

Redescription and synonymy of *Stenaelurillus arambagensis* (Biswas et Biswas, 1992) comb.n. (Araneae: Salticidae)

Переописание и синонимия *Stenaelurillus arambagensis* (Biswas et Biswas, 1992) comb.n. (Araneae: Salticidae)

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КЛЮЧЕВЫЕ СЛОВА: Распространение, *Stenaelurillus*, Salticidae, Индия, синонимия.

ABSTRACT. *Marpissa arambagensis* Biswas et Biswas, 1992 is transferred to the genus *Stenaelurillus* Simon, 1886: *S. arambagensis* (Biswas et Biswas, 1992) comb.n. The species is redescribed and illustrated, its refined distribution is mapped. *Stenaelurillus digitus* Prajapati, Murthappa, Sankaran et Sebastian, 2016 is synonymized with *S. arambagensis*.

РЕЗЮМЕ. *Marpissa arambagensis* Biswas et Biswas, 1992 переведена в род *Stenaelurillus* Simon, 1886: *S. arambagensis* (Biswas et Biswas, 1992) comb.n. Вид переописан и иллюстрирован, его уточненное распространение прокартировано. *Stenaelurillus digitus* Prajapati, Murthappa, Sankaran et Sebastian, 2016 синонимизирован с *S. arambagensis*.

