

Salticidae (Arachnida: Araneae) of Oriental, Australian and Pacific Regions, VIII. A new genus from Australia

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Abstract

Zebraplatys gen. nov. is described. *H. fractivittata* Simon 1909 is designated the type species and redescribed — thus *H. fractivittata* Simon = *Z. fractivittata* (Simon 1909) comb. nov. *Holoplatys quinquecingulata* Simon = *Z. quinquecingulata* (Simon 1909) comb. nov. *Z. harveyi* sp. nov. and *Z. keyserlingi* sp. nov. are described and a key to the species is given.

Introduction

Holoplatys fractivittata Simon and *H. quinquecingulata* Simon were omitted from Żabka's (1991) revision of *Holoplatys* and are re-described here in *Zebraplatys*. Both species (females only) were described by Simon (1909) from Western Australia and since then have not been recorded. Recent study confirmed generic dissimilarity of Simon's species and justified erection of a new genus.

Material and Methods

The paper is based on type specimens and fresh material collected recently in New South Wales, South and Western Australia. Routine methods of specimen investigation and measurement taken were described earlier (Żabka 1990). Morphological details are presented on figures in the text.

Collections studies

- AM — Australian Museum, Sydney
MNHN — Museum National d'Histoire Naturelle, Paris
SAM — South Australian Museum, Adelaide
WAM — Western Australian Museum, Perth
ZMB — Zoologisches Museum der Humboldt-Universität, Berlin

Abbreviations used:

AEW — anterior eyes width, ag — accessory gland, AL — abdomen length, cd — cephalic depressions, cf — cymbial flange, CL — cephalothorax length, co — copulatory opening, CW — cephalothorax width, da — dorsal (dorsolateral) tibial apophysis, e — embolus, EFL — eye field length, fd — fertilization duct, id — insemination duct, PEW — posterior eyes width, s — spermatheca, sc — abdominal scutum, sr — seminal reservoir, ta — retrolateral tibial apophysis, tg — tegulum.

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Systematics

Zebraplatys gen. nov.

Type species

Holoplatys fractivittata Simon, 1909.

Diagnosis

The representatives of the genus can easily be distinguished by their very flat body and zebra-like abdominal pattern.

Description

Small to medium spiders, ranging from about 3.10 to over 7 mm in length. The body slender, elongate and flat. Cephalothorax with more or less distinctive *Holoplatys*-like cephalic depressions (cd), abdomen with light and dark transverse stripes forming zebra-like pattern. Male abdomen with anterior scutum (sc). Clypeus very narrow. Chelicerae small, unident, with two promarginal teeth. First legs strongest and darkest, as in most *Holoplatys* species tibial spines reduced. Leg formula: IV-I-II-III, Palpal organ massive with distinctive retrolateral (ta) and dorsal or dorsolateral (da) tibial apophyses. Cymbium of some species with flange (cf), tegulum (tg) large, irregular in shape. Embolus (e) short and strong or thin and long, seminal reservoir (sr) not meandering. Insemination ducts (id) rather long, spermathecae (s) pear-shaped, accessory glands (ag) distinctive.

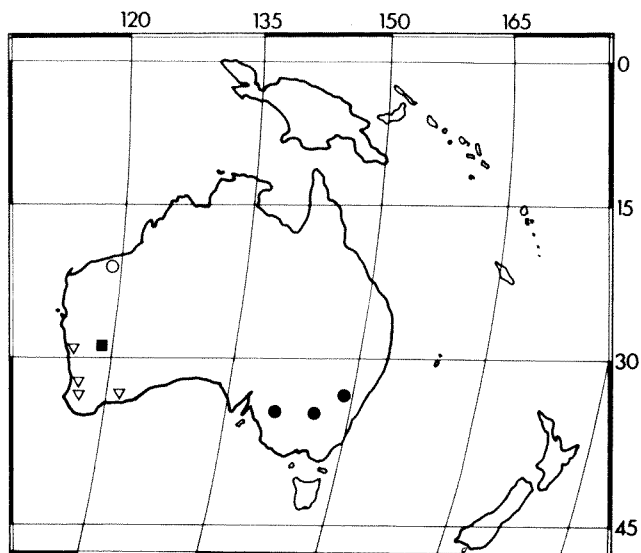
Etymology

The name refers to zebra-like colour pattern and flat body shape ("platys" = flat), and it is feminine in gender.

