

Model mimics: antlike jumping spiders of the genus *Myrmarachne* from Sri Lanka

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All nominal species of ant-mimicking jumping spiders of the genus *Myrmarachne* from Sri Lanka are redescribed, based on type and newly collected material. Three new species are described: *Myrmarachne aurantiaca* sp. nov., *M. dishani* sp. nov. and *M. morningside* sp. nov. *Panachraesta* Simon, 1900 is shown to be a junior synonym of *Myrmarachne* MacLeay, 1839, syn. nov. The following species are synonymized: *Myrmarachne orientales* Tikader, 1973 = *Myrmarachne melanocephala* MacLeay, 1839 syn. nov., *Myrmarachne paivae* Narayen, 1915 and *Myrmarachne bengalensis* Tikader, 1973 = *Myrmarachne prava* (Karsch, 1880) syn. nov., *Myrmarachne hanoi* Zabka, 1985 = *Myrmarachne pumilio* (Karsch, 1880) syn. nov., *Myrmarachne maratha* Tikader, 1973 = *Myrmarachne robusta* (Peckham & Peckham, 1892). One new combination is proposed: *Myrmarachne paludosa* (Simon, 1900) comb. nov. *Myrmarachne ramunni* Narayan, 1915 is recorded for the first time in Sri Lanka. A total of 12 valid species are now known from the island; six of them are endemic.

<http://zoobank.org/urn:lsid:zoobank.org:pub:B723C180-996B-471D-B920-4D08E7A8CD53>

Keywords: taxonomy; India; Pakistan; Burma; Ceylon; biodiversity

Introduction

The ant-mimicking genus *Myrmarachne* MacLeay, 1839, is one of the most species-rich genera of Salticidae, containing over 217 nominal species naturally distributed over five continents and numerous tropical islands (Edwards and Benjamin 2009; Edwards 2013; Platnick 2013; Prószyński 2013). They are specialized ant-mimicking salticids formerly assigned to the pluridentati group (Ceccarelli 2010). Results of the most recent molecular study place *Myrmarachne* into a new group called the Astioida, which include pluridents, unidents and fissidents (Maddison et al. 2008). They are primarily characterized by their ant-like appearance, an issue appropriately raised by Prószyński and Deeleman-Reinhold (2010). As ant mimicry is a rather common behavioural/morphological phenomenon throughout many Arthropod taxa (McIver and Stonedahl 1993; Cushing 1997, 2012), it alone cannot be used to define a large group of spiders (Prószyński and Deeleman-Reinhold 2010; Edwards 2013). The argument is then about the monophyly of *Myrmarachne* and its species groups. However, this issue could only be satisfactorily settled with the analysis of molecular phylogenetic data, independent of behaviour and morphology.

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Given the wide distribution and the large number of species involved, a stable taxonomy is highly desirable. The recent description of the type species of the genus, *Myrmarachne melanocephala* MacLeay, 1839, and phylogenetic analysis provide a firm basis for revisionary taxonomic studies of the genus (Edwards and Benjamin 2009). Nevertheless, its composition is still poorly understood, leading to disagreement of the placements of some species (Edwards and Benjamin 2009; Prószyński and Deeleman-Reinchold 2010; Edwards 2013). Some regional *Myrmarachne* faunas have recently been fairly well documented: Africa (Wanless 1978), Australia (Ceccarelli 2010), India (Narayan 1915; Sherriffs 1931; Tikader 1973; Bradoo 1980; Sadana and Gupta 1998; Bastawade 2002), Pacific Islands (Berry et al. 1996), South East Asia (Edmunds and Prószyński 2003; Prószyński and Deeleman-Reinchold 2010; Yamasaki 2012; Yamasaki and Ahmad 2013; Yamasaki and Edwards 2013), Seychelles (Saaristo 1978; Wanless 1983), Taiwan (Huang 2004) and Vietnam (Zabka 1985).

Apart from a few papers, generally very little is known of the behaviour and life history of *Myrmarachne*. Although they generally tend to be found close to ants, they are known to actively avoid contact with them (Ceccarelli 2007). The behaviours of a handful of species have been observed (Mathew 1931, 1940, 1944; Wanless 1978; Cushing 1997, 2012; Edmunds 2006; Borges et al. 2007; Sharma 2012; Yamasaki and Edwards 2013). However, most observations centre on the common oriental species *M. platalaeoides*.

The standard work on Sri Lanka's invertebrate fauna was published as a part of the monographic series 'Fauna of British India, including Ceylon and Burma'. However, it did not treat many smaller arachnids (Pocock 1900). This paper is part of an ongoing island-wide study to collect and record Sri Lanka's invertebrate biodiversity. The end of the 30-year long civil conflict in Sri Lanka provides us an unparalleled opportunity to conduct island-wide biodiversity surveys and inventorying. Here I aim to survey and inventory the *Myrmarachne* fauna of Sri Lanka, describing all species of *Myrmarachne* from the island based on museum as well as newly collected material. Further, a key to all known species is provided.

Material and methods

Morphology

Digital images were taken with a Nikon DXM1200F camera (Nikon, Tokyo, Japan). Images were edited using an AutoMontage software package (Syncrosopy, Cambridge, UK). Left structures are depicted unless otherwise stated. Setae are usually not depicted in the final palp drawings. All measurements are in millimetres and were made with a stereo microscope equipped with a 10× ocular and an ocular micrometer scale. An Amray 1810 housed at the Smithsonian Institution's National Museum of Natural History Scanning Electron Microscope (SEM) facility was used to study and photograph morphological features. Targeted parts were cleaned ultrasonically for 1–3 min and dehydrated with 100% ethanol (transferred from 70% ethanol to absolute ethanol and left overnight), then critical point dried. After critical point drying, the specimens were glued to rounded aluminium rivets using an acetone solution of polyvinyl resin (Paraloid B72) and then Au/Pd coated for examination in the SEM. Female genitalia were excised using sharpened needles. Abdominal tissue was digested with SIGMA Pancreatin LP 1750 enzyme complex (Álvarez-Padilla and Hormiga 2007), in a solution of sodium borate prepared following methods described in Dingerkus and Uhler (1977). The specimen was then transferred to methyl

salicylate (Holm 1979) and temporarily mounted as described in Grandjean (1949) and Coddington (1983) for examination and illustration under microscope.

I have placed more weight on the use of illustrations (drawings, colour photos, SEMs) to convey the unique nature of each species, instead of the traditional method of words, as I think that a single well-composed illustration can convey more information on a species. Chelicerae dentition has been traditionally used in the identification of *Myrmarachne* species. However, my examination of specimens of Sri Lanka species shows that dentition patterns are variable and are thus, not used in their characterization.

Abbreviations

CD: copulatory duct; CO: copulatory opening(s); E: embolus; ED: ejaculatory duct (s); S: spermatheca; T: tegulum.

Institutions

CAS: California Academy of Sciences, San Francisco, CA, USA; MCZ: Museum of Comparative Zoology, Harvard University, Cambridge, MA, USA; MHNG: Muséum d'Histoire Naturelle, Geneva, Switzerland; MNHN: Muséum National d'Histoire Naturelle, Paris, France; MZT: Zoological Museum, Department of Biology, University of Turku, Turku, Finland; NMSL: National Museum, Colombo, Sri Lanka; OUMNH: Hope Entomological Collections, Oxford University Museum, Oxford, UK; USNM: National Museum of Natural History, Smithsonian Institution, Washington, DC, USA; ZMB: Museum für Naturkunde der Humboldt-Universität, Berlin, Germany.

Key to the Sri Lankan species of *Myrmarachne*

1. Tegulum of the male palp cylindrical, embolus is positioned on distal end of the tegulum, spermatheca kidney-shaped, connected by a CD to CO. Proximal half of chelicerae constricted. Generally not found in primary forest (Figures 30A–D, 31A, 35B, 36C, 37B, D) 2
 - Tegulum spherical or disk-shaped, embolus is positioned on outer edges of the tegulum, spermatheca elongated tubes or oval. Generally found in primary forest (Figures 3A, F, 4B, 22A) 3
- 2(1). Spiders brown in colour, large (7.2–30.0), Figure 29A, B *M. plataleoides*
 - Spiders black in colour, much smaller (6.4–3.6), Figure 33A–D *M. spissa*
- 3(1). Spermatheca oval, connected by a CD to CO 4
 - Spermatheca an elongated tube, no clear distinction of CD 5
- 4(3). Adult spiders brownish with thoracic part black *M. melanocephala*
 - Adult spiders black with thoracic part red/brown (Figures 23A–E, 24A–D) *M. prava*
- 5(3). Opisthosoma cylindrical, as much as 3× longer than wide, no constriction (Figures 5A–C, 8G, H, 9A–D) 6
 - Opisthosoma oval or round, less than 2× longer than wide, constriction present in the centre of the anterior half of opisthosoma 7

- 6(5). Adult spiders brownish with conspicuous white bands on prosoma and chelicerae (Figures 5A–C, 8G, H) *M. dishani* sp. n.
 – Adult spiders dark brown with no white bands on prosoma or chelicerae (Figure 9A–D) *M. imbellis*
- 7(5). male palp longitudinally oval, embolus is positioned away from the borders of the tegulum (Figure 3A, F) 8
 – Male palp circular, disk-shaped, embolus is positioned on the borders of the tegulum, small spiders (Figures 7B, 22A) 9
- 8(7). Chelicerae with parallel lateral sides, distal half slightly wider than the proximal half, RTA hook-shaped with a constriction at the base (Figures 2A, B, 3B, 4D, E) *M. bicurvata*
 – Distal half of the chelicerae wider than the proximal half, The inner and outer sides of the proximal half are parallel, whereas the distal half has convex outer sides and parallel inner sides, RTA of the male palp is broad based and tapered to a point in one corner (Figures 2E, F, 3E, F) *M. ramunni*
- 9(7). Chelicerae fangs with a bulbous base, thickest at the centre (Figure 38A, B) *M. aff. tristis*
 – Chelicerae without a bulbous base, if base constricted, the entire proximal half is constricted 10
- 10(9). Chelicerae outer sides more or less parallel, dorsum curved, body covered with fine white hairs (Figures 14A–G, 15A, B) *M. paludosa* comb. nov.
 – Entire proximal or distal half of chelicerae constricted or dorsal surface flat (Figure 21A, B) 11
- 11(10). Proximal half of chelicerae constricted, distal half laterally rounded, dorsal and ventral surfaces well rounded forming a bulb (Figure 21A, B)
 *M. morningside* sp. nov.
 – Chelicerae proximal half not constricted, dorsal surface flat (Figure 1A, B) .
 *M. aurantiaca* sp. nov.

Taxonomy

Family **Salticidae** Genus *Myrmarachne* MacLeay, 1839

Panachraesta Simon, 1900: 405. Type species by original designation *P. paludosa* Simon, 1900: 405, examined. New synonymy.

Remarks

The type species of *Myrmarachne*, *M. melanocephala* was redescribed and a neotype designated by Edwards and Benjamin (2009). The type species of *Panachraesta* is here considered a typical member of the genus *Myrmarachne*; see redescription of the species below. Diagnosis and description for the genus is provided by Wanless (1978),

Edwards and Benjamin (2009), Prószyński and Deeleman-Reinhold (2010) and Yamasaki and Ahmad (2013).

Myrmarachne aurantiaca sp. nov.
(Figure 1A–D)

Type material

Holotype, male from Sri Lanka, North Western Province, Kurunegala District, Kurunegala, Ethagala range, 07°28'17"N, 80°22'30"E, 190 m, secondary forest, 20 September 2009, leg. Ziyad Jaleel et al. MHNG.

Etymology

The specific name refers to the red colouring of the prosoma.

Diagnosis

M. aurantiaca sp. nov. could be separated from other Sri Lankan *Myrmarachne* species by the body size, dorsally flat surface of the male chelicerae (Figure 1A, B) and reddish orange-coloured carapace. *M. aurantiaca* sp. nov. is very similar in size, habitat preference and genital morphology to *M. paludosa* comb. nov. and *M. morningside* sp. nov. However, individuals of both these species are dark black in colour (Figures 14A–G, 21A, B). Further, *M. aurantiaca* sp. nov. can be distinguished by the shape of the RTA which is strongly curved at the base: *M. paludosa* comb. nov. has a upward pointing, tapering RTA and *M. morningside* sp. nov. has a longer RTA with a curved tip.

Description

Male holotype. Total length: 3.5; prosoma length: 1.6, width: 0.8. Leg I: femur 0.9, patella 0.3, tibia 0.9, metatarsus 0.5, tarsus 0.3. Prosoma orange, opisthosoma anteriorly brownish, posterior half, black colour (Figure 1A, B). The cephalic part of the prosoma elevated, viewed dorsally lateral sides slightly rounded. The thoracic part is lower than the cephalic, the highest point being the centre (Figure 1A, B). Opisthosoma oval, slightly longer than wide, with no clear constriction, except for a white line (Figure 1); dorsum sclerotized, venter softer. Chelicerae are shorter than the carapace, with almost parallel lateral sides; distal half is a bit wider than the proximal half (Figure 1A, B). Chelicerae dentition not examined. Leg formula 4132. Leg spination not examined. Palps as in Figure 1C, D), with an RTA which is characteristically curved at its base. Female remains unknown.

Distribution

Known only from the type locality.

Myrmarachne bicurvata (O. Pickard-Cambridge, 1869)
(Figures 2A–D, 3A–D, 4A–F)

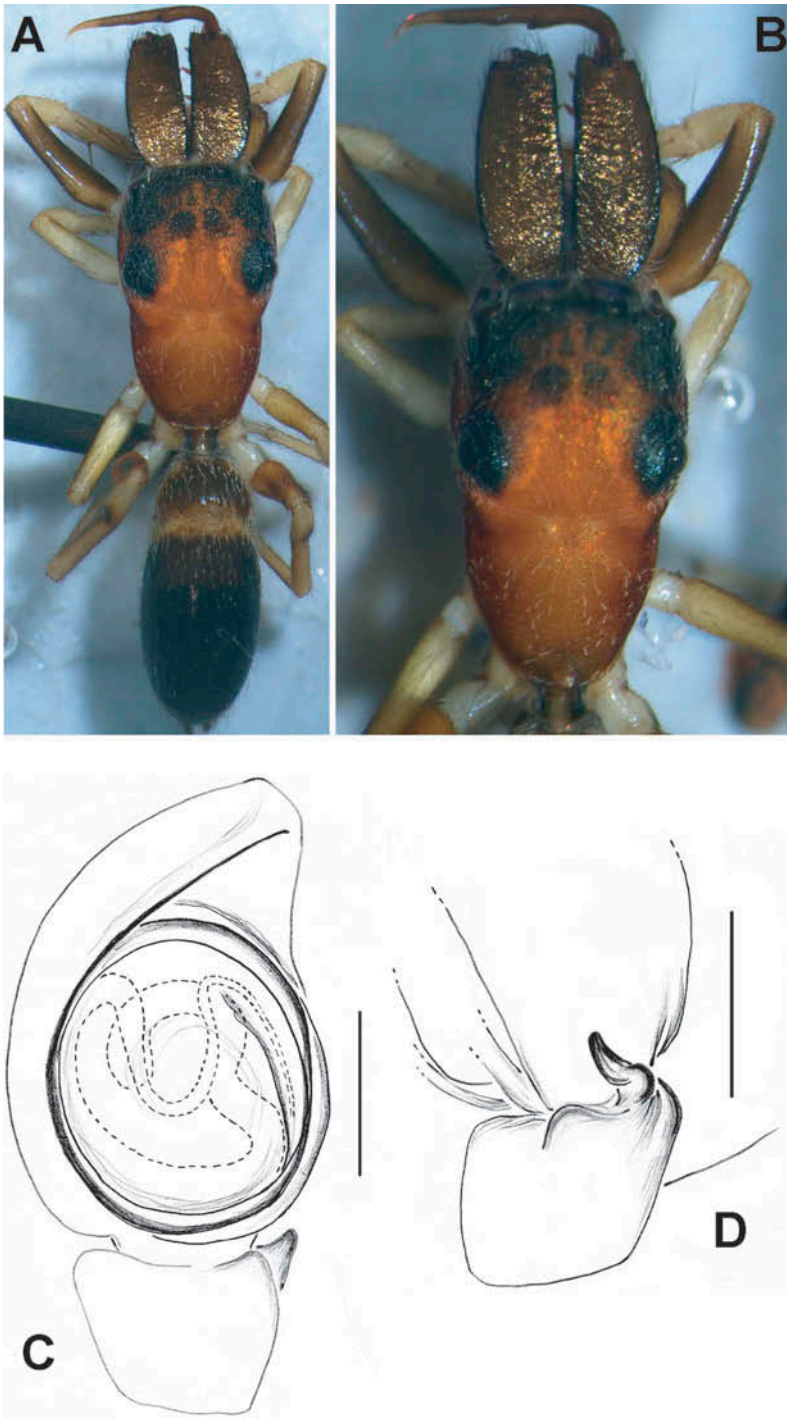


Figure 1. *Myrmarachne aurantiaca* sp. nov., male holotype from Ethagala range (MHNG). (A,B) male dorsal view; (C,D) male palp (C, ventral D, retrolateral). Scale bars = 0.2 mm.

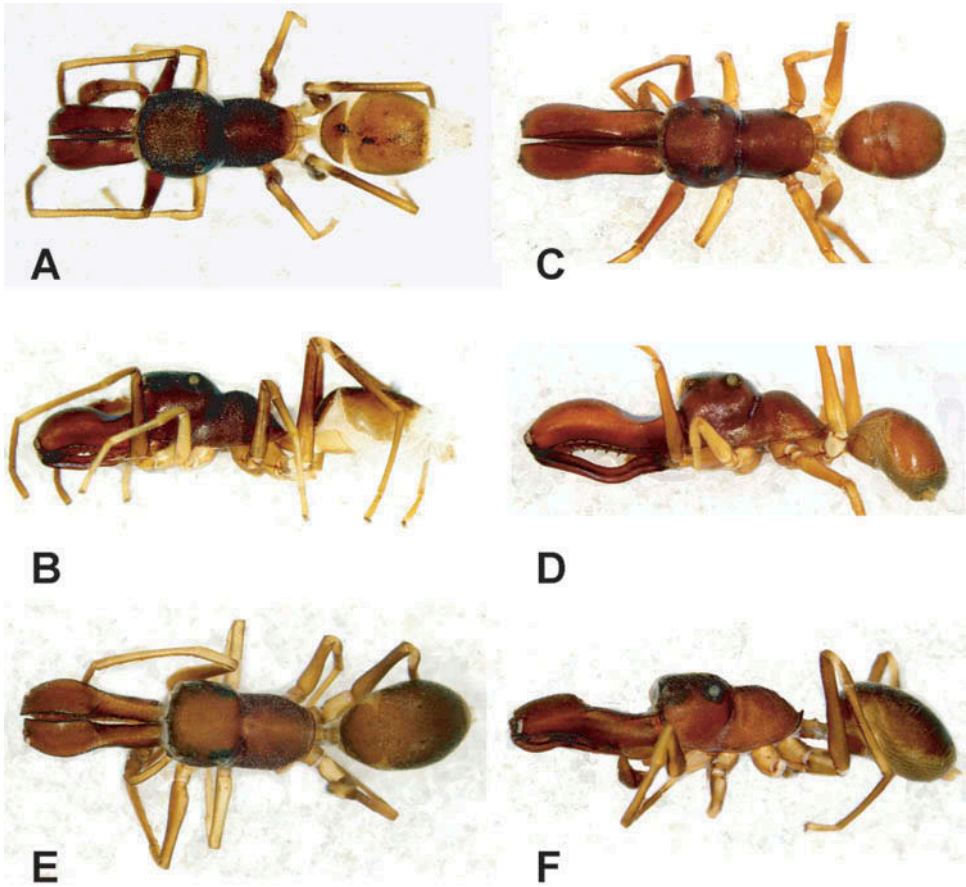


Figure 2. (A–D) *Myrmarachne bicurvata*. (A,B) male from Lahugala; (C,D) holotype, Sri Lanka, OUMNH. (E,F) *Myrmarachne ramunni* from Inginiyagala. (A,C,F) dorsal view; (B,D,E) retrolateral view.

Salticus bicurvatus O. Pickard-Cambridge, 1869: 67, plate 6, figures 57–60.

Myrmarachne bicurvata: Sherriffs, 1931: 539 (lapsus).

Type material

Holotype of *Salticus bicurvatus*: male from Sri Lanka (OUMNH 1735.2), no more data given, examined. Pickard-Cambridge (1869) says that the single specimen in OUMNH was captured in Sri Lanka by Mr G.H.K. Thwaites. Exact locality unknown.

Diagnosis

Very similar to *M. ramunni*; however, males are separated by the shape of the male chelicerae: with chelicerae in dorsal view, outer margins of chelicerae are weakly

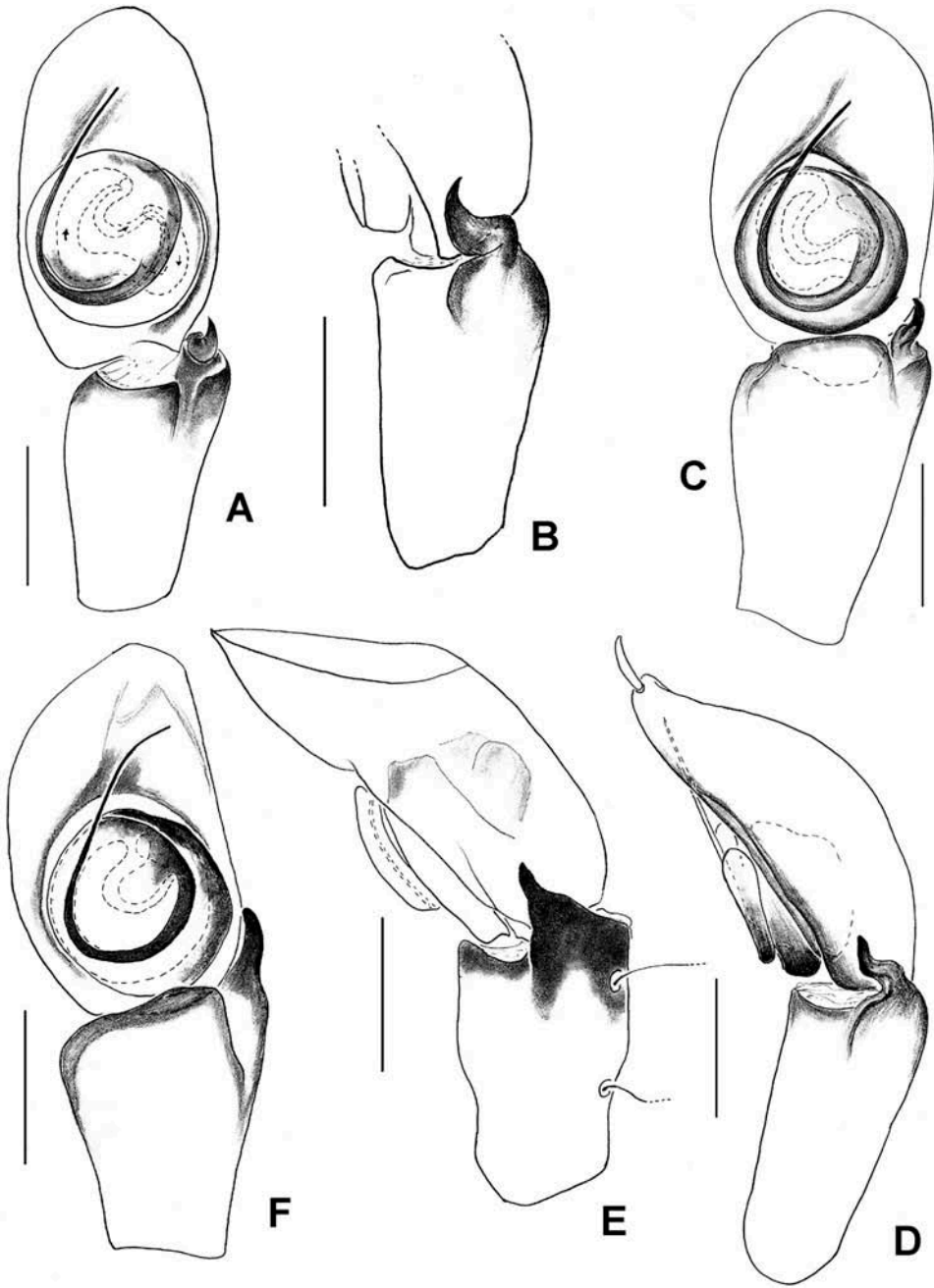


Figure 3. (A–D) *Myrmarachne bicurvata*. (A,B) male from Lahugala; (C,D) holotype, Sri Lanka (OUMNH); (E,F) *Myrmarachne ramunni* from Inginiyagala; (A,C,F) ventral view; (B,D,E) retrolateral view. Scale bars = 0.2 mm.

