Megataxa 019 (2): 379–456
https://www.mapress.com/mt

Article

ISSN 2703-3082 (print edition)
MEGATAXA
ISSN 2703-3090 (online edition)

https://doi.org/10.11646/megataxa.19.2.3
http://zoobank.org/urn:lsid:zoobank.org:pub:59F41E93-CDF6-4784-9C8E-077DB8FA6A98

Taxonomic revision of the wolf spider genus *Artoria* (Araneae, Lycosidae, Artoriinae) from Northern Territory and Queensland, with additions to the fauna of New South Wales and the Australian Capital Territory

ANDRÉ W. DO PRADO[1,2,5]*, RENNER LUIZ CERQUEIRA BAPTISTA[3,6] & VOLKER W. FRAMENAU[1,2,4,7]
[1]*Harry Butler Institute, Murdoch University, 90 South St, Murdoch, Western Australia 6150, Australia*
[2]*Department of Terrestrial Zoology, Western Australian Museum, Locked Bag 49, Welshpool DC, Western Australia 6986, Australia*
[3]*Departamento de Zoologia, Instituto de Biologia, Universidade do Brasil/Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil*
[4]*Department of Invertebrates, Museum of Nature Hamburg - Zoology, Leibniz Institute for the Analysis of Biodiversity Change (LIB), Martin-Luther-King-Platz 3, 20146 Hamburg, Germany*
[5] *andre.wanderleydoprado@murdoch.edu.au; https://orcid.org/0000-0002-3536-5654*
[6] *baptistr@gmail.com; https://orcid.org/0000-0002-2372-5034*
[7] *volker.framenau@murdoch.edu.au; https://orcid.org/0000-0002-7724-3831*
**Corresponding author*

Abstract

Artoria Thorell, 1877 is revised for the Northern Territory and Queensland. Three species are recorded from the Northern Territory: *A. parvula* Thorell, 1877 (♂♀, type species), *A. superelliptica* **sp. nov.** (♀) and *A. vectis* **sp. nov.** (♂♀). Twenty-seven species (including 18 new ones) are recorded from Queensland: *A. albopilata* (Urquhart, 1893) (♂♀), *A. berenice* (L. Koch, 1877) (♂♀), *A. bicornuta* **sp. nov.** (♂), *A. catinata* **sp. nov.** (♂♀), *A. coclearia* **sp. nov.** (♂♀), *A. cunicularia* **sp. nov.** (♂♀), *A. geniculata* **sp. nov.** (♂♀), *A. globula* **sp. nov.** (♂♀), *A. grahammilledgei* Framenau & Baehr, 2018 (♂♀), *A. halterata* **sp. nov.** (♀), *A. hamifera* **sp. nov.** (♂♀), *A. laciniata* **sp. nov.** (♀), *A. lineata* (L. Koch, 1877) (♂♀), *A. lingulata* **sp. nov.** (♂♀), *A. mckayi* Framenau, 2002 (♂♀), *A. nasuta* **sp. nov.** (♂), *A. orcina* **sp. nov.** (♂♀), *A. proboscidea* **sp. nov.** (♂♀), *A. quadrata* Framenau, 2002 (♂♀), *A. reniformis* **sp. nov.** (♀), *A. scapulata* **sp. nov.** (♀), *A. semicircularis* **sp. nov.** (♂), *A. terania* Framenau & Baehr, 2018 (♂♀), *A. triangularis* Framenau, 2002 (♂♀), *A. velata* **sp. nov.** (♂), *A. victoriensis* Framenau, Gotch & Austin, 2006 (♂♀) and *A. werrikimbe* **sp. nov.** (♂♀). This study also added 13 new species of *Artoria* to New South Wales, seven of these species endemic to the state—*A. abscondita* **sp. nov.** (♀), *A. ancorata* **sp. nov.** (♀), *A. cucurbita* **sp. nov.** (♀), *A. limitata* **sp. nov.** (♀), *A. longinqua* **sp. nov.** (♀), *A. serpentidens* **sp. nov.** (♂♀), and *A. tenuis* **sp. nov.** (♀), and one also occurring in the Australian Capital Territory—*A. pedroi* **sp. nov.** (♂♀). Summing up, 39 species are taxonomically treated in this paper, including 28 new ones. In addition, we propose the *beaury* and *lingulata* species-groups, and redefine the *lineata* species-group based on male and female genital characters.

Key words: Diversity, eastern states, arachnids, megadiverse, Australia

Introduction

Artoria Thorell, 1877 are small, wandering wolf spiders, predominantly distributed across the Asia-Pacific region, with records from Australia, New Zealand, Papua New Guinea, Philippines, Malaysia, Indonesia, New Caledonia, Vanuatu, New Hebrides, Samoa, Marquesa Island and southeastern China (Framenau 2002, 2005; Vink 2002, Li 2012, Wang *et al.* 2019, *et al.* 2021). Three species are currently recorded from Africa, although their original descriptions suggest that they are misplaced in the genus (Framenau 2008; Prado *et al*. 2024). Being the most diverse of the genera of the subfamily Artoriinae Framenau, 2007 (Prado *et al*. 2024; WSC 2025), *Artoria* is also the most species-rich genus of Lycosidae in Australia. Among the 68 currently valid species of *Artoria*, 54 are found in Australia, 52 of which endemic to the country.

The generally uniform somatic morphology of species in *Artoria* (carapace mostly brown, with variable lighter shades in central and marginal areas, and often with a pale cardiac mark on a dark opisthosoma), contrasted to variable eye patterns and diverse genital morphology, pose a challenge to the understanding of the genus' taxonomy (Framenau & Baehr 2018; Prado *et al*. 2024). The first review of *Artoria* species was made by Framenau (2002), who redescribed seven species and described seven new ones, adding up to the 14 species then known. Most species revised were Australian endemics, with the exception of *A. parvula* and *A. palustris* Dahl, 1908, originally described from Indonesia and Papua New Guinea, respectively. Framenau (2002) synonymized both *Artoriella* Roewer, 1960 and *Trabaeola* Roewer, 1960 with *Artoria*, and also proposed a division of the genus into five informal species-groups. Subsequently, three new species of *Artoria* were recorded from New Zealand (Vink 2002). Framenau & Baehr (2018) revised the *Artoria* species from New South

Submitted: 25 Aug. 2025; accepted by Z.-Q. Zhang: 24 Mar. 2026; published: 21 Apr. 2026

Wales and Australian Capital Territory, describing 21 new species and redescribing 13, totalling 34 species then known from those regions. A series of recent contributions have added three species to China (Qu, Peng & Yin 2009, Wang, Framenau & Zhang 2021, Wang & Zhang 2022). Most recently, the Western Australian *Artoria* fauna was reviewed consisting of 20 species,13 of which were new (Prado *et al*. 2024). There are still major gaps in our understanding of the genus in large parts of Australia, in particular in the north and north-east (Northern Territory, Queensland) and the south-east (South Australia, Victoria and Tasmania), with many undescribed species known from collections.

Molecular analyses suggest *Artoria* to be paraphyletic, particularly with respect to the species from New Zealand (Murphy *et al*. 2006; Piacentini & Ramírez 2019). Putative species- groups have been recognized, such as the '*lineata*-group' and the "*booderee*-group", mostly based on similarities in the tegular apophysis of the male pedipalp, and these have been hypothesised to represent distinct genera (Framenau & Baehr 2018). Some unusual and apparently derived genital features have been recognised, such as the basoembolic apophysis forming an almost 360-degree circle in *A. extraordinaria* Framenau & Baehr 2018 and the prolaterally directed tegular apophysis in *A. inversa* Prado, Baptista & Framenau, 2024, instead of the retrolateral orientation found in all other *Artoria* species. This morphological diversity challenges the delimitation of the genus with respect to the type species *A. parvula*, as few species are morphologically similar to it, such as *A. palustris* and *A. howquaensis* Framenau, 2002 (Framenau 2002).

Recent studies have emphasized the potential of *Artoria* for conservation and short-range endemics studies (Framenau & Baehr 2018; Prado *et al.* 2024). As leaf litter dwellers, *Artoria* spiders are considered vulnerable to disturbance by fire (*e.g.*, Marsh *et al*. 2022), usually have very restricted distributions and are associated with water bodies such as rivers, creeks, lakes or swamps. In Western Australia most species of *Artoria* only occur in areas with rainfall exceeding 300 mm/year and those that occur outside generally have very small relictual distributions (Prado *et al.*, 2024, fig. 44). Considering the association of most *Artoria* species with mesic habitats, it is expected that the eastern states of Australia, due to their climatic, topographic and vegetation features, harbour a higher diversity of *Artoria* species compared to Western Australia. This is reflected in recent regional revisions, with 34 species recognized from New South Wales (Framenau & Baehr 2018), but only 20 species from the much larger Western Australia (Prado *et al.* 2024). However, a comprehensive revision of *Artoria* from the Northern Territory and Queensland had not yet been conducted, although the type species *A. parvula* has been recorded from the Northern Territory (Framenau 2005).

This study is part of a three-year project (2023–2026) funded by the Australian Biological Resources Study (ABRS) aimed at revising the taxonomy of *Artoria*, investigating its evolutionary history, and to assess the monophyly of the genus within a global systematic framework of the subfamily Artoriinae and internal relationships of its constituent species. This paper represents the third of four planned regional taxonomic revisions of the genus in Australia. It focuses on the Northern Territory (three recorded species, with two of which new) and Queensland (27 species, 18 new), but also includes new records for New South Wales (13 new species, including seven endemic to the state and one also occurring in the Australian Capital Territory). We critically review genitalic features and revisit the species-groups of the genus, recognising two as new.

Material and methods

In total, 543 samples were considered in this study including 1,140 specimens (608 males, 417 females, 115 juveniles). We examined material available in the Queensland Museum, Brisbane and Northern Territory Museum and Art Gallery, and specimens from these states deposited in other scientific collections in Australia, as well as new material from New South Wales and the Australian Capital Territory mainly from the Australian Museum, Sydney.

Most specific epithets and their etymologies for the new species were taken from Brown (1954).

Descriptions and morphological terminology are based on prior studies of Artoriinae (Framenau 2002; Framenau & Baehr 2018; Framenau *et al*. 2023; Prado *et al*. 2024). The anterior eye row (AE) was classified as slightly procurved if a line touching the lower margin of the anterior median eyes (AME) cuts the anterior lateral eyes (ALE) up to half their diameter (Prado *et al*. 2024, fig. 1A). If this line is at the same level as the upper margin of the ALE or within a distance less than or equal to the ALE diameter, the row was considered procurved (Prado *et al*. 2024, fig. 1B). We follow the traditional use of median septum in Lycosidae taxonomy (*e.g.* Dondale & Redner 1990, Framenau & Baehr 2018), instead of other similar designations, such as median plate or middle field (*e.g.* Sierwald, 1989), when referring to the median portion of the epigyne.

The embolic division of the male copulatory bulb was separated from tegulum for detailed examination and imaging after removal from the cymbium using fine needles. Female genitalia were cleared for examination by immersing them in 10% KOH at room temperature for approximately 10 minutes.

Microscopic images of all species were captured using a Leica DMC4500 digital camera mounted on a Leica M205C stereomicroscope at the Harry Butler Institute, Murdoch University. Images were taken across multiple focal planes (approximately 10–25 images) and combined using Leica Application Suite X, version 3.6.0.20104. All measurements are in millimetres (mm).

Geographic coordinates were derived from original specimen labels or associated collection databases. When unavailable, coordinates were estimated to the nearest identifiable geographic location and rounded to the closest minute of latitude and longitude using Google Earth Pro v. 7.3.6.9285 (https://www.google.com/earth/versions/;

accessed 26 September 2024). The distribution maps were generated using QGIS v. 3.32.1 (https://qgis.org/en/site/; accessed 20 September 2024).

Species descriptions are listed in alphabetical order by their specific epithet. The nine species previously known to Queensland and treated in the recent regional review of New South Wales (Framenau & Baehr 2018) are not redescribed in this paper. However updated distribution data are presented when needed, and the diagnoses are amended when similar new species were described here.

Some species are here described based on one sex We considered the high level of species endemism and the division of the genus in species-groups when making a taxonomic decision. In general, species based on the opposite sex found in different biogeographic regions or distant localities were not considered a probable match. If any specimen of the other sex was found nearby the locality of the specimen on focus, we analysed the somatic and genitalic morphology of the possible matching sex, considering the presumed species-groups of both specimens. We also considered male and female morphology of similar species when assessing potential male and female pairs.

Abbreviations

Morphology: ALE, anterior lateral eyes; AME, anterior median eyes; PLE, posterior lateral eyes; PME, posterior median eyes.

Collections:

AM, Australian Museum, Sydney, New South Wales

HBI, Harry Butler Institute, Murdoch University, Murdoch, Western Australia

MSNG, Museo Civico di Storia Naturale 'Giacomo Doria', Genova

NMV, Museum Victoria, Melbourne, Victoria

NTMAG, Northern Territory Museum and Art Gallery, Darwin, Northern Territory

QM, Queensland Museum, Brisbane, Queensland

QVMAG, Queen Victoria Museum and Art Gallery, Launceston, Tasmania

TMAG, Tasmanian Museum and Art Gallery, Hobart, Tasmania

WAM, Western Australian Museum, Welshpool, Western Australia

ZSMH, Zoologisches Institut und Zoologisches Museum, Universität Hamburg (today CeNak, Centrum für Naturkunde, Universität Hamburg), Germany

Results

In total, this study resulted in the description of 28 new species, of which 13 were recorded exclusively from Queensland, two are endemic to the Northern Territory, and seven are only known from New South Wales. Five new species were recorded in both Queensland and New South Wales and one occurs in New South Wales and the Australian Capital Territory (Table 1).

Following this study, three species of *Artoria* are known from the Northern Territory, 27 species from Queensland, 47 species from New South Wales and six from the Australian Capital Territory.

Of the 28 new species, four are currently known only from males, 11 only from females, and 16 are known exclusively from their type localities or nearby areas. These 16 are considered potential short-range endemics (Harvey 2002; Ponder & Colgan 2002) (see Table 1).

We provide updated illustrations of the type species of *Artoria*, *A. parvula*, from specimens collected in the Northern Territory. We also provide the description of the female of *A. maroota* Framenau & Baehr, 2018.

Taxonomy

Family Lycosidae Sundevall, 1833

Subfamily Artoriinae Framenau, 2007

Genus *Artoria* Thorell, 1877

Artoria Thorell, 1877: 531.

Artoriella Roewer, 1960d: 563. Synonymised in Framenau (2002).

Trabaeola Roewer, 1960d: 582. Synonymised in Framenau (2002).

Lycosula Roewer, 1960d: 889. Synomymised in Framenau (2007).

Artoriella: Guy, 1966: 63 (subgenus of *Artoria*).

Type species. *Artoria parvula* Thorell, 1877, by monotypy.

Diagnosis. Following Framenau (2002) and Framenau & Baehr (2018), males of *Artoria* are primarily distinguished from other Artoriinae by the combination of a narrow anterior eye (AE) row, typically narrower than the posterior median eye (PME) row, and a tegular apophysis that is narrow at its base and widens apically, and broad and strongly sclerotised basoemblic apophysis. Specifically, *Artoria* differs from *Notocosa* Vink, 2002 by having a spoon-shaped or apically bifurcate tegular apophysis with a narrow base, whereas *Notocosa* features a large tegular apophysis with a spherical tip. It can be distinguished from *Anoteropsis* L. Koch, 1878 by the broad and strongly sclerotised basoembolic apophysis (finger-like in *Anoteropsis*) and its spoon-shaped or bifurcate median apophysis (inverted L-shaped in *Anoteropsis*), and from *Artoriopsis* Framenau, 2007 by the broad, strongly sclerotised basoembolic apophysis (weakly sclerotised and narrow basally in *Artoriopsis*) and a median apophysis that widens apically rather than terminating straightly. *Artoria* differs from *Diahogna* Roewer, 1960, *Kangarosa* Framenau, 2010, and *Tetralycosa* Roewer, 1960 by possessing an AE row narrower than the PME row (wider than the PME in the other three genera) and a tegular apophysis that widens apically rather than being wider at its base. *Artoria* lacks the unique apical extension of the tegulum found in *Diahogna*. Females of the genus are characterised by an epigyne with paired atria leading to compact and posteriorly positioned spermathecae,

TABLE 1. Distribution of *Artoria* Thorell, 1877 recorded from the Northern Territory, Queensland and species from New South Wales, Australia included in the present study (ACT, Australian Capital Territory; NSW, New South Wales; Qld, Queensland; SA, South Australia; Tas, Tasmania; Vic, Victoria).

Species	Type locality	Distribution	Remarks	Potential Short-range Endemic
A. abscondita **sp. nov.**	Wadbilliga National Park (NSW)	NSW	Known only from female holotype	Yes
A. albopilata (Urquhart, 1893)	Tasmania, Australia	ACT, NSW, Qld, SA, Tas, Vic		No
A. ancorata **sp. nov.**	Myall Lakes National Park (NSW)	NSW	Only females known	No
A. berenice (L. Koch, 1877)	no locality given	NSW, Qld, Tas, Vic; also, Vanuatu and New Caledonia		No
A. bicornuta **sp. nov.**	Mt Windsor Tablelands (Qld)	Qld	Known only from males from type locality	Yes
A. catinata **sp. nov.**	New England National Park (Qld)	NSW, Qld		No
A. coclearia **sp. nov.**	Bunya Mountains (Qld)	NSW, Qld		No
A. cucurbita **sp. nov.**	Merriwa (NSW)	NSW	Known only from female holotype	Yes
A. cunicularia **sp. nov.**	Pine Mountain Environmental Park (Qld)	Qld		No
A. geniculata **sp. nov.**	Peawaddy Gorge Lookout (Qld)	Qld		No
A. globula **sp. nov.**	Mt Dalrymple (Qld)	Qld	Known only from type locality	Yes
A. grahammilledgei Framenau & Baehr, 2018	Awabakal Nature Reserve (NSW)	NSW, Qld		No
A. halterata **sp. nov.**	Stradbroke (Qld)	Qld	Known only from females from type locality	Yes
A. hamifera **sp. nov.**	Toomba Homestead (Qld)	NSW, Qld		No
A. laciniata **sp. nov.**	Iron Range (Qld)	Qld	Known only from female holotype	Yes
A. limitata **sp. nov.**	Tweed Range (NSW)	NSW	Only females known	No
A. lineata (L. Koch, 1877)	Sydney (NSW)	ACT, NSW, Qld, SA, Tas, Vic		No
A. lingulata **sp. nov.**	Russell Road (Qld)	Qld		No
A. longinqua **sp. nov.**	Watercourse Road (NSW)	NSW	Only females known	No
Artoria maroota Framenau & Baehr, 2018	Maroota State Forest (NSW)	NSW		No
A. mckayi Framenau, 2002	Mt Buffalo National Park (Vic)	ACT, NSW, Qld, SA, Tas, Vic		No
A. nasuta **sp. nov.**	Fairlies Knob (Qld)	Qld	Known only from male holotype	Yes
A. orcina **sp. nov**.	Upper High Falls (Qld)	Qld	Known only from type locality	Yes

.....continued on the next page

TABLE 1. (Continued)

Species	Type locality	Distribution	Remarks	Potential Short-range Endemic
A. parvula Thorell, 1877	Sulawesi (Indonesia)	NT, also, Indonesia, Malaysia, Philippines and China		No
A. pedroi **sp. nov.**	Tidbinbilla Nature Reserve (ACT)	ACT, NSW		No
A. proboscidea **sp. nov.**	Gayndah (Qld)	NSW, Qld		No
A. quadrata Framenau, 2002	Avon River (Vic)	ACT, NSW, Qld, Tas, Vic		No
A. reniformis **sp. nov.**	Lamington National Park (Qld)	Qld	Known only from females from type locality	Yes
A. scapulata **sp. nov.**	Lamington National Park (Qld)	Qld	Known only from females from type locality	Yes
A. semicircularis **sp. nov.**	Elgin Vale (Qld)	Qld	Known only from male holotype	Yes
A. serpentidens **sp. nov.**	Yabbra State Forest (NSW)	NSW	Known only from type locality	Yes
A. superelliptica **sp. nov.**	Keep River National Park (NT)	NT	Known only from female holotype	Yes
A. tenuis **sp. nov.**	Upper Hunter River (NSW)	NSW	Known only from female holotype	Yes
A. terania Framenau & Baehr, 2018	Terania Creek (NSW)	NSW, Qld		No
A. triangularis Framenau, 2002	Avon River (Vic)	NSW, Qld, SA, Tas, Vic		No
A. vectis **sp. nov.**	Fogg Dam (NT)	NT		Yes
A. velata **sp. nov.**	Eungella (Qld)	Qld	Known only from male holotype	Yes
A. victoriensis Framenau, Gotch & Austin, 2006	Melbourne (Vic)	NSW, Qld, SA, Tas, Vic		No
A. werrikimbe **sp. nov.**	Werrikimbe National Park (NSW)	NSW, Qld		No

and generally shorter and less convoluted copulatory ducts than those of *Anoteropsis*. However, the epigyne is extremely variable across *Artoria* and its characters alone do not allow a reliable distinction from other Australasian lycosid genera.

Description. See Framenau (2002) and Framenau & Baehr (2018). Below, we add some details on new features present in species herein described. Somatic morphology: Small to medium-sized, total length 2.5–10.0 mm. Carapace typically brown to black with lighter median band; dorsal profile straight in lateral view. AE row straight to procurved. Chelicerae usually with three promarginal (0–2) and three retromarginal (2–4) teeth. Leg formula IV > I > II > III, but leg I longest in males of *A. flavimana* Simon, 1909 males. Tibia I and metatarsus I with three ventral pairs of macrosetae (apical pair sometimes reduced). **Male pedipalp:** Tibia varying from globular (*e.g. A. incrassata* do Prado, Baptista & Framenau, 2024, *A. cunicularia* **sp. nov.**) to subrectangular (*e.g. A. geniculata* **sp. nov.**), usually slightly longer than wide. Cymbium pear-shaped, longer than wide, with dorsal cluster of macrosetae near tip, sometimes lacking or reduced (*e.g. A. cunicularia* **sp. nov.**, *A. lingulata* **sp. nov.**). Spermatic duct generally forming a transverse and almost straight line crossing tegulum ventrally, S-shaped retrolaterally, with basal loop often hidden by cymbium and distal loop usually larger and more conspicuous. Tegular apophysis located apically on tegulum, spoon-shaped (*lineata*-group), bifurcate (*booderee*-group), birdhead-shaped (*e.g. A. kanangra* Framenau & Baehr, 2018), or prolaterally

directed (*e.g. A. inversa*). Basoembolic apophysis highly variable, ranging from simple rounded lobe to nearly 360-degree circle in *A. extraordinaria*. Embolus varies from long and slender (*e.g. A. lingulata* **sp. nov.**) to very thick or spatulate (*e.g. A. globula* **sp. nov.**). **Female genitalia:** Epigyne highly variable, usually with distinct median septum often shaped like inverted "T", also with pair of simple openings (*e.g. A. howquaensis* Framenau, 2002) or scape-like ovoid plate (*e.g. A. aculeata* Prado, Baptista & Framenau, 2024). Spermathecae compact, globular or tubular. Spermathecal stalks distinctly coiled in redefined *lineata*-group (*A. ancorata* **sp. nov.**, *A. catinata* **sp. nov.**, *A. lineata* (L. Koch, 1877), A. *pedroi* **sp. nov.**, *A. ulrichi* Framenau, 2002), sometimes with peculiar morphologies, as conspicuously small, globular spermathecae in *A. globula* **sp. nov.** and elephant-proboscis-like scape in *A. proboscidea* **sp. nov**.

Distribution and ecology: *Artoria* is the most species-rich genus of Lycosidae in Australia, with a distribution extending to China, Southeast Asia, and Pacific islands. While widespread across diverse Australian environments, its highest diversity is concentrated in the temperate and subtropical rainforests, with low diversity in dry inland regions of the continent. Species are often specialized for microhabitats, such as riparian gravel banks, forest leaf litter, and alpine moors.

Remarks: All species and their diagnostic images have been uploaded to the Fauna Portal Australia, where geographic and morphological image filters allow accurate identification through a side-by-side comparison of diagnostic features (Fauna Portal Australia 2025).

Species-groups within *Artoria* are mostly based on male pedipalp morphology, but we here also consider female genitalic features. The first formal subdivision was proposed by Framenau (2002), who placed the then-known 14 species into five unnamed morphological groups based primarily on male pedipalp structures, specially the shape of the tegular apophysis. As the number of known species expanded, Framenau & Baehr (2018) introduced the informal species-group *booderee*-group and termed one of Framenau's (2002) groupings as *lineata*-group. The current study redefines and expands the *lineata*-group,

TABLE 2. Species-groups proposed for *Artoria* by previous authors and in the present study.

Species-group	Proposer	Previous concepts	Key diagnostic characters	Included species
Group 1 (unnamed)	Framenau (2002)		Small body size; simple tegular apophysis; spermathecal organs present	*A. howquaensis*, *A. palustris*, *A. parvula*
Group 2 (unnamed)	Framenau (2002)		Larger species; slim, pointed lateral branch of tegular apophysis (MLB)	*A. albopedipalpis*, *A. mckayi*, *A. berenice*
Group 3 (unnamed)	Framenau (2002)		Bifurcate tegular apophysis; field of scopulous setae on male cymbium	*A. avona*, *A. flavimanus*
Group 4 (unnamed)	Framenau (2002)		Spoon-shaped tegular apophysis; very thick embolus	*A. lineata*, *A. quadrata*, *A. ulrichi*
Group 5 (unnamed)	Framenau (2002)		Residual group with unique morphology; apically pointed apical branch of tegular apophysis	*A. triangularis*
lineata-group	Framenau & Baehr (2018)	Group 4 (unnamed) in Framenau (2002)	Male spoon-shaped tegular apophysis, female epigyne T-shaped	*A. lineata*, *A. quadrata*, *A. ulrichi*
booderee-group	Framenau & Baehr (2018)		Small body size; distinctly bi-lobed TA	*A. booderee*, *A. corowa*, *A. equipalus*, *A. munmorah*
Redefined *lineata*-group	Present study	Group 4 (unnamed) in Framenau (2002), *lineata*-group in Framenau & Baehr (2018) with modifications	Spoon-shaped tegular apophysis in males; female epigyne T-shaped with coiled spermathecal stalks attached ectally	*A. lineata*, *A. ulrichi*, *A. ancorata* **sp. nov.**, *A. catinata* **sp. nov**., *A. pedroi* **sp. nov.**
beaury-group	Present study		Broad tegular apophysis apex; rounded prolateral apical corner; retrolateral portion curved and projected ventrally	*A. beaury*, *A. helensmithae*, *A. mungo*, *A. geniculata* **sp. nov.**, *A. hamifera* **sp. nov**., *A. semicircularis* **sp. nov**.
lingulata-group	Present study		Epigyne with subtriangular, tongue-like median septum; tubular spermathecae	*A. lingulata* **sp. nov.**, *A. orcina* **sp. nov.**, *A. gloriosa*, *A. albopilata*

specifically by incorporating internal female genitalic features, and also proposes two new species-groups: the *beaury*-group and the *lingulata*-group (Table 2, see also Discussion).

Artoria abscondita sp. nov. ♀

urn:lsid:zoobank.org:act:FED6D420-A388-4275-9AFD-8F12D0B3A093
Figs 1A–D, 8

Type material: Holotype ♀, **AUSTRALIA**: **New South Wales**: Wadbilliga National Park, Bumberry Creek Fire Trail, 36°14'S, 149°33'E, 13.III.1999, R. Harris, H. Smith, (AM KS.84060).

Other material examined: Known only from the holotype.

Etymology: The specific epithet "*abscondita*" is a Latin adjective meaning 'hidden, concealed' and refers to the shape of the epigyne of this species, which has two very large lateral plates hiding most of the median septum seen only as a small, rounded piece at the median region of the epigyne.

Diagnosis: Females of *A. abscondita* **sp. nov.** are similar to *A. booderee* Framenau & Baehr, 2018 due to their epigyne bearing large and robust lateral lobes and a narrow median septum. However, the epigyne of *A. abscondita* **sp. nov.** (Figs 1C, D) differs from that of *A. booderee* by having the lateral lobes almost touching each other, being more robust and broad and with its posterior half projected mesally covering most of the posterior half of the median septum and by bearing a short atrium with anterior margin poorly delimited. In *A. booderee* the lateral lobes are not projected mesally and the anterior margin of the atrium is well-delimited (Framenau & Baehr, fig. 13G).

Remarks: *Artoria abscondita* **sp. nov.** is known from a single female collected at Bumberry Creek Fire Trail in Wadbilliga National Park, the exact locality of one of the two known records of *Artoria slatyeri* Framenau & Baehr, 2018, a species based solely on males. Although it cannot entirely be excluded that they may represent the same species, we believe that they belong to two different ones. *Artoria slatyeri* is very similar to *Artoria comleroi* Framenau & Baehr, 2018 regarding the palp morphology (Framenau & Baehr, 2018, figs 36C–G and 16E–F, respectively), but the female of *A. comleroi* has an epigyne (Framenau & Baehr, 2018, figs 16G–H) very unlike that of A. *abscondita* **sp. nov.** (Figs 1C–D).

Description: Female (holotype, AM KS.84060)

Total length, 5.23. *Carapace,* length 2.72, width 2.07, brown, with reddish-brown median longitudinal band, broad dark brown lateral bands, and reddish-brown narrow submarginal lateral bands. *Eyes,* diameter of AME 0.09, ALE 0.09, PME 0.30, PLE 0.23, anterior eye row slightly procurved, evenly spaced (Fig. 1A). *Chelicerae,* reddish-brown, distal half darker, three retromarginal teeth, the two distal largest, and three promarginal teeth, median largest. *Labium,* dark brown with paler anterior half (Fig. 1B). *Legs,* yellow with grey annulations from femora to metatarsi (Figs 1A, B). *Opisthosoma,* length 2.69, width 2.11. Dorsum mostly dark grey, scattered with yellow spots throughout, U-shaped reddish-grey patch and yellow cardiac mark about half as long as the opisthosoma. Venter mostly dark yellow with three transverse dark grey stripes that converge posteriorly, spinnerets dark yellow (Figs 1A, B).

Epigyne, as wide as long, atrium very short, as wide as one fifth of the epigyne, anterior margin poorly demarcated. Median septum rounded and small, mostly covered by robust lateral lobes (Fig. 1C). Lateral lobes subrectangular, almost touching each other, very robust, broad and rounded, occupying almost whole posterior half of epigynal area, and with posterior portion slightly projected mesally, partially covering the median septum. Spermathecal head globular, about one diameter apart from each other, spermathecal stalk attached ectally, copulatory ducts elongated, with 3 coils (Fig. 1B).

Male unknown.

Distribution: Known only from the type-locality (Fig. 8).

Artoria albopilata (Urquhart, 1893) ♂♀

Lycosa albo-pilata Urquhart, 1893: 123–125; Rainbow 1911: 1911.
Lycosa albopilata: McKay 1973: 378; 1985: 74.
Artoria albopilata: Framenau, 2005: 266–272, figs 1A–E, 2; Framenau & Baehr, 2018: 175–177, figs 3A–H, 46F.

Type material: Syntypes ♂ and ♀, **AUSTRALIA**: **Tasmania**: (no exact locality provided), types considered lost (Framenau & Baehr 2018).

New records (22 ♂, 15 ♀): AUSTRALIA: Queensland: 1 ♂, 1 ♀, Blackbutt Rd, 26°52'S, 152°11'E (QM W5829); 1 ♀, Cooyar, Maidenwell Rd, 26°56'S, 151°49'E (QM W6878); 1 ♂, 3 ♀, Deer Reserve, via Kilcoy, 26°57'S, 152°34'E (QM W5830); 5 ♂, 1 ♀, Gallangowan, 26°26'S, 152°17'E (QM W5922); 1 ♂, Plateau S of Head, via Killarney, 28°24'S, 152°19'E (QM W5824); 6 ♂, 1 ♀, same locality (QM W5825); 1 ♂, 2 ♀, Upper Yarraman SF, via Maidenwell, 26°53'S, 151°56'E (QM W5827). **Tasmania:** 2 ♂, Blue Tier Site, BTCONB4 WHS, 41°11'04"S, 148°04'23"E (QVMAG 2025:13:0485); 1 ♂, Maggs Mountain Forest Reserve, upper Mersey Valley, 41°44'26"S, 146°11'E (HBI N35500-1); 1 ♂, Mathinna, Tower Hill, Site MNWHSA2, 41°30'42"S, 147°55'04"E (QVMAG 2024:13:0270); 1 ♂, 2 ♀, Mt. Wellington, Hobart, 42°53'24"S, 147°13'48"E (AM KS.86425); 1 ♀, Mt Wellington, O'Grady's Falls track, 42°55'S, 147°15'E (QM S71975); 1 ♂, Nelson River Caves area, Western Heritage area, 42°10'S, 145°45'E (AM KS.21285); 1 ♂, 2 ♀, Strahan, Rd to lookout, 42°09'S, 145°19'E (TMAG J7188); 1 ♀, SW Tasmania, 42°32'S, 145°46'E (AM KS.26882).

Diagnosis: Males of *A. albopilata* are most similar to those of *A. gloriosa* (Rainbow, 1920), from Lord Howe Island. The male pedipalp of these species differs in the shape of the tegular apophysis, which ends in three lobes

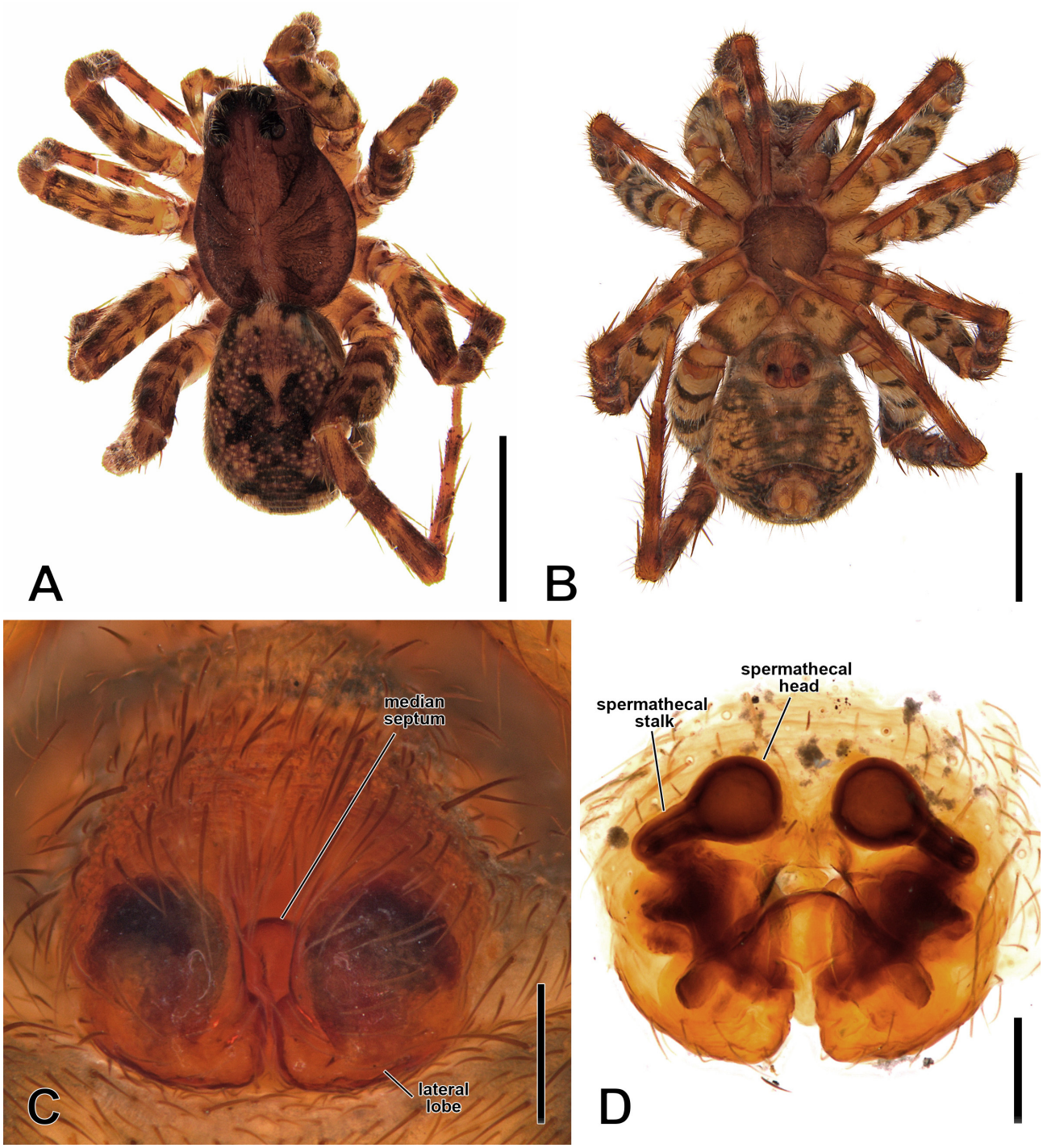

FIGURE 1. *Artoria abscondita* **sp. nov.,** female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, holotype. Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

in *A. albopilata* (Framenau & Baehr 2018, fig. 3E) and two tips in *A. gloriosa* (Framenau & Baehr 2018, fig. 20E). The tip of the embolus is narrow and acute in *A. albopilata*, but broad and blunt in *A. gloriosa*. Females of *A. albopilata* resemble most those of *A. orcina* **sp. nov.** sharing an epigyne with small subtriangular median septum, mesally very projected lateral lobes, and tubular spermathecae that are almost indistinguishable from the spermathecal stalks. However, in the epigyne of *A. albopilata* the projecting portion of the lateral lobes is subquadrate and the anterior margin of the atrium is distinctly concave, semicircular and well-marked (Framenau & Baehr 2018, fig. 3G), while in *A. orcina* **sp. nov.** the projecting portions of the lateral lobes are subtriangular, and the anterior margin of the atrium is only slightly concave and poorly marked (Fig. 29B).

Remarks: *Artoria albopilata* (Urquhart, 1893) has been revised and illustrated in detail recently (Framenau 2005, Framenau & Baehr 2018). Here, we consider the species part of the *"lingulata*-group*"* along with *A. lingulata* **sp. nov.**, *A. orcina* **sp. nov.** and *A. gloriosa,* characterized in the Discussion below.

Life history and habitat preferences: Males found mostly in November and December, while females were recorded from October to December. The species primarily inhabits forest environments, particularly in mountainous regions and riparian areas near creeks and rivers. The species has been found mainly in protected natural areas including national parks and reserves, with few records in urban environments.

Distribution: Predominantly south-eastern Australia, with the highest concentration of records from New South Wales, followed by Tasmania, and extending north into Queensland and west into South Australia (Fig. 8).

Artoria ancorata **sp. nov.** ♀

urn:lsid:zoobank.org:act:B0C046BD-E6CB-429C-80CD-4A6C6F40E56E
Figs 2A–D, 8

Type material: Holotype ♀, **AUSTRALIA**: **New South Wales**: Myall Lakes National Park, 50 m off The Lakes Way and 2 km E of Boolambayte, 32°24'24.05"S, 152°17'57.05"E, under tree canopy, 21.VI.2012–01.VII.2012, J.R. Gollan, M.A. Ashcroft (AM KS.131838).

Other material examined (3 ♀): AUSTRALIA: **New South Wales:** 1 ♀, Copeland Tops State Conservation Area, under tree canopy, 50 m off Barrington Tops Rd, 31°58'28.45"S, 151°46'39.29"E (AM KS.122808); 1 ♀, Myall Lakes National Park, under tree canopy, 50 m off The Lakes Way and 2 km east of Boolambayte, 32°24'24.05"S, 152°17'57.05"E (AM KS.122845); 1 ♀, Watagan State Forest, undisturbed forest approx. 60 m from Watagan Creek Road, 33°02'12.23"S, 151°18'16.81"E (AM KS.122303).

Etymology: The specific epithet "*ancorata*" is a Latin adjective meaning 'with an anchor' and refers to the characteristic anchor-shaped structure resulting from the fusion of the median septum and lateral lobes of the epigyne in females of this species.

Diagnosis: *Artoria ancorata* **sp. nov.** belongs to the *lineata*-group (see Discussion), due to its epigyne having an inverted T-shaped median septum and coiled spermathecal stalks attached ectally (Figs 2C, D). Among the species within this group, females of *A. ancorata* **sp. nov.** resemble those of *A. pedroi* **sp. nov.** most, as the epigynes of both species have the robust posterior portion of the lateral lobes totally fused with the elevated median septum, and the internal genitalia share globular spermathecae and spiralled spermathecal stalks (Figs 2C, D; 43C, D). However, in *A. ancorata* **sp. nov.** the median septum merges with the anterior margin of the atrium (Figs 2C, D), while in *A. pedroi* **sp. nov.** the median septum is clearly delimited and spaced from the anterior margin of the atrium (Figs 43C, D). In addition, in the epigyne of *A. ancorata* **sp. nov.** the sclerotization on the posterior portion of the lateral lobes is lighter and gradually fades towards the middle (Figs 2C, D), while in *A. pedroi* **sp. nov.** there are two well-marked, curved and heavily sclerotized patches in this region (Figs 43C, D).

Remarks: Considering their distribution, two species known only from males could be associated with *A. ancorata* **sp. nov.** *A. ancorata* **sp. nov.** is found at Myall Lakes, type-locality of *Artoria myallensis* Framenau & Baehr, 2018, and is also recorded from Copeland Tops, in close proximity to Barrington Tops National Park, type-locality of *Artoria barringtonensis* Framenau & Baehr, 2018. However, since *A. ancorata* **sp. nov.** is considered herein part of the *lineata*-group (see genus Remarks above), a spoon-shaped tegular apophysis would be expected for a matching male, and neither *A. myallensis* nor *A. barringtonensis* present this feature.

Description. Female (holotype, KS.131838).

Total length, 6.44. *Carapace,* length 3.35, width 2.42, with reddish-brown median longitudinal band, narrower centrally, broad dark brown lateral bands, reddish-brown narrow submarginal lateral bands (Fig. 2A). *Sternum,* reddish-brown (Fig. 2B). *Eyes,* diameter of AME 0.11, ALE 0.11, PME 0.36, PLE 0.29, anterior eye row procurved, evenly spaced. *Chelicerae,* brown, three retromarginal teeth, two distal largest, three promarginal teeth, median largest. *Labium,* brown with pale brown anterior rim (Figs 2A, B). *Legs,* dark yellow with broad dark grey annulations from femora to metatarsi (Figs 2A, B). *Opisthosoma,* length 2.85, width 2.47. Dorsum dark grey, with cardiac mark paler and barely visible; venter with anterior half mostly pale yellow with few grey stains, posterior half mostly dark grey, spinnerets dark yellow (Figs 2A, B).

Epigyne, about as wide as long, atrium 2/3 as wide as epigyne. Median septum inverted T-shaped, wider than long, with anterior half narrower and roughly diamond-shaped, posterior half wide and semicircular with lateral extremities fused with lateral lobes. Lateral lobes semicircular, with posterior portion protruding and fused with median septum (Fig. 2C). Spermathecal heads spherical, slightly less than one diameter apart, spermathecal stalks sinuous about twice as long as spermathecal heads, attached ectally, bent mesally then spiralling towards copulatory opening (Fig. 2D).

Male unknown.

Life history and habitat preferences: Females collected in December-February and in June-July. The species occurs mostly in shaded areas inside woodland and forest habitats, particularly in conservation areas and state forests.

Distribution: Endemic to central New South Wales, with records ranging from coastal woodland habitats to inland forest areas (Fig. 8).

Artoria berenice **(L. Koch, 1877)** ♂♀

Lycosa berenice L. Koch, 1877: 937–938, pl. 81, fig. 3.
Pardosa versicolor L. Koch, 1877: 966–968, pl. 84, figs 4–5.
Lycosa naevia L. Koch, 1878: 978–979, pl. 85, fig. 5.
Lycosa ambrymiana Berland, 1938: 184–185, figs 153–156.
Tarentula naeviella Roewer, 1951: 442 (replacement name for *L. naevia*).
Avicosa berenice: Roewer, 1955: 236.

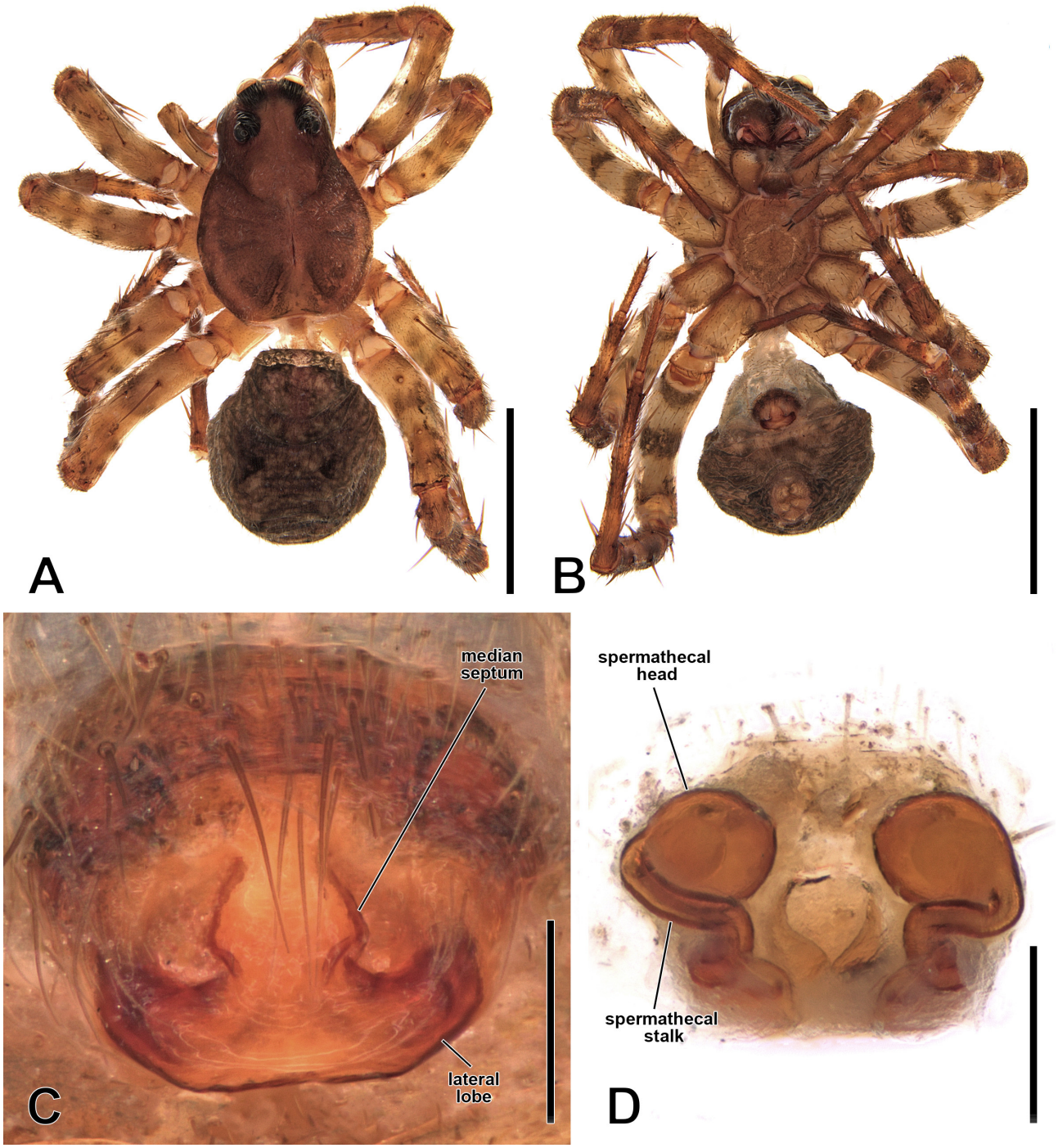

FIGURE 2. *Artoria ancorata* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–C, holotype; D, (AM KS.122808). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

Hogna naeviella: Roewer, 1955: 253.

Schizocoza berenice: Dondale & Redner: 146. (implicit transfer, synonymised *Avicosa* with *Schizocosa*).

Artoria versicolor: Framenau, 2002: 230, figs 27A–F.

Artoria berenice: Framenau, 2005: 272, fig. 3 (synonym of *A. versicolor*, *H. naeviella* and *L. ambrymiana*); Framenau & Baehr, 2018: 183, figs 10C–D, G–H, 11A–H, 46H.

Type material: Holotype ♀, (no locality given), Bradley Collection, considered lost (Framenau & Baehr 2018).

New records (19 ♂, 29 ♀ and 36 juveniles): **AUSTRALIA: New South Wales:** 5 ♀, 23 juveniles, Boyd River Camp, Kanangra-Boyd National Park, 33°58'15.74"S, 150°3'22.24"E (HBI N35263-11); 3 ♀, 9 juveniles, Boyd River Camp, Kanangra-Boyd National Park, 33°58'15.74"S, 150°3'22.24"E (HBI N35488-2); 4 ♀, 2 juveniles, Fairy Bower Falls trail, Morton National Park, 34°40'41.33"S, 150°18'25.03"E (HBI N35275-4); 1 ♀, same locality (HBI N35489-1); 2 ♀, 1 juvenile, same locality (HBI N35489-2); 3 ♀, Mooraback campground, Werrikimbe National Park, 31°8'50.40"S, 152°12'54.32"E (HBI N35272-5); 1 ♀, Wallingat River Camp, Wallingat

National Park, 32°19'42.28"S, 152°24'09.59"E (HBI N35501-1). **Queensland:** 3 ♀, Manna Gum Campground, Main Range National Park, 27°58'45.43"S, 152°20'34.89"E (HBI N35266-9); 2 ♂, 5 km SSW. of Mt. Haig, 17°07'S, 145°33'E (QM S34736); 11 ♂, 2 ♀, 2 juvenile, Nangur SF, 26°7'59.99"S, 151°58'00.12"E (QM S51083). **Tasmania:** 1 ♀, Blue Tier Site, BTCONA3 WHS, 41°11'03.84"S, 148°4'14.52"E (QVMAG 2024:13:0343); 1 ♀, Blue Tier Site, BTCONB2 WHS, 41°11'03.84"S, 148°4'23.16"E (QVMAG 2024:13:0345); 2 ♂, 1 ♀, 1 juvenile, Blue Tier Site, BTCONB3 WHS, 41°11'03.84"S, 148°4'23.16"E (QVMAG 2024:13:0271); 3 ♂, 2 ♀, Blue Tier Site, BTCONB4 WHS, 41°11'03.84"S, 148°4'23.16"E (QVMAG 2024:13:0342); 1 ♂, same locality (QVMAG 2024:13:0341).

Diagnosis (after Framenau & Baehr 2018): Males of *A. berenice* are distinguished from all congeners by the presence of a small tooth on the ventral side of the tegular apophysis (Framenau & Baehr 2018, fig. 11E), absent in all other species with similar tegular apophysis. Females bear a distinctive, poorly sclerotized epigyne that is much longer than wide and has the lateral borders widening posteriorly (Framenau & Baehr 2018, fig. 11G).

Remarks: *Artoria berenice* has been redescribed and illustrated in detail recently (Framenau 2005, Framenau & Baehr 2018).

Life history and habitat preferences: Males were mostly found in November and December, while females in April and December, indicating extended breeding periods. *Artoria berenice* primarily inhabits woodlands, with considerable presence in mountainous and riparian environments.