Relationships, biology and distribution

The genus *Zebraplatys* is a newly defined representative of a monophyletic group (subfamily) that includes *Holoplatys*, *Ocrisiona*, *Paraplatoides* and some undescribed Australian genera Žabka 1990, 1991 a-b). They are all well adapted for entering cracks and folds in bark (mostly of *Eucalyptus*) having very flat body, small vertical chelicerae and strong but poorly armed first legs. The epigyne is simple and *Holoplatys*-like. The structure of the palpal organ of *Zebraplatys* suggests that the genus is the most specialized derivate of the group and closest relative of the *grassalis* group of *Holoplatys* in which *H. lhotskyi* Žabka has similar genitalic pattern (Žabka 1991a). *Ocrisiona*, being relatively large and robust, seem to occupy the most ancestral position in the group.

The genus is widespread but rare, being found in scattered localities of Western Australia, South Australia, New South Wales and Victoria. Its distribution is given on the map below.



Distribution of *Zebraplatys*: (▽) = *Z. fractivittata* (Sim.); (■) = *Z. quinquecingulata* (Sim.); (●) = *Z. harveyi* sp. nov.; (○) = *Z. keyserlingi* sp. nov.

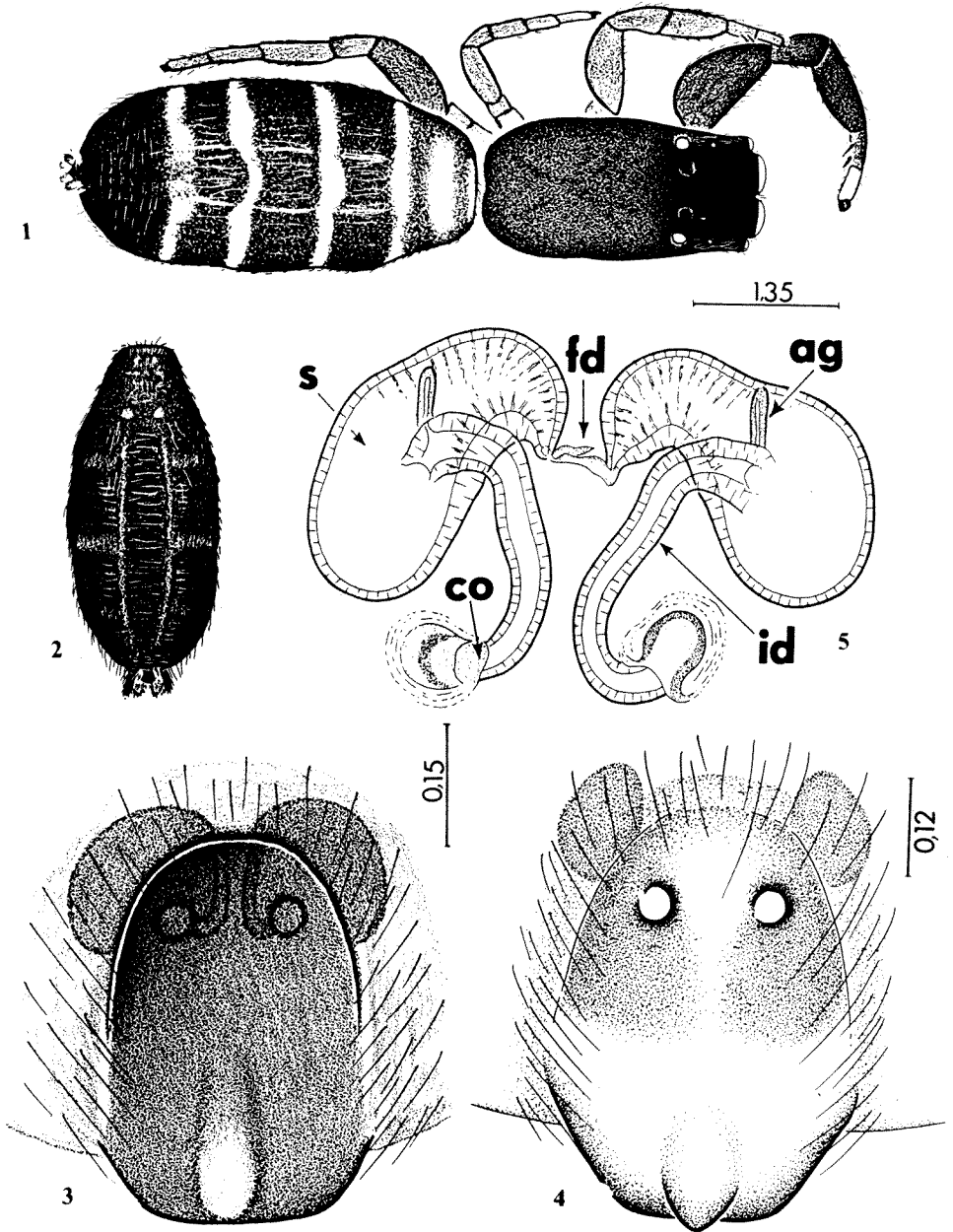
Key to the species of *Zebraplatys*

Males

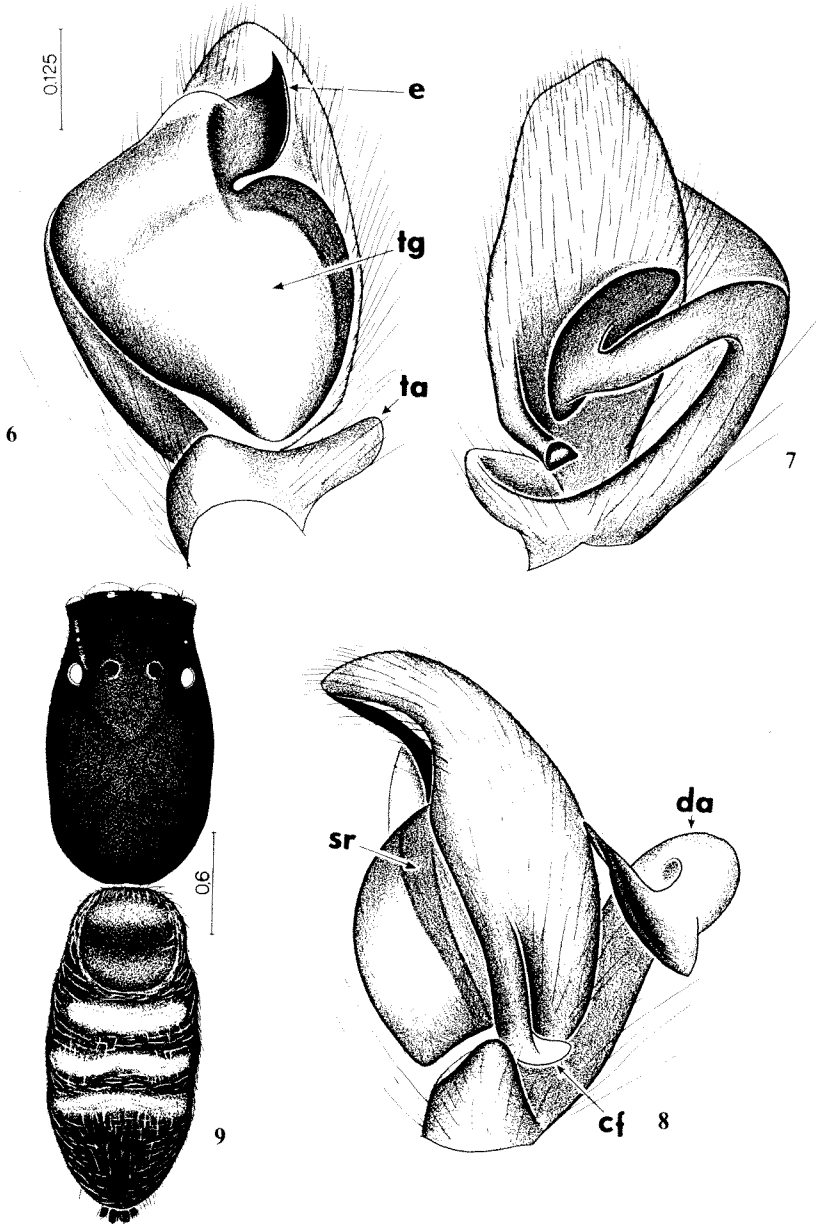
1. Embolus short and massive, dorsal tibial apophysis extremely large — *Z. fractivittata* (Simon) (Figures 6-9).
— Embolus long and thin 2
2. First tibiae with single prolateral spines, cephalothorax rectangular in shape, tibial apophyses rather small, embolus coiled around tegulum — *Z. keyserlingi* sp. nov. (Figures 19-22).
— Metatarsal spines missing, cephalothorax pear-shaped, tibial apophyses large, embolus different — *Z. harveyi* sp. nov. (Figures 13-15).