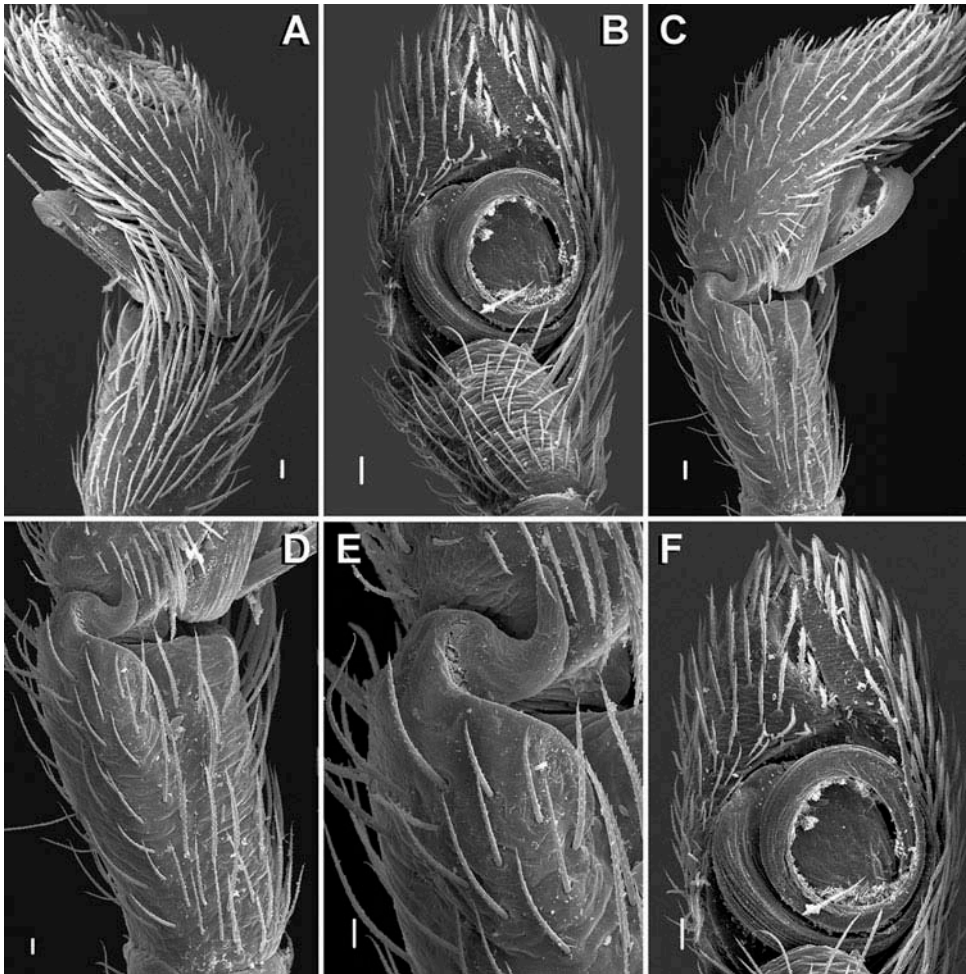


Figure 4. Scanning electron micrographs of *Myrmarachne bicurvata* (USNM). (A–F) right male palp. (A) prolateral view; (B,F) ventral view; (C,D,E) retrolateral view. Scale bars = 10 μm (D,E) 20 μm (A,C) 30 μm (F) 40 μm (B).

convex in *M. bicurvata*, but distinctly convex in *M. ramunni* (Figure 2A, B). The RTA of the male palp in *M. bicurvata* is apically hooked and strongly curved at the base (Figure 3B–D).

Description

Male from Lahugala: total length: 5.6; prosoma length: 3.6, width: 1.2. Leg I: femur 1.6, patella 0.4, tibia 1.2, metatarsus 0.8, tarsus 0.4. The cephalic part of the prosoma is elevated and rounded on all sides. The thoracic part is lower than the cephalic, the highest point being the centre (Figure 2A–D). Opisthosoma oval, slightly longer than wide, with no clear constriction (Figure 2A–D). Opisthosoma dorsally sclerotized,

venter softer. Chelicerae are almost the length of the carapace, lateral sides almost parallel; distal half is a bit wider than the proximal half (Figure 2A–D). Chelicerae dentition not examined. Leg formula 4132. Leg spination not examined. Palps as in Figure 3A–D. Female remains unknown.

Distribution

Known only from Sri Lanka.

Other material examined

Sri Lanka, Eastern Province, Ampara District, Lahugala, 1 male, 15 June 1976, K.V. Krombein, USNM.

Myrmarachne dishani sp. nov. (Figures 5A–C, 6A–D, 7A–F, 8G–H)

Type material

Holotype, male from Sri Lanka, Sabaragamuwa Province, Ratnapura District, Eastern Sinharaja, Morningside section, 23 February 2007, leg. S.P. Benjamin and Z. Jaleel (MHNG). Paratypes, 2 males 2 females. Label data as above, NMSL.

Etymology

The species is named for my wife Dishani P. Benjamin. Used as a noun in apposition.

Diagnosis

Separated from all other Sri Lankan species of the genus except for *M. imbellis*, by the presence of a cylindrical opisthosoma, which lacks any visible constriction. Similar to *M. imbellis*, but separated by the presence of white bands on the prosoma and centre of the distal half of the chelicerae (Figures 5A–C, 8G, H). The white bands are clearly visible in live as well as alcohol preserved specimens. Further, males are separated by the stout RTA with a tapering tip (Figures 6A, B, 7C–E). Females are separated by the oval CO and relatively shorter S (Figure 6D, C).

Description

Male: total length: 7.2–9.2; prosoma length: 4.8–6.0, width: 1.2–1.6. Leg I: femur 2.3, patella 0.8, tibia 2.0, metatarsus 1.2, tarsus 0.8. Prosoma almost 2× longer than wide. The cephalic half is somewhat elevated from the thoracic half, lateral sides parallel, with conspicuous white bands fringed with white hairs as in Figures 5A–C, 8G, H. Opisthosoma cylindrical, almost as much as 2× longer than wide, uniformly dark brown (Figure 5A–C). Preserved specimens are yellowish with

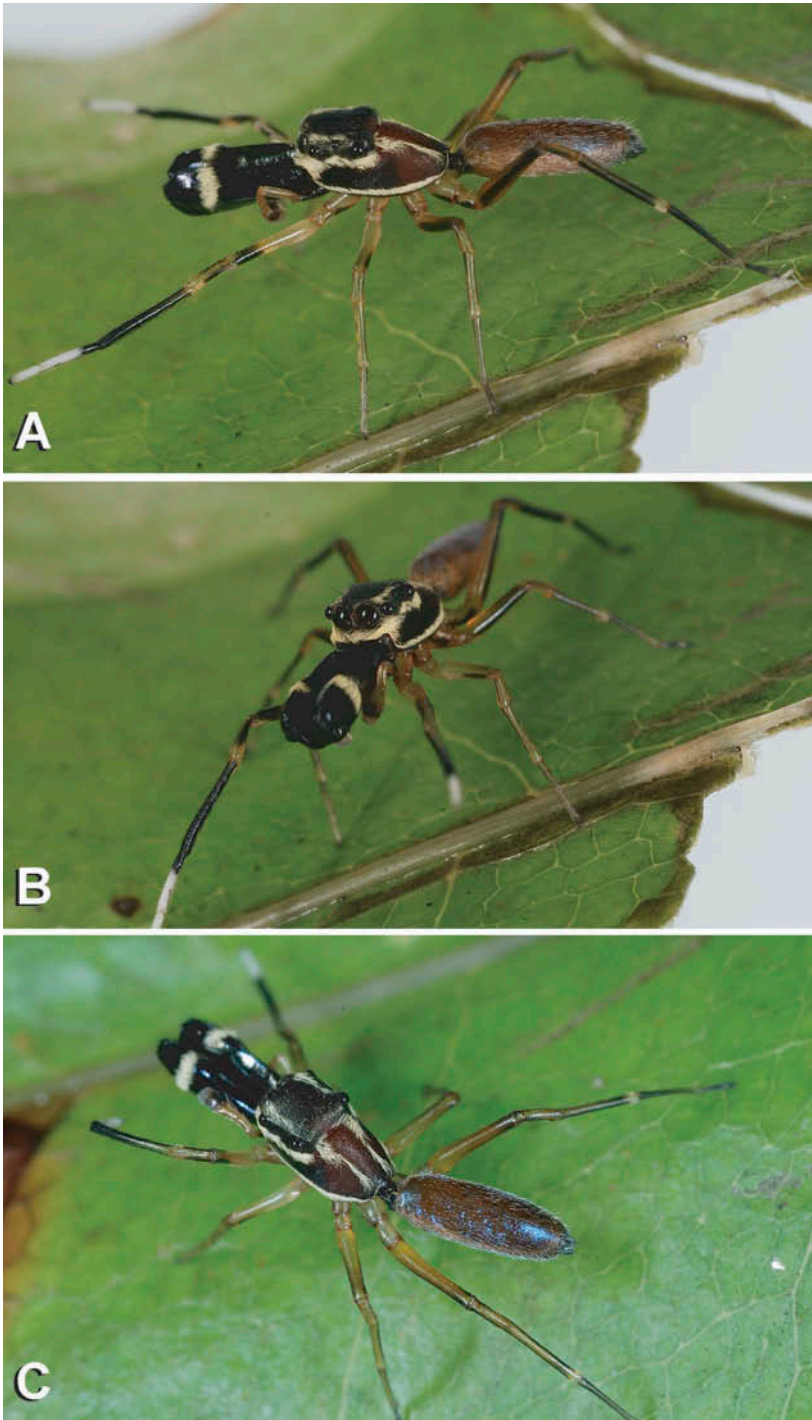


Figure 5. *Myrmarachne dishani* sp. nov. (A–C) male in life from Morningside, Sri Lanka (MHNG).

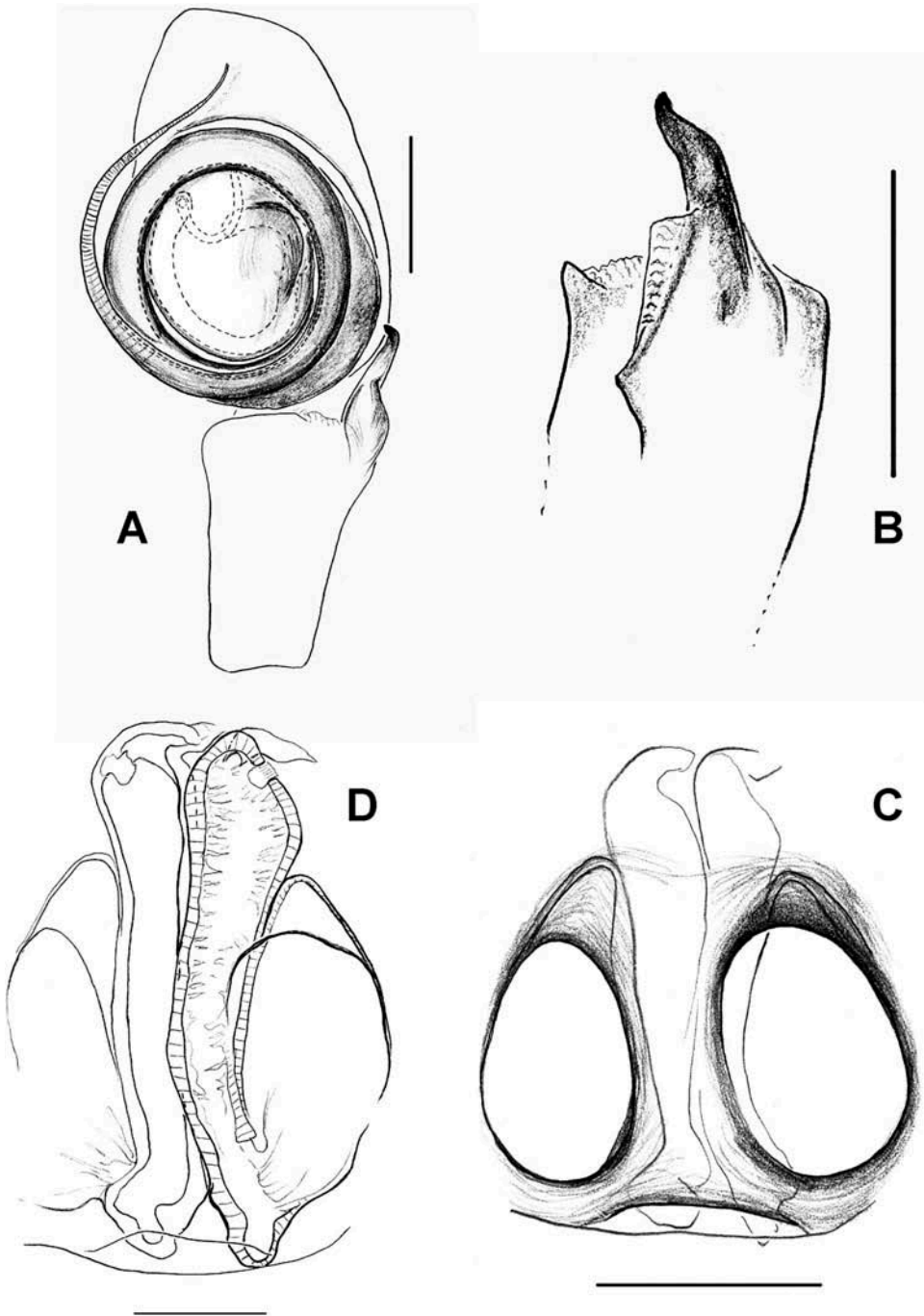


Figure 6. *Myrmarachne dishani* sp. nov. (A,B) male holotype; (B,C) female paratype. (A) male palp, ventral view; (B) retrolateral view; (C) epigynum, ventral view; (D) vulva, ventral view. Scale bars = 0.1 mm (A,C,D); 0.2 mm (B).

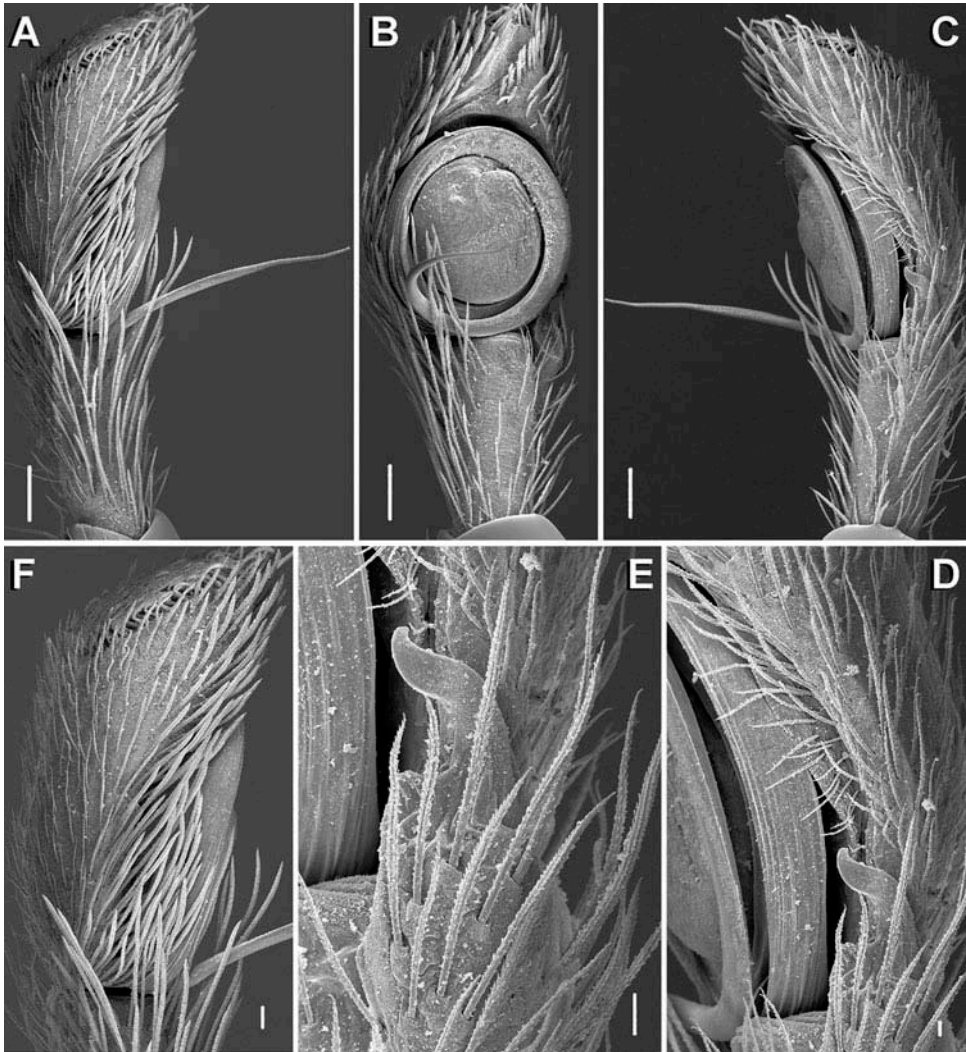


Figure 7. Scanning electron micrographs of *Myrmarachne dishani* sp. nov. (USNM). (A–F) male palp. (A,F) prolateral view; (B) ventral view; (C–E) retrolateral view. Scale bars = 10 μ m (D); 20 μ m (E,F); 100 μ m (A,B,C).

darker lateral sides (Figure 8G, H). The white bands are faintly visible in preserved specimens (Figure 8G, H). All legs are brownish with dark rings, yellowish in preserved specimens (Figures 5A–C, 8G, H). All eyes surrounded by dark rings. Chelicerae elongated, shorter than carapace, with slightly convex inner and outer sides, dorsal surface is broader than the ventral surface. They are black in colour with a prominent white band fringed with white hairs in the centre of the distal half (Figure 5A–C). Leg formula 4132. Leg spination not examined. Palps as in Figure 6A, B. Female paratype: total length: 4.0; prosoma length: 1.8, width: 0.8. Leg 1: femur 0.8, patella 0.3, tibia 0.6, metatarsus 0.4 tarsus 0.3 Morphology as

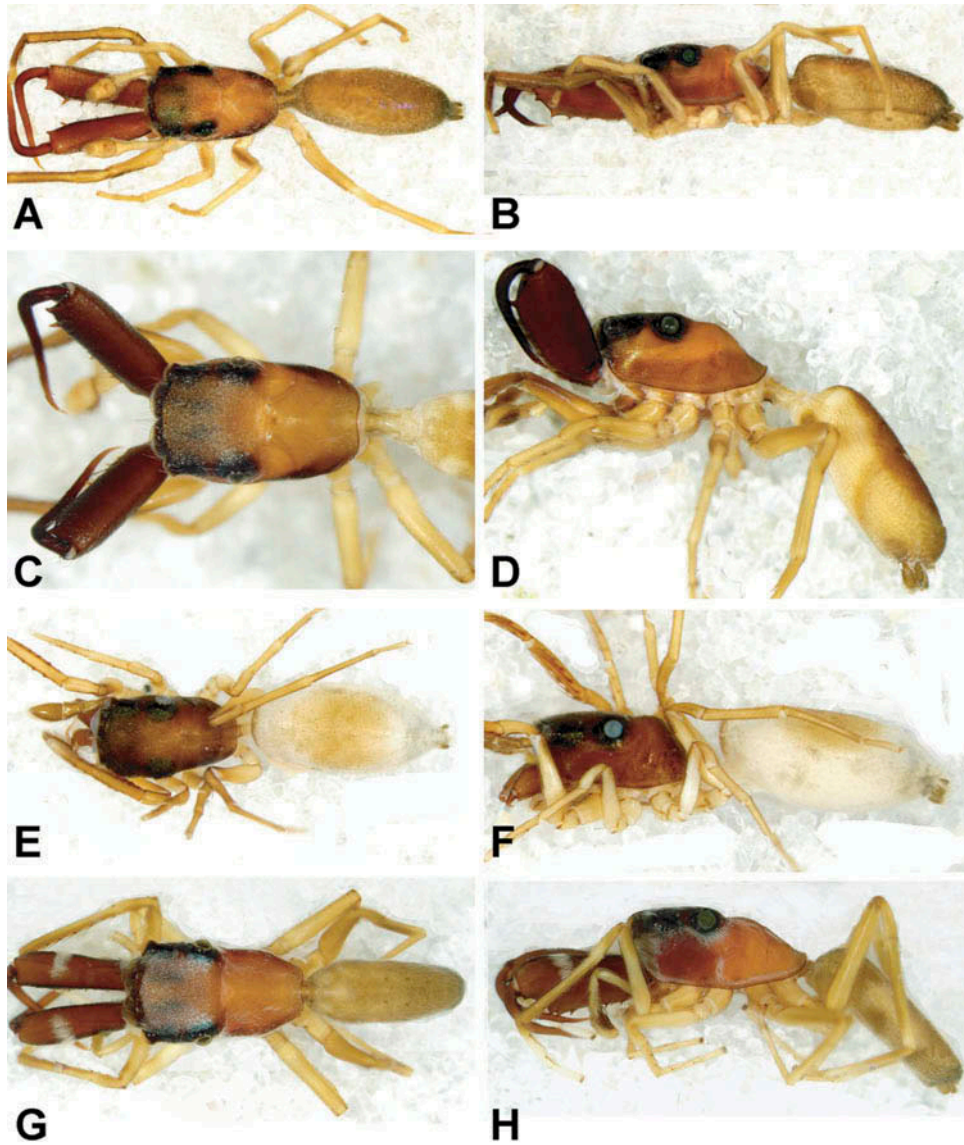


Figure 8. Photographs of *Myrmarachne imbellis* (A–F) and *M. dishani* sp. nov. (G,H). (A,B) male syntype (MVZ-21602); (C,D) male from Kandaela (USNM); (E,F) female from Pidurutalagala (MZT). (G,H) male from Kanneliya (USNM). (A,C,E,G) dorsal view; (B,D, F,H) lateral view.

above, however, females lack the white fringes present in the chelicerae and prosoma of males. Leg formula 4132. Leg spination not examined. Epigynum and vulva as in [Figure 6C, D](#).

Distribution

Known only from Sri Lanka.

