

A place for everything, and everything in its place: A new genus for the spiny Australian crab spiders (Araneae: Thomisidae)

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ABSTRACT. Recent phylogenetic analyses have shown consistent evidence that the composition of some Stephanopinae genera, as well as their distribution, were wrongly assigned throughout the 20th century. Inaccurate descriptions and vague diagnoses resulted in groups that are actually formed by multiple genera, which were repeatedly recovered as polyphylies. The present work is part of a long-term morphological study that aims to better understand and delineate the taxonomic boundaries of the Australian stephanopines. Hereinafter, we present a new combination for a group of spiders hitherto considered as part of *Sidymella* Strand, 1942, officially elevating it to a generic rank and highlighting its diagnostic features. The genus *Spinaarachne* gen. nov. is proposed not only to comprise the new species *S. aculeata* sp. nov. and *S. pilosa* sp. nov. but also to accommodate the transference of *S. hirsuta* (L. Koch, 1874) comb. nov. Brief notes regarding the plausible reasons of why *S. hirsuta* comb. nov. was previously attributed to a Neotropical genus are presented, and new distribution records are also provided.

Introduction

The taxonomy of the subfamily Stephanopinae (Araneae: Thomisidae) has proved to be a challenge since the first attempts to propose the group and describe its component species. Early naturalists like Simon (1895), Pickard-Cambridge (1869) and Mello-Leitão (1929) presented the basis regarding the first generic organisations in this subfamily. However, due to limitations imposed by the available technology at that time, these studies were published with little detailed sketches of somatic characters and diagnostic features of the spiders. Most Neotropical, African and Australian Stephanopinae genera remained taxonomically entangled until recent revisions (Benjamin, 2013, 2015, 2024; Machado *et al.*, 2018; Machado *et al.*, 2019a, 2019b, 2021, 2023; Prado *et al.*, 2018). Phylogenetic analyses have also enlightened new information about the relationships in Stephanopinae (Benjamin *et al.*, 2008;

Benjamin, 2011; Ramírez, 2014; Machado *et al.*, 2017; Wheeler *et al.*, 2017; Machado & Teixeira, 2021).

New data indicate that until recently some genera like *Stephanopis* O. Pickard-Cambridge, 1869 and *Sidymella* Strand, 1942 were composed of species that did not necessarily share a close evolutive history. As suggested by Machado and Teixeira (2021), there is a possibility that they were merely grouped based on somatic resemblances. For instance, the genus *Sidymella* was recovered as polyphyletic and the “arrow-shaped” abdomen that used to be considered diagnostic for its component species is now seen as an insufficient feature to characterise the genus (Machado & Teixeira 2021). Machado and Teixeira (2021) recommended that only the Neotropical species should be considered as *Sidymella* (*stricto sensu*), while the ones with Australian distribution, although still part of the genus, should be treated as “dissident clades” until future works propose them as new genera. Hereinafter, the aims of this study were to: 1)

Keywords: Stephanopinae; taxonomy; new species; *Stephanopis*; *Sidymella*

ZooBank registration: urn:lsid:zoobank.org:pub:09ED089A-DF7D-42AE-A626-AD58CD168A90

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Submitted: 24 June 2025 **Accepted:** 25 September 2025 **Published:** 26 November 2025 (in print and online simultaneously)

Publisher: The Australian Museum, Sydney, Australia (a statutory authority of, and principally funded by, the NSW State Government)

Citation: Machado, M. and R. A. Teixeira. 2025. A place for everything, and everything in its place: A new genus for the spiny Australian crab spiders (Araneae: Thomisidae). *Records of the Australian Museum* 77(5): 271–283. <https://doi.org/10.3853/j.2201-4349.77.2025.1913>

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thoroughly review the morphology of the “hirsuta clade” (sensu Machado & Teixeira, 2021), 2) describe its component species; and 3) propose clear diagnostic features, formally elevating the group to a generic rank.

Methods

Photographs were taken with a Multipurpose Zoom Microscope Leica M205A at the Museu de Ciências e Tecnologia of the Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS). Epigynal plates were detached from the spiders’ bodies and submerged in pancreatin to dissolve the soft tissues surrounding the copulatory ducts and internal genitalia (spermathecae). Male left palps were also removed and photographed in both ventral and retrolateral view. The copulatory structures were afterwards fixed to copper adhesive tape, covered by gold-palladium alloy and placed in the vacuum chamber of a Scanning Electronical Microscope (SEM) FEI Inspect F50. All measurements are presented in millimeters and colour information/descriptions are based on specimens preserved in ethanol. The examined specimens are deposited at: Zoologisches Museum Hamburg (ZMH), Australian Museum (AMS), South Australian Museum (SAM), Western Australian Museum (WAM) and Queensland Museum (QM). The abbreviations related to the eyes diameter, the interdistances and the median ocular quadrangle, alongside the name of the body and genitalia structures of the specimens, follow the nomenclature of Machado *et al.* (2019b): ALE—anterior lateral eyes, AME—anterior median eyes, PLE—posterior lateral eyes, PME—posterior median eyes, CD—copulatory duct, CO—copulatory openings, S—spermatheca, Emb—embolus, Tg—tegulum, Pcym—paracymbium, RTA—retrolateral tibial apophysis, RTAvbr—retrolateral tibial apophysis’ ventral branch, RTAdbr—retrolateral tibial apophysis’ dorsal branch. The map was produced using QGIS 3.40.3 software (available online at <https://qgis.org/download/>). Geographic coordinates were obtained directly from specimen labels. When only the name of a locality was given and no exact coordinates were available on the original label, the closest reference was estimated on Google Earth Pro 7.3.3 (available at <https://www.google.com/earth/versions/>).

Results

Taxonomy

Order Araneae Clerck, 1757

Family Thomisidae Sundevall, 1833

Subfamily Stephanopinae

O. Pickard-Cambridge, 1871

Genus *Spinaarachne* Machado gen. nov.

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Type species. *Spinaarachne hirsuta* (L. Koch, 1874) comb. nov.

Diagnosis. The genus *Spinaarachne* Machado gen. nov. resembles *Heriaeus* Simon, 1875 and *Epicadinus* Simon, 1895 by its component species presenting a “spiny/hairy” appearance, due to the presence of long and needle-shaped setae covering their entire bodies (Fig. 1). At first sight, *Spinaarachne* can be distinguished from these genera by its square-ended, and sometimes bifid, opisthosoma (Fig. 1). In *Heriaeus*, the spiders present rounded abdomen, while *Epicadinus* is recognizable by its pair of lateral abdominal projections and a median-posterior one, which is projected upwards (see Prado *et al.*, 2018). The male genitalia have similarities to those of some *Stephanopsis* species in bearing a forked RTA (RTAdbr + RTAvbr), a paracymbium (sensu Machado *et al.*, 2019b) and the whip-like embolus. However, in *Spinaarachne*, the embolus is longer, and accommodated on a ventral tegular ridge, instead of being on the apical portion of the tegulum; the paracymbium is rounded and wide, while in males of *Stephanopsis* this structure is acute and curved. While in *Stephanopsis* both branches of the RTA are acute and similar in size, in *Spinaarachne* gen. nov. the RTAvbr is longer than the RTAdbr and spoon-shaped, with a blunt tip (Figs 3C–F). Females have a flat epigynal plate with depressed atrium and an anterior fold forming a weakly developed hood. The copulatory openings in *Spinaarachne* gen. nov. are slit-shaped like in *Stephanopsis*, but covered by bulged lobes instead of being totally exposed (Figs 2C, E); in internal dorsal view, the females of *Spinaarachne* are unique and distinguishable by their ribbon-like copulatory ducts leading to a coiled tubular pair of spermathecae, resembling intestine loops, each with a porous glandular-head (Figs 2D, F).