Distribution: Widely distributed across eastern Australia, common in New South Wales and Queensland, with additional records from Tasmania and Victoria. Range extends from temperate Tasmanian forests to subtropical Queensland woodlands (Fig. 8).

Artoria bicornuta sp. nov. ♂

urn:lsid:zoobank.org:act:26309AA3-A460-41D4-B8D5-5712B5B6CCD0
Figs 3A–E, 8

Type material: Holotype ♂, **AUSTRALIA: Queensland:** Mt Windsor Tablelands, Whypalla SF, 16°12'23.40"S, 144°58'27.48"E, 1.I.1993 (QM S70063).

Other material examined (3 ♂): AUSTRALIA: **Queensland:** 1 ♂, Mt Windsor Tablelands, Whypalla SF, 16°12'23.40"S, 144°58'27.48"E (QM S70064); 1 ♂, same locality (QM S70065), 1 ♂, Mt Windsor Tablelands, 16°12'28.19"S, 144°59'3.11"E (QM S68373).

Etymology: The specific epithet "*bicornuta*" is a Latin adjective meaning 'with two horns' and refers to the two distal pointed projections in the tegular apophysis of the male pedipalp in this species.

Diagnosis: Males of *A. bicornuta* **sp. nov.** resemble those of *A. orcina* **sp. nov.** due to the ventral portion of tegular apophysis having a narrow keel; however, they differ as the tegular apophysis of *A. bicornuta* **sp. nov.** has the ventral portion as a concave keel and has three spiniform projections (Figs 3C–E), vs. the tegular apophysis has a sinuous keel and rounded margins throughout *A. orcina* **sp. nov.** (Figs. 29C–E).

Description. Male (holotype, QM S70063).

Total length, 4.71. *Carapace,* length 2.64, width 1.89, reddish-brown, with broad reddish-brown median longitudinal band narrowing posteriorly, broad dark brown lateral bands, and reddish-brown narrow submarginal lateral bands (Fig. 3A). *Sternum,* dark yellow, darker on its margins (Fig. 3B). *Eyes,* diameter of AME 0.09, ALE 0.09, PME 0.27, PLE 0.22, anterior eye row slightly procurved, evenly spaced. *Chelicerae,* brown, darker on their distal margins, with streaked dark grey patches throughout, three retromarginal teeth, subequal, and three promarginal teeth, median largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 3B). *Legs,* mostly brown, with dark grey annulations from femora to metatarsi (Figs 3A–B). *Opisthosoma,* length 2.13, width 1.66. Dorsum background colour dark yellow, suffused with irregular dark grey patches throughout, cardiac mark dark yellow half as long as opisthosoma (Fig. 3A). Venter and spinnerets dark yellow (Fig. 3B).

Pedipalp (Figs 3C–E), tibia subrectangular in ventral view, free tip of the cymbium about 1/3 as long as cymbium in ventral view; subtegulum heavily sclerotized. Tegular apophysis narrow, a curved keel in ventral view, with its external margin bearing a small median acute projection, and two conspicuous small spiniform projections on the apex. Basoembolic apophysis rounded, as long as wide, heavily sclerotized with a small, rounded tip. Embolus semicircular, broad and flat. Terminal apophysis forming a gutter, mostly covered by the flat embolus, with retrolateral tip pointing apically.

Female unknown.

Life history and habitat preferences: Mature males were collected during January and February.

Distribution: Known only from the vicinity of the type locality on the Mt Windsor Tablelands, in northern Queensland (Fig. 8).

Artoria catinata sp. nov. ♂♀

urn:lsid:zoobank.org:act:BF2F3797-9301-424B-8D75-2242A008FFAD
Figs 4A–E, 5A–D, 8

Type material: Holotype ♂, **AUSTRALIA: Queensland:** Point Lookout, lower, New England National Park, 30°29'0.024"S, 152°22'59.88"E, 11.XI. 1980–16.III.1981 (QM S68981).

Other material examined (16 ♂ and 12 ♀): AUSTRALIA: **New South Wales:** 1 ♂, New England National Park, 30°30'S, 152°24'E (AM KS.12725); 1 ♂, same locality (AM KS.12729); 3 ♂, 1 ♀, Pt Lookout, lower, New England National Park, 30°29'0.024"S, 152°22'59.88"E (QM S68976–80); 1 ♂, same locality (QM S68981); 5 ♂, same locality (QM S68992–6); 1 ♂, same locality (QM S68997); 2 ♂, same locality (QM S68998–99); 1 ♂, Point Lookout, upper, New England

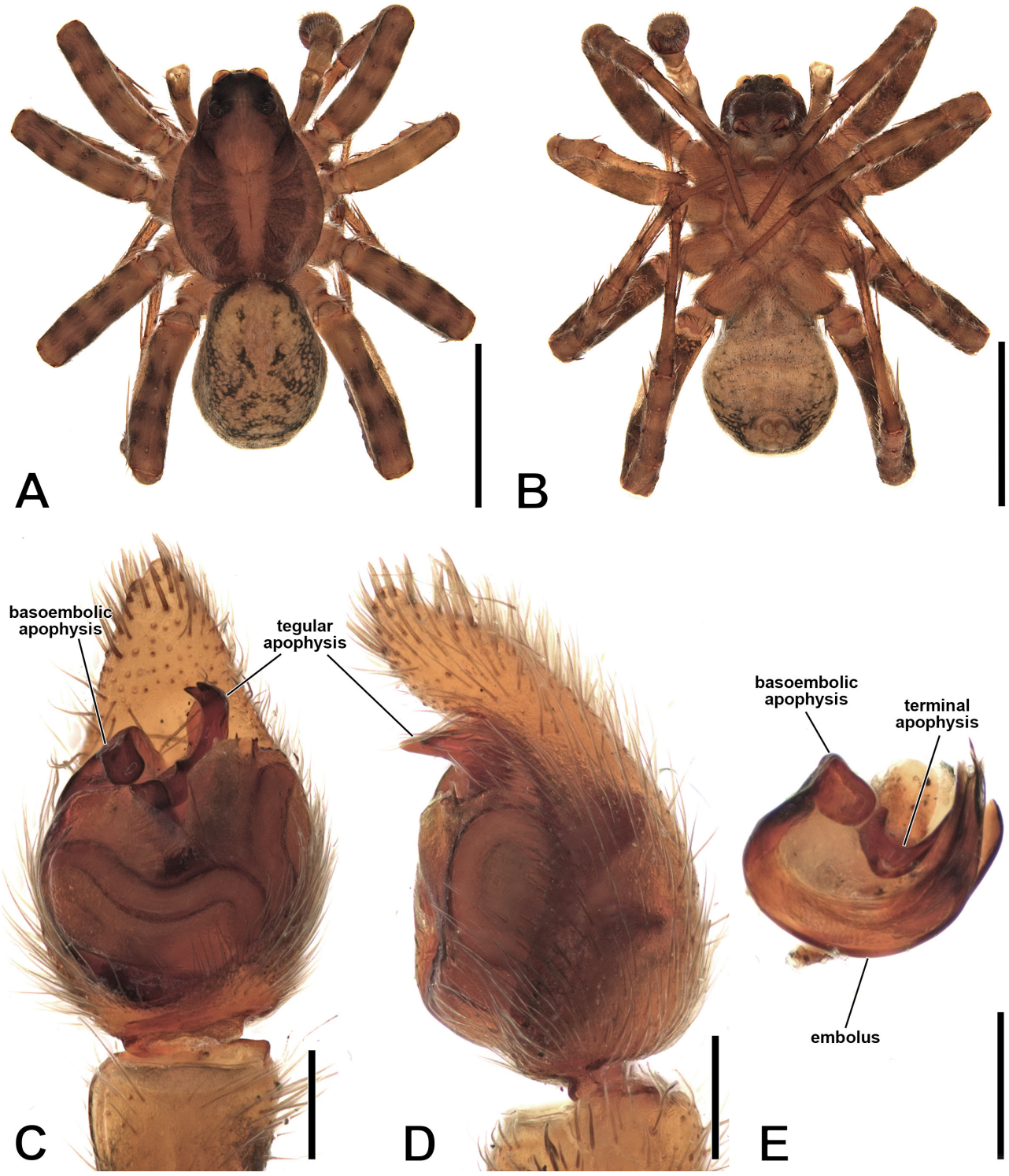

FIGURE 3. *Artoria bicornuta* **sp. nov.,** male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–D, holotype; E, (QM S70065). Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

National Park, 30°29'0.024"S, 152°22'59.88"E (QM S68988); 1 ♀, same locality (QM S68989); 1 ♂, 2 ♀, The Glade, Dorrigo, 30°24'S, 152°43'59.88"E (QM S68984–6); 2 ♀, same locality (QM S68990–1). **Queensland:** 6 ♀, Dandabah, Bunya Mountains National Park, 26°54'S, 151°34'0.12"E (QM S68969–74).

Etymology: The specific epithet "*catinata*" is a Latin adjective meaning 'bowl-shaped' and refers to the tegular apophysis of this species, which is rounded and has a deep central concavity, resembling a bowl.

Diagnosis: Males of *A. catinata* **sp. nov.** have a pedipalp with typical spoon-shaped tegular apophysis (Figs 4C–D), a common character among *Artoria* species including those of the *lineata*-group (see Discussion). The most similar species are *A. serpentidens* **sp. nov.** and *A. pedroi* **sp. nov.**, sharing a pedipalp with curved and

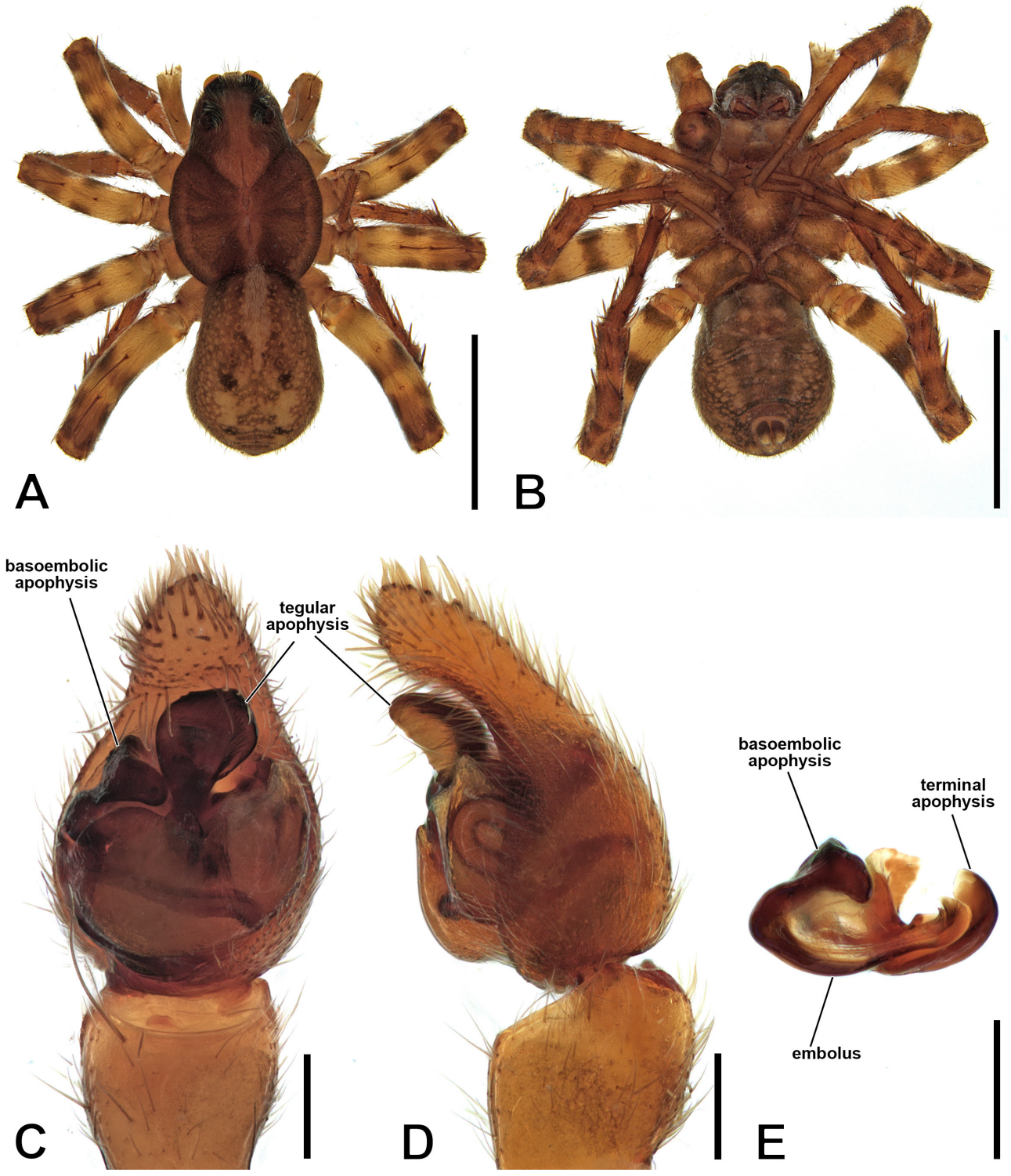

FIGURE 4. *Artoria catinata* **sp. nov.,** male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–D, holotype; E, (QM S68997). Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

flat embolus not ending in an acute tip, and a sclerotized terminal apophysis (Figs 4E, 3E, 42E). However, the male pedipalp of *A. catinata* **sp. nov.** can be distinguished from those of both aforementioned species by bearing an embolus with sinuous external margin (Fig. 4E). Additionally, compared to *A. pedroi* **sp. nov.**, males of *A. catinata* **sp. nov.** bear an embolus with a truncated apex, and a terminal apophysis with a broader apex (Fig. 4E), while in *A. pedroi* **sp. nov.** the embolus has a rounded apex, and the apex of the terminal apophysis is thinner (Fig. 42E). Compared to *A. serpentidens* **sp. nov.**, the male pedipalp of *A. catinata* **sp. nov.** has a much narrower basoembolic apophysis and an embolus with a constriction in the middle (Fig. 4E), while in *A. serpentidens* **sp. nov.** the basoembolic apophysis is broader and rounded, and the embolus is evenly wide, without constrictions.

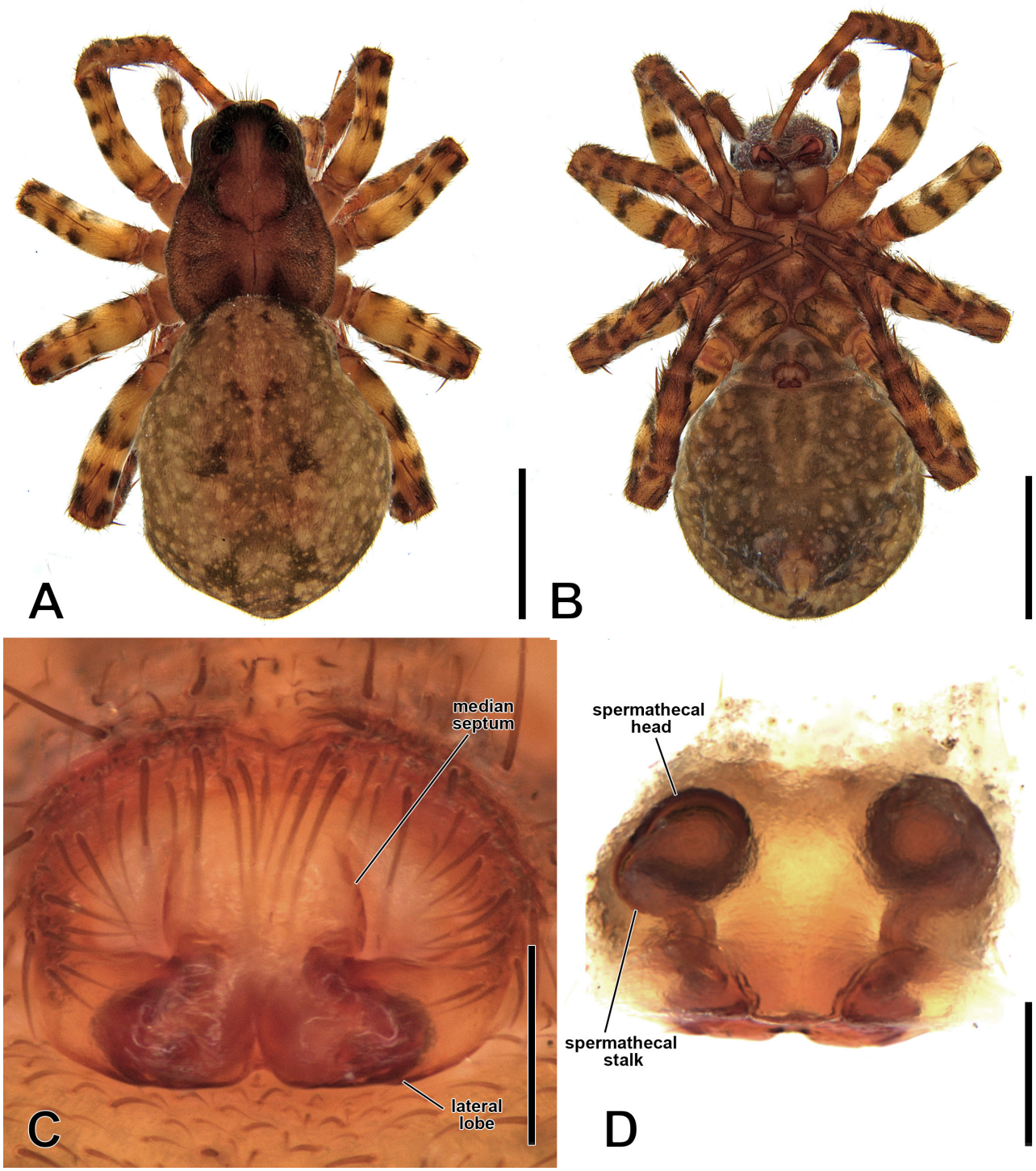

FIGURE 5. *Artoria catinata* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D holotype. Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

Females of *A. catinata* **sp. nov.** are most similar to those of *A. werrikimbe* **sp. nov.** due to their epigyne bearing a subrectangular elevated and broad anterior portion of the median septum, and the lateral lobes being robust and distinctly projected mesally with their broad posterior tips overlapping the posterior part of the median septum (Figs 5C). However, female genitalia of *A. catinata* **sp. nov.** differs by their lateral lobes being partially fused at their anterior portion with the median septum, and spermathecal heads having coiled spermathecal stalks attached ectally (Figs 5C, D), while in *A. werrikimbe* **sp. nov.** the female genitalia have lateral lobes with very well delimited posterior tips from the median septum, and uncoiled spermathecal stalks that attach mesally (Figs 49C, D).

Description. Male (holotype, QM S68981).

Total length, 4.58. *Carapace,* length 2.57, width 1.83, mostly dark brown, with reddish-brown median longitudinal band narrowing posteriorly, broad dark

brown lateral bands, and reddish-brown submarginal lateral narrow bands (Fig. 4A). *Sternum,* mostly dark brown, reddish-brown centrally (Fig. 4B). *Eyes,* diameter of AME 0.10, ALE 0.10, PME 0.29, PLE 0.22, anterior eye row slightly procurved, evenly spaced. *Chelicerae,* dark brown, paler on their distal margins, three retromarginal teeth, the two distal largest, and two promarginal teeth, distal largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 4B). *Legs,* mostly dark yellow, with dark grey annulations from femora to metatarsi (Figs 4A, B). *Opisthosoma,* length 2.15, width 1.62. Dorsum mostly dark grey, cardiac mark dark yellow about half as long as the opisthosoma (Fig. 4B), posterior half of opisthosoma with two pairs of rounded black patches, and one pair of dark yellow irregular patches. Venter and spinnerets mostly dark grey (Fig. 4B).

Pedipalp (Figs 4C–E), tibia subrectangular, free tip of the cymbium about 1/3 as long as the whole cymbium in ventral view; subtegulum very thin and heavily sclerotized. Tegular apophysis spoon-shaped in ventral view, with distal part of its retrolateral margin projected ventrally with a rounded distal corner seen in retrolateral view. Basoembolic apophysis subtriangular, as wide as long, with narrow rounded tip. Embolus semicircular, flat, slightly narrowed in the middle, ending in a truncated tip. Terminal apophysis heavily sclerotized, as a gutter, curved, with a truncated tip directed prolaterally.

Female (QM S68969)

Total length, 7.17. *Carapace,* length 3.15, width 2.37, similar to male (Figs 5A, B). *Eyes,* diameter of AME 0.12, ALE 0.12, PME 0.32, PLE 0.23, anterior eye row procurved, evenly spaced. *Chelicerae,* reddish-brown, darker on their distal margins, three retromarginal teeth, the two distal largest, and three promarginal teeth, median largest. *Labium,* similar to male (Fig. 5B). *Legs,* similar to male (Figs 5A, B). *Opisthosoma,* length 4.39, width 3.50. Dorsum similar to male but instead of one pair of dark yellow irregular patches, this female has two pairs of dark yellow rounded patches (Fig. 5B).

Epigyne, wider than long, atrium subrectangular, large and deep, almost as wide and as long as the epigyne. Median septum subrectangular, large, slightly wider than 1/3 of the epigyne (Fig. 5C). Lateral lobes semicircular, with lateral portion narrow, and posterior portion large and subrectangular, projecting mesally, and ending in broad rounded sclerotized tips that slightly touch each other at their anterior portion. Spermathecal heads spherical, around one diameter apart, and spermathecal stalks narrow, spiralled, twice as long as the spermathecal heads, attached ectally (Fig. 5D).

Life history and habitat preferences: Males have mainly been found in February and March, with a secondary phase of activity in November. The species primarily inhabits mountainous areas and is also found in woodland.

Distribution: Mainly found in north-eastern New South Wales, especially around New England National Park, with a record from south-eastern Queensland in the Bunya Mountains National Park, suggesting a preference for montane forest conditions (Fig. 8).

***Artoria coclearia* sp. nov.** ♂♀

urn:lsid:zoobank.org:act:F1B5FE74-449A-48B3-BCAC-974E6FEF034B

Figs 6A–E, 7A–D, 8

Type material: Holotype ♂, **AUSTRALIA: Queensland:** Bunya Mountains, 26°54'S, 151°34'0.12"E, 10.XI.1974–12.I.1975 (QM S124130).

Other material examined (13 ♂ and 11 ♀): AUSTRALIA: **New South Wales:** 1 ♀, Tugalow Creek, Barrington Trail (E side of trail), Barrington Tops SF, 31°54'S, 151°26'E (AM KS.39790); 1 ♀, same locality (AM KS.131842). **Queensland:** 1 ♂, 1 ♀, Paul Lentz Plain at Bunya Mountains National Park, 26°50'S, 151°33'E (QM S47065); 1 ♂, Bunya Mountains, 26°54'S, 151°34'0.12"E (QM W5832); 3 ♀, same locality (QM W5836); 2 ♀, same locality (QM W5838); 1 ♀, same locality (QM S124129); 10 ♂, 2 ♀, same locality (QM W5840); 1 ♂, same locality (QM S124131).

Etymology: The specific epithet "*coclearia*" is a Latin adjective meaning 'with a spoon' and refers to the spoon-like tegular apophysis in the male pedipalp.

Diagnosis: The male pedipalps of *A. coclearia* **sp. nov.** have a spoon-shaped tegular apophysis (Figs 6C, D) referring it to the *lineata*-group (see Discussion). Only *A. werrikimbe* **sp. nov.** shares with *A. coclearia* **sp. nov.** a short and heavily sclerotized embolus with an acute tip, while males from other species with spoon-shaped tegular apophysis often have longer, less sclerotized emboli ending in a rounded tip (*e.g. A. lineata*, *A. ulrichi*). However, the tegular apophysis in *A. coclearia* **sp. nov.** is narrower, with its distal portion twice as wide as its base (Figs 6C, E), while in *A. werrikimbe* **sp. nov.** it is wider, with its distal portion almost four times wider than its base (Figs 48C, D). Females of *A. coclearia* **sp. nov.** are most similar to those of *A. hamifera* **sp. nov.** due to their epigyne bearing a subrectangular elevated median septum with a slightly wider posterior portion. However, females of *A. coclearia* **sp. nov.** have an epigyne with much narrower median septum with deep concavities laterally, and lateral lobes with mesal margins distinctly concave (Fig. 7C), while in *A. hamifera* **sp. nov.** the median septum is wider, without deep concavities laterally and subrectangular lateral lobes with mesal margins slightly concave (Fig. 18C).

Description. Male (holotype, S124130).

Total length, 5.71. *Carapace,* length 3.30, width 2.37, reddish-brown, with paler broad median longitudinal band, broad dark brown lateral bands and reddish-brown narrow submarginal lateral bands (Fig. 6A). *Sternum,* yellow, dark yellow on its margins (Fig. 6B). *Eyes,* diameter of AME 0.10, ALE 0.10, PME 0.34, PLE 0.28, anterior eye row slightly procurved, evenly spaced. *Chelicerae,* pale brown, with vague dark grey patch on their distal half, three retromarginal teeth, subequal, and two promarginal teeth, distal largest. *Labium,* brown, with pale yellow anterior rim (Fig. 6B). *Legs,* mostly yellow, with dark grey annulations on femora, patellae and tibiae (Figs 6A, B). *Opisthosoma,* length 2.62, width 2.03. Dorsum background colour dark yellow, with irregular dark grey patches throughout, cardiac mark dark yellow,

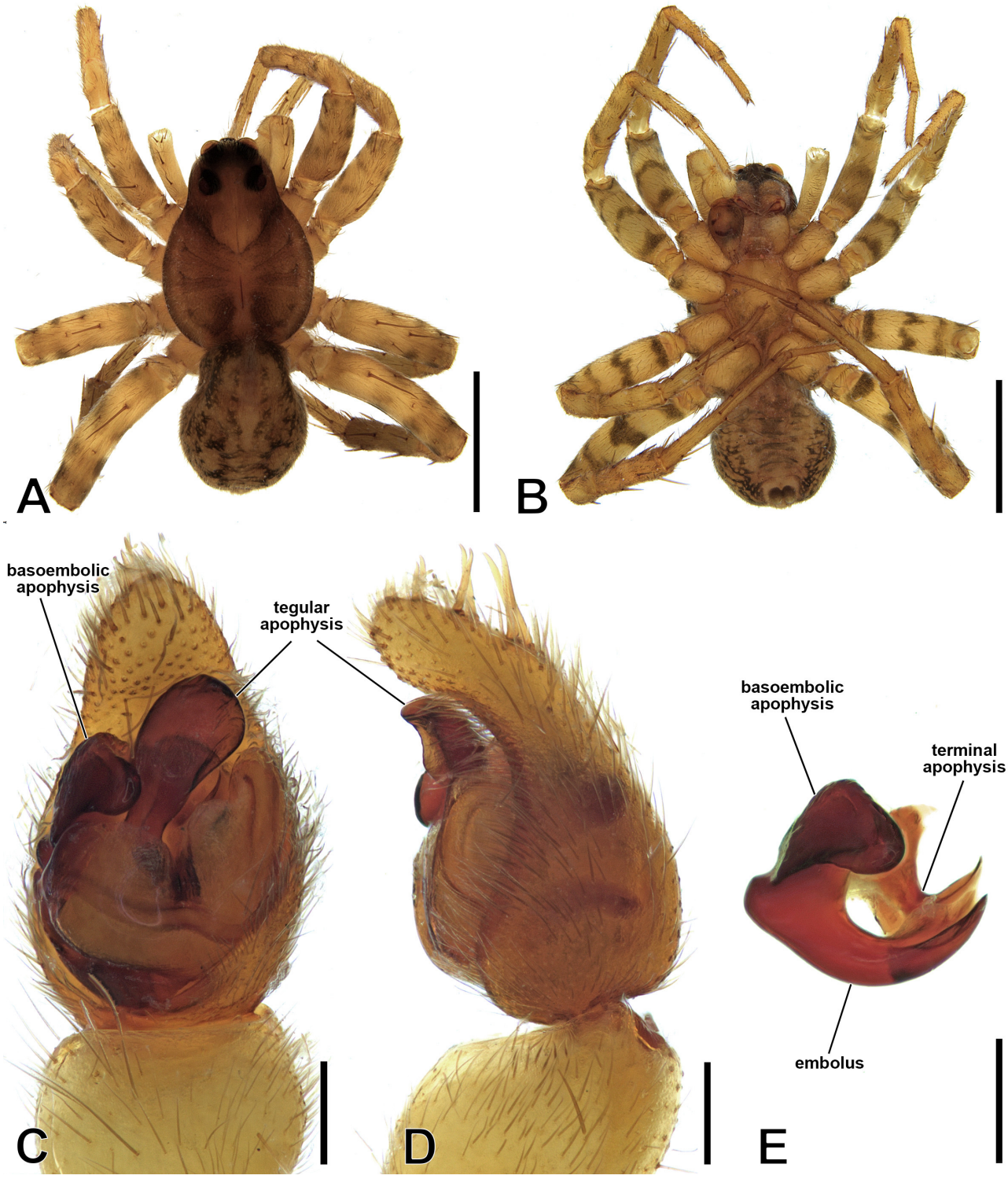

FIGURE 6. *Artoria coclearia* **sp. nov.,** male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–D, holotype; E, (QM S5840B). Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

around half as long as opisthosoma (Fig. 6A). Venter mostly dark yellow with irregular dark grey patches on its centre, spinnerets dark brown (Fig. 6B).

Pedipalp (Figs 6C–E), tibia globular, free tip of the cymbium about 1/3 as long as the whole cymbium; a set of dorsal macrosetae on the tip of the cymbium, subtegulum heavily sclerotized. Tegular apophysis directed apically broadening distally into a wide spoon-shaped surface and with a rounded acute dorsal tip slightly projected ventrally (seen in retrolateral view). Basoembolic apophysis subtriangular, slightly longer than wide, heavily sclerotized with a rounded large tip. Embolus semicircular, short and flat. Terminal apophysis poorly sclerotized, thin, mostly covered by the embolus.

Female (QM S5838A)

Total length, 7.43. *Carapace,* length 4.05, width 3.06,

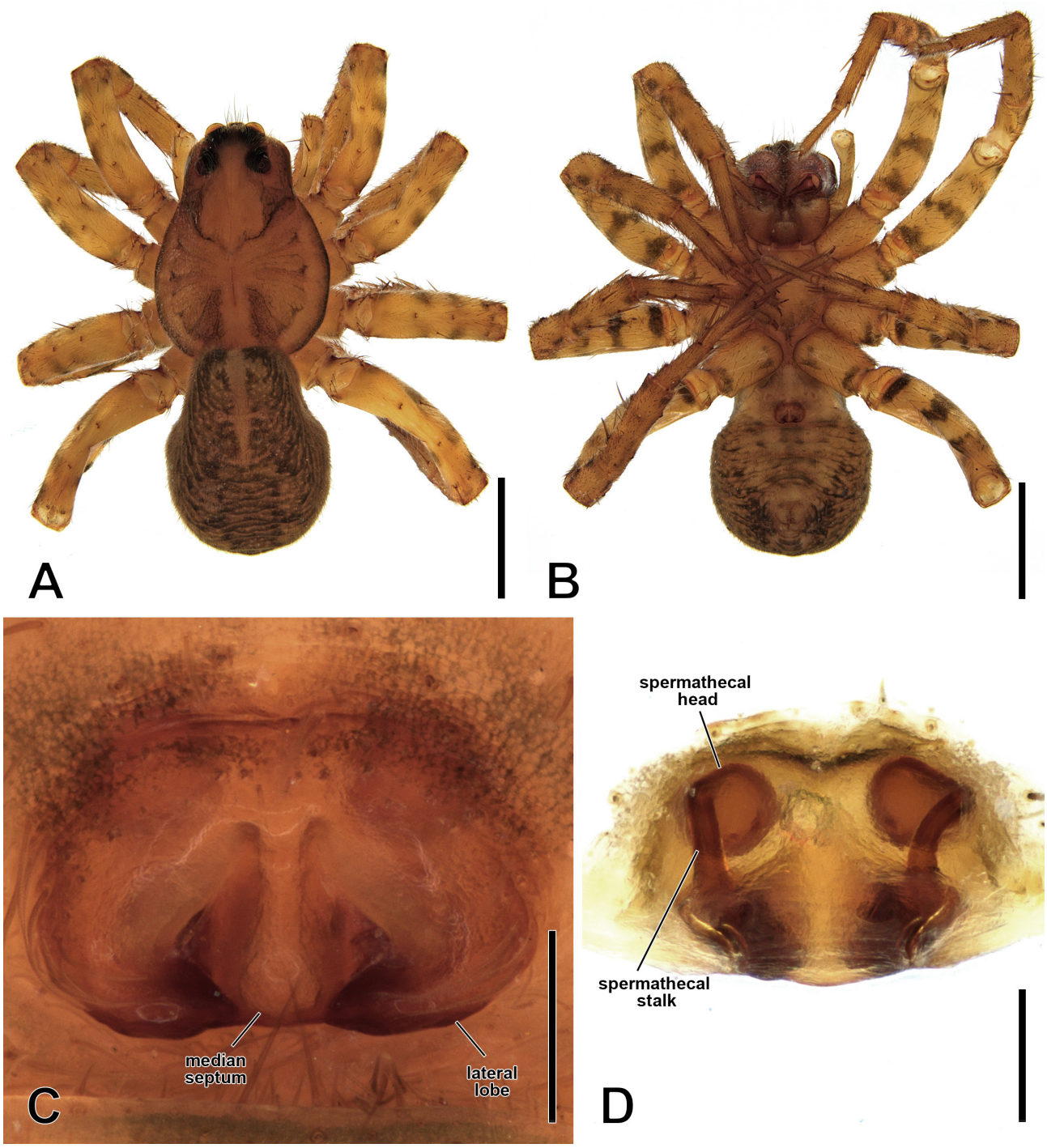

FIGURE 7. *Artoria coclearia* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (QM S5838A). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

similar to male (Fig. 7A). *Sternum*, similar to male. *Eyes,* diameter of AME 0.15, ALE 0.15, PME 0.39, PLE 0.31, anterior eye row procurved, evenly spaced. *Chelicerae,* reddish-brown, darker on their distal margins, three retromarginal teeth, distal largest, and two promarginal teeth, distal largest. *Labium,* brown, with pale yellow anterior rim (Fig. 7B). *Legs,* similar to male (Figs 7A, B). *Opisthosoma,* length 3.70, width 2.82. Dorsum mostly dark grey with dark yellow streaks throughout and dark yellow cardiac mark around half as long as the opisthosoma (Fig. 7A). Venter similar to male with spinnerets dark yellow (Fig. 7B).

Epigyne, wider than long, atrium diamond-shaped, two third as long as epigyne. Median septum with a subrectangular elevated and narrow median portion, three times longer than wide, slightly wider at its posterior than its anterior margin (Fig. 7C). Lateral lobes rounded, with internal margins very concave, posterior rounded tips projected mesally, separated by the posterior rounded portion of the median septum. Spermathecal heads

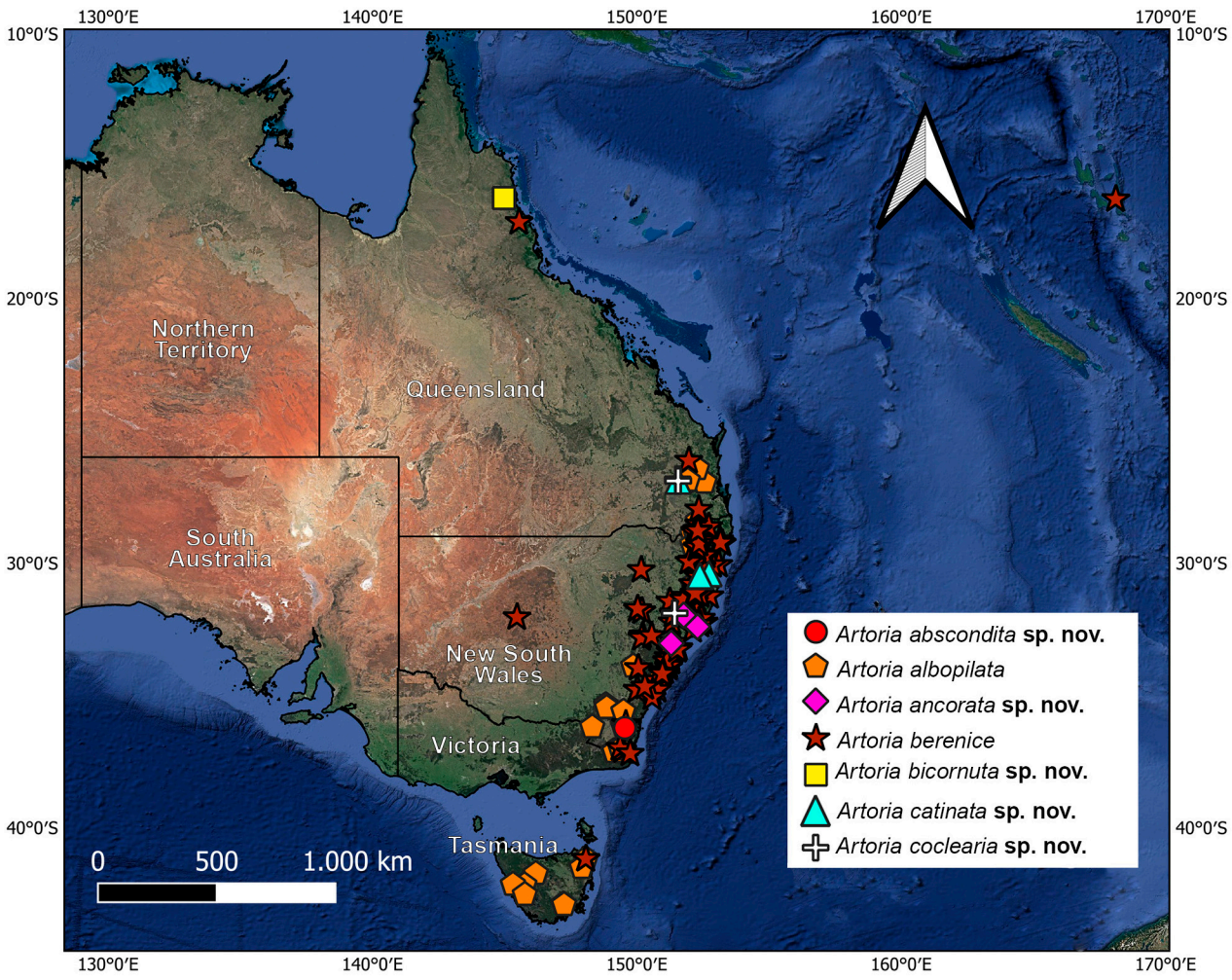

FIGURE 8. Distribution records of *Artoria abscondita* **sp. nov.**, *Artoria albopilata* (Urquhart, 1893), *Artoria ancorata* **sp. nov.**, *Artoria berenice* (L. Koch, 1877), *Artoria bicornuta* **sp. nov.**, *Artoria catinata* **sp. nov.**, *Artoria coclearia* **sp. nov.**

spherical, around one diameter apart, and spermathecal stalks about as long as one diameter of spermathecal heads, attached ectally then bent posteriorly (Fig. 7D).

Distribution: Queensland and New South Wales, with records from Bunya Mountains and Barrington Tops, suggesting a preference for subtropical to temperate montane environments across the Great Dividing Range (Fig. 8).

Life history and habitat preferences: Males were mainly found in January, females in April and June. *Artoria coclearia* inhabits mostly upland rainforest environments.

***Artoria cucurbita* sp. nov.** ♀
urn:lsid:zoobank.org:act:02BC0089-F4A6-45AB-98A9-C73EBB24C377
Figs 9A–D, 19

Type material: Holotype ♀, **AUSTRALIA: New South Wales:** The Battery Picnic Area, SE of Merriwa, 33°12'S, 150°27'E, 6 November 2001, M. Gray, G. Milledge, H. Smith (AM KS.75037).

Other material examined: Known only from holotype.

Etymology: The specific epithet "*cucurbita*" is a Latin noun meaning 'pumpkin' and refers to the shape of the epigynal plate of this species which resembles a pumpkin (jack o'latern) in upside down view.

Diagnosis: Females of *A. cucurbita* **sp. nov.** may resemble those of *Artoria corowa* Framenau & Baehr, 2018 due to the bilobate median septum and semicircular lateral lobes of the epigyne (Fig. 9C; Framenau & Baehr 2018, fig. 14G). However, in *A. cucurbita* **sp. nov.** the posterior margin of the median septum is rounded and does not have a distinct median notch as in *A. corowa*, and the posterior portions of the lateral lobes in *A. cucurbita* **sp. nov.** are distinctly projected mesally, almost touching each other and partially fused with the median septum (Fig. 9C), while in *A. corowa* they are far apart from each other and clearly distinct from the median septum (Framenau & Baehr 2018, fig. 14G). The spermathecal stalks in *A. cucurbita* **sp. nov.** are attached dorsally to the spermathecae (Fig. 9D), while in *A. corowa* they are attached ectally (Framenau & Baehr 2018, fig. 14H).

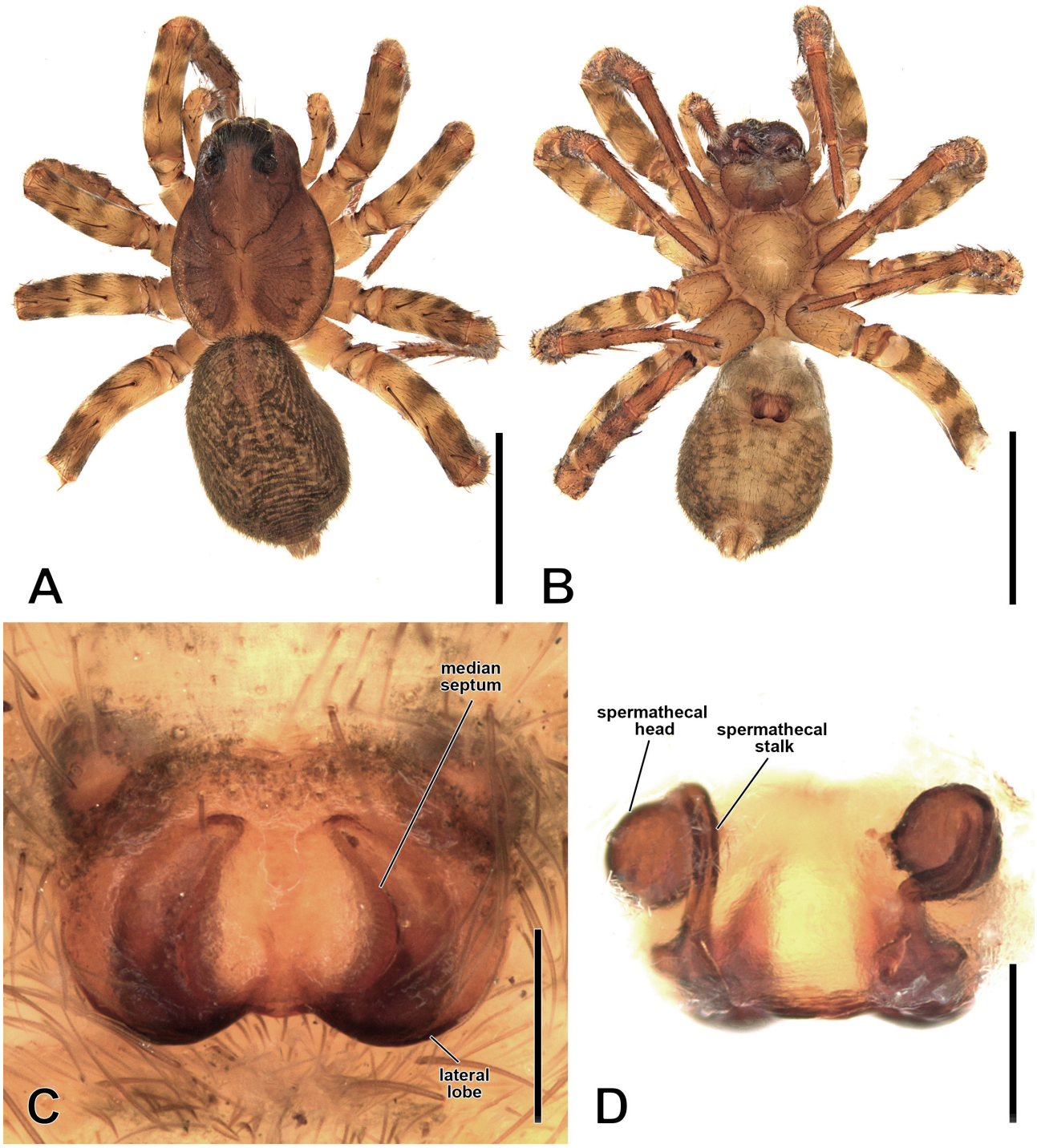

FIGURE 9. *Artoria cucurbita* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, holotype. Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

Description. Female (holotype, AM KS.75037).

Total length, 6.47. *Carapace,* length 3.35, width 2.48, brown, with brown median longitudinal band, narrowing posteriorly, broad dark brown lateral bands, and brown narrow submarginal lateral bands (Fig. 9A). *Sternum,* pale yellow with marginal dark grey patches (Fig. 9B). *Eyes,* diameter of AME 0.10, ALE 0.10, PME 0.36, PLE 0.29, anterior eye row procurved, distance between AME–AME around half AME–ALE. *Chelicerae,* reddish-brown, with vague streaked dark grey patch, three retromarginal teeth, median largest, and three promarginal teeth, median largest. *Labium,* dark brown with pale brown anterior rim (Fig. 9B). *Legs,* dark yellow with broad dark grey annulations from femora to metatarsi (Figs 9A, B). *Opisthosoma,* length 3.44, width 2.15. Dorsum dark grey, with cardiac mark dark yellow barely visible, slightly longer than half of the opisthosoma; venter pale yellow with sparse grey stains, spinnerets dark yellow (Figs 9A, B).

Epigyne, wider than long, atrium almost as wide as the epigyne. Median septum wider than long, bilobate,

with rounded lateral portions and a middle concavity, and posterior margin rounded. (Fig. 9C). Lateral lobes semicircular, with mesal margins delimiting long slits, posterior portions surpassing the median septum and projected mesally, almost touching each other and partially fused with the median septum. Spermathecal heads spherical, around two diameters apart, spermathecal stalks about twice as long as the spermathecal heads, attached dorsally and bent posteriorly (Fig. 9D).

Male unknown.

Life history and habitat preferences: Unknown.

Distribution: Known only from the type locality south-eastern of Merriwa, New South Wales, Australia (Fig. 19).

***Artoria cunicularia* sp. nov.** ♂♀

urn:lsid:zoobank.org:act:7B52820A-EDB7-41D9-A6B4-E461480B49F9

Figs 10A–E, 11A–D, 19

Type material: Holotype ♂, **AUSTRALIA: Queensland:** Pine Mountain Environmental Park,, 27°32'26"S, 152°42'19"E, 15.IX–11.XI.1998 (QM S59945).

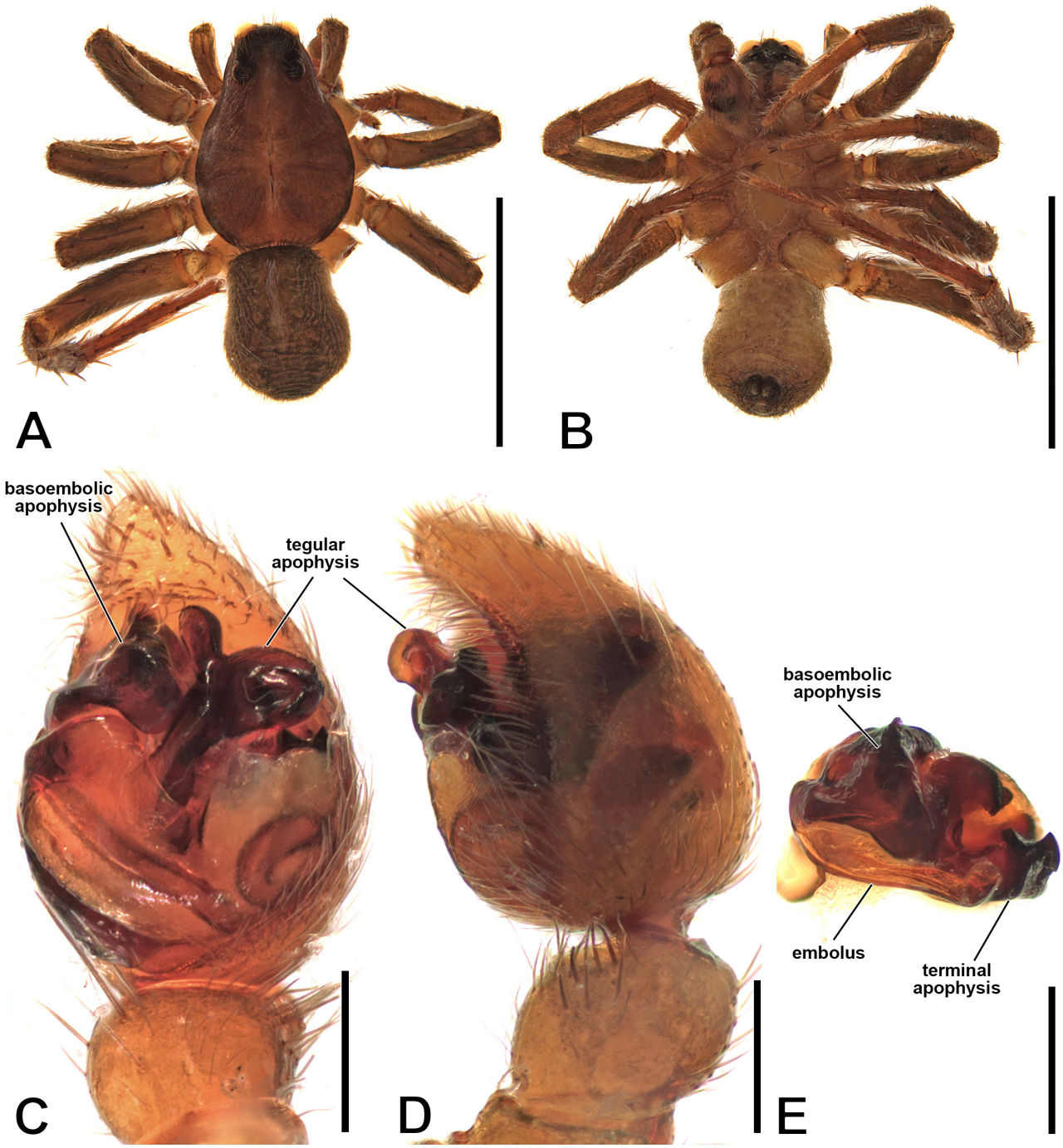

FIGURE 10. *Artoria cunicularia* **sp. nov.,** male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–E, holotype. Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

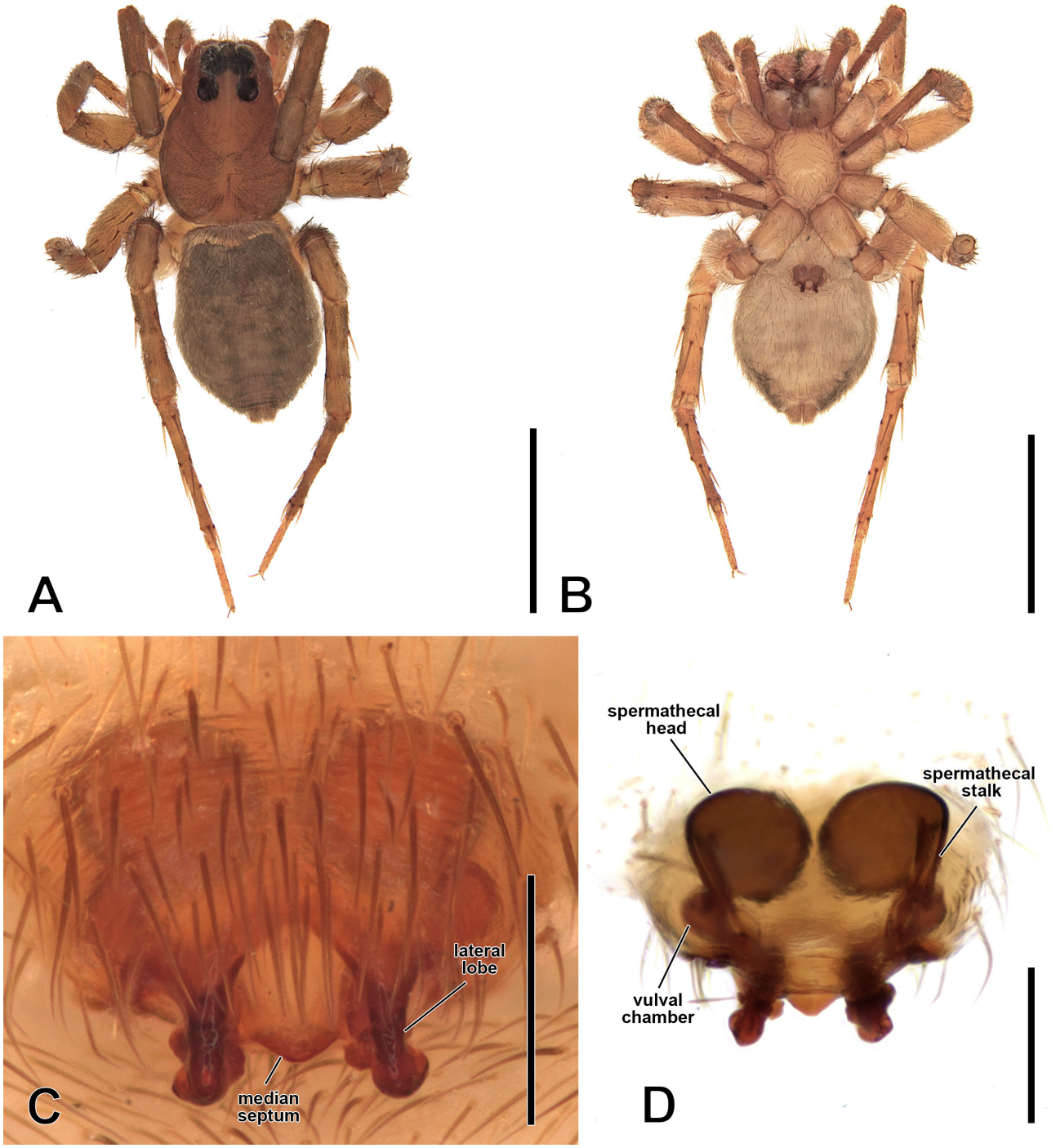

FIGURE 11. *Artoria cunicularia* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (QM S59933). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

Other material examined (6 ♂ and 3 ♀): AUSTRALIA: **Queensland:** 1 ♀, Keysland, 26°12'S, 151°44'E (QM S37743); 3 ♂, 1 ♀, Ambrose, 8 km N, 23°42'27"S, 150°55'22"E (QM S57927); 2 ♂, Coal Creek, Kholo, 27°33'25"S, 152°44'07"E (QM S59918); 1 ♀, 3 km SW of Wetheron, 25°34'01"S, 151°41'24"E (QM S59933); 1 ♂, Callide Mine, 24°19'40"S, 150°37'35"E (QM S121485).

