

New species and new records of Hersiliidae from Australia (Arachnida: Araneae: Hersiliidae). Sixth supplement to the revision of the Australian Hersiliidae

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Abstract – Eight new species of Hersiliidae from various parts of Australia are described: *Hersilia bifurcata* sp. nov., *H. wellswebberae* sp. nov. (both far Northern Territory), *H. longbottomi* sp. nov., *H. tenuifurcata* sp. nov. (both Kimberley Division, Western Australia), *Tamopsis hirsti* sp. nov. (eastern central South Australia), *T. kimberleyana* sp. nov., *T. minor* sp. nov. (both Kimberley Division, Western Australia), and *T. variatulae* sp. nov. (northern New South Wales). The hitherto unknown male of *Tamopsis ediacarae* Baehr and Baehr, 1988 is described. According to new material from South Australia (including males and females from the same locality) and to new evidence, *T. distinguenda* Baehr and Baehr, 1992 is synonymized with *T. reevesbyana* Baehr and Baehr, 1987, *T. triangularis* Baehr and Baehr, 1993 is synonymized with *T. facialis* Baehr and Baehr, 1993, and *T. marri* Baehr and Baehr, 1989 is synonymized with *T. pseudocircumvidens* Baehr and Baehr, 1987. New records containing range extensions of several rare or rarely recorded hersiliid species are presented.

INTRODUCTION

Recent field work by a number of collectors, as well as examination of the Hersiliidae of the Museum and Art Gallery of the Northern Territory, Darwin, has produced a surprisingly large amount of additional hersiliid specimens from Australia since the last supplement in the ongoing revision of the Australian Hersiliidae (Baehr and Baehr, 1995). Although much of this material comprises previously described species, in some of these, range or even taxonomic status are insufficiently known, since few or even single records were available, or one sex was unknown until now. Hence, in the following, only those species are dealt with for which major taxonomic or chorological changes are to be made, and new records for these species are given in full length, whereas new records of the well known species *Tamopsis brisbanensis*, *T. encalypti*, *T. fickerti*, *T. fitzroyensis*, *T. occidentalis*, and *T. perthensis* are omitted.

The discovery of four new species in each of *Hersilia* and *Tamopsis* further reveals that knowledge of the Australian hersiliid fauna is still unsatisfactory. Including the species described and synonymized in this paper, the Australian hersiliid fauna is now known to comprise 55 species, more than half of which have been described since the original revision (Baehr and Baehr, 1987). However, there are still some specimens of uncertain relations that might represent additional

undescribed taxa of specific or subspecific rank, but still remain undescribed due to lack of additional material.

The systematic sequence of taxa follows Baehr and Baehr (1987, 1989, 1993a, 1993b).

MATERIALS AND METHODS

The abbreviations and format of the descriptions follow previous papers (e.g. Baehr and Baehr, 1987, 1993a, 1993b, 1995); in the checklist the usual abbreviations for the states of Australia are used, together with abbreviations like n: northern, e: eastern, c: central, etc. The specimens examined in this paper are lodged in the following institutions: Collection B. Baehr, München (CBM); Museum and Art Gallery of the Northern Territory, Darwin (MNTD); South Australian Museum, Adelaide (SAMA); Western Australian Museum, Perth (WAM).

Measurements were made under a stereomicroscope using an ocular micrometer with up to 160x magnification.

TERMINOLOGY

Terminology in some parts has changed since our last paper on Australian hersiliids. What we called "embolus" of *Hersilia* species in previous papers, we now call "embolar apparatus" that is composed of the "embolus" (E) proper and the "embolar

apophysis" (EA), whereas the common base is the "stipes" (S). The former "tegular apophysis" (TA) is now more exactly called "median tegular apophysis" (MTA) (see Figures 1, 2).

In *Tamopsis*, where embolus and embolar apophysis commonly are less well differentiated, we keep on calling "lateral apophysis" (LA) the combined "embolus" and "embolar apophysis", even though it is sometimes situated rather medially than laterally.

Genus *Hersilia* Audouin

Hersilia Audouin, 1826: 318. For further records see Roewer (1942), Brignoli (1983), Platnick (1989), and Baehr and Baehr (1987, 1993a, b, 1995).

Hersilia australiensis group

This group is characterized by the simple, medially hollowed MTA of the male palpus, the non-furcate embolar apparatus, the rather narrow, trapezoidal scapus of the female epigyne, and the very large median RS of the vulva that is situated rather closely together.

In Australia, this group includes only *H. australiensis* Baehr and Baehr, 1987. The group is also represented in New Guinea by *H. madang* Baehr and Baehr, 1993 and *H. novaeguineae* Baehr and Baehr, 1993, the only *Hersilia* species known to occur in New Guinea, and perhaps also by the doubtful species *H. pernix* Kulczynski, 1911.

Hersilia australiensis Baehr and Baehr

Hersilia australiensis Baehr and Baehr, 1987: 354; Baehr and Baehr, 1993a: 349; Baehr and Baehr, 1995: 109.

New Material Examined

Australia: Northern Territory: 3 ♀, 4 immat., Litchfield Park-Aida Ck, 4 Sept 1992, Wells & Webber (MNTD); 1 ♂, Darwin, Stuart Park Vine Forest, April 1993, Webber (MNTD).

Remarks

This systematically rather isolated species is apparently restricted to the northernmost part of the Northern Territory. So far, it is the single representative of the *australiensis*-group in Australia.

Hersilia bifurcata group

The following four newly described species belong to the new *bifurcata* group that is mainly characterized by the deeply furcate embolar apparatus of the male palpus, the wide, subquadrate scapus of the female epigyne and the

presence of two fairly small, widely separated RS in the vulva.

According to the shape of the female epigyne and vulva, the group also covers *H. mainae* Baehr and Baehr, 1995, and perhaps also *H. miubi* Baehr and Baehr, 1993, although the male embolar apparatus of the latter species is not deeply furcate.

Hersilia bifurcata sp. nov.

Figures 1, 2, 27

Material Examined

Holotype

♂, Australia: Northern Territory: Robin Falls, ca. 12 km S. of Adelaide River, M.V. light, 3.XII.1980, M.B. Malipatil (MNTD).

Other Material Examined

Australia: Northern Territory: 1 immature ♀ (MNTD) collected with the holotype is tentatively alluded to this species.

Diagnosis

Very large and extremely long-legged species, further characterized by PLS longer than abdomen, elongate male bulb, deeply furcate, narrow embolar apparatus with elongate stipes.

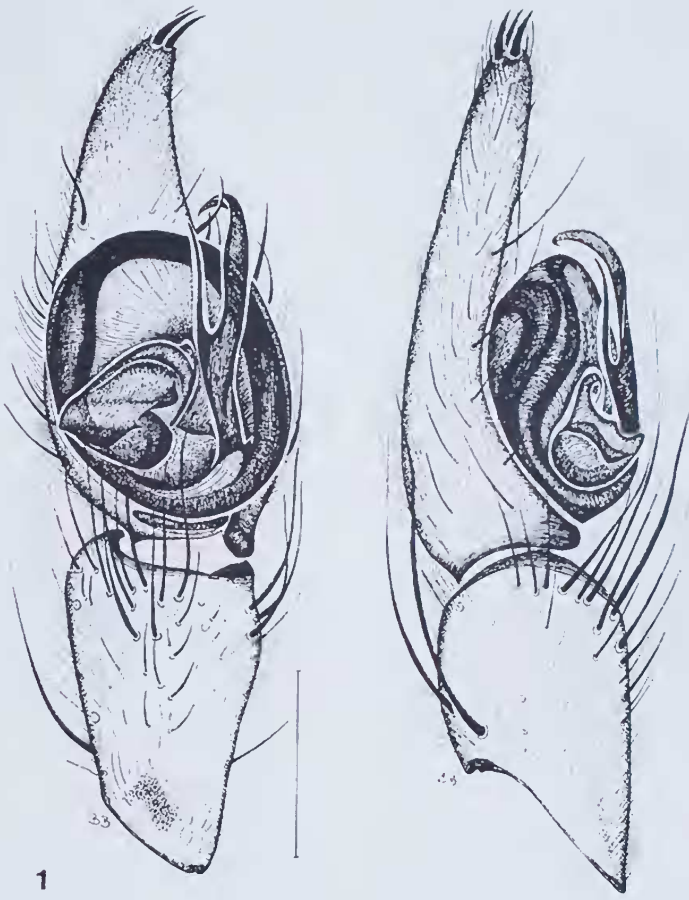
Description

Male holotype

Measurements: Length: 9.3 mm; cephalothorax length: 3.5 mm; width: 3.7 mm; abdomen length: 5.8 mm; width: 3.3 mm. Legs: I: 62.22 mm; II: 57.81 mm; III: 17.10 mm; IV: 53.42 mm. Ratio: 1: 0.93; 0.27: 0.86. Ratio LB/LL: 0.15. PLS length: 6.5 mm; bS: 1.0 mm; tS: 5.5 mm. Length ratio PLS/abd: 1.12. Diameter of eyes: AME: 0.33 mm; ALE: 0.14 mm; PME: 0.29 mm; PLE: 0.28 mm. Eye ratio: AME/ALE 1: 0.42; AME/PME 1: 0.88; AME/PLE 1: 0.85.

Colour: Cephalothorax light yellow; border and radial stripes weakly mottled with dark. Sternum light yellow. Abdomen conspicuously mottled with dark, in anterior half with a dark median longitudinal stripe, laterally with some contrasting light and dark areas, posterior half with several dark transverse bars. Ventral side light. Legs and PLS yellow brown, legs almost unicolorous; PLS broadly annulate.

Cephalothorax: About circular, wider than abdomen. Carapace with median post-foveal depression. Eye area strongly raised, clypeus visible from above, almost as high as eye area. AME largest, PME and PLE subequal to AME. Distance AME/AME 0.14 mm, < than 1/2 diameter of AME, distance AME/ALE 0.22 mm, c. 2/3 of diameter of AME. Distance PME/PME 0.13 mm, c. 1/2 of diameter of PME, distance PME/



Figures 1, 2 *Hersilia bifurcata* sp. nov., right male palpus. 1, ventral view; 2, lateral view. Scale line: = 0.5 mm.

PLE 0.20 mm, c. 2/3 of diameter of PLE. Chelicerae c. 1.8 x as long as wide. Sternum heart-shaped, hirsute with fine long and short hairs.

Abdomen: Elongate, considerably longer than wide, narrower than cephalothorax. Surface covered with short hairs, upper surface also rather densely covered with brown bristles, lateral and ventral surfaces with some elongate, light hairs. Dorsally with five pairs of DMP. VMP in a narrow v-shaped arrangement. PLS slightly longer than abdomen, tS very elongate.

Legs: Very elongate, measurements see above. Metatarsus divided, distal part c. 1/2 as long as proximal part.

Palpus: Cymbium comparatively narrow and elongate, with 3 apical spines. Bulbus perceptibly longer than wide. MTA medially hollowed, distally with a ridge reaching to retrolateral margin. Median margin (MM), retrolateral margin (RM) and proximal margin (PM) sharply edged. Laterodistal border of MTA straight, near lateral angle convex. Proximal margin (PM) deeply hollowed, incision between MM and PM v-shaped.

Seminal duct spirally coiled around MTA (MTA). Embolus (E) and embolar apophysis (EA) form together a deeply furcate structure. Embolus free, very elongate, narrow, rather straight. Embolar apophysis long, at apex curved inwards with a sharp, downcurved tip. Stipes (S) straight, as long as embolus. Embolus considerably shorter than embolar apophysis (Figures 1, 2).

Female

Unknown.

Etymology

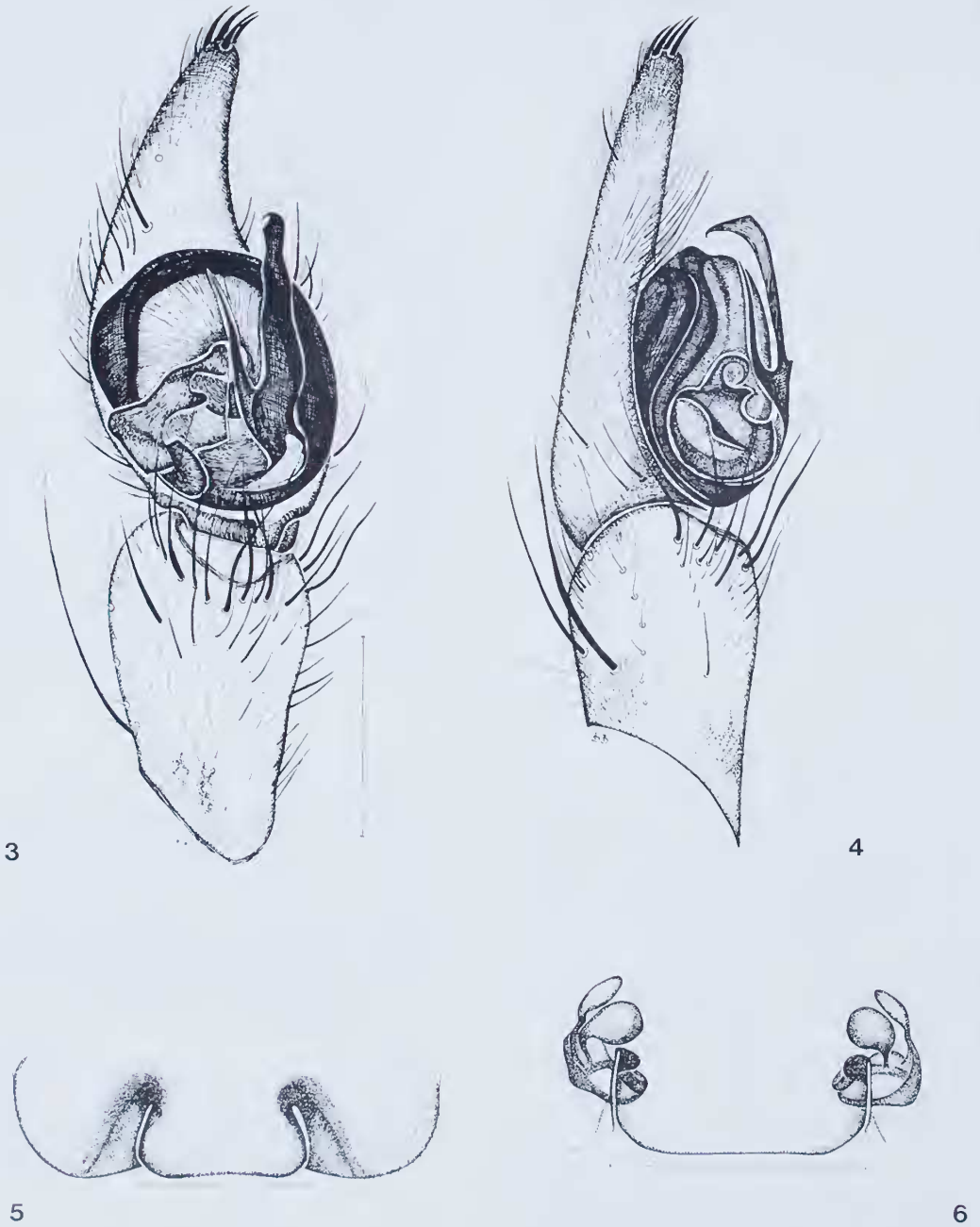
The name alludes to the deeply furcate embolus.