Description. Small-sized spiders (3.93–7.03 mm) with hirsute appearance, entirely covered by long needle-shaped setae. Females are slightly larger than males. Body colouration varies from whitish-yellow to reddish-brown (Fig. 1). The carapace may have a white median longitudinal band and the legs may have black punctuations and sparse markings. Leg formula is 1234. Prosoma is flattened, ALE twice as large as the AME; both eye rows recurved. Opisthosoma square-ended with a pair of conical abdominal projections (Fig. 1). Male palpi with paracymbium, whip-like embolus and the RTA with an accessory ventral branch (Figs 3C–F). Female genitalia of all species are almost identical regarding the disposition and general architecture of their tubular copulatory ducts and spermathecae (Figs 2D, F), but can be distinguished by the shape of the epigynal plate, its folds, lobes and orientation of the slit-shaped copulatory openings (Figs 2C, E).

Composition. Three species: *S. hirsuta* (L. Koch, 1874) comb. nov., *S. aculeata* sp. nov. and *S. pilosa* sp. nov.

Distribution. Australia (New South Wales, Western Australia, South Australia, Queensland and Tasmania) (Fig. 8).



Figure 1. Colour variations of live specimens of *Spinaarachne* Machado gen. nov. (*S. hirsuta* comb. nov. – A and B; *S. pilosa* sp. nov. – C and D; *S. aculeata* sp. nov. – E and F). Photos by (A) Laurance Sanders; (B) Bridgette Gower; (C) David Akers; (D and F) Reiner Richter; (E) Ethan Yeoman.

Spinaarachne hirsuta

(L. Koch, 1874) comb. nov.

Figs 1A, 1B, 2, 3, 4

Stephanopsis hirsuta L. Koch, 1874a: 520, pl. 39, fig. 5.—L. Koch, 1876a: 753, pl. 66, fig. 2.

Sidymella hirsuta Machado & Teixeira, 2021: 306, figs 16c, h, 17e, 20e.—Dupérré, 2023a: 249, figs 83A–B, 84A–B.

Type material. Australia: Queensland: **Syntype** 1♀, 1j, Rockhampton City, collection date unavailable (ZMH-A000814).

Other material examined. Australia: **Tasmania**, 1♀, Ridgeway, 42°56'S, 147°17'E; XII.1968, C. Oke (AMS KS.108594). **New South Wales**, 1♂, 4♀, Hornsby Heights, 33° 40'S, 151°06'E, 24.IV.1971, R.E. Mascord (AMS KS.118364); 1♀, Ku-Ring Gai National Park, 33°39'S, 151°13'E, 10.IX.1972, M.R. Gray (AMS KS.50137). **Queensland**, 1♀, Brisbane, Ferny Hills, 27°23'20.28"S, 152°55'59.50"E, 13.XII.1979, R. Raven (QM S109722); 1♀, Riversleigh, 25°45'26.21"S, 147°32'17.05"E, X.1977, D. Joffe & R. Kouhout (QM S109716); 1♀, North Keppel Island, Considine Bay, 23°3'43.58"S, 150°53'29.25"E, 31.VIII.1987, M. Bennie (QM S109717); 1♂, Marlborough Road, 7.4km West of Bruce Highway, 22°52'15"S, 149°50'04"E, 29.XI.1998, G.A. Milledge & H.M. Smith (AMS KS.106508); 1♀, Marlborough Road, 7.8km west of Bruce Highway, 22°52'10"S, 149°49'43"E, 10.XII.2001, G.A. Milledge & H.M. Smith (AMS KS.106853); 1♂, 1♀, Mount Garnet, 17°41'S, 145°07'E, 23.II.1972, N. Coleman (AMS KS.118366); 1♀, Mount Garnet, 17°41'S, 145°07'E; 23.II.1972, N. Coleman (AMS KS.108625); 1♂, Wolfram, 17° 4'44.78"S, 144°58'5.04"E, 13.II.1972, N.C. Coleman (QM S109721); 1♀, Wolfram, 17°05'S, 144°57'E, 11.II.1972, N.C. Coleman & R. Mascord (AMS KS.108592).

Diagnosis. At first sight, the type species *S. hirsuta* comb. nov. is almost identical to its congeners when observed in dorsal habitus. However, they can be distinguished by their slightly shorter setae and wider abdominal projections, giving the opisthosoma a more “square-ended” shape, as they are commonly known (Figs 1A, 2A, 4C). Differently, the abdominal projections in *S. pilosa* sp. nov. are conical and longer, projected backwards (Figs 1C, D, 5A), while in *S. aculeata* sp. nov. they are short and directed sideways (Figs 1E, F, 6A, 7A). Females of *S. hirsuta* comb. nov. have a heavily sclerotised epigynal plate, which is wide as long and present mirrored C-shaped lobes projected ectally, covering the vertically oriented CO (Figs 2C, E). Females of *S. pilosa* sp. nov., on the other hand, have a wider than long plate with CO disposed horizontally. (Figs 5C, E). In *S. hirsuta* comb. nov., the first coil of the tubular spermathecae is strongly curved, “strangling” the porous glandular head (Figs 2D, F), unlike in the females of *S. pilosa* sp. nov., which present less constricted structure and the attachment point of the glandular head is clear (Fig 5D). Males of *S. hirsuta* comb. nov. are easily distinguishable from those of *S. aculeata* sp. nov. for their larger size and more robust legs (Fig. 3A). Their palpi are characterised by an acute, claw-like RTAdbr emerging from the same basis of the long and spoon-shaped RTAvbr (Figs 3D, F), while males of *S. aculeata* sp. nov.

have a blunt-tipped RTAdbr that grows at mid-height of the RTAvbr (Figs 7C–D).

Description. Female (AMS KS.108625). Anterior and posterior eye rows both recurved (Figs 2A–B). Females have predominant brown colouration on their anterior legs (I and II) and prosoma; legs III and IV are yellow, while the opisthosoma is whitish-yellow and darker on the sides (Fig. 2A). Epigynal plate flattened, with depressed median field; copulatory openings slit-shaped and ectally protected by bulged lobes (Figs 2C, E). Measurements: eye diameters and interdistances: AME 0.09, ALE 0.12, PME 0.09, PLE 0.78, AME-AME 0.18, AME-ALE 0.07, PME-PME 0.17, PME-PLE 0.19. Leg formula: 1234: leg I—femur 3.44/ patella 1.56/ tibia 3.00/ metatarsus 2.12/ tarsus 0.93/ total 11.05; II—2.90/ 1.35/ 2.37/ 1.68/ 0.87/ 9.17; III—1.44/ 0.87/ 1.37/ 0.86/ 0.68/ 5.22; IV—2.00/ 0.92/ 1.36/ 1.00/ 0.68/ 5.98; Prosoma length 3.06, opisthosoma length 4.00, total length 7.06, prosoma width 2.87, clypeus height 0.27, sternum length 1.27, width 1.39, endites length 0.66, width 0.33, labium length 0.39, width 0.54.