Etymology: The specific epithet "*cunicularia*" is a Latin adjective meaning 'similar to a rabbit' and refers to the profile of the tegular apophysis in ventral view which resembles a rabbit's head in profile.

Diagnosis: Males of *A. cunicularia* **sp. nov.** resemble those of *A. pinnata* Prado, Baptista & Framenau, 2024 by their pedipalp bearing a tegular apophysis divided distally into two large and rounded lobes (Figs 10C, D, Prado *et al.* 2024, figs 27C, D). However, while in *A. cunicularia* **sp. nov.** the retrolateral lobe is clearly larger than the prolateral, and has an evenly rounded margin and a median rim projecting ventrally (Figs 10C, D), in *A. pinnata* the

rounded lobes share similar size and the retrolateral lobe does not have a projecting median rim and has an acute retrolateral tip (Prado *et al.* 2024, figs 27C, D). Females of *A. cunicularia* **sp. nov.** are easily distinguishable from all known species of *Artoria* due to their epigyne with lateral lobes forming at each side a long, narrow and sclerotized keel projected ventrally.

Description. Male (holotype, QM S59945).

Total length, 3.09. *Carapace,* length 1.81, width 1.33, dark brown, with paler median longitudinal band, darker narrow lateral submarginal bands, and broad dark brown lateral bands (Fig. 10A). *Sternum,* orange-brown (Fig. 10B). *Eyes,* diameter of AME 0.07, ALE 0.04, PME 0.22, PLE 0.17, anterior eye row procurved, evenly spaced. *Chelicerae,* pale brown, three retromarginal teeth, median largest, and three promarginal teeth, median largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 10A). *Legs,* evenly dark brown (Figs 10A, B). *Opisthosoma,* length 1.32, width 1.05. Dorsum mostly dark grey, with a pale brown cardiac mark about half as long as opisthosoma (Fig. 10A). Venter dark yellow, spinnerets dark grey (Fig. 10B).

Pedipalp (Figs 10C–E), tibia globular, free tip of the cymbium about 1/4 the total length of the cymbium in ventral view, subtegulum is heavily sclerotized. The tegular apophysis is large and broadens apically into two lobes. The retrolateral lobe is rounded and concave, with margins and a median rim projecting ventrally, while the prolateral lobe is slightly concave and appears as a narrow, blade-like structure in ventral view, and as a flat, wide, rounded structure in retrolateral view. Basoembolic apophysis subtriangular, as wide as long, large, and heavily sclerotized. Embolus flat and large, narrower at its middle than at its truncated apex. Terminal apophysis very thick and sclerotized, with a larger basal lobe linked to smaller apical lobe which together resemble a chela.

Female (QM S59933)

Total length, 4.18. *Carapace,* length 1.94, width 1.51, with a reddish-brown longitudinal median band and two broad brown lateral bands (Fig. 11A). *Sternum*, yellow. *Eyes,* diameter of AME 0.07, ALE 0.05, PME 0.24, PLE 0.20, anterior eye row procurved, evenly spaced. *Chelicerae,* reddish-brown, paler on their distal margins, teeth pattern same as male. *Labium,* brown, with pale brown anterior (Fig. 11B). *Legs,* dark yellow (Figs 11A, B). *Opisthosoma,* length 2.28, width 1.64. Dorsum evenly dark grey (Fig. 11A). Venter evenly pale yellow, spinnerets dark yellow (Fig. 11B).

Epigyne, wider than long, atrium pentagonal, almost half as long as the epigyne, with transverse anterior margins. Median septum tongue-like as long as the atrium (Fig. 11C). Lateral lobes very sclerotized, parallel, surpassing the median septum posteriorly, and projecting ventrally, looking narrow in ventral view, but as flat wide plates in lateral view with rounded posterior margins. Spermathecal heads spherical almost touching each other, with rounded vulval chambers posteriorly, and spermathecal stalks about as long as one diameter of spermathecal heads, attached ectally and bent posteriorly (Fig. 11D).

Life history and habitat preferences: Mature males of *A. cunicularia* **sp. nov.** have been recorded in Queensland from mid-September to mid-December, with higher numbers in September and October. Females have been found in late January and again between late September and December. No information on putative habitat preferences is available.

Distribution: Currently only known from Queensland, from central and eastern localities including Monto, Ambrose, Wetheron, and Ipswich. This indicates a relatively wide distribution in south-eastern and central Queensland, ranging from inland to coastal woodland habitats, including areas near Coal Creek, Pine Mountain, and Keysland (Fig. 19).

Artoria geniculata **sp. nov.** ♂♀

urn:lsid:zoobank.org:act:C7DDB29C-A06F-45EA-A81A-E232194877B6

Figs 12A–E, 13A–D, 19

Type material: Holotype ♂, **AUSTRALIA: Queensland:** 2.2 km SSW. of Peawaddy Gorge Lookout, 24°55'26"S, 148°04'06"E, 23.VIII.2001–21.I.2002 (QM S70073).

Other material examined (4 ♂, 12 ♀, 1 juvenile): AUSTRALIA: **Queensland:** 1 ♀, Pine Mountain summit, 21°45'S, 148°50'E (QM S111940); 1 ♀, Bellthorpe, 26°50'S, 152°41'E (QM S37683); 3 ♀, 1 juvenile, Mt Aberdeen summit saddle, 20°12'S, 147°53'E (QM S40682); 4 ♀, 1 ♂, Peawaddy Gorge Lookout, 1 km S, 24°55'04"S, 148°03'16"E (QM S58417); 1 ♀, upper Cameron Creek, 21°35'11"S, 149°11'20"E (QM S68346); 1 ♂, O'Reillys, Lamington National Park., 28°14'05"S, 153°08'07"E (QM S70066); 1 ♂, 2.2 km SSW. of Peawaddy Gorge Lookout, 24°55'26"S, 148°04'06"E (QM S70072); 1 ♀, Upper Hall Creek, via Carmila, 21°52'S, 147°18'E (QM S72318); 1 ♂, 1 ♀, Lamington National Park, 28°13'37"S, 153°07'52"E (QM S81129).

Etymology: The specific epithet "*geniculata*" is a Latin adjective meaning "with a small knee" and refers to the strong bend in the distal third region of the embolus of this species.

Diagnosis: Males and females of *A. geniculata* **sp. nov.** are similar to those of *A. helensmithae* Framenau & Baehr, 2018, *A. beaury* Framenau & Baehr, 2018, *A. mungo* Framenau & Baehr, 2018, *A. hamifera* **sp. nov.** and *A. semicircularis* **sp. nov.** The male pedipalps of these species share a similar tegular apophysis, bearing a broad apex with prolateral apical corner rounded and curved retrolateral portion and projected ventrally ending in an acute or rounded tip (*e.g.* Figs 13C, D; Figs 38C, D). Among those species, males of *A. geniculata* **sp. nov.** are most similar to those of *A. semicircularis* **sp. nov.**, but they differ by the inconspicuous dark annulations on the legs and a pedipalp with narrower basoembolic apophysis and an embolus with a sharp curve (~90°) at its distal third (Figs 12C–E), while in *A. semicircularis* **sp. nov.** the embolus curves in its middle in a less sharp curve (Figs 39E). The female epigyne of *A. geniculata* **sp. nov.** resembles that of *A. victoriensis* Framenau, Gotch & Austin, 2006 with inner

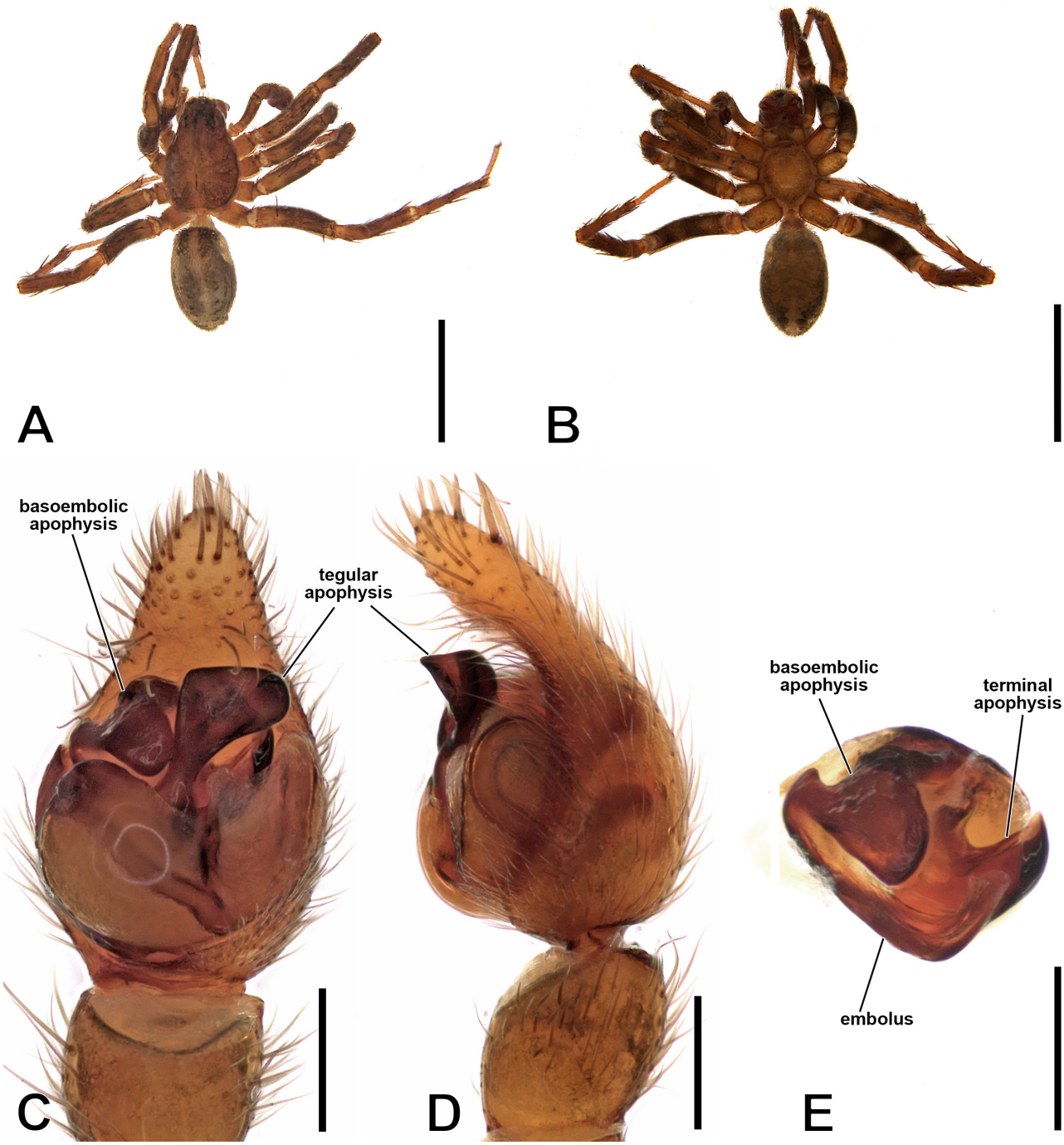

FIGURE 12. *Artoria geniculata* **sp. nov.,** male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–D, holotype; E, (QM S70072). Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

margins of the lateral lobes fused with the lateral margins of the median septum, and median septum less than a half as long as the epigynal area. However, in *A. geniculata* **sp. nov.** the median septum margins are less sclerotized, the lateral lobes are much broader, and the atrium is narrower, trapezoidal, with straight well-marked lateral and anterior margins (Figs 13C, D), while in *A. victoriensis* the margins of the median septum are heavily sclerotized, the lateral lobes are narrower, and the atrium is rounded and broad (Framenau & Baehr 2018, figs 43G, H).

Description. Male (holotype, QM S70073).

Total length, 4.40. *Carapace,* length 2.46, width 1.63, brown, with reddish-brown median longitudinal band narrowing posteriorly and broad dark brown lateral bands (Fig. 12A). *Sternum,* brown (Fig. 12B). *Eyes,* diameter of AME 0.06, ALE 0.07, PME 0.26, PLE 0.20, anterior eye

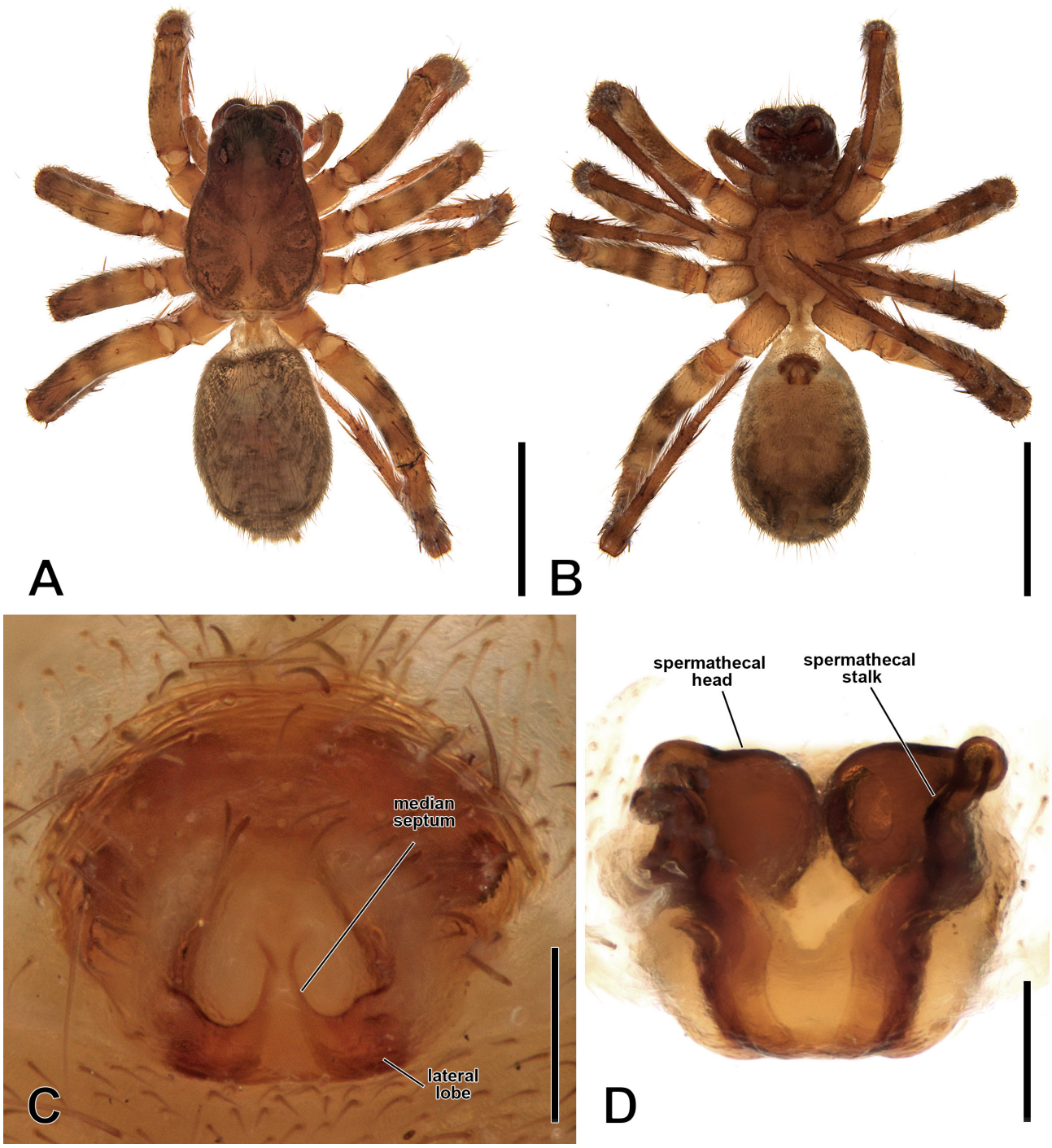

FIGURE 13. *Artoria geniculata* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (QM S68346). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

row procurved, distance between AME–AME about half AME–ALE. *Chelicerae,* dark brown, paler on their distal margins, with vague streaked dark grey patches, three retromarginal teeth, distal largest, and two promarginal teeth, distal largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 12B). *Legs,* mostly dark brown with tarsi paler (Fig. 12A, B). *Opisthosoma,* length 1.87, width 1.32. Dorsum mostly dark grey, with cardiac mark dark yellow half as long as the opisthosoma (Fig. 12A). Venter and spinnerets dark grey (Fig. 12B).

Pedipalp (Figs 12C–E), tibia subrectangular in ventral view, free tip of the cymbium slightly longer than 1/3 of the cymbium; subtegulum thin and heavily sclerotized. Tegular apophysis as a stalk that broadens and forms a convex surface distally, having a very convex retrolateral margin, a convex prolateral margin and straight distal margin, almost straight in ventral view; its retrolateral distal corner projects ventrally ending in an acute tip seen in retrolateral view. Basoembolic apophysis rounded, approximately as wide as long. Embolus semicircular,

short, flat, and with a sharp bend in distal third. Terminal apophysis forming a gutter, sclerotized, with a basal apophysis pointing retrolaterally and with a truncated retrolateral tip curved distally.

Female (QM S68346)

Total length, 4.50. *Carapace,* length 2.23, width 1.47, similar to male (Fig. 13A). *Sternum*, similar to male. *Eyes,* diameter of AME 0.07, ALE 0.07, PME 0.28, PLE 0.20, anterior eye row procurved, distance between AME–AME about half AME–ALE. *Chelicerae,* dark brown, paler on their margins, with vague streaked dark grey patches in distal half, teeth pattern as male. *Labium,* similar to male (Fig. 13B). *Legs,* dark yellow with broad dark grey annulations on femora, patellae and tibiae (Figs 13A, B). *Opisthosoma,* length 2.07, width 1.42. Dorsum and venter similar to male, but lighter (Fig. 13A, B).

Epigyne, as wide as long, atrium trapezoidal, as long as 2/3 of epigyne and as wide as 1/3 of epigyne. Median septum trapezoidal, half as long as atrium, with its anterior margin half as narrow as its posterior margin (Fig. 13C). Lateral lobes semicircular, with their posterior portion projected mesally and curving anteriorly, with its internal margins fused with the lateral margins of the median septum. Spermathecal heads spherical, touching each other, spermathecal stalks sinuous, twice as long as the spermathecal heads, attached ectally (Fig. 13D).

Life history and habitat preferences: *Artoria geniculata* adults have been collected from late August through March. Mature males are most frequently recorded from October to early November, while females are present over a broader period, from December to March. Notable overlap between males and females occurs in early October (*e.g.*, Lamington National Park) and during extended collection periods such as August to January (*e.g.*, Peawaddy Gorge). The species is associated with upland forest habitats, including summit saddles, rainforest reserves, and wooded gorges, suggesting a preference for elevated or structurally complex environments.

Distribution: Queensland, extending from the south-eastern ranges (*e.g.*, Lamington National Park, Bellthorpe) to central and northern inland sites (*e.g.*, Mt Aberdeen, Peawaddy Gorge) (Fig. 19).

***Artoria globula* sp. nov.** ♂♀

urn:lsid:zoobank.org:act:48B8A17C-B902-40FD-9050-486C1E41C42C

Figs 14A–E, 15A–D, 19

Type material: Holotype ♂, **AUSTRALIA: Queensland:** Mt Dalrymple, , 21°03'S, 148°38'E, 21.XII.1992–10.I.1993 (QM S121490).

Other material examined (1 ♀): AUSTRALIA: **Queensland:** 1 ♀, data as holotype (QM S46959).

Etymology: The specific epithet "*globula*" is a Latin noun in apposition meaning 'small balls, beads' and refers to the two very small round spermathecae of this species.

Diagnosis: Males of *A. globula* **sp. nov.** resemble those of *A. velata* **sp. nov.** The male pedipalp of both species bears a very broad tegular apophysis with its basal portion subrectangular, flat and wide, and distal portion trapezoidal much wider, with a subtriangular central poorly sclerotized plate (Figs 14C–E, 47C–E). However, in *A. globula* **sp. nov.** the tegular apophysis does not have a conspicuous notch between its two portions, and its distal portion has a prolateral stalk and a much thicker retrolateral stalk (Figs 14C, D), while in *A. velata* **sp. nov.** the tegular apophysis has a rounded notch between its two parts and has a prolateral subtriangular sclerotized wide and thin plate, and a thinner retrolateral stalk (Figs 47C, D). Additionally, the male pedipalp of *A. globula* **sp. nov.** has a smaller basoembolic apophysis with a sawed apex, much broader and thicker embolus, and a thin and poorly sclerotized terminal apophysis mostly covered the embolus, while males of *A. velata* **sp. nov.** have bigger basoembolic apophysis with a rounded apex, narrower and thinner embolus, and a heavily sclerotized terminal apophysis wider than the embolus (Figs 14C, D; 47C, D). The females of *A. globula* **sp. nov.** are clearly distinguishable from those of the remaining species of the genus by the wide atrium of their epigyne with its anterior margin projecting anteriorly into a mushroom-shaped stalk with a broad rounded tip, and by having conspicuously small, globular spermathecae about seven diameters apart from each other (Figs 15C–D).

Description. Male (holotype, QM S121490).

Total length, 4.48. *Carapace,* length 2.75, width 1.85, mostly dark brown, with reddish-brown median longitudinal band narrowing posteriorly and broad dark brown lateral bands, with vague reddish-brown submarginal lateral narrow bands (Fig. 14A). *Sternum,* brown (Fig. 14B). *Eyes,* diameter of AME 0.09, ALE 0.09, PME 0.38, PLE 0.22, anterior eye row strongly procurved, distance between AME–AME around half AME–ALE. *Chelicerae,* reddish-brown, with a black longitudinal stripe and streaked dark grey patches, three retromarginal teeth, subequal, and three promarginal teeth, median largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 14B). *Legs,* mostly dark yellow, with dark grey annulations from femora to tibiae (Fig. 14A, B). *Opisthosoma,* length 1.90, width 1.49. Dorsum mostly dark grey with scattered brown spots throughout, cardiac mark brown and about 2/3 as long as the opisthosoma (Fig. 14A). Venter mostly dark yellow, with a large central and trapezoidal dark grey patch, and spinnerets dark yellow (Figs 14A, B).

Pedipalp (Figs 14C–E), tibia trapezoidal very broad in ventral view, free tip of the cymbium 1/3 of cymbium; subtegulum small and heavily sclerotized. Tegular apophysis very broad with its basal portion subrectangular wide and flat branching into two thick and sclerotized stalks, both bent retrolaterally, forming the lateral margins of the wider trapezoidal distal portion of the tegular apophysis and connected dorsally by a poorly sclerotized and thin subtriangular plate. Basoembolic apophysis narrow, only slightly projecting ventrally, about as wide as long, with sawed keel on retrolateral margin. Embolus semicircular, broad, thick and flat, ending in a truncated slightly narrower tip. Terminal apophysis poorly sclerotized, thin, mostly covered by the broad embolus.

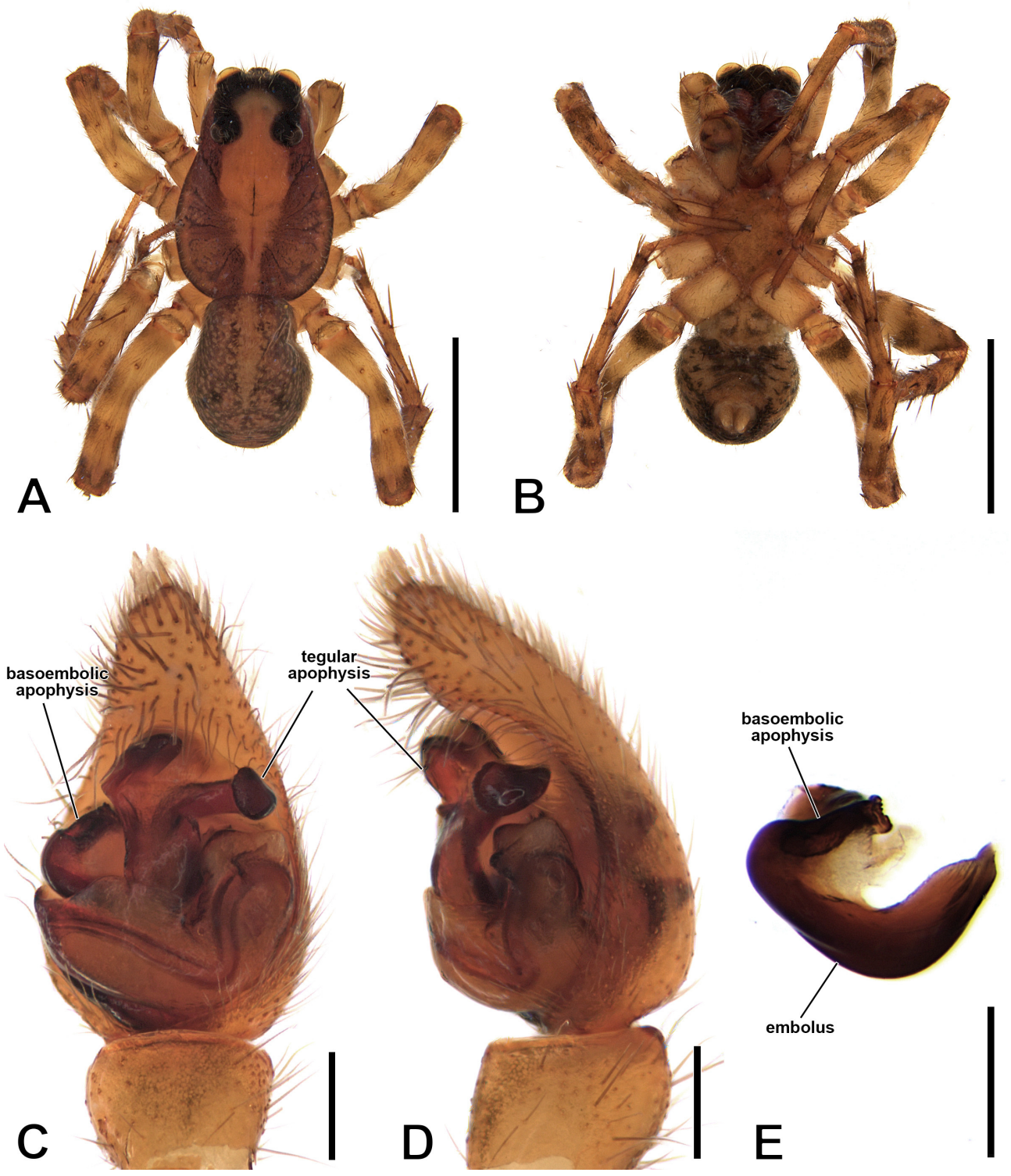

FIGURE 14. *Artoria globula* **sp. nov.,** male A, dorsal habitus; B, ventral habitus; C, D, left pedipalp (C, ventral; D, retrolateral); E, right pedipalp (mirrored), embolic division, ventral. A–E, holotype. Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

Female (QM S46959)

Total length, 5.24. *Carapace,* length 2.66, width 1.90, similar to male (Fig. 15A). *Eyes,* diameter of AME 0.07, ALE 0.08, PME 0.38, PLE 0.27, anterior eye row strongly procurved, distance between AME–AME about 1/3 AME–ALE. *Chelicerae,* reddish-brown, with longitudinal dark brown stripe, three retromarginal teeth, subequal, and three promarginal teeth, median largest. *Labium,* similar to male (Fig. 15B). *Legs,* similar to male (Figs 15A, B). *Opisthosoma,* length 2.37, width 1.82. Dorsum similar to male and venter mostly dark yellow with two parallel longitudinal rows of dark grey patches, with a set of irregular dark grey patches in between (Figs 15A, B).

Epigyne, wider than long, atrium almost as wide as the epigyne with the median part of its anterior margin projected anteriorly into a mushroom-shaped stalk ending

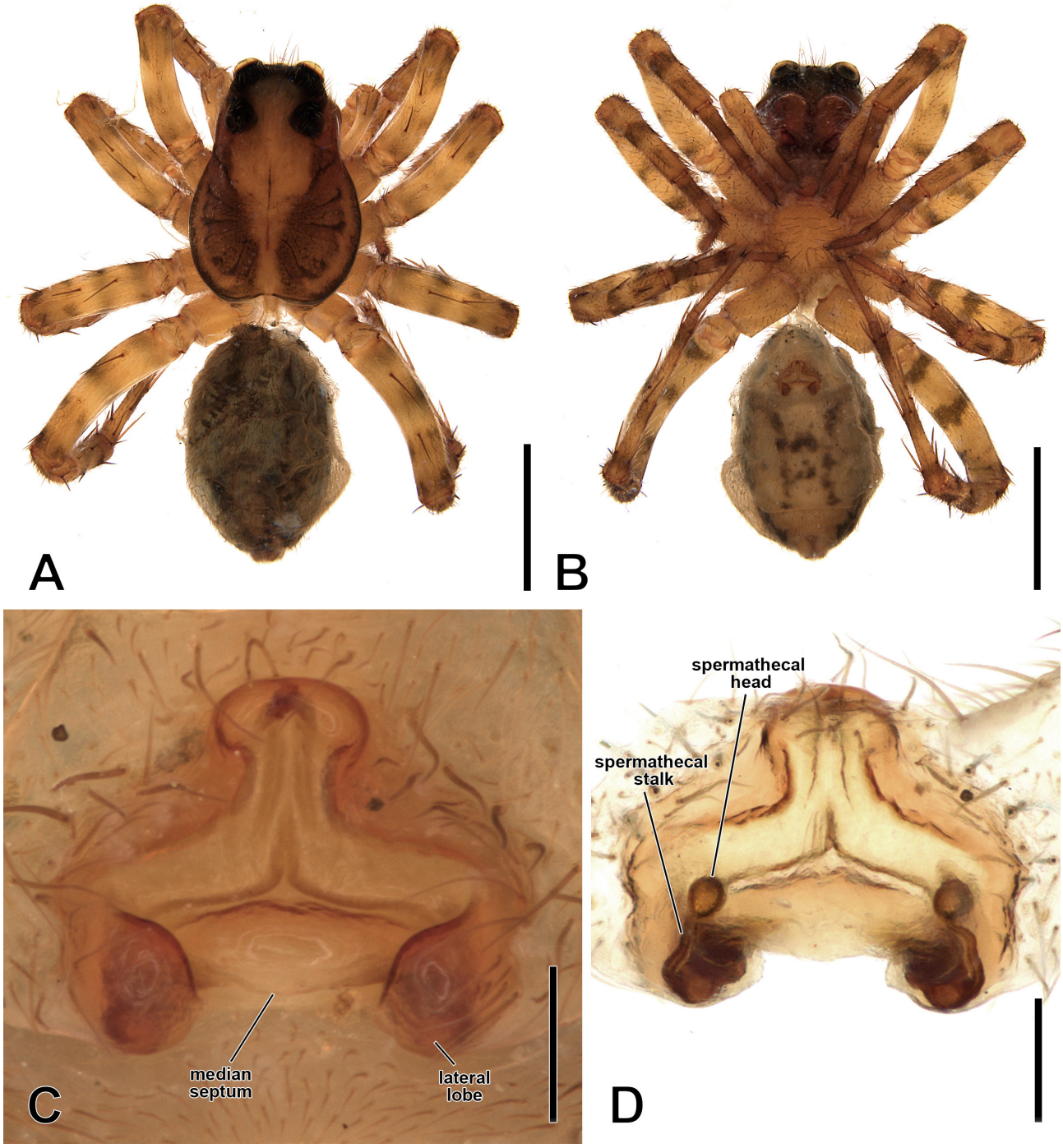

FIGURE 15. *Artoria globula* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (QM S46959). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

in a broad rounded tip. Median septum subrectangular, wider than long, slightly wider than 2/3 of the atrium (Fig. 15C). Lateral lobes form broad rounded plates projecting mesally, far apart from each other, surpassing median septum posteriorly. Spermathecal heads very small, globular, about seven diameters apart, spermathecal stalks very thin and slightly sinuous about three times as long as the spermathecal heads, attached posteriorly (Fig. 15D).

Life history and habitat preferences: Male and female collected in January. No information on putative habitat preferences is available.

Distribution: Endemic to the Dalrymple Heights region, part of the Great Dividing Range in central-eastern Queensland (Fig. 19).

Artoria grahammilledgei Framenau & Baehr, 2018

♂♀

Artoria grahammilledgei Framenau & Baehr, 2018: 201–205, figs 22A–H, 47J.

Type material: Holotype ♂, **AUSTRALIA**: **New South Wales**: Awabakal Nature Reserve, 120 m off Redhead Road and 1 km S of Dudley, 32°59'44"S, 151°42'58"E, 22.VI–1.VII.2012, J.R. Gollan, M.A. Ashcroft, pitfall trap, under tree canopy (AM KS.127756). Paratypes: 1 ♂, same data as holotype (AM KS.122652); 4 ♂, 1 ♀, Gordon, E traps, 33°44'S, 151°09'E, 18.VII.1982, C. Horseman, pitfall trap (AM KS9756); 21 ♂, 3 ♀, Gordon, 33°44'S, 151°09'E, 29.VII–26 VIII.1982, C. Horseman, pitfall trap (AM KS.9788); 1 ♂, 1 ♀, same data (ZSMH A0002167).**New records (9 ♂, 3 ♀ and 2 juveniles): AUSTRALIA**: **Queensland:** 1 ♂, Beerwah Forestry Reserve , 26°51'S, 152°57'E (QM S46896); 1 ♂, 1 ♀, 2 juveniles, Brookfield, Gold Creek Reservoir, 27°30'S, 152°55'00.12"E (QM S70037–8); 1 ♀, Crediton Creek (Site 1), 21°10'59.99"S, 148°31'00.12"E (QM S46963); 1 ♂, Mudlo Gap, top, 26°28.8"S, 152°13'27.48"E (QM S70039); 5 ♂, 1 ♀, Redwood Pk, Toowoomba, 27°33'S, 151°58'0.12"E (QM W5948); 1 ♂, U Brookfield, 27°30'S, 152°55'00.12"E (QM S70044).

Diagnosis (after Framenau & Baehr 2018): Males of *A. grahammilledgei* are most similar to those of *A. terania* Framenau & Baehr, 2018, but the tegular apophysis of *A. grahammilledgei* is lobed apically (while not as elongated

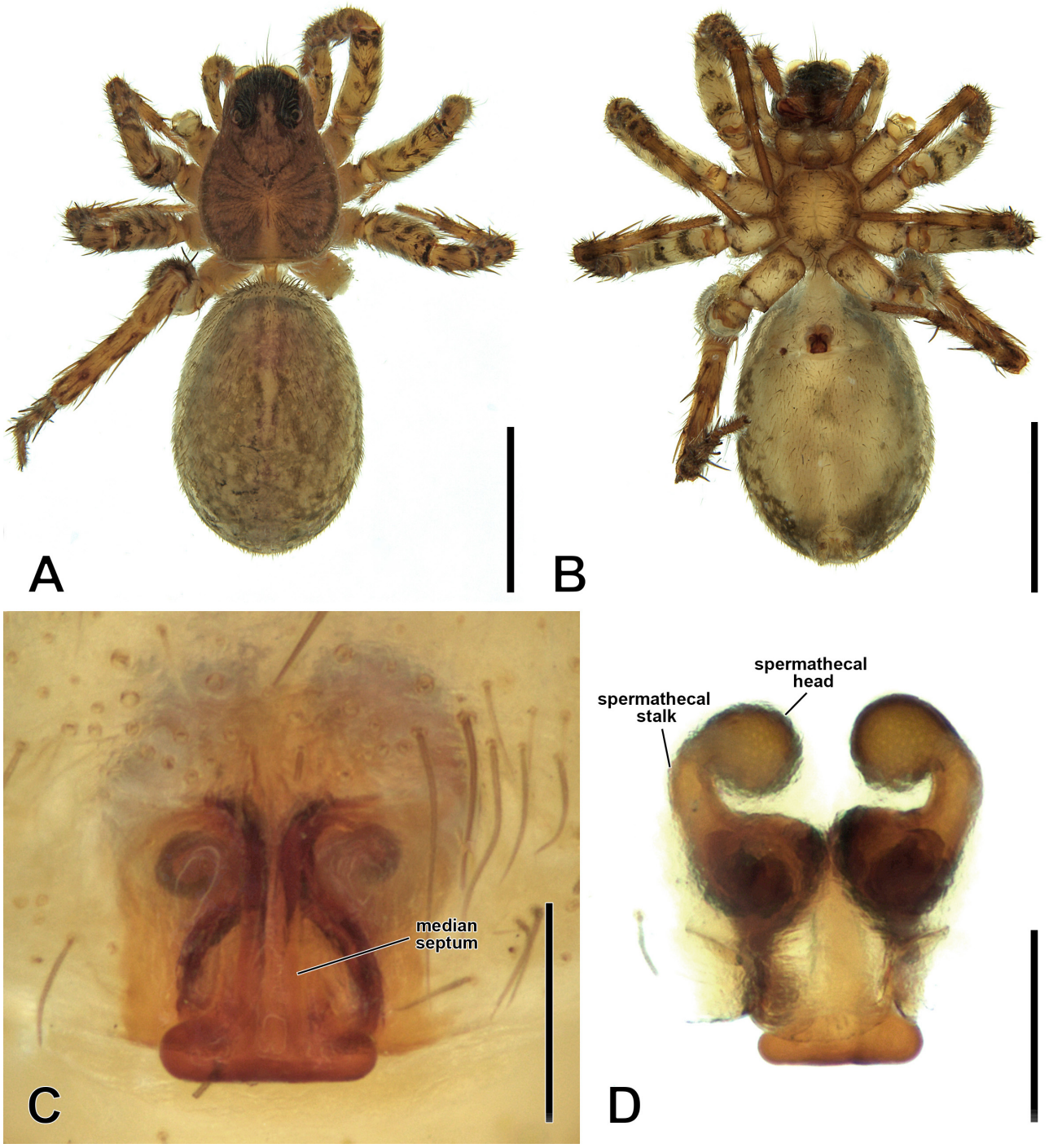

FIGURE 16. *Artoria halterata* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–C, holotype; D, (QM S40950). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

as in *A. slatyeri* Framenau & Baehr, 2018), whereas it is truncated in *A. terania* (Framenau & Baehr 2018, figs 22I, 39E) The epigyne's atrium is almost rectangular about as wide as long with two concave lateral edges and large spermathecae (Framenau & Baehr 2018, figs 22g, h).

Remarks: *Artoria grahammilledgei* Framenau & Baehr, 2018 has recently been described and illustrated in detail (Framenau & Baehr 2018).

Life history and habitat preferences: Mature males of *A. grahammilledgei* are most commonly collected during July and August while females have been recorded from April to July and again in November. The species shows a strong association with forested environments, across temperate to subtropical woodland in coastal and inland regions.

Distribution: *Artoria grahammilledgei* occurs primarily in south-eastern Australia, with most records from New South Wales, but the species also occurs in south-eastern Queensland (Fig. 19).

***Artoria halterata* sp. nov.** ♀
urn:lsid:zoobank.org:act:7EE9E44C-67B8-4984-A80B-D4CCE76684E0
Figs 16A–D, 19

Type material: Holotype ♀, **AUSTRALIA**: **Queensland:** North Stradbroke Island, "Ibis Alpha" (Ibc), 27°38'S, 153°26'E, IX.1994 (QM S121483).

Other material examined (1 ♀): AUSTRALIA: **Queensland:** 1 ♀, data as holotype (QM S40950).

Etymology: The specific epithet "*halterata*" is a Latin adjective meaning 'with a halter' and refers to the peculiar spermathecae of this species which have a long, curved bar connected to two globose terminal portions at the anterior part of the epigyne, resembling a halter.

Diagnosis: Females of *A. halterata* **sp. nov.** resemble those of *Artoria laciniata* **sp. nov.** due to the similar lateral lobes of the epigyne that have a broader anterior half and are close to each other (Figs 16C, 20C). However, the epigyne of *A. halterata* **sp. nov.** is distinguishable by its poorly sclerotized lateral lobes, and the elongated, inverted T-shaped median septum surpassing the epigastric furrow posteriorly, and the copulatory openings located at the anterior half of the epigynal area (Figs 16C, D), while in *A. laciniata* **sp. nov.** the median septum is a broad subtriangle, the lateral lobes are heavily sclerotized, and the copulatory openings placed in the posterior half of the epigynal area (Figs 20C, D).

Description. Female (holotype, QM S121483).

Total length, 4.78. *Carapace,* length 1.95, width 1.41, mostly brown, with pale brown longitudinal band narrowing posteriorly, brown broad lateral bands and vague pale brown narrow submarginal lateral bands (Fig. 16A). *Sternum,* mostly dark yellow, with dark grey patches on its margins (Fig. 16B). *Eyes,* diameter of AME 0.07, ALE 0.07, PME 0.24, PLE 0.18, anterior eye row procurved, evenly spaced. *Chelicerae,* brown, with streaked dark grey patches, three retromarginal teeth median largest, two promarginal teeth, distal largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 16B). *Legs,* mostly dark yellow, with scattered dark grey patches from femora to metatarsi (Fig. 16A, B). *Opisthosoma,* length 2.69, width 1.84. Dorsum greyish yellow, with cardiac mark pale yellow along 2/3 of the opisthosoma (Fig. 16A). Venter and spinnerets dark yellow (Fig. 16B).

Epigyne, longer than wide, atrium subrectangular, shallow, not well delimited, 2/3 as long as epigyne. Median septum inverted T-shaped, about as long as atrium and with the median longitudinal portion more than twice as long as the transverse posterior portion. Lateral lobes sinuous, close to each other anteriorly, with broader anterior half (Fig. 16C). Spermathecal heads globular, slightly less than one diameter apart, spermathecal stalks about as long as spermathecal heads, attached ectally, then bent posteriorly towards the copulatory openings located at the anterior half of the epigynal area below the broader portion of the lateral lobes (Fig. 16D).

Male unknown.

Life history and habitat preferences: The holotype and a further female were found in September. No information on putative habitat preferences is available.

Distribution: Recorded only from North Stradbroke Island in south-eastern Queensland (Fig. 19).

***Artoria hamifera* sp. nov.** ♂♀
urn:lsid:zoobank.org:act:781D6B9E-25A8-4154-85EF-F44EE177E007
Figs 17A–E, 18A–D, 19

Type material: Holotype ♂, **AUSTRALIA: Queensland:** Toomba Homestead site, moist litter pockets, 19°58'03"S, 145°34'29"E, 15.II.2007 (QM S121492).

Other material examined (21 ♂ and 10 ♀): AUSTRALIA: **New South Wales:** 1 ♀, Wahroonga, Sydney, 33°42'S, 151°08'E (QM S72331). **Queensland:** 1 ♂, Boondall Wetlands (BCC1), 27°20'13"S, 153°04'16"E (QM S79539); 1 ♀, Brisbane, 27°29'36"S, 153°11'06"E (QM S77291); 1 ♂, 2 ♀, Bilyana, 18°04'12"S, 145°32'24"E (QM S68321–3); 9 ♂, Bilyana, 18°07'01"S, 145°54'15"E (QM S68361–5); 4 ♂, Chelsea Rd Bushlands Reserve (BCC), 27°28'35"S, 153°11'09"E (QM S62760); 2 ♂, same locality (QM S62873); 1 ♂, 1 ♀, Fairlies Knob, 0.5 km SE, 25°30'19"S, 152°17'13"E (QM S73711); 1 ♀, Gurgeena Plateau, site 1, 25°27'S, 151°23'E (QM S83274); 1 ♀, Lake Eacham, 17°16'35"S, 145°37'17"E (QM S58231); 1 ♀, North Stradbroke Island, behind main beach (site 3), 27°35'S, 153°27'E (QM S59777); 1 ♂, North Stradbroke Island, Dunwich, CRL Bayside Mine, 27°29'57"S, 153°24'14"E (QM S121486); 2 ♀, 1 juvenile, Toomba Homestead site, moist litter pockets, 19°58'03"S, 145°34'29"E (QM S79266); 1 ♂, Taroom District, Mt Rose Stn, 25°28'00.01"S, 150°1'59.88"E (QM S37474); 1 ♂, 6.5 km ENE of Tully, 17°55'03"S, 145°59'03"E (QM S73717).

Etymology: The specific epithet *hamifera*" is derived from the Latin words *hamus*, meaning "hook," and *fera*, meaning "bearing" or "carrying." This name refers to

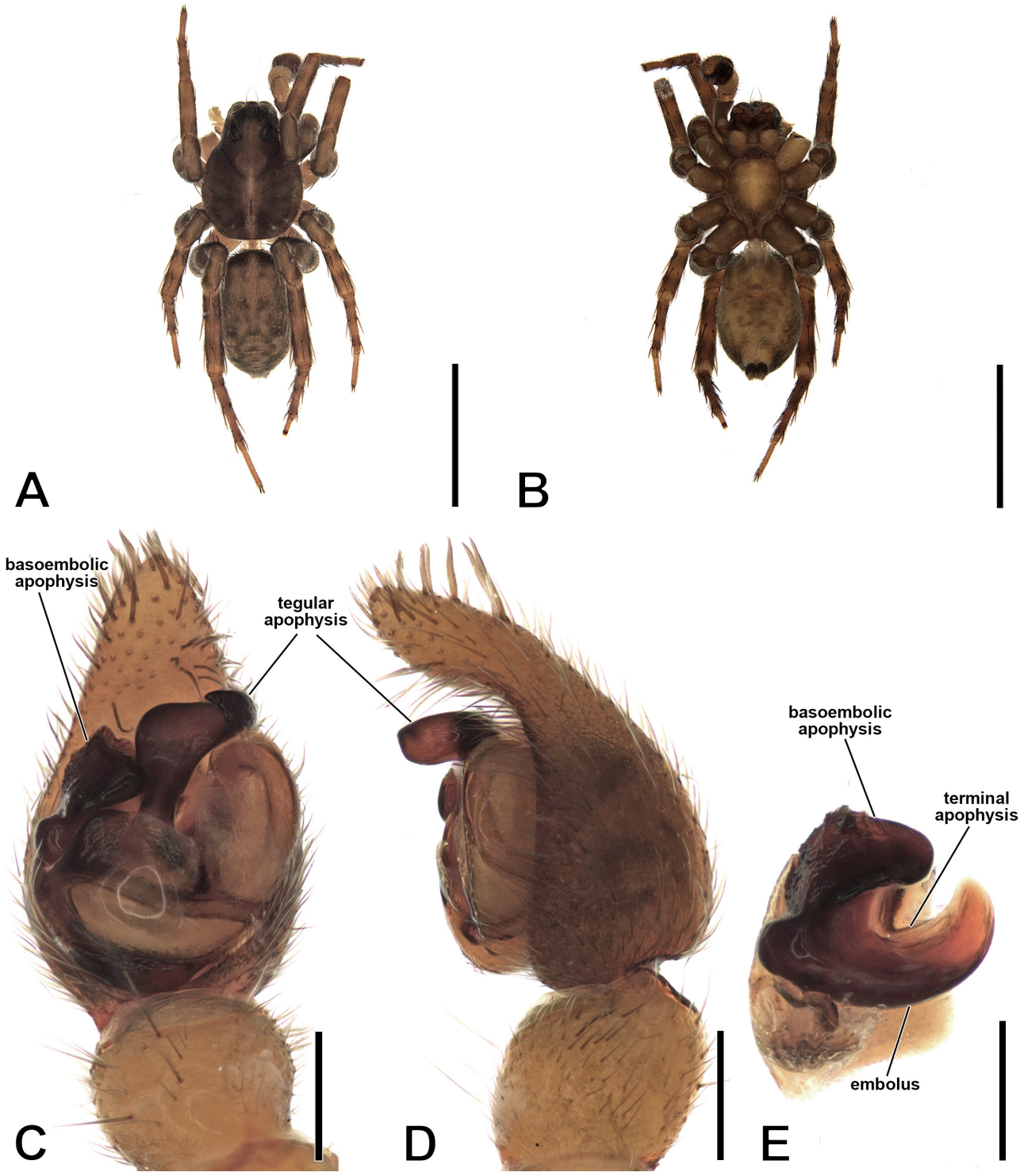

FIGURE 17. *Artoria hamifera* **sp. nov.,** male A, dorsal habitus; B, ventral habitus; C, D, left pedipalp (C, ventral; D, retrolateral); E, right pedipalp (mirrored), embolic division, ventral. A–D, holotype; E, (QM S37474). Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

the prominent hooked structure at the retrolateral apical corner of the tegular apophysis in the male pedipalp. It is an adjective in apposition.