Distribution and Habits

Northern part of Northern Territory (Figure 27), known only from type locality. Holotype caught at M.V. light.

Relationships

H. bifurcata is a typical member of the *bifurcata*-



Figures 3–6 *Hersilia wellswieberae* sp. nov. 3, right male palpus, ventral view; 4, right male palpus, lateral view; 5, epigyne, ventral view; 6, vulva, ventral view. Scale lines: = 0.5 mm.

group, perhaps most closely related to *H. wellswებberae* sp. nov. and *H. longbottomi* sp. nov. It is distinguished from both by longer legs, elongate bulbous of male palpus, and narrower embolar apparatus.

Hersilia wellswებberae sp. nov.

Figures 3–6, 27

Material Examined

Holotype

♂, Australia: Northern Territory: Kakadu N.P., Little Nourlangie Rock, 16 March 1991, Wells & Webber (MNTD).

Paratype

Australia: Northern Territory: 1 ♀, Kakadu NP, Little Nourlangie Ck, on rocks, 16 Feb. 1991, A. Wells (MNTD).

Diagnosis

Large, long-legged species, further characterized by PLS longer than abdomen, circular bulbous of male palpus, deeply furcate, fairly wide embolar apparatus with short stipes, and narrow, at apex sharply incurved embolar apophysis.

Description

Male holotype

Measurements: Length: 8.2 mm; cephalothorax length: 3.4 mm; width: 3.4 mm; abdomen length: 4.7 mm; width: 3.3 mm. Legs: I: 52.93 mm; II: 52.02 mm; III: 14.01 mm; IV: 45.73 mm. Ratio: 1: 0.98: 0.26: 0.86. Ratio I.B./LL: 0.16. PLS length: 5.8 mm; bS: 1.0 mm; tS: 4.8 mm. Length ratio PLS/abd: 1.23. Diameter of eyes: AME: 0.30 mm; ALE: 0.15 mm; PME: 0.28 mm; PLE: 0.28 mm. Eye ratio: AME/ALE 1: 0.50; AME/PME 1: 0.93; AME/PLE 1: 0.93.

Colour: Cephalothorax light yellow; border, radial stripes, and eye area weakly mottled with dark. Sternum light yellow. Abdomen in anterior half with a dark median longitudinal stripe, laterally conspicuously mottled with dark, posterior half with several dark transverse bars. Ventral side light. Legs and PLS yellow brown, legs almost unicolorous; PLS broadly annulate.

Cephalothorax: About circular, slightly wider than abdomen. Carapace with median post-foveal depression. Eye area strongly raised, clypeus visible from above, c. 2/3 x as high as eye area. AME the largest, PME and PLE subequal to AME. Distance AME/AME 0.13 mm, < than 1/2 diameter of AME, distance AME/ALE 0.19 mm, c. 2/3 of diameter of AME. Distance PME/PME 0.15 mm, slightly > 1/2 of diameter of PME, distance PME/PLE 0.20 mm, c. 2/3 of diameter of PLE. Chelicerae c. 1.8 x as long as wide. Sternum heart-

shaped, hirsute with fine long and short hairs.

Abdomen: Elongate, considerably longer than wide, slightly narrower than cephalothorax. Surface covered with short hairs, upper surface also rather densely covered with brown bristles, lateral and ventral surfaces densely covered with elongate, light hairs. Dorsally with five pairs of DMP. VMP in a narrow v-shaped arrangement. PLS longer than abdomen, tS very elongate.

Legs: Very elongate, measurements see above. Metatarsus divided, distal part c. 1/2 as long as proximal part.

Palpus: Cymbium comparatively narrow and elongate, with 4 apical spines. Bulbus about circular, barely longer than wide. MTA rather elongate, reaching the margin of cymbium. Base feebly incised and with a ridge at distal half of margin only incurved towards the short, sharp median margin. Laterodistal border of MTA sinuate. PM deeply hollowed, not touching MM. Seminal duct spirally coiled around MTA. E and EA form together a deeply furcate structure. Embolus free, very elongate, narrow, rather straight. Embolar apophysis long, straight, at apex narrow, suddenly curved inwards, apex slightly curved down. Stipes < 2/3 of length of embolus, wide, sinuate. Embolus considerably shorter than embolar apophysis (Figures 3, 4).

Female paratype

Measurements: Length: 8.1 mm; cephalothorax length: 2.8 mm; width: 3.0 mm; abdomen length: 4.8 mm; width: 3.4 mm. Legs: I: 31.92 mm; II: 32.52 mm; III: 10.71 mm; IV: 29.89 mm. Ratio: 1: 1.02: 0.33: 0.94. Ratio LB/LE: 0.25. PLS length: 5.0 mm; bS: 0.9 mm; tS: 4.1 mm. Length ratio PLS/abd: 1.04. Diameter of eyes: AME: 0.25 mm; ALE: 0.14 mm; PME: 0.26 mm; PLE: 0.26 mm. Eye ratio: AME/ALE 1: 0.56; AME/PME 1: 1.04; AME/PLE 1: 1.04.

Colour: Ground pattern of colour similar to male, but abdomen less densely mottled and legs conspicuously annulate.

Cephalothorax: Subcircular, slightly wider than long, narrower than abdomen. Eye area strongly raised, clypeus visible from above, c. 2/3 as high as eye area. AME slightly smaller than PME and PLE. Distance AME/AME 0.20 mm, > 2/3 of diameter of AME, distance AME/ALE 0.20 mm, > 2/3 of diameter of AME. Distance PME/PME 0.15 mm, slightly > 1/2 diameter of PME, distance PME/PLE 0.18 mm, c. 2/3 of diameter of PLE. Chelicerae c. 1.8 x as long as wide. Sternum as in male.

Abdomen: Elongate, considerably longer than wide, slightly wider than cephalothorax. Pilosity and arrangement of DMP and VMP as in male. PLS about as long as abdomen, tS very elongate.

Legs: Elongate, though considerably shorter than in male, measurements see above. Metatarsus

divided, distal part c. 2/5 as long as proximal part.

Epigyne: Very simple, with a quadrate scapus, considerably broader than long (Figure 5).

Vulva: With a circular, larger median RS and a smaller, elliptical lateral RS, and a short introductory duct with small median loop, ending lateromedially on scapus (Figure 6).

Etymology

The name is a patronym in honour of the collectors, Dr. A. Wells and Ms J. K. Webber.

Distribution and Habits

Western boundary of Arnhem Land, far Northern Territory (Figure 27). Paratype caught "on rocks".

Relationships

H. wellswebberae is a typical member of the *bifurcata*-group, presumably most closely related to *H. longbottomi* sp. nov. from the Kimberley Division. It is mainly distinguished by longer PLS, short stipes of embolar apparatus, and embolar apophysis with sharply incurved apex.

Hersilia longbottomi sp. nov.

Figures 7–10, 27

Material Examined

Holotype

♂, Australia: Western Australia: Kandiwal, (Camp Creek), 14°52'S, 125°42'E, Mitchell Plateau, 11 Dec. 1993, A. F. Longbottom (S. 1465) (WAM 96/186).

Paratype

Australia: Western Australia: 1 ♀, same data (S.1466) (WAM 96/187).

Diagnosis

Rather large, moderately long-legged species, further characterized by PLS shorter than abdomen, circular male bulbus, deeply furcate, fairly wide embolar apparatus with elongate stipes, and wide, at apex evenly incurved embolar apophysis.

Description

Male holotype

Measurements: Length: 7.5 mm; cephalothorax length: 2.9 mm; width: 2.8 mm; abdomen length: 4.5 mm; width: 2.95 mm. Legs: I: 40.84 mm; II: 39.73 mm; III: 12.21 mm; IV: 28.33 mm. Ratio: 1: 0.97: 0.30: 0.94. Ratio LB/LL: 0.18. PLS length: 4.3 mm; bS: 0.8 mm; tS: 3.5 mm. Length ratio PLS/abd: 0.95. Diameter of eyes: AME: 0.35 mm; ALE:

0.13 mm; PME: 0.25 mm; PLE: 0.28 mm. Eye ratio: AME/ALE 1: 0.37; AME/PME 1: 0.71; AME/PLE 1: 0.80.

Colour: Cephalothorax light yellow; border, radial stripes, eye area, and clypeus weakly mottled with dark. Sternum light yellow. Abdomen very dark, in anterior half with a dark median longitudinal stripe, laterally conspicuously mottled with dark, with a pattern of two conspicuous transverse to semicircular light stripes, posterior half with several light and dark transverse bars. Ventral side light. Legs and PLS yellow brown; legs faintly, PLS distinctly annulate.

Cephalothorax: About circular, slightly narrower than abdomen. Carapace with median post-foveal depression. Eye area strongly raised, clypeus visible from above, c. 2/3 x as high as eye area. AME by far the largest, PME slightly smaller than PLE. Distance AME/AME 0.15 mm, < than 1/2 diameter of AME, distance AME/ALE 0.17 mm, c. 1/2 of diameter of AME. Distance PME/PME 0.16 mm, distinctly > 1/2 of diameter of PME, distance PME/PLE 0.20 mm, c. 2/3 of diameter of PLE. Chelicerae c. 1.8 x as long as wide. Sternum heart-shaped, hirsute with fine long and short hairs.

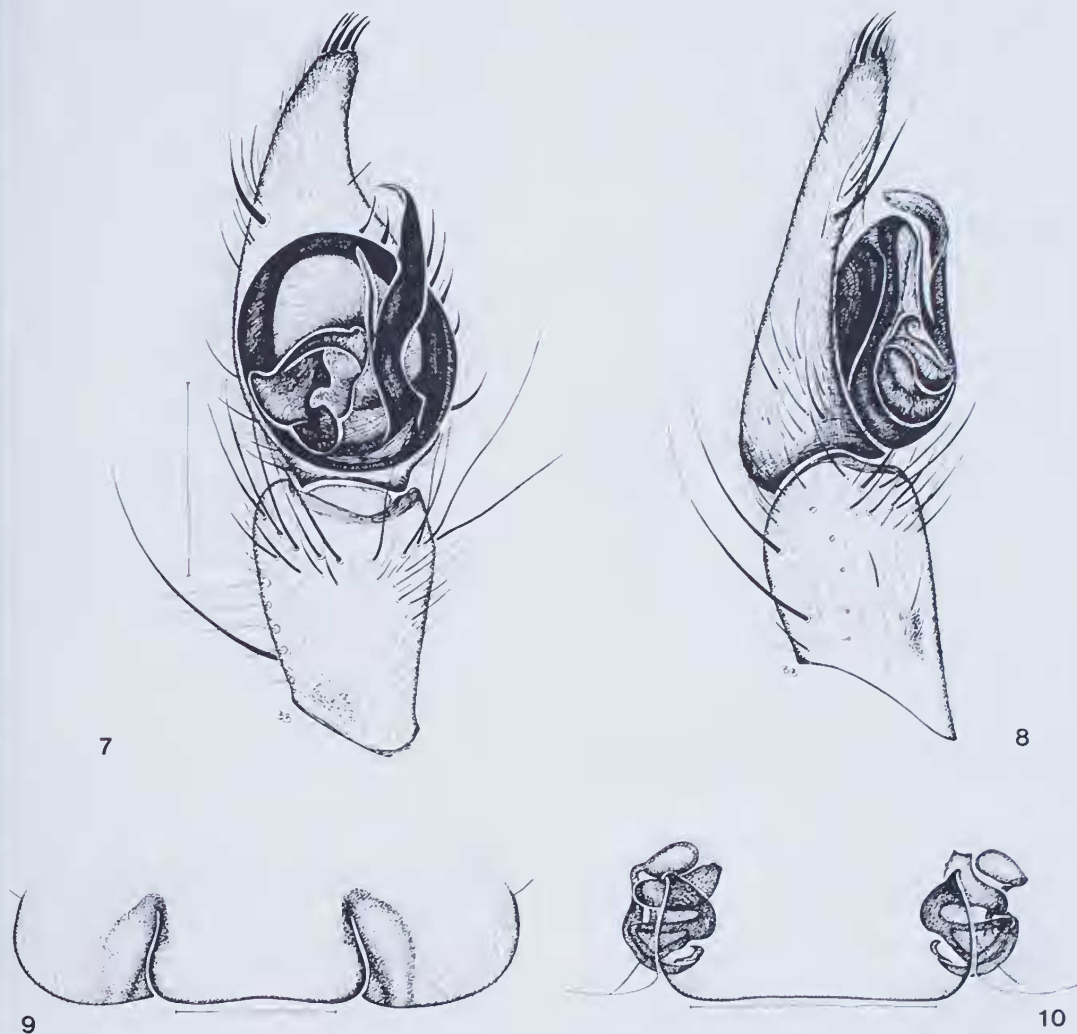
Abdomen: Elongate, considerably longer than wide, slightly wider than cephalothorax. Surface covered with short hairs, upper surface also rather densely covered with brown bristles, lateral and ventral surfaces densely covered with elongate, light hairs. Dorsally with five pairs of DMP. VMP in a narrow v-shaped arrangement. PLS shorter than abdomen, tS moderately elongate.