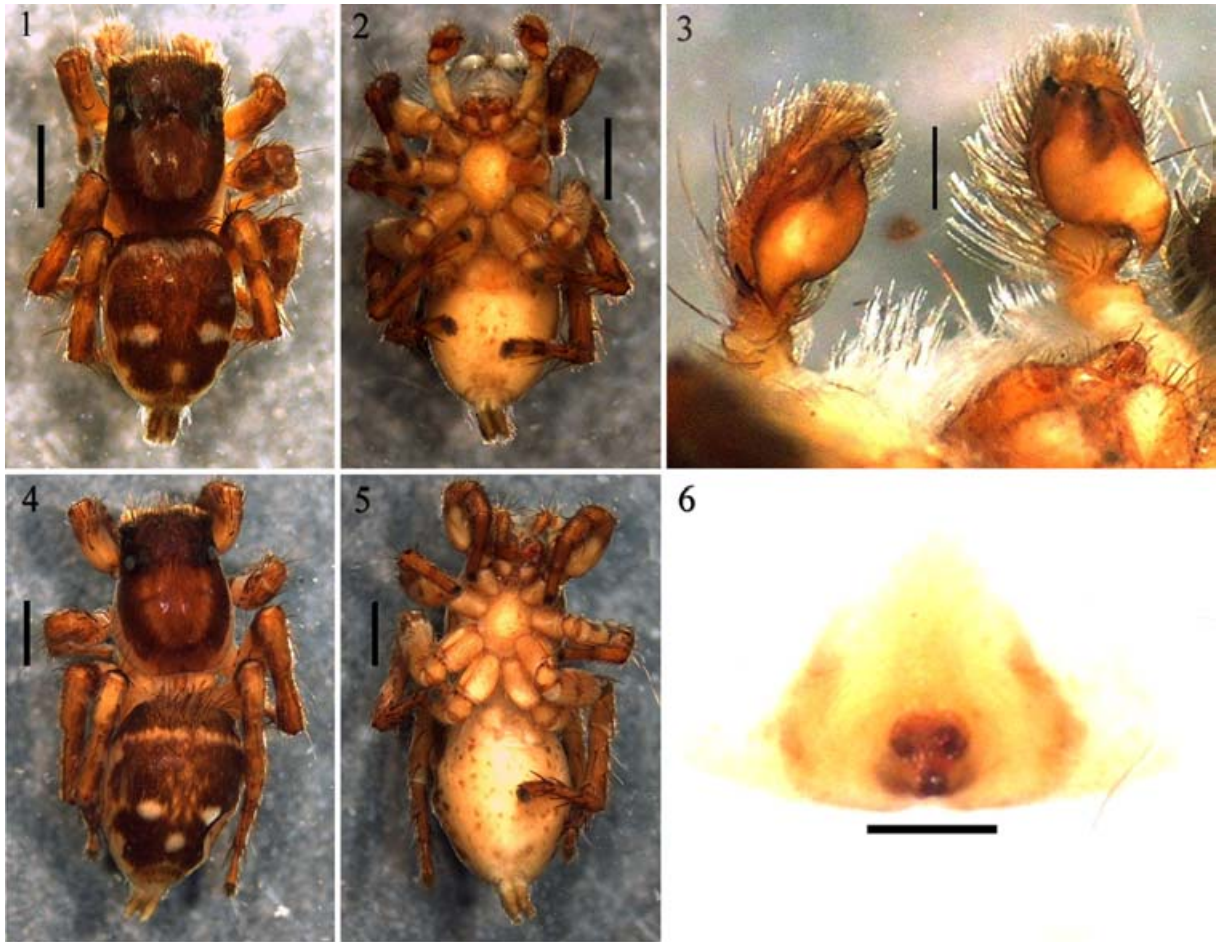
Introduction

The genus *Stenaelurillus* was established by Simon in 1886. The genus presently consists of 39 valid species described from Africa and Asia [WSC, 2017], of which seven species are known from India: *S. lesserti* Reimoser, 1934; *S. sarojinae* Caleb et Mathai, 2014; *S. albus* Sebastian, Sankaran, Malamel et Joseph, 2015; *S. jagannathae* Das, Malik et Vidhel, 2015; *S. metallicus* Caleb et Mathai, 2016; *S. digitus* Prajapati, Murthappa, Sankaran et Sebastian, 2016; and *S. gabrieli* Prajapati, Murthappa, Sankaran et Sebastian, 2016. While re-examining old salticid types retained at the National Zoological Collection, Zoological Survey of India, Kolkata and the freshly collected material from Peda

Cherlopalle, Andhra Pradesh, we have found out that the species *Marpissa arambagensis* Biswas et Biswas, 1992 was misplaced and is to be transferred to the genus *Stenaelurillus* Simon, 1886. In this paper, we have established a new combination for the latter species name — *Stenaelurillus arambagensis* (Biswas et Biswas, 1992) comb.n. — and have redescribed and illustrated this species based on the type and newly collected material. A refined distributional map is provided as well. The name *S. digitus* is hereby recognized as a junior synonym of *S. arambagensis*.

Materials and methods

The specimens were hand collected and preserved in 70% ethanol. Images of the type specimens were made by means of a Leica EZ4 HD stereomicroscope equipped with LAS EZ software. The epigyne was dissected and cleared in 10% KOH. All measurements are in mm. The studied specimens have been deposited in the National Zoological Collection, Zoological Survey of India, Kolkata (ZSI), Division of Arachnology, Department of Zoology, Sacred Heart College, Thevara, Cochin, Kerala (ADSH) and the Western Regional Centre, Zoological Survey of India (ZSI-WRC), Pune. Abbreviations used: AEW — anterior eyes width, a.s.l. — above sea level, D — described, EFL — eye field length, PEW — posterior eyes width, RTA — retrolateral tibial apophysis, VTA — ventral tibial apophysis.



Figs 1–6. General appearance and copulatory organs of *S. arambagensis* comb.n.: ♂ allotype (ZSI 5384/18) (1–3) and ♀ holotype (ZSI 5376/18) (4–6): 1 — male, dorsal view; 2 — ditto, ventral view; 3 — right palp, retrolateral, left palp, ventral view; 4 — female, dorsal view; 5 — ditto, ventral view; 6 — epigyne, ventral view. Scale bars: (1–2, 3–4) 1 mm; (3) 0.25 mm.

Рис. 1–6. Общий вид и копулятивные органы *S. arambagensis* comb.n.: аллотип ♂ (ZSI 5384/18) (1–3) и голотип ♀ (ZSI 5376/18) (4–6): 1 — самец, вид сверху; 2 — то же, вид снизу; 3 — правая пальпа, ретролатерально, левой пальпы вентрально; 4 — самка, вид сверху; 5 — то же, вид снизу; 6 — эпигина, вид снизу. Масштаб: (1–2, 3–4) 1 мм; (3) 0,25 мм.

Taxonomy

Stenaelurillus arambagensis (Biswas et Biswas, 1992), **comb.n.**

Figs 1–17, Map.

Marpissa arambagensis Biswas et Biswas, 1992: 390, figs 20–22 (D♀). The type series is kept at the ZSI; examined.

Stenaelurillus digitus Prajapati, Murthappa, Sankaran et Sebastian, 2016: 327, figs 1C–D, 6A–D, 7A–E, 8A–C, 9A–D (D♂♀), **Syn.n.** The type series is kept at the ADSH; examined.

TYPES. *Marpissa arambagensis* Biswas et Biswas, 1992: holotype ♀ (ZSI-5376/18) and allotype ♂ (ZSI-5384/18) from Chandur forest (22.91° N, 87.76° E), 26 m a.s.l., Arambagh, Hugli District, West Bengal, India, 26.02.1986, Bijan Biswas. — *Stenaelurillus digitus* Prajapati, Murthappa, Sankaran et Sebastian, 2016: holotype ♂ (ADSH 83503Di) and paratypes 2 ♂♂, 3 ♀♀ (ADSH 83503Dii) from Vijaynagar (23.998956° N, 73.280219° E), 307 m a.s.l., Gujarat, India, 27.06.2014, Prajapati.