Females

1. Internal genitalia distant from the epigastric furrow 2
— Internal genitalia close to the epigastric furrow, insemination ducts coiled — *Z. harveyi* sp. nov. (Figures 16-18).
2. Epigyne with posterior knob, insemination ducts "C" — shaped — *Z. fractivittata* Simon (Figures 1-5).
— Posterior knob missing, epigastric furrow with double pocket, insemination ducts "S"-shaped — *Z. quinquecingulata* (Simon) (Figures 10-12).



Figures 1-5 ♀ *Zebraplatys fractivittata* (Simon, 1909): general appearance (1), abdominal pattern (2), epigyne (3-4) and internal genitalia (5). 1, 4-5 — lectotype, ZMB 18746. 2-3 — Grass Path, WAM 88/8.



Figures 6-9 ♂ *Zebraplatus fractivittata* (Simon, 1909): palpal organ (6-8) and general appearance (9). *Parmelia*, WAM 89, 346.

***Zebraplatys fractivittata* (Simon, 1909) comb. nov.**

Figures 1-9

Holoplatys fractivittata Simon, 1909: 199.

Material

Western Australia: female lectotype, Stat. 82, Moonyoonooka, 13 July 1905, ZMB 18746. Female paralectotype, Austral. occid. (Michaelsen), MNHN 24346. Female, Grass Patch, 12 November 1986, A.F. Longbottom, WAM 88/8. Female, Como, 20 June 1967, B.H. Solomon, WAM 88/3. Female, Parmelia, under bark of *Eucalyptus marginata*, 14 April 1987, A.E. de Jong, WAM 88/27. Male, Parmelia, near Kwinana, 5 June 1989, A.E. de Jong, WAM 89/346.

Diagnosis

Epigyne with posterior knob, insemination ducts "C"-shaped. Dorsal tibial apophysis of palpal organ extremely large, embolus short and massive.

Female (Figure 1-2). Eye field and margins of cephalothorax black, thorax slightly lighter. Abdomen zebra-like but in some specimens almost black. Spinnerets greyish. Clypeus blackish with single dark hairs. Maxillae, labium and sternum honey-yellow, venter light-grey. Tarsi I yellow, other segments grey to brown, lighter dorso-ventrally. Other legs generally lighter, distal end of segments sometimes darker.

Epigyne as illustrated in Figures 3-5.

Leg spination. ml: p1-1, r1-1; mII: p1-1, r1-1.

Dimensions

CL 2.07-2.29 (2.20), CW 1.18-1.28 (1.24), ratio CW: CL 0.55-0.57 (0.56), EFL 0.60-0.68 (0.64), ratio EFL: CL 0.28-0.29 (0.29), AEW 0.89-0.99 (0.95), PEW 0.84-0.96 (0.92), AL 2.51-3.70 (3.05).

Male (Figure 6). Cephalothorax brown, marginally darker. Abdomen with anterior scutum and zebra-like abdominal pattern. Spinnerets black. Clypeus black with silvery-white hairs. Maxillae, labium and sternum dirty light-brown. Venter beige centrally, darker laterally. Legs I massive, dark-brown with yellow tarsi, other legs lighter — especially dorso-ventrally.

Palpal organ (Figures 7-9) with extremely large dorsal tibial apophysis, retrolateral apophysis relatively small, cymbial flange distinctive, embolus wide and short, pointed apically.

Leg spination. ml: p1-1, r1-1; mII: p1-1, r0-1.

Dimensions

CL 1.75, CW 1.05, ratio CW: CL 0.60, EFL 0.55, ratio EFL: CL 0.31, AEW 0.75, PEW 0.75, AL 1.90.

