014) Description of some interesting jumping spiders (Araneae: Salticidae) from South India. Journal of Entomology and Zoology Studies 2(5): 63–71.
- Caleb JTD, Mathai MT (2016) A new jumping spider of the genus *Stenaelurillus* Simon, 1886 from India (Araneae: Salticidae:

Aelurillina). Zootaxa 4103(2): 185–188. https://doi.org/10.11646/ zootaxa.4103.2.10

- Caleb JTD, Sankaran PM (2023) Araneae of India. Version 2023. http://www.indianspiders.in [Accessed on: 11 January 2023]
- Caleb JTD, Prajapati DA, Rameshwar Maheshwari N, Sanap RV (2017) Redescription and synonymy of *Stenaelurillus arambagensis* (Biswas & Biswas, 1992) comb. n. (Araneae: Salticidae). Arthropoda Selecta 26(2): 119–123. https://doi.org/10.15298/ arthsel.26.2.04
- Logunov DV (2020) Further notes on the genus *Stenaelurillus* Simon, 1885 from India (Araneae: Salticidae). Zootaxa 4899(1): 201–214. https://doi.org/10.11646/zootaxa.4899.1.11
- Logunov DV, Azarkina GN (2018) Redefinition and partial revision of the genus *Stenaelurillus* Simon, 1886 (Arachnida, Araneae, Salticidae). European Journal of Taxonomy 430(430): 1–126. https://doi.org/10.5852/ejt.2018.430
- Maddison WP (2015) A phylogenetic classification of jumping spiders (Araneae: Salticidae). The Journal of Arachnology 43(3): 231–292. https://doi.org/10.1636/arac-43-03-231-292
- Marathe K, Sanap R, Joglekar A, Caleb JTD, Maddison WP (2022) Three new and notes on two other jumping spider species of the genus *Stenaelurillus* Simon, 1886 (Salticidae: Aelurillina) from the Deccan Plateau, India. Zootaxa 5125(1): 1–19. https://doi. org/10.11646/zootaxa.5125.1.1
- Prajapati DA, Murthappa PS, Sankaran PM, Sebastian PA (2016) Two new species of *Stenaelurillus* Simon, 1886 from India (Araneae: Salticidae: Aelurillina). Zootaxa 4171(2): 321–334. https://doi. org/10.11646/zootaxa.4171.2.5
- Sanap RV, Caleb JTD (2022) A new species of *Langelurillus* Próchniewicz, 1994 (Araneae, Salticidae, Aelurillina) from western India. Evolutionary Systematics 6(1): 65–70. https://doi. org/10.3897/evolsyst.6.81259
- Sebastian PA, Sankaran PM, Malamel JJ, Joseph MM (2015) Description of new species of *Stenaelurillus* Simon, 1886 from the Western Ghats of India with the redescription of *Stenaelurillus lesserti* Reimoser, 1934 and notes on mating plug in the genus (Arachnida, Araneae, Salticidae). ZooKeys 491: 63–78. https://doi.org/10.3897/zookeys.491.8218
- Shorthouse DP (2010) SimpleMappr, an online tool to produce publication-quality point maps. http://www.simplemappr.net [Accessed 3 November 2022]
- Simon E (1886) Etudes arachnologiques. 18e Mémoire. XXVI. Matériaux pour servir à la faune des Arachnides du Sénégal. (Suivi d'une appendice intitulé: Descriptions de plusieurs espèces africaines nouvelles). Annales de la Société Entomologique de France 5(6): 345–396.
- Simon E (1903) Histoire naturelle des araignées. Roret, Paris 2: 669–1080. https://doi.org/10.5962/bhl.title.51973
- Vidhel BP, Malik S, Sabata BC, Das SK (2015) A new spider species of the genus *Stenaelurillus* Simon, 1886 (Araneae: Salticidae: Aelurillinae) from India. International Journal of Scientific Research 4(7): 2332–2336.
- Wesołowska W (2014) A review of the Asian species of the spider genus *Stenaelurillus* (Araneae: Salticidae). Oriental Insects 47(4): 246–254. https://doi.org/10.1080/00305316.2013.871823
- World Spider Catalog (2023) World Spider Catalog. Natural History Museum Bern, Version 23.5. http://wsc.nmbe.ch [Accessed on 11 January 2023]

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