

SALTICIDAE (ARACHNIDA, ARANEAE) FROM ORIENTAL, AUSTRALIAN AND PACIFIC REGIONS, XVII. *PARAPHILAEUS*, A NEW GENUS FROM AUSTRALIA

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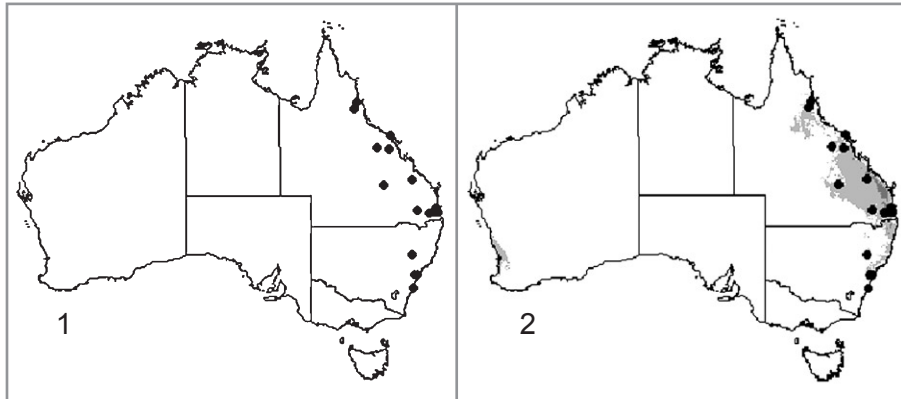
Abstract.— *Paraphilaeus*, a new genus from Eastern Australia is described. Its relationships are discussed, diagnostic drawings, description and distributional data for *Paraphilaeus daemeli*, the only known representative of the genus are given.



Key words.— Salticidae, Australia, new genus, new species.

INTRODUCTION

Until now 59 salticid genera have been listed from Australia (Richardson and Żabka 2003), however, the list is far from being complete. Some genera (e.g., *Neon*, *Pellenes*, *Phintella*, *Phlegra*) will need to be formally recorded (Żabka in prep.), many genera and species will have to be described. "*Plexippus*" (= "*Trite*") *daemeli* Keyserling treated here has been known for a long time and its closer investigation showed that it represents a new genus and is neither related to *Plexippus* nor *Trite*.



Figures 1–2. Distribution of *Paraphilaeus daemeli* (Keyserling) (1) and BioClim (BioLink version, based on the character and history of biota) showing possible distribution of this (or sister species in Atherton Tableland and around Perth) (2).

MATERIAL AND METHODS

The material was collected during biodiversity surveys conducted by the Australian Museum, Sydney (AMS) and the Queensland Museum, Brisbane (QMB). Comparative material was provided by the Florida State Collection of Arthropods, Gainesville (FSCAG) and Senckenberg Museum, Frankfurt am Main (SMF). Methods of specimen examination are as described earlier (Żabka 1991a). Abbreviations used are as follows: AEW – anterior eyes width, AL – abdomen length, CL – cephalothorax length, CW – cephalothorax width, EFL – eye field length, L – leg's length, PEW – posterior eyes width.

TAXONOMY

Paraphilaeus gen. nov.

Plexippus d. Keyserling, 1883: 1427.

Trite d.: Simon, 1903: 827; Prószyński, 1971: 481; Davies and Żabka, 1989: 256, 261; Żabka, 1991b: 66; Platnick, 1993: 818.

Type species. *Plexippus daemeli* Keyserling, 1883.

Etymology. Refers to *Philaeus*, a genus showing some similarities in male palpal organ structures. The name is masculine in gender.

Diagnosis. Spiders 4–6 mm in length. Cymbium very elongate, its distal half distinctly curved. Embolus very long, passing across ventral surface of tegulum

and along edge of cymbium. Chelicerae of unidentati pattern, male cheliceral spur with indentation, male maxillae with lateral protuberance. Cephalothorax rather low, widest at the fovea region, thoracic slope gentle, dorsal ocular area with large amount of guanine deposits. Fovea located in the middle of cephalothorax, behind eye field. Female insemination ducts membranous, very long, forming several loops. Spermathecae pear-shaped, strongly sclerotised.