OTHER MATERIAL. INDIA: 1 ♂ (ZSI-AA579), 1 ♀ (ZSI-AA578), Peda Cherlopalle (15.278153° N, 79.571527° E), 90 m a.s.l., Kanigiri, Andhra Pradesh, 04.12.2016, John Caleb & Job Daniel; 10 ♂♂, 5 ♀♀ (the first author's personal collection),

4.12.2016, John Caleb & Job Daniel; 2 ♂♂, 2 ♀♀ (ZSI-WRC. Lot No. 106, Reg. No. Ar/586), Jalgaon (20.975505° N, 75.565434° E), 193 m a.s.l., Maharashtra, 30.09.2015, Nayan R. Maheshwari.

DIAGNOSIS. *S. arambagensis* can be easily distinguished from other *Stenaelurillus* species by the following characters: the long, thick, finger-like apophysis of the embolar division (called the embolus in the original description of *S. digitus*), directed at 11 o'clock position; the short, thick embolus (Figs 3, 8, 14); the massive ventral tibial apophysis (Figs 7, 15); the epigyne with closely placed copulatory openings on a sclerotized plate and with a raised posterior region having the W-shaped margin (Figs 6, 10, 16); the insemination ducts simple, short and linear (Fig. 12); the spermathecae spherical, contiguous (Figs 11, 17) (see also Prajapati *et al.* [2016: sub. *S. digitus*]).

REMARKS. Biswas, Biswas [1992] described *Marpissa arambagensis* from the Chandur forest in West Bengal on the basis of the female holotype. The original paper also referred to the male allotype, which was neither described, nor illustrated. The species,



Figs 7–13. Copulatory organs of *S. arambagensis* comb.n. (specimens from Andhra Pradesh): 7 — left male palp, prolateral view; 8 — ditto, ventral view; 9 — ditto, retrolateral view; 10 — epigyne, ventral view; 11 — vulva, dorsal view; 12 — ditto, posterior view; 13 — ditto, lateral view. Scale bars: (6–11) 0.25 mm.

Рис. 7–13. Копулятивные органы *S. arambagensis* comb.n. (экземпляры из Андхра Прадеш): 7 — левая пальпа самца, пролатерально; 8 — то же, вентрально; 9 — то же, сзади-латерально; 10 — эпигина, вентрально; 11 — вульва, дорзально; 12 — то же, вид сзади; 13 — то же, вид сбоку. Масштаб: (6–11) 0,25 мм.

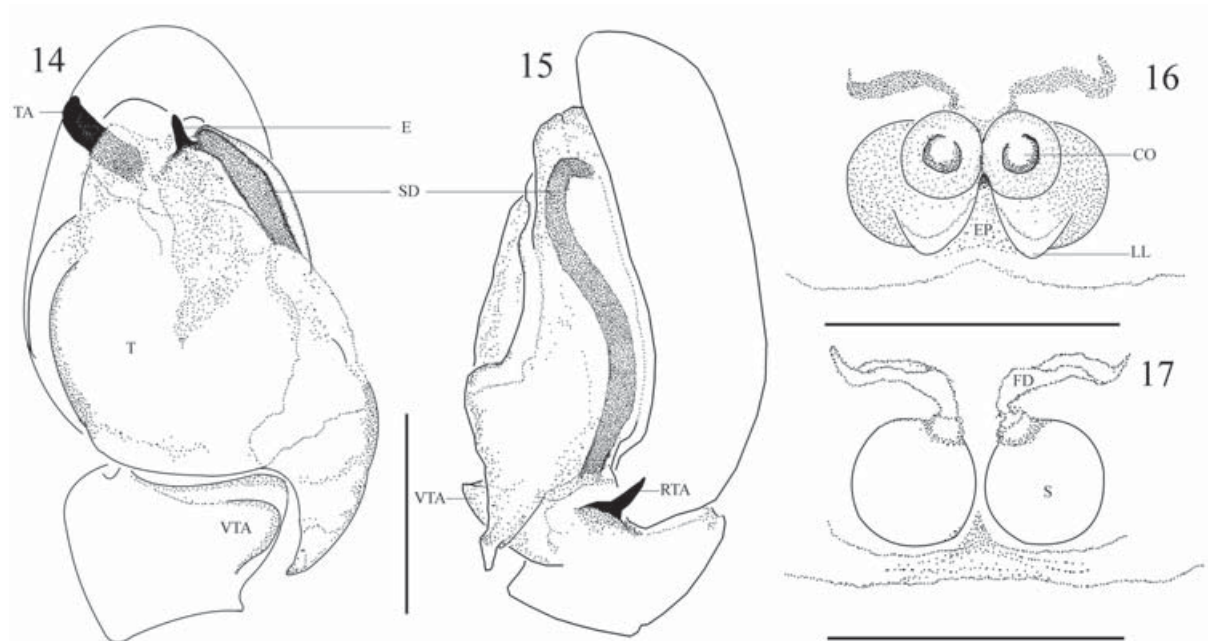
however, was clearly misplaced. The characters such as the unidentate chelicerae, carapace with a pair of white longitudinal stripes, the anterior region of abdomen with thick, long brown hairs, the abdomen pattern with a transverse white band and three white spots (cf. Fig. 4 with fig. 20 in Biswas & Biswas [1992]), a pair of spherical spermathecae, the male palp with the large posterior tegular apophysis are evidence that the species is to be placed in *Stenaelurillus*.