Diagnosis: Males and females of *A. hamifera* **sp. nov.** are similar to those of *A. helensmithae* Framenau & Baehr, 2018, *A. beaury* Framenau & Baehr, 2018, *A. mungo* Framenau & Baehr, 2018, *A. geniculata* **sp. nov.** and *A. semicircularis* **sp. nov.**. The tegular apophysis of males of these species are similar, bearing a broad apex with rounded prolateral apical corner and its retrolateral portion curved and projected ventrally ending in an acute or rounded tip. However, males of *A. hamifera* are distinguished from these species by a very small and poorly sclerotized terminal apophysis. In addition, they can be distinguished from those of *A. beaury*, *A. semicircularis* **sp. nov.** and *A. helensmithae* by a much

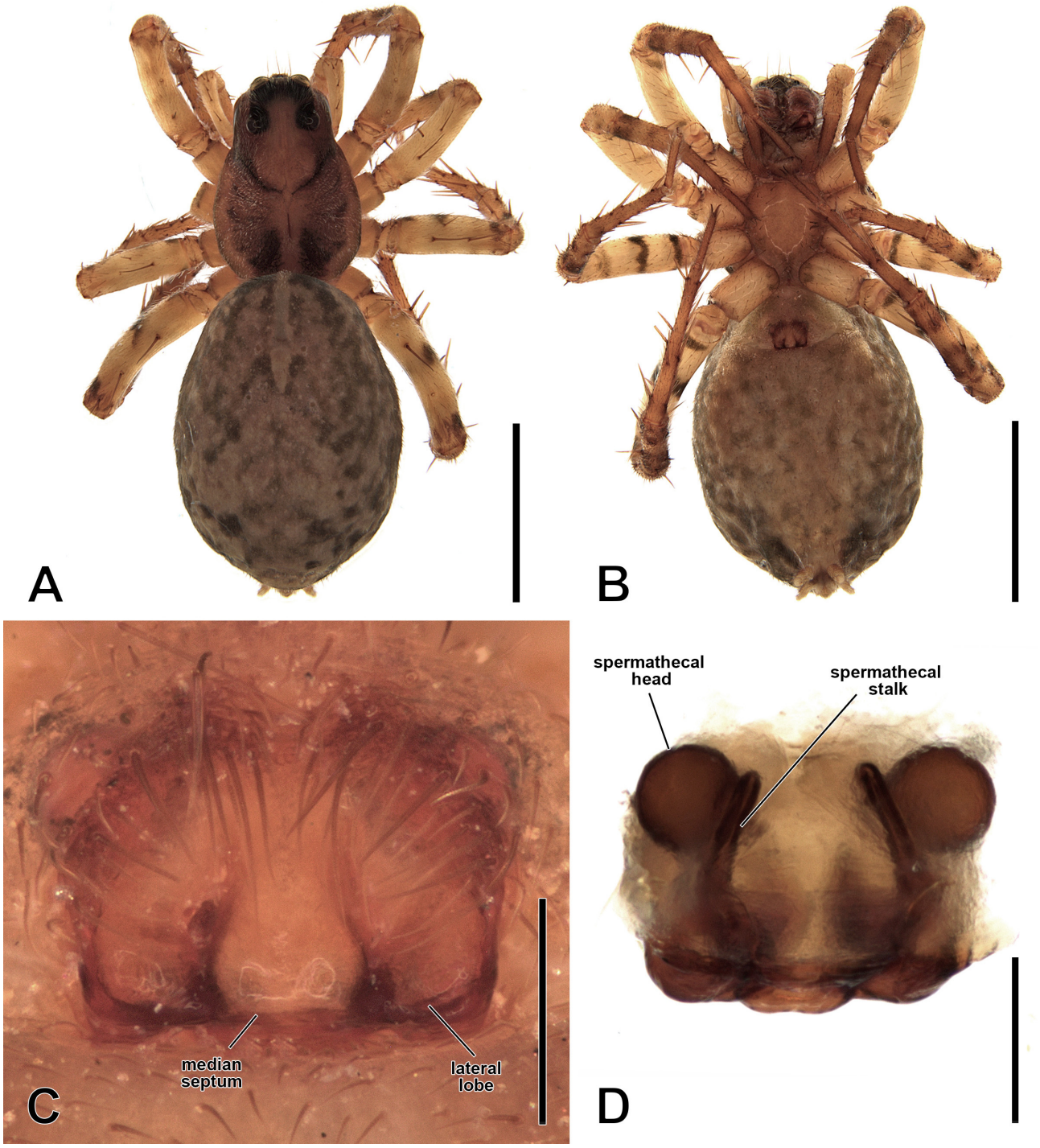

FIGURE 18. *Artoria hamifera* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (QM S58231). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

shorter and broader embolus (Figs 17E, 38C, Framenau & Baehr 2018, fig. 47B). In relation to *A. mungo*, they have a broader basoembolic apophysis and by the prolateral margin of the apex of the tegular apophysis slightly curved ventrally and not strongly projected ventrally and curved retrolaterally as in *A. mungo* (Figs 17C, D, Framenau & Baehr 2018, figs 32E, F). Females of *A. hamifera* **sp. nov.**, *A. helensmithae*, *A. beaury*, *A. mungo* share an epigyne with rounded and broad median septum and broad lateral lobes; however, *A. hamifera* **sp. nov.** differs from *A. mungo* by having a longer than wide median septum and inconspicuous anterior margin of the atrium, while *A. mungo* has wider than long median septum and a well-marked anterior margin of the atrium (Fig. 18C, Framenau & Baehr 2018, fig. 32G). Compared to *A. helensmithae* and *A. beaury* that have an epigyne with posterior tips projecting mesally from the semicircular lateral lobes (Framenau & Baehr 2018, figs 6G, 24G), *A. hamifera* **sp. nov.** have subrectangular lateral lobes without projecting posterior tips (Fig. 18C).

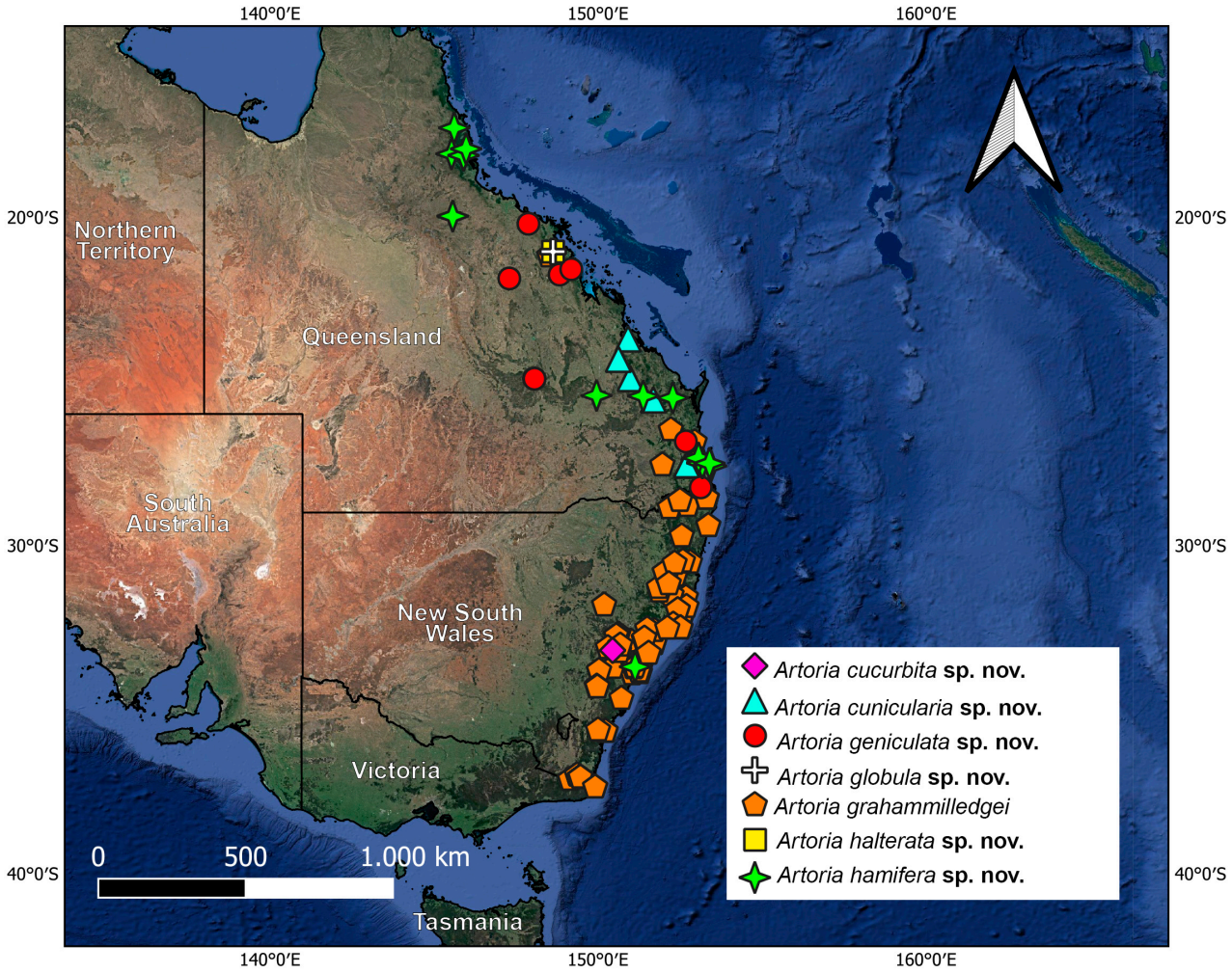

FIGURE 19. Distribution records of *Artoria cucurbita* **sp. nov.**, *Artoria cunicularia* **sp. nov.**, *Artoria geniculata* **sp. nov.**, *Artoria globula* **sp. nov.**, *Artoria grahammilledgei* Framenau & Baehr, 2018, *Artoria halterata* **sp. nov.**, *Artoria hamifera* **sp. nov.**

Description. Male (holotype, QM S121492).

Total length, 3.93. *Carapace,* length 1.97, width 1.43, dark brown, with pale brown median longitudinal band and narrow brown lateral submarginal bands (Fig. 17A). *Sternum,* yellowish brown, with dark brown marginal bands (Fig. 17B). *Eyes,* diameter of AME 0.08, ALE 0.08, PME 0.23, PLE 0.17, anterior eye row procurved, evenly spaced. *Chelicerae,* dark brown, paler on their distal margins, three retromarginal teeth, subequal, and two promarginal teeth, distal largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 17B). *Legs,* background colour yellowish-brown, with spaced dark brown stains throughout (Figs 17A, B). *Opisthosoma,* length 1.95, width 1.19. Dorsum mostly dark grey, with a yellowish-brown cardiac mark ⅔ as long as opisthosoma, and irregular yellowish-brown spots throughout (Fig. 17A). Venter pale yellow with three rows of dark grey spots (Fig. 17B).

Pedipalp (Figs 17C–E), tibia subrectangular in ventral view, free tip of the cymbium about 1/3 of cymbium; subtegulum heavily sclerotized, small. Tegular apophysis forms a stalk that broadens apically, apex with rounded prolateral corner, and retrolateral portion projecting ventrally and curved prolaterally, ending in an acute tip. Basoembolic apophysis subtriangular, longer than wide, and heavily sclerotized. Embolus semi-circular, flat and short, evenly wide on most of its length with a slightly narrower rounded tip. Terminal apophysis very thin and mostly covered by the flat embolus.

Female (QM S58231)

Total length, 5.87. *Carapace,* length 2.37, width 1.67, with reddish-brown longitudinal median band, narrowing posteriorly, two black lateral bands and two pale reddish-brown marginal bands (Fig. 18A). *Sternum*, reddish-brown. *Eyes,* diameter of AME 0.08, ALE 0.06, PME 0.28, PLE 0.21, anterior eye row procurved, distance between AME–AME about half AME–ALE. *Chelicerae,* evenly brown, three retromarginal teeth, subequal, and two promarginal teeth, distal largest. *Labium,* posterior half brown, anterior half pale brown (Fig. 18B). *Legs,* background colour yellow, with dark grey annulations from the femora to metatarsi (Figs 18A, B). *Opisthosoma,* length 3.72, width 2.59. Dorsum and venter colouration like male (Fig. 18A, B).

Epigyne, wider than long, atrium rounded. Median septum elevated, subrectangular with posterior half

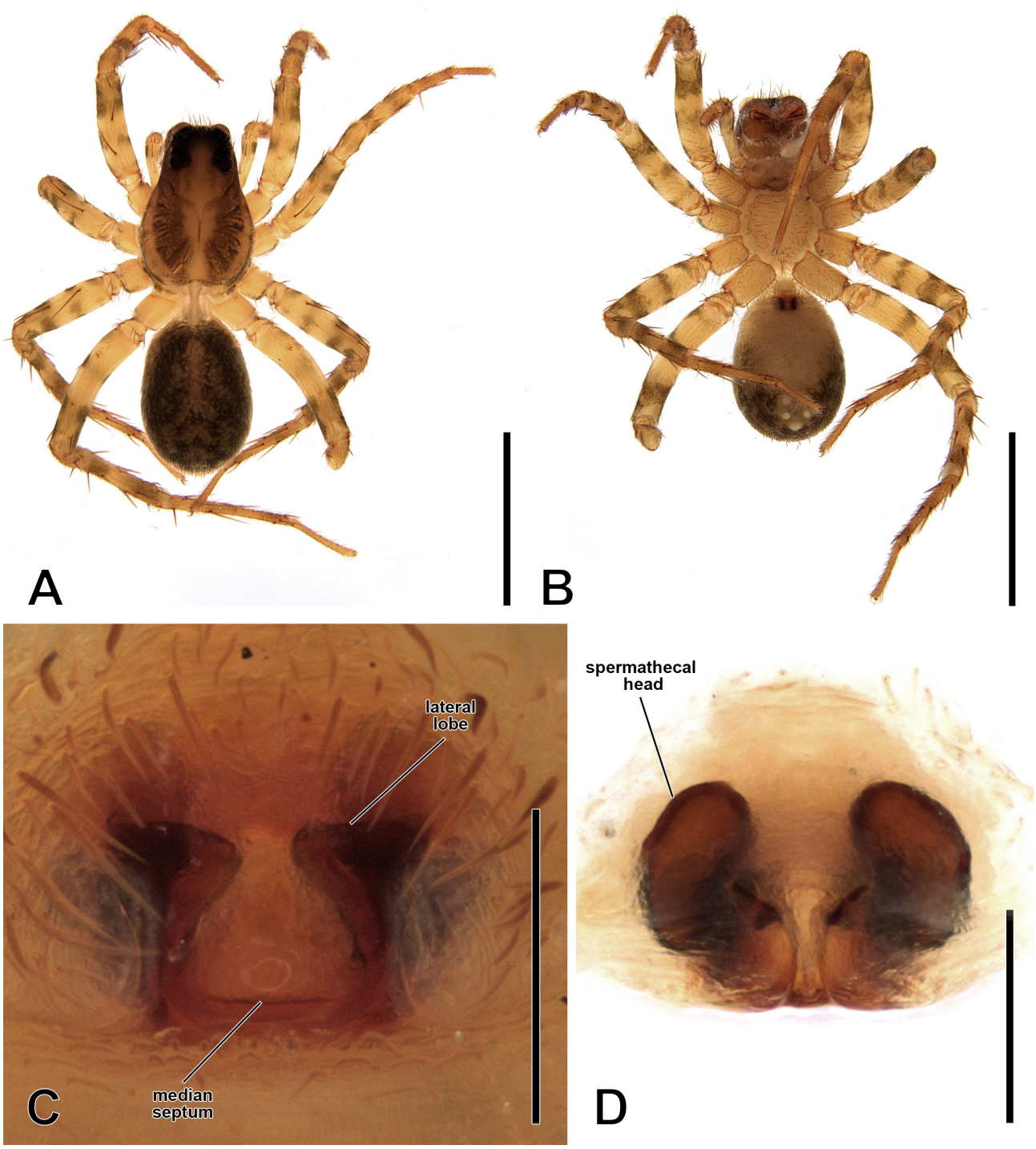

FIGURE 20. *Artoria laciniata* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, holotype. Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

slightly broader and rounded. Lateral lobes broad, subrectangular, each one as wide as 1/3 of the epigyne (Fig. 18C). Spermathecal heads globular, around one diameter apart; spermathecal stalks long, twice as long as spermathecae diameter, attached mesally, bent ventrally to the copulatory openings at the posterior third of epigyne (Fig. 18D).

Life history and habitat preferences: Mature females of *Artoria hamifera* **sp. nov.** have been recorded throughout the year, with higher numbers from February to March and again between June and September. Males were less frequently collected but were mostly found in February, March, and December. Specimens were mostly collected from forested environments, including bushland reserves, wetlands, and moist litter habitats, often near coastal areas or water bodies.

Distribution: *Artoria hamifera* **sp. nov.** has a widespread distribution in eastern Australia, found in south- and north-eastern Queensland, with additional records from northern New South Wales (Fig. 19).

***Artoria laciniata* sp. nov.** ♀
urn:lsid:zoobank.org:act:657B9D67-85FA-423E-AF91-C1595E51FA18
Figs 20A–D, 26

Type material: Holotype ♀, **AUSTRALIA: Queensland:** West Claudie R, Iron Range, 12°45'S, 143°13'59.88"E, 5.XII.1985, G. Monteith (QM S24466).

Other material examined: Only known from holotype.

Etymology: The specific epithet "*laciniata*" is a Latin adjective meaning 'with a flap' and refers to the two anterior triangular flaps formed by the lateral plates and projected over the median septum of the epigyne of the females of this species.

Diagnosis: Females of *A. laciniata* **sp. nov.** resemble those of *Artoria halterata* **sp. nov.** due to broader anterior halves of the lateral lobes of the epigyne that are close to each other (Figs 20C, 16C). However, the epigyne of *A. laciniata* **sp. nov.** has heavily sclerotized lateral lobes, the median septum forms a broad subtriangle, and the copulatory openings are located at the posterior half of the epigyne (Figs 20C, D), while in *A. halterata* **sp. nov.** the lateral lobes are poorly sclerotized, the median septum is elongated inverted T-shaped surpassing the epigastric furrow posteriorly, and the copulatory openings are placed in the anterior half of the epigyne (Figs 16C, D).

Description. Female (holotype, QM S24466).

Total length, 4.32. *Carapace,* length 1.96, width 1.40, brown, with pale brown median longitudinal band, broad dark brown lateral bands and pale brown submarginal lateral bands (Fig. 20A). *Sternum,* evenly dark yellow (Fig. 20B). *Eyes,* diameter of AME 0.08, ALE 0.07, PME 0.28, PLE 0.19, anterior eye row procurved, evenly spaced. *Chelicerae,* brown, with streaked dark grey patches, three retromarginal teeth, median largest, two promarginal teeth, distal largest. *Labium,* brown, with pale brown anterior rim (Fig. 20B). *Legs,* mostly pale yellow, with dark grey annulations from femora to metatarsi (Figs 20A, B). *Opisthosoma,* length 1.91, width 1.34. Dorsum dark grey, with cardiac mark dark yellow along half the opisthosoma (Fig. 20A). Venter and spinnerets dark yellow (Fig. 20B).

Epigyne, about as wide as long, atrium subrectangular, almost as wide and as long as the epigyne. Median septum subtrapezoidal, large, with posterior base slightly wider (Fig. 20C). Lateral lobes subtriangular, with their anterior portion projected mesally ending in rounded corners. Spermathecal heads poorly delimited from the spermathecal stalks, around one diameter apart, spermathecal stalks wide and short, as long as the spermathecal heads, attached posteriorly (Fig. 20D).

Male unknown.

Life history and habitat preferences: The holotype was found in summer (December). Habitat preferences are unknown.

Distribution: Only known from the type locality in northern Queensland (Fig. 26).

***Artoria limitata* sp. nov.** ♂♀
urn:lsid:zoobank.org:act:4F32C8F9-F88C-4891-A475-DE4125F154AA
Figs 21A–D, 26

Type material: Holotype ♀, **AUSTRALIA**: **New South Wales:** Border Ranges National Park, Tweed Range, 28°23'6 S, 153°07'0 E, 16 February 2008, Smith, Hines, Pugh & Webber (AM KS.53798).

Other material examined (1 ♀): AUSTRALIA: **New South Wales:** 1 ♀, Border Ranges National Park, Tweed Range Road, 2 km SSW. of junction with Brindle Creek Road, 28°23'52"S, 153°03'22"E (AM KS.131839).

Etymology: The specific epithet "*limitata*" is a Latin adjective meaning 'with a limit, border' and refers to the median septum of this species which is limited to a sclerotized rim at the posterior margin of the epigyne.

Diagnosis: Females of *A. limitata* **sp. nov.** resemble those of *A. extraordinaria* due to their poorly defined epigyne. However, the epigyne in *A. limitata* **sp. nov.** differs being a large elliptical plate with a concave posterior margin, a very small atrium restricted to the posterior fifth of the epigyne, and inconspicuous median septum and lateral lobe. The spermathecae are one and a half their diameter apart, with spermathecal stalks attached posteriorly (Figs 21C, D). In contrast, the epigyne of *A. extraordinaria* has a convex posterior margin, the lateral lobes are translucent, broad and rounded, and the spermathecae are less than one diameter apart with spermathecal stalks attached ventrally (Framenau & Baehr 2018, figs 18G, H).

Description. Female (holotype, AM KS.53798).

Total length, 4.73. *Carapace,* length 2.30, width 1.54, dark brown, with reddish brown broad median longitudinal band, broad dark brown lateral bands and reddish brown narrow submarginal lateral bands (Fig. 21A). *Sternum,* reddish-brown with darker margins (Fig. 21B). *Eyes,* diameter of AME 0.09, ALE 0.09, PME 0.27, PLE 0.19, anterior eye row slightly procurved, distance between AME–AME about 1/3 AME–ALE. *Chelicerae,* dark brown, paler on their distal margins, three retromarginal teeth, the two distal largest, and three promarginal teeth, median largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 21B). *Legs,* mostly dark yellow, with dark grey annulations from femora to metatarsi. (Fig. 21A, B). *Opisthosoma,* length 2.22, width 1.56. Dorsum background colour dark yellow, with scattered dark grey patches throughout, cardiac mark dark yellow half as long as opisthosoma (Fig. 21A). Venter dark yellow with irregular dark grey patches especially on its centre, spinnerets dark yellow (Fig. 21B).

Epigyne, wider than long, forming a large, rounded plate with a concave posterior margin. Atrium very small, restricted to the posterior fifth of the epigyne (Fig. 21C). Median septum and lateral lobes inconspicuous. Spermathecal heads globular, one and a half their diameter apart, with spermathecal stalks about as long as the spermathecal heads, attached posteriorly (Fig. 21D).

Male unknown.

Life history and habitat preferences: This species

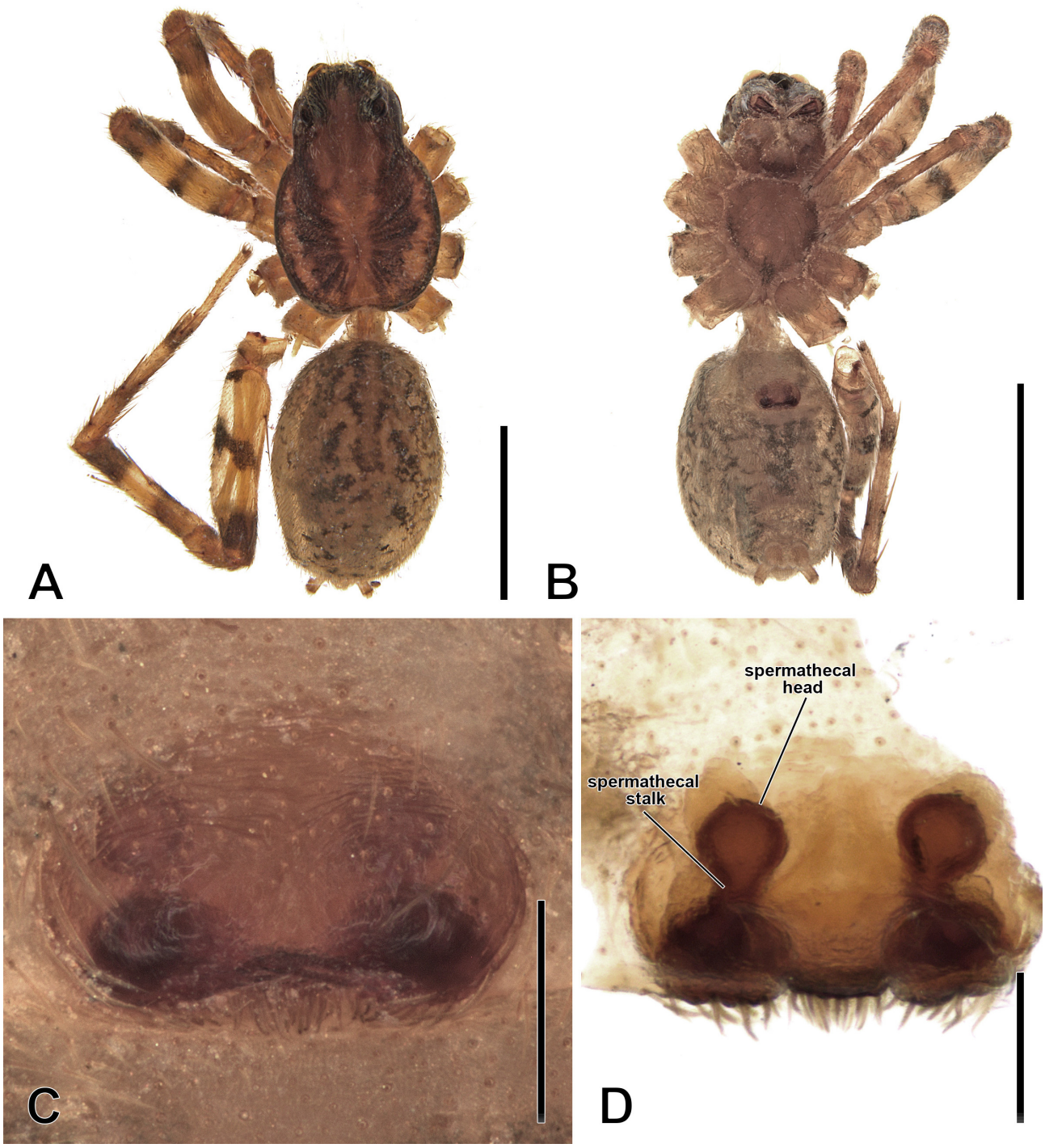

FIGURE 21. *Artoria limitata* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, holotype. Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

was found in late summer (February). Potential habitat preferences are unknown.

Distribution: Two localities from the mountainous area of the Tweed Range, north-eastern New South Wales (Fig. 26).

Artoria lineata (L. Koch, 1877) ♂♀

Trabea lineata L. Koch, 1877: 970–971, pl. 84, fig. 7.

Trabaeosa lineata: Roewer, 1955: 297; 1960: 582; Russell-Smith, 1982: 89.

Artoria lineata: Framenau, 2002: 218–2020, fig. 11A–F; Framenau & Baehr, 2018: 211–214, figs 10A–B, E–F, 28A–H, 46A.

Type material: Holotype ♂, **AUSTRALIA**: **New South Wales**: Sydney, 33°53′S, 151°13′E, Museum Godeffroy Nr. 14606 (ZSMH A0000052).

New records (3 ♀): South Australia: 1 ♀, Hahndorf, near Victor Harbour (AM KS.85159). **Tasmania:** 1 ♀,

Clevelan, Diprose Lagoon, 41°48'S, 147°22'E (QVMAG 2024:13:0344); 1 ♀, Cleveland, Diprose Lagoon, 41°48'S, 147°22'E (QVMAG 762:06:00).

Diagnosis: *Artoria lineata* is part of the *lineata*-group, that we limit in the Discussion to include males with a spoon-shaped tegular apophysis and females with an inverted T-shaped median septum and coiled spermathecal stalks attached ectally to the spermathecal heads in their epigynes. Identification of the species in this group is difficult, especially among males. Within the *lineata*-group, the most similar species to *A. lineata* is *A. ulrichi*. Males of both species have an oval tegular apophysis, but in *A. lineata* the tip of the embolus and tegular apophysis are visible apically, but are totally concealed by the tegulum in *A. ulrichi*. The basal edge of the embolus is straight in *A. lineata*, but distinctly curved

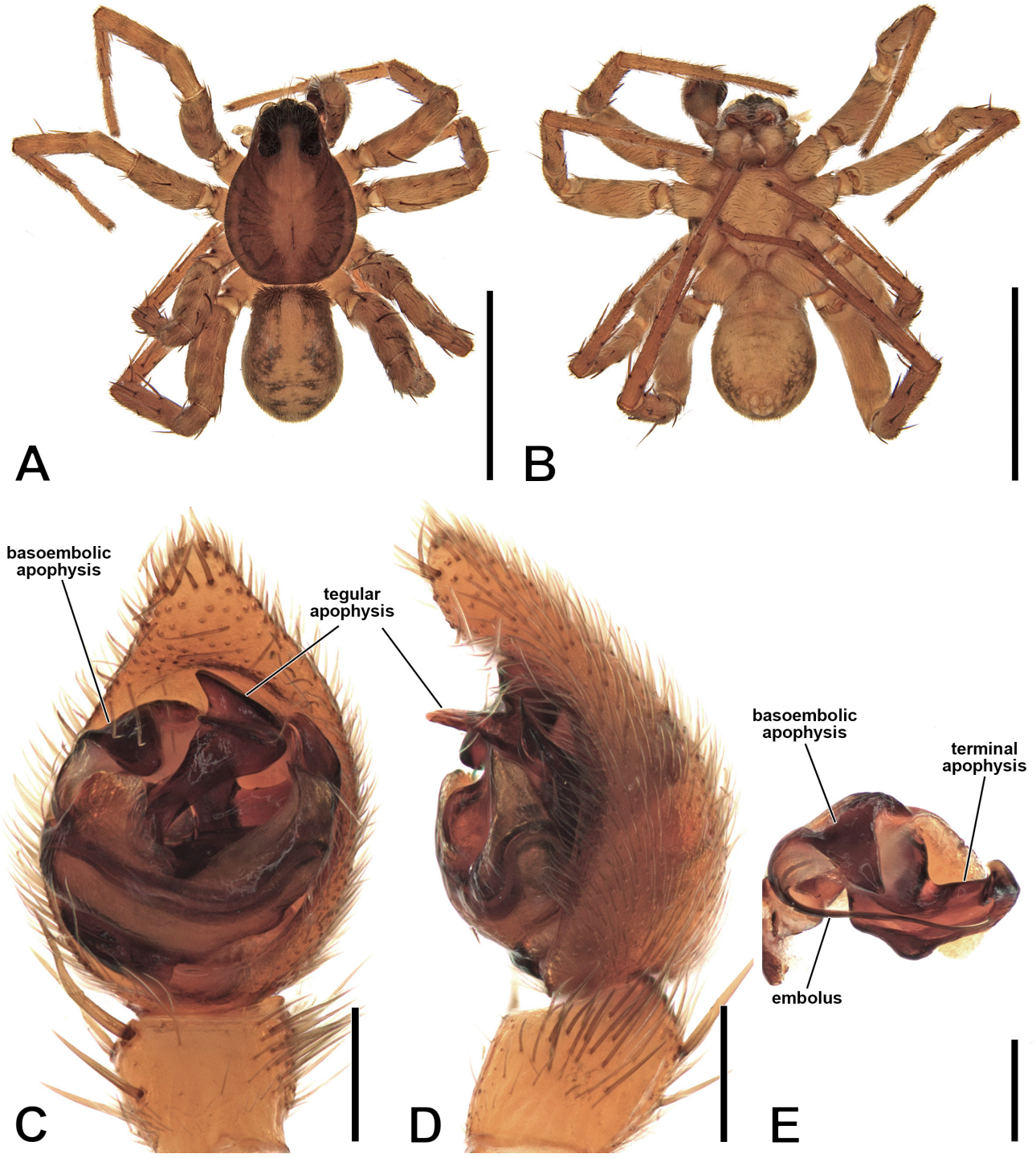

FIGURE 22. *Artoria lingulata* **sp. nov.,** male A, dorsal habitus; B, ventral habitus; C, D, left pedipalp (C, ventral; D, retrolateral); E, right pedipalp (mirrored), embolic division, ventral. A–E, holotype. Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

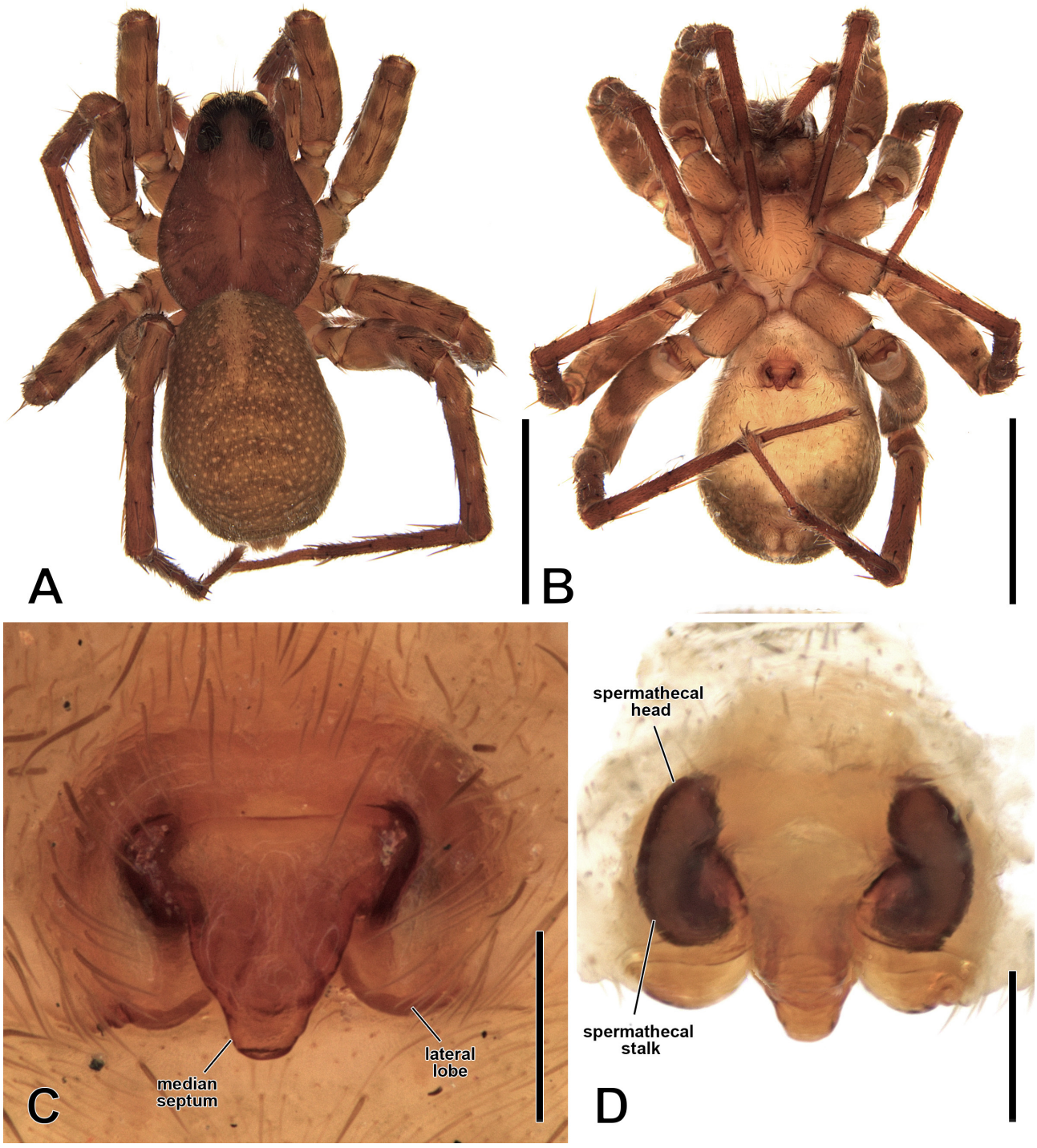

FIGURE 23. *Artoria lingulata* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (QM S70243). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

in *A. ulrichi* (Framenau & Baehr 2018 figs 28A, B, 42E, F). Females of *A. lineata* have the posterior portion of the median septum twice as wide as long, while in *A.ulrichi* it is around four times wider than long (Framenau & Baehr 2018 figs 28G, 42G).

Remarks: *Artoria lineata* (L. Koch, 1877) has been described and illustrated in detail recently (Framenau & Baehr 2018).

Life history and habitat preferences: Males of *A. lineata* show a pronounced peak of records in August, with additional high numbers in September and October, while females are most frequently collected from October through to December. This species demonstrates adaptability across a variety of environments, with notable presences in disturbed and urban areas, woodlands, mountainous regions, and riparian habitats.

Distribution: *Artoria lineata* is widely distributed across eastern and southern Australia, with occurrences recorded in New South Wales, Victoria, South Australia, Tasmania, the Australian Capital Territory, and Queensland.

This broad distribution indicates its adaptability to a range of climatic zones, from the temperate regions of Tasmania to the subtropical areas of Queensland (Fig. 26).

***Artoria lingulata* sp. nov.** ♂♀
urn:lsid:zoobank.org:act:2F0D392A-EB70-4386-9B74-505202B1A612
Figs 22A–E, 23A–D, 26

Type material: Holotype ♂, **AUSTRALIA**: **Queensland:** Bellenden Ker Landing, Russell Range, 17°16'16"S, 145°56'26"E, 24.X.1981–31.X. 1981 (QM S70235).

Other material examined (5 ♂, 14 ♀ and 2 juveniles): AUSTRALIA: **Queensland:** 6 ♀, 2 juveniles, Base of Mt. Bartle Frere, 17°24'39.23"S, 145°50'18.96"E (QM S121484); 1 ♂, 1 ♀, Behana Creek, Gordonvale, 17°10'59.99"S, 145°49'59.88"E (QM S118); 1 ♂, Bellenden Ker Landing, Russell R, 17°16'16.21"South, 145°56'25.80"East (QM S70236); 5 ♀, same locality (QM S70238–42); 1 ♀, same locality (QM S70243); 1 ♀, Cedar Bay Gap Creek, 15°50'S, 145°20'E (AM KS.44950); 1 ♂, Mt Lewis, 16°35'S, 145°17'E (AM KS.45753); 2 ♂, The Boulders, Babinda, 17°22'S, 145°55'E (AM KS.45954).

Etymology: The specific epithet lingulata is derived from the Latin noun *lingula* ("small tongue") and refers to the tongue-like shape of the female epigyne.

Diagnosis: *A. lingulata* **sp. nov.** is part of the *lingulata*-group (see Discussion). Males and females of *A. lingulata* **sp. nov.** resemble most those of *A. gloriosa.* The male pedipalp of these species share a tegular apophysis with a median rim projecting ventrally, and the female genitalia share an epigyne with a subtriangular tongue-like median septum and tubular spermathecae. However, the male pedipalp of *A. lingulata* **sp. nov.** has the tegular apophysis with the median rim closer to its distal margin, in the middle of its distal half, and has a filiform embolus (Figs 22C, D), while in *A. gloriosa* the median rim is placed at about half of the length of the tegular apophysis and has a flat and wider embolus (Framenau & Baehr 2018, figs 20E, F). The epigyne in female *A. lingulata* **sp. nov.** differs from those of *A. gloriosa* by a larger median septum, ⅗ as wide as the epigyne and by having a straight and poorly demarcated anterior margin of the atrium (Figs 23C), while in *A. gloriosa* the median septum is narrower than half of the epigyne, and the anterior margin of the atrium is sinuous and well demarcated (Framenau & Baehr 2018, figs 20G).

Description. Male (holotype, QM S70235).

Total length, 4.17. *Carapace,* length 2.08, width 1.47, brown, with broad brown median longitudinal band, broad dark brown lateral bands and brown submarginal lateral bands (Fig. 22A). *Sternum,* dark yellow (Fig. 22B). *Eyes,* diameter of AME 0.08, ALE 0.08, PME 0.23, PLE 0.17, anterior eye row slightly procurved, evenly spaced. *Chelicerae,* reddish-brown, paler on their distal margins, with vague streaked dark grey patches throughout, three retromarginal teeth, the two distal equally largest, and two promarginal teeth, distal largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 22B). *Legs,* mostly dark yellow, with broad dark grey annulations on femora, patellae and tibiae (Figs 22A, B). *Opisthosoma,* length 1.60, width 1.12. Dorsum suffused with dark grey patches, cardiac mark dark yellow slightly longer than half of the opisthosoma (Fig. 22A), four dark yellow rounded patches reducing their width gradually from the tip of the cardiac mark to the posterior margin of the opisthosoma. Venter and spinnerets evenly dark yellow (Fig. 22B).

Pedipalp (Figs 22C–E), tibia subrectangular in ventral view, free tip of the cymbium about 1/3 as long as the whole cymbium in ventral view; subtegulum heavily sclerotized. Tegular apophysis forms a stalk having a convex retrolateral margin, and concave prolateral margin, widening at its distal half which has a rim at its middle that projects ventrally and curves prolaterally ending in a truncated tip, and a truncated and straight distal margin that forms an acute projecting tip in its prolateral corner. Basoembolic apophysis subtriangular, slightly longer than wide. Embolus filiform, long and thin. Terminal apophysis heavily sclerotized, broad, forming a gutter, with basal margin forming an acute structure projecting ventrally, and a retrolateral portion curving ventrally and ending in a broad acute tip.

Female (QM S70243)

Total length, 5.06. *Carapace,* length 2.50, width 1.84, similar to male (Fig. 23A). *Sternum*, similar to male. *Eyes,* diameter of AME 0.11, ALE 0.08, PME 0.28, PLE 0.19, anterior eye row slightly procurved, evenly spaced. *Chelicerae,* evenly reddish-brown, teeth pattern same as male. *Labium,* similar to male (Fig. 23B). *Legs,* similar to male but darker (Figs 23A, B). *Opisthosoma,* length 2.81, width 2.00. Dorsum similar to male, but darker. Venter similar to male, but lighter (Figs 23B).

Epigyne, wider than long, atrium large, subrectangular. Median septum forms an inverted tongue-like triangle, very large, 2/3 as wide and almost as long as the epigyne itself, surpassing the lateral lobes posteriorly (Fig. 23C). Lateral lobes semicircular with posterior rounded tips slightly projected mesally. Spermathecal heads tubular, around three diameters apart, spermathecal stalks almost as wide and three times as long as spermathecal heads, attached posteriorly (Fig. 23D).

Life history and habitat preferences: Males of this species were found in April and October and females from October to November. The species' range appears restricted to upland rainforest areas, particularly around the Wet Tropics, highlighting its association with tropical, montane environments.

Distribution: *Artoria lingulata* **sp. nov.** is known from north-eastern Queensland. (Fig. 26).

***Artoria longinqua* sp. nov.** ♀
urn:lsid:zoobank.org:act:F2268C86-4BCD-4ECA-9554-C2AFCE3F3E97
Figs 24A–D, 26

Type material: Holotype ♀, **AUSTRALIA**: **New South Wales:** Watercourse Road, 6.7 km S of Allambie Bridge,

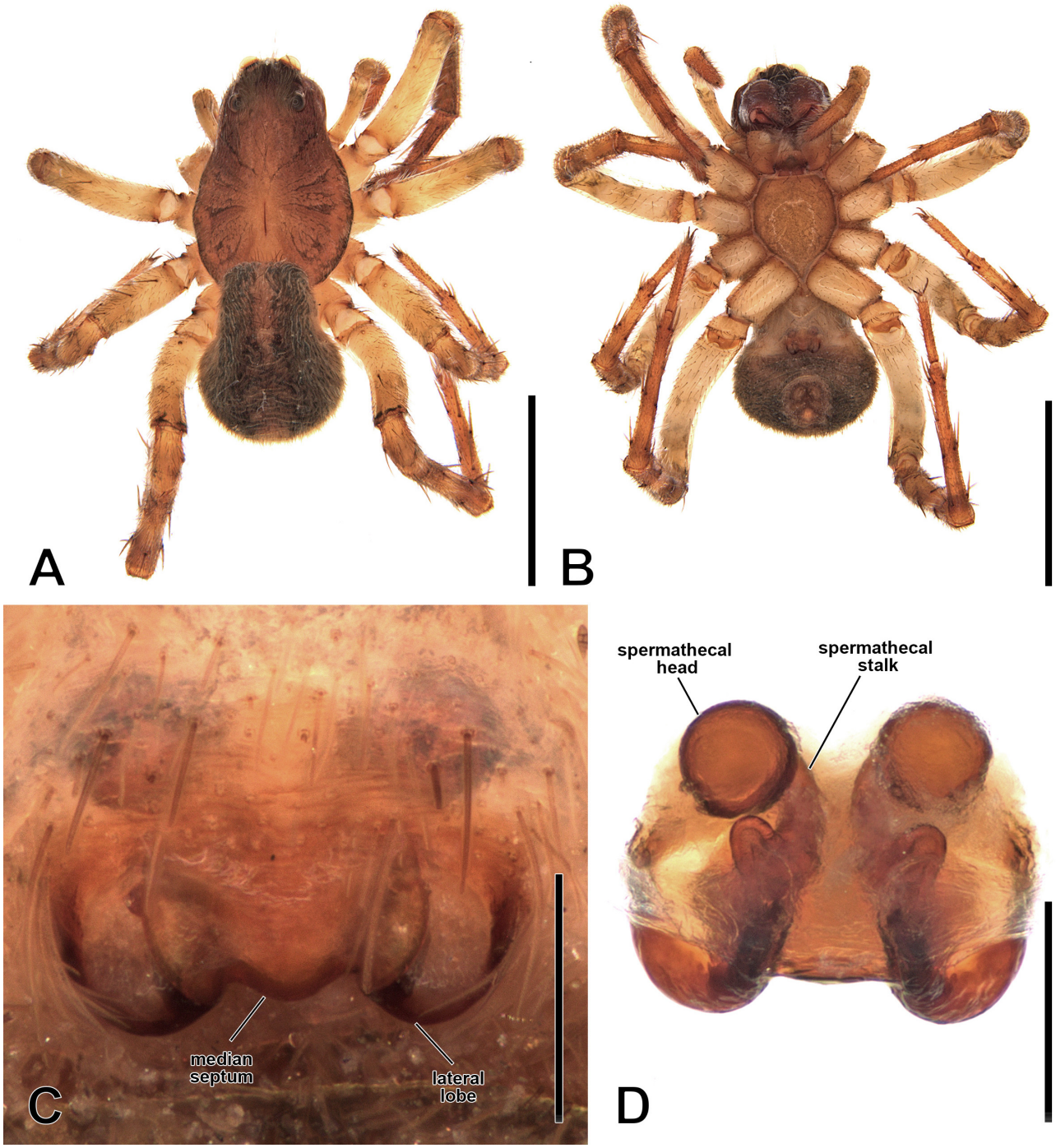

FIGURE 24. *Artoria longinqua* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–C, holotype; D, (AM KS.76609). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

29°23'S, 149°26'E, 29.IX.1999–18.XII.1999, L. Wilkie *et al.* (AM KS.76608).

Other material examined (4 ♀): AUSTRALIA: **New South Wales:** 1 ♀, Narran Lakes Reserve, 10.25 km on access track from Narran Lake Road, 29°44'S, 147°24'E (AM KS.76609); 1 ♀, Moppin-Aveymore Road, 400 m S of junction at Dolgelly Bore, 28°53'S, 149°51'E (AM KS.76611); 1 ♀, Sturt National Park, 29°11'S, 141°57'0.02"E (AM KS.78909); 1 ♀, Parkdale Station, S of access track to Maynes Lagoon, 28°40'S, 150°19'E, (AM KS.76610).

Etymology: The specific epithet "*longinqua*" is a Latin adjective meaning 'remote, far away' and refers to one isolated record of this species found in Sturt National Park, a desert region of New South Wales, near the borders with Queensland and South Australia.

Diagnosis: The epigyne of females *A. longinqua* **sp. nov.** resembles that of *A. cucurbita* **sp. nov.** in general shape with its rounded margins (Figs 24C, 29C). However, the epigyne of *A. longinqua* **sp. nov.** is distinguishable by its median septum that is ⅗ as wide as the epigyne, with its posterior margin describing an "M" and separated

from the lateral lobes by thin slits (Fig. 24C). In contrast, the median septum is about half as wide as the epigyne in *A. cucurbita* **sp. nov.** with rounded posterior margin and separated from the lateral lobes by larger and deeper slits (Fig. 9C).

Description. Female (holotype, AM KS.76608).

Total length, 4.09. *Carapace,* length 2.48, width 1.75, brown, with pale-brown median longitudinal band, broad dark brown lateral bands, and reddish-brown narrow submarginal lateral bands (Fig. 24A). *Sternum,* reddish-brown (Fig. 24B). *Eyes,* diameter of AME 0.09, ALE 0.08, PME 0.23, PLE 0.21, anterior eye row procurved, evenly spaced. *Chelicerae,* reddish-brown, three retromarginal teeth, median largest, and three promarginal teeth, median largest. *Labium,* dark brown with pale brown anterior rim (Fig. 24B). *Legs,* yellow, paler on the femora, with irregular dark grey patches from femora to metatarsi (Figs 24A, B). *Opisthosoma,* length 1.78, width 1.58. Dorsum dark grey, with cardiac mark dark yellow half as long as the opisthosoma, venter with anterior half dark yellow and posterior half dark grey, spinnerets dark grey (Figs 24A, B).

Epigyne, wider than long, atrium limits inconspicuous. Median septum wider than long, with rounded lateral margins and posterior margin forming an "M". (Fig. 24C). Lateral lobes semicircular, surpassing the median septum, and slightly projected mesally. Spermathecal heads spherical, around one diameter apart, and spermathecal stalks around thrice as long as the spermathecal heads, attached mesally and forming a central knob close to the copulatory openings. (Fig. 24D).

Male unknown.

Life history and habitat preferences: Females mostly collected between November and December, in inland areas, with the isolated western record from Sturt National Park, New South Wales.

Distribution: Few records from north, northwest and northeast New South Wales (Fig. 26).

Artoria maroota Framenau & Baehr, 2018

Figs 25A–D, 26

Artoria maroota Framenau & Baehr, 2018: 214, fig. 29A–D, 48B

Type material: Holotype ♂, **AUSTRALIA**: **New South Wales**: Maroota State Forest, 33°31'S, 150°59'E, 26.X.1979, G.A. Webb (AM KS.128075). Paratypes: 3♂, data as holotype (AM KS73455).