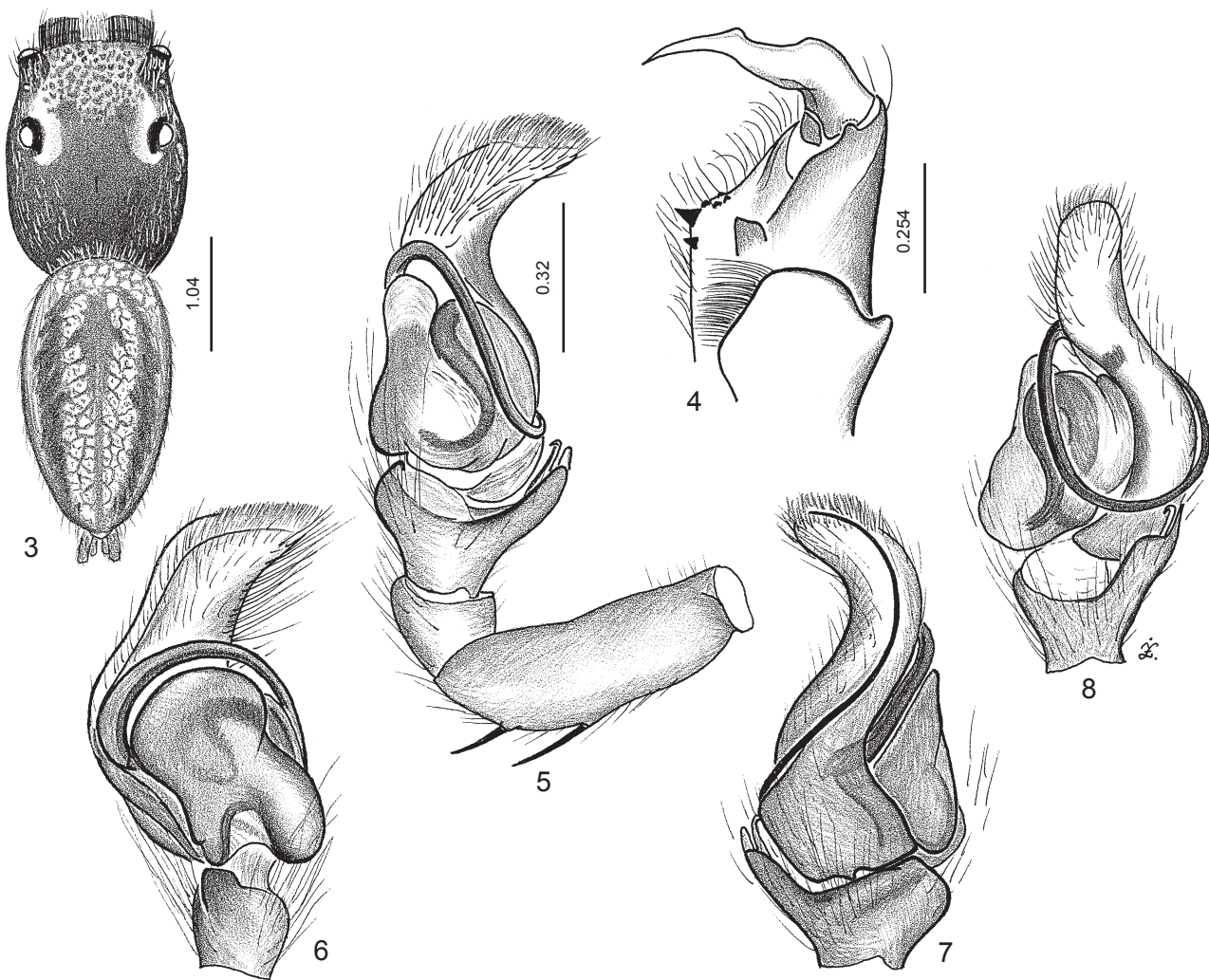
Distribution and relationships. The only representative of the genus is known from coastal parts of Queensland and New South Wales (Fig. 1), in various habitats, including rainforests, *Eucalyptus* forests and even grasslands. According to BioClim computer simulation *Paraphilaeus daemeli* (or sister species) could also be expected outside localities found during the study (Fig. 2).