Other material examined

Sri Lanka, Southern province: 2 males, Galle District, Sinharaja jungle, Kanneliya section, 13–16 July 1978, Coll. K.V. Krombein, P.B. Karunaratne, T. Wijesinhe, V. Kulasekara, L. Jayawickrema. USNM. Sabaragamuwa Province, 3 males 2 females, Ratnapura District, Eastern Sinharaja, Morningside section, 23 February 2007, SP. Benjamin and Z. Jaleel. Central Province, 3 males 1 female, Kandy District, Deltoa, Loolcondera Estate, c.1480 m, 07°08'45"N, 80°41'53"E, 11 May 2010, Hand collecting, leg. S. Batuwita and N. Atukorala, NMSL. Western Province, 1 male, 1 Kalutara District, Gurulu Bedda, Kalugala Forest Reserve, 06°26'35"N, 80°14'52"E, 40 m, 10 January 2014, leg. SP. Benjamin and N. Athukorala, NMSL.

Myrmarachne imbellis (Peckham and Peckham, 1892)
(Figures 8A–F, 9A–D, 10A–C, 11A–C, 12A–F)

Salticus imbellis Peckham and Peckham, 1892: 36.

Type material

Syntypes of *Salticus imbellis* from Sri Lanka, one male and one juvenile, GW and EG Peckham collection, MCZ-21602, examined.

Diagnosis

Very similar to *M. dishani* sp. n.; however, males are separated by the broad-based RTA with a stout tip (Figures 10A–C, 12A–C). Females are separated by the rounded CO and relatively longer S (Figure 11A–C). Separated from *M. dishani* sp. n. by the presence of bands fringed with white hairs present in the chelicerae and prosoma of males (Figure 9A–D).

Description

Male from Horton plains NP: total length: 6.8; prosoma length: 4.0, width: 1.4. Leg I: femur 1.2, patella 0.6, tibia 1.2, metatarsus 0.8, tarsus 0.4. Prosoma oval, almost as much as 2× longer than wide. The cephalic half is only slightly elevated from the thoracic half, lateral sides parallel. Opisthosoma cylindrical, almost as much as 2× longer than wide, uniformly dark brown (Figure 8A–D). Preserved specimens are yellowish with darker lateral sides (Figure 8A–D). All legs are brownish with dark rings, yellowish in preserved specimens. All eyes surrounded by dark rings. Chelicerae long but shorter than carapace with slightly convex inner and outer sides (Figure 8A–D). The dorsal surface is broader than the ventral surface. Leg formula 4132. Leg spination not examined. Palps as in Figure 10A–C. Female from Horton plains NP: total length: 5.6; prosoma



Figure 9. *Myrmarachne imbellis*, male in life from Horton Plains, Sri Lanka (MHNG).

length: 2.8, width: 1.2. Leg 1: femur 1.2, patella 0.6, tibia 1.2, metatarsus 0.8 tarsus 0.4. Morphology as above. Leg formula 4132. Leg spination not examined. Epigynum and vulva as in [Figure 11A–C](#). CO rounded and S relatively longer ([Figure 11A–C](#)).

Distribution

Known only from Sri Lanka.

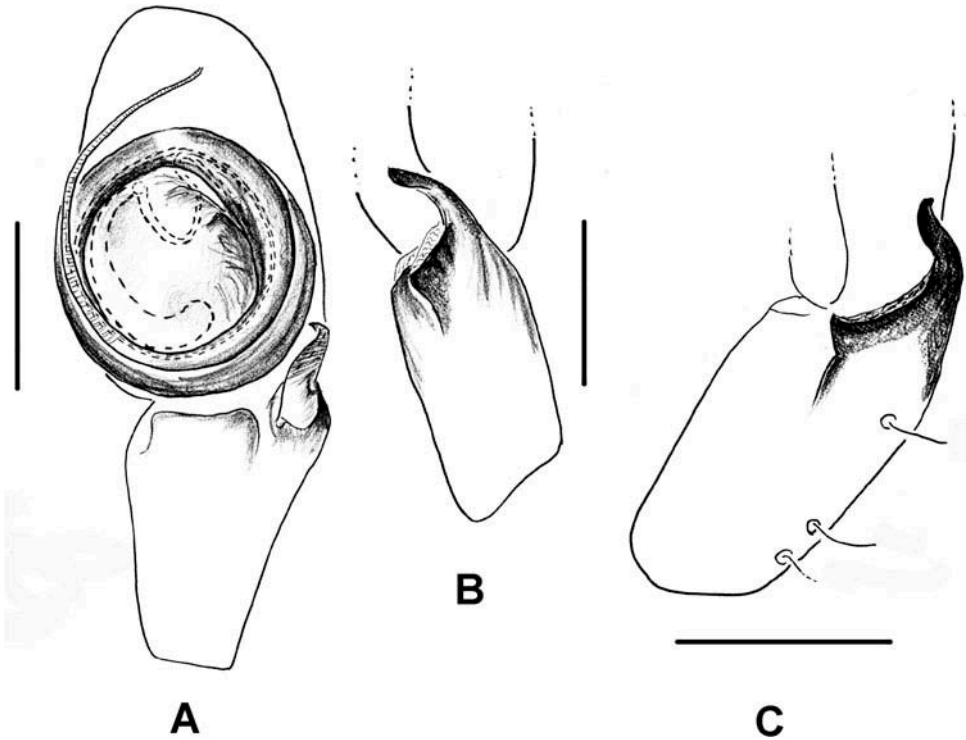


Figure 10. *Myrmarachne imbellis*. Male palp. (A,B) from Kandaela (USNM); (C) Horton Plains (MHNG). (A) ventral view; (B,C) retrolateral view. Scale bars = 0.2 mm.

Other material examined

Sri Lanka, Central province, 1 male, Kandaela Reservoir, 5.6 mi SW of Nuwara Eliya, 1889 m, 10–21 February 1970, Davis & Rowe, USNM. 1 male, Horton plains NP, Worlds-end, 2072 m, 21 February 1970, Davis & Rowe, USNM. 1 female, Nuwara Eliya District, Path to Pitdurutalagalla, in light jungle, 17 November 1972–18 January 1973, P. Lehtinen, A. Withanage, & N. Wickremasinghe, MZT. 2 males, Horton Plains NP, 9 March 2000, SP. Benjamin, MHNG. 2 males 1 female, Nuwara Eliya District, Horton Plains NP, 20–21 February 2007, SP. Benjamin and Z. Jaleel, MHNG.

Myrmarachne melanocephala MacLeay, 1839
(Figures 17A–D, 18A–D, 19A–D)

Myrmarachne orientales Tikader, 1973: 60–62, figures 3–6. New synonymy.

Synonymy

M. orientales is well illustrated and is here compared with the neotype of *M. melanocephala*. I can find no characters that would suggest that the specimens

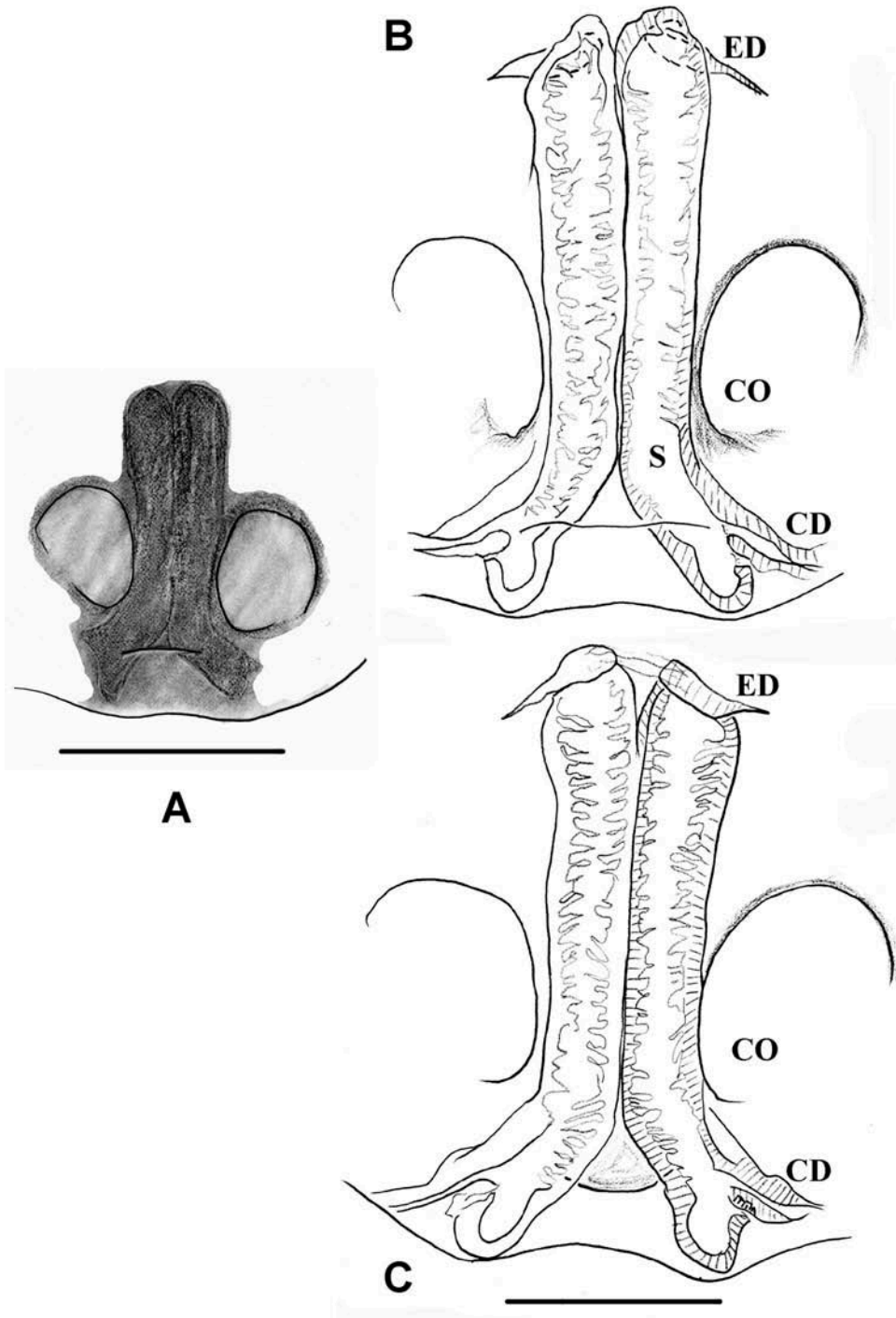


Figure 11. *Myrmarachne imbellis*. (A–C) female from Piduruthalagala. (A) epigynum, ventral view; (B) vulva, ventral view; (C) vulva, dorsal view. Scale bars = 0.1 mm (B,C); 0.2 mm (A).

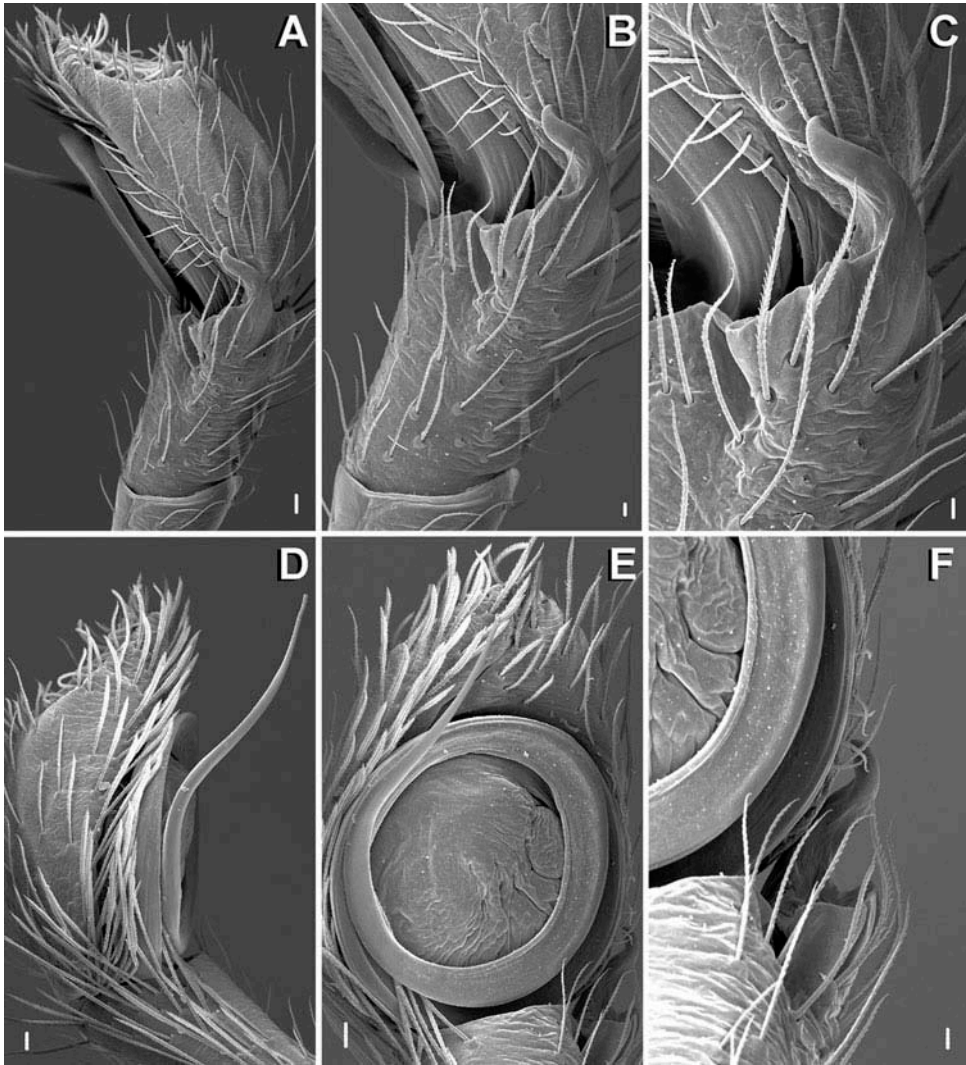


Figure 12. Scanning electron micrographs of *Myrmarachne imbellis* from Kandaela (USNM). (A–F) male palp. (A–C) retrolateral view; (D) prolateral view; (E,F) retrolateral view. Scale bars = 10 μm (B,C,F); 20 μm (A,D,E).

from India illustrated by Tikader (1973) constitute a species different from *M. melanocephala*.

Diagnosis

Separated from other Sri Lankan *Myrmarachne* species by the dorsally flattened chelicerae, elongated prosoma with a constriction at the 50% point, anterior half rectangular and black in colour, posterior half oval and red/brown in colour.

Opisthosoma elongated with a constriction at the posterior 25% margin, anterior 25% brown/black, posterior 75% black (Figure 17A–D). Further, the flattened hook-shaped RTA and the elongated petioles are diagnostic (Figures 17A–D, 19A–D). Similar to *M. prava*. However, can be easily separated from *M. prava* by the overall black colour of the male, very much shorter pedicel, slanted dorsal surface of the chelicerae, oval opisthosoma, and by the tapering, straight RTA in *M. prava*.

Description

See Edwards and Benjamin (2009).

Natural history

Edwards and Benjamin (2009) and Tikader (1973) report that this species mimics the ant *Tetraponera allaborans* (Walker, 1859).

Distribution

Sri Lanka, India, Pakistan to Indonesia (Edwards and Benjamin 2009).

Material examined

See Edwards and Benjamin (2009).

Myrmarachne morningside sp. nov. (Figures 20A–D, 21A–D, 22A–D)

Type material

Holotype. male from Sri Lanka, Sabaragamuwa Province, Ratnapura District, Eastern Sinharaja, Morningside section, 23 February 2007, SP. Benjamin and Z. Jaleel, MHNG.

Paratype

Male from Sri Lanka, same data as holotype.

Etymology

The specific name is a noun in apposition taken from the type locality.

Diagnosis

Very similar in outward appearance to *M. spissa*. Separated from it by the disk-shaped tegulum and shiny appearance, mostly of the dorsal parts of the prosoma. In addition *M. spissa* has a pair of long whitish setae at about the centre of its prosoma, which are absent in *M. morningside*. Very similar in size, habitat

preference and genital morphology to *M. paludosa* comb. nov. and *M. aurantiaca* sp. nov. *M. paludosa* comb. nov. has an upward pointing, tapering RTA and *M. aurantiaca* sp. nov. has an RTA with a curved base. It is predicted that females of this species would have an elongated S similar to other endemic *Myrmarachne* of the island.

Description

Male holotype from Morningside: total length: 5.6; prosoma length: 3.5, width: 1.0. Leg I: femur 1.1, patella 0.4, tibia 1.1, metatarsus 1.0, tarsus 0.4. Prosoma oval, 1.5× long than wide. Opisthosoma oval, 2× longer than wide, constricted at the centre of the anterior half. Uniformly black in colour, legs a lighter yellow-brown. Prosoma and opisthosoma are both covered with fine whitish hairs. Chelicerae, somewhat longer than carapace, anteriorly bulb-like, tapering towards the base, dentition not examined. Leg formula 4132. Leg spination not examined. Male palps as in [Figures 21C, D, 22A–D](#). Female unknown.

Distribution

Endemic to Sri Lanka.

Natural history

Collected together with ants of the genus *Camponotus* – probably the same species collected with *M. paludosa* comb. nov. However, it is not the *Camponotus* species found with *M. prava*.

Other material examined

Sri Lanka, Sabaragamuwa province, 1 male, Ratnapura District, Gilimale Forest Reserve, 23 February 2007, SP. Benjamin and Z. Jaleel, MHNG.

***Myrmarachne paludosa* (Simon, 1900) comb. nov.**
([Figures 13A, B, 14A–G, 15A–H, 16A–D](#))

Panachraesta paludosa Simon, 1900: 405

Type material

Syntypes of *Panachraesta paludosa*: 6 females and 4 juveniles, Sri Lanka, Colombo, no more data given (MNHN 20511/2306). Examined.

Diagnosis

Myrmarachne paludosa (Simon, 1900) comb. nov. could be separated from other Sri Lankan *Myrmarachne* species by the shape of the chelicerae: proximal half of

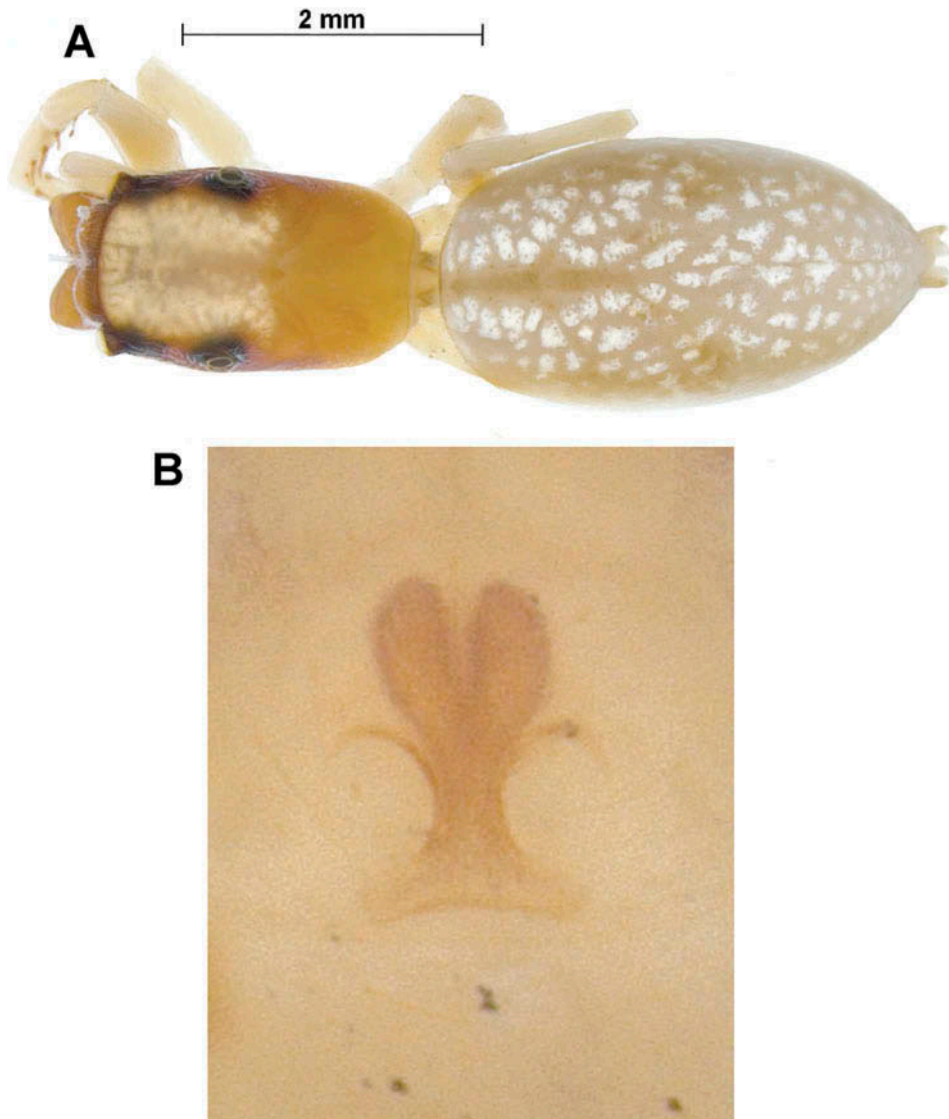


Figure 13. *Myrmarachne paludosa* (Simon, 1900) comb. nov. Female syntype (MNHN 20511/2306). (A) dorsal view; (B) epigynum, dorsal view. Scale bars = 0.2 mm (B); 2.0 mm (A).

chelicerae not constricted, outer sides more or less parallel, curved dorsum. Further, the black coloured body covered with fine white hairs (Figures 14A–G, 15A, B) and the upward pointing, tapering RTA is diagnostic. Females may be separated by the elongated S that partly surrounds CO, connecting to it at the bottom margins (Figure 15E–H).

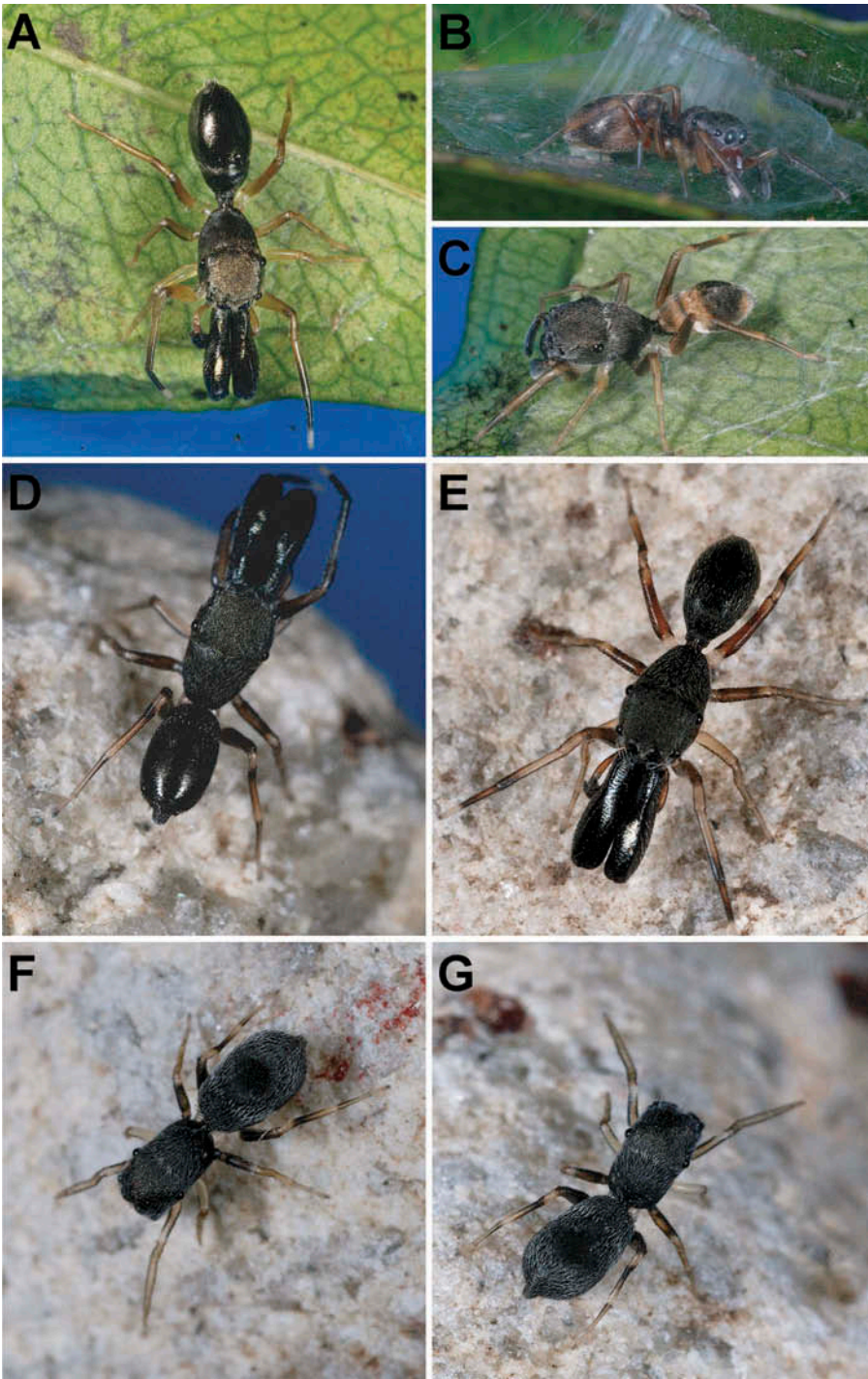


Figure 14. *Myrmarachne paludosa* (Simon, 1900) comb. nov. In life. (A,D,E) male; (B,C,F,G) female.