JUSTIFICATION OF SYNONYMY. *S. digitus* was recently described from Gujarat, India. The authors failed to compare their species with *S. arambagensis*, because it was originally described in *Marpissa*. Yet, the original description and published illustrations were not adequate for recognizing the species. An examination of freshly collected material from Peda Cherlopalle (Andhra Pradesh), Jalgaon (Maharashtra) and a re-examination of the type series of *Marpissa arambagensis* have revealed that *S. digitus* is identical to *S. arambagensis* by the conformation of its copulatory organs (cf. Figs 3, 6, 7–13 with figs 7C–E, 8A–C in Prajapati *et al.* [2016]), suggesting that the former name is a junior synonym of the latter.

Another similar species — *Stenaelurillus jagannathae* Das Malik et Vidhel, 2015 — could also be a

junior synonym of *S. arambagensis* because of the similar palpal conformation showing the strikingly similar structure of the thick apophysis in the embolar division accompanied by the short embolus. The variations seen in the palp of *S. jagannathae*, as reported by Prajapati *et al.* [2016], could be attributed to a slight clockwise rotation of the bulbus, resulting in the positional change of the embolus from 12 o'clock to 1 o'clock (see figs 3–6 in Vidhel *et al.* [2015]). The epigyne with the closely placed copulatory openings, the short insemination ducts and the closely placed spherical spermathecae (see figs 7–8 in Vidhel *et al.* [2015]) also point to the possible synonymy of both species names. However, the formal synonymy is postponed until the type series of *S. jagannathae* has been re-examined.

DESCRIPTION. FEMALE (holotype, ZSI-5376/18, Figs 4–6, 16–17): Total length 5.53, carapace 2.51 long, 1.90 wide; abdomen 3.02 long, 2.13 wide. AEW 1.46, PEW 1.41, EFL 0.76. Carapace reddish brown, with a pair of longitudinal stripes on the thoracic region; lateral margins of carapace covered with broad patches of white hairs (Fig. 4). Clypeus covered with white hairs. Chelicerae brownish, unidentate. Endites, labium and sternum yellowish (Fig. 5). Legs yellowish,



Figs 14–17. *Stenaelurillus arambagensis* comb.n.: 14 — left male palp, ventral view; 15 — ditto, retrolateral view; 16 — epigyne, ventral view; 17 — vulva, dorsal view. Scale bars: (10–13) 0.25 mm. Abbreviations: CO — copulatory opening; E — embolus; EP — epigynal pocket; FD — fertilization duct; LL — lateral lobe; RTA — retrolateral tibial apophysis; S — spermathecae; SD — sperm duct; T — tegulum; TA — apophysis of the embolic division; VTA — ventral tibial apophysis.

Рис. 14–17. *Stenaelurillus arambagensis* comb.n.: 14 — левая пальпа самца, вентрально; 15 — тоже, ретролатерально; 16 — эпигина, вид снизу; 17 — вульва, вид сверху. Масштаб: (10–13) 0,25 мм. Сокращения: CO — копулятивное отверстие; E — эмболюс; EP — эпигинальный карман; FD — оплодотворительный канал; LL — боковая доля; RTA — боковой тибильный отросток; S — сперматеки; SD — семенной каналец; T — тегулум; TA — апофиза эмболярного отдела; VTA — вентральный тибильный отросток.

with dark brown patches. Abdomen reddish brown, outlined by a stripe of white hairs anteriorly and a broad patch of pale yellow hairs; a row of smaller spots converging between a pair of large white spots, another slightly smaller spot presents further down; pale yellow chevron-shaped markings present at the posterior region (Fig. 5). Spinnerets yellowish. Epigynal plate sclerotized, with the raised posterior region; small and broad epigynal pocket forms W-shaped posterior margin; copulatory openings closely placed; copulatory ducts short and straight; spermathecae spherical (Figs 6, 10–13, 16, 17).