Paraphilaeus shows no close relationships with any other salticid genus. Despite initial suspicion based on other trans-Pacific examples (e.g., *Frigga crocuta*

(Taczanowski 1878)) no relatives were found amongst Pacific or South American Salticidae. The morphology of male palps, cheliceral dentition and maxillae shows some similarities to *Eustiromastix* of South and Central America (Galiano 1979, 1981), both genera differ in body form and spinneret structures. Although the generic name refers to the genus *Philaeus*, because both genera share long emboli and curved cymbiae, their body forms, chelicerae and maxillae are different.

***Paraphilaeus daemeli* (Keyserling, 1883)**
(Figs 3–15)

Material. Queensland: 1M, 1 juv., QMB S60696, S60685, Mulgowie Laidley, *Eucalyptus* woodland, coll. M. Grant, 10 Feb. 1981, 23 Sept. 1981; 1M, 2 juv., QMB S60680, Brisbane, Rochedale State Forest, sweeping, coll. V.T. Davies, R. Raven, 11 Oct. 1979; 2M, 1 juv., QMB S60695, 40 Mile Scrub, beating, Apr. 1978; 1M,

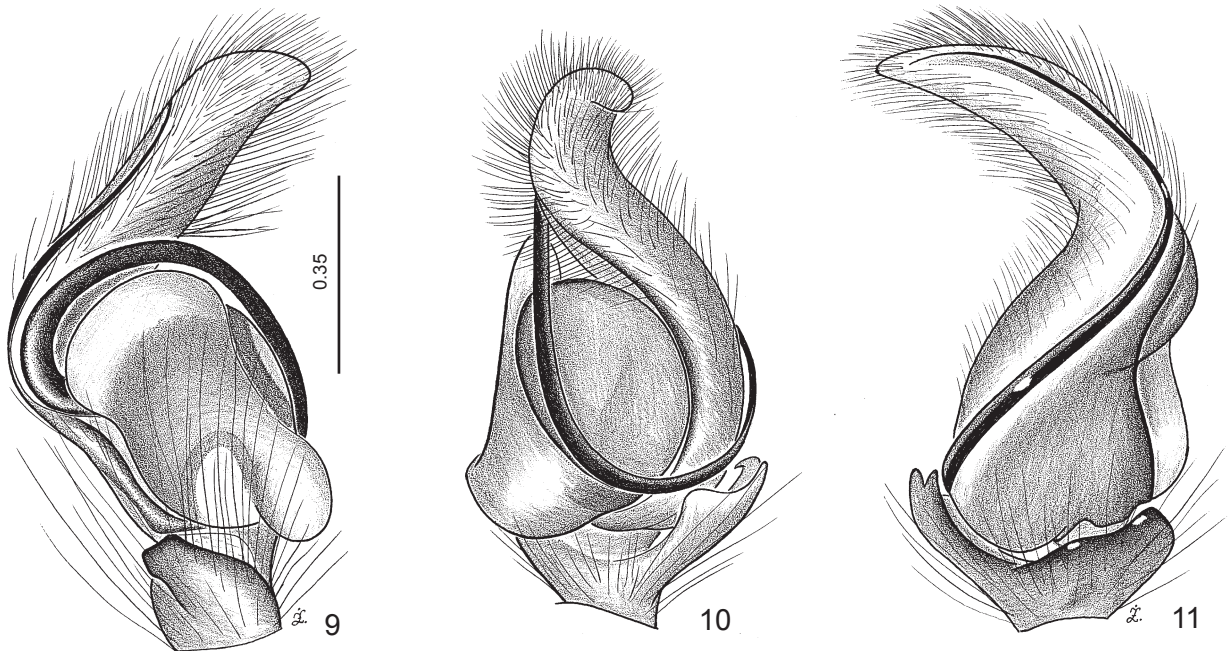


Figures 3–8. Male general appearance (3), maxilla and cheliceral dentition (4), palpal organ (5–8) in mm.