Legs: Elongate, measurements see above. Metatarsus divided, distal part c. 1/2 as long as proximal part.

Palpus: Cymbium comparatively narrow and elongate, with 5 apical spines. Bulbus about circular, barely longer than wide. MTA laterally not reaching the cymbium. Base incised, distally with a ridge reaching nearly the lateral tip of the retrolateral margin. Laterodistal border convex, near retrolateral tip deeply concave. PM deeply hollowed, separated from MM by a deep u-shaped incision. Seminal duct spirally coiled around MTA. E and EA form together a deeply furcate structure. Embolus free, fairly elongate, narrow, rather straight. EA elongate, curved, apex rather spatulate with rounded tip, evenly and widely incurved. Stipes elongate, as long as embolus, wide and medially convex. Embolus considerably shorter than embolar apophysis (Figures 7, 8).

Female paratype

Measurements: Length: 7.8 mm; cephalothorax length: 2.8 mm; width: 3.0 mm; abdomen length: 4.9 mm; width: 3.3 mm. Legs: I: 31.44 mm; II: 31.51 mm; III: 10.69 mm; IV: 29.70 mm. Ratio: 1: 1: 0.34: 0.95. Ratio LB/LL: 0.25. PLS length: 4.3 mm; bS:



Figures 7-10 *Hersilia longbottomi* sp. nov. 7, right male palpus, ventral view; 8, right male palpus, lateral view; 9, epigyne, ventral view; 10, vulva, ventral view. Scale lines: = 0.5 mm.

0.9 mm; tS: 3.4 mm. Length ratio PLS/abd: 0.88. Diameter of eyes: AME: 0.30 mm; ALE: 0.14 mm; PME: 0.28 mm; PLE: 0.28 mm. Eye ratio: AME/ALE 1: 0.47; AME/PME 1: 0.93; AME/PLE 1: 0.93.

Colour: Ground pattern similar to male, but abdomen more irregularly mottled and legs much more conspicuously annulate.

Cephalothorax: Subcircular, slightly wider than long, narrower than abdomen. Eye area strongly raised, clypeus visible from above, c. 2/3 as high as eye area. AME slightly larger than PME and PLE. Distance AME/AME 0.14 mm, slightly < 1/2 of diameter of AME, distance AME/ALE 0.16 mm, slightly > 1/2 of diameter of AME. Distance PME/PME 0.15 mm, slightly > 1/2 diameter of PME,

distance PME/PLE 0.19 mm, c. 2/3 of diameter of PLE. Chelicerae c. 1.8 x as long as wide. Sternum as in male.

Abdomen: Elongate, considerably longer than wide, wider than cephalothorax. Pilosity and arrangement of DMP and VMP as in male. PLS perceptibly shorter than abdomen, tS moderately elongate.

Legs: Elongate, though considerably shorter than in male, measurements see above. Metatarsus divided, distal part c. 2/5 as long as proximal part.

Epigyne: Very simple, with a quadrate scapus, considerably broader than long (Figure 9).

Vulva: With a large, somewhat kidney-shaped median RS and a slightly smaller, egg-shaped

lateral RS, and a short introductory duct with large median loop, ending in front of apex of the scapus (Figure 10).

Etymology

The name is a patronym in honour of the collector, A. F. Longbottom.

Distribution and Habits

Kimberley Division, northwestern Australia (Figure 27), known only from type locality. Collecting circumstances unknown.

Relationships

H. longbottomi is a typical member of the *bifurcata*-group, presumably most closely related to *H. wehlswebberae* sp. nov. It is distinguished by shorter PLS, elongate base of embolus, and wider conductor with evenly incurved apex.

Hersilia tenuifurcata sp. nov.

Figures 11–14, 27

Material Examined

Holotype

♂, Australia: Western Australia: Meelarrie Swamp area, 15°32'S, 126°11'E, 13 Jan. 1994, J. Koeyers (via A. F. Longbottom, S.1568) (WAM 96/188).

Paratype

Australia: Western Australia: 1 ♀, same data (WAM 96/189).

Diagnosis

Rather large, moderately long-legged species, further characterized by PLS longer than abdomen, circular male bulbus, very deeply furcate, narrow embolar apparatus with short and narrow stipes, and narrow embolar apophysis at apex evenly.

Description

Male holotype (partly worn specimen)

Measurements: Length: ?; cephalothorax length: 2.85 mm; width: 3.0 mm; abdomen length: ?; width: ?. Legs: I: 38.30 mm; II: 37.28 mm; III: 11.69 mm; IV: 35.41 mm. Ratio: I: 0.97; 0.31; 0.92. Ratio I.B./L.I.: ?. PLS length: 4.4 mm; bS: 0.8 mm; tS: 3.6 mm. Length ratio PLS/abd: ?. Diameter of eyes: AME: 0.315 mm; ALE: 0.13 mm; PME: 0.26 mm; PLE: 0.275 mm. Eye ratio: AME/ALE 1: 0.41; AME/PME 1: 0.83; AME/PLE 1: 0.87.

Colour: Rather faded, cephalothorax light yellow; border, radial stripes, and eye area weakly mottled with dark. Sternum light yellow. Abdomen in anterior half with a dark median longitudinal

stripe, laterally mottled with dark, posterior half with several light and dark transverse bars. Ventral side light. Legs and PLS yellow brown, weakly annulate.

Cephalothorax: About circular. Carapace with median post-foveal depression. Eye area moderately raised, clypeus visible from above, slightly > than half as high as eye area. AME by far the largest, PME slightly smaller than PLE. Distance AME/AME 0.15 mm, < than 1/2 diameter of AME, distance AME/ALE 0.20 mm, slightly < 2/3 of diameter of AME. Distance PME/PME 0.16 mm, distinctly > 1/2 of diameter of PME, distance PME/PLE 0.20 mm, slightly > 2/3 of diameter of PLE. Chelicerae c. 1.8 x as long as wide. Sternum heart-shaped, hirsute with fine long and short hairs.

Abdomen: Elongate, presumably considerably longer than wide. Surface covered with short hairs, upper surface also rather densely covered with brown bristles, lateral and ventral surfaces densely covered with elongate, light hairs. Dorsally with five pairs of DMP. VMP in a narrow v-shaped arrangement. PLS apparently slightly longer than abdomen, tS rather elongate.

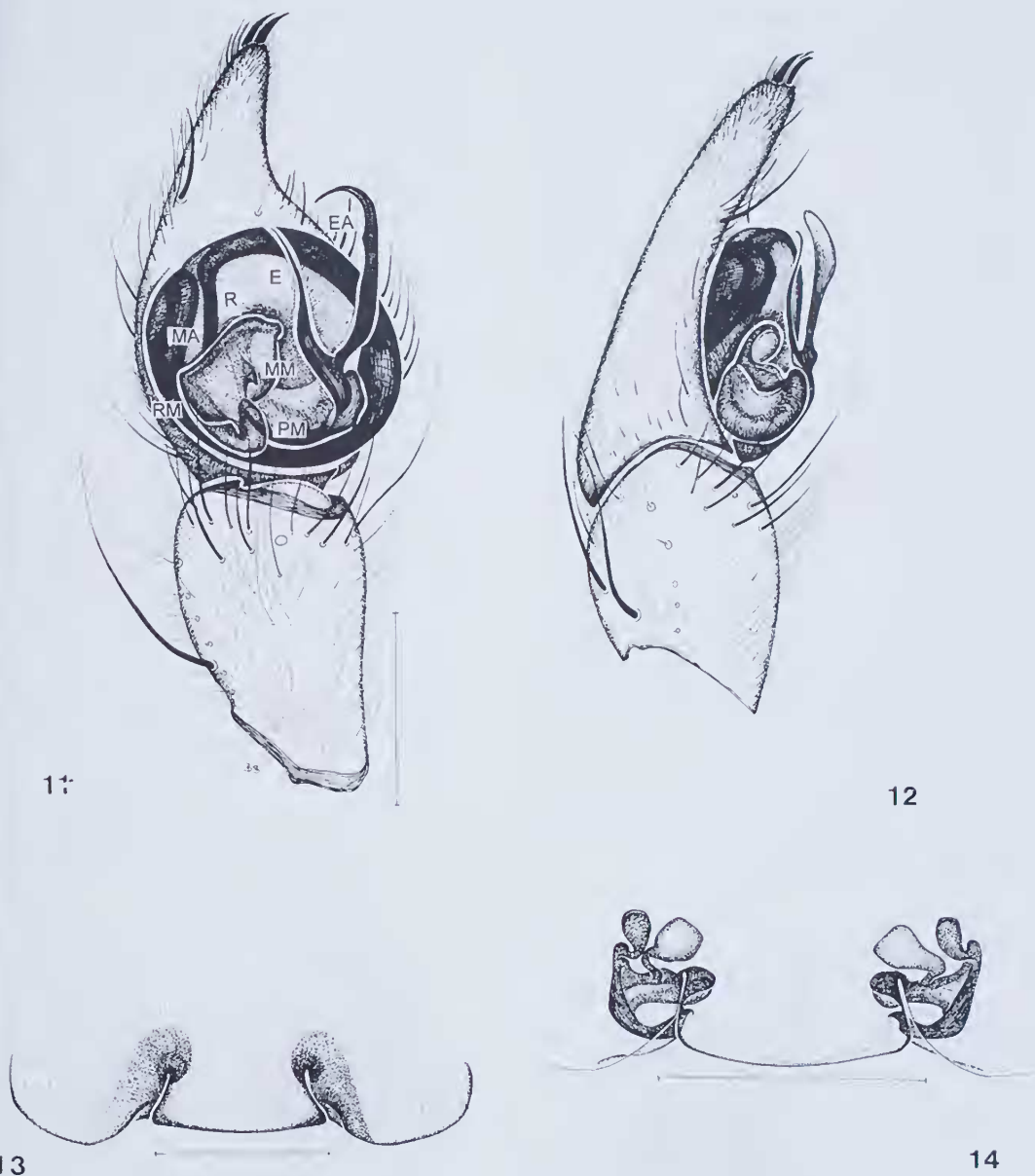
Legs: Elongate, measurements see above. Metatarsus divided, distal part slightly > 1/2 as long as proximal part.

Palpus: Cymbium comparatively narrow and elongate at apex, broad at base, with 3 apical spines. Bulbus about circular, as long as wide. MTA laterally not reaching the cymbium. Base incised and with weak ridge reaching nearly the lateral angle of the retrolateral margin. Laterodistal border slightly concave. MM angulate, slightly hook-shaped, partly covered by the deeply hollowed PM. Seminal duct spirally coiled around MTA. E and EA form together a deeply furcate structure. Embolus free, very elongate, narrow though basally widened, rather curved. EA remarkably narrow, rather straight, at apex narrow, evenly and very widely curved inwards. Stipes narrow, short, only 1/3 of length of embolus, medially markedly concave. Embolus not much shorter than than embolar apophysis (Figures 11, 12).

Female paratype

Measurements: Length: 7.6 mm; cephalothorax length: 2.9 mm; width: 3.2 mm; abdomen length: 4.4 mm; width: 3.3 mm. Legs: I: 32.19 mm; II: 31.28 mm; III: 10.88 mm; IV: 29.07 mm. Ratio: I: 0.97; 0.34; 0.90. Ratio I.B./L.I.: 0.24. PLS length: 4.7 mm; bS: 0.9 mm; tS: 3.8 mm. Length ratio PLS/abd: 1.07. Diameter of eyes: AME: 0.30 mm; ALE: 0.16 mm; PME: 0.29 mm; PLE: 0.29 mm. Eye ratio: AME/ALE 1: 0.53; AME/PME 1: 0.97; AME/PLE 1: 0.97.

Colour: Ground pattern of colour similar to male, but abdomen more contrastingly mottled with more extended whitish areas in antero-lateral parts



Figures 11-14 *Hersilia tenuifurcata* sp. nov. 11, right male palpus, ventral view; 12, right male palpus, lateral view; 13, epigyne, ventral view; 14, vulva, ventral view. Scale lines: = 0.5 mm.

of upper surface, and legs more conspicuously annulate.

Cephalothorax: Subcircular, slightly wider than long, barely narrower than abdomen. Eye area strongly raised, clypeus visible from above, slightly $< 2/3$ as high as eye area. AME slightly larger than PME and PLE. Distance AME/AME 0.16 mm, slightly $> 1/2$ of diameter of AME, distance AME/ALE 0.19 mm, slightly $< 2/3$ of diameter of AME.

Distance PME/PME 0.16 mm, slightly $> 1/2$ diameter of PME, distance PME/PLE 0.22 mm, $> 2/3$ of diameter of PLE. Chelicerae c. 1.8 x as long as wide. Sternum as in male.

Abdomen: Elongate, considerably longer than wide, slightly wider than cephalothorax. Pilosity and arrangement of DMP and VMP as in male. PLS slightly longer than abdomen, tS rather elongate.

Legs: Elongate, though considerably shorter than in male, measurements see above. Metatarsus divided, distal part c. 2/5 as long as proximal part.

Epigyne: Very simple, with an about quadrate scapus, the posterior border of which is gently convex, scapus considerably broader than long (Figure 13).

Vulva: With a larger, apically straight median RS and a slightly smaller, about egg-shaped lateral RS, and a short introductory duct with small median loop, ending close to apex of the scapus (Figure 14).

