

Further studies on the Australian Heteropodidae (Araneae): a new species of *Pediana* Simon, and description of the male *Zachria flavicoma* L. Koch

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Abstract – A new species of *Pediana* Simon is described from the Northern Territory and the distribution of *P. occidentalis* Hogg is discussed. A revised key is given for females. The male of *Zachria flavicoma* L. Koch from Western Australia is described for the first time.

INTRODUCTION

Hirst (1989b) revised the genus *Pediana* Simon, 1880 with the redescription of four species and later (1991) revised the genus *Zachria* L. Koch, 1875 with the redescription of the females of *Z. oblonga* and *Z. flavicoma*. Males of *Zachria* were unknown apart from the description and illustration of a male specimen of *Z. oblonga*, by L. Koch (1876), the whereabouts of which is unknown. This paper furthers the work on those genera describing material received since.

Leg indices are leg length excluding coxa and trochanter divided by length of carapace. Other materials and methods are given in Hirst (1989a, b, 1991). Specimens described are deposited in the Australian National Insect Collection or the Western Australian Museum.

ABBREVIATIONS

ANIC Australian National Insect Collection, Canberra

SAMA South Australian Museum, Adelaide

WAM Western Australian Museum, Perth

L or l length

W width

Other abbreviations used in descriptions are standard for the Araneae.

SYSTEMATICS

Genus *Pediana* Simon

Revised key to females

1. Anterior tibiae usually with 1 dorsal spine and 2 ventral spine pairs. Insemination ducts lightly sclerotised with 2–4 1/2 coils; spermathecal sacs present 2
Anterior tibiae usually with 2 dorsal spines and 3 ventral spine pairs. Insemination ducts

heavily sclerotised with 5 coils; spermathecal sacs absent 4

2. Venter of abdomen with yellow setae, bases of femora not black ventrally 3
Venter of abdomen with orange setae, bases of femora black ventrally *P. regina* (L. Koch)
3. Leg femora conspicuously spotted, legs and body with variably coloured setae, epigynum small, insemination ducts with 2 1/2 coils *P. occidentalis* Hogg
Leg femora inconspicuously spotted, legs and body with yellow-white setae, epigynum relatively large, insemination ducts with 4 1/2 coils *P. mainae* sp. nov.
4. Anterior femora with white spots
..... *P. horni* Hogg
Anterior femora reddish ventrally
..... *P. tenuis* Hogg

Pediana mainae sp. nov.

Figures 1–3; Table 1

Holotype

♀, Shaw Creek, Northern Territory, Australia, ca. 25°04'S, 129°43'E, 25–29 March 1967, British Joint Services Expedition (ANIC).

Diagnosis

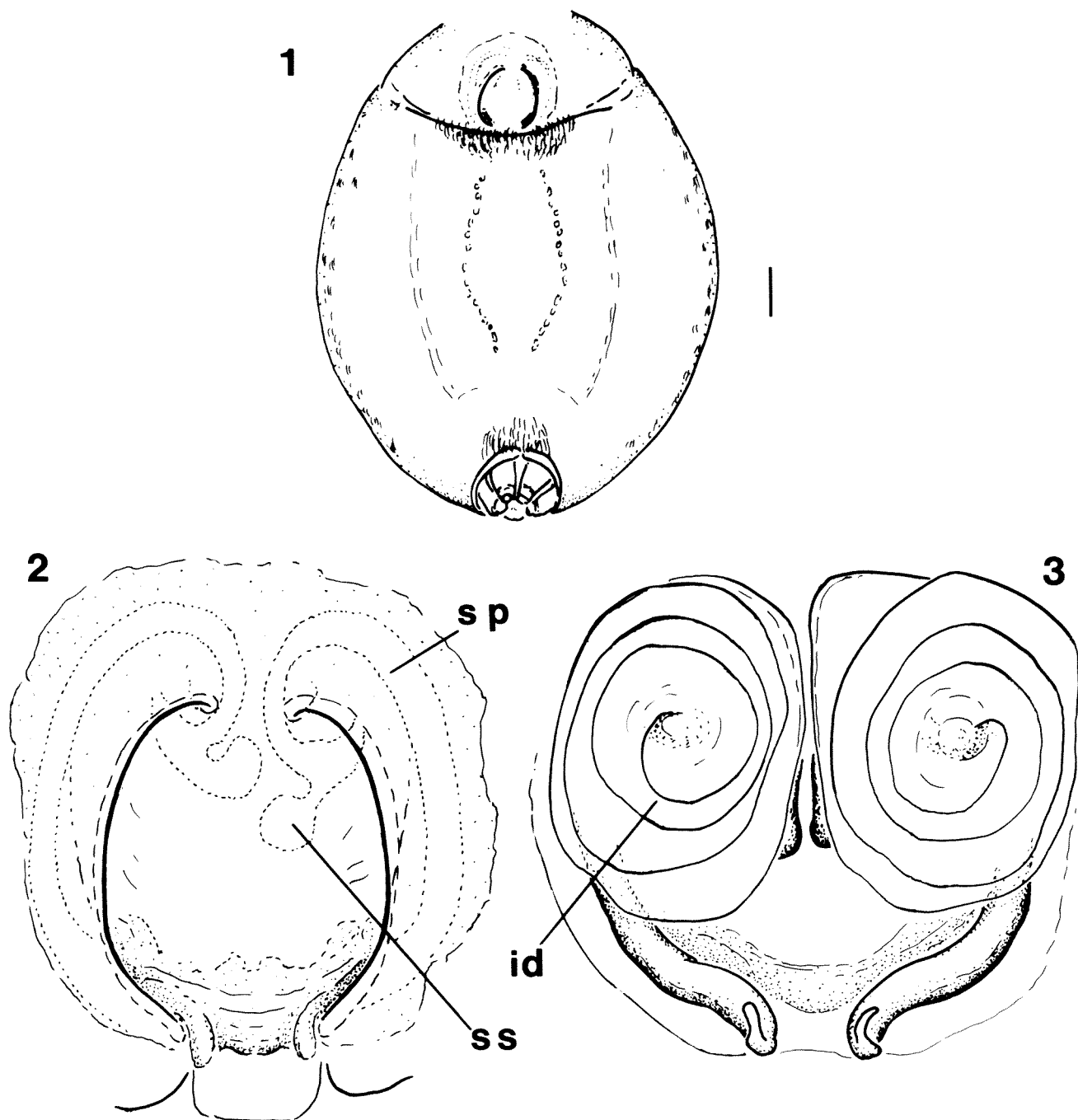
Colour yellow-brown. Leg IV lacks long setae ventrally. Female epigynum relatively large, spermathecal sacs present, insemination ducts with 4 1/2 lightly sclerotised coils. Male unknown.

