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Athira Jose^{1,2}, Rishikesh Tripathi^{1,3,5} and Ambalaparambil Vasu Sudhikumar^{1,4,5}

¹ Centre for Animal Taxonomy and Ecology, Department of Zoology, Christ College, Irinjalakuda, Thrissur, Kerala 680 125, India

² email athirajose112@gmail.com, ORCID https://orcid.org/0000-0001-9884-0718

³ email rishikeshtripathi14@gmail.com, ORCID https://orcid.org/0000-0002-9192-4609

⁴ email avsudhi@rediffmail.com, ORCID https://orcid.org/0000-0002-4479-4995

⁵ corresponding authors

Abstract. *Anarrhotus* Simon, 1902 (*A. fossulatus* Simon, 1902) and *Gelotia* Thorell, 1890 (*G. lanka* Wijesinghe, 1991), two fairly uncommon jumping spider genera and species, are reported for the first time from India. For both species, general appearance of male copulatory organs and a genus distribution map are provided.

Introduction

The salticid genus *Anarrhotus*, established by Simon in 1902, is known only by two nominal species from Malaysia and Vietnam (WSC, 2023). Both are chiefly distinguished by their males (WSC, 2023); the females of the genus remain unknown. Despite the absence of synapomorphic traits, strong molecular and phylogenetic data led Maddison (2015) to place this genus in the subtribe Plexippoida. Males of this genus in form resemble males of the genera *Panchorius* and *Orientatus*, however they may be differentiated by a triangular bulb (tegulum) with a significant prolateral extension (Hoang et al., 2022). Molecular analysis revealed 4.8% intraspecific variation among species from Vietnam and Malaysia (Hoang et al., 2022); however, further morphological and molecular data are required to elucidate the placement of this genus.

There are ten described species of *Gelotia* Thorell, 1890, all of which are only found in Australia and the Oriental region (WSC, 2023). The synapomorphic characteristic, a cap-like RTA, connected to the tibia by an "amorphous process" defines this genus (Wanless, 1984). *Cocalus* C. L. Koch, 1846 have a triangular projection on the RTA, comparable to the amorphous process of *Gelotia*; combined with geographic distribution this suggests that the two genera are sister groups (Wanless, 1984; Wijesinghe, 1991). Out of the 10 described species of *Gelotia*, 6 are only known from type localities, and 4 are only known by a single sex (WSC, 2023). The sole species currently recognized from the Indian subcontinent is *Gelotia lanka* Wijesinghe, 1991 (WSC, 2023).

Of the 672 salticid genera that have been named, 104 can be found in India (Caleb & Sankaran, 2023). This study adds the genera *Anarrhotus* and *Gelotia* to that count.

Material & methods

Both of the individuals described here were collected by hand and then transferred to 70% alcohol. The collected specimens were examined under a Leica M205 C stereomicroscope. A Leica DMC 4500 digital camera attached to the Leica M205 C stereomicroscope was used for microscopic photographs. Leica Application Suite (LAS) version 4.3.0. was used for image stacking and measurements. All measurements were taken in millimetres. Leg and palp measurement was taken as follows: total length [femur, patella, tibia, metatarsus (except palp), tarsus]. Terminology follows Patoleta & Żabka (2020), Hoang et al., (2022) and Tripathi et al. (2022) for leg spination. The specimens studied are deposited in the Centre for Animal Taxonomy and Ecology (CATE), Department of Zoology, Christ College (Autonomous), Irinjalakuda, Kerala, India and National Centre for Biological Sciences Research Collections (NRC), Bengaluru, India.

Abbreviations used in the text: **ALE**, anterior lateral eye; **AME**, anterior median eye; **dco**, dorsal cymbial outgrowth; **PLE**, posterior lateral eye; **PME**, posterior median eye; **pl**, prolateral; **pld**, prolateral dorsal; **plv**, prolateral ventral; **rco**, retrolateral cymbial outgrowth; **rl**, retrolateral; **RTA**, retrolateral tibial apophysis; **rld**, retrolateral dorsal; **rlv**, retrolateral ventral.