Male (AMS KS.106508). Body colouration predominantly yellowish with prosoma light-brown, except for a median longitudinal band extending from the posterior region to the cephalic region; anterior legs (I and II) with dark-brown patches on median and distal portions of femora and distal portions of tibiae and metatarsi; patellae entirely dark-brown (Fig. 3A). Legs III with no marked darker stains and legs IV with femora distally darker and patellae entirely dark-brown (Fig. 3A). Palpal tibiae bearing a prolateral macrosetae and a retrolateral one, at the basis of the RTA; well-developed paracymbium and whip-like embolus resting on a tegular ridge (Figs 3C, 3E). Measurements: eye diameters and interdistances: AME 0.08, ALE 0.15, PME 0.13, PLE 0.09, AME-AME 0.11, AME-ALE 0.05, PME-PME 0.08, PME-PLE 0.09. Leg formula: 1234: leg I—femur 3.16/ patella 1.00/ tibia 2.90/ metatarsus 2.38/ tarsus 1.03/ total 10.47; II—2.71/ 0.88/ 2.16/ 1.80/ 0.87/ 8.42; III—1.18/ 0.49/ 1.10/ 0.70/ 0.53/ 4.00; IV—1.25/ 0.48/ 1.13/ 0.95/ 0.60/ 4.41; Prosoma length 2.37, opisthosoma length 2.25, total length 4.62, prosoma width 2.12, clypeus height 0.19, sternum length 0.96, width 1.18, endites length 0.42, width 0.23, labium length 0.22, width 0.24.

Remarks. It was observed chromatic variations for *S. hirsuta* comb. nov., where the specimens may present just a single predominant color (usually shades of brown or dark-yellow) (Fig. 1B) or a morphotype combining both colours (Figs 3A, 4A). In this case the prosoma is predominantly light-brown with a longitudinal yellow band and the legs present dark-brown markings around the patellae and the distal portion of femora and tibiae; the opisthosoma is light-yellow on the dorsum and brownish on the sides (Figs 3A, 4A). Finally, a third variation can be found, where the spider present just a single predominant colour and a subtriangular black mark on the dorsum of the opisthosoma (Figs 1A, 4C).

The male specimen described by Koch (1874) was not found, however his illustration of its palp allowed clear identification of the species during material examination (Fig. 4B). The female syntype was examined (Figs 4C–D). Moreover, the original drawings of its epigynal plate and dorsal habitus provided clear key features that are still valid to diagnose *S. hirsuta* comb. nov. (Fig. 4A).

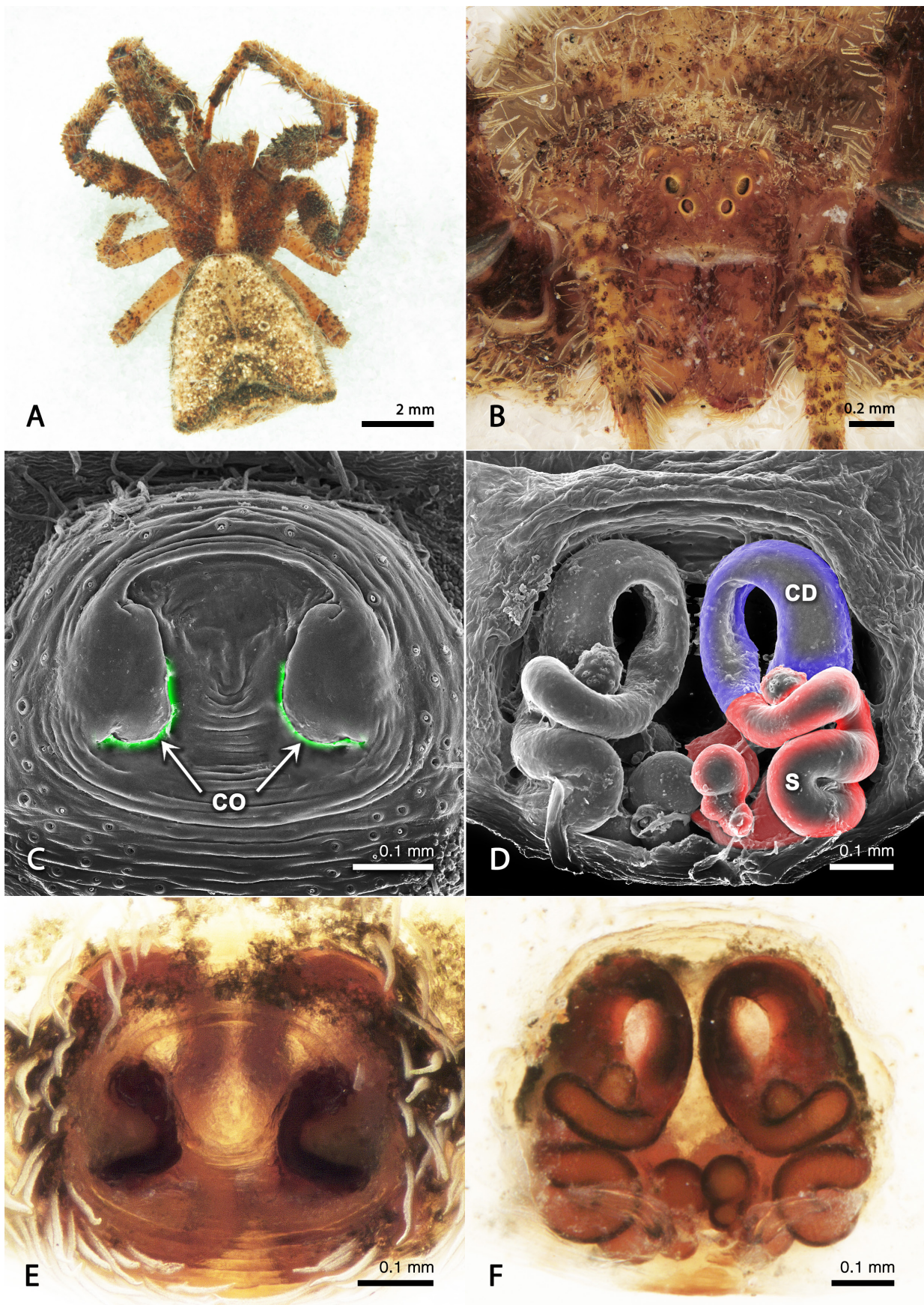


Figure 2. *Spinaarachne hirsuta* (L. Koch, 1874) comb. nov., female (AMS KS.108625). (A) dorsal habitus; (B) front; (C and E) epigynal plate in ventral view; (D and F) epigynal plate in dorsal view/spermathecae. (C) Arrows indicate the CO (copulatory openings) highlighted in green; (D) region in blue delimits the CD (copulatory duct), while S (spermatheca) is highlighted in red.