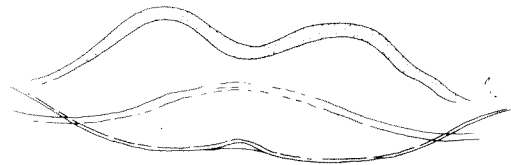
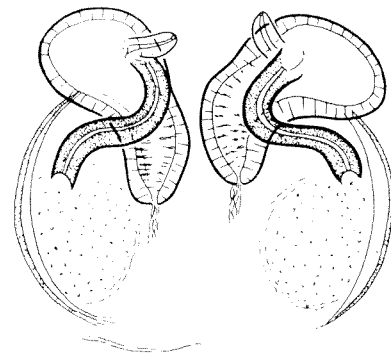
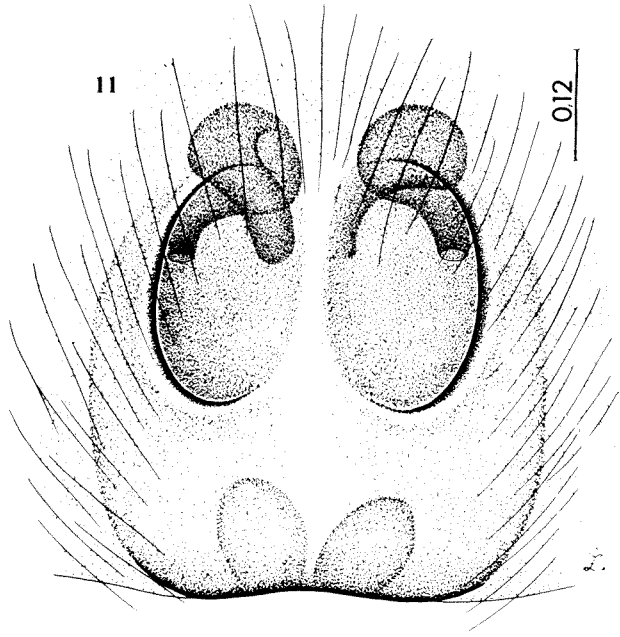
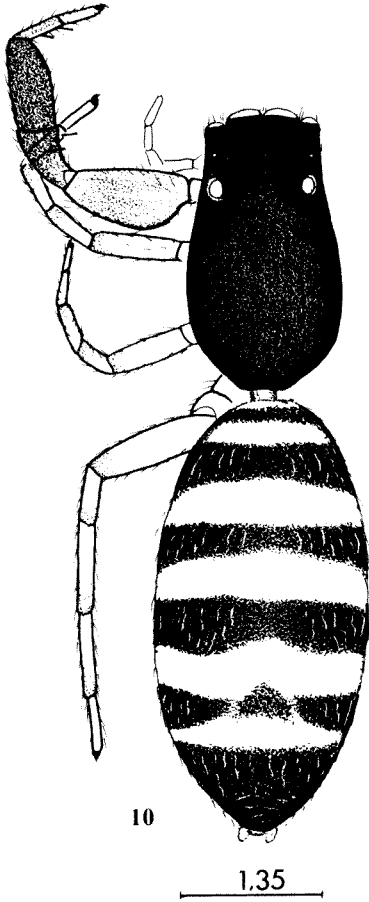
***Zebraplatys quinquecingulata* (Simon, 1909) comb. nov.**