MALE (allotype, ZSI-5384/18, Figs 1–3, 14–15): Total length 4.38, carapace 2.18 long, 1.57 wide; abdomen 2.20 long, 1.63 wide. AEW 1.36, PEW 1.34, EFL 0.75. Coloration pattern as in the female (Figs 1–2). Pedipalps covered with pale yellow hairs; the apophysis of the embolar division thick, almost flattened and long, protruding prolaterally; embolus thick, short and straight (Figs 3, 8, 14); significantly curved proximal retrolateral lobe of the tegulum with a narrow tip (Figs 3, 8 & 14); VTA large; RTA short, canine tooth-like, directed dorsally (Figs. 7, 9, 15).

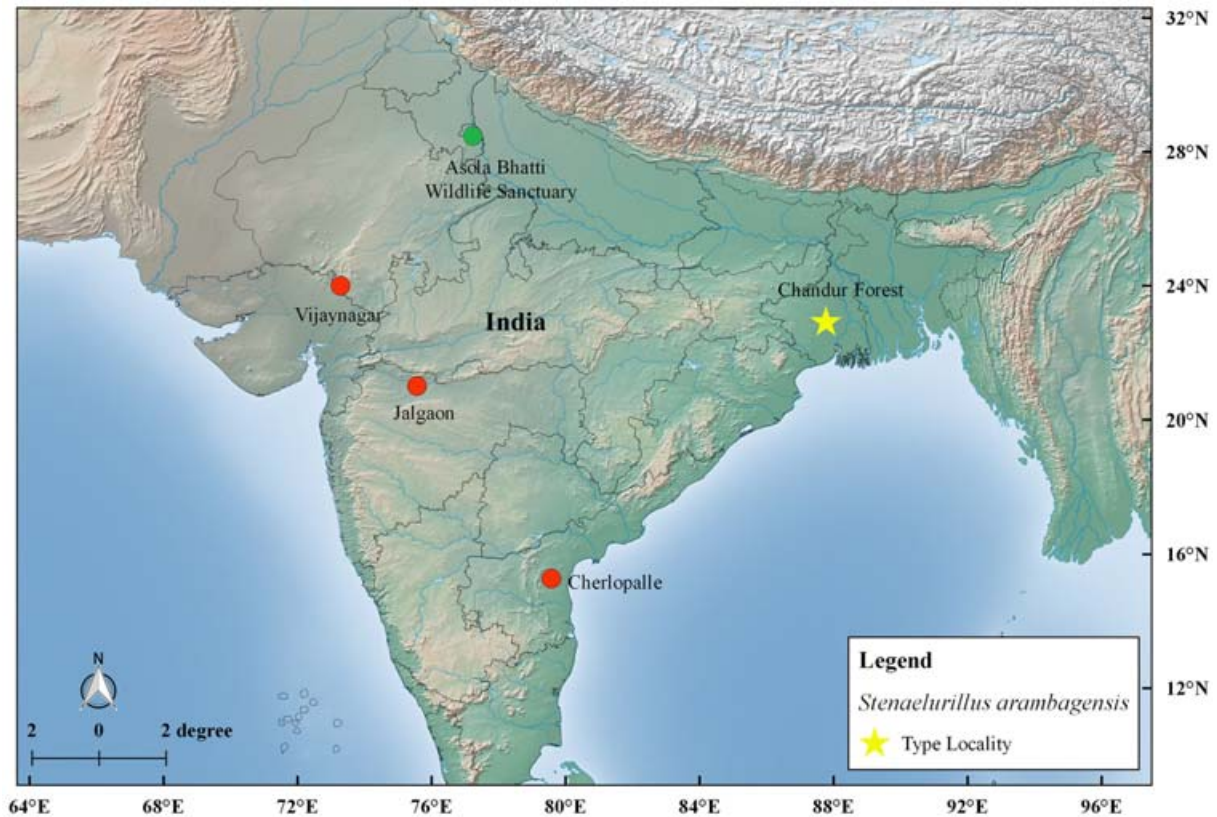
DISTRIBUTION. India (Andhra Pradesh, Gujarat, Maharashtra, West Bengal) (Map).

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Map. Collecting localities of *Stenaelurillus* sp. in India.
Карта. Точки сбора *Stenaelurillus* sp. в Индии.

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