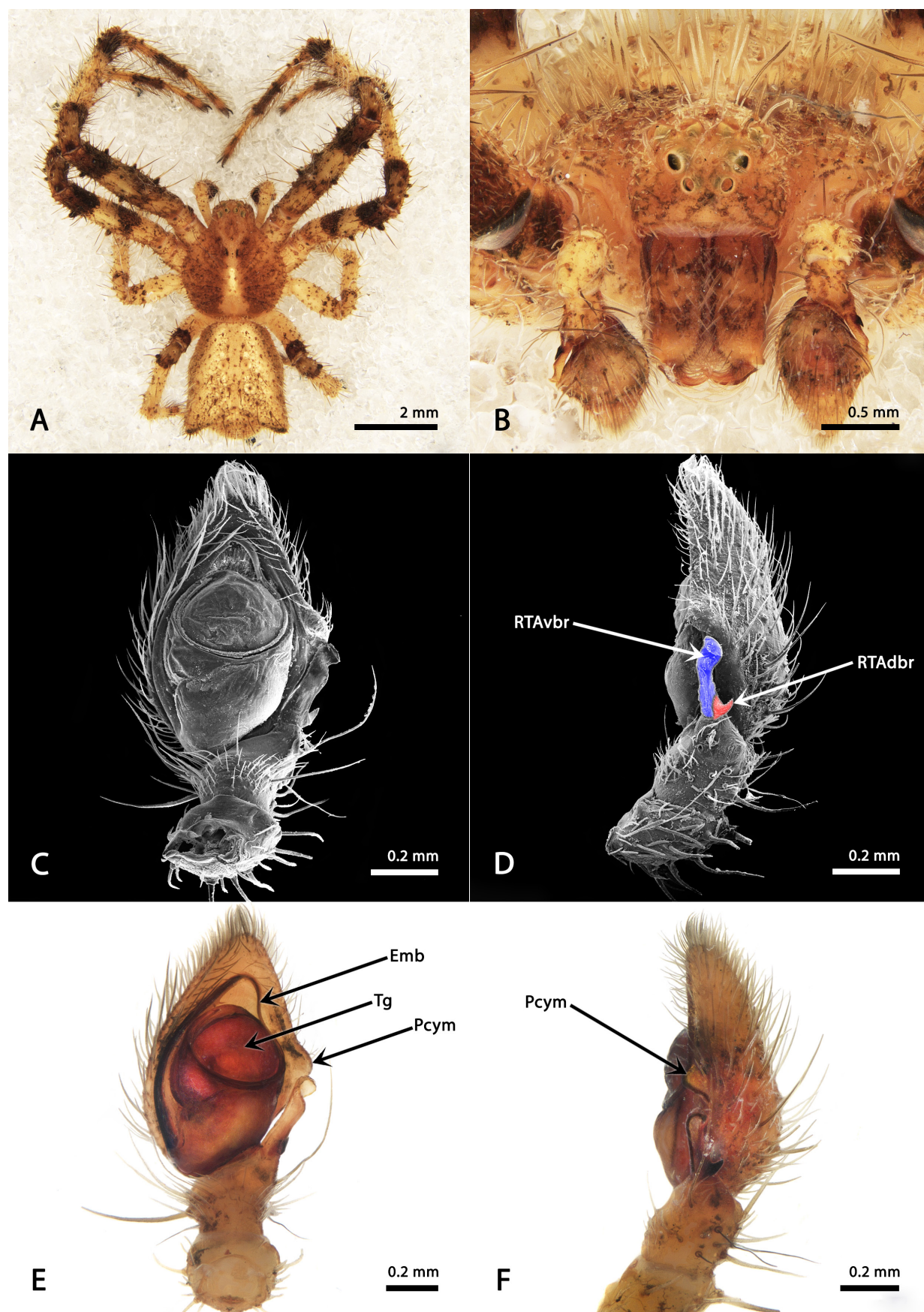


Figure 3. *Spinaarachne hirsuta* (L. Koch, 1874) **comb. nov.**, male (AMS KS.106508). (A) dorsal habitus; (B) front; (C and E) left palp in ventral view; (D and F) left palp retro lateral view. (D) Arrows indicate the RTA ventral branch (RTAvbr) and the RTA dorsal branch (RTAdbr); (E) Embolus (Emb), tegulum (Tg) and paracymbium (Pcym).