Taxonomy

Anarrhotus fossulatus Simon, 1902

Figures 1A–G, 3

Anarrhotus fossulatus Simon, 1902: 421 (\circlearrowright). Anarrhotus fossulatus Prószyński, 1984: 401, figs 3–4 (\circlearrowright). Anarrhotus fossulatus Prószyński, 2017: 26, fig. 11B (\circlearrowright). Anarrhotus fossulatus Hoang et al., 2022: 479, figs 1–7 (\circlearrowright).

Type material. Holotype \Diamond from SINGAPORE, Simon leg., repository MNHN (14233), not examined. (Illustrations of this species given in Prószyński, 1984: 401, figs. 3–4 and Hoang et al., 2022: 479, figs. 1–7 are diagnostic and were used for comparison.

Other material examined. 1 \bigcirc (NRC-AA-4015) from INDIA: Assam: Guwahati: Nilachal hills: near Kamakhya Temple (26°10'06.6"N, 91°42'24.1"E; 721 m alt.), 09 November 2022, R. Tripathi leg., from bark, by hand.

Diagnosis. For diagnosis of the species, see Hoang et al., 2022.

Supplementary description. Male (Figures 1A–D). For description of the species, see Hoang et al., 2022. Body length 9.89. Carapace 4.44 long, 3.49 wide. Abdomen 5.46 long, 2.75 wide. Ocular area 1.95 long, 2.32 wide. Eye sizes and ocular distance: AME 0.88, ALE 0.43, PME 0.13, PLE 0.42; AME–AME 0.05, AME–ALE 0.06, PME–PME 2.33, ALE–ALE 1.91, PME–PLE 0.51, PLE–PLE 2.28, ALE–PME 0.53, ALE-PLE 1.19. Length of chelicerae 1.70 long. Clypeus height at AMEs 0.22. Sternum 1.69 long, 1.21 wide. Length of pedipalp and legs: pedipalp 3.10 [1.18, 0.44, 0.34, 1.14], I 12.17 [3.26, 2.04, 3.38, 2.30, 1.19], II 8.30 [2.57, 1.38, 2.12, 1.34, 0.89], III 8.91 [2.89, 1.26, 1.81, 1.96, 0.99], IV 8.96 [2.71, 1.12, 2.01, 2.21, 0.91]. Leg formula: 1432. Spination of pedipalp: femur pld 1 do 2, patella pl 2 do 1, tibia pld 1 do 2 rl 1, tarsus/cymbium pl 2 do 2 rl 1 rld 1; legs: femur I pld 1 do 3 rld 1, II pl 1 pld 1 do 3 rld 2, III pld 1 do 3 rld 1, IV do 3 rld 2; patellae I–II pl 1, III–IV pl 1 rl 1; tibia I–II plv 3 rlv 3, III–IV pl 1 pld 2 plv 2 do 2 rl 2 rld 1 rlv 1, metatarsus I–II plv 2 rlv 2, III–IV pl 2 pld 1 plv 2 rl 1 rld 1 rlv 2; tarsi I–IV 0. Pedipalp (Figures 1E-G):

segments brown. RTA short, trapeze-shaped. Embolus short, distolaterally originating, with a retrolateral curvature, with narrow claw-like tip, directed at 1 o' clock ventrally. Tegulum slightly bulged, protraction of the posterior lobe protruding prolaterally at 9 o'clock ventrally, sperm duct running along the retrolateral end.

Female. Unknown.

Distribution. India (present data), Malaysia, Singapore (the type locality) and Vietnam (Figure 3; Hoang et al., 2022; WSC, 2023).



Figure 1. Anarrhotus fossulatus Simon, 1902. **A**, Habitus, dorsal. **B**, Same, lateral. **C**, Same, frontal. **D**, Leg I, prolateral. **E–G**, Left pedipalp (E ventral, F retrolateral, G prolateral). Scale bars: A, B & D 2 mm; C 1 mm; E–G, 0.2 mm.