Figures 10-12

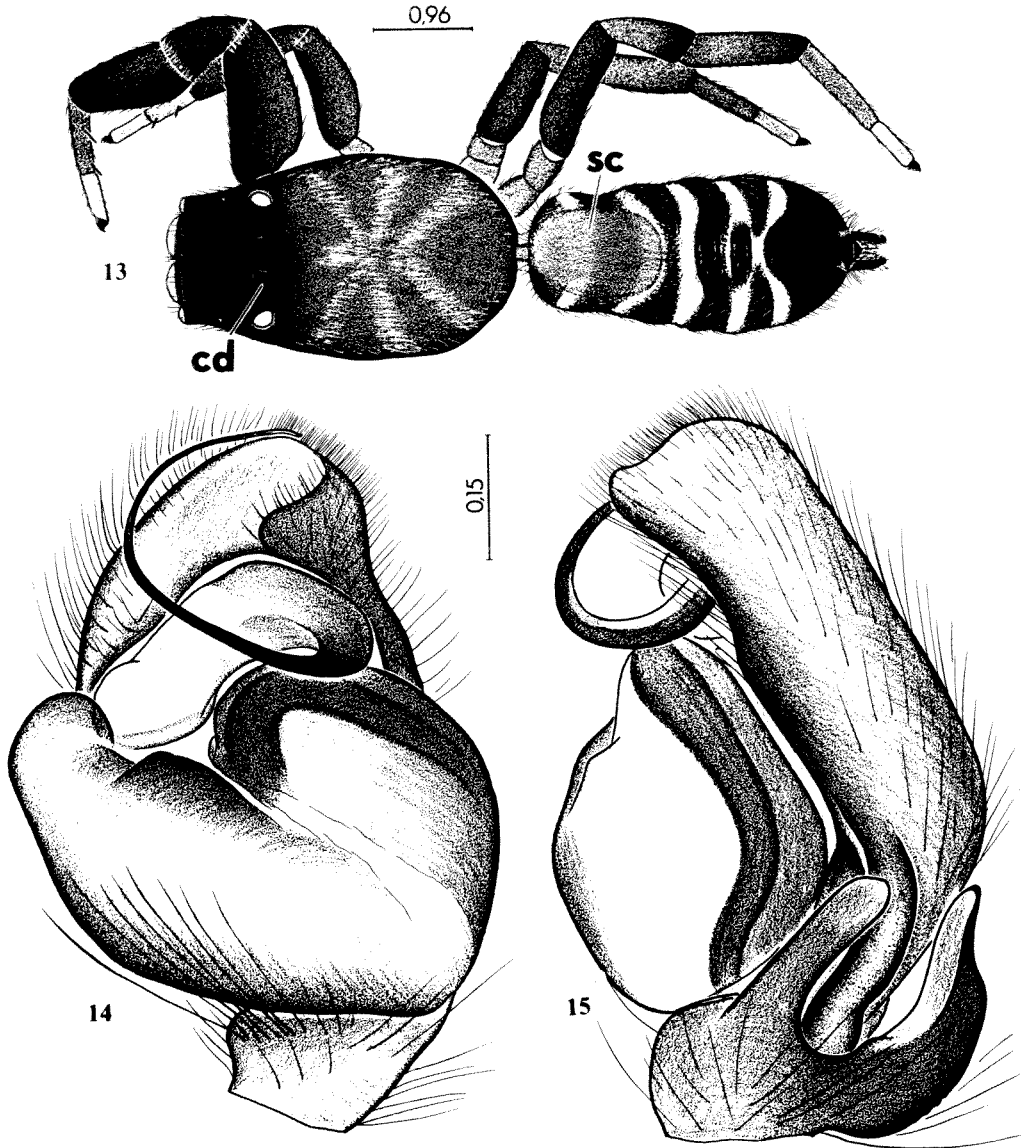
Holoplatys quinquecingulata Simon, 1909: 199.

Material

Western Australia: female lectotype, Day Dawn, SW Austral. Exp., 1905, Stat. 76, 9/10 July 1905, ZMB 18747.



Figures 10-12 ♀ *Zebra platyis quinqueringulata* (Simon, 1909): general appearance (10), epigyne (11) and internal genitalia (12). Lectotype, ZMB 18747.