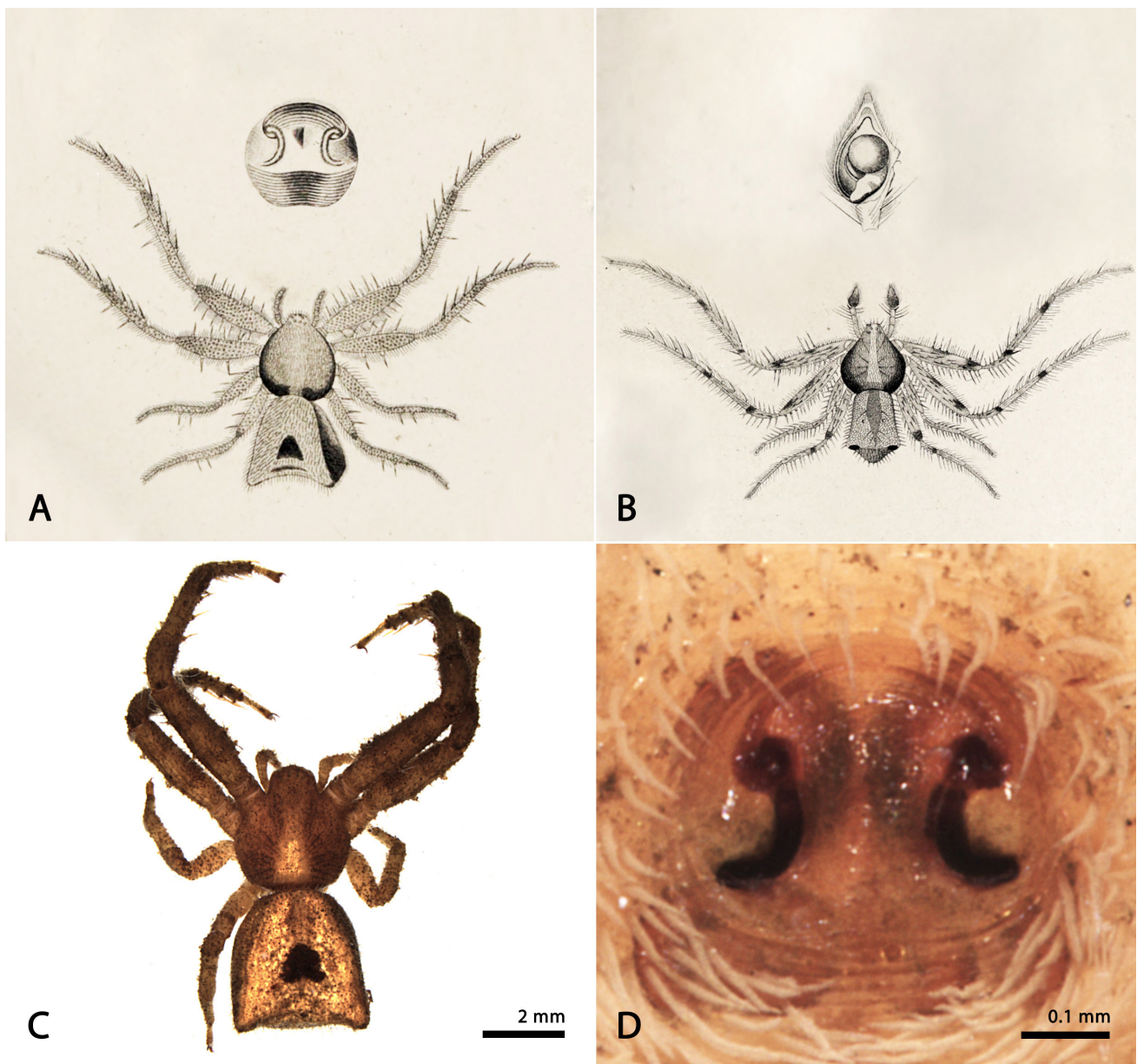


Figure 4. *Spinaarachne hirsuta* (L. Koch, 1874) **comb. nov.** (A and B) original sketches by L. Koch (1874): (A) female dorsal habitus and epigynal plate; (B) male dorsal habitus and left palp in ventral view; (C and D) female syntype (ZMH-A000814): (C) dorsal habitus; (D) epigynal plate in ventral view.

Distribution. Australia (Tasmania, New South Wales and Queensland) (Fig. 8).

Spinaarachne pilosa Machado sp. nov.

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Figs 1C–D, 5

Type material. Australia: New South Wales: **Holotype** 1♀, Wangi Point Reserve, 33°04'52"S, 151°36'34" E, 23.III.2012, G.A. Milledge & H.M. Smith (AMS KS.118352); **Paratype** 1♀, Mooney Mooney Creek, 33°31'S, 151°12' E, 22.I.1967, R.E. Mascord (AMS KS.108596).

Other material examined. Australia: **Tasmania**, 1♀, Launceston, 41°27'S, 147°10'E, 13.IV.1930, V.V. Hickman

(AMS KS.31516); 1♀, Launceston, 41°27'S, 147°10'E; 30.V.1931, V.V. Hickman (AMS KS.31515). 1♀, Brisbane, Brookfield, 27°29'34.74"S, 152°54'35.16"E, 09.II.1982, R. Raven (QM S109718); 1♀, Sunshine Coast, Mount Coolum National Park, 26°33'52.96"S, 153°5'14.51"E, 18.II.1984, B.R. Jahake (QM S109723).

Diagnosis. Females of *S. pilosa* sp. nov. are distinguishable from their congeneric species by their longer and more acute abdominal projections (Fig. 5A). Their copulatory openings are oriented horizontally like in *S. aculeata* sp. nov. but are more exposed, and the atrium is wider. Copulatory ducts and tubular spermathecae have the same conformation as in *S. hirsuta* comb. nov., but less aggregate and compact, not strangling the accessory porous glands. In other words, the attachment point of the glands is clear and not obscured by the tubular spermathecae (Figs 5D, F).

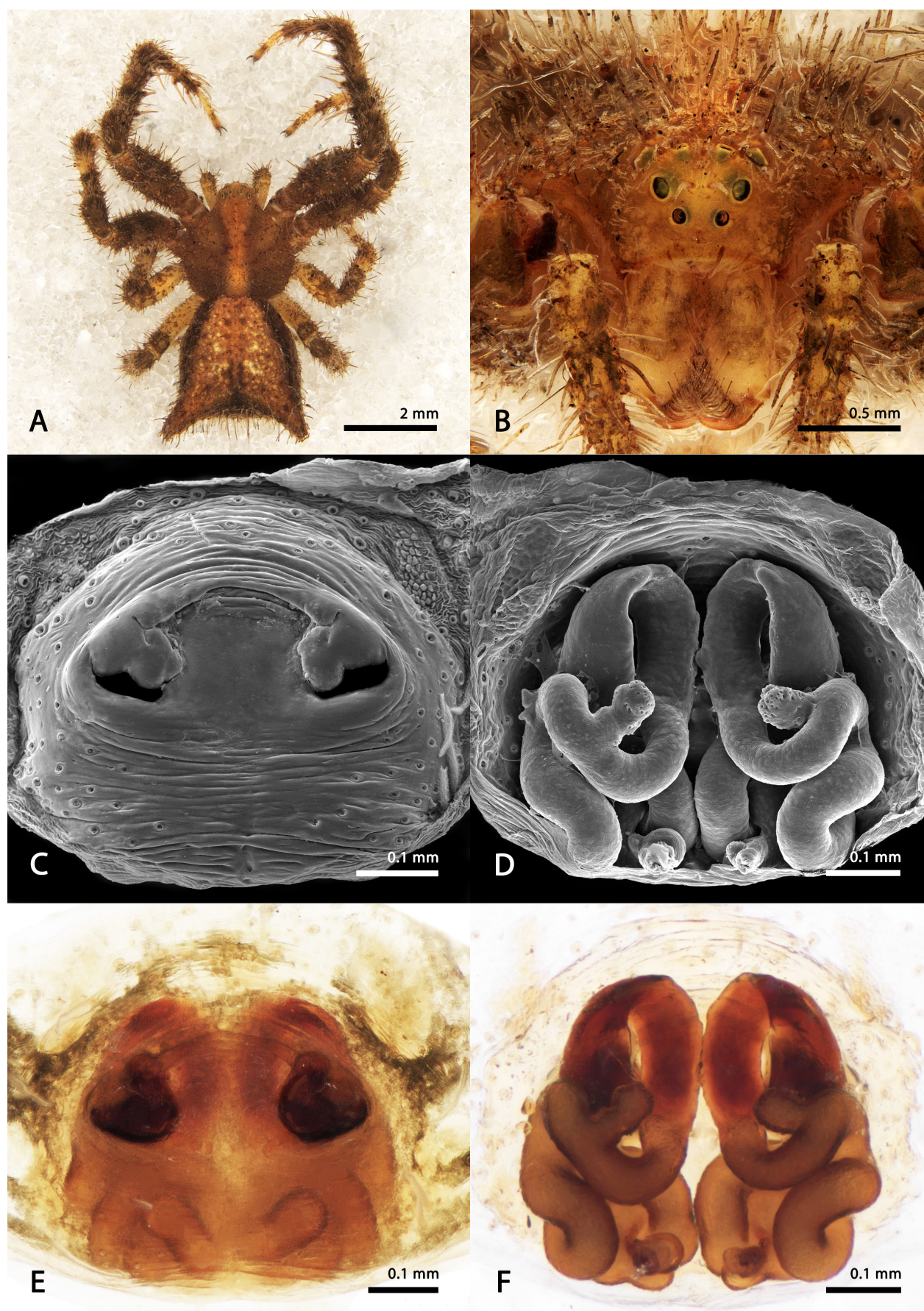


Figure 5. *Spinaarachne pilosa* sp. nov., female holotype (AMS KS.118352). (A) dorsal habitus; (B) front; (C and E) epigynal plate in ventral view; (D and F) epigynal plate in dorsal view/spermathecae.