New records: 1 ♀, **AUSTRALIA: New South Wales:** Booderee National Park, southern headland of Jervis Bay, 35°08'S, 150°45'E, 16.VIII.1999–20.VIII.1999, L. Gibson (AM KS.62918). 1 ♀, Royal National Park, Sir Bertram Stephens Drive, ~0.7 km S Red Bluff, 34°06'S, 151°03'E (AM KS.63264); 1 ♀, Beecroft Peninsula, northern headland of Jervis Bay, 35°03'S, 150°47'E (AM KS.63434).

Diagnosis: Males of *Artoria maroota* can be distinguished from all other species of the genus by the black setal brushes on tibia I, and the inverted L-shaped tegular apophysis with the margins of its distal portion expanded, forming keels projecting ventrally (Framenau & Baehr 2018, figs 29A–D). Females of *A. maroota* resemble those of *A. cucurbita* **sp. nov.** by having an epigyne with median septum with convex lateral and posterior margins, semicircular lateral lobes and globular spermathecae with long spermathecal stalks. However, females of *A. maroota* differ by having a median septum that is wider than long covering less than half of the length of the epigyne and spermathecal stalks attached ectally to the spermathecae (Figs 25C, D), while in *A. cucurbita* **sp. nov.** the median septum is as wide as long and 2/3 as long as the epigyne and the spermathecal stalks attach dorsally to the spermathecae (Figs 9C, D).

Description. Female (AM KS.62918).

Total length, 3.97. *Carapace,* length 2.11, width 1.42, brown, with pale brown median longitudinal band, broad dark brown lateral bands, and dark grey marginal contour (Fig. 25A). *Sternum,* reddish-brown with dark grey marginal patches (Fig. 25B). *Eyes,* diameter of AME 0.09, ALE 0.09, PME 0.23, PLE 0.20, anterior eye row procurved, distance between AME–AME around twice AME–ALE. *Chelicerae,* brown, three retromarginal teeth, the two distal largest, and two promarginal teeth, distal largest. *Labium,* dark brown with pale brown anterior rim (Fig. 25B). *Legs,* dark yellow with broad dark grey annulations on femora, patellae, tibiae and metatarsi (Figs 25A, B). *Opisthosoma,* length 1.88, width 1.46, dorsum dark yellow suffused with dark grey patches throughout, cardiac mark dark yellow slightly longer as 1/3 of the opisthosoma, venter and spinnerets dark yellow (Figs 25A, B).

Epigyne, wider than long, atrium elliptic and around half as long and as wide as the epigyne. Median septum diamond shaped, wider than long, ending in a narrow-rounded tip (Fig. 25C). Lateral lobes semicircular, narrowing posteriorly, with its posterior portion projected mesally. Spermathecal heads spherical, around two diameters apart, spermathecal stalks twice as long as the spermathecal heads, attached ectally (Fig. 25D).

Life history and habitat preferences: Mature females were collected in August and December. Most specimens were collected in forested areas, indicating that the species is likely forest-dwelling.

Distribution: Coastal records from south-eastern New South Wales (Fig. 26).

Remarks: The examined females were mostly found in Jervis Bay region where males of *A. maroota* have been found (see Framenau & Baehr, 2018), with overlapping collection sites on the Beecroft Peninsula. This, together with the absence of other male-only species described for that region, and the peculiar morphology of males of *A. maroota* and the females examined herein, made us consider these specimens as the female of *A. maroota.*

Artoria mckayi Framenau, 2002 ♂♀

Artoria mckayi Framenau, 2002: 220–222, figs 13A–F; Framenau & Baehr, 2018: 214, figs 1A,B, 31A–H, 46G.

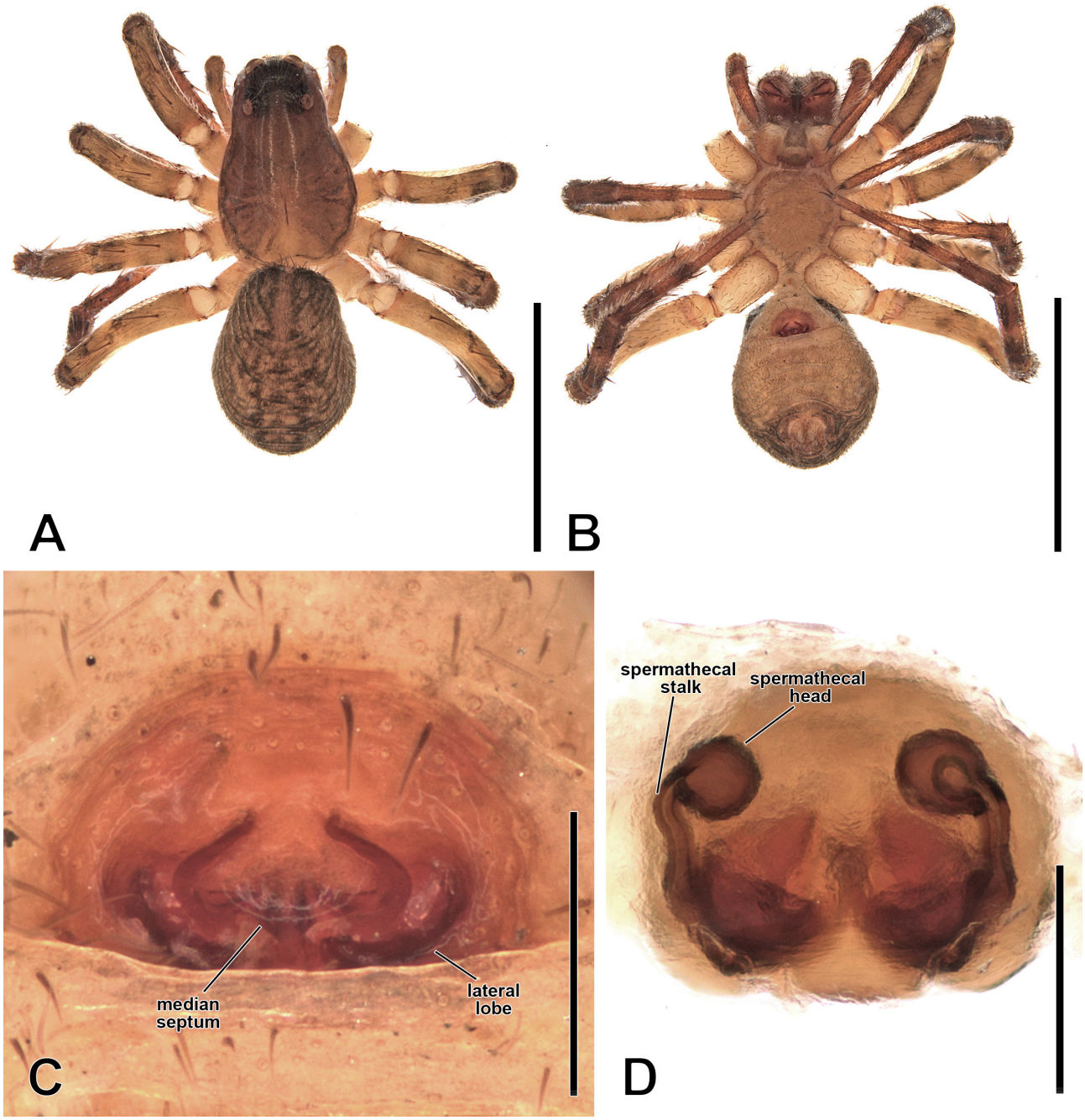

FIGURE 25. *Artoria maroota* Framenau & Baehr, 2018, female (AM KS.62918) A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

Type material: Holotype ♂, **AUSTRALIA**: **Victoria**: Ovens River near Smoko, 36°48′S, 147°02′E, 16.XII.1998, riparian gravel bank at the water's edge, V. W. Framenau (NMV K-7531). Paratypes: 6 ♂, 5 ♀, same data as holotype (NMV K-7532, K-7533).

New records (36 ♂, 91 ♀ and 41 juveniles): AUSTRALIA: Australian Capital Territory: 1 ♂, Cotter River below Cotter Dam, 35°19'28.44"S, 148°56'29.48"E (HBI N24160-1); 1 ♂, same locality (HBI N17180-1); 1 ♂, 1 ♀, Urriara Creek at Fairlight Road, 35°14'38.30"S, 148°57'01.78"E (HBI N17181-1); 1 ♂, 1 ♀, same locality (HBI N24159-1).**New South Wales:** 2 ♂, 3 ♀, 1 juvenile, Bellbird Campground, Washpool National Park, 29°28'25.30"S, 152°18'58.88"E (HBI N35264-10); 1 ♀, Bellbird Campground, Washpool National Park, 29°28'25.29"S, 152°18'58.88"E (HBI N35483-1); 2 ♀, Bongil Beach, Bongil Bongil National Park, 30°24'53.96"S, 153°3'40.20"E (HBI N35495-3); 3 ♀, same locality (HBI N35495-5); 2 ♂, 4 ♀, 1 juvenile, Boyd River Camp, Kanangra-Boyd National Park, 33°58'15.74"S, 150°3'22.24"E (HBI N35263-12); 2 juveniles, Boyd River Camp, Kanangra-Boyd National Park, 33°58'15.74"S, 150°3'22.24"E (HBI N35488-3); 1 ♂, 16 ♀, 7 juveniles, Wallingat River Camp, Wallingat National Park, 32°19'42.28"S, 152°24'9.59"E (HBI N35270-5); 3 ♀, Wallingat River Camp, Wallingat

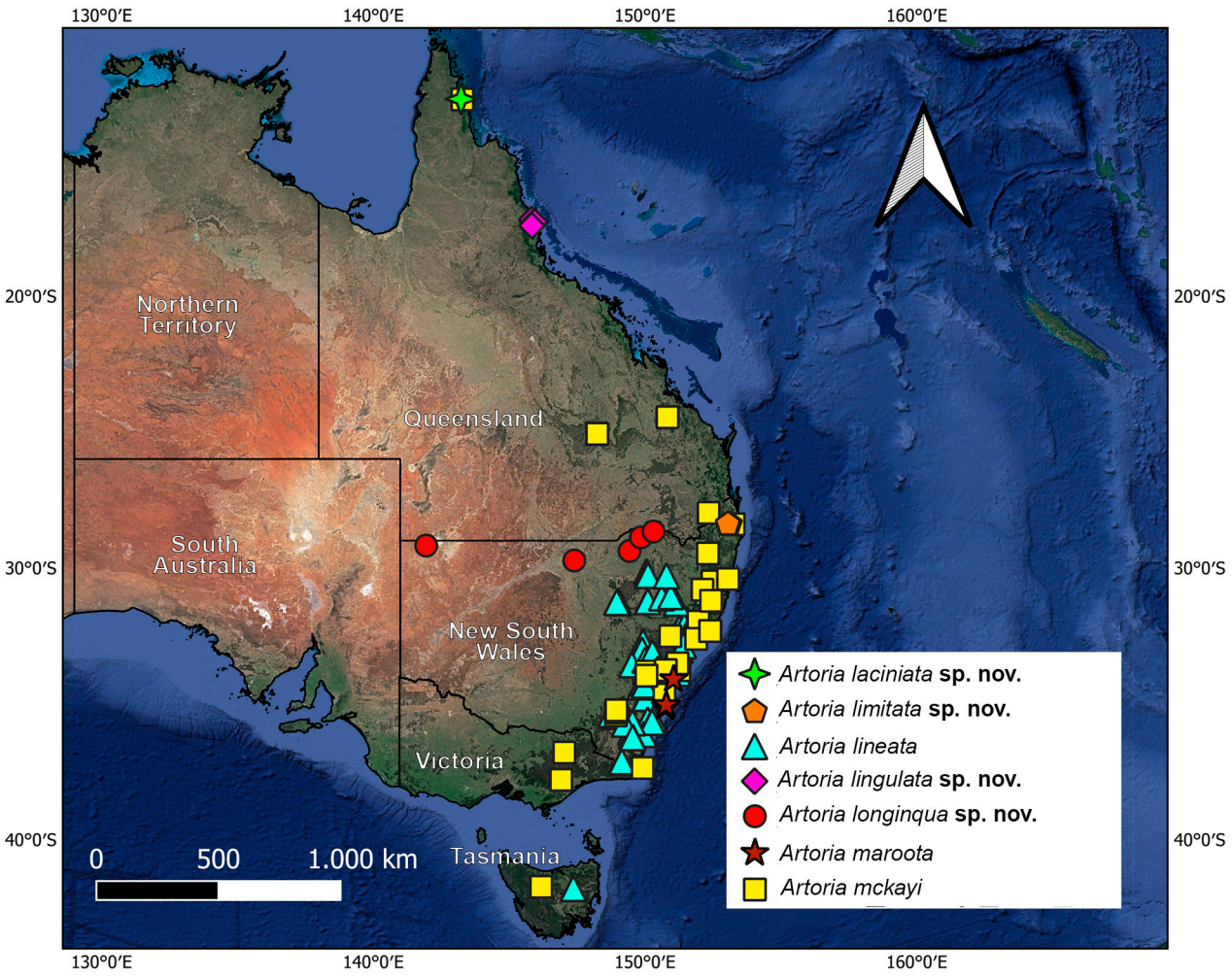

FIGURE 26. Distribution records of *Artoria laciniata* **sp. nov.**, *Artoria limitata* **sp. nov.**, *Artoria lineata* (L. Koch, 1877), *Artoria lingulata* **sp. nov.**, *Artoria longinqua* **sp. nov.**, *Artoria maroota* Framenau & Baehr, 2018, *Artoria mckayi* Framenau, 2002.

National Park, 32°19'42.28"S, 152°24'09.59"E (HBI N35496-1); 1 ♀, same locality (HBI N35496-2); 1 ♂, same locality (HBI N35496-3); 1 ♀, same locality (HBI N35501-3). **Queensland:** 5 ♂, 19 ♀, 5 juveniles, Carnarvon Gorge Area, Carnarvon National Park, 25°4'18.85"S, 148°14'40.70"E (HBI N35268-5); 1 ♀, Carnarvon Gorge Area, Carnarvon National Park, 25°4'18.85"S, 148°14'40.70"E (HBI N35480-1); 1 ♂, same locality (HBI N35480-3); 3 ♂, same locality (HBI N35480-4); 1 ♂, 7 ♀, same locality (HBI N35480-5); 6 ♂, 12 ♀, 1 juvenile, Griffiths Creek Camp Area, Kroombit Tops National Park, 24°27'42"S, 150°49'50.95"E (HBI N35267-4); 2 ♂, 10 ♀, 3 juveniles, same locality (HBI N35482-1); 1 ♀, same locality (HBI N35482-2); 1 ♂, Iron Range National Park, 12°46'S, 143°17'E (QM S108399); 3 ♂, 3 ♀, Manna Gum Campground, Main Range National Park, 27°58'45.43"S, 152°20'34.89"E (HBI N35266-6). Tasmania: 16 juveniles, Maggs Mountain Forest Reserve, upper Mersey Valley, 41°44'25.80"S, 146°11'00.06"E (HBI N35257-10). **Victoria:** 1 ♀, Avon River near Dermody's Camp, 37°48'17.36"S, 146°55'09.70"E (HBI N17182-1); 2 ♂, same locality (HBI N24157-1); 1 ♀, same locality (HBI N24158-1).

Diagnosis: (after Framenau 2002, Framenau & Baehr 2018): *Artoria mckayi* is morphologically similar to *A. albopedipalpis* and easily confused as they share the same habitat, the water's edge of riparian gravel banks. The median lobe of the tegular apophysis of the male pedipalp is considerably slimmer in *A. mckayi* and its tip is oriented prolaterally (ventrally in *A. albopedipalpis*). In *A. albopedipalpis*, the tegular apophysis has two apical protrusions, but only one in *A. mckayi* (Framenau & Baehr 2018, figs 31E, F, Framenau 2002, figs 1C, D). Females are easily distinguished by their external genitalia. The ventrally-pointing tegular apophysis of the male pedipalp is somewhat similar to that of *A. berenice,* but is much slimmer (Framenau & Baehr 2018, figs 11E, F). The female epigyne may resemble that of *A. berenice,* but is overall much rounder and less constricted posteriorly (Framenau & Baehr 2018, figs 11G, 31G).

Remarks: *Artoria mckayi* Framenau, 2002 has been revised and illustrated in detail recently (Framenau & Baehr 2018).

Life history and habitat preferences: Collection data suggest a breeding period or heightened activity primarily in December, with records spanning across the

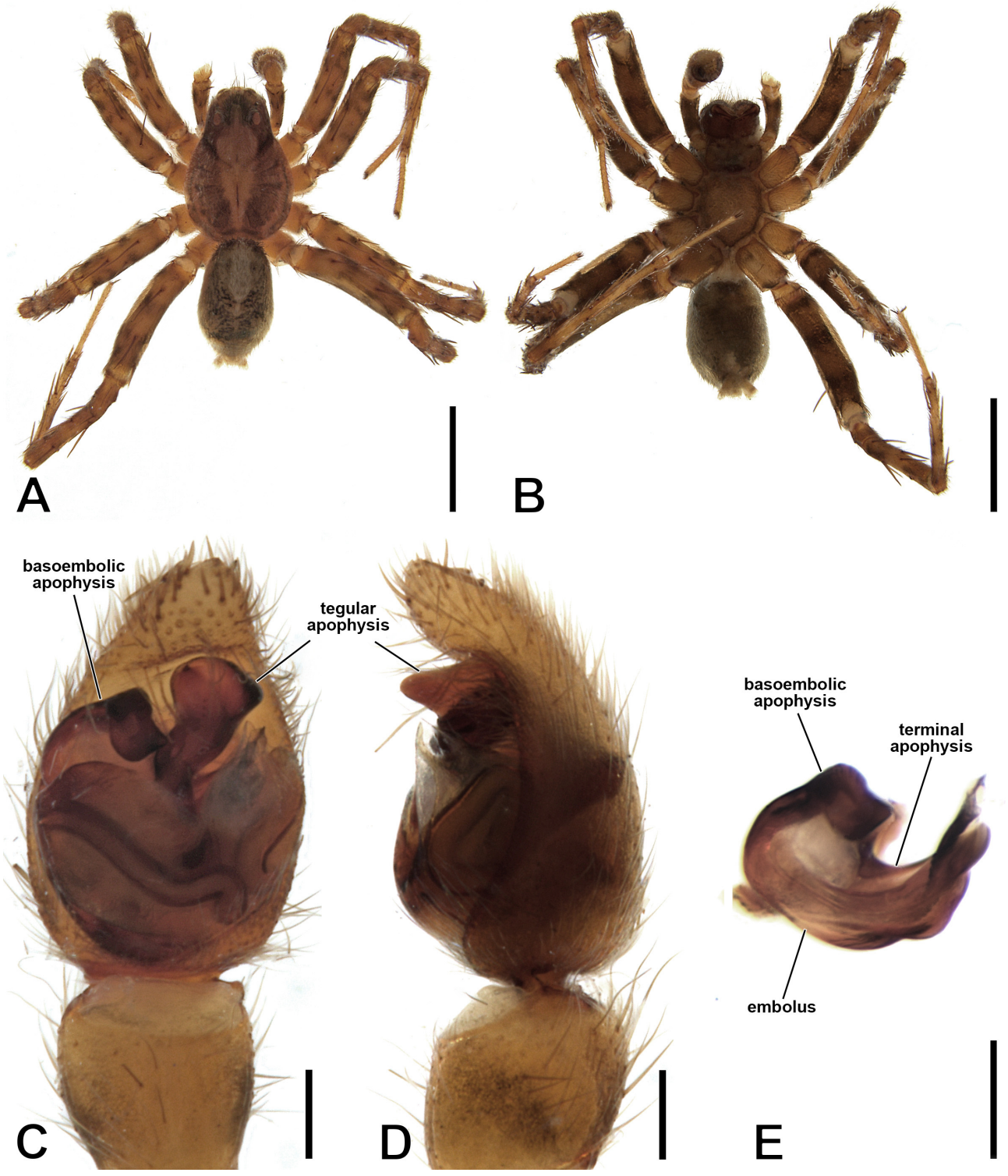

FIGURE 27. *Artoria nasuta* **sp. nov.**, male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–E, holotype. Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

year, with occurrences mainly in vegetation-free riparian habitats, but occasionally found in mountainous, coastal, forest, reserve/park, and grassland habitats (Framenau *et al.* 2002).

Distribution: *Artoria mckayi* exhibits a wide geographical spread across Australia. Records span multiple states, including New South Wales, Tasmania, Victoria, Queensland, South Australia, and the Australian Capital Territory, covering a broad spectrum of Australian environments from temperate southern regions to subtropical northern areas (Fig. 26).

***Artoria nasuta* sp. nov.** ♂
urn:lsid:zoobank.org:act:E3C6D29A-24BD-4C51-9DAC-7E5976500DBC
Figs 27A–E, 38

Type material: Holotype ♂, **AUSTRALIA: Queensland:** Fairlies Knob, 0.5 km SE, 25°30'19"S, 152°17'13"E, 20.XII.2000–23.III.2001 (QM S121491).

Other material examined: Known only from the holotype.

Etymology: The specific epithet "*nasuta*" is a Latin adjective meaning 'with a prominent nose' and refers to the shape of the median lobe of the tegular apophysis in the male pedipalp in retrolateral view, which resembles a pointed nose.

Diagnosis: Males of *Artoria nasuta* **sp. nov.** resemble those of *A. strepera* Framenau & Baehr, 2018 by the pedipalp bearing a tegular apophysis of similar general shape with distal portion concave, slightly wider than basal portion and convex distal margin (Figs 27C, D). However, the male pedipalp of *Artoria nasuta* **sp. nov.** differs by having tegular apophysis with lateral margins sinuous, basal half concave, apex with retrolateral portion more projected ventrally than the prolateral one, and embolus poorly sclerotized, shaped as a ribbon, longer and thin, surpassing the apex of the terminal apophysis (Figs 27C, D), while in *A. strepera* the tegular apophysis has slightly concave lateral margins, basal half thick and straight, apex with prolateral portion more projected ventrally than retrolateral one, and semicircular embolus, heavily sclerotized, shorter and thicker, not surpassing the apex of the terminal apophysis (Framenau & Baehr 2018, figs 36G, H, 48F).

Description: Male (holotype, QM S121491).

Total length, 4.32. *Carapace,* length 2.36, width 1.72, dark brown, with reddish brown median longitudinal band narrowing posteriorly, broad dark brown lateral bands and reddish brown submarginal lateral bands (Fig. 27A). *Sternum,* dark brown (Fig. 27B). *Eyes,* diameter of AME 0.09, ALE 0.08, PME 0.24, PLE 0.21, anterior eye row procurved, distance between AME–AME almost twice AME–ALE. *Chelicerae,* brown, with streaked dark grey patch on their distal half, four retromarginal teeth, the three distal subequal and the basal smaller, and two promarginal teeth, basal largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 27B). *Legs,* mostly dark yellow, with dark grey annulations throughout (Figs 27A, B). *Opisthosoma,* length 1.96, width 1.16. Dorsum mostly dark grey, with cardiac mark pale grey half as long as the opisthosoma (Fig. 27A).Venter dark grey and spinnerets greyish yellow (Fig. 27B).

Pedipalp (Figs 27C–E), tibia subrectangular in ventral view, free tip of the cymbium around 1/4 as long as the whole cymbium in ventral view; subtegulum thin and heavily sclerotized. Tegular apophysis as a sinuous concave stalk that broadens distally in a deeply concave surface with its lateral margins projected ventrally, with prolateral apical corner as an acute and sclerotized small projection, and the retrolateral one seen retrolaterally as a large subtriangular surface with a rounded tip. Basoembolic apophysis subquadrate, approximately as wide as long, with truncated tip. Embolus semicircular, long, flat, tapering distally, ending in a sclerotized truncated tip. Terminal apophysis as a gutter, large and ending in a rounded distal tip.

Female unknown.

Life history and habitat preferences: The data found with the single specimen do not allow interpreting phenology or habitat preferences.

Distribution: Known only from its type-locality in south-eastern Queensland (Fig. 38).

***Artoria orcina* sp. nov.** ♂♀
urn:lsid:zoobank.org:act:B5CC21CA-A535-4F58-BCA8-DB823400871F
Figs 28A–E, 29A–D, 38

Type material: Holotype ♂, **AUSTRALIA: Queensland:** Upper High Falls Creek, 16°24'S, 145°16'59"E, 25.I.1996–12.II.1996 (QM S121487).

Other material examined (2 ♂, 4 ♀ and 1 juvenile): AUSTRALIA: **Queensland:** 1 ♂, 3 ♀, 1 juvenile, Upper High Falls Creek, 16°24'S, 145°16'59"E (QM S37501); 1 ♀, same locality (QM S121488); 1 ♂, same locality (QM S121489).

Etymology: The specific epithet "*orcina"* is a Latin adjective referring to an orca whale and alludes to the profile of the basoembolic apophysis in ventral view, which resembles the dorsal fin of an orca.

Diagnosis: Males of *A. orcina* **sp. nov.** resemble those of *A. bicornuta* **sp. nov.** due to their pedipalps with tegular aphophysis with ventral portion narrow as a keel, however, they differ as the tegular apophysis of *A. orcina* **sp. nov.** has the ventral portion as a sinuous keel and rounded margins throughout (Figs 28C, E), while in *A. bicornuta* **sp. nov.** the tegular apophysis has its ventral portion as a concave keel and three pointy projections, one ventrally and two apically (Figs 3C, D). Females of *A. orcina* resemble those of *A. albopilata* by sharing an epigyne with small triangular median septum, lateral lobes very projected mesally, and tubular spermathecae almost indistinguishable from the spermathecal stalks. However, in *A. orcina* **sp. nov.** the projecting portion of the lateral lobes are subtriangular, and the anterior margin of the atrium is slightly concave (Figs 29C, D), while in *A. albopilata* the projecting portions of the lateral lobes are subquadrate, and the anterior margin of the atrium is very concave and semicircular (Framenau & Baehr 2018, figs 3E, F).

Description. Male (holotype, QM S121487).

Total length, 4.28. *Carapace,* length 2.52, width 1.82, reddish-brown, with paler broad median longitudinal band, broad dark brown lateral bands and reddish-brown narrow submarginal lateral bands (Fig. 28A). *Sternum,* orange-brown (Fig. 28B). *Eyes,* diameter of AME 0.09, ALE 0.09, PME 0.27, PLE 0.21, anterior eye row procurved, evenly spaced. *Chelicerae,* evenly brown, three retromarginal teeth, subequal, and two promarginal teeth, distal largest. *Labium,* dark brown, with pale brown

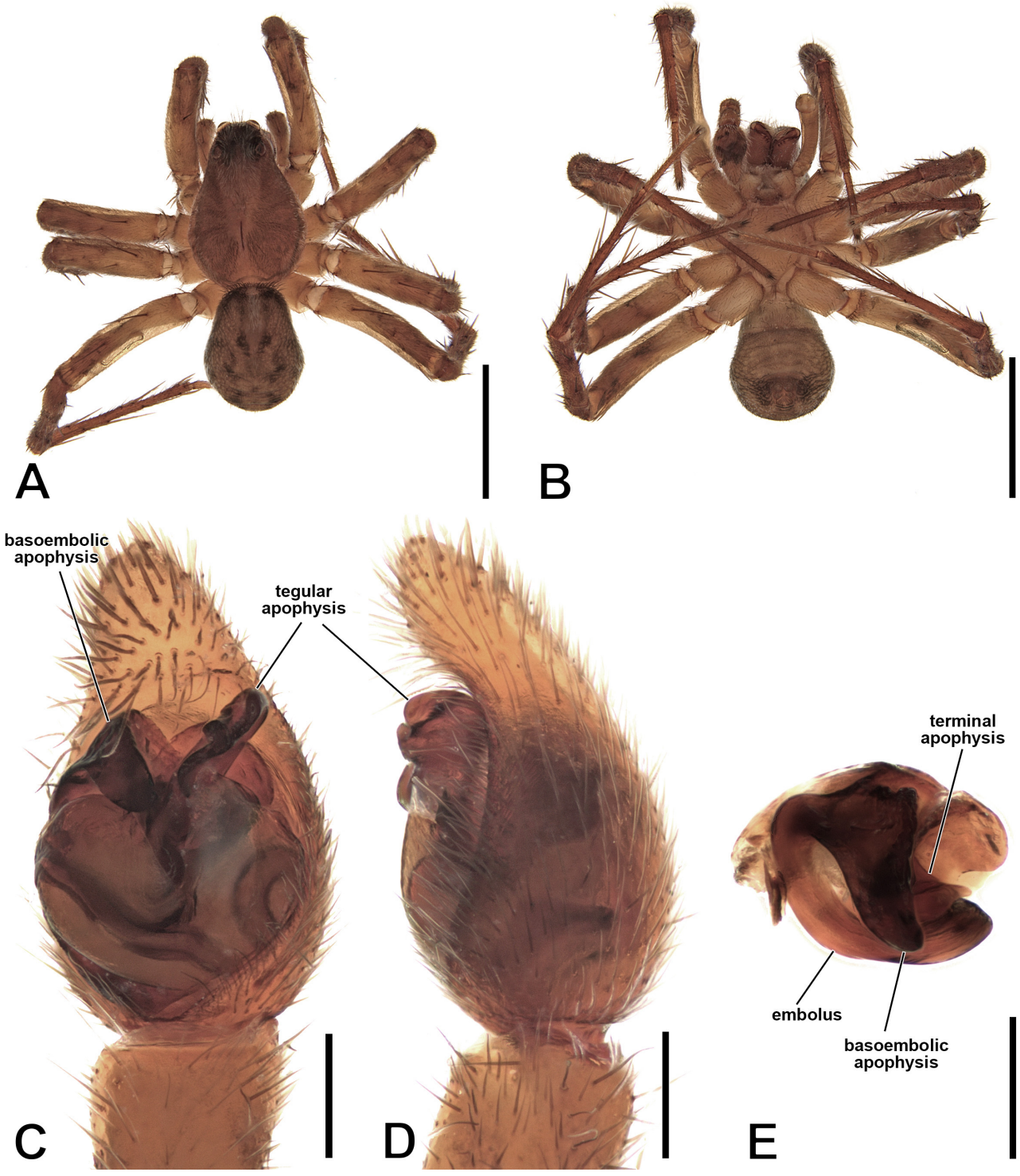

FIGURE 28. *Artoria orcina* **sp. nov.**, male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–D, holotype); E, (QM S121489). Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

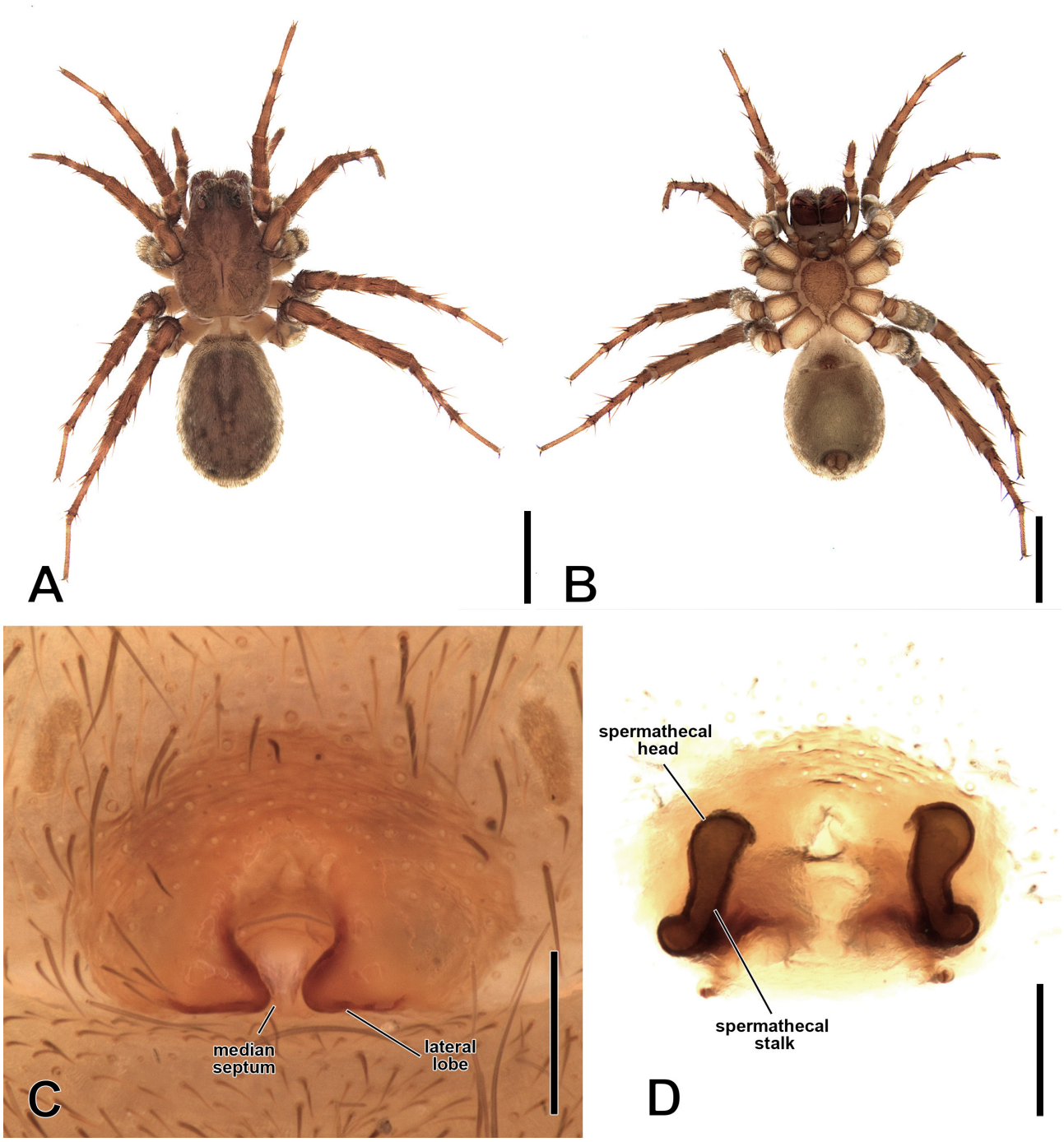

FIGURE 29. *Artoria orcina* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (QM S121488). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

anterior rim (Fig. 28B). *Legs,* mostly dark brown, with femora paler (Figs 28A, B). *Opisthosoma,* length 1.82, width 1.52. Dorsum mostly grey, with a greyish-brown cardiac mark about half as long as opisthosoma (Fig. 28A), and two rows of three irregular black spots each at the posterior 2/3 of the dorsum. Venter dark yellow, spinnerets brown (Fig. 28B).

Pedipalp (Figs 28C–E), tibia subrectangular in ventral view, free tip of the cymbium about 1/3 as long as the whole cymbium in ventral view; subtegulum heavily sclerotized. Tegular apophysis with narrow apex and seen in ventral view as a sinuous keel with a notch at its apical third, and in retrolateral view as a rounded wide and concave structure. Basoembolic apophysis subtriangular, longer than wide, large, and heavily sclerotized. Embolus semicircular, flat and large, evenly wide. Terminal apophysis not very sclerotized, with a very small digitiform lobe, and a larger truncated lobe which is covered by the embolus.

Female (QM S121488)

Total length, 6.73. *Carapace,* length 2.98, width 2.15, with a reddish-brown longitudinal median band, two brown lateral bands and two reddish-brown lateral submarginal

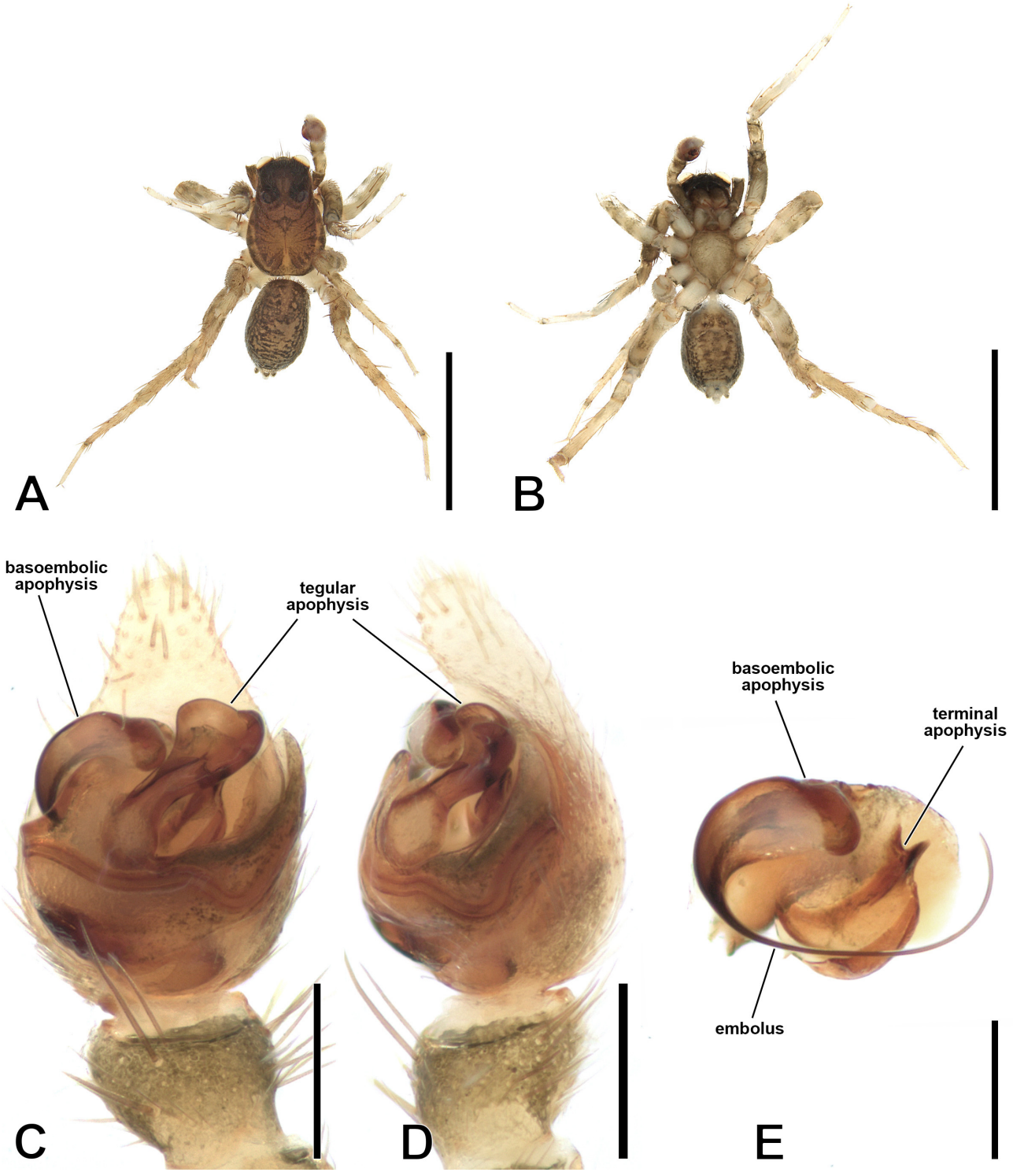

FIGURE 30. *Artoria parvula* Thorell, 1877, male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral view of the bulb); E, right pedipalp (mirrored), embolic division, ventral. A–E, (NTMAG A006502). Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

bands (Fig. 29A). *Sternum*, similar to male. *Eyes,* diameter of AME 0.09, ALE 0.09, PME 0.29, PLE 0.25, anterior eye row procurved, evenly spaced. *Chelicerae,* evenly reddish-brown, three retromarginal teeth, subequal, and three promarginal teeth, median largest. *Labium,* brown, with pale brown anterior rim (Fig. 29A). *Legs,* mostly brown with paler annulations on metatarsi and tarsi (Figs. 29A, B). *Opisthosoma,* length 3.47, width 2.38. Dorsum dark with cardiac mark pale brown half as long as the opisthosoma (Fig. 29A). Venter mostly dark grey, with the rounded central area pale yellow, spinnerets dark grey (Fig. 29B).

Epigyne, wider than long, atrium small, subtriangular, with anterior margin almost straight, 1/3 as long as the epigyne. Median septum tongue-like, almost as long as

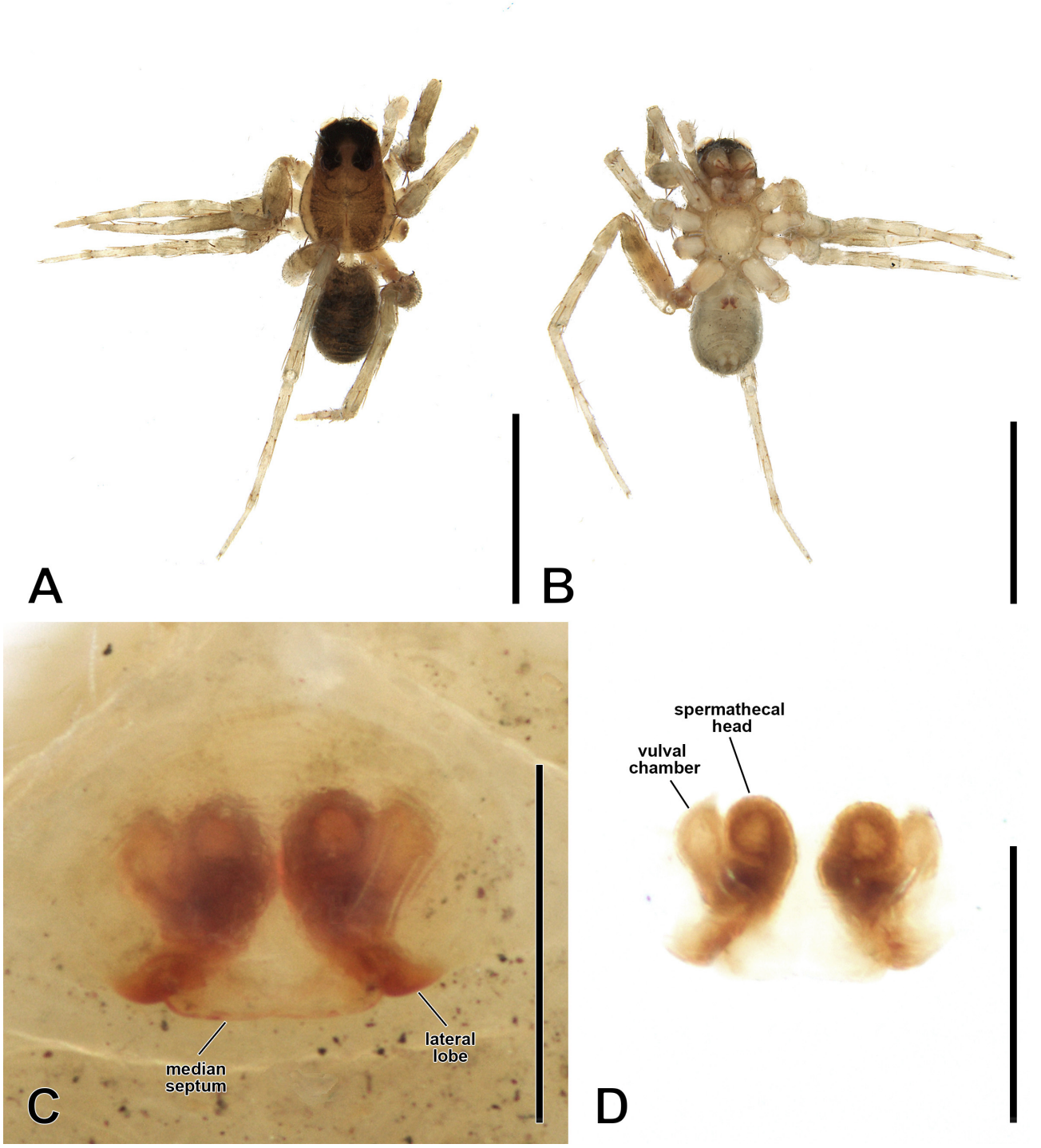

FIGURE 31. *Artoria parvula* Thorell, 1877, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (NTMAG A857). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

wide, poorly sclerotized (Fig. 29C). Lateral lobes large, subtriangular, projected mesally, with their truncated tips separated by the median septum in the median line of epigyne. Spermathecae tubular, almost indistinguishable from the spermathecal stalks (Fig. 29D).

Life history and habitat preferences: Adult specimens collected from January to February. Habitat preferences are unknown.

Distribution: Few records from a mountainous area in Daintree National Park, North Queensland (Fig. 38).

Artoria parvula Thorell, 1877 ♂♀

Figs 30A–E, 31A–D, 38

Artoria parvula Thorell, 1877: 531–534.

Artoria luwamata Barrion & Litsinger, 1995: 364–365, figs 213A–E

Artoria parvula: Framenau, 2002: 233–224, figs 17A–D; Framenau, 2005: 286–288, figs 11A-B; Li, Framenau & Zhang, 2012: 36–40, figs 1A-I, 2A-E, 3A–E; Wang, Zhang & Peng, 2019: 394–395, figs 3A-H; Wang, Framenau & Zhang, 2021: 579–581, figs 9A-E, 10A–H;

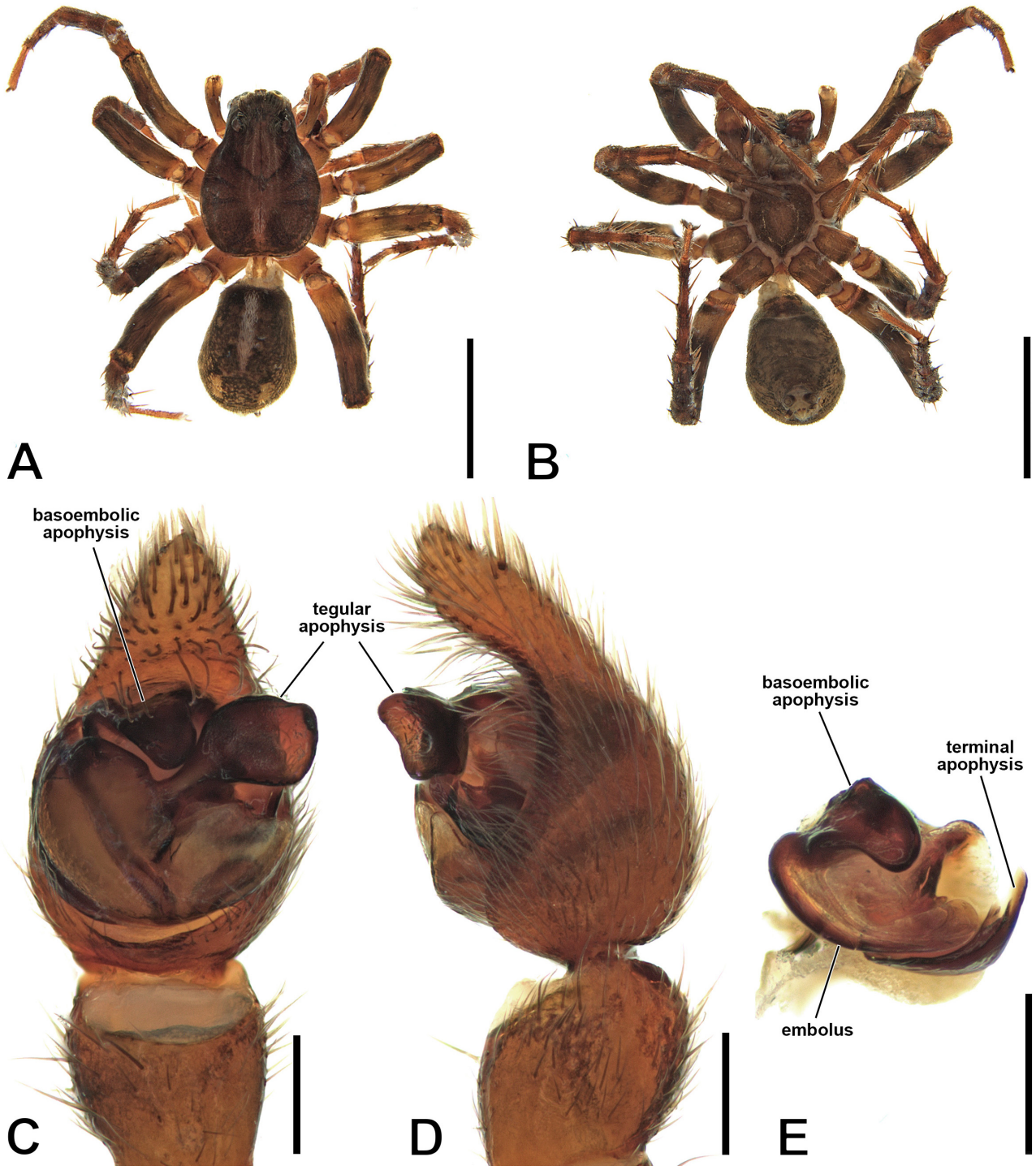

FIGURE 32. *Artoria pedroi* **sp. nov.**, male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp, whole bulb twisted retrolaterally (C, ventral; D, retrolateral; E, embolic division, ventral). A–D, holotype; E, (AM KS.116115). Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

Type material: Holotype ♂, Kandari, Selebes (=Sulawesi), INDONESIA, 3°58′S 122°35′E, 1874, coll. O. Beccari (MSNG).

Other material examined (2 ♂ and 3 ♀): AUSTRALIA: **Northern Territory:** 1 ♂, Annaburro, 12°54'S, 131°40'E (NTMAG A858); 1 ♂, Annaburro, 12°54'S, 131°40'E (NTMAG A006502); 1 ♀, Douglas Daly, 13°50'S, 131°11'E (NTMAG A857); 2 ♀, Fish River Station, 14°02'51"S, 130°46'E (QM S92675).

Diagnosis: Males of *A. parvula* are similar to those of *A. palustris* Dahl, 1908 (Framenau 2002: 222, figs 14A–F), but can be distinguished by the apical portion of tegular apophysis with a small, semicircular protrusion (Li *et al.*: figs 1F, 2A) rather than with the large triangular protrusion found in *A. palustris* (Framenau 2002: fig. 15B) and by the epigyne with a wide and straight posterior projecting portion of the median septum (Li *et al.*: fig. 2D) rather than the oval plate found in *A. palustris* (Framenau 2002: 222, figs 14E–F).