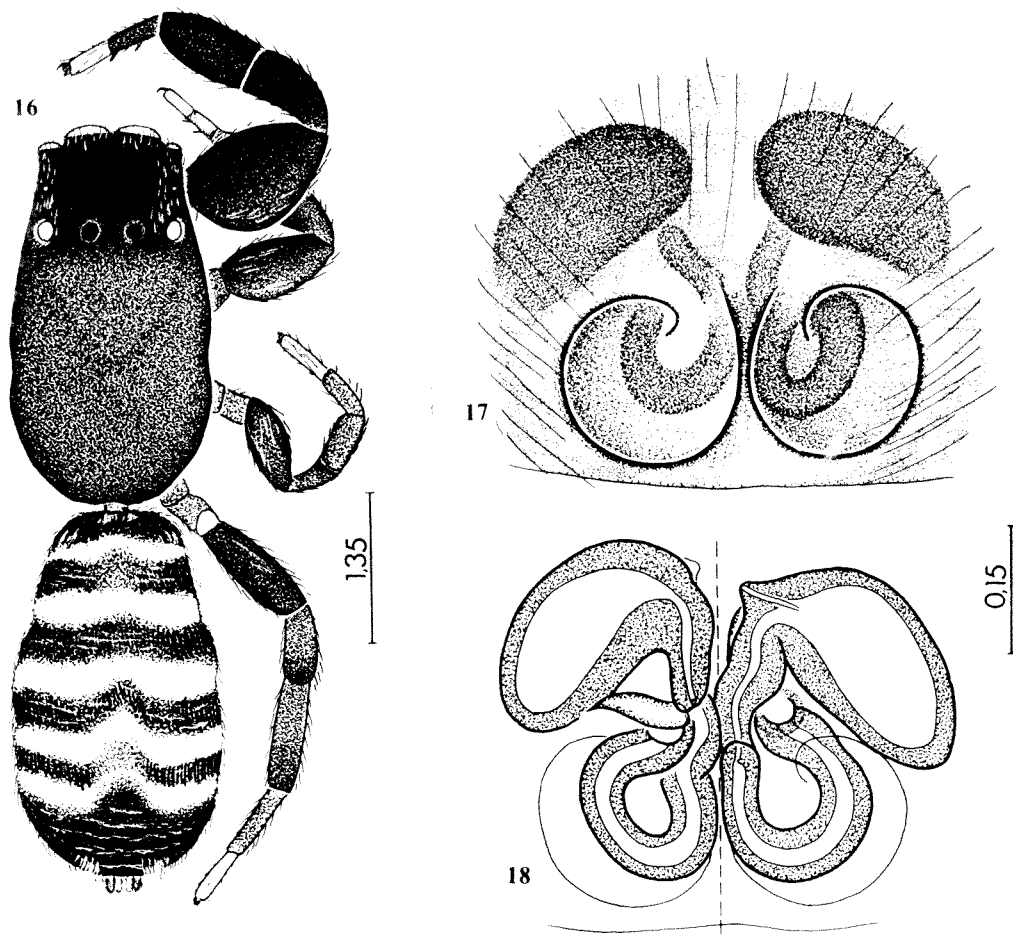


Figures 13-15 ♂ *Zebraplatys harveyi* sp. nov.: general appearance (13) and palpal organ (14-15). Holotype, SAM ARA1988356.

Diagnosis

Epigyne with double posterior pocket, insemination ducts "S"-shaped.

Female (Figure 10). Cephalothorax dark. Clypeus and chelicerae brown, pedipalps lighter, maxillae, labium and sternum dirty-orange. Venter beige centrally, darkening



Figures 16-18 ♀ *Zembraplatys harveyi* sp. nov.: general appearance (16), epigyne (17) and internal genitalia (18). 16 - allotype, AM KS18836. 17-18 - paratype, Yaapect.

laterally. Legs I orange-brown with yellow tarsi, other legs dirty-yellow, segments darker distally.

Epigyne as illustrated in Figures 11-12.

Leg spination. ml: p1-1, r1-1; mII: p1-1, r1-1.

Dimensions

CL 2.47, CW 1.38, ratio CW: CL 0.56, EFL 0.70, ratio EFL: CL 0.28, AEW 1.02, PEW 1.02, AL 3.82.

The male is unknown.

***Zebraplatus harveyi* sp. nov.**

Figures 13-18

Material

South Australia: male holotype, Mundulla, SW of Bordertown, under bark, 27 January 1984, D. Hirst, SAM ARA1988356. New South Wales: female allotype, Tarana, 23 April 1966, R. Mascord, AM KS18836. Victoria: female paratype, 15 km WNW of Yaapeet, Lake Albacutya, under bark of *Eucalyptus camaldulensis*; female paratype, 1 July 1982, M.S. Harvey, B.E. Roberts, WAM 89/281.

Diagnosis

Male thorax with radial stripes of white scattered hairs and palpal organ of different structure (embolus, tegulum, apophyses) than in two other species. Insemination ducts coiled, internal genitalia close to the epigastric furrow.

Male (Figure 13). Eye field black-brown with scattered white hairs. Thorax lighter with dark margins and radial stripes of white hairs. Abdomen with anterior orange scutum. Spinnerets dirty-brown. Clypeus black with white hairs. Chelicerae brown, maxillae and labium dirty-orange. Sternum orange with dark margin. Venter grey, darkening posteriorly and laterally with two rows of lighter spots. Leg I brown, distally lighter, tarsi yellow-orange. Other legs lighter, darker laterally.

Palpal organ (Figure 14-15). Tegulum wide, embolus long and thin, cymbial flange and both tibial apophyses distinctive.

Leg spination. ml: p1-1, r1-1; mII: p1-1, r0-0.

Dimensions

CL 2.67, CW 1.61, ratio CW: CL 0.60, EFL 0.72, ratio EFL: CL 0.27, AEW 1.05, PEW 1.05, AL 2.50.

Female (Figure 16). Eye field black, thorax brown, darker marginally. Spinnerets greyish-orange. Clypeus black with single white and dark hairs. Chelicerae and pedipalps dirty-brown, the last lighter distally. Maxillae and labium brown with lighter tips, sternum dark-orange, marginally darker. Venter grey centrally, laterally darker. Leg I black-brown only tarsi orange, other legs lighter.