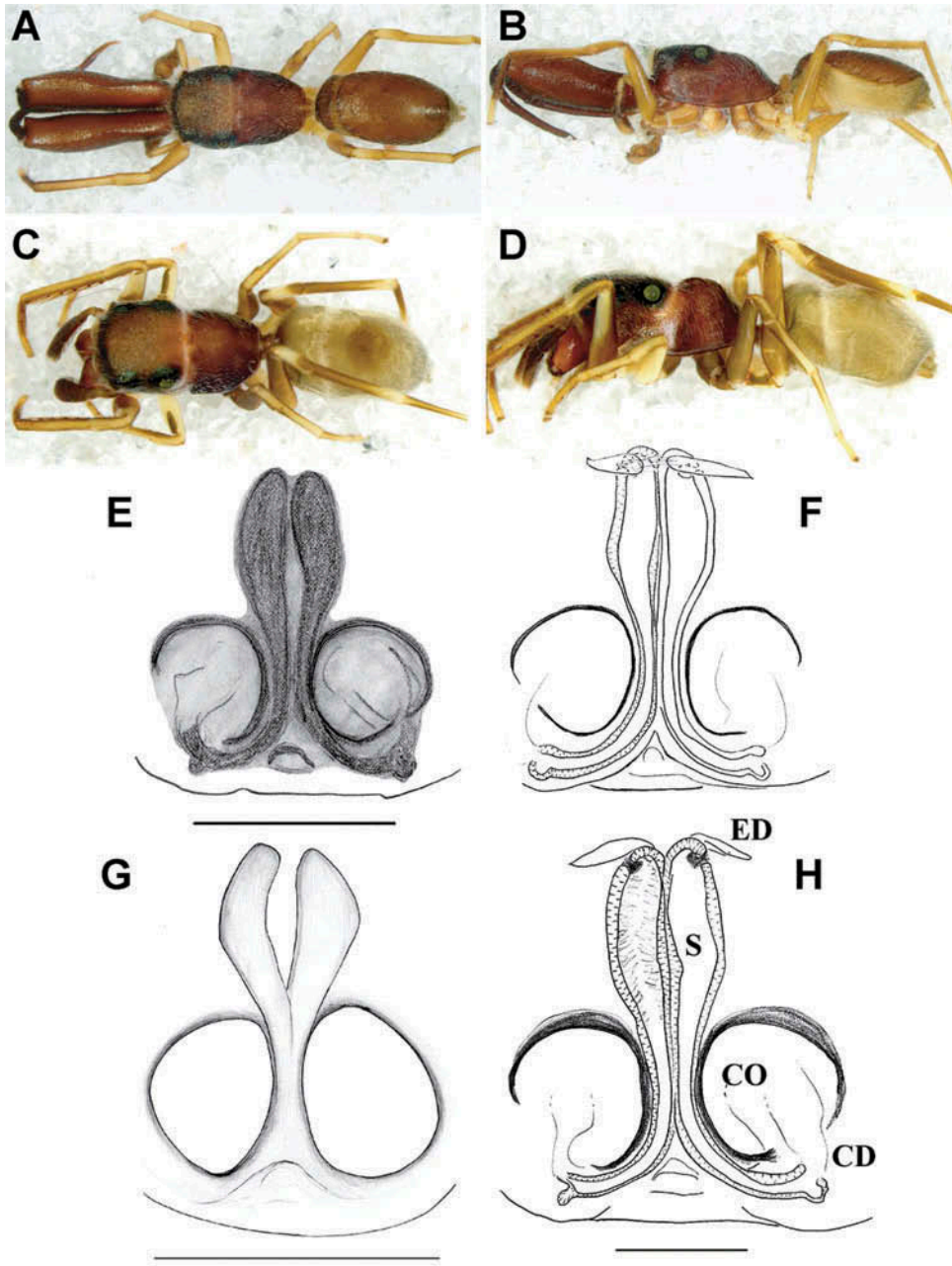


Figure 15. *Myrmarachne paludosa* (Simon, 1900) comb. nov. (A,B) male from Kandy. (C,D) (E–G) female from Kitulgala. (H) female from Corbetts Gap. (A,C) dorsal view; (B,D) lateral view; (E,H) epigynum, ventral view; (F) vulva, dorsal view; (G) vulva, ventral view. Scale bars = 0.1 mm (F,G); 0.2 mm (E,H).

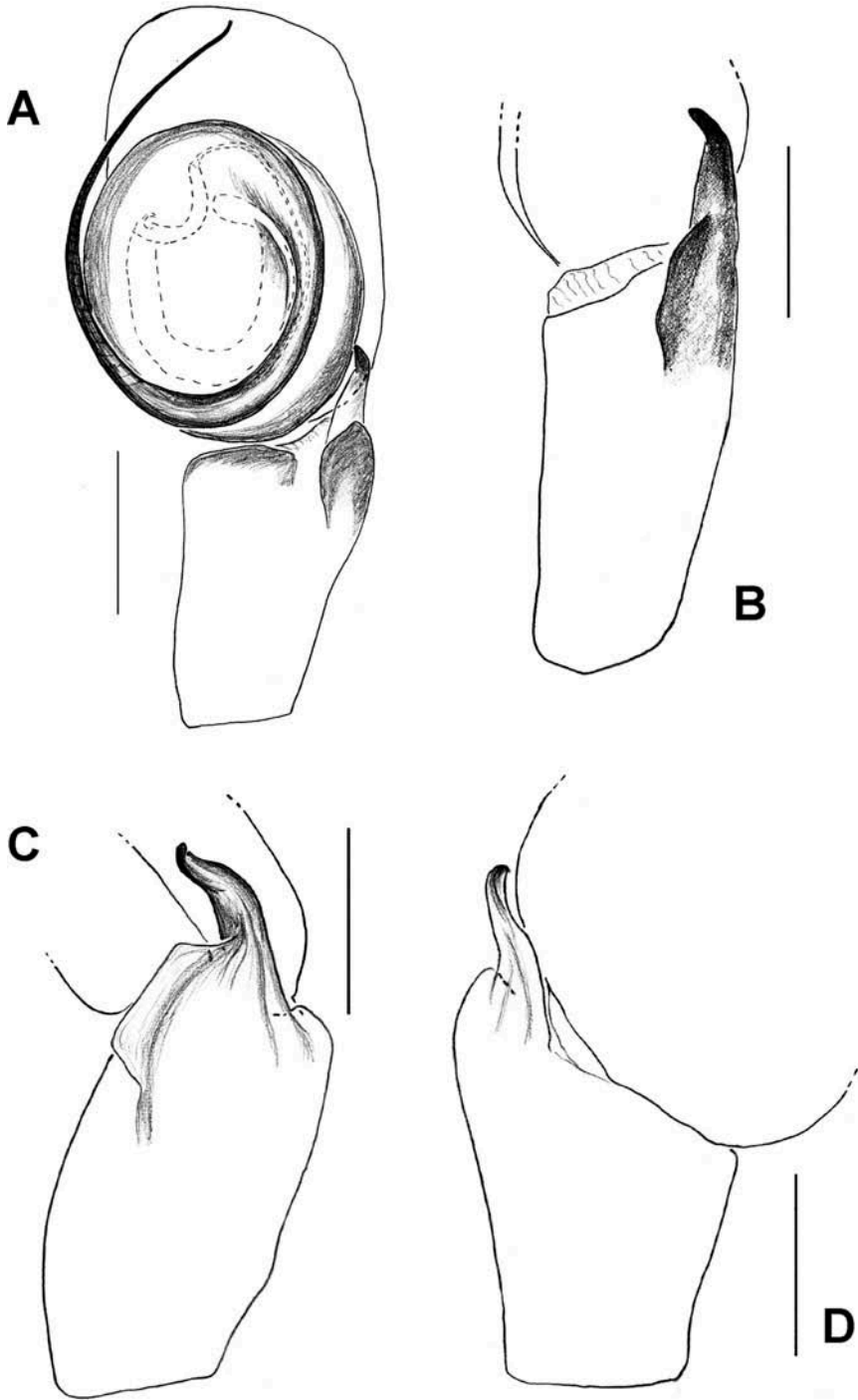


Figure 16. *Myrmarachne paludosa* (Simon, 1900) comb. nov. (A,B) male from Kandy. (C,D) male from Gilimale. (A) ventral view; (B,C) retrolateral view; (D) dorsal view. Scale bars = 0.2 mm.

Description

Male from Thawalammenne: total length: 8.0; prosoma length: 5.6, width: 1.6. Leg I: femur 1.6, patella 0.7, tibia 1.6, metatarsus 0.8, tarsus 0.5. Prosoma oval, somewhat longer than wide. Opisthosoma oval, longer than wide. Uniformly black coloured, preserved specimens dark reddish brown. Legs a light reddish brown with black rings. All eyes surrounded by dark rings. Leg formula 4132. Leg spination not examined. Palps as in [Figure 16A–D](#). Female: total length: 5.6; prosoma length: 1.6, width: 1.4. Leg 1: femur 1.6, patella 0.8, tibia 1.6, metatarsus 0.8 tarsus 0.4. Morphology as above, except for the lighter coloured prosoma and opisthosoma. Leg formula 4132. Leg spination not examined. Epigynum and vulva as in [Figures 13B, 15E–H](#). S elongated and partly surrounds CO, connecting to it at the bottom margins ([Figure 15E–H](#)).

Distribution

Known only from Sri Lanka. Probably endemic as it occurs only in primary forest of the wet zone and is absent in the surrounding dry forest and coastal regions.

Natural history

The specimen from Gilimale was collected together with ants of the genus *Camponotus*. However they are different to the *Camponotus* species associated with *M. prava*.

Other material examined

Sri Lanka, Sabaragamuwa Province, 4 females, Kegalla District, Kitulgala, Makanda Mukalara, 3–4 February 1997, K.V. Krombein, P.B. Karunaratne, T. Wijesinghe, S. Siriwardene, T. Gunawardana, USNM. 1 female, Ratnapura District, Gilimale Forest Reserve, 11 February 2007, SP. Benjamin and Z. Jaleel, MHNG. Central Province, Kandy District, 1 male, Kandy, Udawattakele, 9 May 1975, P.B. Karunaratne, S. Karunaratne, USNM. 1 male, Kandy District, Thawalammenne, 740–760 m, 16–18 September 1977, K.V. Krombein, P.B. Karunaratne, T. Wijesinghe, M. Jayaweere, collected in a Moericke type yellow pan trap, USNM. 2 males 1 female, Kandy District, Dunumadalawa, c.600 m, 07°17'00"N, 80°37'49"E, 7 October 2009, SP. Benjamin et al., MHNG. 1 female, Kandy District, Knuckles range, Corbett's Gap, 07°23'39"N, 80°50'09"E, c.630 m, 12 August 2010, hand collecting, S.P. Benjamin and S. Batuwita, NMSL. 1 female, Matale District, Knuckles range, Riverstone, 07°31'42"N, 80°44'17"E, c.1100 m, 2 December 2009, hand collecting, S.P. Benjamin, S. Batuwita, PMH Sandamali, NMSL.

Myrmarachne prava (Karsch, 1880)
([Figures 23A–E, 24A–D, 25A–D, 26A–D, 27A–C, 28A–E](#))

Salticus pravus Karsch, 1880: 395.

Myrmarachne paivae Narayan, 1915: 403, text-figure 3, plate 32, figure 8. **New synonymy.**

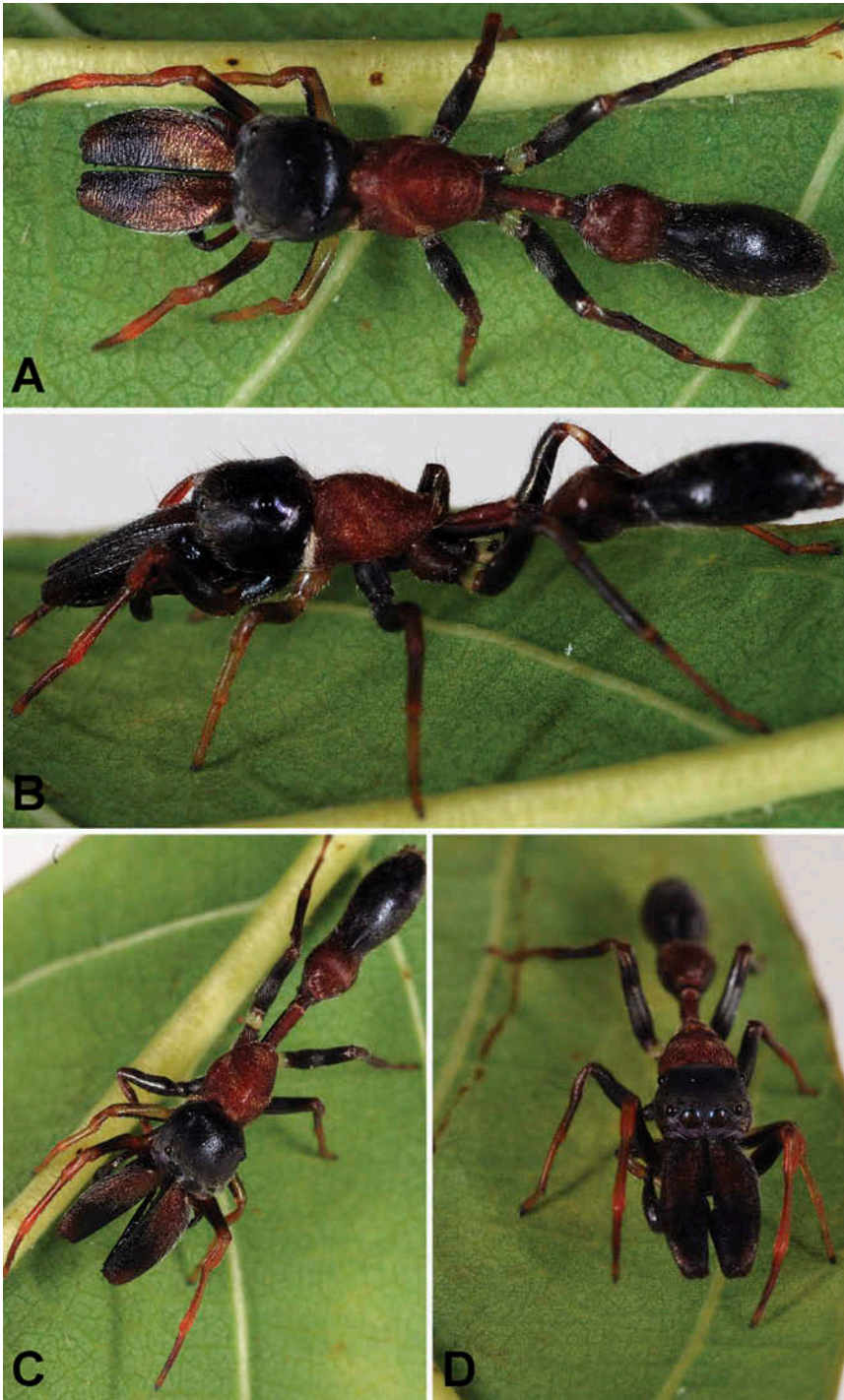


Figure 17. *Myrmarachne melanocephala* in life from Kurunagala, Sri Lanka. (A,B) female. (C,D) male.

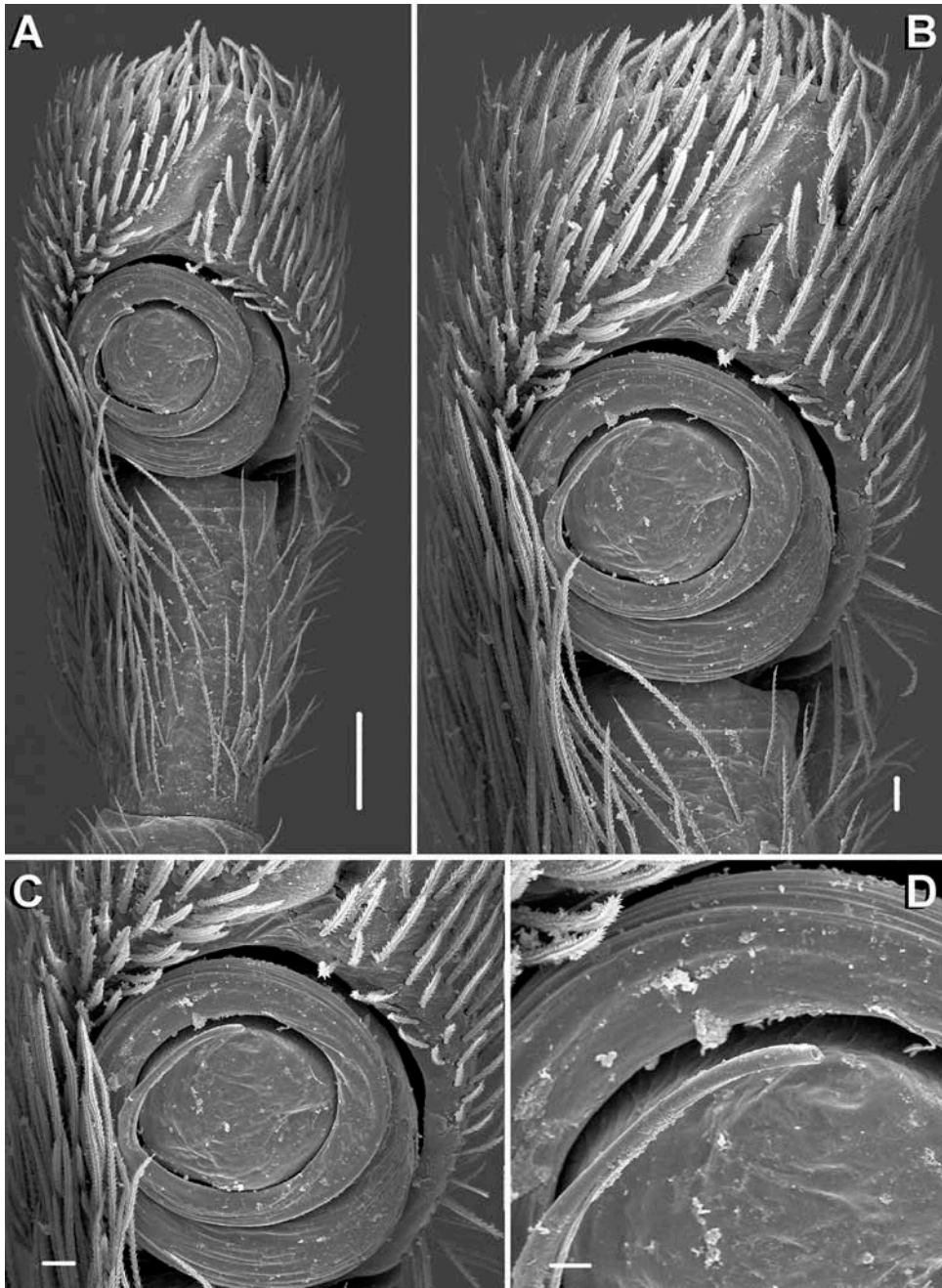


Figure 18. Scanning electron micrographs of *Myrmarachne melanocephala*. (A–D) male palp, ventral view. Note the broken embolic tip. Scale bars = 10 μm (D); 20 μm (B,C); 100 μm (A).

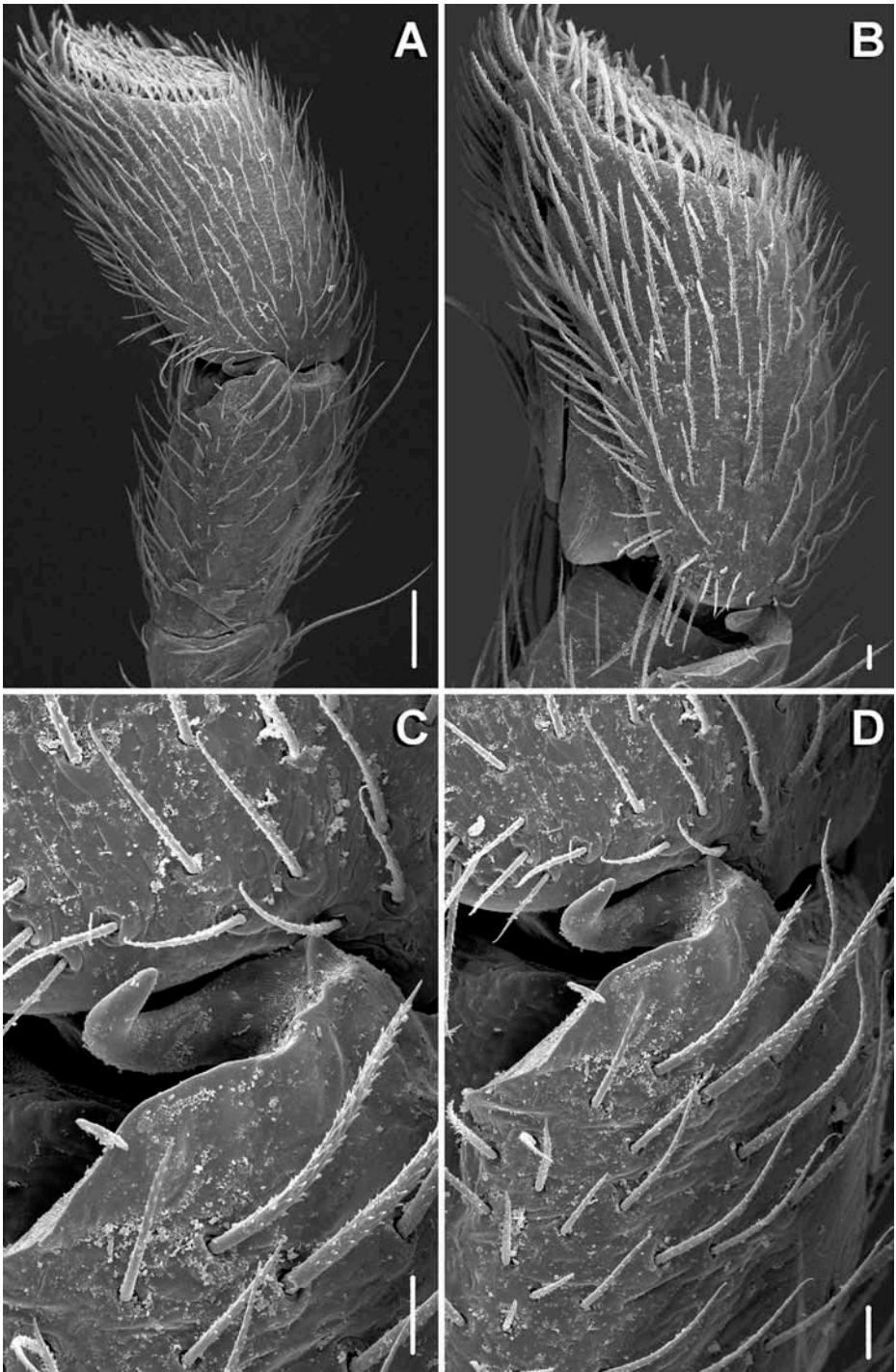


Figure 19. Scanning electron micrographs of *Myrmarachne melanocephala*. (A–D) male palp, retrolateral view. Scale bars = 20 μm (B,C,D); 100 μm (A).