Description: See Li *et al.* (2012) for detailed

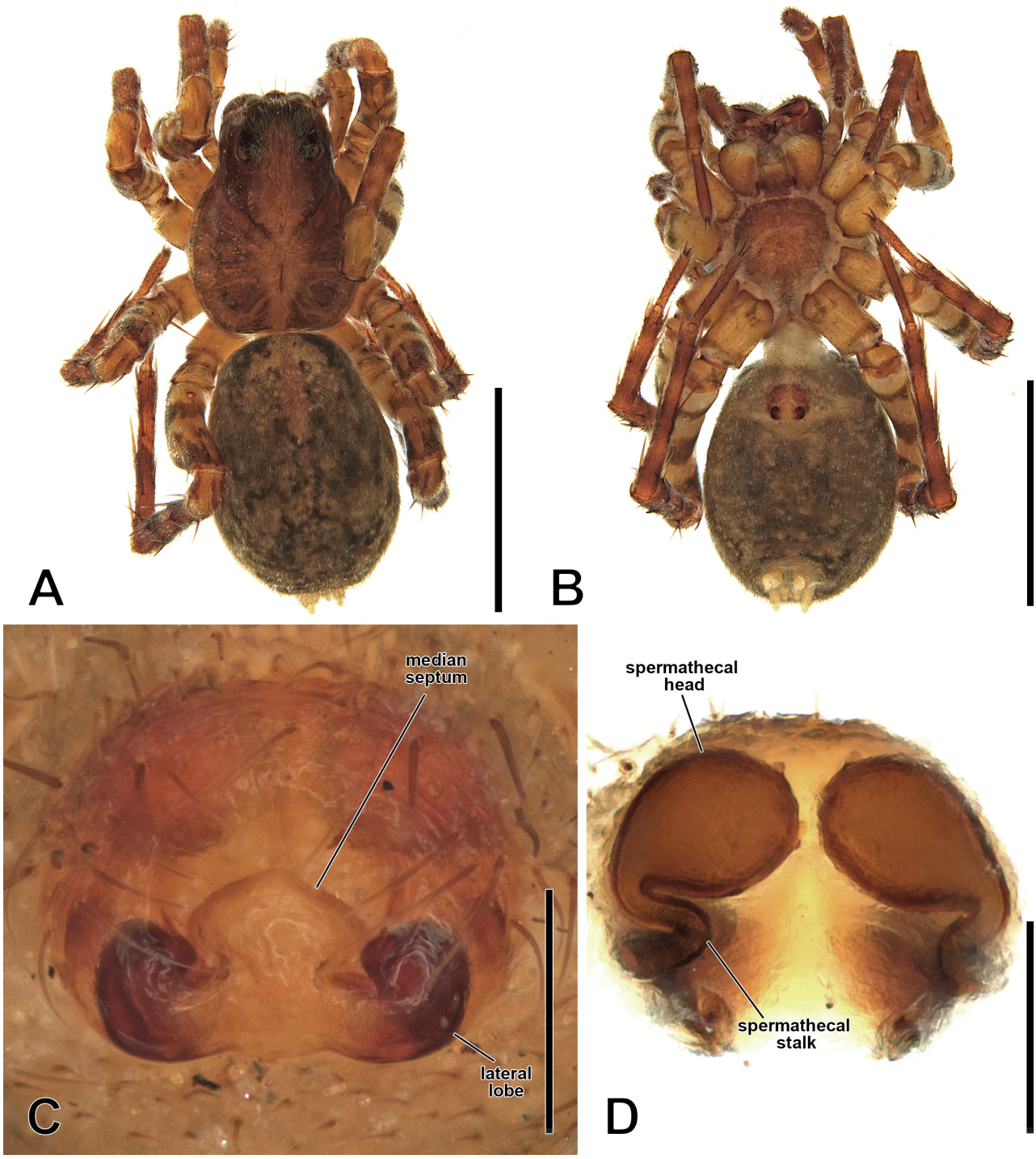

FIGURE 33. *Artoria pedroi* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (AM KS.131844). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

descriptions of both sexes. Illustrations of the female described and one of the males examined by Framenau (2005) are provided in Figs 30, 31.

Life history and habitat preferences: The few records of the species in Australia do not allow inferring the habits and preferences of the species in the country, but according to Li *et al*. (2012) in China, *A. parvula* was found in the moist soil crevices of banana plantations.

Distribution: In Australia *A. parvula* was found relatively near to rivers and creeks in the central and north regions of Northern Territory. The species is also found in China (Yunnan) (Li *et al.* 2012), the Philippines and Indonesia (Framenau 2002, 2005) (Fig. 38).

***Artoria pedroi* sp. nov.** ♂♀
urn:lsid:zoobank.org:act:81C7C567-C211-405A-9B51-C9F5B2BC8F7B
Figs 32A–E, 33A–D, 38

Type material: Holotype ♂, **AUSTRALIA: Australian Capital Territory:** Tidbinbilla Nature Reserve, 35°28'S, 148°52'E, 9.III.1978, P. Ormay (AM KS.131843).

Other material examined (8 ♂, 26 ♀ and 21 juveniles): AUSTRALIA: **Australian Capital Territory:** 1 ♂, 16 ♀, 11 juveniles, Tidbinbilla Nature Reserve, 35°28'S, 148°52'E (AM KS.85147); 6 ♀, 1 juvenile, same locality (AM KS.85146); 1 ♀, same locality (AM KS.131843); 3 ♀, 9 juveniles, same locality (AM KS.13874). **New South Wales:** 2 ♂, Barrington Tops National Park, Gloucester Tops, gate on Kerripit Rd, 1253 m, 32°03'43"S, 151°34'39"E (AM KS.102992); 1 ♂, Bondi State Forest, woodlot 3, 37°08'S, 149°09'E (AM KS.131836); 2 ♂, same locality (AM KS.131840); 2 ♂, same locality (AM KS.131837).

Etymology: The species epithet is a patronym in honour of Pedro Castanheira, a long-term collaborator and friend of the authors AWP and RLCB. The name further refers to the configuration of the epigyne, whose lateral lobes and median septum together form a moustache-like shape, a characteristic feature associated with Pedro.

Diagnosis: The male pedipalps of *A. pedroi* **sp. nov.** have a spoon-shaped tegular apophysis, a common character among *Artoria*, in particular in the the *lineata*-group. Among those species, males of *A. pedroi* **sp. nov.** are most similar to those of *A. catinata* **sp. nov.**, with pedipalps having a curved and flat embolus not ending in an acute tip, and with a sclerotized terminal apophysis. However, males of *A. pedroi* **sp. nov.** have an embolus with a convex external margin, a rounded apex, and a terminal apophysis with a thinner apex (Figs 32C–E), while in *A. catinata* **sp. nov.** the embolus has a sinuous external margin, truncated curved apex, and the apex of the terminal apophysis is broader (Figs 4C–E). Females of *A. pedroi* **sp. nov.** are most similar to those of *A. ancorata* **sp. nov.** However, in *A. pedroi* **sp. nov.** the median septum of the epigyne is clearly delimited and spaced from the anterior margin of the atrium (Fig. 33C), while in *A. ancorata* **sp. nov.** the median septum merges with the anterior margin of the atrium (Fig. 2C).

Description. Male (holotype, AM KS.131843).

Total length, 4.61. *Carapace,* length 2.41, width 1.77, dark brown, with slightly paler median longitudinal band narrowing posteriorly and broad dark brown lateral bands (Fig. 32A). *Sternum,* dark brown, paler at the central area (Fig. 32B). *Eyes,* diameter of AME 0.10, ALE 0.10, PME 0.28, PLE 0.18, anterior eye row procurved, evenly spaced. *Chelicerae,* dark brown, paler on their distal margins, three retromarginal teeth, subequal, and three promarginal teeth, median largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 32B). *Legs,* mostly dark brown, with tarsi paler (Figs 32A, B). *Opisthosoma,* length 1.85, width 1.44. Dorsum mostly dark grey, with cardiac mark pale grey almost 2/3two thirds as long as the opisthosoma (Fig. 32A) and a pair of pale grey rounded patches in the posterior third of the opisthosoma. Venter and spinnerets dark grey (Fig. 32B).

Pedipalp (Figs 32C–E), tibia subrectangular in ventral view, free tip of the cymbium 1/3 as long as cymbium; subtegulum very thin and heavily sclerotized. Tegular apophysis spoon-shaped, forming a very narrow stalk that broadens distally, having convex lateral margins, and a slightly acute distal margin; part of its retrolateral and distal margins slightly projecting ventrally ending in a rounded distal tip seen in retrolateral view. Basoembolic apophysis rounded, approximately as wide as long. Embolus semicircular, short, flat, narrower at its middle, ending in a broad rounded tip. Terminal apophysis forming a gutter, sclerotised, ending in an acute distal tip.

Female (AM KS.131844)

Total length, 4.56. *Carapace,* length 2.28, width 1.69, similar to male but paler (Fig. 33A). *Eyes,* diameter of AME 0.08, ALE 0.09, PME 0.29, PLE 0.19, anterior eye row procurved, evenly spaced. *Chelicerae*, similar as in male, three retromarginal teeth, the two distal largest, and three promarginal teeth, median largest. *Labium,* similar to male (Fig. 33B). *Legs,* dark yellow with broad irregular dark grey annulations from femora to metatarsi (Figs 43A, B). *Opisthosoma,* length 2.28, width 1.95. Dorsum mostly dark grey with sparse dark yellow stains, cardiac mark brown, venter similar to male but with yellow spinnerets (Figs 33A, B).

Epigyne, slightly wider than long, atrium 2/3 as wide as the epigyne. Median septum inverted T-shaped, wider than long, with anterior half narrower and somewhat diamond-shaped, not linked to the anterior margin of the atrium, posterior half wide and mostly subrectangular, with its lateral extremities heavily sclerotized, curved anteriorly and fused with the lateral lobes (Fig. 33C). Lateral lobes semicircular, with posterior portion protruding and fused with the median septum. Spermathecal heads oval, one fifth their diameter apart, almost touching, spermathecal stalks sinuous about twice as long as the spermathecal heads, attached ectally, bent mesally then forming a spiral towards the copulatory opening (Fig. 33D).

Life history and habitat preferences: Males of *Artoria pedroi* **sp. nov.** have been found in November, while females have mainly been found in March, occurring mostly in mountainous areas.

Distribution: Found in the Australian Capital Territory (ACT) and New South Wales (NSW). Most specimens were recorded from Tidbinbilla Nature Reserve in the ACT (Fig. 38).

***Artoria proboscidea* sp. nov.** ♂♀
urn:lsid:zoobank.org:act:05333D04-BB02-4C83-938A-1552A735A737
Figs 34A–E, 35A–D, 38

Type material: Holotype ♂, **AUSTRALIA**: **Queensland:**

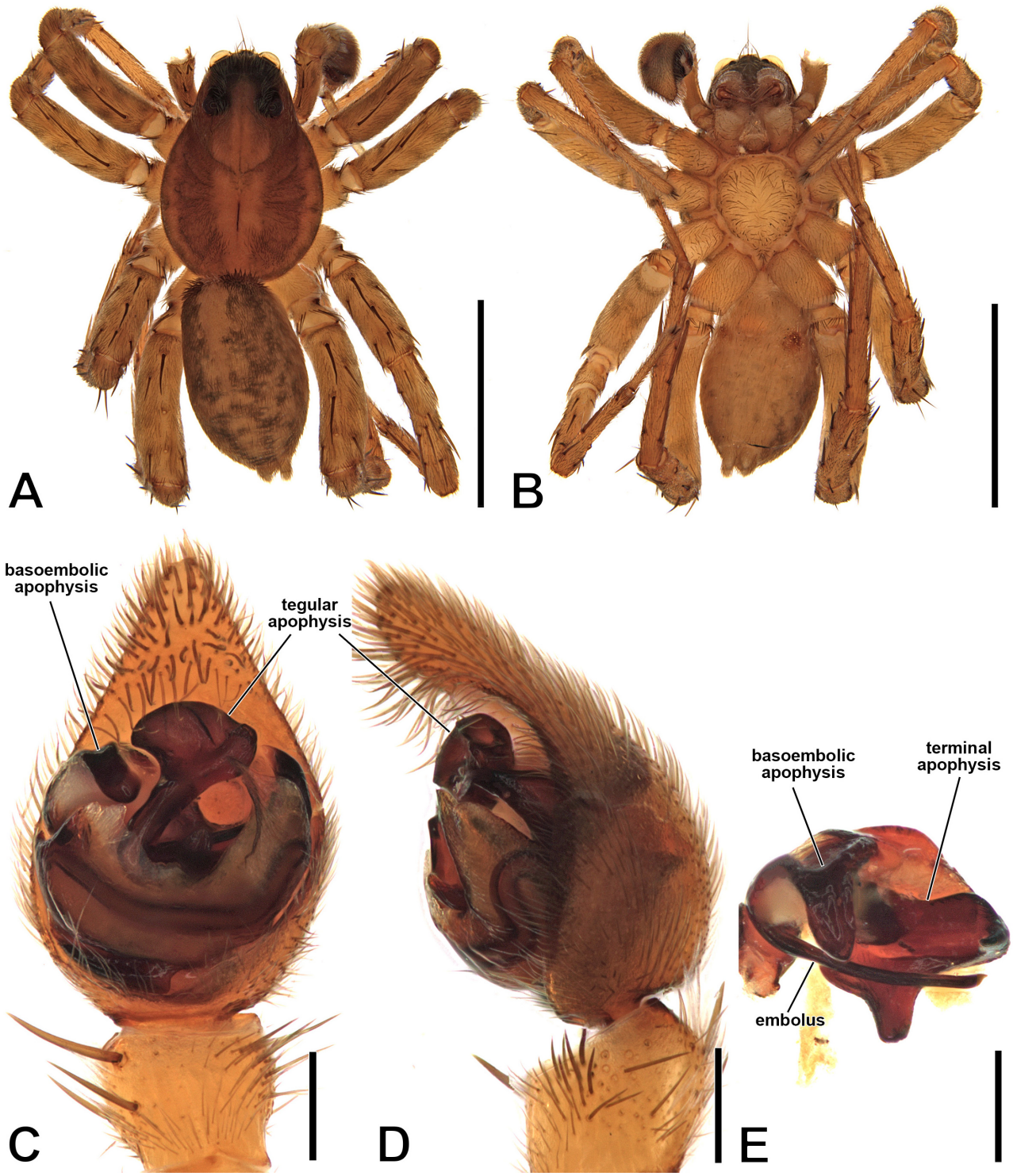

FIGURE 34. *Artoria proboscidea* **sp. nov.**, male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–D, holotype; E, (QM S70172). Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

Burnett River, Gayndah, 25°37'10"S, 151°36'25"E, 22.XI.1998 (QM S70155).

Other material examined (16 ♂, 15 ♀, 1 juvenile): AUSTRALIA: **New South Wales:** 1 ♀, Cliffords, Quarry at Aberdeen, Upper Hunter River, 32°08'08"S, 150°55'36"E (AM KS.100874); 1 ♀, Tabulam, 16 km upstream on Clarence River, 28°46'59"S, 152°31'E (QM W7166). **Queensland:** 1 ♂, 4 ♀, 1 juvenile, Carnarvon Gorge Area, Carnarvon National Park, 25°4'18.85"S, 148°14'40.70"E (HBI N35480-6); 3 ♂, 2 ♀, Taroom district, Boggomoss #12, Nathan Gorge, 25°27'S, 150°07'59"E (QM S70116-19); 1 ♀, same locality (QM S70120); 2 ♂, same locality (QM S70156-7); 2 ♂, 1 ♀, Laidley Creek, 27°31'S, 152°25'E (QM S70158-60); 1 ♂, same locality (QM S70161); 2 ♀, same locality (QM S70163-4); 6 ♂, same locality (QM S70165-71); 3 ♀,

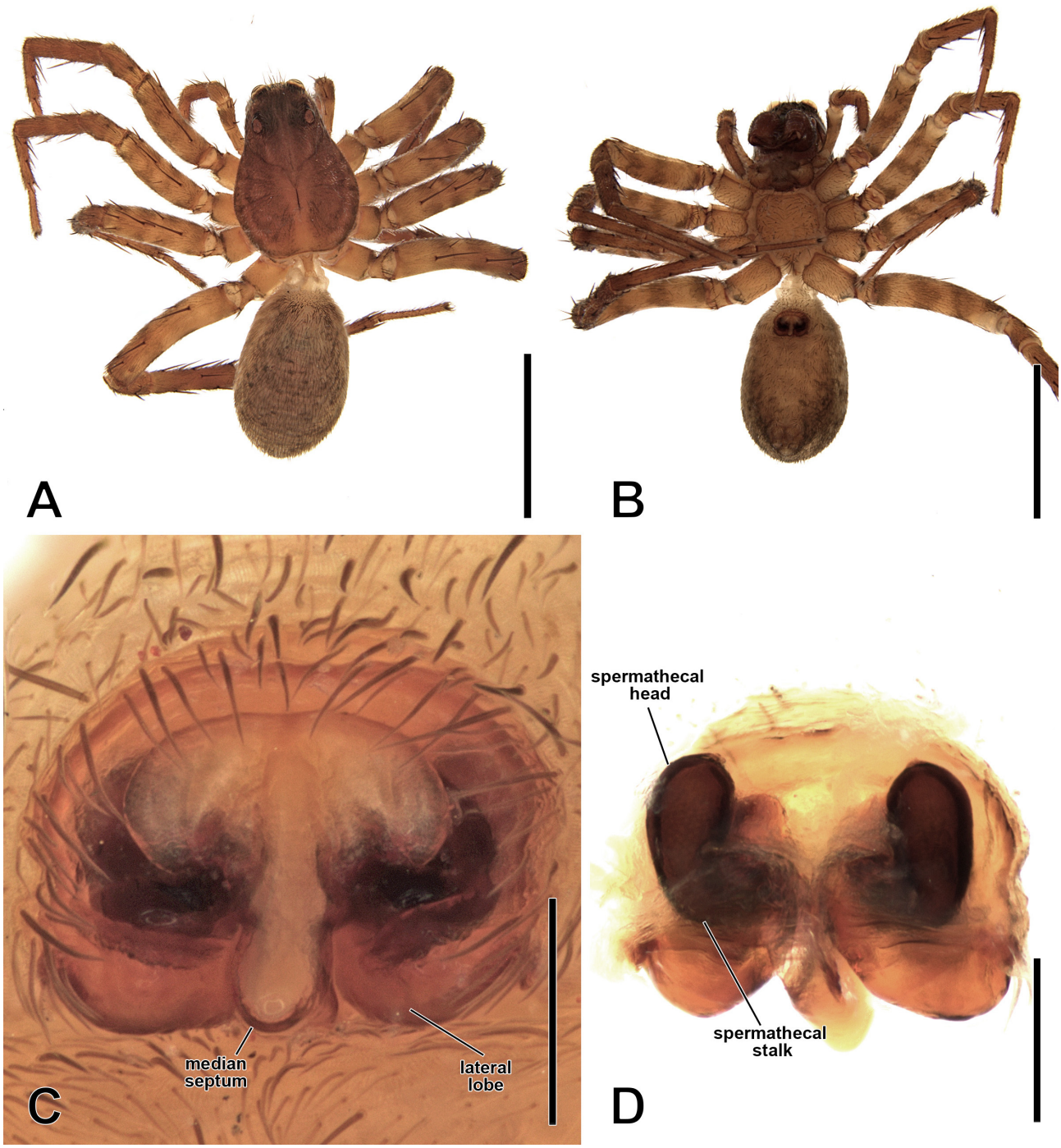

FIGURE 35. *Artoria proboscidea* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (QM S70120). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

Moggill Creek, 27°29'S, 152°54'E (QM S70121-23); 1 ♂, Yabbra State Forest, 28°40'S, 152°45'E (QM S70172).

Etymology: The specific epithet "*proboscidea*" is a Latin adjective meaning 'with a proboscis' and refers to the elongated median scape in the female epigyne that resembles an elephant's proboscis.

Diagnosis: Males of *A. proboscidea* **sp. nov.** resemble those of *A. howquaensis, A. palustris* and *A. parvula* by their male pedipalp bearing a tegular apophysis with similar general shape, being broader apically with a rounded prolateral margin and rounded retrolateral margin which bears an acute ventral projection (Figs 30C–E, 34C–E; Framenau 2002, figs 9A–D, 15A–D). However, males of *A. proboscidea* **sp. nov.** can be distinguished from the latter three species by their tegular apophysis with its apical prolateral portion much more projected prolaterally forming a much more concave angle on the prolateral margin of the tegular apophysis between its narrow basal portion and wide apical portion. In addition, their tegular apophyses differ by their apical retrolateral ventral acute projection not very pronounced, convex apical margin and embolus wider not curved retrolaterally

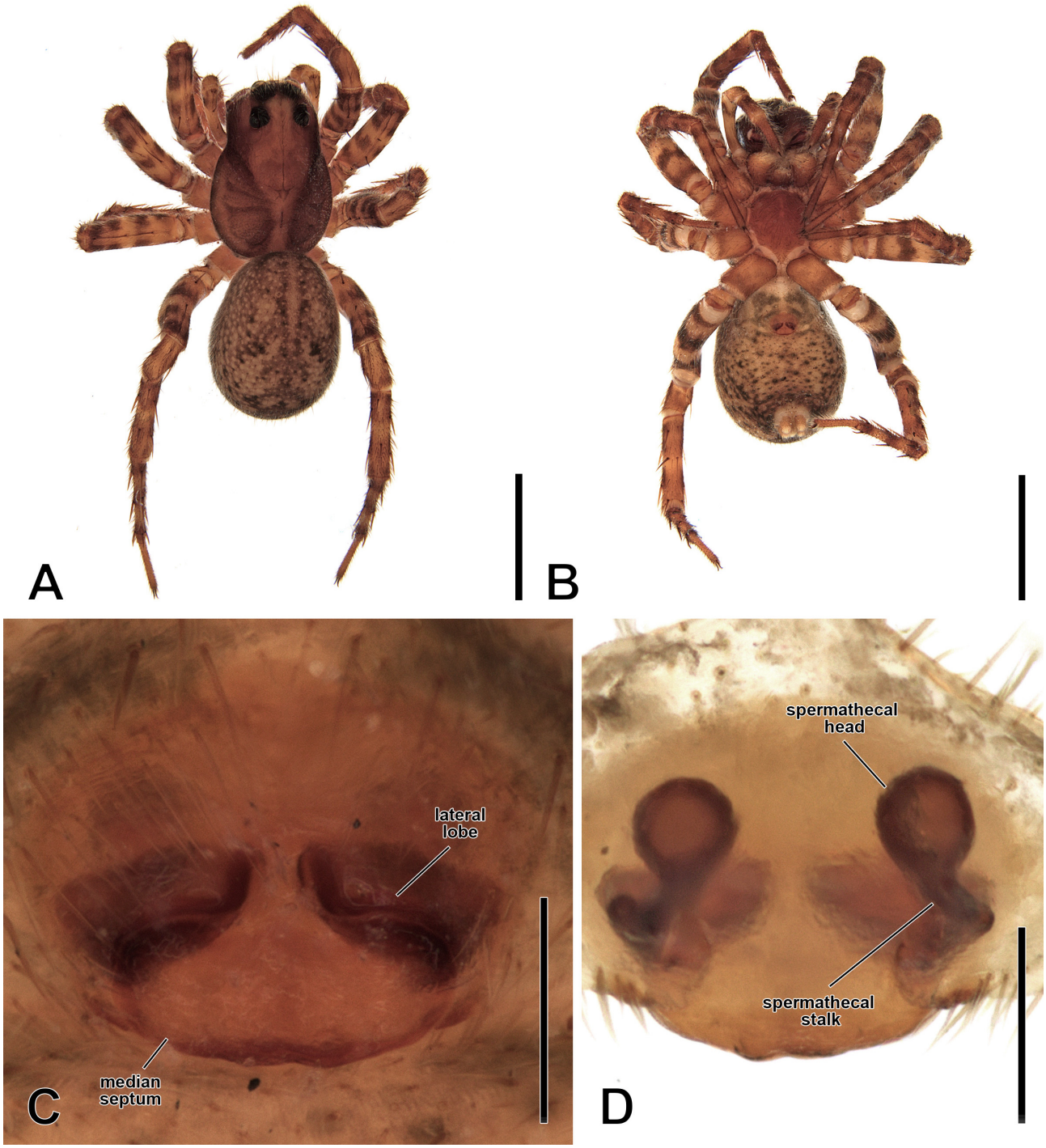

FIGURE 36. *Artoria reniformis* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, holotype. Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

and terminal apophysis with a conspicuous projection directed basally and curved ventrally, absent in the other aforementioned species. Females of *A. proboscidea* **sp. nov.** are easily distinguishable from the remaining species of *Artoria* by their epigyne with median septum bearing a large and protuberant scape-like process resembling an elephant's proboscis with a wider elliptical anterior portion and a much narrower rounded median portion projecting posteriorly (Figs 35C, D).

Description. Male (holotype, QM S70155).

Total length, 4.01. *Carapace,* length 2.16, width 1.57, reddish-brown, with paler broad median longitudinal band, broad dark brown lateral bands and reddish-brown narrow submarginal lateral bands (Fig. 34A). *Sternum,* pale yellow, darker on its margins (Fig. 34B). *Eyes,* diameter of AME 0.09, ALE 0.08, PME 0.26, PLE 0.18, anterior eye row slightly procurved, evenly spaced. *Chelicerae,* pale brown, three retromarginal teeth, distal largest, and two promarginal teeth, distal largest. *Labium,* brown, with pale brown anterior rim (Fig. 34B). *Legs,* mostly dark

yellow, with scattered darker patches on femora, patellae and tibiae (Figs 34A, B). *Opisthosoma,* length 1.95, width 1.23. Dorsum background colour dark yellow, with irregular dark grey patches throughout, cardiac mark dark yellow half as long as opisthosoma (Fig. 34A). Venter and spinnerets dark yellow (Fig. 34B).

Pedipalp (Figs 34C–E), tibia subrectangular in ventral view, free tip of the cymbium about 1/3 as long as the whole cymbium in ventral view; subtegulum heavily sclerotized. Tegular apophysis broadens distally in a wide concave surface with a median transverse rim, rounded and acute prolateral margin, and rounded distal and retrolateral margins, distal portion with retrolateral margin slightly curved ventrally bearing an acute tip pointed ventrally. Basoembolic apophysis subtriangular, longer than wide, heavily sclerotized with a wide rounded tip. Embolus narrow and flat. Terminal apophysis heavily sclerotized, very broad, much wider than the embolus, with a concavity as a gutter, and with a posterior projection that curves ventrally ending in an acute tip, and a retrolateral portion with a huge acute and curved projection pointing ventrally.

Female (QM S70120)

Total length, 4.74. *Carapace,* length 2.23, width 1.59, similar to male (Fig. 35A). *Sternum*, similar to male. *Eyes,* diameter of AME 0.09, ALE 0.09, PME 0.26, PLE 0.20, anterior eye row procurved, distance between AME–AME about twice AME–ALE. *Chelicerae,* reddish-brown, three retromarginal teeth, the two distal equally largest, and two promarginal teeth, distal largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 35B). *Legs,* similar to male with dark grey annulations more conspicuous on the femur (Figs. 35A, B). *Opisthosoma,* length 2.22, width 1.41. Dorsum similar to male, with cardiac mark less distinct (Fig. 35A). Venter mostly dark yellow, spinnerets dark grey (Fig. 35B).

Epigyne, wider than long, atrium large, circular, 2/3 as long as the epigyne. Median septum bearing a scape-like process almost as long as wide, poorly sclerotized, having a wide anterior portion and a long and narrow median portion projecting posteriorly (Fig. 35C). Lateral lobes rounded, projected mesally, with their rounded tips separated by the posterior narrow portion of the median septum. Spermathecae tubular, almost indistinguishable from the spermathecal stalks (Fig. 35D).

Life history and habitat preferences: Most mature specimens were collected in November, although records span across the year, occurring mostly in riparian and mountainous environments.

Distribution: The species has been recorded in central and south-eastern Queensland, and central and northern New South Wales (Fig 36).

Artoria quadrata Framenau, 2002 ♂♀

Artoria quadrata Framenau, 2002: 224–226, figs Fig. 18–F; Framenau & Baehr, 2018: 221–224, figs 35A–H, 46C.

Type material: Holotype ♂, **AUSTRALIA**: **Victoria**: Avon River near Valencia Creek, 37°48′S, 146°27′E, 18.XII.1996, riparian gravel bank, V. W. Framenau (NMV K-7678). Paratypes: 3 ♀, same data as holotype except 18.XII.1996–1.I.1997, pitfall trap (NMV K-7679–80).

New records (5 ♂ and 10 ♀): New South Wales: 1 ♀, Nullica beach (AM KS.131762; 1 ♀, Round Hill Nature Reserve, 32°59'10.21"S, 146°4'27.48"E (QM S52510). **Queensland:** 3 ♀, Cairns District, 16°55'S, 145°46'E (AM KS.32478); 3 ♂, Casey Creek, via Imbil, 26°28'00.01"S, 152°40'59.88"E (QM W5905); 1 ♂, Tumoulin Road, Evelyn, 17°29'31.20"S, 145°28'19.20"E (QM S68336). **Tasmania:** 1 ♂, 1 ♀, Douglas Apsley National Park, 41°46'S, 146°13'E (TMAG J7187); 1 ♀, Mathinna, Tower Hill, Site MNCONC3, 42°1'21"S, 147°55'13.44"E (QVMAG 2024:13:0267); 1 ♀, South Bruny Island, Mount Mangana, 43°21'21.24"S, 147°17'11.04"E (TMAG J5409); 1 ♀, South Hobart, between Jubilee Road & Old Farm Road, near brewery on Strickland Avenue, 42°53'S, 147°19'E (AM KS.73035); 1 ♀, Three Hummock Island, 40°26'S, 144°53'E (AM KS.127329).

Diagnosis: Males share a spoon-shaped tegular apophysis in the pedipalp with species from the *lineata*-group, and with other species such as *A. coclearia* **sp. nov.** and *A. serpentidens* **sp. nov.** However, in *A. quadrata* the tegular apophysis is more rectangular or apically truncated (Framenau & Baehr, 2018, figs 35E, F). The females of *A. quadrata* resemble those of *A. helensmithae* due to their epigyne with large lateral lobes projected mesally and a large circular atrium; however, *A. quadrata* differ by having a wider and heavily sclerotized posterior portion of the lateral lobes, while in *A. helensmithae* these lobes are narrower and poorly sclerotized (Framenau & Baehr, 2018, figs 24G, 34G).

Remarks: *Artoria quadrata* Framenau, 2002 has been revised and illustrated in detail recently (Framenau & Baehr 2018). Despite the male pedipalp having a spoon-shaped tegular apophysis, this species is here not considered part of the *lineata*-group due to divergent female genital features (see Discussion).

Life history and habitat preferences: Males have been mainly found in November, with females showing highest numbers in January, November, September, and February. The species is mostly found in forests, mountainous regions, and riparian areas near creeks and rivers, but also occurs in open and urban areas exhibiting ecological versatility.

Distribution: Predominant south-eastern Australian distribution, with the highest concentration of records from New South Wales, followed by Queensland. In Queensland, records are concentrated in both the north-east and the southeast. The distribution also extends south into Victoria, and with records also from the Australian Capital Territory and Tasmania (Fig. 38).

Artoria reniformis sp. nov. ♀

urn:lsid:zoobank.org:act:5651F3FD-2A48-4E3B-917C-48901D3A0B3D

Figs 36A–D, 38

Type material: Holotype ♀, **AUSTRALIA: Queensland:**

Lamington National Park, RF, 28°13'59"S, 153°7'59"E, 6.II.1991 (QM S25485).

Other material examined (1 ♀): AUSTRALIA: **Queensland:** 1 ♀, Lamington National Park, IBISCA, 1106 m, 28°15'36"S, 153°10'01"E (QM S22123).

Etymology: The specific epithet "*reniformis*" is a Latin adjective meaning 'kidney-shaped' and refers to the remarkable similarity in shape of the median septum of the epigyne of this species with a human kidney and its renal pelvis.

Diagnosis: Females of *A. reniformis* **sp. nov.** resemble those of *A. lineata.* Both species have a very broad median septum with short and narrower subrectangular anterior portion and a long and wide rounded posterior portion (Fig. 36C, Framenau & Baehr 2018, fig. 28G). However, the epigyne of *A. reniformis* **sp. nov.** has heavily sclerotized lateral lobes projected mesally close to the anterior subrectangular portion of the median septum (Fig. 36C), while in *A. lineata* the lateral lobes are less conspicuous and less sclerotized, not projecting mesally (Framenau & Baehr 2018, fig. 28G).

Description. Female (holotype, QM S25485).

Total length, 5.60. *Carapace,* length 2.91, width 2.09, brown, with reddish-brown median longitudinal

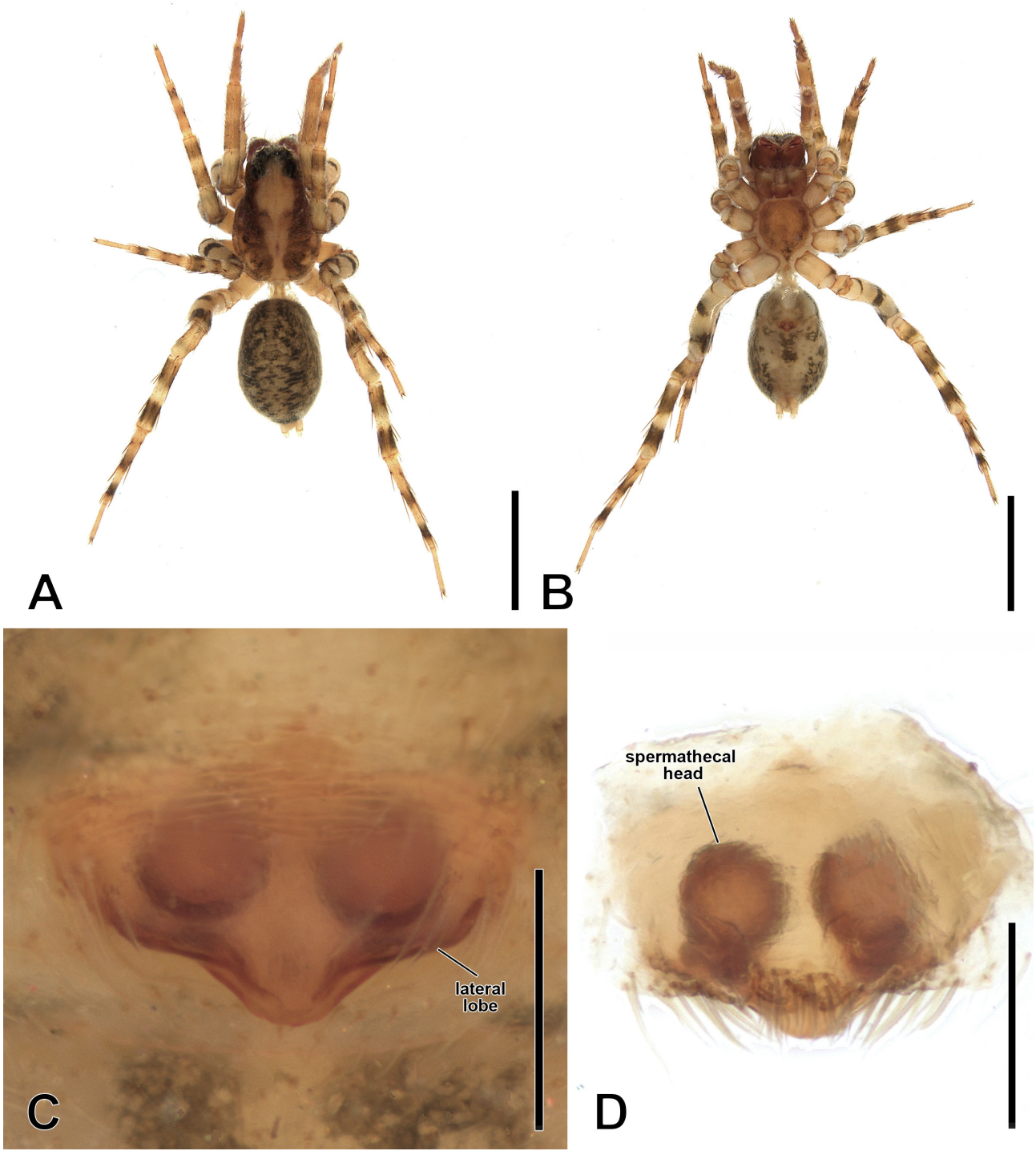

FIGURE 37. *Artoria scapulata* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, holotype. Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

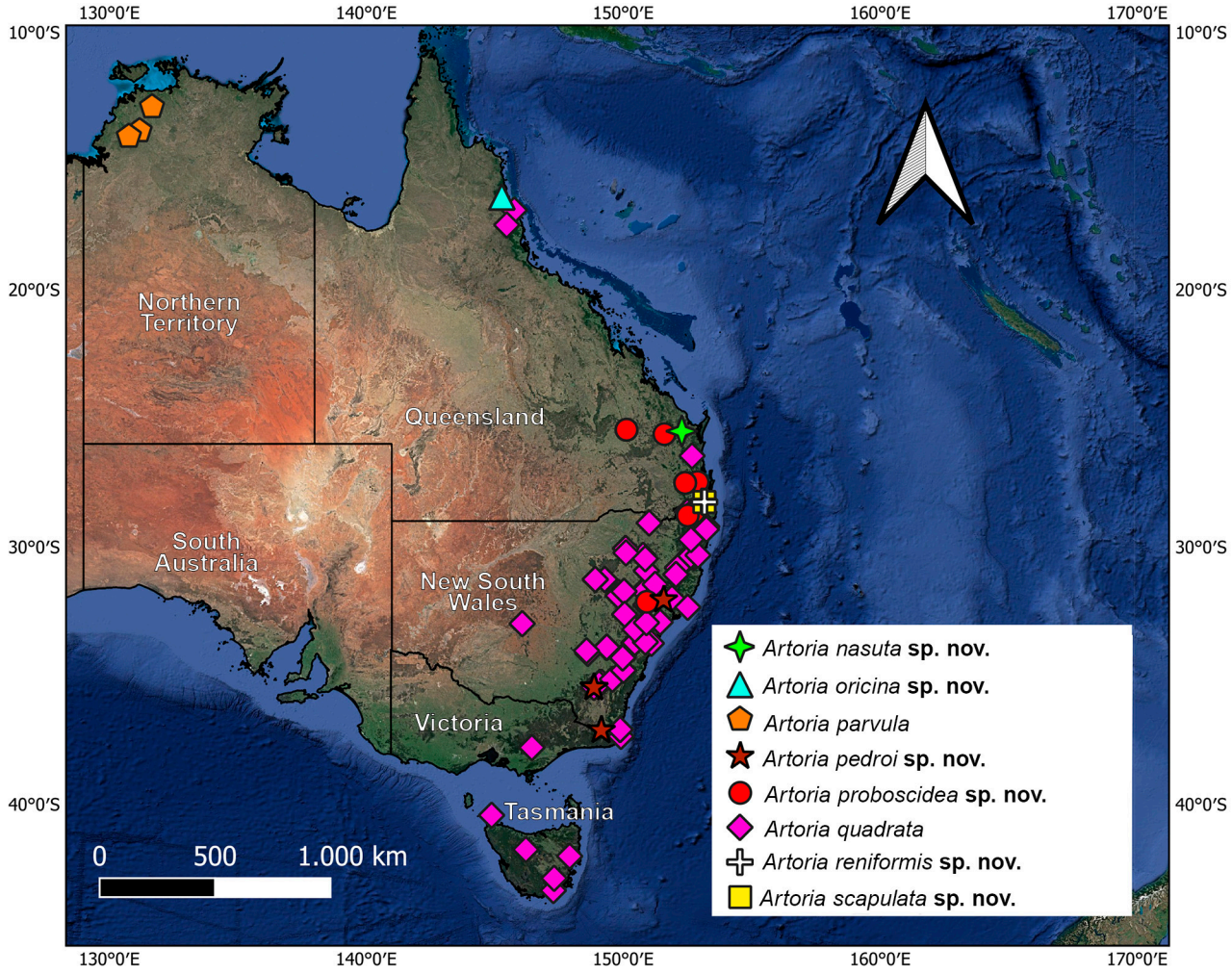

FIGURE 38. Distribution records of *Artoria nasuta* **sp. nov.** and *Artoria orcina* **sp. nov.**, *Artoria parvula* Thorell, 1877 (with focus on Australia), *Artoria pedroi* **sp. nov.**, *Artoria proboscidea* **sp. nov.**, *Artoria quadrata* Framenau, 2002, *Artoria reniformis* **sp. nov.**, *Artoria scapulata* **sp. nov.**

band, narrower in its posterior half, broad dark brown lateral bands, and reddish-brown narrow submarginal lateral bands (Fig. 36A). *Sternum,* reddish-brown (Fig. 36B). *Eyes,* diameter of AME 0.10, ALE 0.11, PME 0.31, PLE 0.25, anterior eye row slightly procurved, distance between AME–AME about half AME–ALE. *Chelicerae,* reddish-brown, three retromarginal teeth, subequal, and three promarginal teeth, median largest. *Labium,* dark brown with pale brown anterior rim (Fig. 36B). *Legs,* brown with broad dark grey annulations from femora to metatarsi (Figs 36A, B). *Opisthosoma,* length 2.77, width 2.14. Dorsum dark yellow suffused with dark grey patches throughout, cardiac mark dark yellow along half the opisthosoma, venter dark yellow mottled with dark grey, spinnerets dark yellow (Figs 36A, B).

Epigyne, wider than long, atrium limits inconspicuous. Median septum inverted T-shaped, wider than long, slightly longer than half of the epigyne, with a narrow anterior third and a very broad and rounded posterior 2/3 (Fig. 36C). Lateral lobes semicircular, narrowing posteriorly, slightly projected mesally. Spermathecal heads spherical, slightly less than two diameters apart, spermathecal stalks around twice as long as the spermathecal heads, attached posteriorly, bent ectally, then ventrally towards the copulatory openings. Copulatory atria median, large, very sclerotized and conspicuous in ventral view (Fig. 36D).

Male unknown.

Life history and habitat preferences: The holotype was found in February, but detailed habitat preferences are unknown.

Distribution: Two records from Lamington National Park, south-eastern Queensland (Fig. 36).

Artoria scapulata **sp. nov.** ♀

urn:lsid:zoobank.org:act:6E09F8B3-EBC0-4E04-B5A5-3D69DF3125FC

Figs 37A–D, 38

Type material: Holotype ♀, **AUSTRALIA: Queensland:** Lamington National Park, IBISCA Qld, Plot# IQ-1100-B, 1142 m, 28°15'32"S, 153°09'43"E, 11–20.III.2007, D. Putland, K. Staunton (QM S121496).

Other material examined (8 ♀): AUSTRALIA:

Queensland: 3 ♀, Lamington National Park, IBISCA Qld, Plot# IQ-900-C, 944 m, 28°14'24"S, 153°08'56"E (QM S121493); 3 ♀, Lamington National Park, IBISCA Qld, Plot# IQ-1100-D, 1140 m, 28°15'43"S, 153°10'12"E (QM S121494); 2 ♀, Lamington National Park, IBISCA Qld, Plot# IQ-1100-C, 1106 m, 28°15'36"S, 153°10'01"E (QM S121495).

Etymology: The specific epithet "*scapulata*" is a Latin adjective meaning 'with a small scapus' and refers to the pointed triangular protection at the posterior margin of the epigyne of this species, which resembles the scapus in the epigyne of many Araneidae, like in *Alpaida* O. Pickard-Cambridge, 1889 (*e.g.* Levi 1988, fig. 583).

Diagnosis: Females of *A. scapulata* **sp. nov.** resemble those of *A. extraordinaria* by their epigyne with poorly defined structures mainly formed by a plate with a convex posterior margin. However, the epigyne of *A. scapulata* **sp. nov.** differs by having the lateral lobes fused to the main plate, the convex subtriangular posterior portion of the main plate more pronounced and

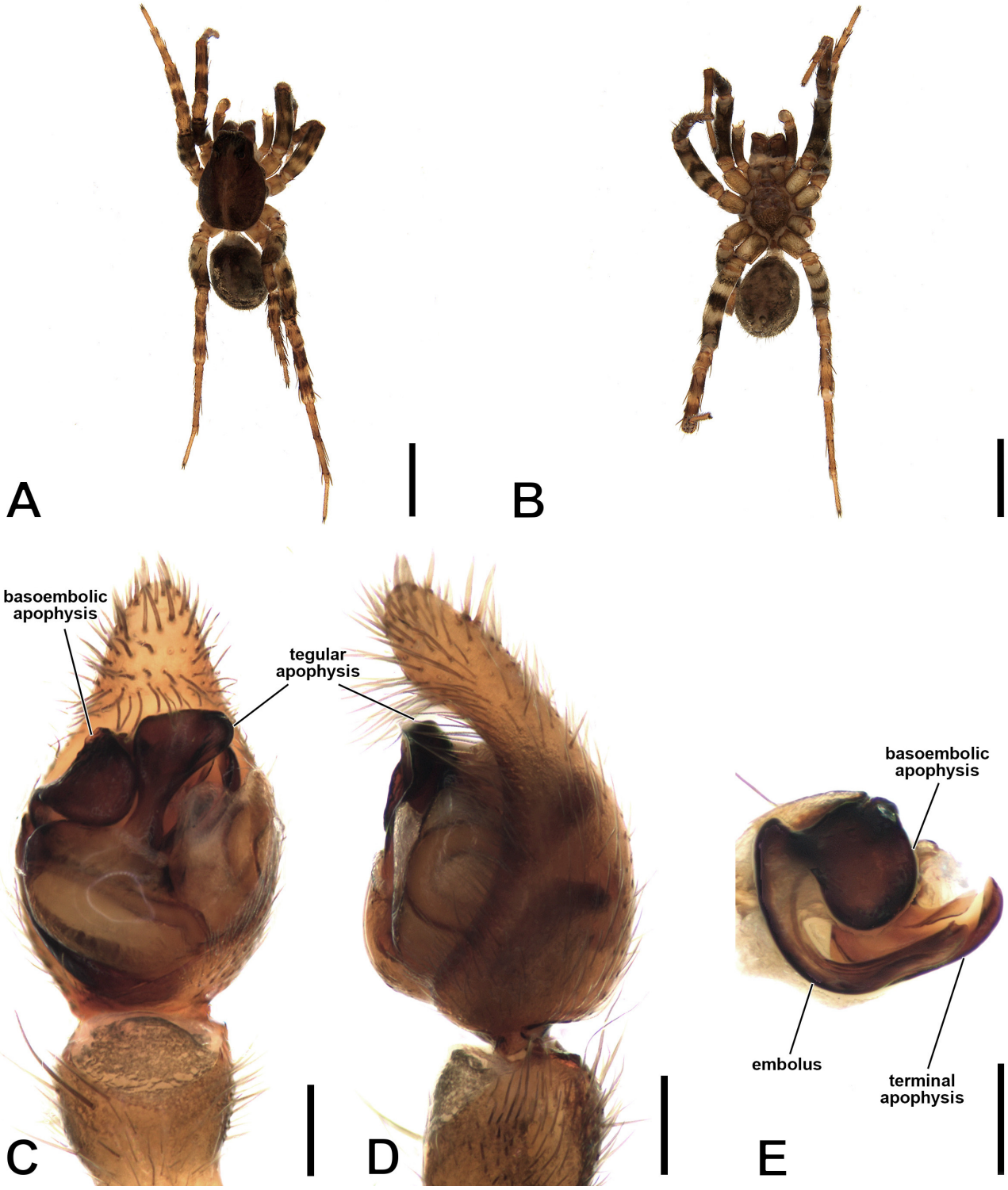

FIGURE 39. *Artoria semicircularis* **sp. nov.**, male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–E, holotype. Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

the spermathecae rounded and tubular (Figs 37C, D), while in *A. extraordinaria* the lateral lobes are broadly rounded and translucent, not fused with the main plate, the convex subtriangular posterior portion of the main plate less pronounced and the spermathecae oval and more distinguishable from the spermathecal stalks (Framenau & Baehr, 2018, figs 18G, H).

Description. Female (holotype, QM S121496).

Total length, 4.62. *Carapace,* length 2.42, width 2.47, with dark yellow median longitudinal band narrowing posteriorly, broad dark brown lateral bands (Fig. 37A). *Sternum,* reddish-brown with dark grey marginal patches (Fig. 37B). *Eyes,* diameter of AME 0.08, ALE 0.10, PME 0.29, PLE 0.23, anterior eye row slightly procurved, distance between AME–AME about half AME–ALE. *Chelicerae,* dark brown, paler on their distal margins, three retromarginal teeth, distal largest, and three promarginal teeth, median largest. *Labium,* dark brown with pale brown anterior rim (Fig. 37B). *Legs,* dark yellow with broad dark grey annulations from femora to metatarsi (Figs 37A, B). *Opisthosoma,* length 2.15, width 1.47. Dorsum dark yellow suffused with dark grey patches throughout, cardiac mark dark yellow around half as long as the opisthosoma, venter pale yellow with central and marginal irregular dark grey patches, spinnerets pale yellow (Figs 37A, B).

Epigyne, wider than long, forming a plate with its anterior 2/3 wide and subrectangular and posterior third narrower and subtriangular ending in a rounded posterior tip. Lateral lobes fused with the main plate (Fig. 37C). Spermathecal heads spherical and elongated, less than half their diameter apart, and almost indistinguishable from the spermathecal stalks, which are attached posteriorly (Fig. 37D).

Male unknown.

Life history and habitat preferences: The nine mature females were collected in March. Detailed habitat preferences are unknown.

Distribution: Only known from Lamington National Park, south-eastern Queensland (Fig. 38).

Artoria semicircularis sp. nov. ♂

urn:lsid:zoobank.org:act:E7D07DD0-A21B-454E-8529-DE75B2877646

Figs 39A–E, 44

Type material: Holotype ♂, **AUSTRALIA: Queensland:** Elgin Vale, creek, 505 m, 26°31'40"S, 152°12'07"E, 7.XI.2020–27.XII.2020, G. Monteith (QM S121498).

Other material examined: Only known from the holotype.

Etymology: The specific epithet "*semicircularis*" is a Latin adjective meaning 'like a semicircle' and refers to the shape of the basoembolic apophysis in the male pedipalp in ventral view, which forms a large semicircle.

Diagnosis: Males of *A. semicircularis* **sp. nov.** are similar to those of *A. helensmithae*, *A. beaury*, *A. mungo*, *A. hamifera* **sp. nov.** and *A. geniculata* **sp. nov.** Among those species, males of *A. semicircularis* **sp. nov.** are most similar to those of *A. geniculata* **sp. nov.** by sharing a tegular apophysis with an almost straight distal margin, the apex with prolateral and retrolateral portions at the same level distally, and the projected retrolateral portion of the apex shorter compared to the other mentioned species and pointing ventrally. However, males of *A. semicircularis* **sp. nov.** differ from those of *A. geniculata* **sp. nov.** by narrower and more conspicuous dark annulations on the legs, a male pedipalp with broader basoembolic apophysis, and a less curved embolus (Figs 39C–E, 12C, D).

Description. Male (holotype, QM S121498).

Total length, 4.47. *Carapace,* length 2.29, width 1.51, dark brown, with pale brown median longitudinal band, broad dark brown lateral bands and pale brown narrow submarginal lateral bands (Fig. 39A). *Sternum,* dark brown, paler on its centre (Fig. 39B). *Eyes,* diameter of AME 0.07, ALE 0.08, PME 0.27, PLE 0.19, anterior eye row procurved, evenly spaced. *Chelicerae,* dark brown, paler on their distal margins, with streaked dark grey patch on their throughout, three retromarginal teeth, subequal, and two promarginal teeth, distal largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 39B). *Legs,* mostly dark yellow, with dark grey annulations from femora to metatarsi (Figs 39A, B). *Opisthosoma,* length 1.95, width 1.33. Dorsum dark grey, with cardiac mark greyish-yellow, vague, along half the opisthosoma (Fig. 39A). Venter and spinnerets greyish-yellow (Fig. 39B).

Pedipalp (Figs 39C–E), tibia subrectangular in ventral view, free tip of the cymbium about 1/3 as long as the whole cymbium in ventral view; subtegulum heavily sclerotized. Tegular apophysis forms a stalk that broadens apically, apex with rounded prolateral and retrolateral corners. Basoembolic apophysis rounded, as long as wide, heavily sclerotized with a wide rounded tip. Embolus semicircular, flat, ending in a truncated tip. Terminal apophysis broad, as a gutter with a basal apophysis pointing retrolaterally, and with a retrolateral tip curved, pointing apically.

Female unknown.

Life history and habitat preferences: The holotype was found in November/December. Detailed habitat preferences are unknown.