Description. Female (Holotype, AMS KS.118352). Anterior and posterior eye rows both recurved (Figs 7A–B). Body colouration predominantly brown, light-yellow on femora III and IV and tarsi I and II; opisthosoma dark-brown on the sides and light-brown on the dorsum (Fig. 7A). Epigynal plate is elliptical, wider than long with flattened and smooth-surfaced atrium (Figs 7C, E); copulatory ducts ribbon-shaped and spermathecae with accessory glands clearly observable in ventral view, not obscured by the coils of the tubular spermathecae (Figs 7D, F). Measurements: eye diameters and interdistances: AME 0.07, ALE 0.09, PME 0.08, PLE 0.08, AME-AME 0.15, AME-ALE 0.08, PME-PME 0.16, PME-PLE 0.14. Leg formula: 1234: leg I—femur 3.00/ patella 1.32/ tibia 2.88/ metatarsus 1.95/ tarsus 1.00/ total 10.15; II—2.45/ 1.00/ 2.20/ 1.48/ 0.88/ 8.01; III—1.32/ 0.76/ 1.08/ 0.80/ 0.68/ 4.64; IV—1.81/ 0.76/ 1.24/ 0.88/ 0.60/ 5.29; Prosoma length 2.50, opisthosoma length 3.20, total length 5.70, prosoma width 2.48, clypeus height 0.18, sternum length 1.15, width 1.33, endites length 0.58, width 0.29, labium length 0.37, width 0.39.

Male. Unknown

Etymology. The specific name is a Latin adjective meaning “hairy” or “covered with hair”.

Distribution. Australia (Tasmania, New South Wales, Queensland and Western Australia) (Fig. 8).

Spinaarachne aculeata Machado sp. nov.

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Figs 1E–F, 6–7

Type material. Australia: New South Wales: **Holotype** 1♀, Brisbane Water National Park, Mooney Mooney Creek, 33°31'S, 151°12'E, 22.I.1967, R.E. Mascord (AMS KS.108595); **Paratypes** 2♀, Pittwater, 33° 38'S, 151°18'E, 12.IV.1966, R.E. Mascord (AMS KS.108591). **Paratypes** 2♂, Lane Cove National Park, 33°48'57"S, 151°10'00" E, 07.XI.1965, R.E. Mascord (AMS KS.108597).

Other material examined. Australia: **Western Australia**, 1♀, Shannon, 34°36'S, 116°24' E, 1971, J. Springett (AMS KS.42634). 1♂, east of Rocky Gully, Muirs Highway at Kent River, 34°33'25"S, 117°10'23"E, 21.VIII.2009, M. Harvey (WAM T112500). **New South Wales**, 1♀, Springwood, 33°41'S, 150°33'E, 27.XII.1966, A. E. Speechley (AMS KS.108593); 1♂, Liverpool Plains Shire, Caroon, 33°26'08"S, 139°08'41"E, 01.XI.2003, collector not specified (SAM NN22646); 2♂, Copeland Tops State Conservation Area, 32°00'08" S, 151°49'56" E, 27.XII.2016, G.A. Milledge & H.M. Smith (AMS KS.126498). **Queensland**, 1♂, Brisbane, Fig Tree Pocket, Roedean Street, 27°31'39.56"S, 152°57'57.66"E, unknown collection date, V.E. Davies (QM S109720); 1♂, Kroombit Tops National Park, 24°22'37.75"S, 151° 2'28.73"E, 23.II.1982, R. Raven (QM S109719); 1♂, 40 Miles from Scrub National Park, 18° 5'23.98"S, 144°51'48.25"E, 14.IV.1978, R. Raven (QM S109724).

Diagnosis. Males and females of *S. aculeata* sp. nov. can be distinguished from its congeneric species by their thinner and long legs, flattened dorsal habitus, prosoma dorsoventrally depressed with narrower and prominent cephalic area. They

are also unique by their longer setae, including two hyaline pairs on the ocular area: one between the ALE and other behind their PLE (Figs 6B, 7B). When compared to the other two species, they can be also recognized for having the smallest abdominal projections among the genus, which point laterally instead of facing backwards (Figs 1E–F, 6A, 7A). Like the females of *S. pilosa* sp. nov., those of *S. aculeata* sp. nov. have a wider than long epigynal plate with CO horizontally oriented. However, in *S. aculeata* sp. nov. this feature is even more extreme, being the epigynal plate longitudinally shorter, with narrower CO and rugose median field (Fig. 6C); the epigynal bulges in *S. aculeata* sp. nov. are not projected over the CO like in *S. pilosa* sp. nov. and *S. hirsuta* comb. nov. They actually descent, forming “pocket” that precedes the copulatory ducts (Fig. 6C). Males resemble those of *S. hirsuta* comb. nov. but are considerably smaller and thinner, with longer anterior legs (I and II) (Fig. 8A). Males of *S. aculeata* sp. nov. also differ from those of *S. hirsuta* comb. nov. by their palpi with slightly curved and blunt-tipped RTAdbf emerging at mid-height of the spoon-shaped RTAvbr (Figs 7C–F).

Description. Female (Holotype, AMS KS.108595). Anterior and posterior eye rows both recurved (Figs 5A–B). Prosoma and femora I entirely brown. Prosoma with a white guanine spot on the thoracic portion, as well as in the dorsal surface of the coxae I and II. Legs II, III and IV yellow with annular brown markings around the patellae and distal part of their femora, tibia and tarsi (Fig. 6A). Opisthosoma predominantly light-brown with shades of yellow on the dorsum (Fig. 6A). Copulatory ducts and spermathecae as in other species (Figs 6D–F). Measurements: eye diameters and interdistances: AME 0.07, ALE 0.10, PME 0.07, PLE 0.10, AME-AME 0.13, AME-ALE 0.05, PME-PME 0.13, PME-PLE 0.13. Leg formula: 1234: leg I—femur 3.16/ patella 1.32/ tibia 2.59/ metatarsus 1.91/ tarsus 0.95/ total 9.93; II—2.81/ 1.14/ 2.20/ 1.60/ 0.82/ 8.57 III—1.35/ 0.78/ 1.15/ 0.85/ 0.55/ 4.68; IV—1.88/ 0.76/ 1.28/ 1.00/ 0.64/ 5.56; Prosoma length 2.60, opisthosoma length 4.10, total length 6.70, prosoma width 2.52, clypeus height 0.18, sternum length 1.10, width 1.15, endites length 0.60, width 0.31, labium length 0.35, width 0.55.