Etymology

The name alludes to the deeply furcate, delicate embolus.

Distribution and Habits

Kimberley Division, northwestern Australia (Figure 27), known only from type locality. Collecting circumstances unknown.

Relationships

H. tenuifurcata is a typical member of the *bifurcata*-group, presumably less closely related to any of the other three newly described species than they are.

Identification

For identification of the four new species, the key to the Australian species of *Hersilia* in the fifth supplement (Baehr and Baehr, 1995) should be replaced by the following one:

1. Males 2
Females 7
2. Embolar apparatus of male palpus at apex barely furcate (Baehr and Baehr, 1987 Figures 1d, e; Baehr and Baehr, 1993a Figure 1) 3
Embolar apparatus of male palpus at apex deeply furcate (Figures 1-4, 7, 8, 11, 12) 4
3. Median apophysis of male palpus simply spoon-shaped, without angulate median, retrolateral and proximal margins; flagellum of embolus short (Baehr and Baehr, 1987 Figures 1d, e).....*australiensis* Baehr and Baehr
Median apophysis of male palpus complex, with angulate median (MM), retrolateral (RM) and proximal margins (PM) and with a basal ridge; flagellum of embolus elongate (Baehr and Baehr, 1993a Figure 1)
.....*mimbi* Baehr and Baehr
4. Bulbus of male palpus elongate and embolar apparatus narrow and elongate and stipes about as long as embolus and embolar apophysis rather straight (Figures 1, 2).....
.....*bifurcata* sp. nov.
- Bulbus of male palpus rather circular and embolar apparatus wider and shorter and stipes short, or stipes elongate but then embolar apophysis distinctly curved (Figures 3, 4, 7, 8, 11, 12)..... 5
5. Embolar apparatus of male palpus very deeply furcate and embolus only slightly shorter than embolar apophysis (Figures 11, 12).....
.....*tenuifurcata* sp. nov.
Embolar apparatus of male palpus less deeply furcate and embolus distinctly shorter than embolar apophysis (Figures 3, 4, 7, 8) 6
6. Stipes of embolar apparatus of male palpus short and wide, embolar apophysis straight, apex narrow, acute, suddenly incurved (Figures 3, 4). Spinnerets elongate, longer than abdomen*wellsweberae* sp. nov.
Stipes of embolar apparatus of male palpus longer and narrower, embolar apophysis curved, apex wide, spatulate, rounded at tip, evenly incurved (Figures 7, 8). Spinnerets shorter, distinctly shorter than abdomen
.....*loughbottoui* sp. nov.
7. Female epigyne with narrow, trapezoidal median scapus; median RS of vulva very large, situated close together (Baehr and Baehr, 1987 Figures 2d, e)
.....*australiensis* Baehr and Baehr
Female epigyne with wide, quadrate median scapus; median RS of vulva much smaller, widely separated (Figures 6, 10, 14; Baehr and Baehr, 1993a Figures 3, 4; Baehr and Baehr, 1995 Figures 1d, e) 8
8. Median scapus of female epigyne apically slightly convex, lateral plates more advanced than scapus; median RS of vulva short and compact, at apex conspicuously transverse (Figures 13, 14).....*tenuifurcata* sp. nov.
Median scapus of female epigyne apically straight or slightly concave, scapus at same level with lateral plates; median RS of vulva differently shaped, but when at apex conspicuously transverse, then elongate (Figures 5, 6, 9, 10; Baehr and Baehr, 1993a Figures 3, 4; Baehr and Baehr, 1995 Figures 1d, e) 9
9. Beginning of introductory duct on distal part of scapus, lateral RS narrow, coiled (Baehr and Baehr, 1993a Figure 4)
.....*mimbi* Baehr and Baehr
Beginning of introductory duct in middle of scapus or somewhat removed from distal part, lateral RS larger, not coiled (Figures 6, 10; Baehr and Baehr, 1995 Figure 1e)..... 10
10. Vulva with two elongate, rather rectangular

RS, introductory ducts medially with large loops rather situated close together (Baehr and Baehr, 1995 Figure 1e)
..... *mainae* Baehr and Baehr

Vulva with two shorter, circular or elliptical RS, introductory duct medially with smaller loops or loops widely separated (Figures 6, 10) 11

11. Median RS kidney-shaped, elongate, introductory ducts medially with large loops (Figure 10) *longbottomi* sp. nov.

Median RS circular, introductory ducts medially with small loops (Figure 6)
..... *wellswebberae* sp. nov.

Genus *Tamopsis* Baehr and Baehr

Tamopsis Baehr and Baehr, 1987: 355; Baehr and Baehr, 1988: 13; Baehr and Baehr, 1989: 310; Platnick 1989: 174; Baehr and Baehr, 1992: 62; Baehr and Baehr, 1993a: 352; Baehr and Baehr, 1993b: 75; Baehr and Baehr, 1995: 109.

Type species

Tama eucalypti Rainbow, 1900, by original designation.

Tamopsis queenslandica group

Tamopsis hirsti sp. nov.
Figures 15, 16, 27

Material Examined

Holotype

♂, Australia: South Australia: *Eucalyptus gillii* at night, Weetootla Well, 30°29'S, 139°14'E, Gammon Ranges Natl. Park, 9 May 1989, D. Hirst, *Tamopsis* cf. *raveni* ♂, Ident. by D. H./1993 (SAMA N1994253).

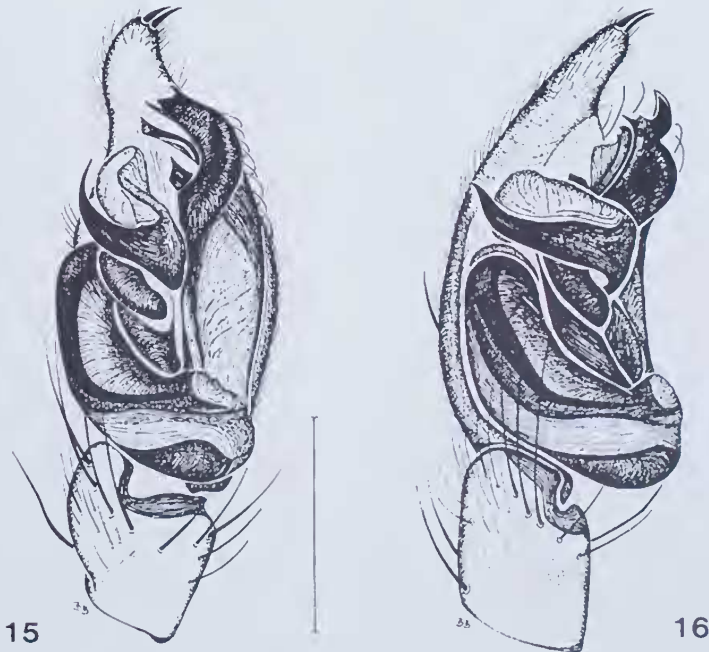
Diagnosis

Medium-sized, short legged species, further characterized by PLS shorter than abdomen, MTA narrow, deeply incised, LA near apex on rear side with conspicuous sharp bend, and with a deep incision at apex.

Description

Male holotype

Measurements: Length: 4.35 mm; cephalothorax length: 1.75 mm; width: 1.72 mm; abdomen length: 2.50 mm; width: 2.15 mm. Legs: I: 11.48 mm; II: 10.95 mm; III: 4.40 mm; IV: 10.66 mm. Ratio: I: 0.95: 0.38: 0.93. Ratio LB/LL: 0.38. PLS length: 2.30



Figures 15–16 *Tamopsis hirsti* sp. nov. 15, right male palpus, ventral view; 16, right male palpus, lateral view. Scale lines: = 0.5 mm.

mm; bS: 0.45 mm; tS: 1.85 mm. Length ratio PLS/abd: 0.92. Diameter of eyes: AME: 0.22 mm; ALE: 0.075 mm; PME: 0.20 mm; PLE: 0.20 mm. Eye ratio: AME/ALE 1: 0.34; AME/PME 1: 0.91; AME/PLE 1: 0.91.

Colour: Cephalothorax light yellow; border and radial stripes largely mottled with dark, eye area dark, clypeus dark, with two small reddish paramedian spots only, chelicerae largely dark. Sternum light yellow. Abdomen in anterior half with a dark median longitudinal stripe, laterally densely mottled, in parts even longitudinally striped with dark, posterior third with several light and dark transverse bars. Ventral side light. Legs and PLS yellow brown, legs distinctly annulate, ventral surface of femora longitudinally striped, PLS with several dark rings and narrow dark border at base.

Cephalothorax: About circular. Carapace with median post-foveal depression. Eye area depressed, clypeus barely visible from above, slightly > half as high as eye area. AME the largest, PME as large as PLE. Distance AME/AME 0.07 mm, c. 1/3 of diameter of AME, distance AME/ALE 0.09 mm, wider than diameter of ALE. Distance PME/PME 0.045 mm, slightly > than 1/4 of diameter of PME, distance PME/PLE 0.14 mm, c. as wide as 2/3 of diameter of PLE. Chelicerae c. 1.8 x as long as wide. Sternum pentagonal, with some hairs.

Abdomen: Moderately elongate, slightly longer than wide, rather triangular, wider than cephalothorax. Surface covered with short hairs, upper surface also rather densely covered with brown bristles, lateral and ventral surfaces covered with elongate, light hairs. Dorsally with five pairs of circular DMP. VMP in a narrow v-shaped arrangement. PLS slightly shorter than abdomen, tS rather elongate.

Legs: Comparatively short, III relatively elongate.

Palpus: MTA strongly contorted, oblique. Apex deeply incised, narrow, with a large membraneous area within. LA elongate, markedly contorted, channeled for reception of embolus, near apex on rear side with conspicuous sharp bend. Apex deeply incised (Figures 15, 16).

Female

Unknown.

Etymology

Named in honour of the collector, D. Hirst.

Distribution and Habits

Eastern inland South Australia (Figure 27), known only from type locality. Holotype collected at night on *Fucalypsus gillii*.

Relationships

T. hirsti is closely related to *T. reevesbyana* Baehr

and Baehr from southwestern Australia and southern South Australia and is distinguished only by minor differences in shape of MTA and LA.

Tamopsis facialis Baehr and Baehr

Figure 28

Tamopsis facialis Baehr and Baehr, 1993a: 365; Baehr and Baehr, 1995: 110.

Tamopsis triangularis Baehr and Baehr, 1993a: 370.
New synonymy.

New Material Examined

Australia: Western Australia: 1 ♀, East Victoria Park, Cardiff St., 31°59'S, 115°54'E, 16 Dec. 1995, J. M. Waldock, ex eucalypt in garden (WAM 96/182). South Australia: 1 ♂, 1 ♀, Mallee nr creek, Mt Farview, Paney Station, 32°34'S, 135°35'E, 8 Dec 1989, coll. & ident D. Hirst: *Tamopsis facialis* (SAMA N1994215-6); 1 ♂, Mt Farview, Paney Station, 32°34'S, 135°35'E, 8 Dec 1989, coll. & ident D. Hirst: *Tamopsis facialis* (SAMA N1994217); 1 ♀, Slopes of Scrubby Peak, 32°31'S, 135°19'E, 12 Dec 1989, coll. & ident D. Hirst: *Tamopsis facialis* (SAMA N1994218).

Remarks

T. facialis was described from two males collected in Western Australia, *T. triangularis* from one female from southern New South Wales. Males and females collected at the same locality in South Australia now demonstrate that both names refer to the same species that possesses very characteristic male palpus and female vulva. However, females of this species considerably differ from the males by much larger size and characteristically triangular shape of abdomen. This is likewise present in the newly recorded female from Perth (WAM 96/182) that is plainly associated with *T. facialis*. Both names are thus herewith synonymized and the valid name is *T. facialis*, as the description of this species was given several pages before that of *T. triangularis* and *T. facialis* was described from male specimens.

This species is now recorded from Western Australia south of Great Sandy Desert, through the southernmost part of South Australia including Kangaroo Island, and from southern New South Wales (Figure 28).

Tamopsis minor sp. nov.

Figures 17-20, 28

Material Examined

Holotype

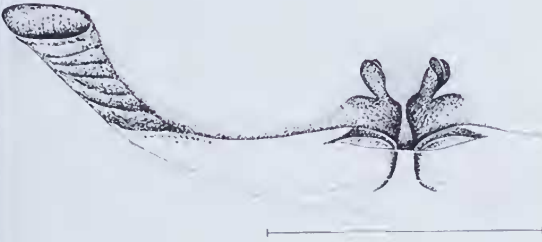
♂, Australia: Western Australia: Drysdale River



17



18



19



20

Figures 17–20 *Tamopsis minor* sp. nov. 17, right male palpus, ventral view; 18, right male palpus, lateral view; 19, epigyne, ventral view; 20, vulva, ventral view. Scale lines: = 0.5 mm.

Stn, 13 Dec. 1993, A. F. Longbottom (S. 1501) Muster "67 creek", off buggy (WAM 96/180).

Paratype

Australia: Western Australia: 1 ♀, Drysdale River Stn, 15°42'S 126°23'E, 17 June 1993, A. F. Longbottom (S. 1240) on diesel fuel tank (WAM 96/177).

Diagnosis

Rather small, moderately short legged species, further characterized by PLS as long as or longer than abdomen, MTA narrow, deeply incised, LA near apex on rear side with conspicuous sharp bend, and with a deep incision at apex. Further distinguished from relative *T. facialis* Baehr and Baehr by lesser size, circular rather than triangular shape of female abdomen, longer legs, irregularly shaped seminal duct, less bulbous base of LA, narrower and more deeply notched apex of LA,

anteriorly less curved lateral plate of female epigyne, larger and more conspicuously ridged plate above lateral slit.