Distribution: Single record from Elgin Vale, south-eastern Queensland (Fig. 44).

Artoria serpentidens sp. nov. ♂♀

urn:lsid:zoobank.org:act:12C5D996-66F5-4F89-8164-B6BE8B054976

Figs 40A–E, 41A–D, 44

Type material: Holotype ♂, **AUSTRALIA: New South Wales:** Yabbra Scrub, Yabbra State Forest, 28°38'S, 152°30'E, 14.XII.1988, Smith, Hines, Pugh & Webber (AM KS.131847).

Other material examined (35 ♂ and 5 ♀): AUSTRALIA: **New South Wales:** 1 ♂, Yabbra Scrub, Yabbra State Forest, 28°38'S, 152°30'E (AM KS.45734); 1 ♂, same locality (AM KS.51060); 14 ♂, 4 ♀, same locality (AM KS.53794); 1 ♀, same locality (AM

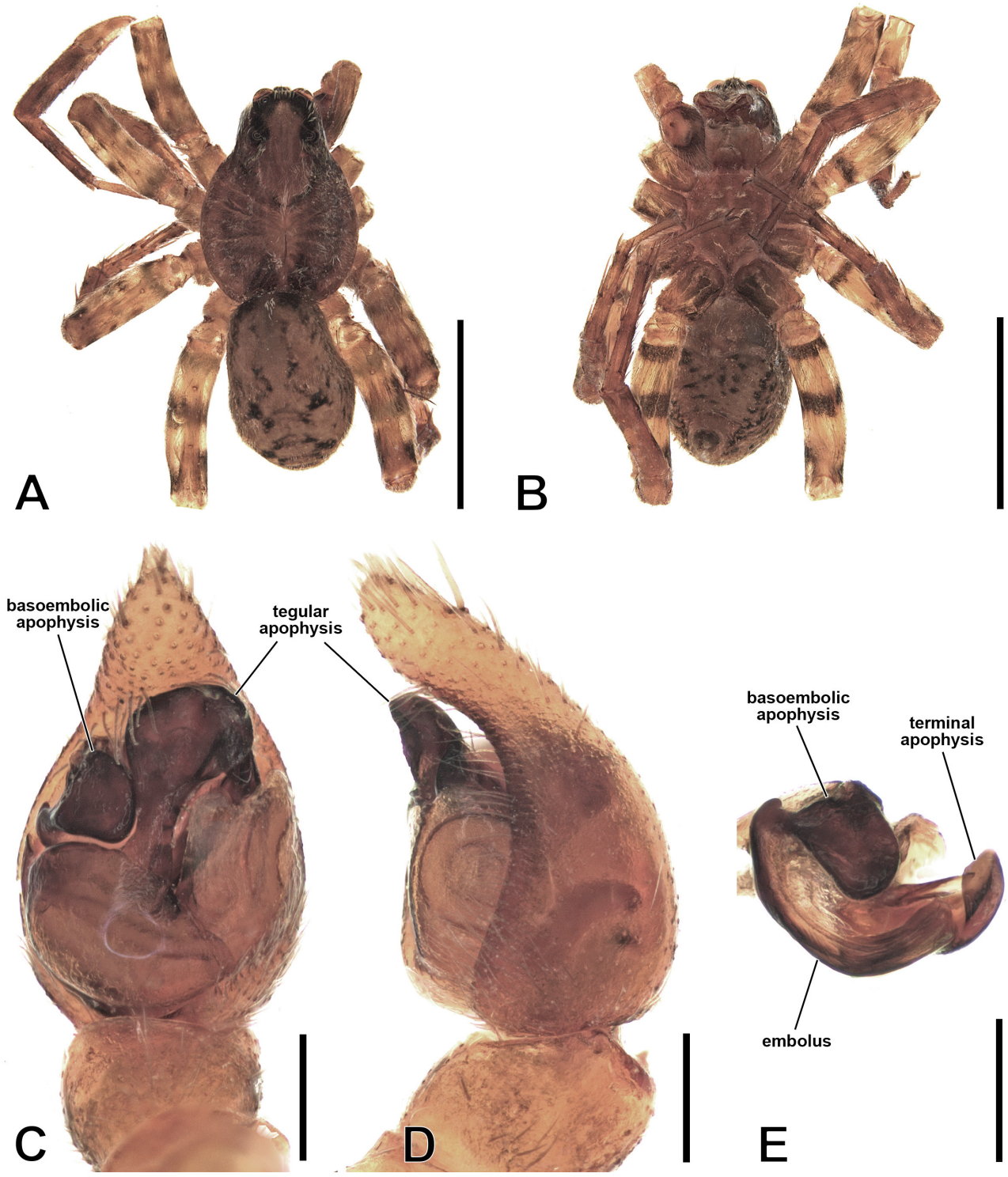

FIGURE 40. *Artoria serpentidens* **sp. nov.**, male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–D, holotype ; E, (AM KS.57771). Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

KS.131846); 1 ♂, same locality (AM KS.57771); 18 ♂, same locality (AM KS.63743).

Etymology: The specific epithet is a noun in apposition and means "snake tooth," combining the Latin nouns *serpens* (snake) and *dens* (tooth), and refers to the pointy and concave shape of the lateral lobes of the epigyne of this species.

Diagnosis: Male pedipalps of *A. serpentidens* **sp. nov.** have a spoon-shaped tegular apophysis, a common character among *Artoria* species, including those of the *lineata*-group (see Discussion). Among those species, males of *A. serpentidens* **sp. nov.** are most similar to those of *A. pedroi* **sp. nov.** and *A. catinata* **sp. nov.**, all having a curved, flat and blunt embolus and a sclerotized terminal apophysis (Figs 4C–E, 40C–E, 42C–E). However, the male pedipalp of *A. serpentidens* **sp. nov.**

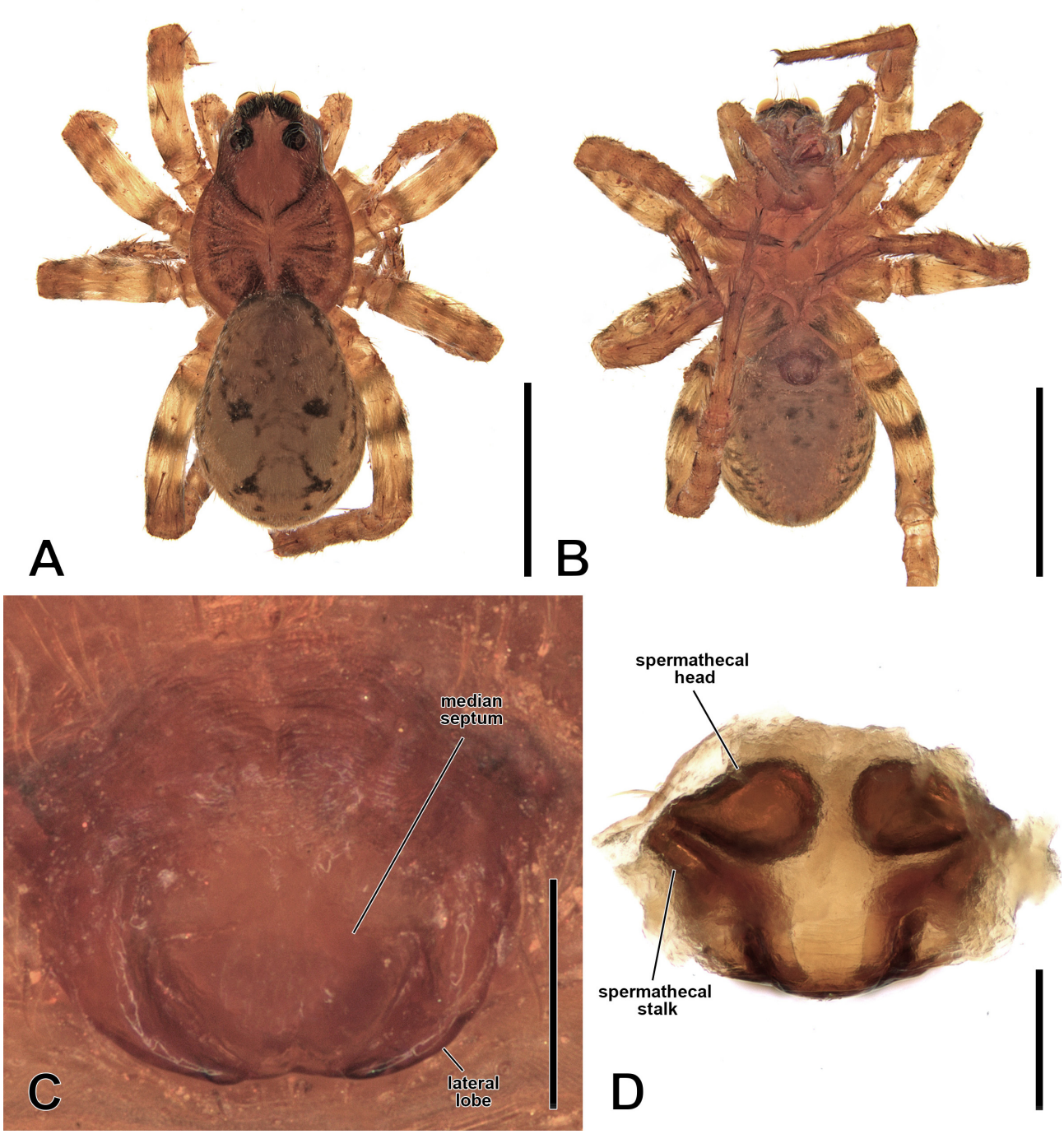

FIGURE 41. *Artoria serpentidens* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (AM KS.131846). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

can be distinguished by a broader basoembolic apophysis and an even embolus (Figs 40C–E). In addition, males of *A. serpentidens* have an embolus with concave external margin and truncated tip while those of *A. pedroi* **sp. nov.** have a concave external margin but a rounded tip, and those of *A. catinata* **sp. nov.** have truncated tip but a sinuous external margin (Figs 4C–E, 40C–E, 42C–E). Females *A. serpentidens* **sp. nov.** are most similar to those of *A. beaury*. However, in *A. serpentidens* **sp. nov.** the epigyne has a larger atrium, longer than half the epigyne, lateral lobes gradually tapering, ending posteriorly in very acute tips, and with the internal margins less concave (Fig. 41C), while in *A. beaury* the epigyne has a smaller atrium, half as long as the epigyne, lateral lobes mostly of similar width, only tapering in their posterior acute apex, and with internal margins more concave (Framenau & Baehr 2018, fig. 7G).

Description. Male (holotype, KS.131847).

Total length, 4.11. *Carapace,* length 2.32, width 1.71, brown, with reddish-brown median longitudinal band narrowing posteriorly, broad dark brown lateral bands and reddish-brown submarginal lateral bands (Fig. 40A).

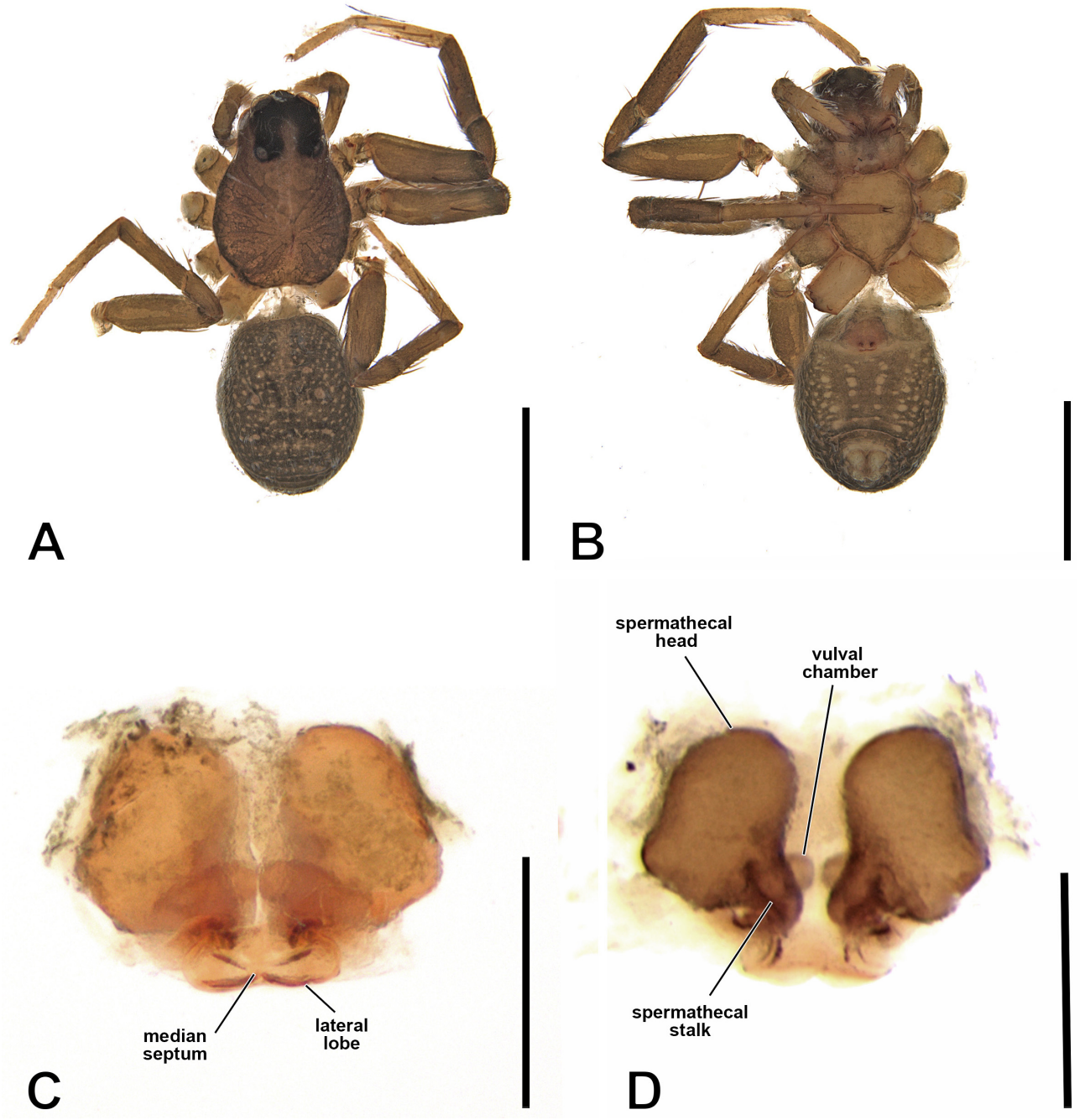

FIGURE 42. *Artoria superelliptica* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, holotype. Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

Sternum, reddish-brown (Fig. 40B). *Eyes,* diameter of AME 0.10, ALE 0.10, PME 0.25, PLE 0.19, anterior eye row procurved, evenly spaced. *Chelicerae,* dark brown, three retromarginal teeth, the two distal biggest, and three promarginal teeth, median largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 40B). *Legs,* mostly dark yellow, with broad dark grey annulations on femora, patellae and tibiae (Figs 40A, B). *Opisthosoma,* length 1.91, width 1.38. Dorsum mostly dark yellow, with irregular black patches, cardiac mark dark yellow around half as long as the opisthosoma (Fig. 40A). Venter dark yellow with a set of black patches in its centre, spinnerets black (Fig. 40B).

Pedipalp (Figs 40C–E), tibia subrectangular in ventral view, free tip of the cymbium about 1/3 as long as the whole cymbium in ventral view; subtegulum heavily sclerotized. Tegular apophysis spoon-shaped in ventral view, with distal part of its rounded retrolateral margin projected ventrally, seen as an almost straight line in retrolateral view. Basoembolic apophysis rounded, around as wide as long, with broad rounded tip. Embolus semicircular, short, flat, evenly wide, ending in a truncated tip. Terminal apophysis forming a gutter, with a truncated basal apophysis, and a truncated retrolateral tip curved distally.

Female (AM KS.131846)

Total length, 4.61. *Carapace,* length 2.42, width 1.75, similar to male (Fig. 41A). *Sternum*, similar to male. *Eyes,* diameter of AME 0.10, ALE 0.10, PME 0.30, PLE 0.22, anterior eye row procurved, evenly spaced. *Chelicerae,* reddish-brown, three retromarginal teeth, the two distal largest, and three promarginal teeth, the two distal largest. *Labium,* similar to male (Fig. 41B). *Legs,* similar to male (Figs 41A, B). *Opisthosoma,* length 2.54, width 1.80. Dorsum and venter similar to male (Figs 41A, B).

Epigyne, slightly wider than long, atrium rounded, large and shallow, about 2/3 as wide as long as the epigyne. Median septum rounded, as wide and almost as long as atrium, with its posterior margin rounded and with a small middle notch (Fig. 41C). Lateral lobes semicircular, tapering from its lateral to its posterior portion that projects mesally, ending in acute tips separated by the posterior margin of the median septum. Spermathecal heads spherical, half their diameter apart, spermathecal stalks narrow, three times as long as spermathecal heads, attached ectally, then sharply bent mesally and then curved posteriorly (Fig. 41D).

Life history and habitat preferences: Mature males and females were collected in a forested area in December.

Distribution: Restricted to the Yabbra State Forest in north-eastern New South Wales. (Fig. 44).

***Artoria superelliptica* sp. nov.** ♀
urn:lsid:zoobank.org:act:3079DAFE-3078-47D3-8578-DB55D6E645C4
Figs 42A–D, 44

Type material: Holotype ♀, **AUSTRALIA: Northern Territory:** Keep River National Park, Hazard Creek, 15°57'36"S, 129°01'38"E, 1–3.VI.2001, Lisa Boutin (QVMAG 2025:13:0486).

Other material examined: Only known from holotype.

Etymology: The specific epithet "*superelliptica*" is a Latin word formed by "super" = "large" and "elliptica" = "with an ellipse" and refers to the shape of the spermathecae of this species, which are almost rectangular and with rounded extremities, resembling the geometric figure called superellipse.

Diagnosis: Females of *A. superelliptica* **sp. nov.** resemble those of *A. pileata* due to their epigyne with a very small atrium restricted to its posterior third. However, in *A. superelliptica* **sp. nov.** the anterior margin of the atrium of the epigyne is poorly sclerotized and not much projected posteriorly, the lateral lobes are very thin and inconspicuous and the spermathecal heads are conspicuously reniform (Figs 42C, D), whereas in *A. pileata* the anterior margin of the atrium is heavily sclerotized and strongly projecting posteriorly, the lateral lobes are robust and rounded and the spermathecal heads globular (Prado *et al.* 2024, figs 25C, D).

Description. Female (holotype, QVMAG 2025:13:0486).

Total length, 2.78. *Carapace,* length 1.37, width 0.95, dark brown, with brown median longitudinal band narrowing posteriorly, broad dark brown lateral bands and vague narrow brown submarginal lateral bands (Fig. 42A). *Sternum,* dark yellow (Fig. 42B). *Eyes,* diameter of AME 0.07, ALE 0.05, PME 0.18, PLE 0.13, anterior eye row slightly procurved, distance between AME–AME almost twice AME–ALE. *Chelicerae,* pale brown, with streaked grey patch, four retromarginal teeth of different sizes, promarginal teeth inconspicuous or absent. *Labium,* brown, with pale brown anterior rim (Fig. 42B). *Legs,* brown, with metatarsi and tarsi paler (Figs 42A, B). *Opisthosoma,* length 1.19, width 1.02. Dorsum mostly dark grey, with scattered dark yellow dots throughout, and with cardiac mark dark yellow, about half as long as the opisthosoma (Fig. 42A). Venter dark grey with longitudinal rows of dark yellow dots, and spinnerets dark yellow (Fig. 42B).

Epigyne, as wide as long, atrium short, restricted to the posterior third of the epigyne. Median septum short, half as long as the atrium (Fig. 42C). Lateral lobes very thin, semicircular, with their posterior portion strongly projected mesally, touching each other. Spermathecal heads reniform, large, about half a diameter apart, with a pair of vulval chambers in between, spermathecal stalks very short, about as long half the spermathecal heads, attached mesally (Fig. 42D).

Male unknown.

Life history and habitat preferences: The holotype was found in June. Detailed habitat preferences are unknown.

Distribution: Single record from Keep River National Park, north-western Northern Territory (Fig. 44).

***Artoria tenuis* sp. nov.** ♀
urn:lsid:zoobank.org:act:DA71E8A5-B37B-46A0-907B-6E01DA1B2CF2
Figs 43A–D, 44

Type material: Holotype ♀, **AUSTRALIA: New South Wales:** Jerry's Plains, Upper Hunter River, 32°19'48"S, 150°33'43.92"E, 23.XI.2004–9.XII.2004, J. Gollan, riparian open pasture, pitfall trap (AM KS.100872).

Other material examined: Only known from the holotype.

Etymology: The specific epithet "*tenuis*" is a Latin adjective meaning 'thin, slender' and refers to the very thin median septum and atrium of the epigyne of this species.

Diagnosis: Females of *A. tenuis* **sp. nov.** have an epigyne similar to that from *A. limitata* **sp. nov.**, both forming an entire plate and a very small atrium in its posterior third. However, females of *A. tenuis* **sp. nov.** have an elliptical atrium, as wide as the epigyne, separated by a subrectangular median septum, and spermathecal stalks attached ectally to the spermathecae (Figs 43C, D), while in *A. limitata* **sp. nov.** the atrium is less conspicuous, with the posterior margin poorly defined, narrower than the epigyne, the median septum and lateral lobes are

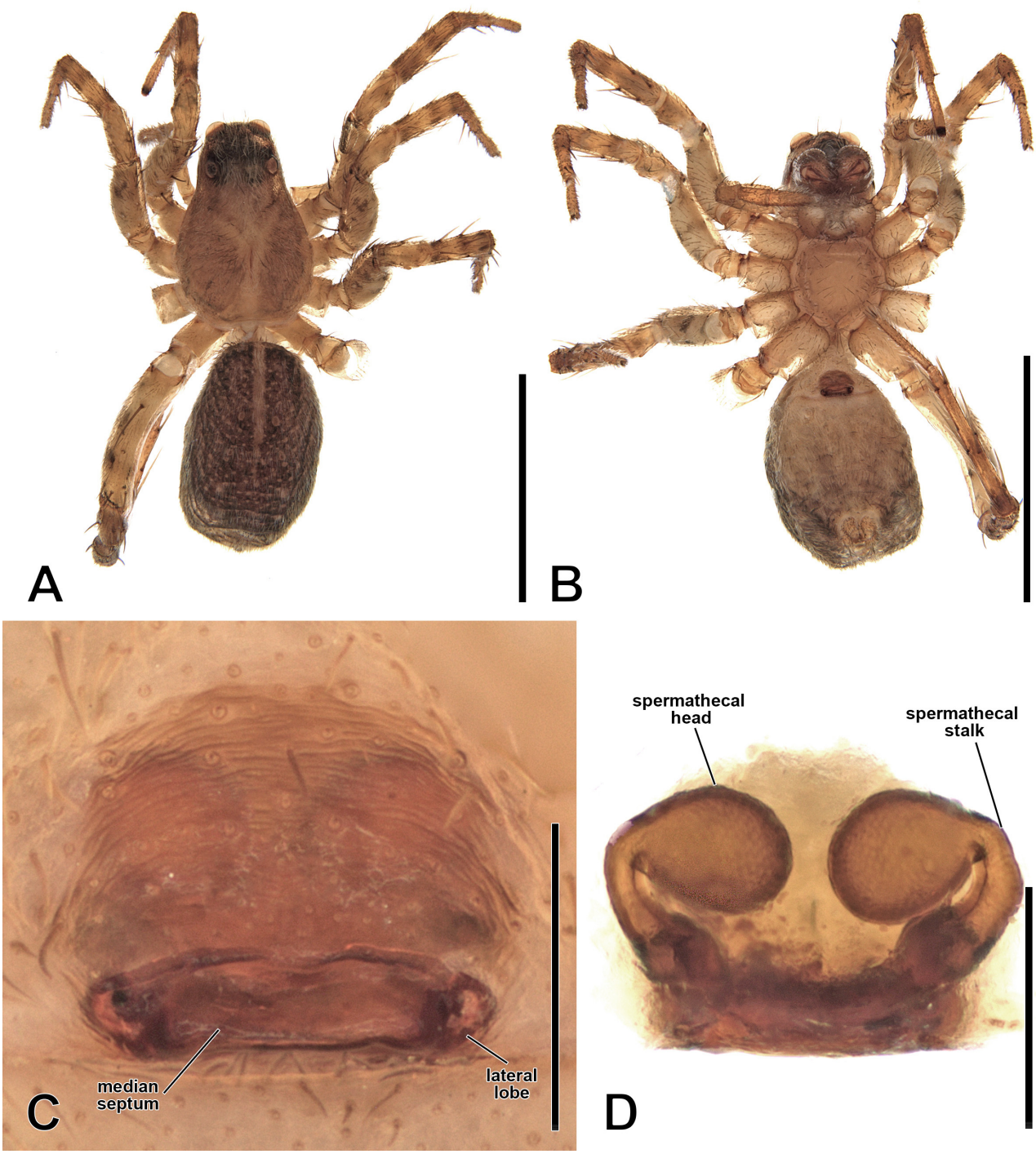

FIGURE 43. *Artoria tenuis* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, holotype. Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

inconspicuous, and the spermathecal stalks are attached posteriorly to the spermathecae (Figs 21C, D).

Description. Female (holotype, AM KS.100872).

Total length, 4.52. *Carapace,* length 2.27, width 1.54, with dark yellow median longitudinal band broad in its anterior half, and narrow in its posterior half, and reddish-brown broad lateral bands (Fig. 43A). *Sternum,* reddish-brown (Fig. 43B). *Eyes,* AME 0.08, ALE 0.08, PME 0.27, PLE 0.21, anterior eye row procurved, evenly spaced. *Chelicerae,* reddish-brown, paler on their distal margins, three retromarginal teeth, the two distal largest, and three promarginal teeth, median largest. *Labium,* dark brown with pale brown anterior rim (Fig. 43B). *Legs,* brown with broad dark grey annulations on femora, patellae, tibiae and metatarsi (Figs 43A, B). *Opisthosoma,* length 2.11, width 1.49. Dorsum dark grey with cardiac mark dark yellow around half as long as the opisthosoma, venter and spinnerets greyish-yellow (Figs 43A, B).

Epigyne, as wide as long, atrium ellipsoid, much wider than long, around as wide as the epigyne and restricted to the posterior fourth of the epigyne. Median septum subrectangular, as wide as the atrium (Fig. 43C).

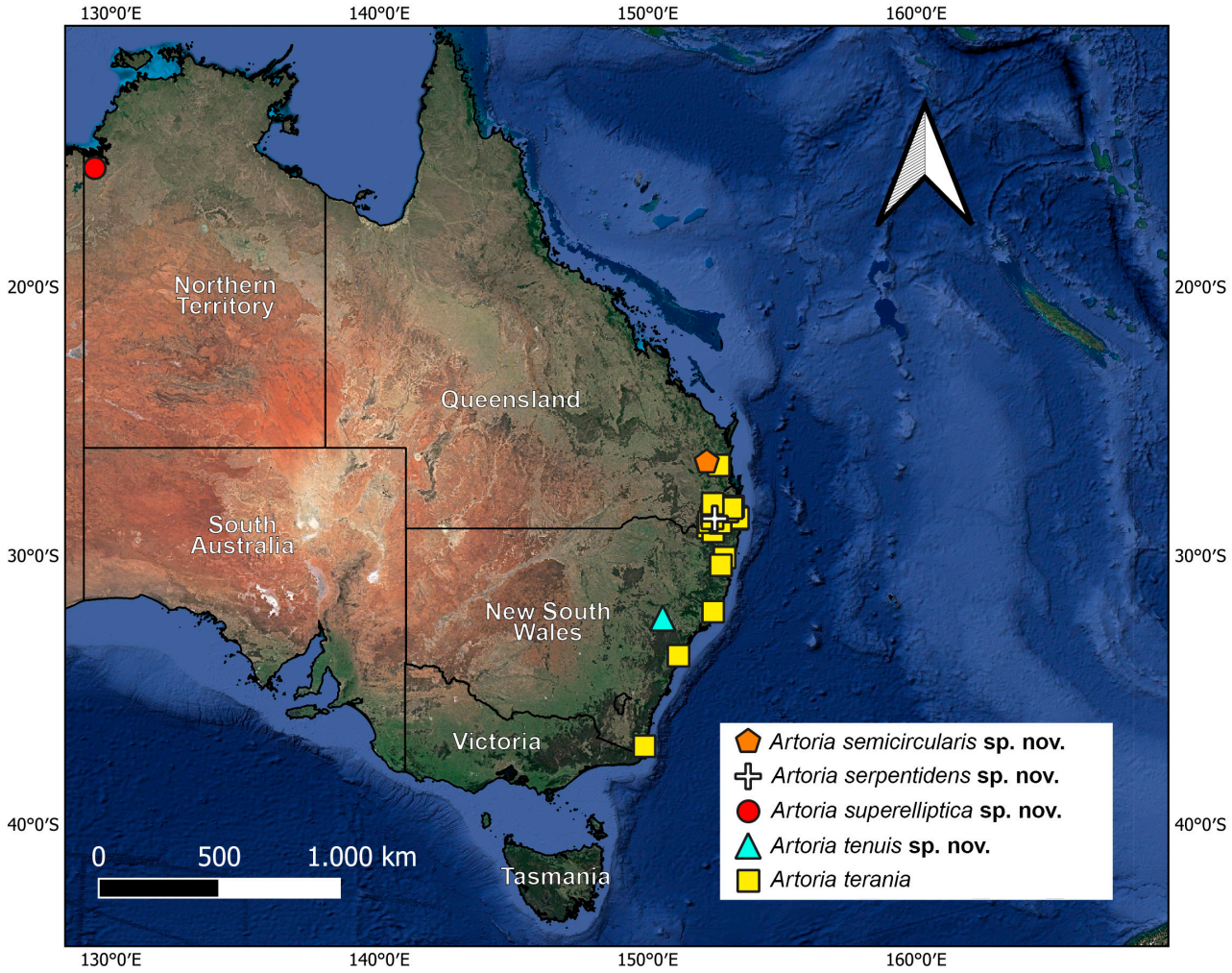

FIGURE 44. Distribution records of *Artoria semicircularis* **sp. nov.**, *Artoria serpentidens* **sp. nov.**, *Artoria superelliptica* **sp. nov.**, *Artoria tenuis* **sp. nov.**, *Artoria terania* Framenau & Baehr, 2018.

Lateral lobes semicircular, very thin and small, not projecting mesally. Spermathecal heads oval, less than one diameter apart, spermathecal stalks slightly longer than the spermathecal heads, attached ectally (Fig. 43D).

Male unknown.

Life history and habitat preferences: The single female was found in December, wet season, in riparian open pasture.

Distribution: Known only from the type locality at the Upper Hunter River valley, eastern New South Wales (Fig. 44).

Artoria terania Framenau & Baehr, 2018 ♂♀

Artoria terania Framenau & Baehr, 2018: 227–230, figs 39A–H, 48H.

Type material: Holotype ♂, **AUSTRALIA**: **New South Wales**: Terania Creek, N of Lismore, 28°34'S, 153°19'E, 30.IV.1976, M.R. Gray, C. Horseman, litter, 340 m alt., rainforest survey site 52, FN767 (AM KS10351). Paratypes: 16 ♂, 1 ♀, **AUSTRALIA**: **New South Wales**: Beaury State Forest, Koorelah Range, Quarry Road, 28°30'54"S, 152°21'14"E, 23.III–9.V.1999, S. Lassau, C. Lemann, pitfall trap (AM KS85226); 1 ♂, same data (ZSMH A0002172); 2 ♂, 5 ♀, 9 juveniles, **AUSTRALIA**: **New South Wales**: Richmond Range State Forest, Tunners Road, 28°37'33"S, 152°42'19"E, 4.II–9.IV.1993, M. Gray, G. Cassis, pitfall trap, 560 m alt., NE NSW NPWS Survey, 04BM (AM KS36037); 1 ♀, same data (ZSMH A0002173).

New records (11 ♂, 10 ♀ and 5 juveniles): New South Wales: 1 ♂, Blue Gum Hut, Mallanganee, 28°46'59.988"S, 152°43'00.12"E (QM S70133); 1 ♂, Blue Gum Hut, via Mallanganee, 28°47'S, 152°43'E (QM S70140); 1 ♀, 5 juveniles, Cristal Shower Fall & Wonga Track, Dorrigo National Park, 30°21'58.13"S, 152°43'46.89"E (HBI N35259-4); 2 ♂, Mt Clunie, via Woodenbong, 28°20'S, 152°31'E (QM S70138–9); 4 ♂, 2 ♀, Richmond Gap, 28°21'S, 152°58'00.12"E (QM S70124–9); 2 ♀, same locality (QM S70134–5); 1 ♀, Tooloom Scrub, via Urbenville, 28°37'S, 152°25'E (QM S70136). **Queensland:** 3 ♂, 1 ♀, Binna Burra, 28°11'S, 153°11'E (QM S41696); 1 ♀, Booloumba Creek, Conondale Range, 26°39'S, 152°39'E (QM S70137); 1 ♀,

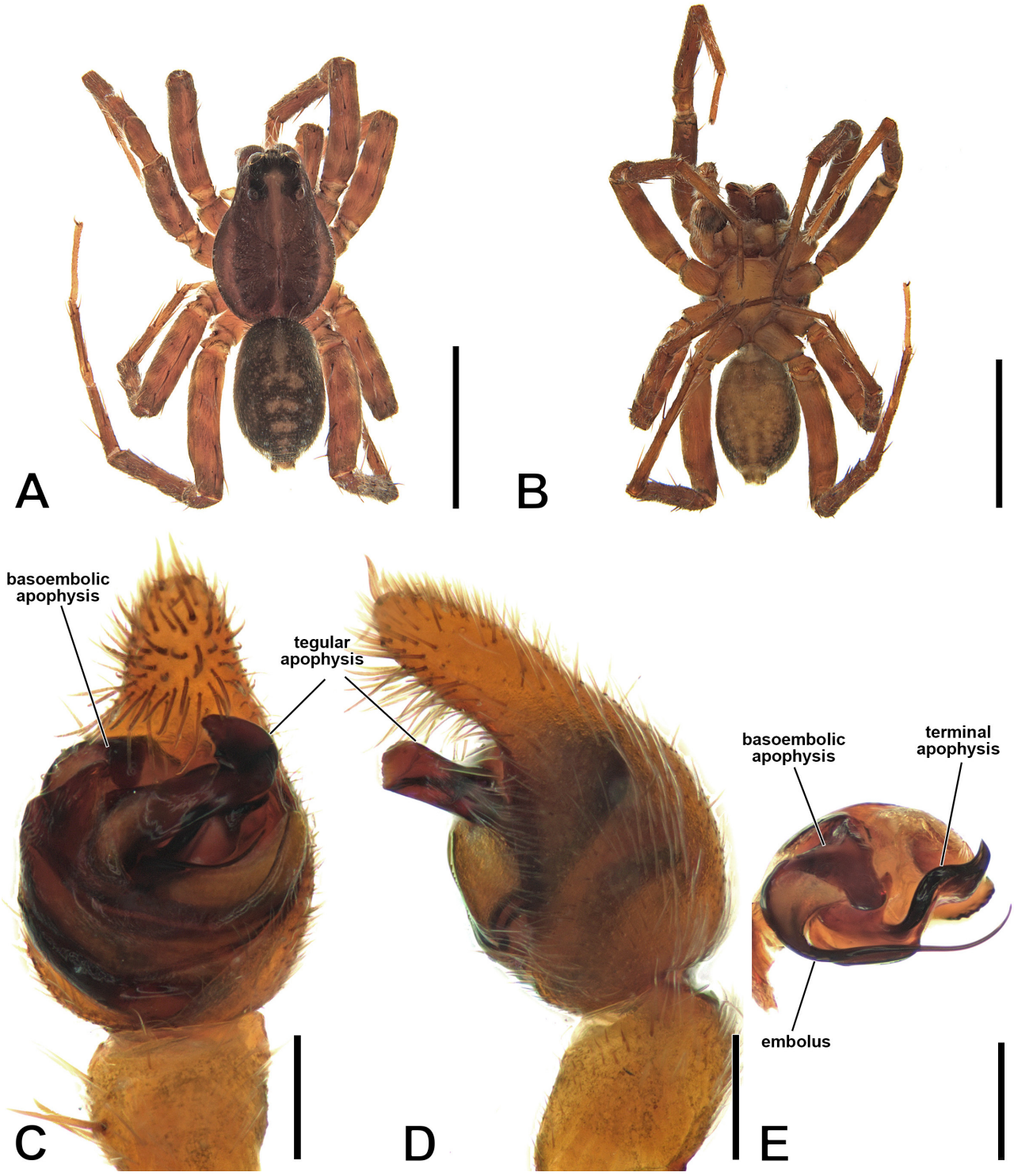

FIGURE 45. *Artoria vectis* **sp. nov.**, male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–D, holotype; E, (NTMAG A006500). Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

Cainbable Ra, Lamington National Park, 28°13'59.99"S, 153°07'59.88"E (QM S70145); 1 ♀, Moss' Well at Spicer's Gap, 28°04'28"S, 152°25'23"E (QM S59123).

Diagnosis (after Framenau & Baehr, 2018): Males of *A. terania* most closely resemble those of *A. grahammilledgei* based on the shape of the tegular apophysis, which is apically truncated (Framenau & Baehr, 2018, fig. 39E) and not lobed as in *A. grahammilledgei* (Framenau & Baehr, 2018, fig. 22E). The epigyne has concave lateral edges resulting in it being twice as wide posteriorly than anteriorly (Framenau & Baehr, 2018, fig. 39G).

Remarks: *Artoria terania* Framenau & Baehr, 2018 has been described and illustrated in detail recently (Framenau & Baehr 2018).

Life history and habitat preferences: Males and females of *A. terania* both show peak activity in February.

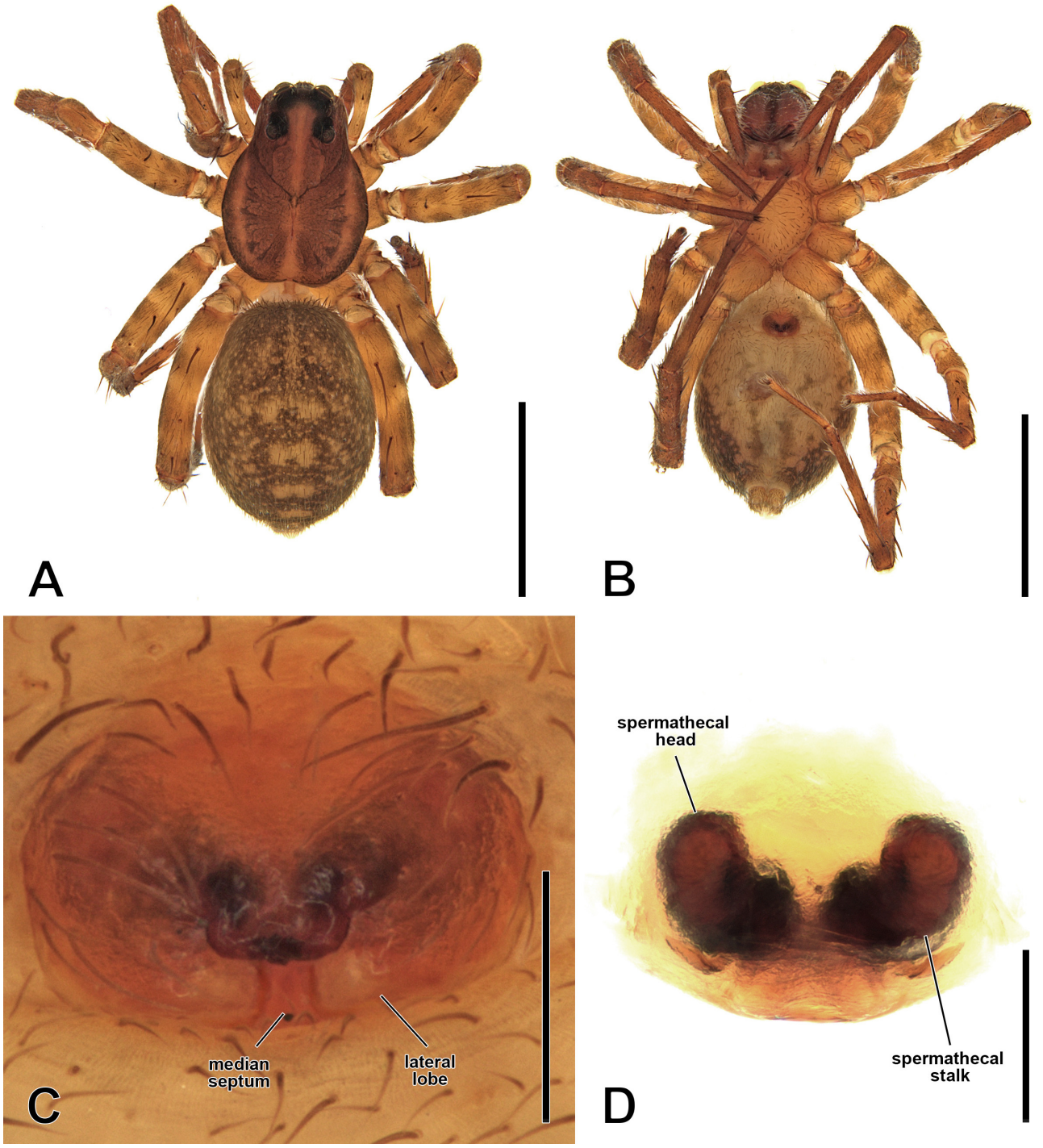

FIGURE 46. *Artoria vectis* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (NTMAG A006501). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

This species is primarily associated with forested and natural bushland environments close to the coast, often in areas characterized by creeks, scrubs, and gully systems.

Distribution: The species occurs through the coastal regions of New South Wales, with most records from the north-east region, but also occurring in south-eastern Queensland (Fig. 44).

Artoria triangularis Framenau, 2002 ♂♀

Artoria triangularis Framenau, 2002: 227–228, figs 23A–E; Framenau & Baehr, 2018: 230, figs 40A–H, 46K.

Type material: Holotype ♂, **AUSTRALIA**: **Victoria**: Avon River near Valencia Creek, 37°48'S, 146°27'E, 3–17.VII.1997, riparian sclerophyll forest, pitfall trap, V.W. Framenau (NMV K-7481).

New records (3 ♀): New South Wales: 1 ♀, Crown

Reserve, 1.5 km along Forrest Road from Tamworth, 31°3'S, 150°55'E (AM KS.82853); 2 ♀, Crown Reserve, corner of New England Highway & Old Tamworth Road, 31°04'S, 151°1'E (AM KS.86366).

Diagnosis (after Framenau & Baehr 2018): The tegular apophysis of the male pedipalp is distinctive in *A. triangularis* in that it is almost straight and pointed apically (Framenau & Baehr 2018, fig. 46K). The epigyne of females has a shallow indentation posteriorly and two incisions laterally (Framenau & Baehr 2018, fig. 40G).

Remarks: *Artoria triangularis* has been revised and illustrated in detail recently (Framenau & Baehr 2018).

Life history and habitat preferences: Males of *A. triangularis* were mostly collected in July, whilst most females have been found in November. The species occurs across diverse habitats, from rivers and forests in national parks and reserves to urban areas, indicating high adaptability.

Distribution: *Artoria triangularis* is widely distributed across south-eastern Australia, with records from Victoria, South Australia, New South Wales, Tasmania, and a single record from central Queensland (Isla Gorge) (Fig. 50).

***Artoria vectis* sp. nov.** ♂♀
urn:lsid:zoobank.org:act:02FA0A84-3C28-40DA-9300-A5B1D74AED10
Figs 45A–E, 46A–D, 50

Type material: Holotype ♂, **AUSTRALIA: Northern Territory:** Fogg Dam, 12°34'S, 131°17'E (NTMAG A006460).

Other material examined (2 ♂, 5 ♀ and 2 juveniles): AUSTRALIA: **Northern Territory:** 2 ♀, 1 juvenile, Fogg Dam, 12°34'S, 131°17'E (NTMAG A006458); 1 ♂, 2 ♀, 1 juvenile, Holmes Jungle, 12°23'S, 130°56'E (NTMAG A006459); 1 ♂, same locality (NTMAG A006500); 1 ♀, same locality (NTMAG A006501).

Etymology: The specific epithet "*vectis*" is a Latin noun in apposition meaning 'crowbar' and refers to the shape of the tegular apophysis in the male pedipalp that resembles the curved tip of a crowbar.

Diagnosis: Males and females of *A. vectis* **sp. nov.** resemble those of *A. pileata.* In male *A. vectis* **sp. nov.** the prolateral margin of the tegular apophysis is smooth and mostly straight, in *A. pileata* it is sinuous and has a digitiform projection in the middle males of *A. vectis* **sp. nov.** also present a sinuous terminal apophysis, while in *A. pileata* it is mostly rounded (Figs 45C–E, Prado *et al.* 2024, figs 24C–E). Females of both species share an epigyne with the anterior margin of the atrium projected posteriorly and with wide lateral lobes strongly projected mesally. However in *A. vectis* **sp. nov.** the projected anterior margin is more robust and projected ventrally, looking like a scape, while in *A. pileata* it looks like a plate. Females of *A. vectis* **sp. nov.** have tubular spermathecae, while in *A. pileata* they are globular (Figs 46C–D, Prado *et al.* 2024, figs 25C–D).

Description. Male (holotype, NTMAG A006460).

Total length, 3.95. *Carapace,* length 2.14, width 1.57, with narrow reddish-brown median longitudinal band, broad dark brown lateral bands and light reddish-brown submarginal lateral bands (Fig. 45A). *Sternum,* light reddish-brown, darker on its margins (Fig. 45B). *Eyes,* diameter of AME 0.08, ALE 0.08, PME 0.25, PLE 0.19, anterior eye row slightly procurved, evenly spaced. *Chelicerae,* reddish-brown, with vague streaked dark grey patch, three retromarginal teeth, median largest, and two promarginal teeth, distal largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 45B). *Legs,* mostly brown, with broad dark grey annulations on femora, patellae and tibiae (Figs 45A, B). *Opisthosoma,* length 1.82, width 1.18. Dorsum dark grey, with cardiac mark dark yellow slightly surpassing 1/3 of the length of opisthosoma (Fig. 45A), four dark yellow rounded patches reducing their width gradually from the tip of the cardiac mark to the posterior margin of the opisthosoma. Venter mostly dark yellow with irregular dark grey patches, and spinnerets dark grey (Fig. 45B).

Pedipalp (Figs 45C–E), tibia subrectangular in ventral view, free tip of the cymbium about 1/3 as long as the whole cymbium in ventral view; a set of dorsal macrosetae on the tip of the cymbium, subtegulum heavily sclerotized. Tegular apophysis as a concave stalk evenly wide, directed retrolaterally, with its distal half curving ventrally, and ending in a truncated tip pointed prolaterally. Basoembolic apophysis subtriangular, as long as wide, poorly sclerotized and with a rounded tip. Embolus comma-like, filiform, long and thin. Terminal apophysis heavily sclerotized, with a wider basal portion forming a gutter, and a sinuous distal portion, ending in an acute tip.

Female (NTMAG A006501)

Total length, 4.72. *Carapace,* length 2.14, width 1.53, similar to male (Fig. 46A). *Sternum*, similar to male. *Eyes,* diameter of AME 0.07, ALE 0.07, PME 0.25, PLE 0.17, anterior eye row slightly procurved, evenly spaced. *Chelicerae,* reddish-brown, with vague streaked dark grey patch, three retromarginal teeth, median largest, and two promarginal teeth, distal largest. *Labium,* brown, with anterior rim pale yellow (Fig. 46B). *Legs,* similar to male (Figs 46A, B). *Opisthosoma,* length 2.18, width 1.80. Dorsum and venter similar to male (Figs 46A, B).

Epigyne, slightly wider than long, with a scape-like sclerotized projection at its centre partially formed by the anterior margin of the atrium. Median septum narrow, short and rectangular, almost one fifth as long as the epigyne (Fig. 46C). Lateral lobes semicircular with posterior rounded tips projected mesally, separated by the median septum. Spermathecal heads tubular, with spermathecal stalks as wide and about as long as the spermathecal heads, attached posteriorly (Fig. 46D).

Life history and habitat preferences: Unknown.

Distribution: *Artoria vectis* **sp. nov.** was found exclusively in the Northern Territory (NT). Records are concentrated in two specific locations: Fogg Dam, a wetland area, and Holmes Jungle, a monsoon rainforest in the surroundings of the Darwin urban area (Fig. 50).

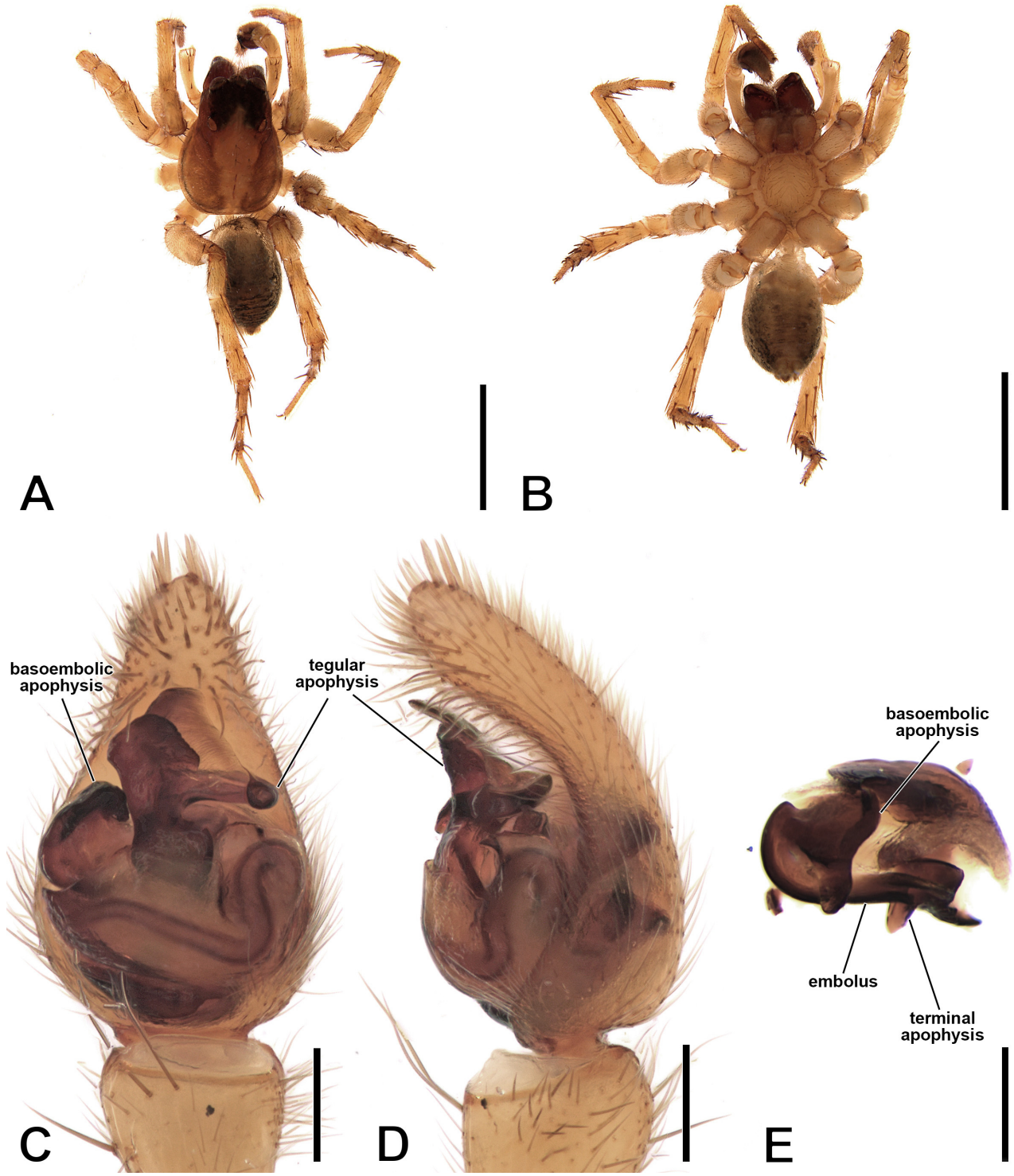

FIGURE 47. *Artoria velata* **sp. nov.**, male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–E, holotype. Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

***Artoria velata* sp. nov.** ♂
urn:lsid:zoobank.org:act:822568EC-FD08-49AE-98E4-72EEDCB78240
Figs 47A–E, 50

Type material: Holotype ♂, **AUSTRALIA: Queensland:** Eungella, Pease's Lookout, 21°1'0.12"S, 148°31'0.12"E, 17.XI.1992–15.IV.1993 (QM S37953).