Male (Paratype, AMS KS.108597). Anterior and posterior eye rows both recurved (Figs 7A–B). Body colouration predominantly light-brown; prosoma with a median line of whitish setae, which is bifurcated anteriorly until it gets to the PLE (Fig. 7A). First pair of legs is light-brown, while legs II, III and IV are predominantly yellow with brown patches restricted to areas of connection between segments (Fig. 7A). Palpi with whip-like embolus resting on the tegular ridge and paracymbium weakly developed (Figs 7C–F). Measurements: eye diameters and interdistances: AME 0.07, ALE 0.13, PME 0.12, PLE 0.09, AME-AME 0.09, AME-ALE 0.05, PME-PME 0.09, PME-PLE 0.07. Leg formula: 1234: leg I—femur 3.10/ patella 0.93/ tibia 2.93/ metatarsus 2.37/ tarsus 1.00/ total 10.33; II—2.62/ 0.81/ 2.12/ 1.75/ 0.87/ 8.17; III—1.12/ 0.43/ 1.00/ 0.68/ 0.50/ 3.73; IV—1.19/ 0.44/ 1.06/ 0.94/ 0.56/ 4.19; Prosoma length 1.93, opisthosoma length 2.00, total length 3.93, prosoma width 1.75, clypeus height 0.12, sternum length 0.90, width 1.00, endites length 0.37, width 0.21, labium length 0.20, width 0.23.

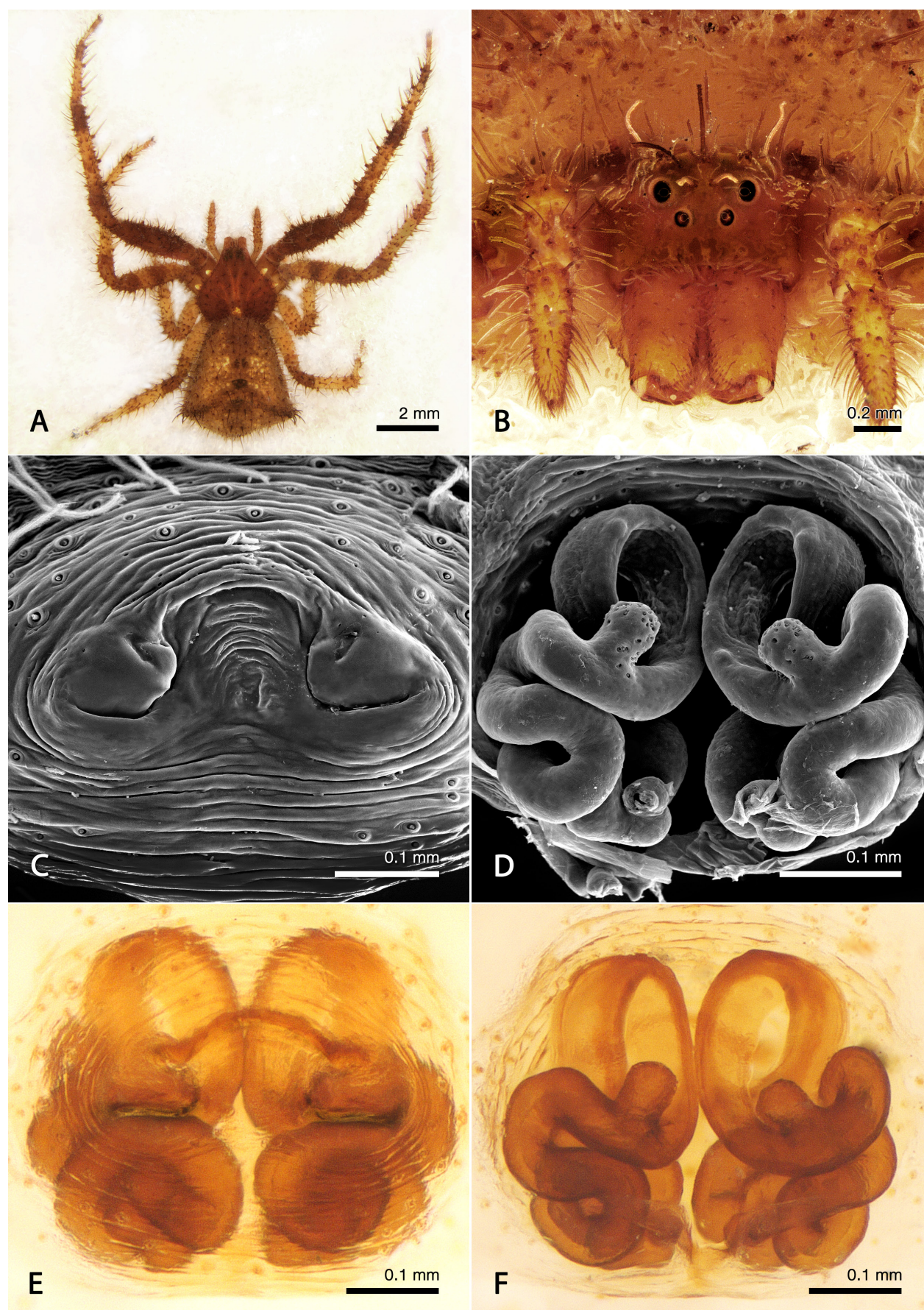


Figure 6. *Spinaarachne aculeata* sp. nov., female holotype (AMS KS.108595). (A) dorsal habitus; (B) front; (C and E) epigynal plate in ventral view; (D and F) epigynal plate in dorsal view/spermathecae.