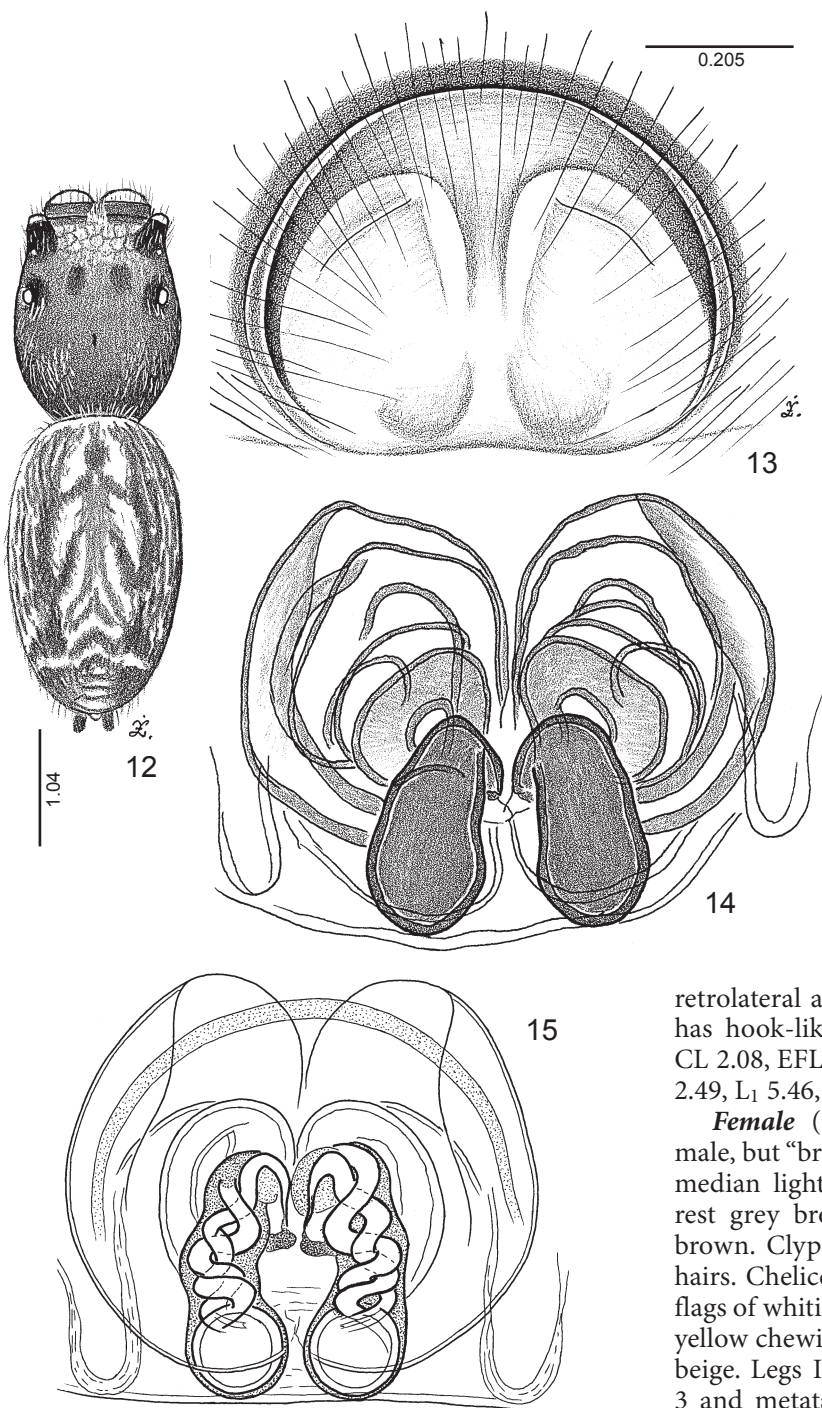
1 juv., QMB S60681, Brisbane, Rochedale State Forest, beating, coll. V.T. Davies, R. Raven, 21 Aug. 1980; 2F, QMB S60705, Kroombit Tops (Upper Ck.), 45 km SSW Calliope, rainforest, coll. G. Monteith, G. Thompson, 9-19 Dec. 1983; 1F, QMB S60682, Kroombit Tops (Lower Dry Ck.), 45 km SSW Calliope, open forest, coll. V.E. Davies, J. Gallon, 9-19 Dec. 1983; 1M, 1 juv., OMB S60694, Brisbane, Rochedale, coll. R. Raven, 20 Jan. 1974; 1F, OMB S60701, Lake Broadwater, granite ridge, coll. J. Gallon, V. Davies, 25-27 Jan. 1985; 2M, QMB S60700, Burpengary, beating forest, coll. N. Hill, 5 Mar. 1980; 1M, 1F, 1 juv., QMB S60691, Brisbane, Gold Creek Reservoir, beating, coll. V. Davies, R. Raven, 13 May 1981; 1F, QMB S60704, Tinaroo, coll. N. Clyde Coleman, 15 Nov. 1971; 1M, QMB S60703, Upper Brookfield, rainforest, general, coll. V. Davies, R. Raven, 19 May 1981; 2F, 2 juv., QMB S60702, Upper Brookfield, SEQ, rainforest, beating, coll. V. Davies, R. Raven, 28 Jan. 1982; 1M, QMB SS60698, Griffith Uni., in retreat on *Pultenaea villosa*, coll. G. Oliver, 4 Dec. 1975; 1M, 1 juv., QMB S15994, Mt. Moffatt National Park, SCQ, coll. M. Bennie, 26 Sept. 1986; 1F, QMB S60697, Lake Broadwater, Belah eucalypt N overflow, among leaves and twigs, coll. M. Bennie, 7 July 1984; 1M, QMB S60683, Blackdown Tableland via Dingo, MEQ, general, coll. R. Raven, 1-6 Nov. 1981; 6M, 5 juv., QMB S60689, S60692, Upper Brookfield, SEQ, with *Araucaria*, beating, coll. V. Davies, R. Raven, 30 Oct. 1980, 23 Apr. 1981; 2F, 1 juv., QMB S60693, Brookfield, Gold Ck. Reservoir, SWQ, closed forest, beating, V. Davies, R. Raven, Dec. 1980; 1F, QMB S60688, Serra Ween (?), SEQ, 30 Dec.