Description

Male holotype

Measurements: Length: 3.25 mm; cephalothorax length: 1.45 mm; width: 1.45 mm; abdomen length: 1.92 mm; width: 1.60 mm. Legs: I: 9.40 mm; II: 9.75 mm; III: 3.85 mm; IV: 9.05 mm. Ratio: 1: 1.04: 0.41: 0.96. Ratio LB/LL: 0.33. PLS length: 1.85 mm; bS: 0.40 mm; tS: 1.45 mm. Length ratio PLS/abd: 0.96. Diameter of eyes: AME: 0.165 mm; ALE: 0.08 mm; PME: 0.14 mm; PLE: 0.15 mm. Eye ratio: AME/ALE 1: 0.48; AME/PME 1: 0.85; AME/PLE 1: 0.91.

Colour: Cephalothorax light yellow; border and radial stripes slightly mottled with dark, eye area barely dark, clypeus light, with narrow dark median stripe, chelicerae light. Sternum light yellow. Abdomen in anterior half with a dark

median longitudinal stripe, laterally densely mottled with dark and with some rather conspicuous light stripes, posterior third with several light and dark transverse bars. Ventral side light. Legs and PLS yellow brown, legs very lightly annulate; PLS almost completely light.

Cephalothorax: About circular. Carapace with median post-foveal depression. Eye area depressed, clypeus barely visible from above, slightly > half as high as eye area. AME the largest, PME slightly smaller than PLE. Distance AME/AME 0.06 mm, slightly > 1/3 of diameter of AME, distance AME/ALE 0.10 mm, wider than diameter of ALE. Distance PME/PME 0.055 mm, > than 1/3 of diameter of PME, distance PME/PLE 0.11 mm, c. as wide as 2/3 of diameter of PLE. Chelicerae c. 1.8 x as long as wide. Sternum pentagonal, with some hairs.

Abdomen: Fairly elongate, distinctly longer than wide, elliptical, wider than cephalothorax. Surface covered with short hairs, upper surface also rather densely covered with brown bristles, lateral and ventral surfaces covered with elongate, light hairs. Dorsally with five pairs of circular DMP. VMP in a narrow v-shaped arrangement. PLS slightly shorter than abdomen, tS rather elongate.

Legs: Comparatively short, though relatively longer than in males of *T. facialis* Baehr and Baehr, III relatively elongate, measurements see above.

Palpus: Seminal duct bordering the bulbus irregularly curved. MTA strongly contorted, deeply incised at apex, inner part of incision slender, outer part convex, laterally with sharp edge. LA elongate, also contorted, apex deeply incised, in front of apex markedly notched on both sides. Base laterally with a lamella, basal half conspicuously notched (Figures 17, 18).

Female paratype

Measurements: Length: 4.35 mm; cephalothorax length: 1.75 mm; width: 1.80 mm; abdomen length: 2.55 mm; width: 2.68 mm. Legs: I: 10.98 mm; II: 10.95 mm; III: 4.60 mm; IV: 10.48 mm. Ratio: I: 1: 0.42: 0.95. Ratio LB/IL: 0.40. PLS length: 2.85 mm; bS: 0.50 mm; tS: 2.35 mm. Length ratio PLS/abd: 1.12. Diameter of eyes: AME: 0.18 mm; ALE: 0.06 mm; PME: 0.175 mm; PLE: 0.18 mm. Eye ratio: AME/ALE 1: 0.33; AME/PME 1: 0.97; AME/PLE 1: 1.

Colour: Cephalothorax as in male, though more conspicuously mottled. Clypeus largely light without conspicuous pattern, chelicerae mostly light. Abdomen as in male, laterally of dark median stripe largely whitish, inconspicuously mottled. Legs distinctly annulate, PLS only faintly annulate.

Cephalothorax: Shape as in male. AME about as large as PME and PLE. Distance AME/AME 0.075 mm, < half of diameter of AME, distance AME/

ALE 0.14 mm, slightly < than diameter of AME. Distance PME/PME 0.06 mm, slightly > than 1/3 of diameter of PME, distance PME/PLE 0.15 mm, > 2/3 of diameter of PLE.

Abdomen: Short and wide, wider than long, rather circular, not markedly triangular, wider than cephalothorax. Structure as in male. PLS considerably longer than abdomen, tS elongate.

Legs: Rather short, though elongate compared with legs of *T. facialis* Baehr and Baehr, measurements see above.

Epygyne: Similar to *T. facialis*, with same characteristic lateral plates covered by several ridges, but plates even larger, less curved anteriorly and ridges more conspicuous (Figure 19).

Vulva: Similar to *T. facialis*, though smaller, RS smaller and medially even more adjacent (Figure 20).

Variation

Apart from sexual variation and some differences in colouration little variation noted.

Etymology

The name refers to the smaller size compared with the nearest relative *T. facialis*.

Distribution and Habits

Northern part of Kimberley Division, northwestern Australia (Figure 28), known only from type locality. Collecting circumstances very atypical.

Relationships

T. minor is very similar to its nearest relative *T. facialis* from the southern part of southwestern Australia and southern South Australia and is distinguished mainly by smaller size, longer legs and PLS, different shape of female abdomen, and minor differences in shape of MTA and LA.

In view of the structurally similar male palpus and female epygyne and vulva we somewhat hesitate to describe *T. minor* as a separate species. It is distinct from the southern *T. facialis*, but perhaps might better go by a subspecies of *T. facialis* than a distinct species. In view of the unsatisfactory knowledge about distribution and morphological variation of both taxa, however, we think it more appropriate not to introduce subspecific ranks at the present state of knowledge.

Tamopsis gibbosa Baehr and Baehr

Figure 27

Tamopsis gibbosa Baehr and Baehr, 1993a: 372.

New Material Examined

Australia: South Australia: 1 ♀, Middleback

Station, 32°57'S, 137°23'E, July 1983, coll. B. Guerin # 693, det. *T. reevesbyana* (SAMA N1994251).

Remarks

The female vulva of this species is very characteristic, although the newly recorded specimen lacks the hump in the middle of the abdomen present in the holotype. The new record considerably enlarges the recorded range into the Eyre Peninsula in southern South Australia (Figure 27). Apparently, *T. gibbosa* is another species distributed through the whole or at least through large parts of the southern semiarid belt crossing the Nullarbor Plain.

Tamopsis raveni Baehr and Baehr

Tamopsis raveni Baehr and Baehr, 1987: 373; Baehr and Baehr, 1988: 14.

New Material Examined

Australia: South Australia: 1 ♂, Windsor Gardens, Adelaide, 25 Dec. 1993, coll. & ident. D. Hirst: *T. raveni* (SAMA N1994245); 1 ♀, Windsor Gardens, Adelaide, on walnut tree-trunk, 1–16 Dec. 1990, coll. & ident. D. Hirst: *T. raveni* (SAMA N1994244); 1 ♀, Walkerville, Adelaide, 34°54'S, 138°36'E, Nov. 1992, coll. B. Guerin, *T. raveni* (SAMA N1994246); 1 ♀, Belair, on *Melaleuca*, 30 Jan. 1989, coll. L. N. Nicolson, ident. D. Hirst: *T. raveni* (SAMA N1994243).

Remarks

The new records corroborate the presence of *T. raveni* in temperate South Australia, although the species was originally described from southeast Queensland. Records from the large area between are thus far unknown.

Tamopsis reevesbyana Baehr and Baehr

Figure 29

Tamopsis reevesbyana Baehr and Baehr, 1987: 370.

Tamopsis distinguenda Baehr and Baehr, 1992: 66; Baehr and Baehr, 1993a: 365; Baehr and Baehr, 1995: 111. New synonymy.

New Material Examined

Australia: Western Australia: 1 ♂, Pannikin Plain Cave, N 49, Nullarbor, J. Lowry leg. 14/i/1966, cat III/108, *Tamopsis distinguenda* Baehr & Baehr, ♂, Det. M. S. Harvey, 1995 (WAM 93/2378); 1 ♂, Gelorup, Gelorup Rise, 33°23'S, 115°38'E, late Oct. 1994, A. F. Longbottom, K. F. Longbottom, drowned in swimming pool (WAM 96/183). **South Australia:** 1 ♂, 1 ♀, Dudley Cons. Park, Kangaroo Island, 11 Nov. 1987, coll. & ident. D. Hirst: *T. reevesbyana* (SAMA N1994247–8); 1 ♂, West Bay,

Kangaroo Island, 6 Nov. 1987, coll. & ident. D. Hirst: *T. reevesbyana* (SAMA N1994249); 1 ♂, Kelly Hill Caves camping area, Kangaroo Island, 9 Nov. 1987, coll. & ident. D. Hirst: *T. reevesbyana* (SAMA N1994250); 1 ♀, on shrub, edge of car park, Alligator Gorge, 32°45'S, 138°03'E, Mt. Remarkable Nat. Pk., 25 Jan. 1987, coll. & ident. D. Hirst: *T. reevesbyana*. Eggsac laid in container between 1–2 after capture (SAMA N1994252); 1 ♀, Baird Bay, 33°07'S 134°19'E, Feb. 1995, P. Payne (WAM 96/173).

Remarks

T. reevesbyana was so far known only from the female holotype collected on Reevesby Island off the coast of South Australia, whereas *T. distinguenda* was described from southwestern Australia where it was repeatedly recorded (Baehr and Baehr, 1992, 1993a, 1995). The two known females of the latter species clearly show the presence of a (smaller) dorsal RS, whereas in the single available female of *T. reevesbyana* the dorsal RS is apparently absent. This was the reason to distinguish the females of both species that until now had also different ranges. Now, several males and females are available from a limited area in South Australia, some of which were captured even at the same locality. The male palpus of these specimens is identical with that of *T. distinguenda*, whereas the female vulva is similar in shape to that of both *T. reevesbyana* and *T. distinguenda*. In some of the females a second (dorsal) RS is clearly visible, in some it is not. So we guess that the holotype of *T. reevesbyana* is a specimen in which the dorsal RS is less distinct than usual, and therefore we think that both names are synonymous and only one rather widespread species is involved (Figure 29).

Tamopsis nanutarrae group

Tamopsis transiens Baehr and Baehr

Figure 28

Tamopsis transiens Baehr and Baehr, 1992: 70.

New Material Examined

Australia: Northern Territory: 1 ♂, East of Tempe Downs. Sand dunes. 24°26'S, 132°44'E, 27 Mar. 1993, D. Hirst (SAMA N1994261).

Remarks

Until the record mentioned above, this species was known from the interior of southwestern Australia and from northwestern Victoria. The new record enlarges the range of this species to the north and corroborates that it is a southern inland species (Figure 28).

Tamopsis kimberleyana group

Newly erected group for *T. kimberleyana* sp. nov. (below) that is presumably next related to the *nanutarrae* group by virtue of absence of a scopula-like organ and roof-like hook on ventral border of MTA, and by the rather simply shaped LA. Apart from those primitive character states the group is characterized by LA even simpler than in the *nanutarrae* group but more complex than in the *arnhemensis* group, and by the conspicuous large hook-shaped process that arises within the membranous area of the MTA.

Tamopsis kimberleyana sp. nov.

Figures 21, 22, 29

Material Examined

Holotype

♂, Australia: Western Australia: Drysdale River Stn, House Paddock muster, 6 Jan. 1994, A. F. Longbottom (S. 1542) off buggy. (WAM 96/181).

Paratype

Australia: Western Australia: 1 ♂, Gibb River Rd, 25 km E of Gregory's Jump, 30 April 1993, coll. A. F. Longbottom, on trailer while camping (S. 1187) (WAM 96/184).

Diagnosis

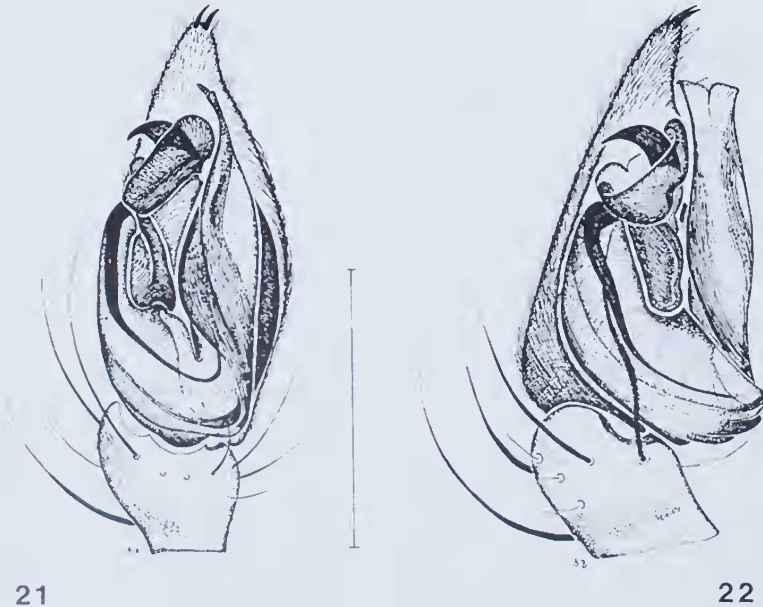
Small, moderately long-legged species, further characterized by PLS shorter than abdomen, MTA without scopula-like organ but with large hook within membranous area, and simply shaped LA without any deep incisions at apex.

Description

Male holotype

Measurements: Length: 3.1 mm; cephalothorax length: 1.32 mm; width: 1.25 mm; abdomen length: 1.68 mm; width: 1.32 mm. Legs: I: 12.04 mm; II: 11.16 mm; III: 3.67 mm; IV: 9.73 mm. Ratio: 1: 0.93: 0.30: 0.81. Ratio LB/LL: 0.26. PLS length: 1.4 mm; bS: 0.4 mm; tS: 1.0 mm. Length ratio PLS/abd: 0.83. Diameter of eyes: AME: 0.16 mm; ALE: 0.06 mm; PME: 0.125 mm; PLE: 0.125 mm. Eye ratio: AME/ALE 1: 0.38; AME/PME 1: 0.78; AME/PLE 1: 0.78.