Epigyne as illustrated in Figures 17-18.

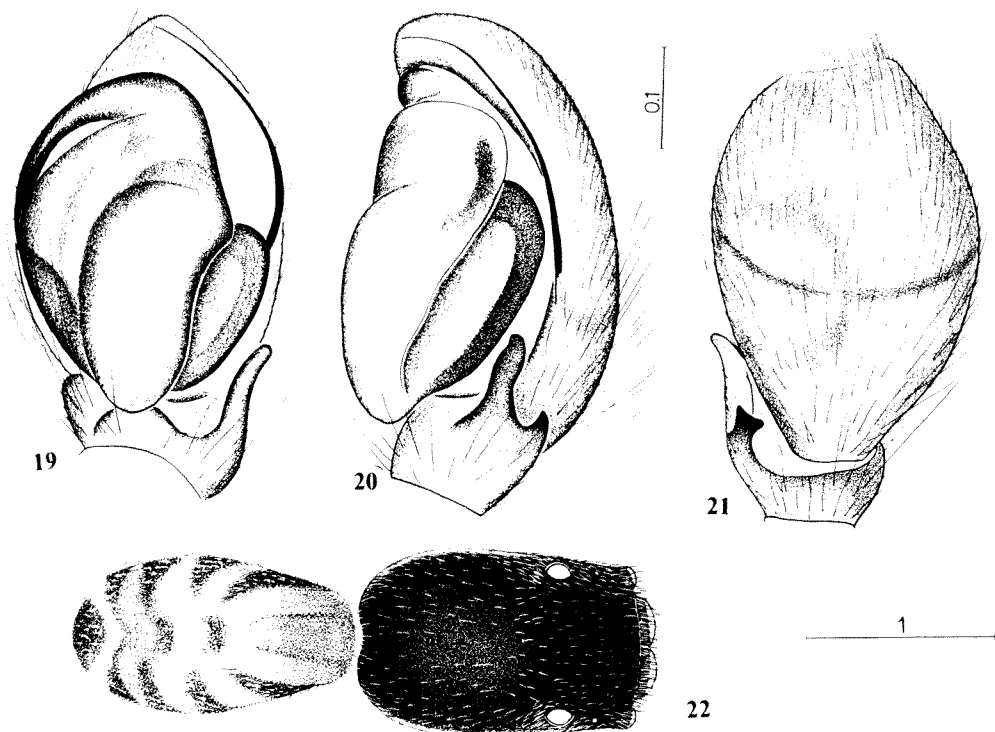
Leg spination. ml: p1-1, r1-1, mII: p1-1.

Dimensions

CL 3.00-3.20 (3.10), CW 1.73-1.85 (1.79), ratio CW: CL 0.58, EFL 0.80, ratio EFL: CL 0.26, AEW 1.18-1.20 (1.19), PEW 1.17-1.21 (1.19), AL 3.22-3.82 (3.52).

Etymology

The specific name is proposed for Dr. Mark S. Harvey (Western Australian Museum, Perth), one of the collectors of the material studied.



Figures 19-22 ♂ *Zebraplatys keyserlingi* sp. nov.: palpal organ (19-21) and general appearance (22).
Holotype, WAM 91/601.

Zebraplatys keyserlingi sp. nov.

Figures 19-22

Material

Western Australia: Male holotype, Woodstock Station, site WS2, wet pit traps, 23-30 September, 1988. J. Dell *et al.*, WAM 91/601.

Diagnosis

Unlike other species first tibia with single prolateral spine, embolus longer, cymbial flange missing and tibial apophyses relatively small.

Male (Figure 22). Eye field black, thorax brown with fringe of white hairs along lower margin. White hairs also scattered on the whole surface, more numerous around eyes. Light abdominal stripes greyish-orange. Spinnerets orange. Clypeus black, fringed with white hairs. Chelicerae dark-brown, maxillae, labium and sternum gradually lighter, the last orange-brown. Venter grey. Legs I generally light-brown only prolateral femora black. Other legs orange.

Palpal organ as illustrated in Figures 19-21.

Leg spination. tI: p0-1, r0-0, mI: p1-1, r1-1; mII: p1-1, r0-0.

Dimensions

CL 1.55, CW 1.00, ratio CW: CL 0.64, EFL 0.55, ratio EFL: CL 0.35, AEW 0.82, PEW 0.85, AL 1.55.

The female is unknown.

Acknowledgments

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