1980, R.R. Jackson; 1M, 2 juv., QMB S60686, Brisbane, Rochedale State Forest, SEQ, beating, V. Davies, R. Raven, 20 Mar. 1980; 1M, QMB S60690, Mount Garnet, NEQ, N. Clyde Coleman, 24 Feb. 1972; 1M, 1F, 5 juv., QMB S60684, Upper Brookfield, rainforest, beating, V. Davies, R. Raven, 11 Nov. 1981; 1M, 2F, QMB S60679, Homevale, beating, R. K., V.E.D., 1-7 Apr. 1975; 1F, QMB S60687, Mount Coolon (Coolum?), hand collecting, B.R. Jahnke, 18 Feb. 1984; 1M, AMS KS329, Mount Dryander (lower slopes) N of Proserpine, rainforest site 12, on foliage, 20°15'S 148°32'E, M. Gray, C. Horseman, Apr; 1M, AMS KS18297, Mascord collection, Mareeba, 17°0'S 145°26'E, N.C. Coleman, 12 Feb. 1972; 1F, AMS KS7366, Mount Dryander, lower slopes, N of Prosperine, 20°15'S 148°32'E, under bark, rainforest survey, site 12, M. Gray, C. Horseman, Apr. 1975. **New South Wales:** 1M, AMSKS 50375, Warrah nr Crommelin Research Station, 33°28'S 151°21'E, R.A. Bradley, 4 Feb. 1984; 1M, 1F, AMS KS64900, Seven Mile Beach, 34°49'S 150°46'E, open forest, grass, M. Žabka, 6 Mar. 1988; 1M, 2F, AMS KS64889, KS64895, Scheyville, NW of Sydney, 33°36'S, 150°53'E, beating bushes, M. Žabka, 22 Oct, 30 Oct. 1987; 1F, AMS KS18372, Kuringgai Chase NP, Grovenor track, 33°39'S 151°13'E, sweeping, M.R. Gray, 8 Oct. 1987.