Figure 20. *Myrmarachne morningside* sp. nov. (A–D) male in life.

Myrmarachne bengalensis Tikader, 1973: 65–67, figures 16–18; Tikader and Biswas, 1981: 106, figures 198–200. **New synonymy.**

Type material

Holotype of *Salticus pravus*, Sri Lanka: leg. Nietner, 1 male (damaged), Nietner, ZMB 1536, no more data given, examined.

Synonymy

Narayan's (1915: figure 8), description and illustration of *M. paivae* correspond well with my Figures 23A, D, 25A, C. Tikader's (1973) figure 18 illustrates an epigynum with the characteristic oval CO tipped towards the median axis and elongated S, parallel to the median axis, facilitating unambiguous identification. This species was 'lost' to science as Roewer (1954) decided to list them as unidentifiable (nicht zu deuten!). It is not mentioned in either Platnick (2013) or Prószyński (2013).

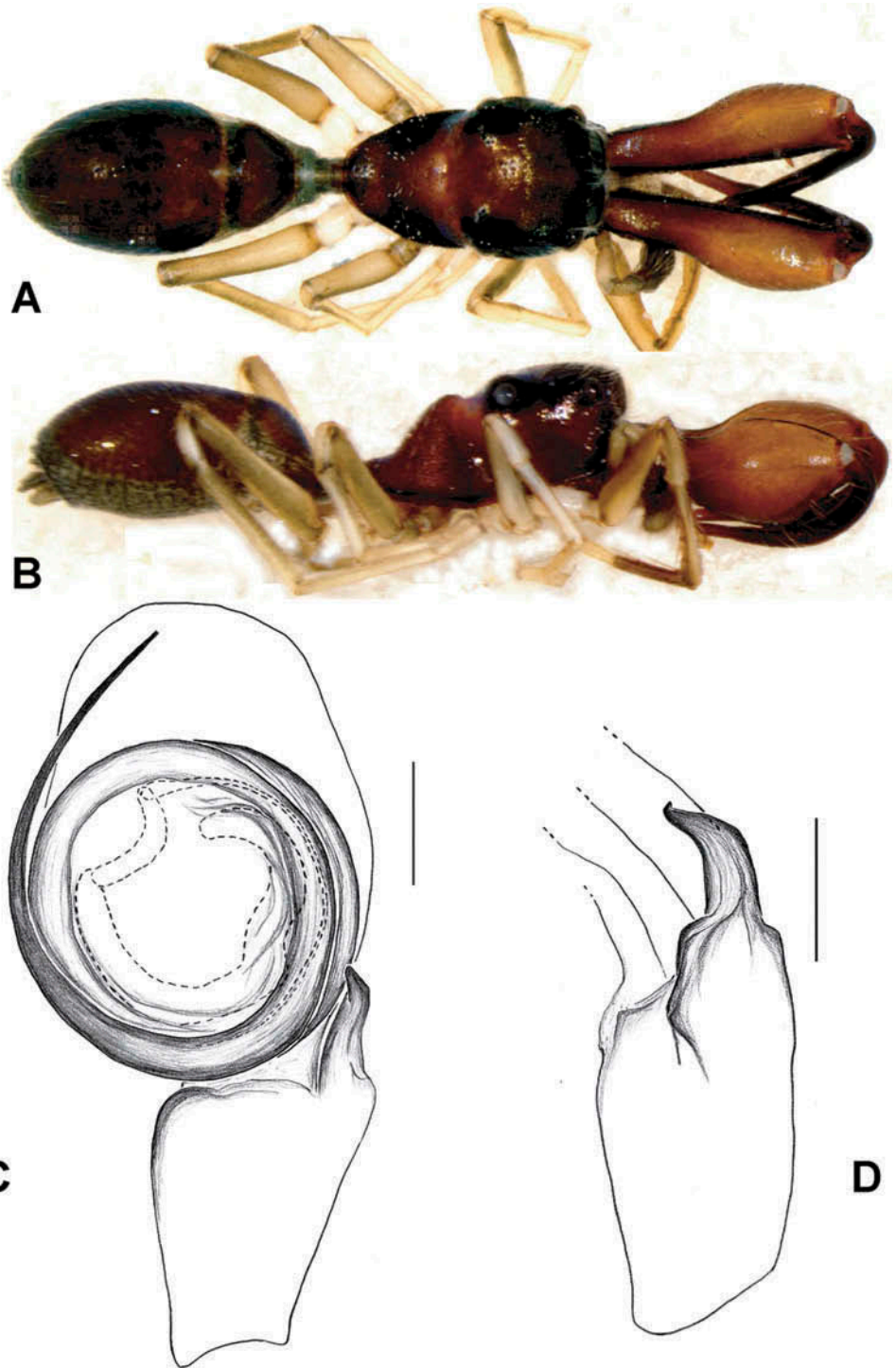


Figure 21. *Myrmarachne morningside* sp. nov. (A–D) male holotype. (A) dorsal view; (B) lateral view; (C) male palp, ventral view; (D) male palp, retrolateral view. Scale bars = 0.1 mm.

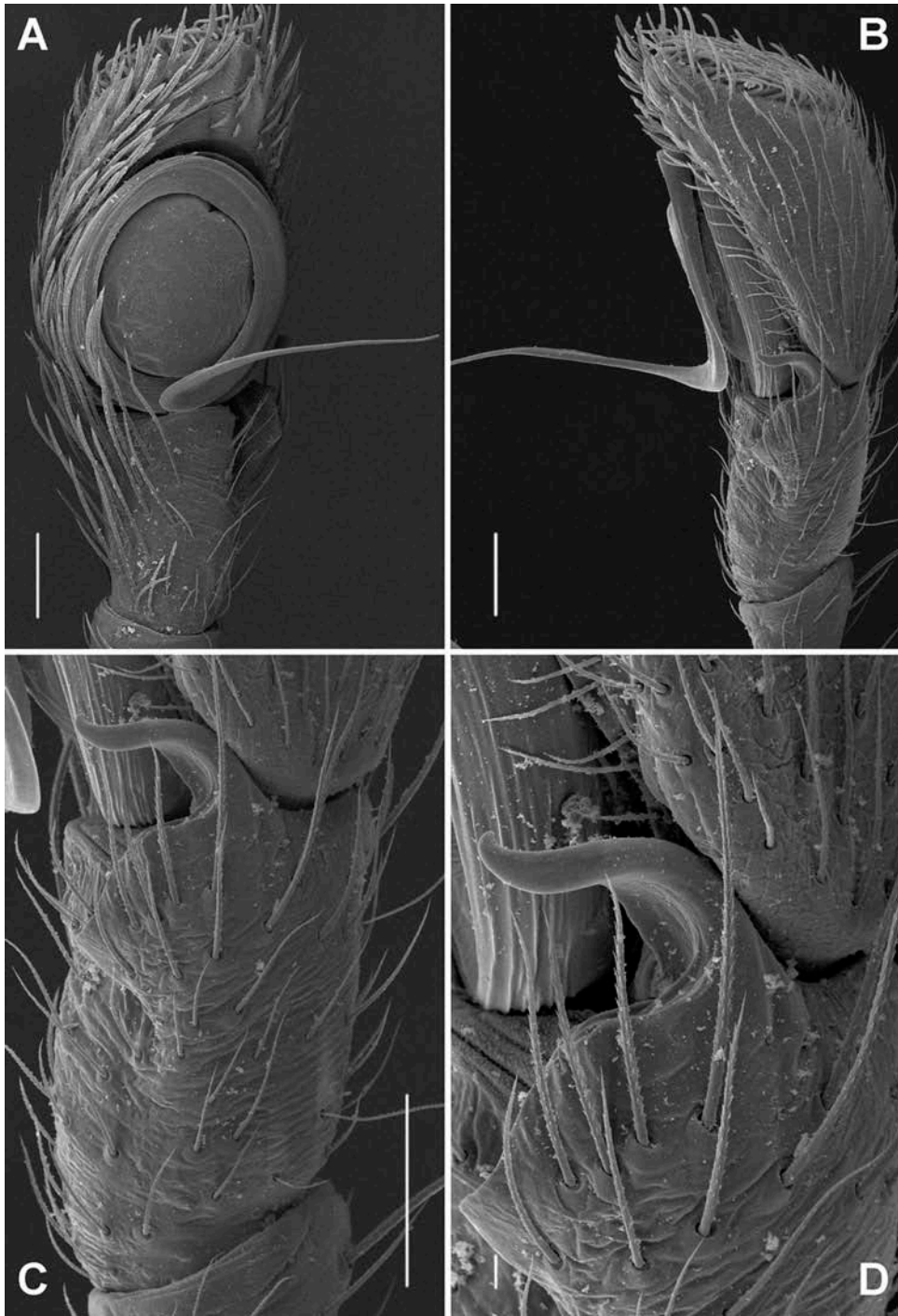


Figure 22. *Myrmarachne morningside* sp. nov. (A–D) male palp. (A) ventral view; (B–D) retrolateral view. Scale bars = 10 μm (D); 100 μm (A,B,C).

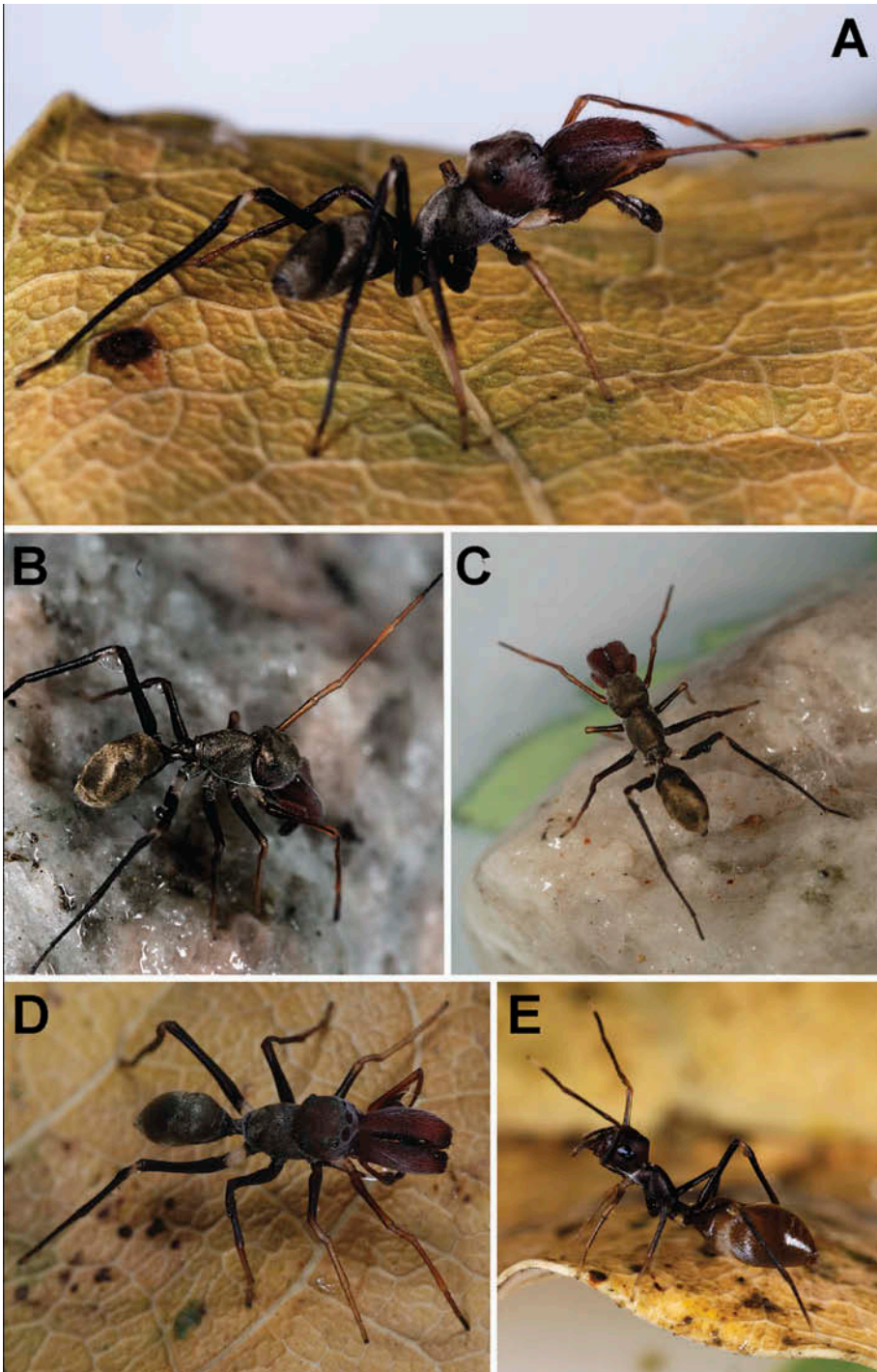


Figure 23. *Myrmarachne prava* in life. (A–D) male from Nikaravatiya; (E) juvenile.

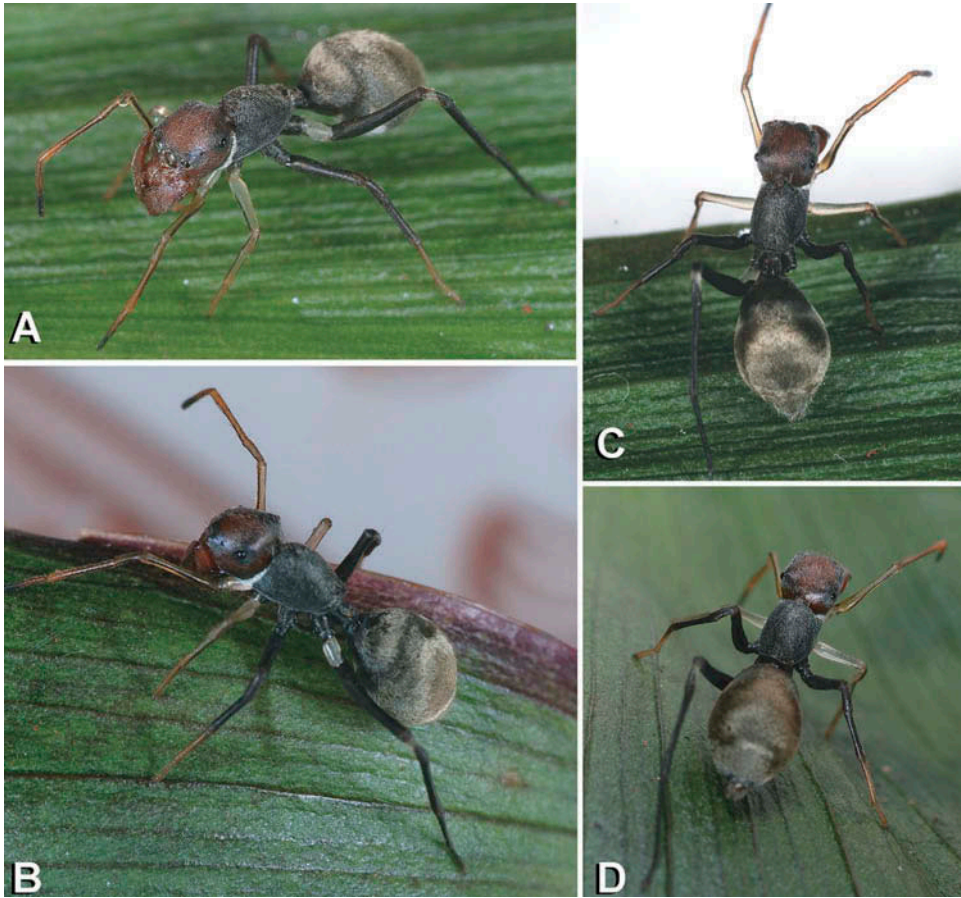


Figure 24. *Myrmarachne prava* in life. (A–D) female from Nikaravatiya.

Diagnosis

Separated from other Sri Lankan *Myrmarachne* species by the shape of the dorsal surface of the chelicerae, which slant towards the median axis. Further, the oval opisthosoma which lack any constrictions and the tapering, upward pointed RTA. Females could be separated by the oval CO tipped towards the median axis (the anterior ends are closer to the median axis than the posterior ends) and the elongated S which are parallel to the median axis.

Description

Male (from Anuradapura): total length: 8.0; prosoma length: 5.2, width: 1.4. Leg I: femur 2.0, patella 0.8, tibia 1.9, metatarsus 1.3, tarsus 0.6. Coloration as in [Figures 23A–D, 25A–D](#). Prosoma black with evenly distributed white hair, chelicerae reddish. Opisthosoma grey with white hair. The cephalic part of the prosoma is elevated, sides somewhat curved. Prosoma constricted in the centre. The thoracic part is lower than the cephalic part, oval in shape (dorsal view) and slopes to towards the base.

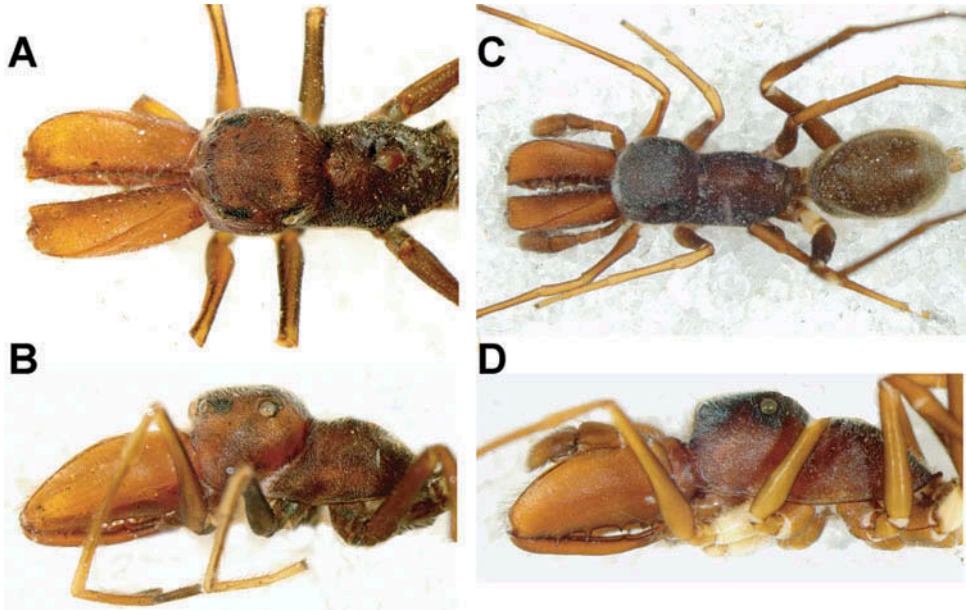


Figure 25. *Myrmarachne prava*. (A,B) male holotype (ZMB 1536). (C,D) male from Padaviya. (A,C) dorsal view; (B,D) lateral view.

Opisthosoma oval, 1.5× longer than wide. Chelicerae shorter than prosoma, dorsum slants towards the median axis, lateral sides rounded (Figure 25A–D). Chelicerae dentition not examined. Leg formula 4132. Leg spination not examined. Palps as in Figure 26A–D. Female: total length: 6.4–7.2; prosoma length: 2.8, width: 1.2. Leg 1: femur 1.6, patella 0.6, tibia 1.2, metatarsus 0.8 tarsus 0.4. Morphology as above, except for the unmodified chelicerae. Coloration as in Figures 23E, 24A–D. Leg formula 4132. Leg spination not examined. Epigynum and vulva as in Figure 27A–C. The oval CO tipped towards the median axis (the anterior ends are closer to the median axis than the posterior ends) and the elongated S which are parallel to the median axis are characteristic for this species.

Natural history

The specimens from Nikaravatiya were collected along with a species of ants of the genus *Camponotus*. Both the spider and its ant host are illustrated in two beautiful hand drawings by G.M. Henry (2000). Borges et al. (2007) associated the ant *Camponotus compressus* (Fabricius) with this species (identified as *Myrmarachne* morpho species 2). However, Tikader (1973) reports that *Myrmarachne bengalensis* was collected along with the ant *Leptogenys processionalis* (Jerdon, 1851), which could be a misidentification.

Distribution

India, Sri Lanka.

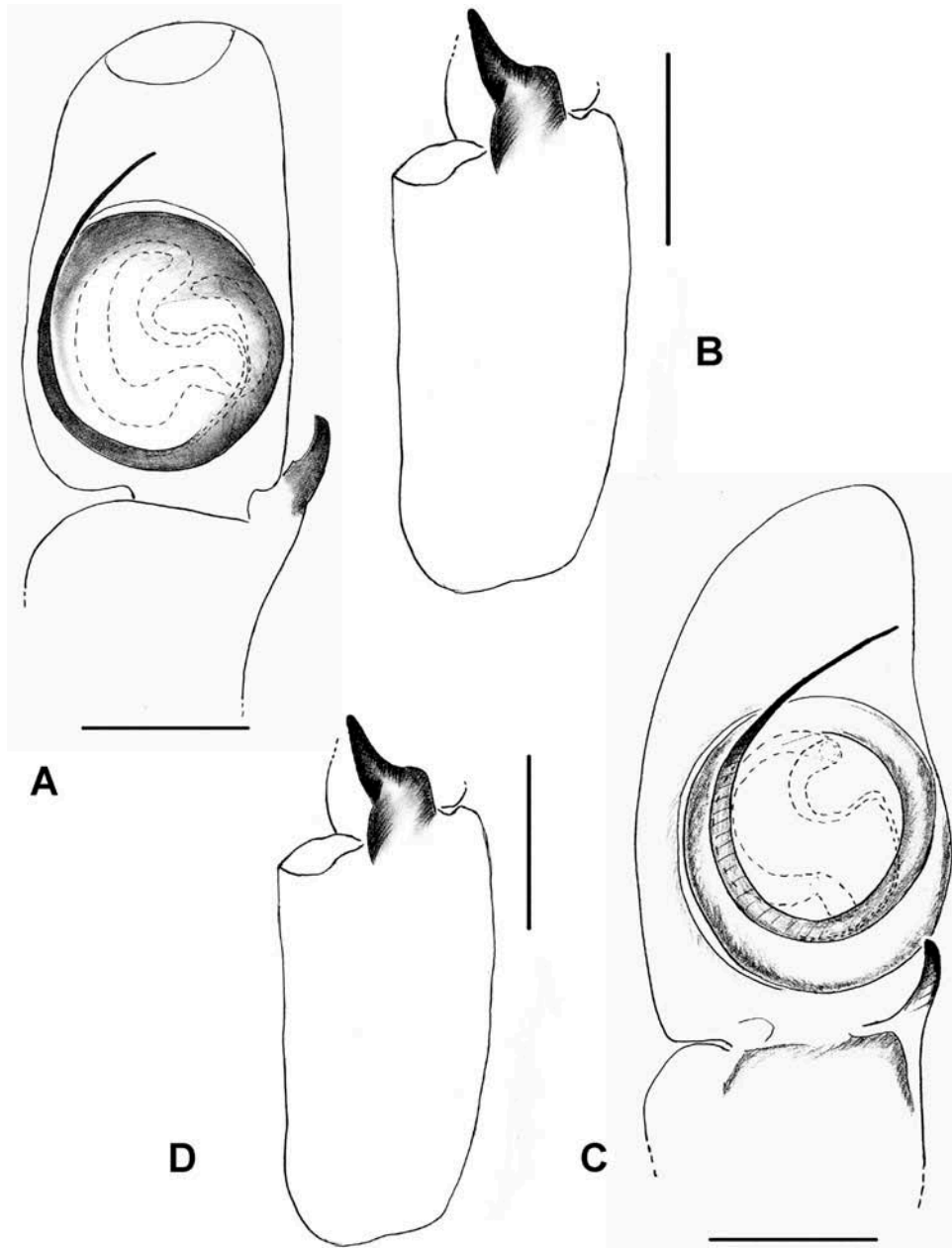


Figure 26. *Myrmarachne prava*, male palp. (A,B) holotype (ZMB 1536). (C,D) male from Padaviya. (A,C) ventral view; (B,D) retrolateral view. Scale bars = 0.2 mm.