Colour: Cephalothorax light yellow; border and radial stripes largely mottled with dark, eye area dark, clypeus yellow, in middle with broad dark stripe, chelicerae largely dark. Sternum light yellow. Abdomen in anterior half with a dark median longitudinal stripe, laterally rather feebly mottled with dark, posterior third with several light and dark transverse bars, general dorsal pattern of abdomen bistrate. Ventral side light.



Figures 21, 22 *Tamopsis kimberleyana* sp. nov. 21, right male palpus, ventral view; 22, right male palpus, lateral view. Scale lines = 0.5 mm.

Legs and PLS yellow brown, legs distinctly annulate; PLS with two conspicuous dark rings, base of PLS with narrow dark border.

Cephalothorax: About circular. Carapace with median post-foveal depression. Eye area markedly raised, clypeus visible from above, almost as high as eye area. AME by far the largest, PME as large as PLE. Distance AME/AME 0.09 mm, slightly > than 1/2 diameter of AME, distance AME/ALE 0.06 mm, about as wide as diameter of ALE. Distance PME/PME 0.05 mm, slightly > than 1/3 of diameter of PME, distance PME/PLE 0.08 mm, slightly < than 2/3 of diameter of PLE. Chelicerae c. 1.8 x as long as wide. Sternum pentagonal, with some hairs.

Abdomen: Fairly elongate, considerably longer than wide, wider than cephalothorax. Surface covered with short hairs, upper surface also rather densely covered with brown bristles, lateral and ventral surfaces covered with elongate, light hairs. Dorsally with five pairs of circular DMP. VMP in a narrow v-shaped arrangement. PLS considerably shorter than abdomen, tS moderately elongate.

Legs: Moderately elongate, measurements see above.

Palpus: MTA strongly contorted. Apex with a large membraneous area but without a scopula-like organ within. Ventral border without roof-like hook, but membraneous area with a strong, very conspicuous hook. LA elongate but little contorted. Apex simple, without any perceptible incisions (Figures 21, 22).

Male paratype

Measurements: Length: 3.45 mm; cephalothorax length: 1.48 mm; width: 1.32 mm; abdomen length: 1.88 mm; width: 1.55 mm. Legs: I: 11.78 mm; II: 11.24 mm; III: 3.61 mm; IV: 9.68 mm. Ratio: I: 0.95; 0.31: 0.82. Ratio LB/LL: 0.29. PLS length: 1.48 mm; bS: 0.40 mm; tS: 1.48 mm. Length ratio PLS/abd: 0.79. Diameter of eyes: AME: 0.17 mm; ALE: 0.06 mm; PME: 0.125 mm; PLE: 0.13 mm. Eye ratio: AME/ALE 1: 0.35; AME/PME 1: 0.74; AME/PLE 1: 0.76.

Variation

Apart from minor differences in size and in relative length of legs little variation noted.

Female

Unknown.

Etymology

The name refers to the range of the species, the Kimberley Division.

Distribution and Habits

Central Kimberley Division, northwestern

Australia (Figure 29). Habits unknown, because collecting circumstances highly untypical.

Relationships

T. kimberleyana is a systematically isolated species that has its nearest relatives presumably in the *nanutarrae* group.

Tamopsis circumvidens group

Tamopsis circumvidens Baehr and Baehr

Tamopsis circumvidens Baehr and Baehr, 1987: 378; Baehr and Baehr, 1992: 70; Baehr and Baehr, 1993a: 379.

New Material Examined

Australia: Western Australia: 1 ♂, 40 km N. of Johnston Lakes (S. of Coolgardie), 1 Jan. 1977, A.M. Douglas, M.J. Douglas (ABFC) (WAM 96/185).

Remarks

This is perhaps a mallee species that ranges from southern central Western Australia into northwestern Victoria. The new record is not far from the known localities in Western Australia.

Tamopsis tropica group

Tamopsis tropica Baehr and Baehr

Tamopsis tropica Baehr and Baehr, 1987: 379; Baehr and Baehr, 1992: 73; Baehr and Baehr, 1995: 112.

New Material Examined

Australia: Northern Territory: 2 ♂, 1 ♀, Litchfield Park-Aida Ck, 4 Sept. 1992, Wells & Webber (MNTD).

Remarks

The new records corroborate the presence of *T. tropica* in the northern part of the Northern Territory.

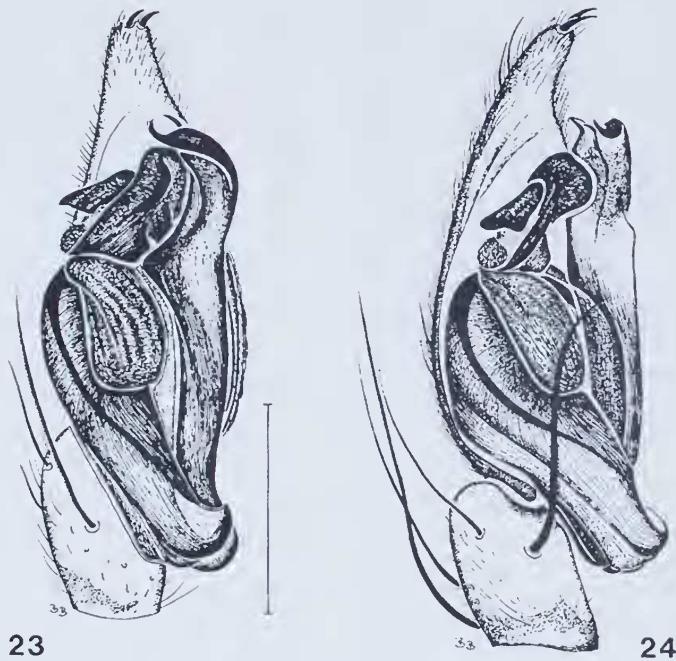
Tamopsis ediacarae Baehr and Baehr

Figures 23, 24, 29

Tamopsis ediacarae Baehr and Baehr, 1988: 15.

New Material Examined

Australia: South Australia: 3 ♂, 1 ♀, 1 immat., nr Sambot Waterhole, Arcoona Creek, Gammon Ranges Nat Pk, 30°27'S, 139°02'E, 4 May 1989, coll. & ident. D. Hirst 1993: *T. ediacarae* (SAMA N1994210-3, CBM); 1 ♂, between Arcoona Creek + Arcoona Bluff, Gammon Ranges Nat Pk, 30°26'S, 138°58'E, 3 May 1989, coll. & ident. D. Hirst 1993: *T. ediacarae* (SAMA N1994214).



Figures 23, 24 *Tamopsis ediacarac* Baehr and Baehr. 23, right male palpus, ventral view; 24, right male palpus, lateral view. Scale lines: = 0.5 mm.

Diagnosis

Medium-sized, moderately long-legged species, further characterized by PLS shorter than abdomen, MTA with membranous area and a scopula-like organ within, and LA with characteristic sharp, medially conspicuously angulate edge.

Description

Male (SAMA N1994210)

Measurements: Length: 4.40 mm; cephalothorax length: 1.72 mm; width: 1.75 mm; abdomen length: 2.45 mm; width: 1.92 mm. Legs: I: 23.24 mm; II: 22.02 mm; III: 5.98 mm; IV: 19.73 mm. Ratio: I: 0.95: 0.26: 0.85. Ratio I.B./II.L: 0.19. PLS length: 2.32 mm; bS: 0.48 mm; tS: 1.84 mm. Length ratio PLS/abd: 0.95. Diameter of eyes: AME: 0.195 mm; ALE: 0.08 mm; PME: 0.15 mm; PLE: 0.15 mm. Eye ratio: AME/ALE 1: 0.41; AME/PME 1: 0.77; AME/PLE 1: 0.77.

Colour: Cephalothorax light yellow; border and radial stripes mottled with dark, eye area dark, clypeus largely yellow, chelicerae at base narrowly dark. Sternum light yellow. Abdomen in anterior half with a dark median longitudinal stripe, laterally rather regularly mottled with dark, posterior half with several light and dark transverse bars. Ventral side light. Legs and PLS yellow brown, legs distinctly annulate; PLS with two conspicuous dark rings.

Cephalothorax: About circular. Carapace with median post-foveal depression. Eye area markedly raised, clypeus visible from above, almost as high as eye area. AME by far the largest, PME as large as PLE. Distance AME/AME 0.11 mm, slightly > than 1/2 diameter of AME, distance AME/ALE 0.06 mm, slightly < than diameter of ALE. Distance PME/PME 0.5 mm, c. 1/3 of diameter of PME, distance PME/PLE 0.11 mm, slightly > 2/3 of diameter of PLE. Chelicerae c. 1.8 x as long as wide. Sternum pentagonal, with some hairs.

Abdomen: Moderately elongate, slightly longer than wide, wider than cephalothorax. Surface covered with short hairs, upper surface also rather densely covered with brown bristles, lateral and ventral surfaces covered with elongate, light hairs. Dorsally with five pairs of circular DMP. VMP in a narrow v-shaped arrangement. PLS slightly shorter than abdomen, tS rather elongate.

Legs: Very elongate, measurements see above.

Palpus: MTA strongly contorted. Apex with a large membranous area and a scopula-like organ within. Ventral border with strong, elongate roof-like hook. Lateral rim elongate, projecting beyond the hook. LA elongate and contorted, with very sharp, medially characteristically triangular edge. Apex with one fairly deep u-shaped incision (Figures 23, 24).

Variation

Apart from usual sexual variation and some differences in body size little variation noted.

Remarks

This species was known from a single female only. The new records include some males collected together with a female which enables us to describe the unknown male and to distinguish it from related species. Therefore, we include a revised diagnosis and the full description of the male.

The new records included, this species is now known from a restricted area in eastern inland South Australia (Figure 29). The species is closely related to *T. petricola* Baehr and Baehr from southern inland Queensland, but the male palpus differs in the sharply angulate median edge of LA and the deeply incised apex of LA, and the female vulva differs by the characteristic basal coiling of the intraductory ducts.

Tamopsis gracilis Baehr and Baehr

Figure 29

Tamopsis gracilis Baehr and Baehr, 1993a: 379.

New Material Examined

Australia: Western Australia: 1 ♂, Mt Elvire Stn site ME 8, dry pitfall traps 29°26'S, 119°34'E, 13–17 Sept. 1994, coll. A. Burbridge et al. (WAM 96/196).

Remarks

This small species was known so far only from the Hamersley Ranges. The new record considerably enlarges the recorded range to the south demonstrating that this is perhaps an Western Australian inland species (Figure 29). The specimen is very small (c. 2.8 mm long), extremely long-legged like the holotype, but differing from the holotype it is fully coloured and has a contrastingly coloured abdomen with conspicuous black median stripe and lateral margins, whereas the white colour between is arranged into two more or less regular longitudinal stripes.

Tamopsis leichhardtiana Baehr and Baehr

Figure 28

Tamopsis leichhardtiana Baehr and Baehr, 1987: 382; Baehr and Baehr, 1993a: 379.

New Material Examined

Australia: Northern Territory: 1 ♀, Darwin, Stuart Park Vine Forest, April 1993, Webber (MNTD); 1 ♀, Katherine Gorge NP, Edith Falls, sweeping grass, 6 Dec. 1980, M. B. Malipatil & I. Archibald (MNTD).

Remarks

The new records fill the apparent distribution gap between northwestern Queensland and northern Western Australia. This species seems to range through the entire tropical belt of northern Australia (Figure 28).

In colour pattern both specimens resemble the one mentioned in Baehr and Baehr (1993a) from Western Australia.

Tamopsis mallee Baehr and Baehr

Figure 29

Tamopsis mallee Baehr and Baehr, 1989: 316.

New Material Examined

Australia: South Australia: 1 ♂, 1 immat. ♂, along dog fence, SW corner of Yumbarra Cons Park, 31°43'S, 133°25'E, 27 Sept. 1988, D. Hirst (SAMA N1994235).

Remarks

This species was recorded only from the type locality in central southern Western Australia. The new record enlarges the known range of this species into the southwestern part of South Australia (Figure 29). The name of this species already indicates that it is apparently a mallee inhabiting species, like several other species that are widely distributed through the semiarid mallee belt of southern Australia from southwestern Australia into western Victoria or even into southern or inland New South Wales.

Tamopsis pseudocircumvidens Baehr and Baehr

Figure 27

Tamopsis pseudocircumvidens Baehr and Baehr, 1987: 381.

Tamopsis marri Baehr and Baehr, 1989: 312; Baehr and Baehr, 1992: 75; Baehr and Baehr, 1993a: 382. **New synonymy.**

New Material Examined

Australia: Northern Territory: 1 ♂, 1 ♀, Harts Range (Zircon Field), 23°06'S, 134°55'E, 18 March 1993, A. F. Longbottom (S.1156) on mulga tree (WAM 96/174–75). **South Australia:** 1 ♀, Mambray Creek, 32°50'S, 137°58'E, 4–5 Oct 1988, coll. & ident. D. Hirst/1993: *Tamopsis pseudocircumvidens* (SAMA N1994236); 1 ♂, 3 ♀, Scrubby peak, 32°31'S, 135°19'E, 11 Dec 1989, coll. & ident. D. Hirst: *Tamopsis pseudocircumvidens* (SAMA N1994239–42); 2 ♀, 3 km S Mt. Sturt, 32°35'S, 135°24'E, 13 Dec 1989, coll. & ident. D. Hirst: *Tamopsis pseudocircumvidens* (SAMA N1994237–8).

Remarks

Tamopsis pseudocircumvidens was so far known only from the female holotype collected in southwestern Australia. In the description of *T. marri* (Baehr and Baehr, 1989) the decision whether it is conspecific with *T. pseudocircumvidens*, or not, was postponed until males would be known. Now, we have samples including males and females from South Australia, the male palpus of which is similar to that of *T. marri*, whereas the female vulva is alike that of *T. pseudocircumvidens*. Hence, we now feel sure that both names should be synonymized. The species is now recorded from southern New South Wales, southern central South Australia, southern Northern Territory, and southern Western Australia (Figure 27).

Tamopsis warialdae sp. nov.