Comparative material. **Tobago:** 2M, 2F, FSCAG, *Eustiromastix obscurus* (Peckham et Peckham), St. Paul Par., Delaford, forest near stream, G.B. Edwards, 3 July 1999; **Trinidad:** 1M, 1F, FSCAG, *Eustiromastix falcatus* Galiano, Mt. St. Benedict, secondary rain/pine forest, G.B. Edwards, 27 June 1999; **New Zealand:** 1F,



Figures 9–11. Male palpal organ (in mm).



Figures 12–15. Female general appearance (12), epigyne (13), internal genitalia before (14) and after clearing in KOH (15 (in mm)).

SMF RII/5803, Roewer Collection, det. Roewer 1935 [identified as "*Plexippus (Trite) daemeli* [the specimen represents *Hypoblemum albovittatum* (Keys.)].

Diagnosis. Distinguished by male genitalia, cheliceral spur and maxillae shape.

Male (Fig. 3). Eye field yellowish with 2 dark median patches and translucent guanine crystals

making white-yellowish spots. ALE and PLE eye surroundings black. Posterior part and sides of cephalothorax brown. AME with "brows" of orange hairs, turning white centrally. Remaining area with scattered white and yellowish hairs. Spinnerets dirty yellow. Abdomen with light median part made of small spots. In some specimens 2 pairs of darker patches present. Sides uniformly darker or with dark stripes. Clypeus orange. Chelicerae (Fig. 4) vertical, bowed prolaterally, promargin with 2 small separate teeth, retromargin with single blunt tooth. Maxillae (Fig. 4) orange with lateral protuberance. Labium brown. Sternum yellow. Venter light grey with whitish spots. Legs I rather stout, femora brown, other podomeres lighter and lighter, tarsi dirty yellow, tibiae with 3 pairs and metatarsi with 2 pairs of ventrolateral spines. Other legs not distinctive, dirty orange, metatarsi and tarsi yellow. Tibiae II with 1 prolater and 3 ventrolateral spines, metatarsi with 2 pairs of ventrolateral spines. Palpal organ (Figs 5–11) with long and curved cymbium, tegulum with posterior lobe and meandering seminal duct. Tibia with massive

retrolateral apophysis which is divided at the top and has hook-like outgrowth turning towards cymbium. CL 2.08, EFL 0.91, AEW 1.35, PEW 1.38, CW 1.61, AL 2.49, L₁ 5.46, L₂ 3.53, L₃ 2.96, L₄ 3.69.

Female (Fig. 12). Cephalothorax similar to the male, but "brows" above AME missing. Abdomen with median light chevrons and anterior light band. The rest grey brown with lighter spots. Spinnerets grey brown. Clypeus orange with white setae and longer hairs. Chelicerae orange. Pedipalps dirty orange with flags of whitish long hairs. Maxillae orange brown with yellow chewing margins. Sternum dirty orange. Venter beige. Legs I rather massive, light brown, tibiae with 3 and metatarsi with 2 pairs of ventrolateral spines, respectively. Other legs dirty yellow orange, podomeres darker distally, tarsi yellow. Leg hairiness not distinctive. Tibiae II with a row of 3 ventro retrolateral spines and metatarsi II with 2 pairs of ventral spines. Epigyne (Fig. 13) large, oval, poorly sclerotised, sometimes blocked with waxy plug. Internal genitalia (Figs 14–15) made of very long membraneous insemination ducts forming several loops. Spermathecae strongly sclerotised, pear shaped with internal spiral-like channel. CL 1.92, EFL 0.88, AEW 1.30, PEW 1.35, CW 1.51, AL 2.80, L₁ 3.38, L₂ 2.54, L₃ 2.44, L₄ 3.22.

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