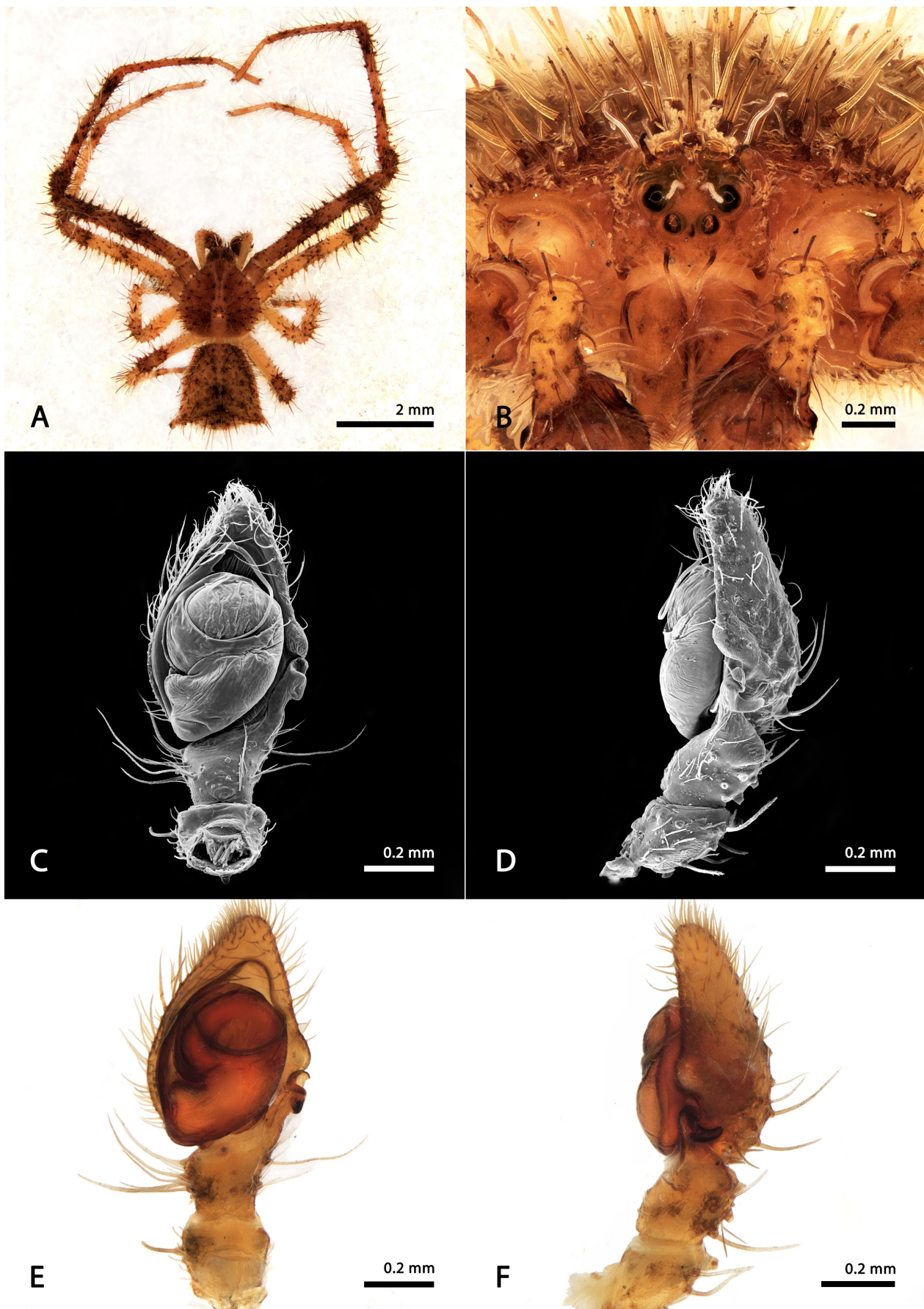


Figure 7. *Spinaarachne aculeata* sp. nov., male paratype (AMS KS.108597). (A) dorsal habitus; (B) front; (C and E) left palp in ventral view; (D and F) left palp retro lateral view.

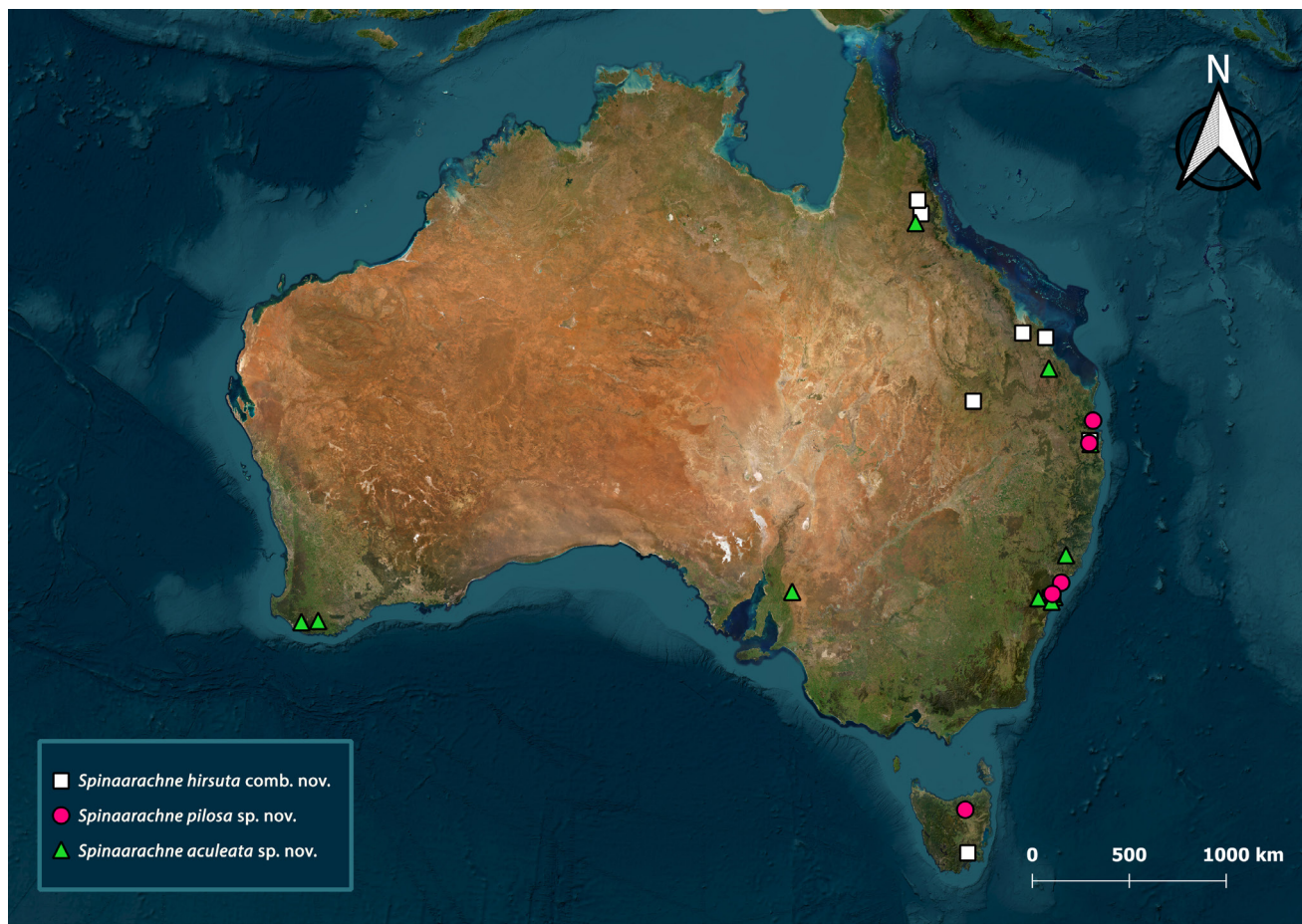


Figure 8. Distribution records of *Spinaarachne* gen. nov.

Etymology. The specific name is a Latin adjective, which means needle, stinger or spine bearer.

Distribution. Australia (New South Wales, Queensland and Western Australia) (Fig. 8).

ACKNOWLEDGMENTS. The authors would like to thank following curators and collection managers for their support and for loaning the specimens examined in this study: Dr. Danilo Harms, Dr. Matt Shaw, Dr. Adam Moriarty, Dr. Mark Harvey and Dr. Michael Rix. We are also thankful to Dr. Helen Smith and Dr. Graham Milledge for providing access to the collection of the Australian Museum, as well as the proper workspace and material for the first author of the present work during his staying at this institution. This study was financed by the Coordenação de Aperfeiçoamento de Pessoal de Nivel Superior (CAPES) — PIPD process number 88887.084179/2024-00 and Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) — process number Pq 315295/2023-6.

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