Figures 25, 26, 28

Material Examined

Holotype

♀, Australia: New South Wales: 2 km W. Warialda, 30 Apr. 1988, coll. & ident. D. Hirst: *Tamopsis* ? *fickerti* (SAMA N1994221).

Diagnosis

Medium-sized, moderately long-legged species, further characterized by PLS shorter than abdomen, epigyne with elongate lateral RS and not circular apex of median RS.

Description

Female holotype

Measurements: Length: 3.30 mm; cephalothorax length: 1.55 mm; width: 1.48 mm; abdomen length: 1.68 mm; width: 1.80 mm. Legs: I: 11.34 mm; II: 11.44 mm; III: 4.15 mm; IV: 10.88 mm. Ratio: 1: 1.01: 0.37: 0.96. Ratio LB/LL: 0.29. PLS length: 1.50

mm; bS: 0.42 mm; tS: 1.08 mm. Length ratio PLS/abd: 0.89. Diameter of eyes: AME: 0.15 mm; ALE: 0.065 mm; PME: 0.15 mm; PLE: 0.15 mm. Eye ratio: AME/ALE 1: 0.43; AME/PME 1: 1; AME/PLE 1: 1.

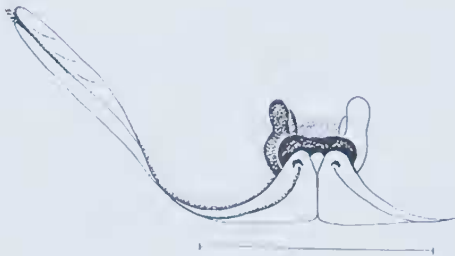
Colour: Cephalothorax light yellow; border and radial stripes largely mottled with dark, eye area dark though laterally of eyes light, clypeus light but laterally dark and with a dark median stripe, chelicerae largely dark. Sternum light yellow. Abdomen in anterior half with a dark median longitudinal stripe, laterally densely mottled with dark, posterior third with several light and dark transverse bars. Ventral side light. Legs and PLS yellow brown, legs conspicuously annulate; PLS with two dark rings, base of PLS laterally with narrow dark border.

Cephalothorax: About circular. Carapace with median post-foveal depression. Eye area strongly raised, clypeus visible from above, c. as high as eye area. AME as large as PME and PLE. Distance AME/AME 0.105 mm, c. 2/3 of diameter of AME, distance AME/ALE 0.06 mm, slightly < than diameter of ALE. Distance PME/PME 0.045 mm, slightly < than 1/3 of diameter of PME, distance PME/PLE 0.11 mm, c. as wide as 2/3 of diameter of PLE. Chelicerae c. 1.8 x as long as wide. Sternum pentagonal, with some hairs.

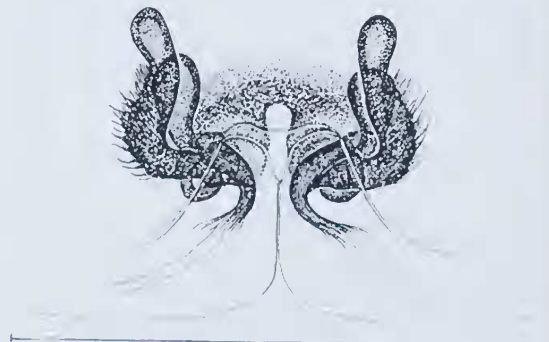
Abdomen: Short and wide, wider than long, rather triangular, wider than cephalothorax. Surface covered with short hairs, upper surface also rather densely covered with brown bristles, lateral and ventral surfaces covered with elongate, light hairs. Dorsally with five pairs of circular DMP. VMP in a narrow v-shaped arrangement. PLS shorter than abdomen, tS rather short.

Legs: Moderately elongate, measurements see above.

Epigyne: Laterally with slit-shaped pocket, medially between RS with an inconspicuous sclerotized bar (Figure 25).

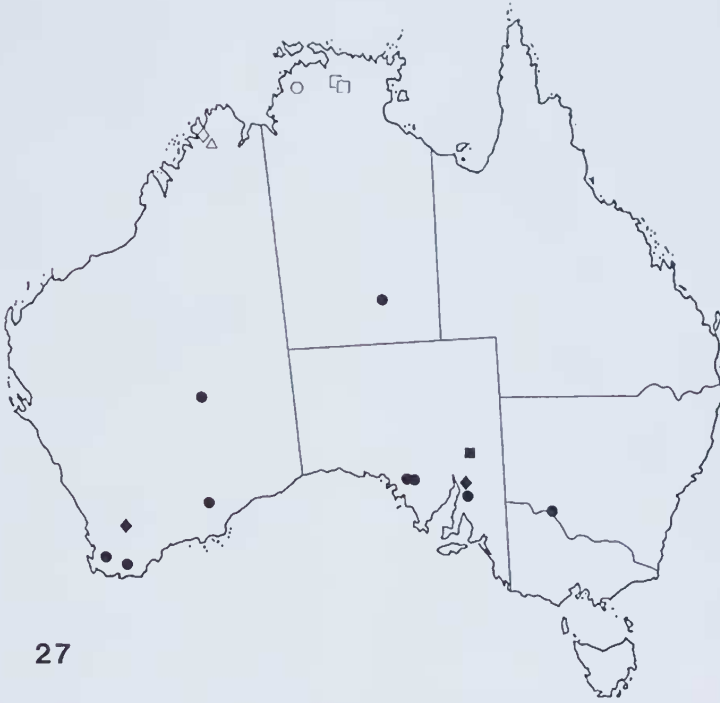


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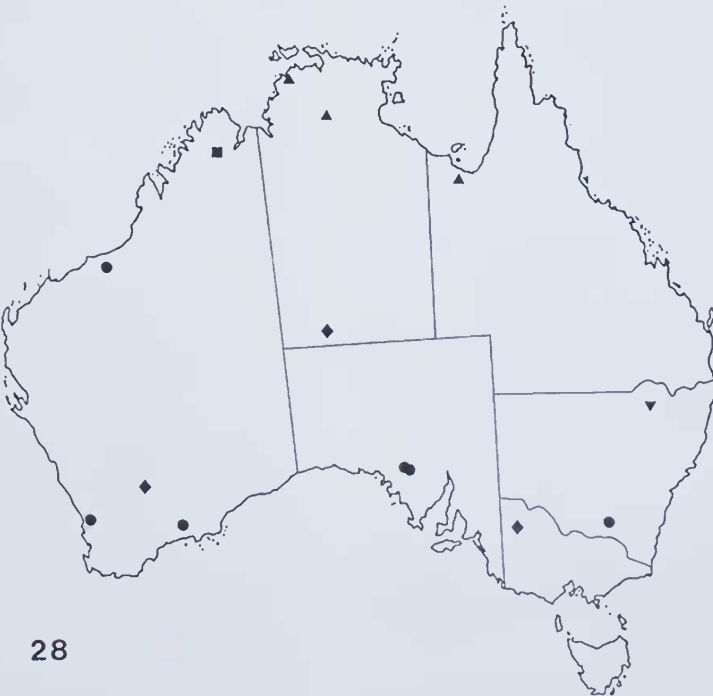
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Figures 25, 26 *Tamopsis warialdae* sp. nov. 25, epigyne, ventral view; 26, vulva, ventral view. Scale lines: = 0.5 mm.



27

Figure 27 Distribution of *Hersilia bifurcata* sp. nov.: ○; *H. longbottomi* sp. nov.: ◇; *H. tenuifurcata* sp. nov.: Δ; *H. wellsweberae* sp. nov.: □; *Tamopsis lirsti* sp. nov.: ■; *T. gibbosa* Baehr and Baehr: ◆; *T. pseudocircumvidens* Baehr and Baehr: ●.



28

Figure 28 Distribution of *Tamopsis facialis* Baehr and Baehr: ●; *T. minor* sp. nov.: ■; *T. transiens* Baehr and Baehr: ◆; *T. leichardtiana* Baehr and Baehr: ▲; *T. warialdae* sp. nov.: ▼.

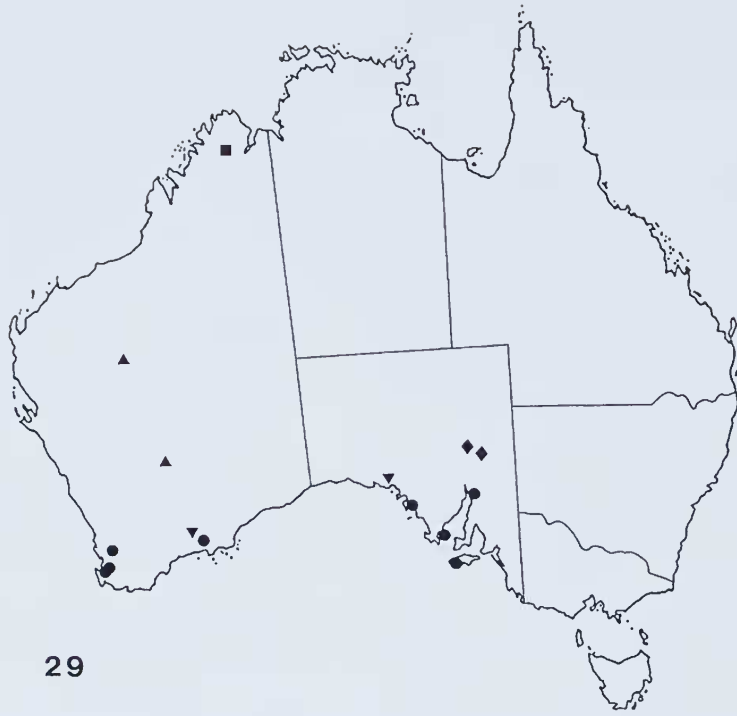


Figure 29 Distribution of *Tamopsis reevesbyana* Baehr and Baehr: ●; *T. kimberleyana* sp. nov.: ■; *T. ediacarae* Baehr and Baehr: ◆; *T. gracilis* Baehr and Baehr: ▲; *T. mallee* Baehr and Baehr: ▼.

Vulva: With two RS, the lateral RS longer than the median RS, both rather elongate. Basal bulbous and basal two thirds of lateral RS glandular. One introductory duct present that ends medially and backwards (Figure 26).

Male

Unknown.

Etymology

The name refers to the type locality.

Distribution and Habits

Northeastern New South Wales, west of Great Dividing Range (Figure 28), known only from the type locality. Habits and collecting circumstances unknown.

Relationships

According to shape of epigyne and vulva, *T. variatulae* is next related to *T. ediacarae*, *T. pseudocircumvidens*, and *T. jongi*, but is distinguished from all of these by the longer lateral RS and the less circular apex of the median RS.

Identification

For identification of the new species, of the newly described, hitherto unknown sexes of known

species, and of those species that have changed their taxonomic status, the key to the Australian species of *Tamopsis* in the fourth supplement (Baehr and Baehr, 1993a) and the supplementary parts of this key in Baehr & Baehr (1995) should be altered as follows:

- 13. MTA with wide incision. LA sinuate (Baehr and Baehr, 1987 Figure 21). Southeastern Queensland, eastern New South Wales
 *queenslandica* Baehr and Baehr
- MTA with narrow incision. LA barely sinuate (Baehr and Baehr, 1992 Figures 4–6; Figures 15, 16). Southwestern Australia, southern half of South Australia 13a
- 13a. LA near apex without sharp bend, apex not deeply incised (Baehr and Baehr, 1992 Figures 4–6). Southwestern Australia, southernmost South Australia
 *reevesbyana* Baehr and Baehr
- LA near apex with sharp bend, apex deeply incised (Figures 15, 16). Eastern central South Australia *hirsti* sp. nov.
- 15. LA at apex not incised (Baehr and Baehr, 1987 Figure 17). Central Queensland
 *centralis* Baehr and Baehr