Other material examined: Only known from the holotype.

Etymology: The specific epithet "*velata*" is a Latin adjective meaning 'with sails' and refers to the characteristic shape of the two anterior lamellate projections of the tegular apophysis in the male pedipalp in ventral view, which resemble the sails of a caravel ship.

Diagnosis: Males of *A. velata* **sp. nov.** resemble those of *A. globula* **sp. nov.** The male pedipalp of both species bears a very broad tegular apophysis with its basal portion subrectangular, flat and wide, and distal portion trapezoidal much wider, with a subtriangular central poorly sclerotized plate (Figs 47C–E, 14C–E). However, in *A. velata* **sp. nov.** the tegular apophysis has a conspicuous rounded notch between its basal and distal portions, and its distal portion has a prolateral subtriangular sclerotized wide and thin plate and a thinner retrolateral stalk (Figs 47C, D), while in *A. globula* **sp. nov.** the tegular apophysis has no conspicuous notch between its basal and distal portions and has thick prolateral and retrolateral stalks (Figs 14C, D). In addition, the male pedipalp of *A. velata* **sp. nov.** has a larger basoembolic apophysis with a rounded apex, narrower and thinner embolus, and a heavily sclerotized terminal apophysis which is wider than the embolus (Figs 47E), while males of *A. globula* **sp. nov.** have a smaller basoembolic apophysis with a sawed apex, much broader and thicker embolus, and a thin and poorly sclerotized terminal apophysis mostly covered by the embolus (Figs 14E).

Description. Male (holotype, QM S37953).

Total length, 4.38. *Carapace,* length 2.45, width 1.73, brown, with broad pale brown median longitudinal band narrowing posteriorly, broad dark brown lateral bands and narrow pale brown submarginal lateral bands (Fig. 47A). *Sternum,* dark yellow (Fig. 47B). *Eyes,* diameter of AME 0.09, ALE 0.07, PME 0.33, PLE 0.24, anterior eye row slightly procurved, distance between AME–AME around half AME–ALE. *Chelicerae,* evenly brown, three retromarginal teeth, subequal, and three promarginal teeth, median largest. *Labium,* brown, with pale brown anterior rim (Fig. 47B). *Legs,* mostly dark yellow, with vague dark grey stains throughout (Fig. 47A, B). *Opisthosoma,* length 1.96, width 1.20. Dorsum mostly dark grey, with cardiac mark vague, greyish-yellow and about half as long as the opisthosoma (Fig. 47A). Venter and spinnerets dark grey (Fig. 47B).

Pedipalp (Figs 47C–E), tibia trapezoidal in ventral view, free tip of the cymbium slightly shorter than 1/3 of cymbium; subtegulum small and heavily sclerotized. Tegular apophysis very broad, with its basal portion subrectangular, flat and wide, with a conspicuous rounded retrolateral notch, and distal portion trapezoidal much broader, originating as a prolateral stalk which broadens and branch into a prolateral subtriangular sclerotized wide and thin plate and a retrolateral long and concave stalk curved ventrally, both connected dorsally by a poorly sclerotized, subtriangular, thin and wide plate. Basoembolic apophysis subtriangular, longer than wide, with narrow rounded tip. Embolus comma-like, flat, with anterior margin projected, ending in an acute tip. Terminal apophysis short, forming a gutter, with retrolateral margin truncated, and posterior portion projected, ending in an acute tip pointed distally.

Female unknown.

Life history and habitat preferences: The single specimen known (male holotype) was collected during the wet season (November–April). Habitat preferences unknown.

Distribution: Single record from Eungella, in the Mackay Region, Central Queensland (Fig. 50).

Artoria victoriensis Framenau, Gotch & Austin, 2006 ♂♀

Artoria victoriensis Framenau, Gotch & Austin, 2006: 28–32, figs 63–69; Framenau & Baehr, 2018: 232–235, figs 43A–H, 46I.

Type material: Holotype ♂, **AUSTRALIA**: **Victoria**: Melbourne, 37°49'S, 144°58'E, 8.X.1956, A. Neboiss (NMV K.7742). Paratype: 1 ♀, **AUSTRALIA**: **Victoria**: Kilsyth, 37°48'S, 145°19'E, 11.X.1981, M. E. Roberts (NMV K.7741).

Diagnosis: Males of *A. victoriensis* are distinguishable from all other Australian *Artoria* by the shape of the median apophysis which resembles an upside-down sock in ventral view (after Framenau *et al.* 2006) (Framenau & Baehr 2018, figs 43E, F). The female diagnosis is updated here, comparing it to *A. geniculata* **sp. nov.**, since both species share an epigyne with inner margins of the lateral lobes fused with the lateral margins of the median septum, and median septum less than a half as long as the epigyne (Fig. 13C, Framenau & Baehr 2018, fig. 43G). However, in *A. victoriensis* the margins of the median septum are heavily sclerotized, lateral lobes are narrower, the atrium rounded and broad (Framenau & Baehr 2018, fig. 43G), while in *A. geniculata* **sp. nov.** the median septum margins are less sclerotized, lateral lobes are much broader, and the atrium is narrower, trapezoidal, with straight and well-marked lateral and anterior margins (Fig. 13C).

Remarks: *Artoria victoriensis* Framenau, Gotch & Austin, 2006 has been revised and illustrated in detail recently (Framenau & Baehr 2018).

Life history and habitat preferences: Males of *Artoria victoriensis* show a peak of records in November, while females were mostly found in December. This species exhibits significant adaptability, inhabiting diverse environments including urban areas, various forests and national parks, riverine and wetland systems, coastal regions, and islands.

Distribution: *Artoria victoriensis* is widely distributed across south-eastern Australia, with records from Victoria, South Australia, New South Wales, Tasmania, and Queensland. In Queensland, the species has been recorded in the Central Queensland region at Isla Gorge and in the Darling Downs region at Lake Broadwater (Fig. 50).

Artoria werrikimbe sp. nov. ♂♀

urn:lsid:zoobank.org:act:31A7B8B1-E482-44EC-95FE-BF05BFC6B4A1

Figs 48A–E, 49A–D, 50

Type material: Holotype ♂, **AUSTRALIA: New South Wales:** Werrikimbe National Park, Main Road, 31°12'S, 152°09'E, 2.XII.1997, E. Tasker (AM KS.131841).

Other material examined (6 ♂, 10 ♀ and 3

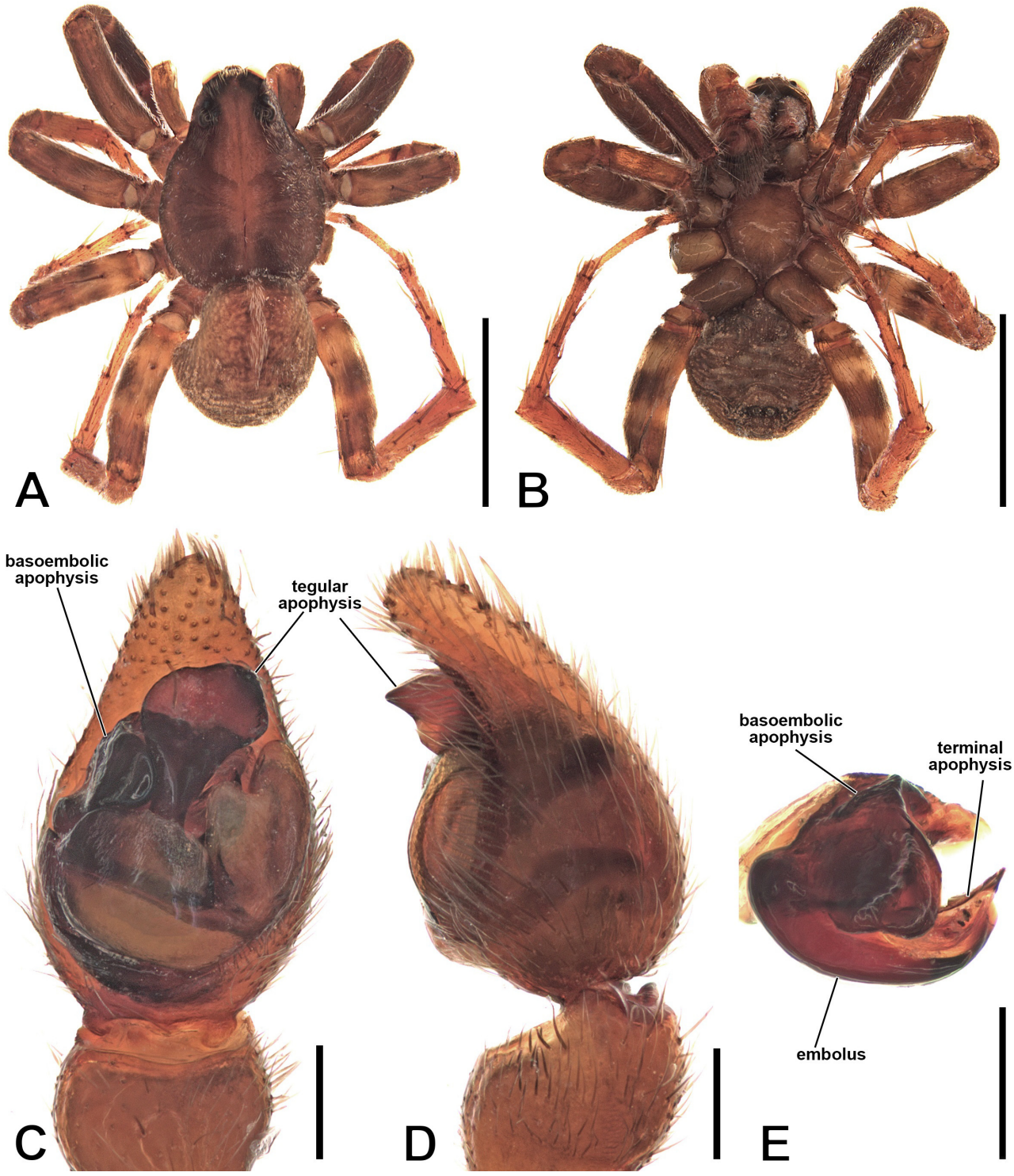

FIGURE 48. *Artoria werrikimbe* **sp. nov.**, male A, dorsal habitus; B, ventral habitus; C–E, left pedipalp (C, ventral; D, retrolateral; E, embolic division, ventral). A–D, holotype; E, (AM KS.131845). Scale bars: A, B, 2.0 mm; C–E 0.2 mm.

juveniles): AUSTRALIA: **New South Wales:** 1 ♀, Dorrigo National Park, off Dorrigo-Bellingen Road, 20 km from Bellingen, 30°23'S, 152°44'E (AM KS.35661);1 ♀, Enfield State Forest, Mummel Forest Road, 31°17'S, 151°51'E (AM KS.39709); 1 ♀, Enfield State Forest, Mummel Forest Road, 7.6 km N of jnct with Enfield Road, 31°17'S, 151°51'E (AM KS.86432); 1 ♀, 3 juveniles, New England National Park, Cliffs Trail (top end), 30°30'S, 152°23'E (AM KS.35654); 2 ♀, Nowendoc State Forest, 31°32'S, 151°39'E (AM KS.75008); 1 ♂, Werrikimbe National Park, Kangaroo Flat, 31°10'23"S, 152°09'45"E (AM KS.131845); 1 ♂, Werrikimbe National Park, Main Rd, 31°12'S, 152°09'E (AM KS.121223); 1 ♂, 1 ♀, Werrikimbe National Park, Werrikimbe trail, 31°11'24"S, 152°09'39"E (AM KS.121011); 1 ♂, same locality (AM KS.120998); 1 ♀, Styx River State Forest, 30°33'S,

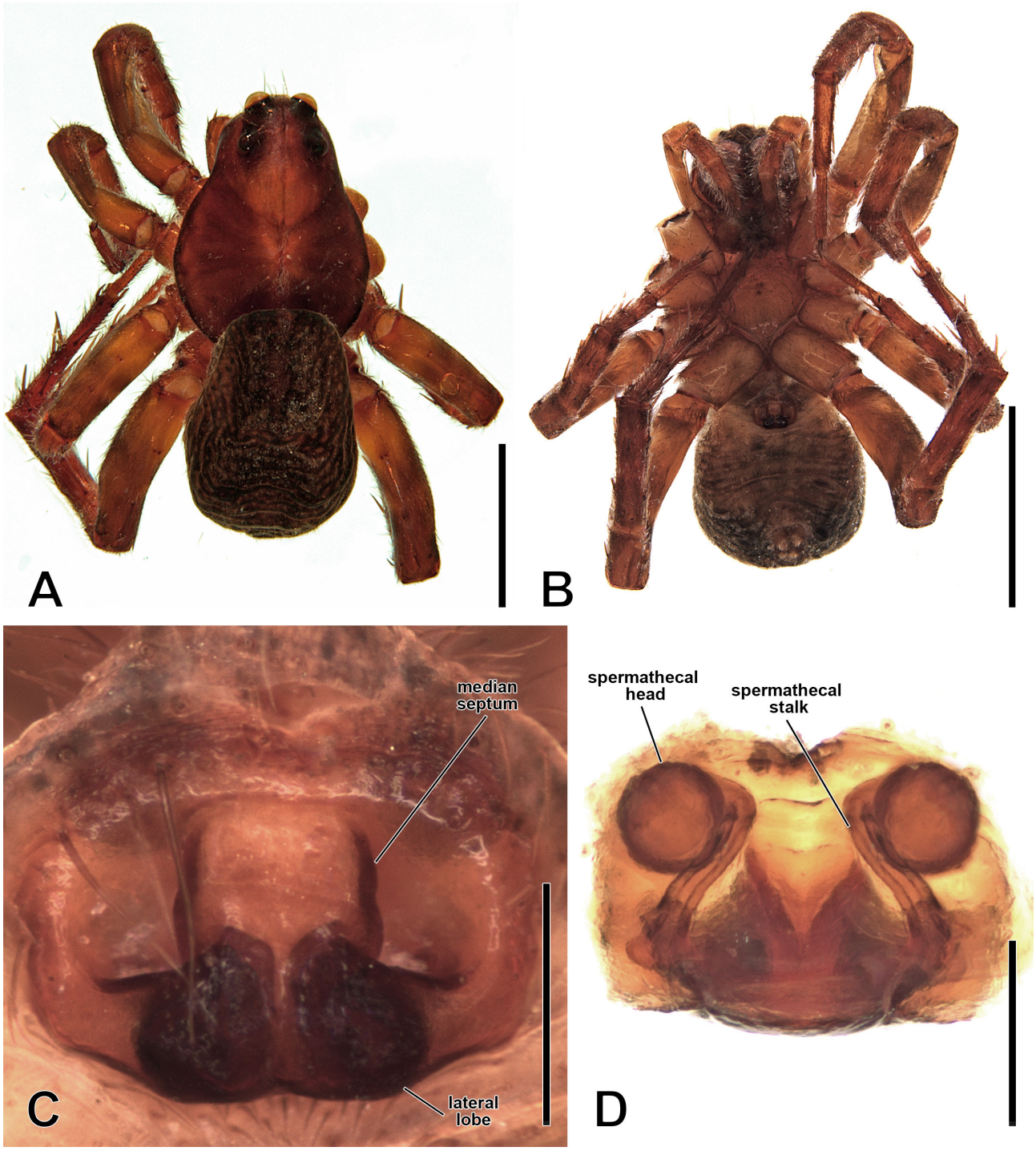

FIGURE 49. *Artoria werrikimbe* **sp. nov.**, female A, dorsal habitus; B, ventral habitus; C, epigyne, ventral; D, internal genitalia, dorsal. A–D, (AM KS.12159). Scale bars: A, B, 2.0 mm; C, D, 0.2 mm.

152°16'E (AM KS.74650); 2 ♀, Styx River State Forest, bottom end of Cliffs trail ca. 1.3 km from Oxley Road, 30°33'S, 152°20'E (AM KS.35652). **Queensland:** 1 ♂, Gayndah, "Manda Inn Motel", 25°37'17"S, 151°36'20"E (QM S87926); 1 ♂, Mitchell Creek, Imbil SF, 120 m, 26°26'28"S, 152°37'16"E (QM S121497)**.**

Etymology: The specific epithet "*werrikimbe*" is a noun in apposition referring to Werrikimbe National Park, the type locality of the species, placed in the New England region of New South Wales.

Diagnosis: Male pedipalps of *A. werrikimbe* **sp. nov.** have a spoon-shaped tegular apophysis, a common feature among *Artoria,* including those of the *lineata*-group (see Discussion). Among the males of those species, only those of *A. coclearia* **sp. nov.** share with *A. werrikimbe* **sp. nov.** a short and very sclerotized embolus with an acute tip. However, the tegular apophysis in *A. werrikimbe* **sp. nov.** is wider, with its distal portion almost four times wider than its base (Figs 48C, D), while in *A. coclearia* **sp. nov.** it is narrower, with its distal portion twice as

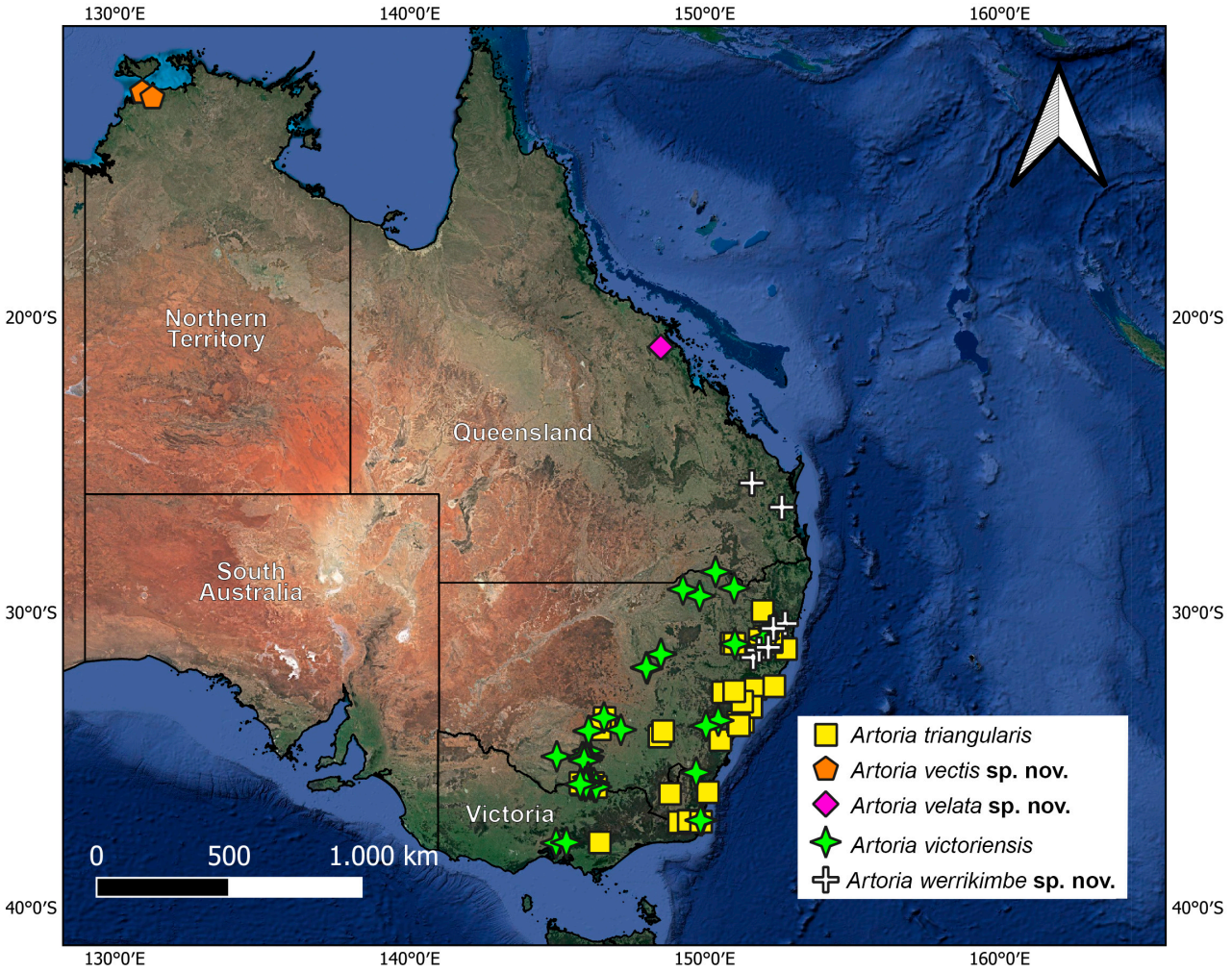

FIGURE 50. Distribution records of *Artoria triangularis* Framenau, 2002, *Artoria vectis* **sp. nov.**, *Artoria velata* **sp. nov.**, *Artoria victoriensis* Framenau, Gotch & Austin, 2006, and *Artoria werrikimbe* **sp. nov.**.

wide as its base (Figs 6C, D). Females of *A. werrikimbe* **sp. nov.** are most similar to those of *A. catinata* **sp. nov.** due to their epigyne bearing a subrectangular elevated and broad median septum, and lateral lobes robust and very projected mesally with their broad posterior tips overlapping part of the median septum. However, female genitalia of *A. werrikimbe* **sp. nov.** differ from those of *A. catinata* **sp. nov.** by their lateral lobes with very well delimited posterior tips (not partially fused at its anterior portion as in *A. catinata* **sp. nov.**) and the spermathecal heads with spermathecal stalks attached mesally (not ectally as in *A. catinata* **sp. nov.**) (Figs 5C, D, 48C, D).

Description. Male (holotype, AM KS.131841).

Total length, 4.85. *Carapace,* length 3.01, width 2.27, brown, with reddish-brown median longitudinal band narrowing posteriorly, broad dark brown lateral bands and reddish-brown submarginal lateral bands (Fig. 48A). *Sternum,* dark brown (Fig. 48B). *Eyes,* diameter of AME 0.11, ALE 0.11, PME 0.35, PLE 0.26, anterior eye row procurved, distance between AME–AME slightly shorter than AME–ALE. *Chelicerae,* brown, three retromarginal teeth, the two distal largest, and three promarginal teeth, median largest. *Labium,* dark brown, with pale brown anterior rim (Fig. 48B). *Legs,* I evenly brown, II–IV dark yellow with broad dark grey annulations on femora, patellae and tibiae (Figs 48A, B). *Opisthosoma,* length 1.99, width 2.02. Dorsum mostly dark grey, with cardiac mark dark yellow covered by white setae and slightly longer than half of the opisthosoma (Fig. 48A). Venter and spinnerets dark grey (Fig. 48B).

Pedipalp (Figs 48C–E), tibia globular, free tip of the cymbium about 1/3 as long as the whole cymbium in ventral view; subtegulum heavily sclerotized. Tegular apophysis spoon-shaped in ventral view, with distal part of its retrolateral margin projected ventrally with an acute corner seen in retrolateral view. Basoembolic apophysis subtriangular, as wide as long, with broad rounded tip. Embolus semicircular, short, slightly flat, narrowing gradually. Terminal apophysis poorly sclerotized, thin, with an acute retrolateral tip.

Female (AM KS.12159)

Total length, 5.60. *Carapace,* length 3.20, width 2.50, similar to male (Fig. 49A). *Sternum*, similar to male. *Eyes,* diameter of AME 0.11, ALE 0.11, PME 0.37, PLE 0.27, anterior eye row procurved, evenly spaced. *Chelicerae,* brown, darker on their margins, three retromarginal teeth,

median largest, and three promarginal teeth, median largest. *Labium,* similar to male (Fig. 49B). *Legs,* dark yellow with broad dark grey annulations on femora, patellae and tibiae (Figs 49A, B). *Opisthosoma,* length 2.85, width 2.17. Dorsum and venter similar to male, but darker (Figs 49A, B).

Epigyne, wider than long, atrium subrectangular, large and deep, almost as wide and as long as the epigyne. Median septum rectangular, large, slightly wider than 1/3 of the epigyne (Fig. 49C). Lateral lobes semicircular, narrow at their lateral portion, gradually widening in their posterior portion that projects mesally, assuming a subtrapezoidal shape and ending in broad truncated sclerotized tips that touch each other at their posterior end. Spermathecal heads spherical, around one diameter apart, spermathecal stalks narrow, twice as long as the spermathecal heads, attached mesally, then bent posteriorly (Fig. 49D).

Life history and habitat preferences: Males of *Artoria werrikimbe* **sp. nov.** were mostly found in December, while females in April. No accurate habitat preference data available.

Distribution: *Artoria werrikimbe* **sp. nov.** was found in New South Wales and Queensland. In New South Wales, specimens are mostly found in the north-eastern part of the state, with records from Styx River State Forest, Nowendoc State Forest, and multiple sites within Werrikimbe National Park. In Queensland, the species has been recorded from Gayndah in the Burnett region and from Mitchell Creek within Imbil State Forest, located in the Sunshine Coast hinterland (Fig. 50).

Discussion

This study increases the number of described *Artoria* species recorded for Australia from 54 to 82 representing a considerable contribution to the knowledge of Australian wolf spiders, particularly in the subfamily Artoriinae. The Northern Territory now has three species, Queensland 27 species, New South Wales 47 species and the Australian Capital Territory 6 species.

Notes on distribution and biogeography of Artoria in Australia

It is evident that the highest diversity of *Artoria* is not in the tropics, differing from many other invertebrates, including other spider groups (Basset *et al.* 2012; Gaston 2000), but in the temperate and subtropical rainforests along the east coast of Australia. Within this revision, only *A. longinqua* **sp. nov.**, *A. victoriensis* and *A. triangularis* occur in more arid areas to the west of the Great Dividing Range. Apart from those only *A. taeniifera* has also been found more centrally, being recorded from Cobar Plain in New South Wales.

The rainforest region along the coast of the eastern states of Australia is well-known for harbouring a high biodiversity. This area encompasses species-rich ecosystems such as the Gondwana Rainforests (World Heritage-listed sites in New South Wales and Queensland) and the Southeast Coastal Bioregion known for their high rates of endemism (Crisp *et al.* 2001; Yeates & Monteith 2009; Rosauer *et al.* 2015; Bryant & Krosch 2016). Historical "dry barriers" divided fragments of rainforest along the eastern coast providing dispersal barriers which created conditions for vicariant speciation (Edwards & Melville 2010; Rosauer *et al.* 2015). This biogeographic fragmentation is reflected in our data, for instance, in the different composition of *Artoria* communities between the regions of Mid-east and South-east Queensland, where an important dry barrier is represented by the St Lawrence Gap (Edwards & Melville 2010; Rentería *et al.* 2021). Of all the species reported in this study, only *A. geniculata* **sp. nov.** occurs across both regions (Fig. 19). Indeed, about 2/3 of the species described in this paper may be considered potential short-range endemics (Table 1) (Harvey, 2002).

Morphological diversity and species-groups

One aim of this study was to further document the diversity in the genus *Artoria* as currently defined. It is probable that future phylogenetic studies may demonstrate that this megadiverse genus shall be split into a number of smaller, more practicable genera, currently considered species-groups. The range of morphological diversity found across the new *Artoria* species supports the recognition of new species-groups and the re-delimitation of previously proposed species-groups (see Table 2). Two new species-groups are proposed based on similarities of the genitalia, the "*beaury*-group" and the "*lingulata*-group".

The beaury-group

The *beaury*-group comprises *A. beaury*, *A. helensmithae*, *A. mungo*, *A. geniculata* **sp. nov.**, *A. hamifera* **sp. nov.** and *A. semicircularis* **sp. nov.** This group shares male pedipalps with a very similar tegular apophysis having a broad apex, a straight or concave apical margin, a rounded prolateral apical corner, and a curved retrolateral portion that is projected ventrally and ends in an acute or rounded tip pointing ventrally or prolaterally (*e.g.* Figs 12C, D, 17C, D, 39C, D). The females of this group bear a simple epigyne, often with a rounded atrium and median septum, and rounded, often semicircular lateral lobes with their posterior portions slightly projected mesally. Females of *A. geniculata* **sp. nov.** are the most unusual within this group, as the posterior portions of the lateral lobes of the epigyne are strongly projected mesally, fused with the short and subrectangular median septum placed in a trapezoidal atrium (Fig. 13C). Among the very similar species of *beaury*-group, useful characters to distinguish males are the shape of the apical margin of the tegular apophysis as well as the shape and degree of curvature of the retrolateral portion of the tegular apophysis. However, in some cases a dissection of the male palp is necessary to reveal the diagnostic shapes and sizes of the embolus and terminal apophysis. Among the females, the shape and proportion of the lateral lobes and atrium of the epigyne are useful for separating species. A possible additional species of the *beaury* -group is *A. cucurbita* **sp. nov**. (Fig. 9C), based only on females, whose epigyne is similar in shape to the group pattern.

The lingulata-group

The *lingulata*-group is composed of *A. lingulata* **sp. nov.**, *A. orcina* **sp. nov.**, *A. gloriosa* and *A. albopilata*, and is characterized by females sharing an epigyne with a subtriangular tongue-like median septum projecting from the atrium and narrowing posteriorly, the whole structure possibly forming a movable scape in addition to tubular spermathecae. Males are variable within this group. The tegular apophysis of the pedipalps in most species has a median keel projecting ventrally (*A. lingulata* **sp. nov.**, *A. gloriosa* and *A. albopilata*) (Figs 22C, D; Framenau & Baehr 2018, figs 3A, F, 20E, F), while males of *A. orcina* **sp. nov.** have a tegular apophysis forming a thin sinuous keel, concave laterally, when viewed ventrally (Figs 28C, D). The species in this group are easily distinguishable based on their genital morphology.

The redefined lineata-group

The *lineata*-group has previously been defined to include species in which males have spoon-shaped tegular apophyses, such as in *A. lineata*, *A. quadrata* and *A. ulrichi* (Framenau & Baehr, 2018). This character, however, is also found in species apparently not belonging to the group (see below). Another character associated with the group is an inverted T-shaped median septum on the epigyne (Framenau & Baehr 2018), which, again, is not uncommon in Artoriinae and even other Lycosidae suggesting this to be a plesiomorphic character state. We therefore redefined the *lineata*-group now taking internal female genitalia into account. The seemingly one-piece inverted T-shaped structure found at the posterior region of the median septum seems not to be only a lateral expansion of it. Instead, the ectal portions of the T-shaped piece seem to be formed by parts of the lateral lobes fused to the median septum, as is indicated by different colour and texture in the two areas (*e.g.* Figs 5C, D, 33C,D, Framenau & Baehr, 2018, figs 28 G, H, 42G, H). Furthermore, in *A. catinata* **sp. nov**., the lateral lobes are not entirely fused to the median septum and to each other, keeping an evident notch at the median area of the posterior margin (Figs 5C–D), while in the other species these structures seem to be totally fused. In addition to the classical characters for the *lineata*-group, the females of this group have coiled spermathecal stalks attached ectally to the spermathecae. Besides *A. lineata* (Framenau & Baehr, 2018, fig. 28H), this set of characters can also be observed in *A. ancorata* **sp. nov.** (Fig. 2D), *A. catinata* **sp. nov.** (Fig. 5D), *A. pedroi* **sp. nov.** (Fig. 33D) and *A. ulrichi* (Framenau & Baehr, 2018, fig. 42H). For distinguishing males in this group, a dissection is often needed to compare the embolic divisions which provide informative characters such as shape and size of the embolus and of the basoembolic apophysis. Regarding females, the shape and degree of the elevation of the median septum and its degree of fusion with the often rounded and mesally projected lateral lobes are diagnostic characters to identify species.

Other species whose males share spoon-shaped tegular apophyses such as *A. quadrata* (Framenau & Baehr 2018, fig. 35E), *A. coclearia* **sp. nov.** (Fig. 6C), and *A. serpentidens* **sp. nov.** (Fig. 40C) are excluded from the *lineata*-group due to their external and internal female genitalia being different from our definition above (Framenau & Baehr 2018, figs 35G, H, Figs 7C, D, Figs 41C, D). Apart from those species, two other interesting cases can be highlighted. Females of *A. reniformis* **sp. nov.** have a median septum very similar to that of *A. lineata,* however its lateral lobes are prominent and larger anteriorly and its spermathecal stalks are not coiled and are attached posteriorly to the spermathecae, thus this species is not a member of the *lineata*-group as defined here (Figs 36C, D; Framenau & Baehr 2018, figs 28G, H). *Artoria werrikimbe* **sp. nov.** seems also close to the *lineata*-group due to the spoon-shaped tegular apophysis in males and the female epigyne having a somewhat inverted T-shaped median septum (Figs 48C, 49C). However, in *A. werrikimbe* **sp. nov.** the contour of the lateral lobes of the epigyne is well-delimited from the median septum, while in *lineata*-group females there is a degree of merging between these structures, resulting in a poorly delimited contour. Additionally, the internal female genitalia of *A. werrikimbe* **sp. nov.** diverges considerably, with spermathecal stalks not coiled and attached mesally to the spermathecae (Figs 49C–D).

As in the case of both *A. reniformis* **sp. nov.** and *A. werrikimbe* **sp. nov**., we are currently not able to further delineate species-groups for the many species superficially associated with *A. lineata* and also many other described species. We prefer to wait for our planned comprehensive phylogenetic analysis to trace character evolution, after having revised the south-eastern species of *Artoria*, i.e. those of South Australia, Victoria and Tasmania. These phylogenetic studies will hopefully also shed light on the evolution of some unusual genitalic morphologies found amongst our new species, such as in males of *A. globula* **sp. nov.** (Figs 14C, D) and *A. velata* **sp. nov.** (Figs 47C, D) and in females of *A. globula* **sp. nov. (**Figs 15C, D).

Matching of sexes

One difficulty when dealing with species-rich and poorly known genera like *Artoria* is the matching of sexes for many different species. Following this study, 20 species are currently based only on males (17 from Australia) (WSC, 2025), and 11 species only on females, all from Australia.

One obvious question is that some of those species could be actually based on the unknown sex of another already described species. It could be argued that we should not describe species based only on one sex, considering the sizable number of species already in this situation. On the other hand, if we avoided the description of those new species, we would be discarding a lot of information given by those new specimens. It is a question of evaluating the risk of a species inflation versus the ignorance of new data, and adopting strategies to minimize problems with our decisions. We strongly favour describing the new species and adding new information on the genus' morphology, distribution and habitat preferences. It is clearly preferable to have single-sex species that may trigger further survey work (and potentially discover

mistakes) than having mismatched species that would possibly remain unrecognised for a long time.

In order to minimize the risk of describing possible synonyms, we took into consideration not only the somatic and genitalic characters of each specimen per se, but also the high level of short-range endemism and the several species-groups currently included in *Artoria*. As a rule of thumb, we considered as probable matches for our specimens in study only those specimens of the opposite sex that occurred at nearby localities or at the same biogeographical region. After selecting possible matches, we considered the general somatic and genitalic morphology of the specimens of opposite sex, comparing them with the specimens of the most similar species we could find. Furthermore, we considered as not probable any match where our specimen belonged presumably to a different species-group than the one of the possible matches.

Conclusion

This study on *Artoria* of northern and eastern Australia provides a baseline for future taxonomic and phylogenetic research. Additional field work is needed to complement our data, in particular to describe the unknown sexes of 16 of our new species. However, this study delivers a significant contribution to the diversity of *Artoria* as currently defined, which comprises almost 100 species after this publication, reiterating its status as the most diverse genus of Lycosidae in Australia, pending further phylogenetic work.

Author contributions

AWdP wrote most of the manuscript and produced the images for each species. All authors contributed intellectually by identifying the species and revising the text.

Funding

This study was funded by the Australian Biological Resource Study (ABRS grant number NTRGI000016) to VWF, AWdP, Cor Vink, Luis Piacentini, and RLCB.

Acknowledgements

We acknowledge all curators and technicians from the collections cited in this study who were supportive during visits for examining the specimens and providing loans when necessary, namely Graham Milledge (now retired), Matt Shaw and Helen Smith (AM), Barry Richardson and Sandy Roy (ANIC), Suzanne Horner and Kirsti Abbott (NTMAG), Claire Keely, Genefor Walker-Smith, Ken Walker and Simon Hinkley (MV), John Douglas (QVMAG), Robert Raveen (retired) (QM), Liz Turner (retired) and Simon Grove (TMAG), Mark Harvey and Julianne Waldock (WAM), and in particular Michael Rix, Joseph Schubert and Owen Seeman (QM) as the material of this institution provided the backbone of this study.

References

Basset, Y., Cizek, L., Cuénoud, P., Didham, R.K., Guilhaumon, F., Missa, O., Novotny, V., Ødegaard, F., Roslin, T., Schmidl, J., Tishechkin, A.K., Winchester, N.N., Roubik, D.W., Aberlenc, H.-P., Bail, J., Barrios, H., Bridle, J.R., Castaño-Meneses, G., Corbara, B., Curletti, G., Duarte Da Rocha, W., De Bakker, D., Delabie, J.H.C., Dejean, A., Fagan, L.L., Floren, A., Kitching, R.L., Medianero, E., Miller, S.E., Gama De Oliveira, E., Orivel, J., Pollet, M., Rapp, M., Ribeiro, S.P., Roisin, Y., Schmidt, J.B., Sørensen, L. & Leponce, M. (2012) Arthropod Diversity in a Tropical Forest. *Science*, 338 (6113), 1481–1484. https://doi.org/10.1126/science.1226727

Berland, L. (1938) Araignées des Nouvelles-Hébrides. *Annales de la Société entomologique de France*, 107 (2), 121–190. https://doi.org/10.1080/21686351.1938.12278981

Brown, R.W. (1954) *Composition of scientific words. A manual of methods and a lexicon of materials for the practice of logotechnics*. US National Museum, Washington, 882 pp.

Bryant, L.M. & Krosch, M.N. (2016) Lines in the land: A review of evidence for eastern Australia's major biogeographical barriers to closed forest taxa. *Biological Journal of the Linnean Society*, 119 (2), 238–264. https://doi.org/10.1111/bij.12821

Crisp, M.D., Laffan, S., Linder, H.P. & Monro, A. (2001) Endemism in the Australian flora. *Journal of Biogeography*, 28, 183–198. https://doi.org/10.1046/j.1365-2699.2001.00524.x

Dahl, F. (1908) Die Lycosiden oder Wolfspinnen Deutschlands und ihre Stellung im Haushalte der Natur. Nach statistischen Untersuchungen dargestellt. *Nova Acta, Abhandlungen der Kaiserlich Leopoldinisch-Carolinischen Deutschen Akademie der Naturforscher*, 88, 175–678.

Dondale, C.D. & Redner, J.H. (1990) *The Wolf Spiders, Nurseryweb Spiders, and Lynx Spiders of Canada and Alaska. Araneae: Lycosidae, Pisauridae, and Oxyopidae.* Agriculture Canada, Ottawa, 383 pp.

Edwards, D.L. & Melville, J. (2010) Phylogeographic analysis detects congruent biogeographic patterns between a woodland agamid and Australian wet tropics taxa despite disparate evolutionary trajectories. *Journal of Biogeography*, 37 (8), 1543–1556. https://doi.org/10.1111/j.1365-2699.2010.02293.x

Fauna Portal Australia. (2025) Fauna Portal Australia, genus *Artoria*. Available from: https://faunaportal.org/projects/fauna-ofaustralia/genus/araneae-spiders/lycosidae-wolf-spiders/artoria/ (accessed 10 June 2025)

Flores-Rentería, L., Rymer, P.D., Ramadoss, N. & Riegler, M. (2021) Major biogeographic barriers in eastern Australia have shaped the population structure of widely distributed *Eucalyptus moluccana* and its putative subspecies. *Ecology and Evolution*, 11 (21), 14828–14842. https://doi.org/10.1002/ece3.8169

Framenau, V.W. (2002) Review of the wolf spider genus *Artoria* Thorell (Araneae: Lycosidae). *Invertebrate Systematics*, 16 (2), 209–235.
https://doi.org/10.1071/IT01028

Framenau, V.W., Manderbach, R. & Baehr, M. (2002) Riparian gravel banks of upland and lowland rivers in Victoria (south-east Australia): arthropod community structure and life-history patterns along a longitudinal gradient. *Australian Journal of Zoology*, 50, 103–123.
https://doi.org/10.1071/ZO01039

Framenau, V.W. (2005) The wolf spider genus *Artoria* Thorell in Australia: New synonymies and generic transfers (Araneae, Lycosidae). *Records of the Western Australian Museum*, 22 (4), 265–292.
https://doi.org/10.18195/issn.0312-3162.22(4).2005.265-292

Framenau, V.W. (2007) Revision of the new Australian genus *Artoriopsis* in a new subfamily of wolf spiders, Artoriinae (Araneae: Lycosidae). *Zootaxa*, 1391 (1), 1–34.
https://doi.org/10.11646/zootaxa.1391.1.1

Framenau, V.W. (2008) A new wolf spider species of the genus *Artoria* from Western Australia (Araneae: Lycosidae). *Records of the Western Australian Museum*, 24 (4), 363–368.
https://doi.org/10.18195/issn.0312-3162.24(4).2008.363-368

Framenau, V.W. & Baehr, B.C. (2018) The wolf spider genus *Artoria* in New South Wales and the Australian Capital Territory, Australia (Araneae, Lycosidae, Artoriinae). *Evolutionary Systematics*, 2 (2), 169–241.
https://doi.org/10.3897/evolsyst.2.30778

Framenau, V.W., Castanheira, P.d.S. & Yoo, J.-S. (2023) The artoriine wolf spiders of Australia: The new genus *Kochosa* and a key to genera (Araneae: Lycosidae). *Zootaxa*, 5239 (3), 301–357.
https://doi.org/10.11646/zootaxa.5239.3.1

Gaston, K.J. (2000) Global patterns in biodiversity. *Nature*, 405 (6783), 220–227.
https://doi.org/10.1038/35012228

Guy, Y. (1966) Contribution à l'étude des araignées de la famille des Lycosidae et de la sous-famille des Lycosinae avec étude spéciale des espèces du Maroc. *Travaux de l'Institut Scientifique Chérifien, Série Zoologie,* 33, 1–172.

Harvey, M.S. (2002) Short-range endemism among the Australian fauna: Some examples from non-marine environments. *Invertebrate Systematics*, 16 (4), 555–570.
https://doi.org/10.1071/IS02009

Koch, L. (1871) *Die Arachniden Australiens nach der Natur beschrieben und abgebildet*. Bauer & Raspe, pp. 649–704.
https://doi.org/10.5962/bhl.title.121660

Koch, L. (1877) *Die Arachniden Australiens nach der Natur beschrieben und abgebildet*. Bauer & Raspe, pp. 889–968.
https://doi.org/10.5962/bhl.title.121660

Koch, L. (1878) *Die Arachniden Australiens nach der Natur beschrieben und abgebildet*. Verlag von Bauer & Raspe, pp. 969–1044.
https://doi.org/10.5962/bhl.title.121660

Li, Z., Framenau, V.W. & Zhang, Z.S. (2012) First record of the wolf spider subfamily Artoriinae and the genus *Artoria* from China (Araneae: Lycosidae). *Zootaxa*, 3235 (1), 35–44.
https://doi.org/10.11646/zootaxa.3235.1.3

Levi, H.W. (1988) The Neotropical orb-weaving spiders of the genus *Alpaida* (Araneae: Araneidae). *Bulletin of the Museum of Comparative Zoology at Harvard College*, 151, 365–487.

Marsh, J.R., Bal, P., Fraser, H., Umbers, K., Latty, T., Greenville, A., Rumpff, L. & Woinarski, J.C.Z. (2022) Accounting for the neglected: Invertebrate species and the 2019–2020 Australian megafires. *Global Ecology and Biogeography*, 31 (11), 2120–2130.
https://doi.org/10.1111/geb.13550

Marsh, J.R. (2023) Five new species of mouse spiders in the genus *Missulena* (Mygalomorphae: Actinopodidae) from national parks and conservation reserves in Western Australia. *Australian Journal of Taxonomy*, 36, 1–23.
https://doi.org/10.54102/ajt.40aok

McKay, R.J. (1973) The wolf spiders of Australia (Araneae: Lycosidae): 1. The *bicolor* group. *Memoirs of the Queensland Museum*, 16 (3), 375–398.

McKay, R.J. (1985) Lycosidae. *In*: Walton, D.W. (Ed.), *Zoological Catalogue of Australia. Vol. 3. Arachnida, Mygalomorphae, Araneomorphae in Part, Pseudoscorpionida, Amblypygida, Palpigradi*. Australian Government Publishing Service, Canberra, pp. 73–88.
https://doi.org/10.1163/9789004612693_027

Murphy, N.P., Framenau, V.W., Donnellan, S.C., Harvey, M.S., Park, Y.-C. & Austin, A.D. (2006) Phylogenetic reconstruction of the wolf spiders (Araneae: Lycosidae) using sequences from the 12S rRNA, 28S rRNA and NADH1 genes: Implications for classification, biogeography and the evolution of web building behavior. *Molecular Phylogenetics and Evolution*, 38 (3), 583–602.
https://doi.org/10.1016/j.ympev.2005.09.004

Piacentini, L.N. & Ramírez, M.J. (2019) Hunting the wolf: A molecular phylogeny of the wolf spiders (Araneae, Lycosidae). *Molecular Phylogenetics and Evolution*, 136, 227–240.
https://doi.org/10.1016/j.ympev.2019.04.004

Ponder, W.F. & Colgan, D.J. (2002) What makes a narrow-range taxon? Insights from Australian freshwater snails. *Invertebrate Systematics*, 16 (4), 571.
https://doi.org/10.1071/IT01043

Prado, A.W. do, Baptista, R.L.C. & Framenau, V.W. (2024) Taxonomy of the wolf spider genus *Artoria* in Western Australia (Araneae, Lycosidae, Artoriinae). *Zootaxa*, 5547 (1), 1–81.
https://doi.org/10.11646/zootaxa.5547.1.1

Rainbow, W.J. (1911) A census of Australian Araneidae. *Records of the Australian Museum*, 9 (2), 107–320.
https://doi.org/10.3853/j.0067-1975.9.1911.928

Roewer, C.F. (1951) Neue Namen einiger Araneen-Arten. *Abhandlungen des Naturwissenschaftlichen Vereins zu Bremen*, 32, 437–456.

Roewer, C.F. (1955) *Katalog der Araneae von 1758 bis 1940, bzw. 1954. 2. Band, Abt. A (Lycosaeformia, Dionycha [excl. Salticiformia]). 2. Band, Abt. B (Salticiformia, Cribellata) (Synonyma-Verzeichnis, Gesamtindex)*. Institut royal des Sciences naturelles de Belgique, Bruxelles, 1751 pp.

Roewer, C.F. (1960) Araneae Lycosaeformia II (Lycosidae) (Fortsetzung und Schluss). *Exploration Du Parc National de l'Upemba, Mission G. F. de Witte*, 55, 519–1040.

Rosauer, D.F., Catullo, R.A., VanDerWal, J., Moussalli, A. & Moritz, C. (2015) Lineage range estimation method reveals fine-scale endemism linked to Pleistocene stability in Australian rainforest herpetofauna. *PLOS ONE*, 10 (5), e0126274.

https://doi.org/10.1371/journal.pone.0126274
Russell-Smith, A. (1982) A revision of the genus *Trabaea* Simon (Araneae: Lycosidae). *Zoological Journal of the Linnean Society*, 74 (1), 69–91. https://doi.org/10.1111/j.1096-3642.1982.tb01141.x
Sierwald, P. (1989) Morphology and ontogeny of female copulatory organs in American Pisauridae, with special reference to homologous features (Arachnida: Araneae). *Smithsonian Contributions to Zoology*, 484, 1–24. https://doi.org/10.5479/si.00810282.484
Simon, E. (1909) Araneae, 2me partie. *In*: Michaelsen, W. & Hartmeyer, R. (Eds.), *Die Fauna Südwest-Australiens. Ergebnisse der Hamburger südwest-australischen Forschungsreise 1905*. Gustav Fischer, Jena, pp. 155–212.
Sundevall, C.J. (1833) *Conspectus Arachnidum*. C.F. Berling, Londini Gothorum, 39 pp.
Thorell, T. (1877) Studi sui Ragni Malesi e Papuani. I. Ragni di Selebes raccolti nel 1874 dal Dott. O. Beccari. *Annali Del Museo Civico Di Storia Naturale Di Genova*, 10, 341–637.
Urquhart, A.T. (1893) On new species of Tasmanian Araneae. *Papers and Proceedings of the Royal Society of Tasmania*, 1892, 94–130. https://doi.org/10.26749/RVKK9927
Vink, C.J. (2002) Lycosidae (Arachnida: Araneae). *Fauna of New Zealand*, 44, 1–94. https://doi.org/10.7931/J2/FNZ.44
Wang, L.-Y., Framenau, V.W. & Zhang, Z.-S. (2021) A further study on the wolf spider subfamily Artoriinae from China (Araneae: Lycosidae). *Zootaxa*, 4964 (3). https://doi.org/10.11646/zootaxa.4964.3.8
Wang, L.-Y. & Zhang, Z.-S. (2022) A new species of the genus *Artoria* Thorell, 1877 from China (Araneae: Lycosidae: Artoriinae). *Acta Arachnologica Sinica*, 31 (2), 109–113. https://doi.org/10.3969/j.issn.1005-9628.2022.02.008
Wang, L.-Y., Zhang, Z.-S. & Peng, X.-J. (2019) First record of *Artoria* Thorell, 1877 (Araneae: Lycosidae) from Malaysia, with the description of a new species. *Zootaxa*, 4657 (2). https://doi.org/10.11646/zootaxa.4657.2.12
World Spider Catalog. (2025) World Spider Catalog. Version 26. Natural History Museum Bern, online at http://wsc.nmbe.ch, accessed on 20 June 2025. https://doi.org/10.24436/2
Yeates, D. & Monteith, G.B. (2008) The Invertebrate Fauna of the Wet Tropics: Diversity, Endemism and Relationships. *In*: Stork, N.E. & Turton, S.M. (Eds.), *Living in a Dynamic Tropical Forest Landscape* (1st ed.,). Blackwell Publishing, Malden, MA, USA, pp. 178–191. https://doi.org/10.1002/9781444300321.ch13