Other material examined

Sri Lanka, North Central Province, Anuradapura District, Padaviya, 1 female 2 juv, 18 March 1976, label gives coll. 'KV KROMBEIN?', USNM. 2 males and 1 juvenile, Same data, 19 March 1976, M. Trad. USNM. 24 October 1997, no other

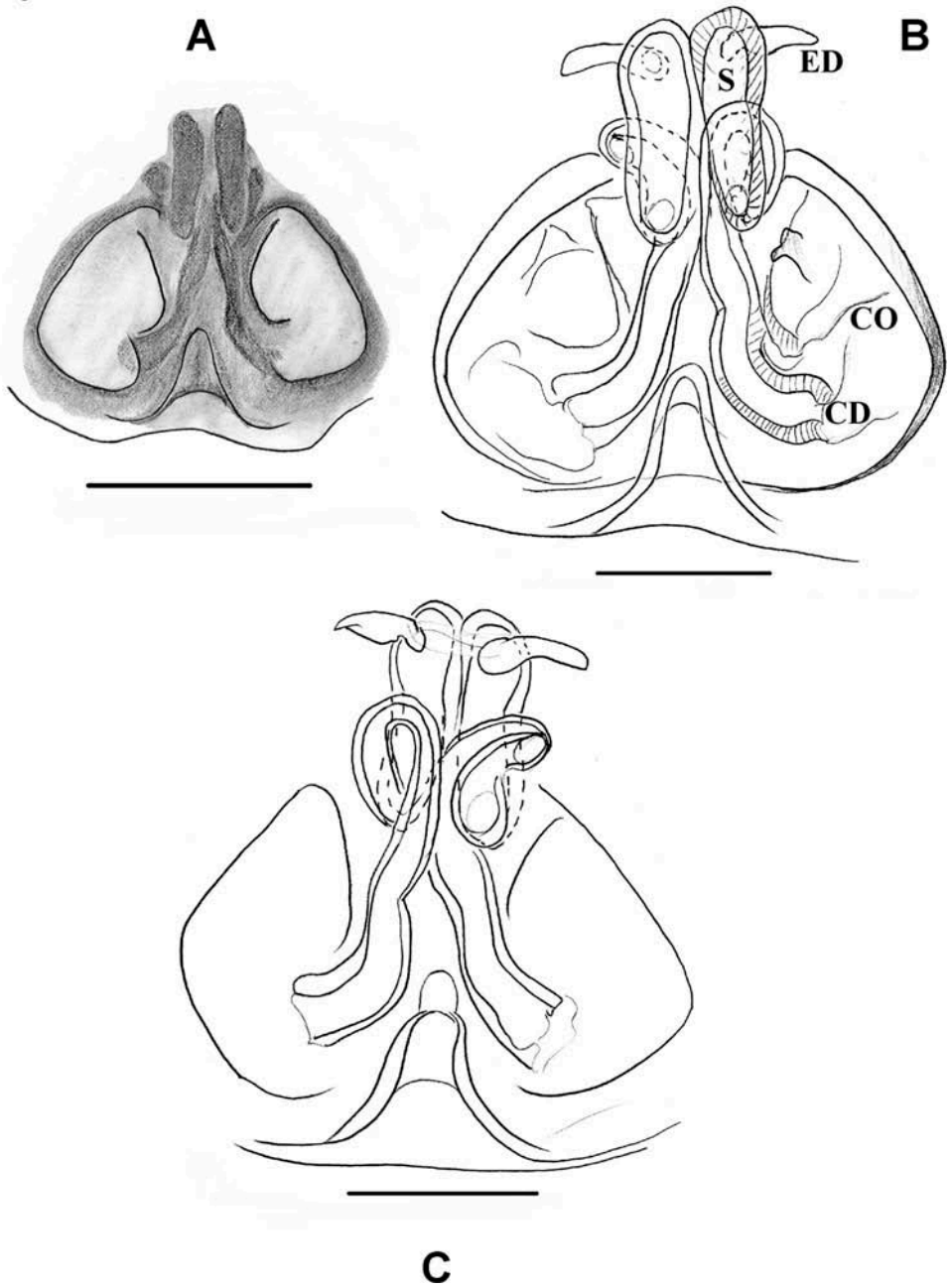


Figure 27. *Myrmarachne prava*, female from Padaviya. (A) epigynum, dorsal view; (B) vulva, dorsal view; (C) vulva, ventral view. Scale bars = 0.1 mm (B,C); 0.2 mm (A).

data, Saman, USNM. Western Province, 2 males, Colombo District, Nawala, 13 March 1998, M.M. Bahir and S.V. Nanayakkara, MHNG. 1 male, Maharagama, 24 July 2009, S.P. Benjamin, MHNG. North Western province, 1 male 1 female,

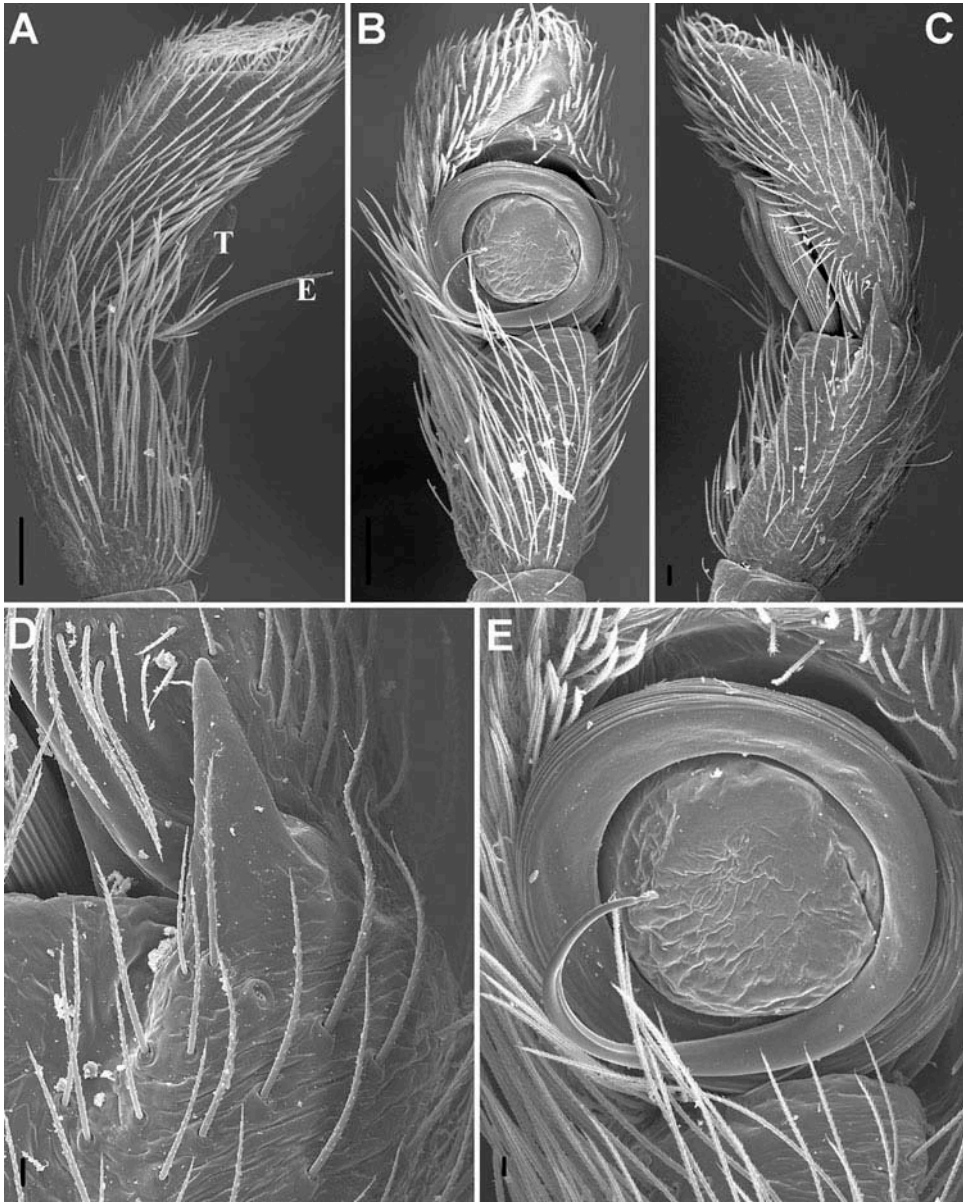


Figure 28. Scanning electron micrographs of *Myrmarachne prava*. (A–E) male palp. (A) prolateral view; (B,E) ventral view; (C,D) retrolateral view. Scale bars = 10 μm (D,E); 30 μm (C); 100 μm (A,B).

Kurunagala District, Nikaravatiya, 1–3. February 2007, Z. Jaleel, USNM (photo voucher).

Myrmarachne plataleoides (O. Pickard-Cambridge, 1869)
(Figures 29A–D, 30A–D, 31A–E)

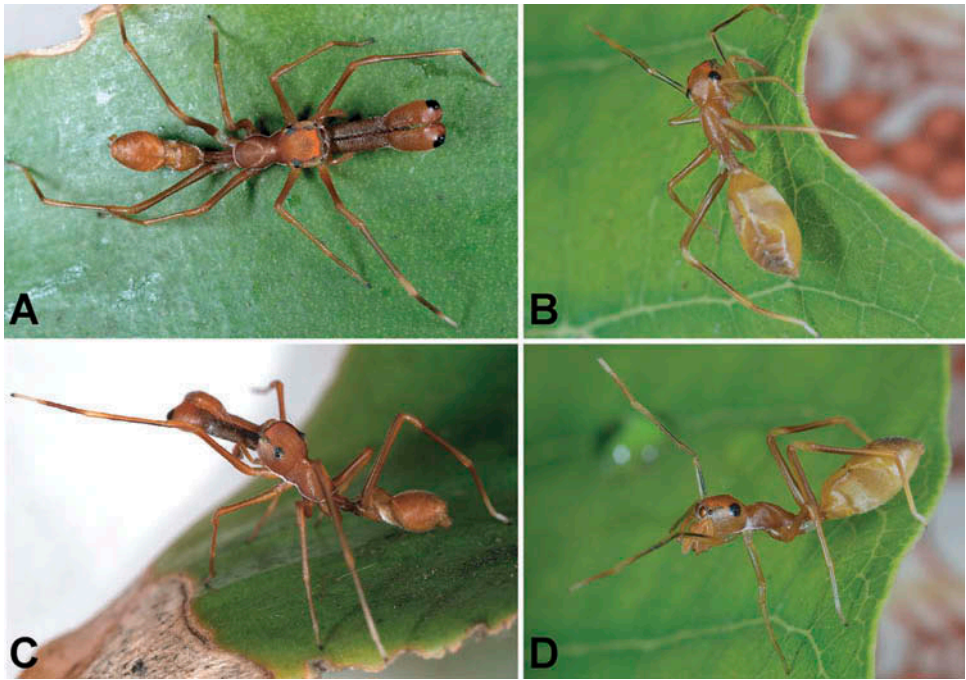


Figure 29. *Myrmarachne plataleoides* in life. (A,C) male; (B,D) female.

Salticus plataleoides O. Pickard-Cambridge, 1869: 68, plate 6, figures 61–65a.
See Platnick (2013) for a detailed taxonomic history.

Type material

The type specimen was not found, presumed lost. Pickard-Cambridge (1869) says that the single specimen that he described was found in the collections of OUMNH. Type locality was unknown at the time of description.

Material examined

Sri Lanka, Central Province, 1 male, Kandy District, Udawattakelle sanctuary, 510–580 m, 8–10 September 1977, K.V. Krombein, P.B. Karunaratne, T. Wijesinhe, M. Jayaweere, USNM. Sabaragamuwa Province, 1 male, Kegalle District, Kelani Ganga, 152 m, Kitulgala, 12 March 1973, Bauman and Cross, USNM. Western Province, 1 male 1 female, Colombo District, Godagama, 25 October 1973, M. Robinson, USNM. 1 male, Ratmalana, 6 June 1976, K.V. Krombein, USNM. 1 female, Nawala, Nandimitra place, 13 March 1998, M.M. Bahir and S.V. Nanayakara. 1 female, same locality, 1 March 1998, MHNG. 2 males, Kalutara District, Ingiriya, Bodinagala Forest Reserve, 10 February 2007, Hand collecting, SP. Benjamin and Z. Jaleel. North Central Province, 1 female, Anuradapura District, Padaviya, 18 May 1976, M. Trap and K.V. Krombein, USNM. 1 male, same locality, 19 May 1976, K.V. Krombein (?), USNM.

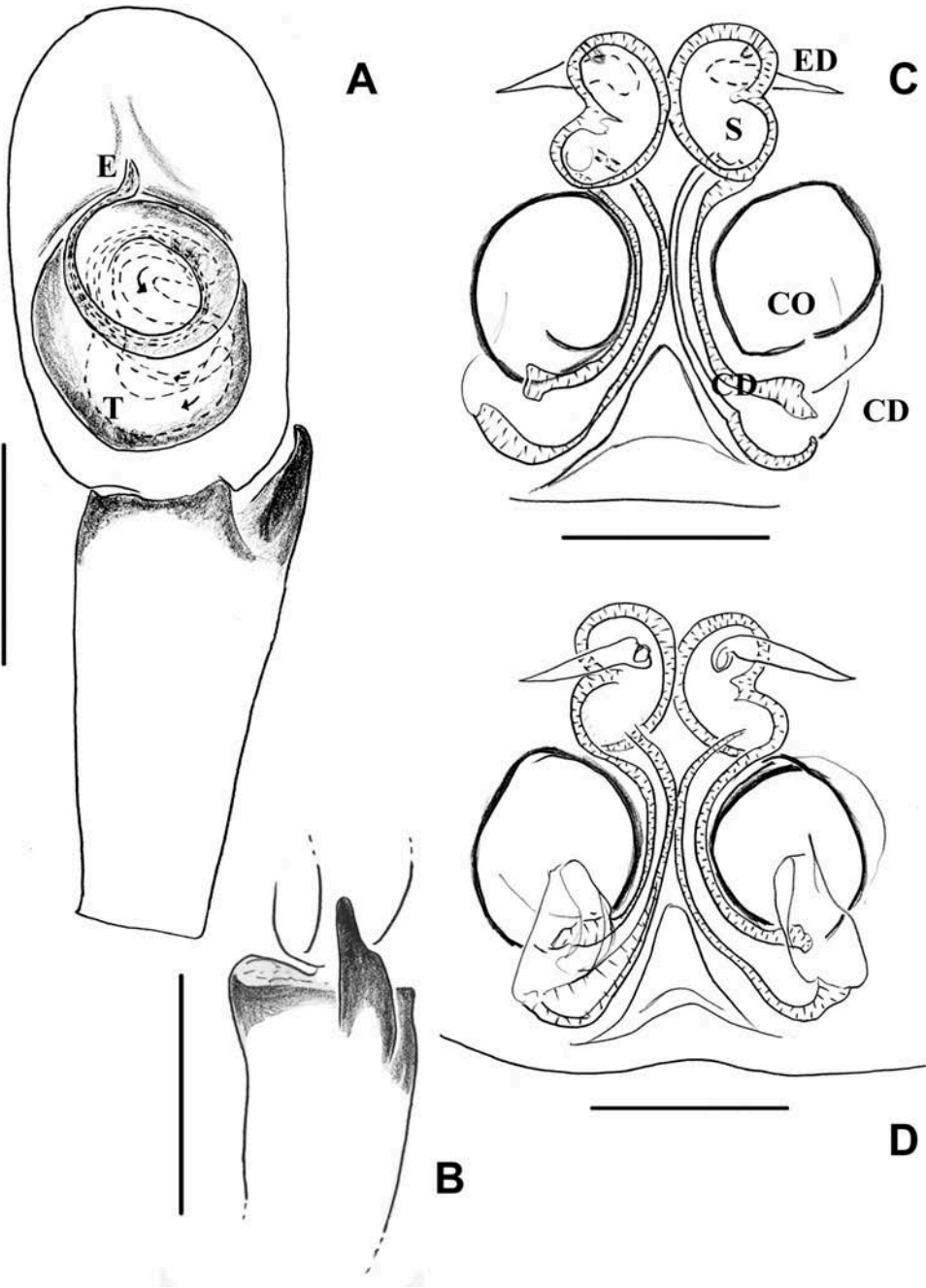


Figure 30. *Myrmarachne plataleoides*. (A,B) male palp. (A) ventral view; (B) retrolateral view; (C) vulva, ventral view; (D) vulva, dorsal view. Scale bars = 0.1 mm (C,D); 0.2 mm (A,B).

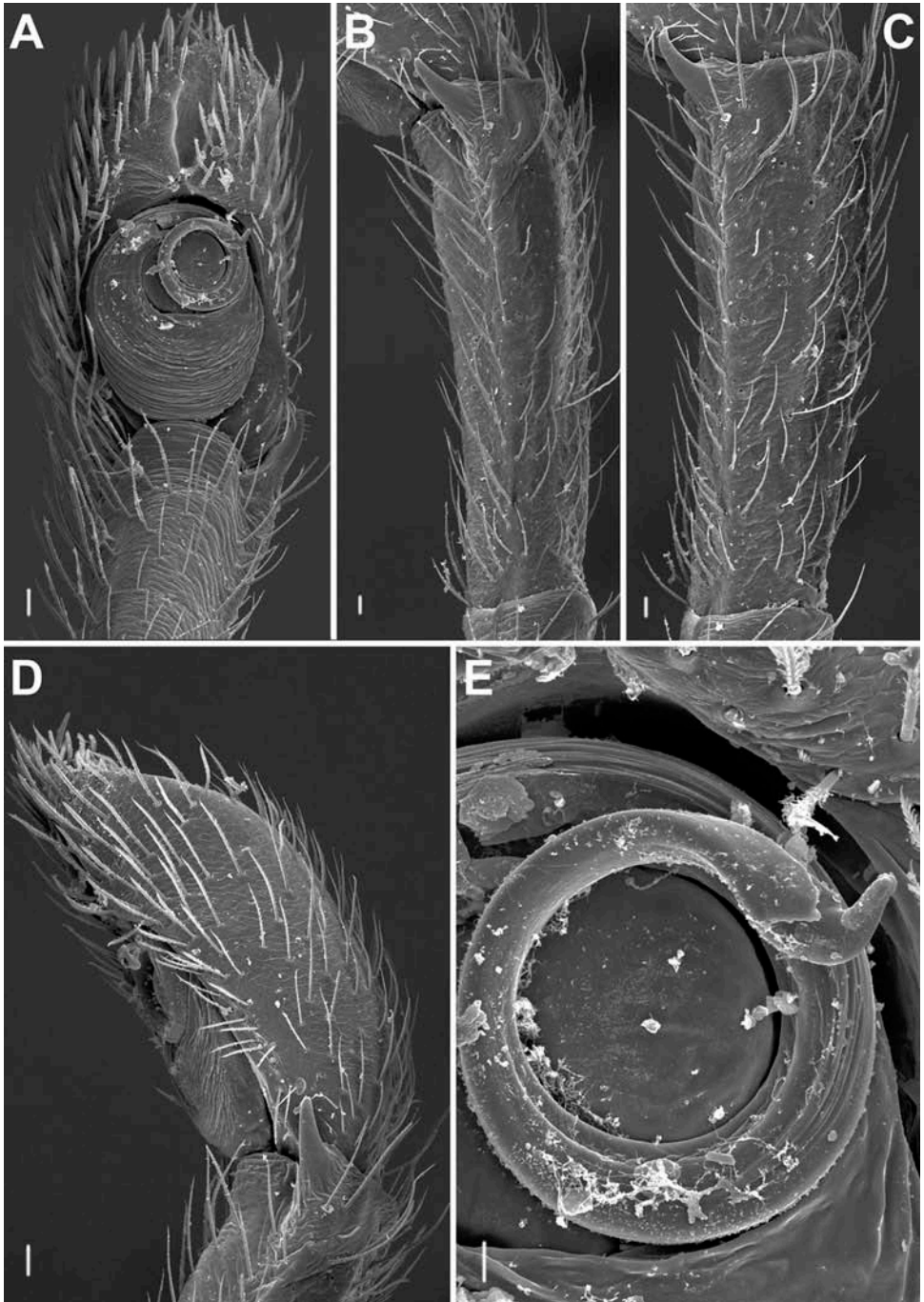


Figure 31. Scanning electron micrographs of *Myrmarachne plataleoides*. (A–E) male palp. (A,E) ventral view; (B–D) retrolateral view. Scale bars = 20 μm (B); 25 μm (C,E); 30 μm (A,D).

Eastern Province, 1 male, Ampara District, Lahugala, 15 June 1976. Coll. K.V. Krombein, USNM. Southern province, 6 juveniles, Galle, Navina, 18 November 1997, Coll. M.M. Bahir, MHNG. 1 male, same locality, 7 March 1998, MHNG. 2 males 1 female, Galle, Neluwa, 4 February 1998, Coll. M.M. Bahir and Sanath, MHNG. Uva Province, 1 male, Monaragala District, Inginiagala, 3 June 1995, D. H. Messersmith, G.L. Williams and P.B. Karunaratne. USNM. North Western Province, 1 male, Kurunagala, Athugala (Ethagala?), 24 January 1975, K.V. Krombein. 2 males, 2 females, Ethagala Mountains, *c.*300 m, 1–28 February 2007, hand collecting, Z. Jaleel. Ethagala, Mountains, *c.*300 m, 1–30 March 2008, Z. Jaleel, 3 males. 1 male, same locality, 24 September 2009, S.P. Benjamin and S. Batuwita. 2 males, 2 females, Nikaravatiya, 1–3 February 2007, hand collecting, Z. Jaleel. 1 male, same locality, hand collecting, 15 July 2009, S.P. Benjamin. Central Province, 1 male, Matale District, IFS Arboretum, *c.*180 m, 07° 51'34"N, 80°40'28"E, 23 April 2010, hand collecting, S.P. Benjamin and S. Batuwita.