- La at apex incised (Baehr and Baehr, 1993 Figures 7, 8; Figures 17, 18). Western Australia, southern part of South Australia, southern New South Wales 15a
- 15a. Face with conspicuous white spots. PLS markedly shorter than abdomen. Seminal duct in m palpus regularly shaped, base of LA bulbous, apex of LA wider and less deeply notched (Baehr and Baehr, 1993 Figures 7, 8). Western Australia south of Pilbara region, southern part of South Australia, southern New South Wales
..... *facialis* Baehr and Baehr
- Face without or with less conspicuous white spots. PLS about as long as abdomen. Seminal duct in m palpus irregularly curved, base of LA less bulbous, apex of LA narrower and more deeply notched (Figures 17, 18). Kimberley Division, northwestern Australia *minor* sp. nov.
-
17. Apex of embolus hidden in LA. Apex of MTA with a peculiar projecting process within, without a hooked process on lateral rim (Baehr and Baehr, 1989 Figures 1, 2; Baehr and Baehr, 1992 Figures 9–11; Figures 21, 22) 18
- Apex of embolus freely projecting beyond MTA. Apex of MTA without a projecting process within, but with a hooked process on lateral rim (Baehr and Baehr, 1987 Figures 27, 29) 19
18. MTA with large hook-shaped process within membraneous area (Figures 21, 22). Kimberley Division, northwestern Australia *kimberleyana* sp. nov.
- MTA without such large hook-shaped process within membraneous area (Baehr and Baehr, 1989 Figures 1, 2; Baehr and Baehr, 1992 Figures 9–11). Distribution different 18a
- 18a. Apical process of MTA shorter. Lateral part of apex of LA not widened nor incised (Baehr and Baehr, 1989 Figures 1, 2). Northwestern Australia south of Great Sandy Desert
..... *nanutarrae* Baehr and Baehr
- Apical process of MTA longer. Lateral part of apex of LA distinctly widened and incised (Baehr and Baehr, 1992 Figures 9–11). Southwestern Australia, southern central Australia, northwestern Victoria
..... *transiens* Baehr and Baehr
-
27. LA with sharp edge that is conspicuously angulate in middle (Figures 23, 24). Eastern central South Australia
..... *ediacarae* Baehr and Baehr
- LA without or with sharp edge, but in latter case edge not conspicuously angulate in middle (Baehr and Baehr, 1987 Figure 41; Baehr and Baehr, 1989 Figures 3, 4; Baehr and Baehr, 1995 Figures 4, 5) 27a
- 27a. LA with a deep median and a narrow lateral incision (Baehr and Baehr, 1987 Figure 41e). Central western Australia south of Great Sandy Desert *occidentalis* Baehr and Baehr
- LA without or with less deep median incision (Baehr and Baehr, 1989 Figure 4; Baehr and Baehr, 1995 Figures 4, 5) 27aa
- 27aa. LA without median incision, lateral incision very small (Baehr and Baehr, 1995 Figure 5b); apex of MTA very elongate, strongly hook-like process also very elongate, dorsally with rims, lateral rim of apex high and elongate, projecting beyond the hook-like process. Southeastern inland Queensland *petricola* Baehr and Baehr
- LA with less deep median incision, lateral incision deep (Baehr and Baehr, 1989 Figure 3; Baehr and Baehr, 1995 Figure 4b, arrow) ..
..... 27b
- 27b. Lateral incision of LA nearly circular, both processes rounded (Baehr and Baehr, 1989 Figure 3); lateral rim high, lamelliform, but posteriorly not so high as the hook. Southwestern Australia, southern Northern Territory, central South Australia, southwestern New South Wales
..... *pseudocircumvidens* Baehr and Baehr
- Lateral incision of LA u-shaped, with a rounded and a sharp process (Baehr and Baehr, 1995 Figure 4b, arrow); lateral rim of MTA high, lamelliform, posteriorly as high as the hook (Baehr and Baehr, 1995 Figure 4b). Central Western Australia, Gibson Desert *jongi* Baehr and Baehr
-
35. cancel 35, continue at 36
-
39. Dorsal RS well divided, as long as ventral RS, or longer (Baehr and Baehr, 1987 Figure 22; Baehr and Baehr, 1995 Figures 11, 12). Southeastern Queensland, eastern New South Wales, central Northern Territory ... 40
- Dorsal RS indistinctly divided, about half as long as ventral RS (Baehr and Baehr, 1987 Figure 18; Baehr and Baehr, 1992 Figures 7, 8). Southwestern Australia, southern South Australia *reevesbyana* Baehr and Baehr
-
51. Epigyne with large plate bearing conspicuous

- ridges medially of pocket (Baehr and Baehr, 1993 Figures 17, 18; Figures 19, 20). Western Australia, southern part of South Australia, southern New South Wales 51a
- Epigyne without such plate (Baehr and Baehr, 1987 Figure 26). Eastern New South Wales ...
..... *brevipes* Baehr and Baehr
- 51a. Larger species, length >5.5 mm. Abdomen conspicuously triangular. PLS considerably shorter than abdomen. Lateral parts of epigyne more curved anteriorly (Baehr and Baehr, 1993 Figures 17, 18). Western Australia south of Pilbara region, southern part of South Australia, southern New South Wales *facialis* Baehr and Baehr
- Smaller species, length <4.5 mm. Abdomen rather circular. PLS as long as or longer than abdomen. Lateral parts of epigyne less curved anteriorly (Figures 19, 20). Kimberley Division, northwestern Australia *minor* sp. nov.
-
54. Apical section of inner RS conspicuously circular, with narrow duct (Baehr and Baehr, 1987 Figures 34–36; Baehr and Baehr, 1988 Figures 2, 3; Baehr and Baehr, 1989 Figures 5, 6; Baehr and Baehr, 1993a Figures 23, 24; Baehr and Baehr, 1995 Figure 4) 55
- Apical section of inner RS not conspicuously circular, not separated by a narrow duct (Baehr and Baehr, 1987 Figures 32, 38, 40, 42, 44; Figure 26) 61
55. Vulva very wide and with a broad, sclerotized bridge. Lateral RS nearly as long as median RS (Baehr and Baehr, 1987 Figure 34; Baehr and Baehr, 1988 Figure 3; Baehr and Baehr, 1989 Figures 5, 6) 56
- Vulva narrower, with a narrow sclerotized bridge. Lateral RS considerably smaller than median RS (Baehr and Baehr, 1987 Figures 35, 36; Baehr and Baehr, 1988 Figure 2; Baehr and Baehr, 1995 Figures 23, 24) 57
56. Bridge of epigyne located rather posteriorly between RS (Baehr and Baehr, 1987 Figure 34; Baehr and Baehr, 1989 Figures 5, 6). Southwestern Australia, central South Australia, southern Northern Territory, southwestern New South Wales
..... *pseudocircumvidens* Baehr and Baehr
- Bridge of epigyne located anteriorly at apex of RS (Baehr and Baehr, 1988 Figure 3). Eastern central South Australia
..... *ediucaruae* Baehr and Baehr
57. = 58 etc.
-
61. Small or medium sized species, length < 4 mm
- (Baehr and Baehr, 1987 Figure 4; Figure 26) ..
..... 61a
- Large species, length > 5 mm (Baehr and Baehr, 1987 Figures 38, 40, 42, 44) 62
- 61a. AME much larger than PME and PLE. Lateral RS shorter than median RS (Baehr and Baehr, 1987 Figure 4). Northern Queensland, northern part of Northern Territory
..... *tropica* Baehr and Baehr
- AME not larger than PME and PLE. Lateral RS considerably longer than median RS (Figure 26). Northeastern New South Wales
..... *warialdae* sp. nov.

DISCUSSION

Biology

Even after several years of intensive collecting work, still rather little is known about the biology of the Australian Hersiliidae. Although a number of observations on collecting circumstances have been reported, most of these seems more or less atypical. And almost no new observations have been recorded about hunting and prey, and mating and propagation. In spite of the rather large numbers of additionally captured specimens, we think that many of these were collected more or less accidentally and in atypical situations. So, the hersiliids examined for the present contribution were captured: "on building", "on Euc. with loose bark", "trunks of banksia", "sand dune, along dog fence", "on Mulga Tree", "on white eucalypt trunk", "on fuel tank", "on white-barked river gum", "on river gum", "on white bark eucalypt", "on rocks", "at M.V. light", at "*Eucalyptus gillii* at night", "ex eucalypt in garden", on "mallee nr creek", "off buggy", "on diesel fuel tank", "on walnut tree-trunk", "on *Melaleuca*", "drowned in swimming pool", "on shrub", at "edge of car park", "on trailer while camping", in "dry pitfall traps", "sweeping grass", and "along dog fence". Of these records, rather few seem to represent observations of typical habits, but most are rather atypical or even highly surprising. However, as already suspected in the discussion of our fourth supplement (Baehr and Baehr, 1993a), sampling records of the high-eyed species (e.g. for *T. perthensis*, *T. occidentalis*, *T. fickerti*, *T. fitzroyensis*) commonly refer to their occurrence on eucalypt bark. These observations well agree with our own experience and generally seem to be more reasonable than many of the records for the low-eyed species, some of which are rather strange and probably do not give a real picture of the true occurrence.

Distribution

The discovery of as many as four new species of the genus *Hersilia* in Australia is surprising, the more, as all species belong to a very distinctive species-group and are closely related. According to the highly evolved structure of the embolar apparatus, this group seems to be a highly apomorphic one that is more derived in the characters of the male palpus than any species known from New Guinea. So, it may be a genuine Australian group, the origin of which is still obscure.

All new species are recorded from far Northern Territory or from the Kimberley Division in far northwestern Australia. Surprisingly enough, thus far no *Hersilia* species was recorded from northern Queensland. It is yet uncertain whether this apparent absence is due to inadequate sampling in northern Queensland, whether it does reflect the real absence of species of the genus *Hersilia* in that part of tropical Australia. Anyway, at the present state of knowledge, the genus *Hersilia* seems to be a completely tropical element in the Australian hersiliid fauna that may be restricted to far northern and northwestern Australia.

With respect to the genus *Tamopsis*, the common sampling of males and females of several species enables us to settle certain taxonomic and chorological problems. The discovery of a species of an additional species-group (*kimberleyana*-group) demonstrates that the systematic diversity of Hersiliidae in Australia is by no means fully recorded.

In many species, range extensions are recorded, and in most of these, the recorded ranges were enlarged to cover the semiarid belt across southern Australia, or range extensions in northeastern Australia or across the arid centre were established.

In particular the distribution pattern across semiarid southern Australia seems to be very common, and species showing this pattern commonly seem to inhabit the mallee belt and actually live on mallee eucalypts. Probably, further sampling will demonstrate that several species have wider ranges than expected which means that overlapping of ranges of different species will be more commonly recorded in future. Even so, the number of still undiscovered species does not seem to be dropping significantly, and the question becomes increasingly important, how so many sympatric or even syntopic species apparently having a rather similar way of life could manage to live together. We suspect that habits and way of life in general might be more different than we imagined thus far. Hence, in future, even more attention should be paid to sampling of

information about ecological and ethological features.

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Checklist of Australian Hersiliids

For the benefit of the user a checklist of all Australian hersiliid species and of the species groups of the genus *Tamopsis* is added that includes information about the presently known ranges.

Genus *Hersilia*

<i>australiensis</i> Baehr & Baehr, 1987	n.NT
<i>bifurcata</i> sp. nov.	n.NT
<i>longbottomi</i> sp. nov.	n.WA
<i>mainae</i> Baehr & Baehr, 1995	n.WA
<i>nimbi</i> Baehr & Baehr, 1993	n.WA
<i>tennifurcata</i> sp. nov.	n.WA
<i>wellswebberae</i> sp. nov.	n.NT

Genus *Tamopsis*

platycephala group

<i>amplitorax</i> Baehr & Baehr, 1987	s.WA
<i>depressa</i> Baehr & Baehr, 1992	nc.NT, cw.WA
<i>platycephala</i> Baehr & Baehr, 1987	se.QLD

brachycanda group

<i>brachycanda</i> Baehr & Baehr, 1987	e.QLD, e.NSW
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tweedensis group

<i>tweedensis</i> Baehr & Baehr, 1987	ne.NSW
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encalypti group

<i>brisbauensis</i> Baehr & Baehr, 1987	e.NSW, e.QLD
<i>encalypti</i> (Rainbow, 1900)	SA, VIC, ACT, e.NSW, e.QLD
<i>riverinae</i> Baehr & Baehr, 1993	s.NSW

daviesae group

<i>daviesae</i> Baehr & Baehr, 1987	ne.QLD
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queenlandica group

<i>brevipes</i> Baehr & Baehr, 1987	e.NSW
<i>centralis</i> Baehr & Baehr, 1987	c.QLD
<i>cooloolensis</i> Baehr & Baehr, 1987	se.QLD
<i>darlingtoniana</i> Baehr & Baehr, 1987	sw.WA
<i>facialis</i> Baehr & Baehr, 1993	s.NSW, s.SA, cw.WA
<i>= triangularis</i> Baehr & Baehr, 1993	
<i>gibbosa</i> Baehr & Baehr, 1993	sw.SA, sw.WA
<i>grayi</i> Baehr & Baehr, 1987	e.NSW
<i>harveyi</i> Baehr & Baehr, 1993	c.NT
<i>hirsti</i> sp. nov.	ec.SA

<i>kochii</i> Baehr & Baehr, 1987	c.NSW, se.WA
<i>mainae</i> Baehr & Baehr, 1993	sw.WA
<i>minor</i> sp. nov.	n.WA
<i>piankai</i> Baehr & Baehr, 1993	sc.WA
<i>queenslandica</i> Baehr & Baehr, 1987	c.QLD, c.NSW, c.WA
<i>raveni</i> Baehr & Baehr, 1987	se.QLD, s.SA
<i>reevesbyana</i> Baehr & Baehr, 1987	s.SA, sw.WA
<i>= distinguenda</i> Baehr & Baehr, 1992	
<i>weiri</i> Baehr & Baehr, 1995	n.WA
<i>arnhemensis</i> group	
<i>arnhemensis</i> Baehr & Baehr, 1987	n.QLD, n.NT
<i>circumvidens</i> group	
<i>circumvidens</i> Baehr & Baehr, 1987	nw.VIC, s.WA
<i>nanutarrae</i> group	
<i>nanutarrae</i> Baehr & Baehr, 1989	cw.WA
<i>transiens</i> Baehr & Baehr, 1992	nw.VIC, sw.NT, cs.WA
<i>kimberleyana</i> group	
<i>kimberleyana</i> sp. nov.	n.WA
<i>tropica</i> group	
<i>ediacarae</i> Baehr & Baehr, 1988	ec.SA
<i>fickerti</i> (L. Koch, 1876)	s.SA, e.VIC, NSW, se.QLD
<i>fitzroyensis</i> Baehr & Baehr, 1987	n.QLD, n.WA
<i>forrestae</i> Baehr & Baehr, 1988	n.QLD
<i>gracilis</i> Baehr & Baehr, 1993	cw.WA
<i>jongi</i> Baehr & Baehr, 1995	c.WA
<i>leichhardtiana</i> Baehr & Baehr, 1987	nc.QLD, n.NT, cw.WA
<i>longbottomi</i> Baehr & Baehr, 1993	n.NT
<i>mallee</i> Baehr & Baehr, 1989	sw.SA, sc.WA
<i>occidentalis</i> Baehr & Baehr, 1987	cw.WA
<i>perthensis</i> Baehr & Baehr, 1987	s.WA
<i>petricola</i> Baehr & Baehr, 1995	cs.QLD
<i>pseudocircumvidens</i> Baehr & Baehr, 1987	s.NSW, ec.SA, s.WA, s.NT
<i>= marri</i> Baehr & Baehr, 1989	
<i>rossi</i> Baehr & Baehr, 1987	s.WA
<i>trionyx</i> Baehr & Baehr, 1987	s.QLD
<i>tropica</i> Baehr & Baehr, 1987	n.QLD, n.NT
<i>varialdae</i> sp. nov.	ne.NSW

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