Gelotia lanka Wijesinghe, 1991

Figs 2A–F, 3

Gelotia lanka Wijesinghe, 1991: 275, figs 1–6 ($\stackrel{\circ}{\bigcirc}$, $\stackrel{\circ}{\bigcirc}$).

Type material. Holotype \bigcirc and paratype \bigcirc from SRI LANKA, T. Wijesiri, AMNH, not examined. (Illustrations of this species given in Wijesinghe, 1991a: 275, figs. 1-6 are diagnostic and were used for comparison).

Other material examined. 1 \bigcirc (CATE 10020505a) from INDIA: Kerala: Peppara wildlife Santuary: near Vahvanthole waterfalls 8°40'28.2"N,77°09'45.8"E; 410m alt.), 06 February 2023, A. Jose leg., from litter, by hand.

Diagnosis. For diagnosis of the species, see Wijesinghe, 1991.

Supplementary description. Male (Figures 2A–C). For description of the species, see Wijesinghe, 1991. Body length 4.74. Carapace 2.78 long, 2.17 wide, 1.70 height. Abdomen 3.04 long, 1.39 wide, 1.44 height. Ocular area 1.05 long, 1.66 wide. Eye sizes and ocular distance: AME 0.34, ALE 0.15, PME 0.09, PLE 0.17; AME-AME 0.04, AME-ALE 0.07, PME-PME 1.34, ALE-ALE 1.49, PME-PLE 0.25, PLE-PLE 1.52, ALE-PME 0.09, ALE-PLE 0.74. Length of chelicerae 0.91 long, 0.53 wide. Clypeus height at AMEs 1.11. Sternum 1.03 long, 0.81 wide. Length of pedipalp and legs: pedipalp 2.76 [0.87, 0.32, 0.44, 1.13], I 6.93 [1.77, 0.68, 1.80, 1.76, 0.92], II 6.26 [1.80, 0.64, 1.53, 1.53, 0.76], III 6.11 [1.75, 0.56, 1.40, 1.57, 0.83], IV 8.76 [2.34, 0.73, 2.04, 2.64, 1.01]. Leg formula: 4123. Spination of pedipalp: femur pld 1 do 2, patella pld 1 do 1 rld 1, tibia do 1 rl 1, tarsus/cymbium pl 2 do 2 rl 1 rld 1; legs: femur I pld 1 do 5 rld 1, II pl 1 pld 1 do 4 rld 2, III pld 2 do 5 rld 2, IV pld 1 do 5 rld 2; patellae I–IV pld 1 rld 1; tibia I–IV pl 1 pld 1 plv 3 do 2 rl 1 rld 1 rlv 3; metatarsus I–IV pl 1 pld 3 plv 3 rl 1 rld 3 rlv 3. Pedipalp (Figures 2D–F): tibia longer than wide, RTA biramous, anterior ramus oriented to 1 o' clock ventrally, joined to tibia by continuous broad base, medially curly and tapers to the tip. Posterior ramus pointed 5 o'clock ventrally, attached to tibia by socket like structure, curved frontaly at the tip. VTA small, sub triangular with smooth anterior edge, directed to 1 o' clock ventrally. Dorsal tibial margin sclerotised to a sharp tip. Cymbium protruded down retrolaterally, rco small, dorsally triangular, perpendicular to cymbium. The dco prominent, developed to a left-curved spiny structure. Tegular furrow inverted J-shaped.

Female: See Wijesinghe, 1991.

Distribution. India (present data) and Sri Lanka (the type locality) (Figure 3; Wijesinghe, 1991; WSC, 2023).



Figure 2. *Gelotia lanka* Wijesinghe, 1991. **A**, Habitus, dorsal. **B**, Same, lateral. **D–F**, Left pedipalp (D ventral, E retrolateral, F dorsal). Scale bars: A–C 1 mm; D–F, 0.2 mm.



Figure 3. Current distribution map for the genera Anarrhotus Simon, 1902 and Gelotia Thorell, 1890.

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