Description

Female holotype

CL 6.87, CW 6.60, AL 10.99, AW 7.76.

Colour in alcohol: Carapace yellow-brown, striae



Figures 1-3 *Pediana mainae* sp. nov., holotype female: 1, abdomen, ventral; 2, epigynum, cleared, showing spermathecal sacs; 3, vulva, dorsal. Scale lines; 1 mm (Fig. 1), 0.5 mm (Figs 2-3). Abbreviations: id, insemination duct; sp, spermatheca; ss, spermathecal sac.

darker, caput brown in ocular area. Upright setae yellow-brown, adpressed setae yellow-white. Chelicerae red-brown. Maxillae and labium orange-brown. Sternum orange-yellow, shiny. Legs yellow-brown, femora ventrally and prolaterally with sparse adpressed yellow-white setae forming vague spots. Dorsal abdomen cream-yellow, indistinct folium and numerous small patches of red-brown setae, laterals with few patches; venter bright yellow anterior to epigastric furrow, dull yellow posterior, yellow-brown setae in narrow patch posterior to epigastric furrow and small patch anterior to spinnerets (Fig. 1).

Eyes: AME 0.49. AME: ALE: PME: PLE = 1: 1.14: 0.86: 0.90. Interspaces; AME-AME 0.37, AME-ALE 0.06, PME-PME 1.10, PME-PLE 1.22, AME-PME 0.92, ALE-PLE 1.24. MOQ, aw: pw: I = 2.37: 2.41: 3.43. Width of clypeus to AME 0.73.

Labium: L 1.10, W 1.37. Sternum: L 3.58, W 2.99.

Legs: (Table 1) Anterior leg indices; I = 3.9, II = 4.1.

Spination: As in *P. tenuis* but with tibia having 1 dorsal spine and 2 ventral pairs.

Epigynum: Lateral rims somewhat parallel (Fig. 2); anterior of fossa recessed. Vulva with spermathecal sacs moderately large, insemination

Table 1 Leg measurements of *Pediana mainae* sp. nov. (holotype female).

	Leg 1	Leg 2	Leg 3	Leg 4	Palp
Femur	8.31	8.80	6.81	7.89	2.32
Patella	3.42	3.47	2.66	2.62	1.24
Tibia	6.91	7.18	5.51	6.24	1.52
Metatarsus	6.40	6.51	4.83	6.49	–
Tarsus	2.01	2.02	1.71	1.93	2.63
Total	27.05	27.98	21.52	25.17	7.71

ducts lightly sclerotised and with 4 1/2 coils (Fig. 3).

Male

Unknown.

Distribution

Known only from the type locality, Shaw Creek in the Northern Territory.