Diagnosis

Separated from all other Sri Lankan species of the genus, except for *M. spissa* by the cylindrical tegulum of the male palp, with the embolus positioned on the distal end of the tegulum and the kidney-shaped S connected by a CD to CO. Separated from *M. spissa* by size and brown to dark brown colour.

Description

Male: total length: 7.2–30.0; prosoma length: 4.4–7.2, width: 1.2–1.6. Leg I: femur 2.0–3.2, patella 0.7–1.0, tibia 2.8–3.6, metatarsus 1.2–1.8, tarsus 0.6–0.8. Palp as in [Figures 30A, B, 31A–E](#). Female: total length: 8.0; prosoma length: 3.2, width: 1.2. Leg I: femur 2.0, patella 0.4, tibia 1.8, metatarsus 1.0 tarsus 0.4. Epigynum and vulva as in [Figure 30C, D](#)). See Edmunds and Prószyński (2003) for a detailed description of this species.

Variation

This species is known to be highly polymorphic with colours varying from light brown to dark black (personal observations; Borges et al. 2007).

Natural history

Feeds on the ant *Oecophylla smaragdina*, which it mimics (Narayan 1915; Tikader 1973). The range of this species overlaps the range of its ant model (Pollard 1994; Borges et al. 2007).

Distribution

India, Sri Lanka, China, Southeast Asia (Platnick 2013).

Myrmarachne ramunni Narayan, 1915
(Figures 2E, F, 3E, F)

Myrmarachne ramunni Narayan, 1915: 400–402, figure 4a–c.

Identification

Types have not been examined. Narayan (1915) illustrates and describes the unique chelicerae of this species, aiding positive identification.

Material examined

Sri Lanka, Eastern Province, 1 male, Ampara District, Inginiagala, 250 ff, Samudra gardens, 22–23 November 1976, G.F. Havel, R.E. Dietz IV, S. Karunaratne, USNM.

Diagnosis

Very similar to *M. bicurvata*, however, males are easily separated by the chelicerae. The distal half of the chelicerae of *M. ramunni* is wider than the proximal half (Figure 2E). The inner and outer sides of the proximal half are parallel, whereas the distal half has convex outer sides and parallel inner sides. *M. bicurvata* has parallel inner and outer sides (Figure 2A, C). The RTA of the male palp is broad base and tapered to a point in one corner. In *M. bicurvata* the RTA is hook-shaped with a constriction at the base (Figure 3B, E).

Description

Male: total length: 6.8; prosoma length: 4.4, width: 1.2. Leg I: femur 1.6, patella 0.6, tibia 1.6, metatarsus 0.8, tarsus 0.4. The cephalic part of the prosoma is elevated and rounded on all sides. The thoracic part is lower than the cephalic, the highest point being the centre (Figure 2E, F). Opisthosoma oval, almost as wide as long, with no clear constriction (Figure 2E, F). Dorsally sclerotized, ventrally softer. Chelicerae are characteristically long and stout, distal half is wider than the proximal half (Figure 2E, F). The distal half is hammer-shaped. The inner and outer sides of the proximal half are parallel, whereas the distal half has convex outer sides and parallel inner sides. Chelicerae dentition not examined. Leg formula 4132. Leg spination not examined. Palps as in Figure 3E, F. Female: remains unknown, but see Dyal (1935) for a description of a female attributed to this species.

Natural history

Borges et al. (2007) associated the ant *Myrmicaria brunnea* with this species (spiders identified as *Myrmarachne* morphospecies 3).

Distribution

India, Pakistan, Sri Lanka.

Myrmarachne spissa (Peckham and Peckham, 1892)
(Figures 32A–J, 33A–D, 34A–D, 35A–F, 36A–C, 37A–F)

Salticus spissus Peckham and Peckham, 1892: 37.

Myrmarachne spissa (Peckham and Peckham, 1892) Simon, 1901: 500.

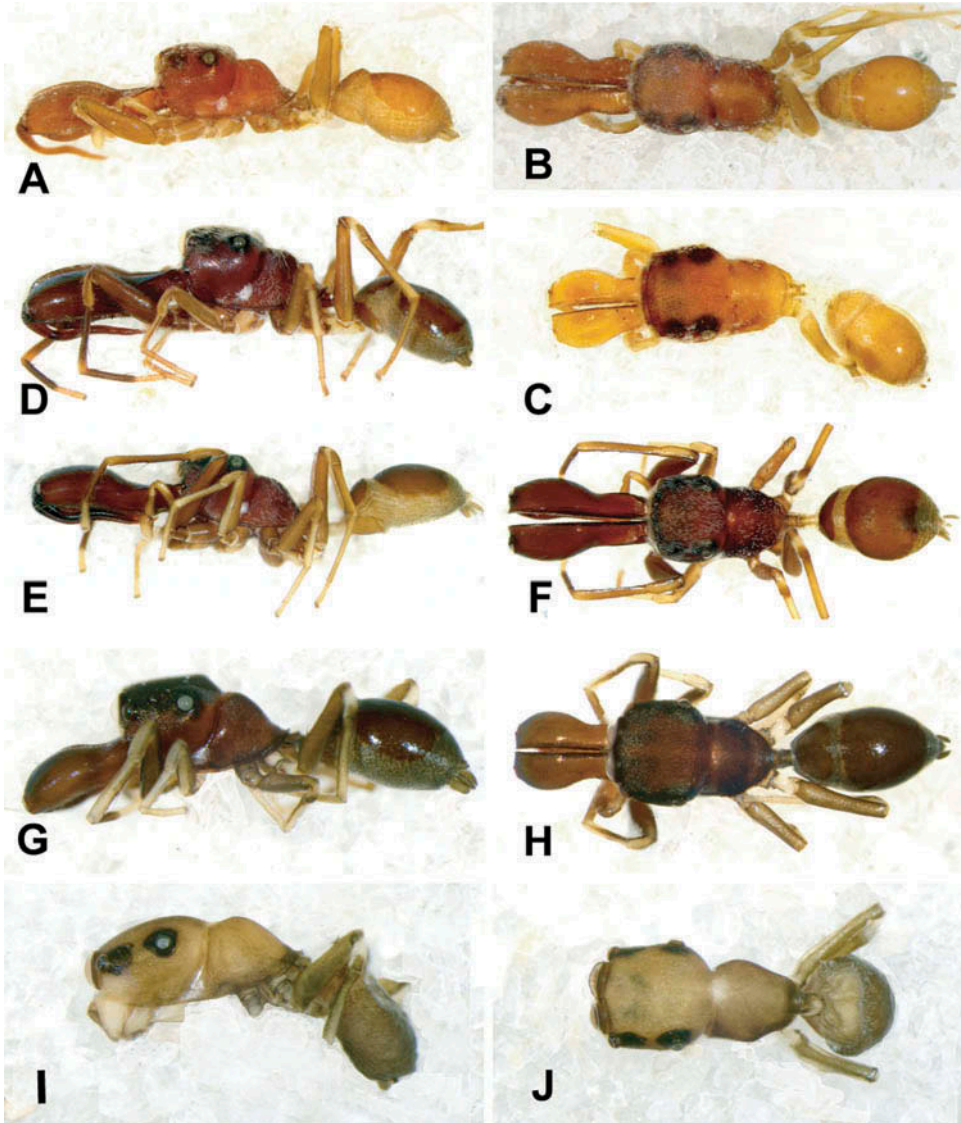


Figure 32. Photographs of *Myrmarachne spissa*. (A–C) male syntype (MVZ 23159); (D) male from Angunakolaplesse; (E,F) male from Padaviya; (G,H) male from Bellanwila-Attidiya; (I,J) female from Bellanwila-Attidiya. (A,D,E,G,I) lateral view; (B,C,F,H,J) dorsal view.

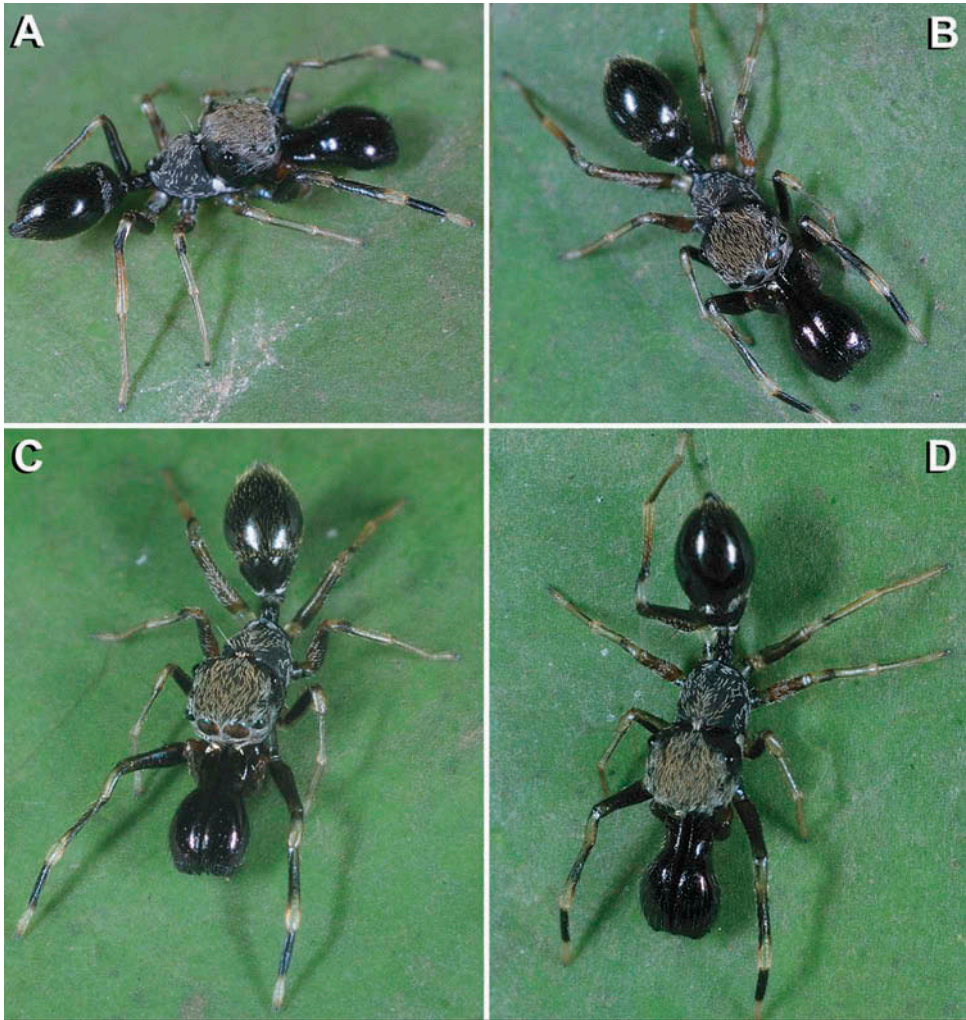


Figure 33. *Myrmarachne spissa*, male in life.

Type material

Syntypes (MCZ 23159): 4 males from Ceylon (now Sri Lanka), leg. Green, GW and EG Peckham collection. Syntypes variable in size. The medium sized specimen was selected for drawing.

Diagnosis

Separated from all other Sri Lankan species of the genus, except for *M. plataleoides* by the cylindrical tegulum of the male palp, with an embolus positioned on the distal end of it and the kidney-shaped S connected by an elongated CD to CO (Figures 35A–F, 36A–C, 37A–F). Separated from *M. plataleoides* by the smaller size and

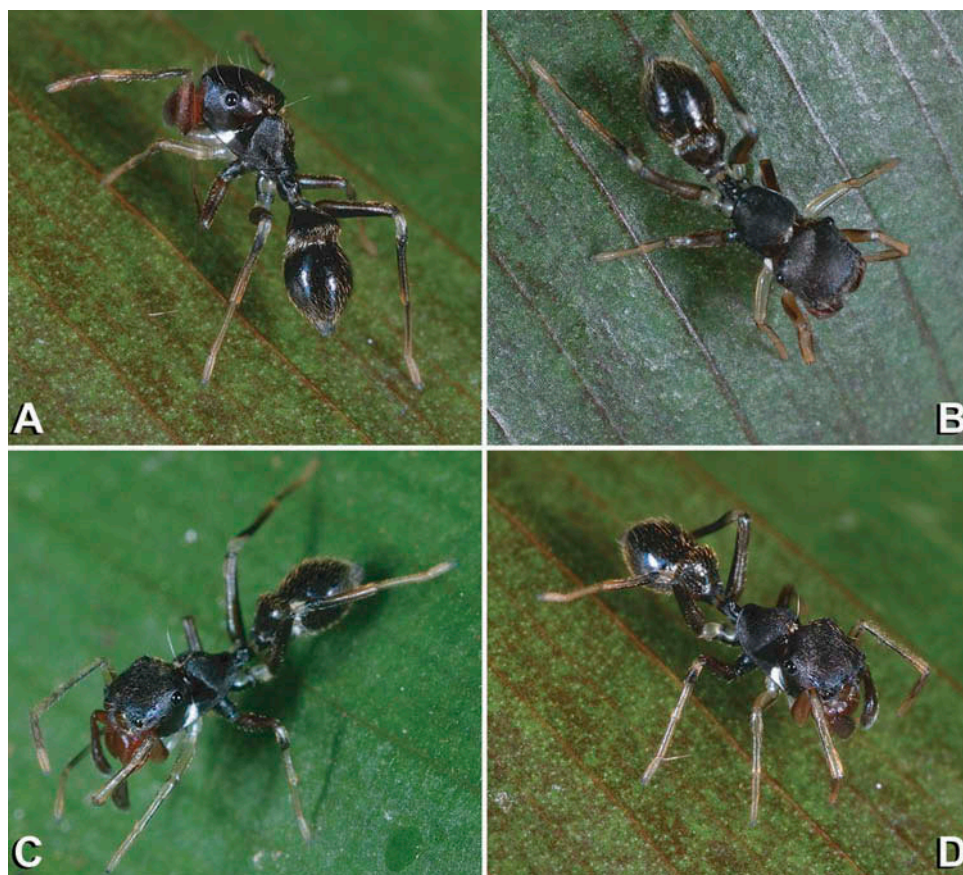


Figure 34. *Myrmarachne spissa*, female in life.

uniformly black colour (Figures 33, 34). Further, this species could be separated from *M. morningside* sp. nov. by the presence of white setae mostly of the dorsal parts of the prosoma and the presence of two whitish, elongated setae approximately on the centre of the prosoma (Figures 33, 34).

Description

Male: total length: 6.4–4.2; prosoma length: 4.0–2.5, width: 1.4–0.9. Leg I: femur 1.2, patella 0.5, tibia 1.2, metatarsus 0.7, tarsus 0.4. Prosoma elongated, almost as 2 times longer than wide. Opisthosoma oval, a bit longer than wide. Live spiders fully black in colour (Figures 33, 34). Spiders of this species have a whitish appearance, mostly of the dorsal parts of the prosoma due to the presence of short white setae (Figures 33, 34). Two white, elongated setae approximately on the centre of the prosoma are present (Figures 33, 34). Alcohol preserved specimens are dark to light reddish-brown in colour. Prosoma raised, red/brown to red/yellow, chelicerae large relative to body size, almost as long as prosoma, opisthosoma with 2 sclerotized scutae (Figure 32A–J). Chelicerae dentition not examined. Leg formula 4132. Leg spination not

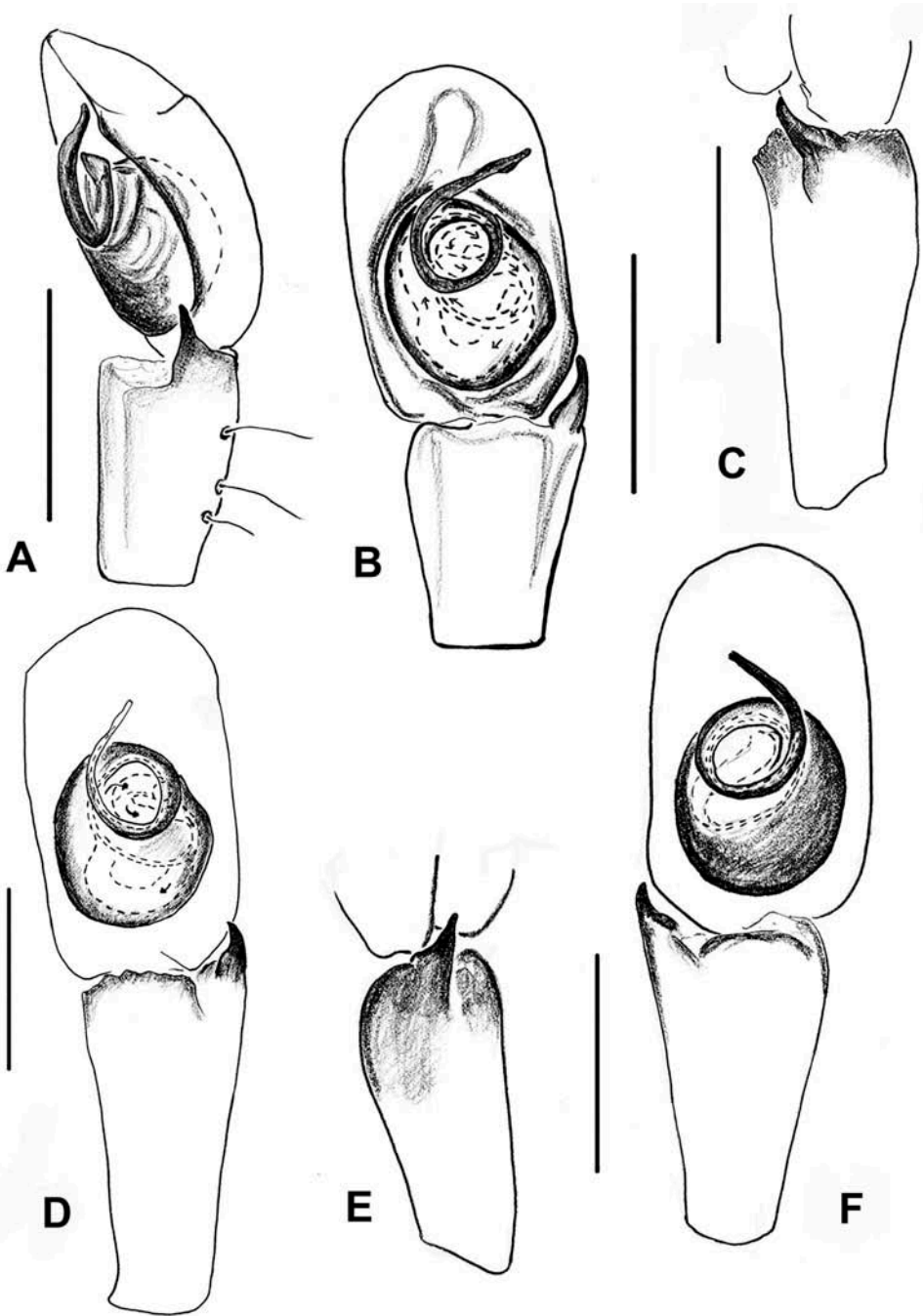


Figure 35. *Myrmarachne spissa*. (A–F) male palp. (A,B) male from Bellanwila-Attidiya; (C,D) male from Angunakolaplesse; (E,F) syntype, right palp (MVZ 23159). (A,C,E) retrolateral view; (B,D,F) ventral view. Scale bars = 0.2 mm.

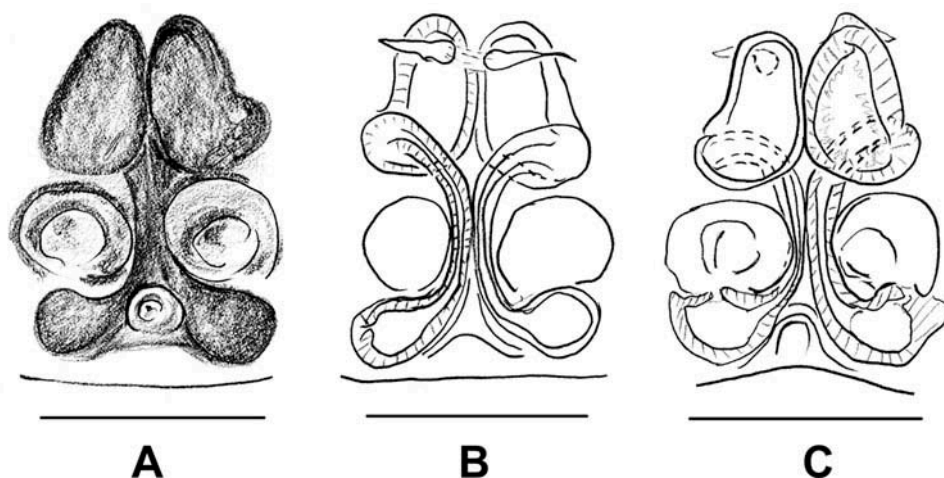


Figure 36. *Myrmarachne spissa*. (A–C) female from Bellanwila-Attidiya. (A) epigynum, ventral view; (B) vulva, dorsal view; (C) vulva, ventral view. Scale bars = 0.1 mm.

examined. Male palps with a cylindrical tegulum, with an embolus positioned on the distal end of it as in Figure 35A–F. Female from Inginiagala: total length: 3.6; prosoma length: 1.6, width: 0.9. Leg 1: femur 0.8, patella 0.3, tibia 0.6, metatarsus 0.4 tarsus 0.2. Morphology as above, except for the lighter coloured prosoma and opisthosoma (Figure 32A–J). Some females seem to have reddish-brown chelicerae (Figure 34). Chelicerae dentition not examined. Leg formula 4132. Leg spination not examined. Epigynum and vulva as in Figure 36A–C.

Distribution

Sri Lanka.

Variation

The Monaragala District specimen is a bit larger than the specimen from Padaviya. Some recently collected specimens are darker, the light colour of the types might be due to preservation.

Natural history

Specimens from Atidiya live in association with a species of ants of the genus *Technomyrmex* (vouchers deposited in MHNG). Specimens from Kurunagala, Nikaravatiya were collected with ants of the genus *Cataulacus*.

Other material examined

Sri Lanka, Uva Province, 1 male, Monaragala District, Angunakolaplesse 100 m, 21–23 January 1979, K.V. Krombein, P.B. Karunaratne, T. Wijesinhe, S.

