A new species of the mygalomorph spider genus *Yilgarnia* from the Western Australian wheatbelt (Araneae: Nemesiidae)

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**Abstract**  
A new species of *Yilgarnia* Main from the central wheatbelt of Western Australia is described. Natural history notes are presented and recognition stated of a wider geographic distribution of the genus than previously recorded.

**SYSTEMATICS**

Remarks  
*Yilgarnia* has to date only the type species been described. It has some similarity with *Karonkan* Main 1983 in the palpal configuration of the male and the terminally branched spermathecal tubes of the female (which characters however are also shared with a group of Aname species) (Main 1983). It is also distinguished from *Karonkan* in the absence of tarsal spines. However some problematic specimens have recently been recorded from the Carnarvon Basin and collected personally in the Pilbara (BYM, unpublished data) that have both tarsal spines and “currycomb” like spines on the third and fourth coxae [referred to as “Karonkan/ *Yilgarnia*” in Main et al. (2000)]. The taxonomic status of these specimens requires further study if the morphological limits of *Karonkan* and *Yilgarnia* are to be resolved.

To date only the type species of *Yilgarnia* has been described.
Yilgarnia linnaei sp. novo

Material examined

Holotype

Australia: Western Australia: ō, Durokoppin Nature Reserve (31°23'30" to 31°25'30", 117°42'E to 117°48'E), Northwest Tip (see Main 1996), transect G (= 700 m east of western boundary), wet pit trap, 6–27 May 1987, B.Y. Main (WAM T89289, BYM 1987/83).

Paratypes


Other material


Diagnosis

Yilgarnia linnaei differs from Y. currycomboides and all other known (but unnamed) species of the genus by the remarkably small size of at least the males, with carapace length of less than three millimetres which is less than half that of Y. currycomboides. The tibial spur of leg I poorly developed (possibly the result of neotenic maturation) but with a heavy megaspine.

Description

Male holotype

Colour: generally yellowish/tan, abdomen dorsally with dark brown mottlings, pale transverse bars (Figure 2), venter very pale, legs I with reddish tinge.

Carapace: length 2.6 mm, width 1.8, marginal hairs, thin spines (Figure 1). Eye group: 0.6 mm wide, 0.3 mm long.

Chelicerae: long, narrow, dorsally with delicate bristles; rastellum ~7 very heavy tooth-like spines (Figure 5). Cheliceral teeth on promargin, (right) 7 large teeth with 3 basal granules, left 7 large, 4 basal granules.

Sternum: 1.4 mm long, 1.0 mm wide; labium 0.2 mm long; delicate hairs and bristles; sternal sigilla very faint, almost imperceptible (Figure 3).

Coxae: III and IV with group of retro-ventral short curved spines, about 25 on IV and fewer on III (Figure 4).

Legs: spination and other features: all femora with dorsal line of 3–5 delicate spines. Leg I: femur, in addition to dorsal line, prodorsal 1 apical; patella prodorsal 2; tibia (Figure 6) with poorly developed spur but heavy megaspine, 1 ventral spine beneath, prodorsal 1; metatarsus and tarsus 0; metatarsus and tarsus ventrally inflated, dense scopula, metatarsus with slight ventral elbow (or “bowed”). Leg II: patella prodorsal 2; tibia retrodorsal 1-1-1; metatarsus retroventral 1. Leg III: patella prodorsal 3; tibia dorsal 2, retrodorsal 1 apical, prolateral 2, retroventral 1-1, ventral 3 apical; metatarsus dorsal 1-2-3 (apical), retroventral 1-2, ventral 3 apical. Leg IV: patella 0; tibia retrodorsal 2, retroventral 1 apical, ventral 2-1-2-3 (apical); metatarsus dorsal 2, retrodorsal 1, 3 apical, ventral 2-1-2-1-3 apical (very delicate).

Legs: formula: 4/3.5, 1/3.0, 2/2.73, 3/2.61. Measurements: Leg I: femur 2.2, patella 1.1, tibia 1.9, metatarsus 1.6, tarsus 1.1, total 7.9. Leg II: femur 2.0, patella 1.1, tibia 1.7, metatarsus 1.3, tarsus 1.0, total 7.1. Leg III: femur 1.7, patella 0.9, tibia 1.2, metatarsus 1.7, tarsus 1.3, total 6.8. Leg IV: femur 2.4, patella 1.2, tibia 2.5, metatarsus 1.9, tarsus 1.3, total 9.3. Palp: femur: 1.0, patella 0.8, tibia 1.0, tarsus 0.6, total 3.4. Proximal width patella I = 0.4 mm; tibial index = 13.33. Proximal width patella IV = 0.3 mm, tibial index = 8.1.

Palp (Figures 7, 8, 9): length of bulb plus embolus (ventral) = 1.0 mm, embolus curved, tapering. Tibia with small group of short, curved delicate spines on retrolateral face.

Remarks

All specimens were found in shrubland/heath (wodjil) habitats dominated by acacias and...
A new species of *Yilgarnia*

Figures 1-9

*Yilgarnia linnea* sp. nov., holotype male: 1, carapace and chelicerae; 2, dorsal aspect abdomen; 3, sternum, labium, right palpal coxa (maxilla) and right coxa IV; 4, right coxa IV and inner angle of coxa III; 5, rastellum teeth on patton of left chelicera, apical aspect; 6, right leg I, tibia, metatarsus, tarsus, retrolateral view; 7, 8, 9, right palp, tibia, tarsus, bulb and embolus; 7, retrolateral view (note juxtaposition from normal of bulb); 8, ventral; 9, bulb/embolus (note “normal” retrolateral view/position. Scale lines = 1 mm (Figures 1, 2, 3, 6, 7); 0.5 mm (Figures 5, 7); Figures 4, 8, 9 not to scale.
Allocasuarina species with a mixture of other shrubs and tussocky vegetation and with sandy/loam soil. The species appears to be reproductively active in winter as all the specimens collected by BYM were from pitfall traps open throughout the year; those at Durokoppin, open continuously for over five years and males were collected mostly between April and August with a few "catches" possibly in March. The Durokoppin specimens were collected in association with an ecological study considering the effects of fire on mygalomorph spiders in the locality (to be presented separately elsewhere) and also as part of a systematic survey of the mygalomorph fauna of selected bush remnants (including nature reserves) in the central wheat belt (see Main 1996). Of special interest is the large number of specimens found in the pits at Durokoppin during some years, which suggests a surprising population density. Although Yilgarrzia specimens have been collected from silk-lined burrows at other localities they are extremely cryptic. The entrances, when open form a slightly hooded collapsible collar.

**Etymology**

This species is named in honour of Carl Linnaeus whose instigation of the binominal system for biological taxonomy has given systematists the only lasting and guiding framework for the naming of species.

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**REFERENCES**


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