Relationships

Pediana mainae is placed in the *P. regina* group as the female possesses spermathecal sacs and lacks long setae ventrally on femora IV. Although it has 4 1/2 insemination duct coils which is near to the 5 insemination duct coils of species of the *P. horni* group that of *P. mainae* are only lightly sclerotised when compared with the insemination ducts of the *P. horni* group. *P. mainae* differs from *P. occidentalis* in having the leg femora inconspicuously spotted, uniform adpressed yellow-white setae on legs and body, epigynum relatively larger and insemination ducts with greater coiling. It further differs from both *P. occidentalis* and *P. regina* in the smaller brown-black venter patches.

Etymology

The species is named in honour of Dr Barbara York Main.

Pediana occidentalis Hogg

Pediana occidentalis Hogg, 1902: 461; Hirst, 1989b: 118.

Remarks

Pediana occidentalis has been recorded as occurring in Western Australia (Hogg 1902) with one female from the Flinders Ranges in South Australia tentatively included in the species (Hirst 1989b). Further specimens, two males (SAMA N1994392–3) from Mt Sturt, 32°46'S, 135°24'E, and a male and female (SAMA N1994394–5) from west of Vokes Hill Corner, ca. 28°33'S, 130°19'E, both South Australia, of *P. occidentalis*, support the inclusion of that female in the species suggesting

the distribution may be continuous across the southern edge of the Nullarbor Plain and extending north-eastwards to the Flinders Ranges. In the same publication (Hirst 1989b), distribution symbols on fig. 11 for *P. horni* and *P. tenuis* were transposed.

Genus *Zachria* L. Koch

Zachria flavicoma L. Koch

Figures 4–6; Table 2

Zachria flavicoma L. Koch, 1875: 650, plate 52, fig. 3; Hirst, 1991: 3, figs 1–3, 7.

Material examined

Australia: Western Australia: 1♂, Murdoch, 32°04'18"S, 115°49'26"E, 7 February 1990, D. Mead-Hunter (WAM 91/171).

Diagnosis

Female anterior leg index less than 3, male less than 4. Male palpal tibial apophysis with straight ventral edge; conductor and embolus with 1 1/4 coils distally; median apophysis small. Female epigynum somewhat parallel sided or narrower anteriorly; vulva with anteriorly curved spermathecal sacs partly extending in front of fossa.