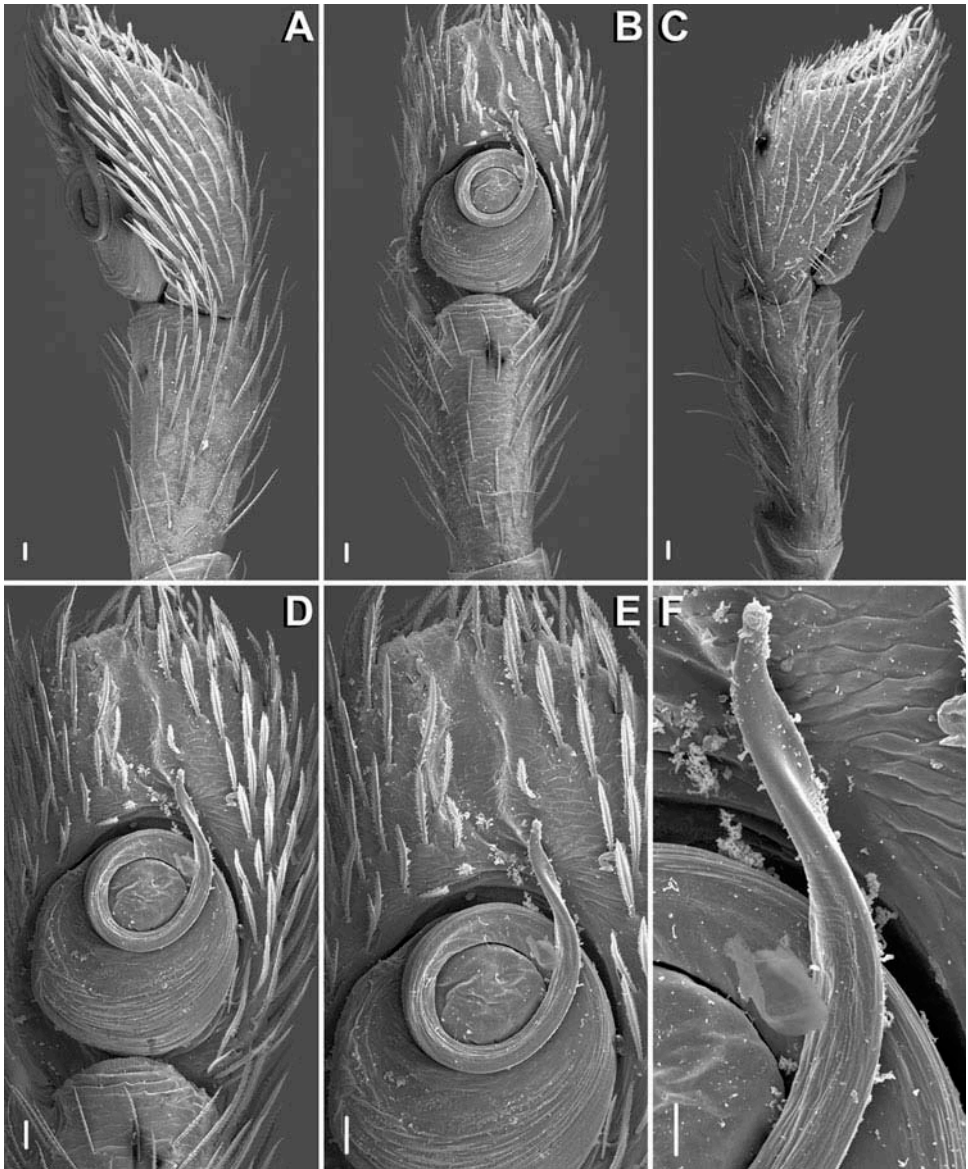


Figure 37. Scanning electron micrographs of *Myrmarachne spissa* from Padaviya. (A–F) right male palp. (A) prolateral view; (B,D–F) ventral view; (C) retrolateral view. Scale bars = 10 μ m (F); 20 μ m (A–E).

Siriwardane, T. Gunawardane, USNM. 1 male 1 female, Monaragala District (probably Ampara District), Inginiagala, 3 June 1995, D.H. Messersmith, G.L. Williams and P.B. Karunaratne, USNM. North Central Province, 1 male. Anuradapura District, Padaviya, 19 May 1976. Leg K.V. KROMBEIN(?), USNM. Eastern Province, 1 male, Ampara District, Inginiyagala, Gal Oya NP,

*c.*80 m, 07°13'22"N, 81°31'56"E, 10 February 2010, leg. S.P. Benjamin, S. Batuwita, MHNG. Western Province, 1 male 1 female, Colombo District, Bellanwila-Attidiya, 21 February 2000, S.P. Benjamin. 5 males, Panadura, Mahabellana, along Bolgoda South Lake, July 2008, S.P. Benjamin, S.K. Dayananda and Z. Jaleel, MHNG. North Western Province, 11 males, 5 females, Kurunagala District, Kurunagala, Ethagala Mountains, *c.*300 m, 1–28 February 2007, Z. Jaleel, MHNG. 2 males, 11 October 2008, Z. Jaleel, MHNG. 6 males, 1–30 March 2008, leg. Z. Jaleel, MHNG. 2 females, Ethagala range, *c.*190 m, 07°28'17"N, 80°22'30"E, 24 November 2009, Hand collecting, leg. S.P. Benjamin, S. Batuwita, Z. Jaleel, MHNG. Central Province, 1 male, 2 females, Kandy District, Dunumadalawa, *c.*600 m, 07°17'00"N, 80°37'49"E, 24 September 2009, leg. S.P. Benjamin et al., MHNG. 1 male, 1 female, Matale District, IFS Arboretum, *c.*180 m, 07°51'34"N, 80°40'28"E, 24 August 2010, Hand collecting, leg. S.P. Benjamin, S. Batuwita. 1 male 'no label' USNM Sri Lanka collection (Sri Lanka?), MHNG.

Myrmarachne aff. tristis (Simon, 1882)

(Figure 38A–D)

Salticus tristis Simon, 1882: 212.

Remarks

Provisional identification is based on the description of the *tristis*-group by Wanless (1978).

Diagnosis

Small spiders, separated from all other Sri Lankan species of the genus by the chelicerae: shorter than the prosoma, fangs with a bulbous base (Figure 38A, B). Further, the disk-shaped male palp, with the embolus positioned on the borders of the tegulum (Figure 38C, D) is characteristic.

Male. total length: 5.6; prosoma length: 3.2, width: 1.2. Leg I: femur 1.2, patella 0.4, tibia 1.2, metatarsus 0.6, tarsus 0.4. Prosoma oval, almost as wide as long. The cephalic part of the prosoma is elevated and sides parallel. Posterior half rounded. Prosoma laterally with dark markings (Figure 38A, B). All eyes surrounded by dark rings. Opisthosoma oval, longer than wide, with a clear constriction in the centre of the anterior half (Figure 38A, B). Dorsally, sclerotized, ventrally softer. Chelicerae constricted at the base, thickest at the centre (Figure 38A, B). Male palps disk-shaped, with the embolus positioned on the borders of the tegulum (Figure 38C, D). Chelicerae dentition not examined. Leg formula 4132. Leg spination not examined. Females have not been found from Sri Lanka.

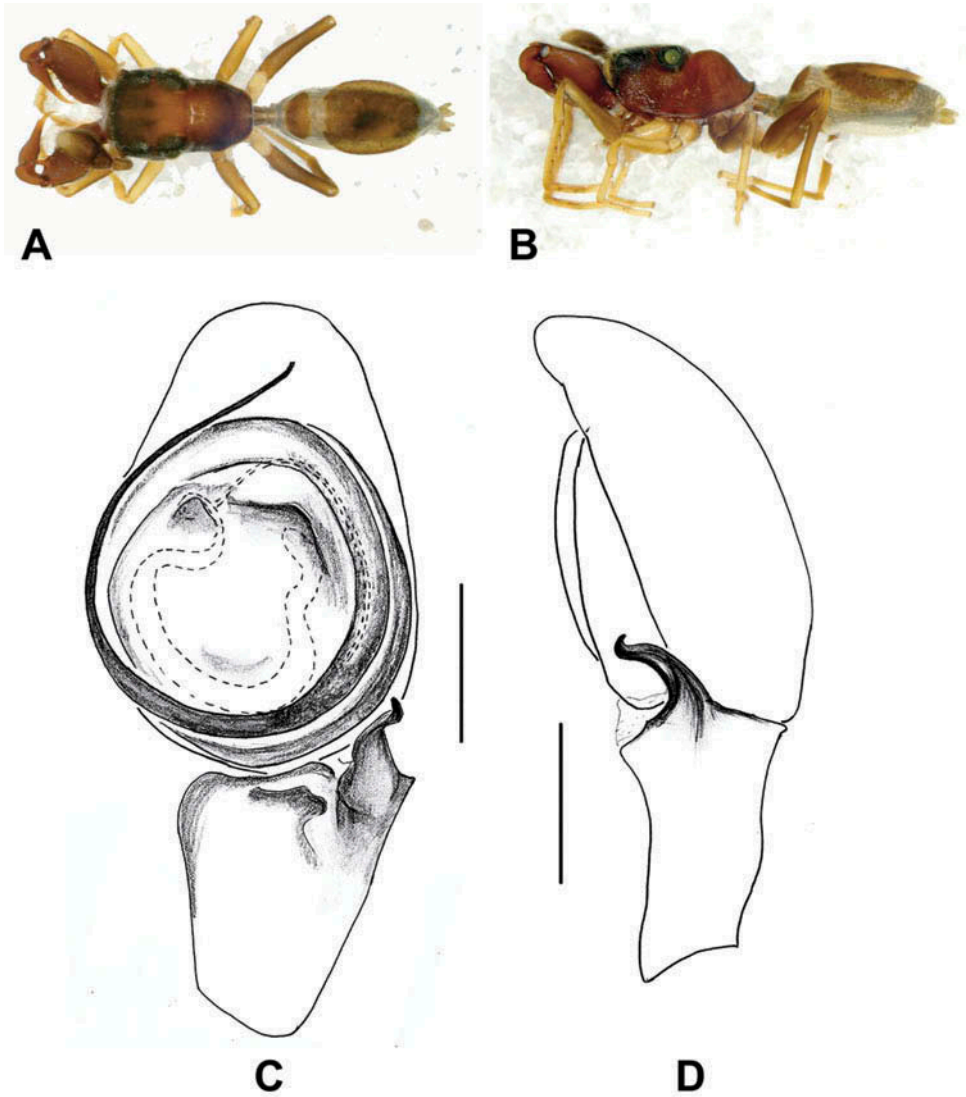


Figure 38. *Myrmarachne* aff. *tristis* (Simon, 1882). (A,B) Photographs of male from Kimbissa; (C,D) left male palp. (A) dorsal view; (B) lateral view; (C) ventral view; (D) retrolateral view. Scale bars = 0.2 mm.

Distribution

Libya to India. New record for Sri Lanka.

Material examined

Sri Lanka: Kimbissa: 1 male, 0.8 km west of Sigiriya Jungle, 28 June–4 July 1978, Coll. K.V. Krombein, P.B. Karunaratne, J. Wijesinghe, V. Kulasekara, USNM.

List of comparative material examined

Myrmarachne nemorensis (Peckham and Peckham, 1892)
(Figure 39A, B)

Holotype of *Salticus nemorensis* from Burma (Myanmar, MCZ 22264). The holotype is illustrated here (Figure 39A, B).

Myrmarachne opaca (Karsch, 1880)
(Figure 39C–F)

Material examined

Syntype of *Synemosyna opaca* from Philippines, Samar Province, 1 male (ZMB 1530), leg. Jager. Type specimen is illustrated here (Figure 39C–F). A description of the female, diagnosis and natural history is provide by Yamasaki and Ahmad (2013).

Distribution

Borneo, Philippines.

Myrmarachne pumilio (Karsch, 1880)
(Figure 40A–E)

Material examined

Syntype of *Synemosyna pumilio* from Bengal (West Bengal State of India & Bangladesh), 1 male (ZMB 1533), leg. Nietner. Examined. Figure 40A–E.
Myrmarachne hanoi Zabka, 1985: 419, figures 364–367. **New synonymy.**

Distribution

Bangladesh, Borneo, China, India, Indonesia, Vietnam.

Remarks

This species has been redescribed with several detailed illustrations by Yamasaki and Ahmad (2013). The general shape of the chelicerae and palp are very characteristic. The papal tibia with a multi-pronged RTA is diagnostic. I thus consider *Myrmarachne hanoi* Zabka, 1985 a junior subjective synonym of *Myrmarachne pumilio*. A description of the female, diagnosis and natural history is given in Yamasaki and Ahmad (2013).

Myrmarachne robusta (Peckham and Peckham, 1892)
(Figure 41A–B)

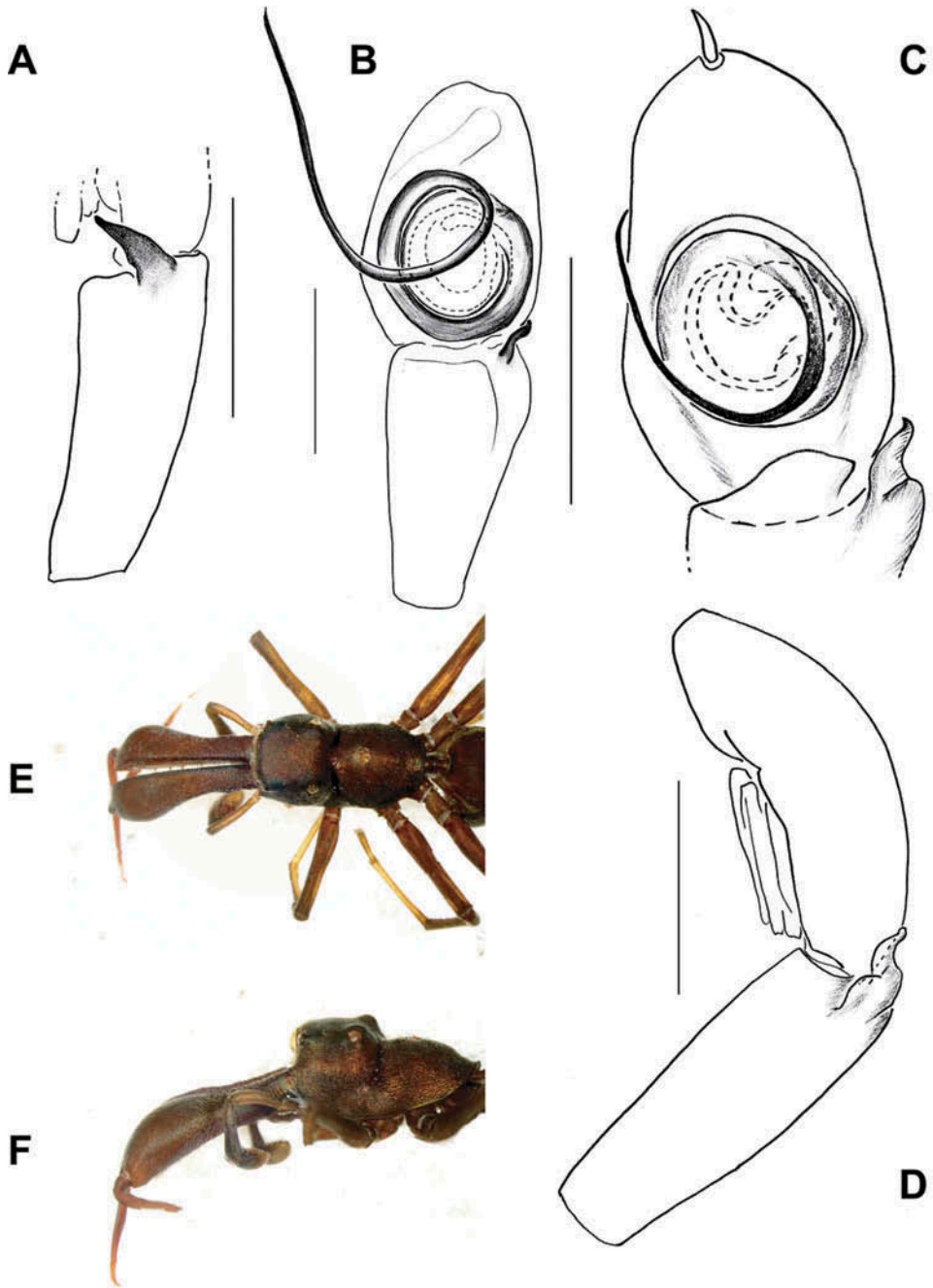


Figure 39. (A,B) *Myrmarachne nemorensis*, male holotype (MCZ 22264). (C–F) *Myrmarachne opaca*, male syntype (ZMB 1530). (A,D) retrolateral view; (B,C) ventral view; (E) dorsal view; (F) lateral view. Scale bars = 0.2 mm.

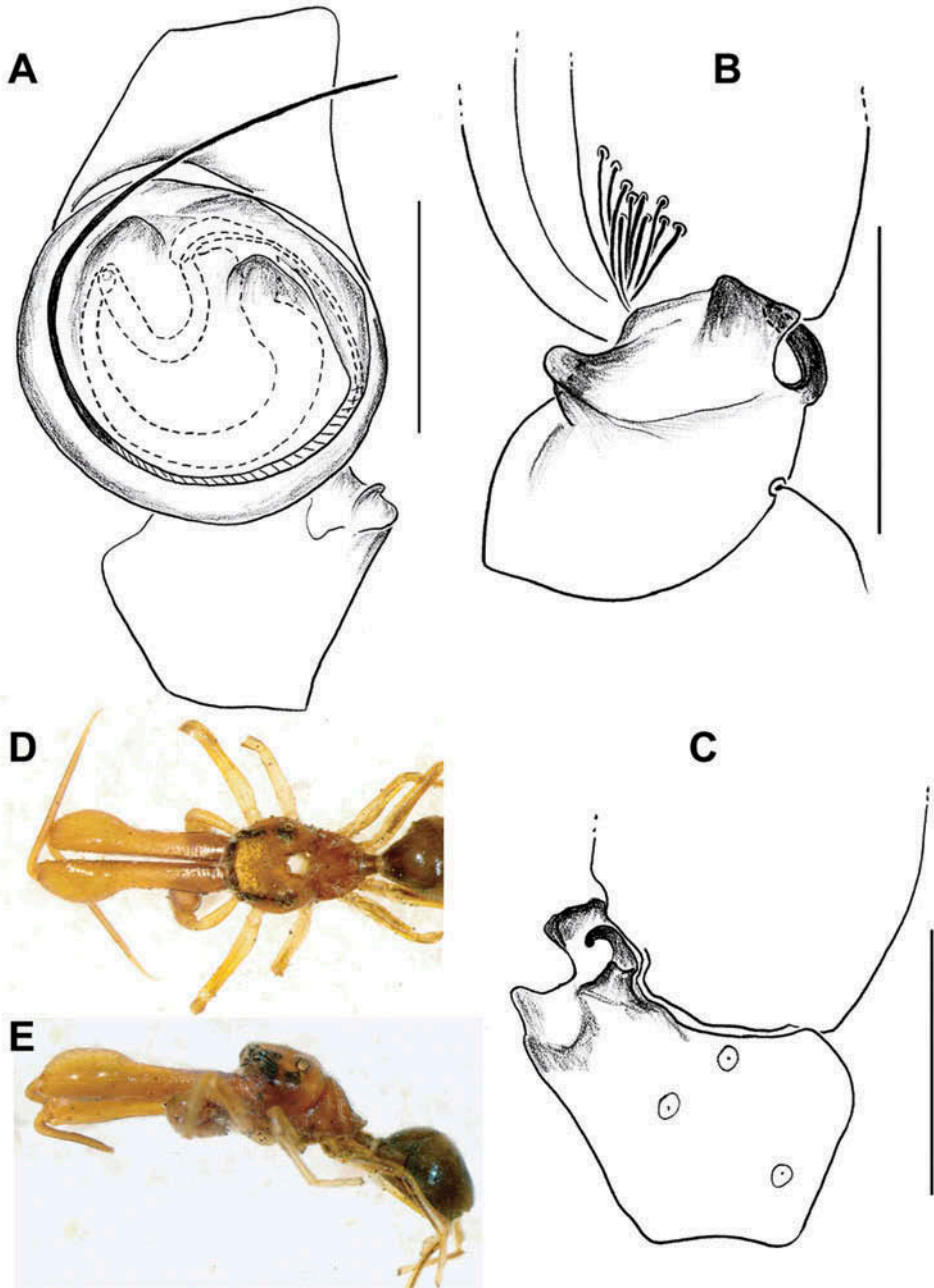


Figure 40. *Myrmarachne pumilio*. (A–E) male syntype (ZMB 1533). (A) ventral view; (B) retrolateral view; (C,D) dorsal view; (E) lateral view. Scale bars = 0.2 mm.

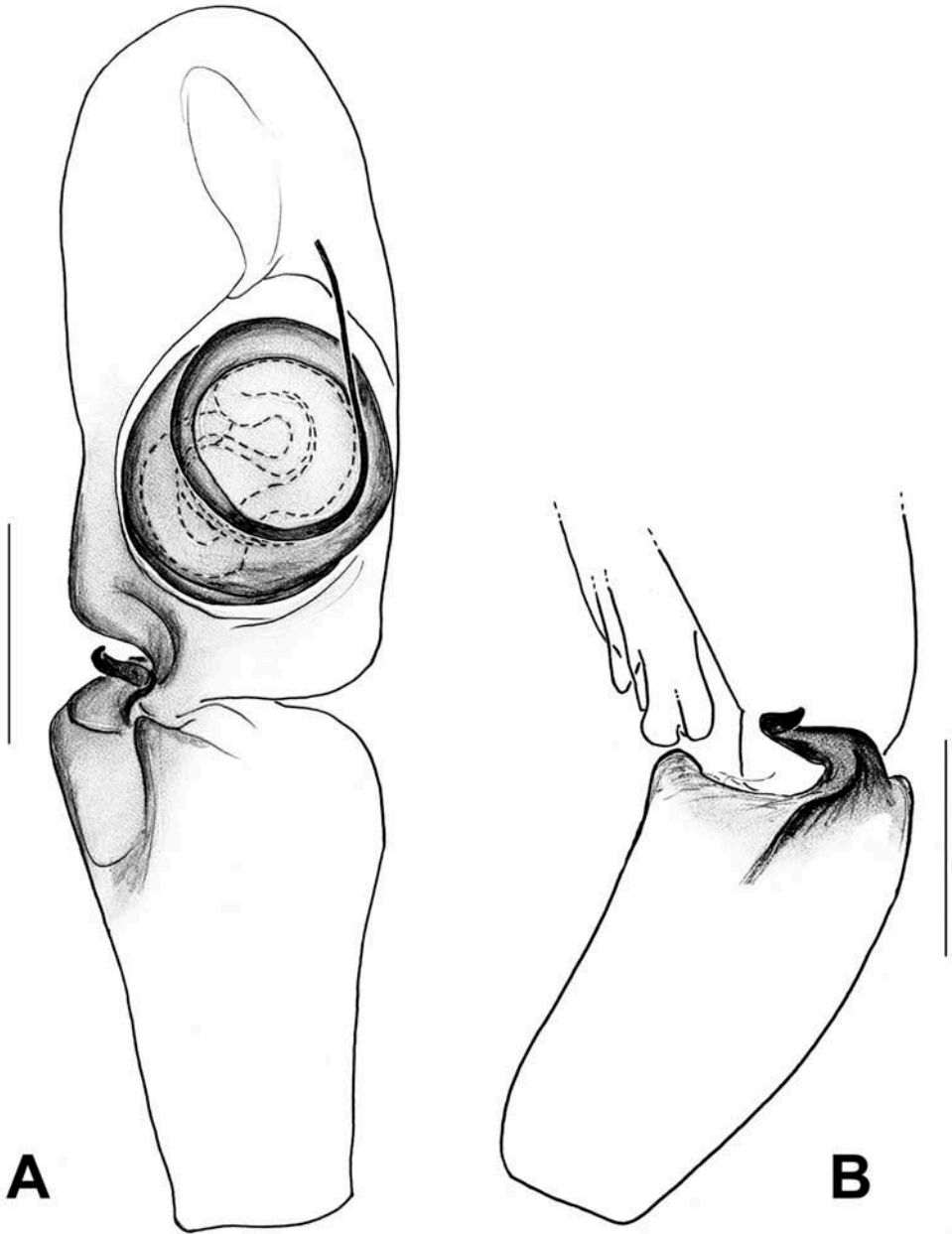


Figure 41. *Myrmarachne robusta*. (A,B) right male palp of holotype (MCZ 22915). (A) ventral view; (B) retrolateral view. Scale bars = 0.2 mm.

Material examined

Holotype of *Salticus robustus* from Burma (Myanmar, MCZ 22915), 1 male, [Figure 41A, B](#). *Myrmarachne maratha* Tikader, 1973 **New synonymy**. Described from Myanmar; distribution now extended to India.

Distribution

India, Myanmar.

Remarks

The description of *M. maratha* fits the holotype of *M. robusta*. I thus consider the former a junior subjective synonym of the latter.

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