Description

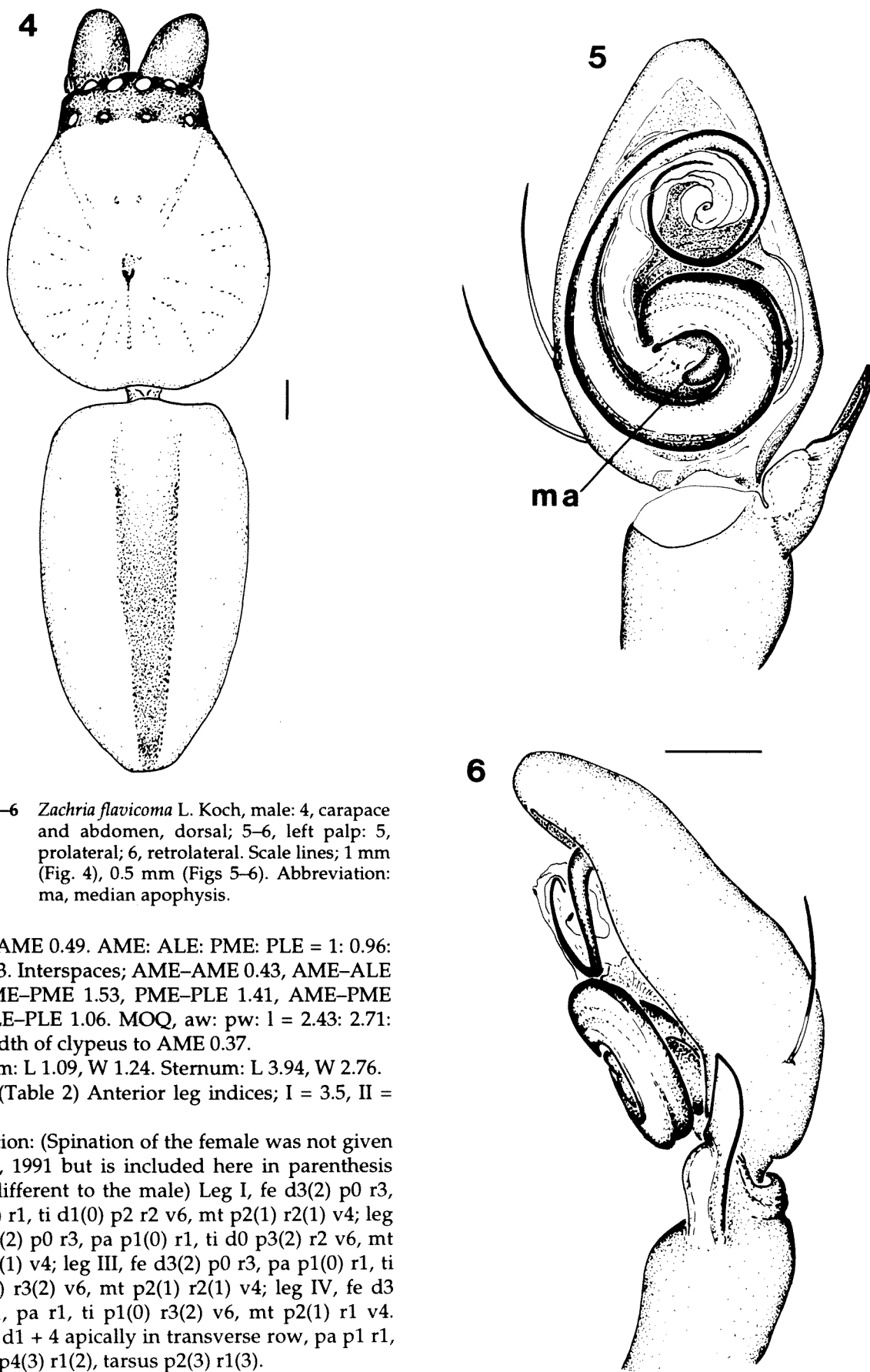
Male

CL 7.76, CW 6.21. AL 9.70, AW 5.06.

Colour in alcohol: Carapace yellowish-brown with brown suffusion, striae darker, fovea reddish, anterior caput dark brown. Setae brown, adpressed setae yellow-white, long, fine. Chelicerae dark red-brown. Maxillae and labium orange-yellow. Sternum yellow. Legs dark yellow-brown, anterior metatarsi and tarsi dark orange-brown; dorsal surface with fine yellow setae, dark coloured area around sockets of heavier setae ventrally and prolaterally on femora gives spotted appearance. Abdomen cream-yellow with median stripe of brown suffusion (Fig. 4), yellow-white adpressed and brown upright setae; venter yellow.

Table 2 Leg measurements of *Zachria flavicoma* L. Koch (male, WAM 91/171).

	Leg 1	Leg 2	Leg 3	Leg 4	Palp
Femur	7.51	8.42	7.02	7.91	2.43
Patella	3.72	3.84	2.91	2.80	1.12
Tibia	6.82	7.80	5.21	5.96	1.29
Metatarsus	6.59	7.13	4.62	5.18	–
Tarsus	2.20	2.35	1.83	1.92	2.36
Total	26.84	29.54	21.59	23.77	7.20



Figures 4-6 *Zachria flavicoma* L. Koch, male: 4, carapace and abdomen, dorsal; 5-6, left palp: 5, prolateral; 6, retrolateral. Scale lines; 1 mm (Fig. 4), 0.5 mm (Figs 5-6). Abbreviation: ma, median apophysis.

Eyes: AME 0.49. AME: ALE: PME: PLE = 1: 0.96: 0.59: 0.73. Interspaces; AME-AME 0.43, AME-ALE 0.20, PME-PME 1.53, PME-PLE 1.41, AME-PME 0.88, ALE-PLE 1.06. MOQ, aw: pw: l = 2.43: 2.71: 2.41. Width of clypeus to AME 0.37.

Labium: L 1.09, W 1.24. Sternum: L 3.94, W 2.76.

Legs: (Table 2) Anterior leg indices; I = 3.5, II = 3.8.

Spination: (Spination of the female was not given in Hirst, 1991 but is included here in parenthesis where different to the male) Leg I, fe d3(2) p0 r3, pa p1(0) r1, ti d1(0) p2 r2 v6, mt p2(1) r2(1) v4; leg II, fe d3(2) p0 r3, pa p1(0) r1, ti d0 p3(2) r2 v6, mt p2(1) r2(1) v4; leg III, fe d3(2) p0 r3, pa p1(0) r1, ti d0 p2(0) r3(2) v6, mt p2(1) r2(1) v4; leg IV, fe d3 p1(0) r1, pa r1, ti p1(0) r3(2) v6, mt p2(1) r1 v4. Palp, fe d1 + 4 apically in transverse row, pa p1 r1, ti d2(1) p4(3) r1(2), tarsus p2(3) r1(3).

Palps: (Figs 5-6) Embolus with 1 1/4 coils. Median apophysis small, barely protruding (Fig. 5).

Distribution

The male of *Z. flavicoma* is known only from Murdoch, a suburb of Perth in Western Australia.

Relationships

The male differs from that of *Z. oblonga* (but see Hirst 1991) in the longer embolus and in the straight tibial apophysis (Fig. 6).

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