

## An Australian ground spider of the genus *Zelotes* (Araneae: Gnaphosidae)

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**Abstract** – The widespread ground spider genus *Zelotes* is represented in Australia by *Z. sarawakensis* (Thorell), a species found at least from Pakistan and Borneo south to Victoria. *Zelotes iustus* (Kulczynski) is placed as a junior synonym of *Z. sarawakensis*.

### INTRODUCTION

In the spider superfamily Gnaphosoidea, as in many other groups, the Australian fauna is extremely distinctive. Among the less common groups, both the family Lamponidae and the prodidomid subfamily Molycriinae are typical Australasian elements. In many cases, even the familial (and sometimes even superfamilial!) placement of the Australian genera is still quite uncertain, as there are few obvious resemblances to gnaphosoids from other parts of the world. At the generic level, 90% or more of the taxa currently in collections will probably prove to be Australasian endemics.

Even in cases where species have been initially described as members of genera from other parts of the world, those placements are usually mistaken. For example, the genus *Zelotes* Gistel is one of the most characteristic genera of true Gnaphosidae; its members are extremely common throughout the Northern Hemisphere and in Africa. According to standard catalogs (such as Roewer 1955), *Zelotes* is represented in Australia by one species, originally described from Western Australia as *Prosthesima flavens* by L. Koch (1873). Only a quick glance at Koch's illustration of the male palp of this species is needed to determine that the animal is not a true *Zelotes*.

It was therefore a great surprise to find, among collections of Australian gnaphosoids, a species that actually does belong to *Zelotes*. Subsequent investigation has indicated that the species is actually quite widespread in the Indo-Pacific area, reaching at least as far north as Pakistan, Thailand, and Borneo. As documented below, there are at least two specific names available, in the classic literature, for this widespread species. The older of them, *Zelotes sarawakensis* (Thorell), was first noted as a widespread species by Lehtinen (1980). Whether the species is native to Australia is unknown, but the records from mallee sites in Victoria suggest that it might be, despite Lehtinen's

characterization of *Z. sarawakensis* as a "widely distributed anthropochorous species."

It is also possible that one or both of two names established more recently from India, *Zelotes mandlaensis* Tikader and Gajbe (1976) and *Zelotes shantae* Tikader (1982), refer to this species as well; without access to the type material, the identity of those two taxa cannot be ascertained accurately.

It is a great pleasure to dedicate this paper to Dr Barbara York Main, whose pioneering work on Australian spiders has for many years been an inspiration to all arachnologists concerned with the south temperate spider fauna, and the many difficulties of classifying its members.

### MATERIAL AND METHODS

The format of the descriptions and standard abbreviations of morphological terms follow those used in the revision of the New World species of *Zelotes* by Platnick and Shadab (1983). The material studied was obtained from the American Museum of Natural History, New York (AMNH), California Academy of Sciences, San Francisco (CAS), Museo Civico di Storia Naturale "Giacomo Doria", Genova (MCG), Museum of Victoria, Melbourne (MOV), Naturhistorisches Museum, Wien (NMW), Muzeum y Instytut Zoologii, Polska Akademia Nauk, Warsaw (PAN), Queensland Museum, Brisbane (QMB), and Uppsala Universitet Zoological Museum, Sweden (UUZM), as well as the personal collection of Dr. Christa Deeelman-Reinhold, Ossendrecht, Netherlands (CDR).

### SYSTEMATICS

#### *Zelotes sarawakensis* (Thorell)

Figures 1-5

*Prosthesima sarawakensis* Thorell, 1890: 362 (female holotype from Sarawak, Borneo, in MCG, examined).

*Prothesima iusta* Kulczyński, 1911: 473, figs. 22, 25, 26 (female syntype from Buitenzorg, Java, and male syntype from Kagok or Diatinegoro, Java, in PAN, examined). **NEW SYNONYMY.**

*Zelotes iustus*: Reimoser, 1931: 748.

*Zelotes sarawakensis*: Roewer, 1955: 467.

*Zelotes justus*: Roewer, 1955: 467.

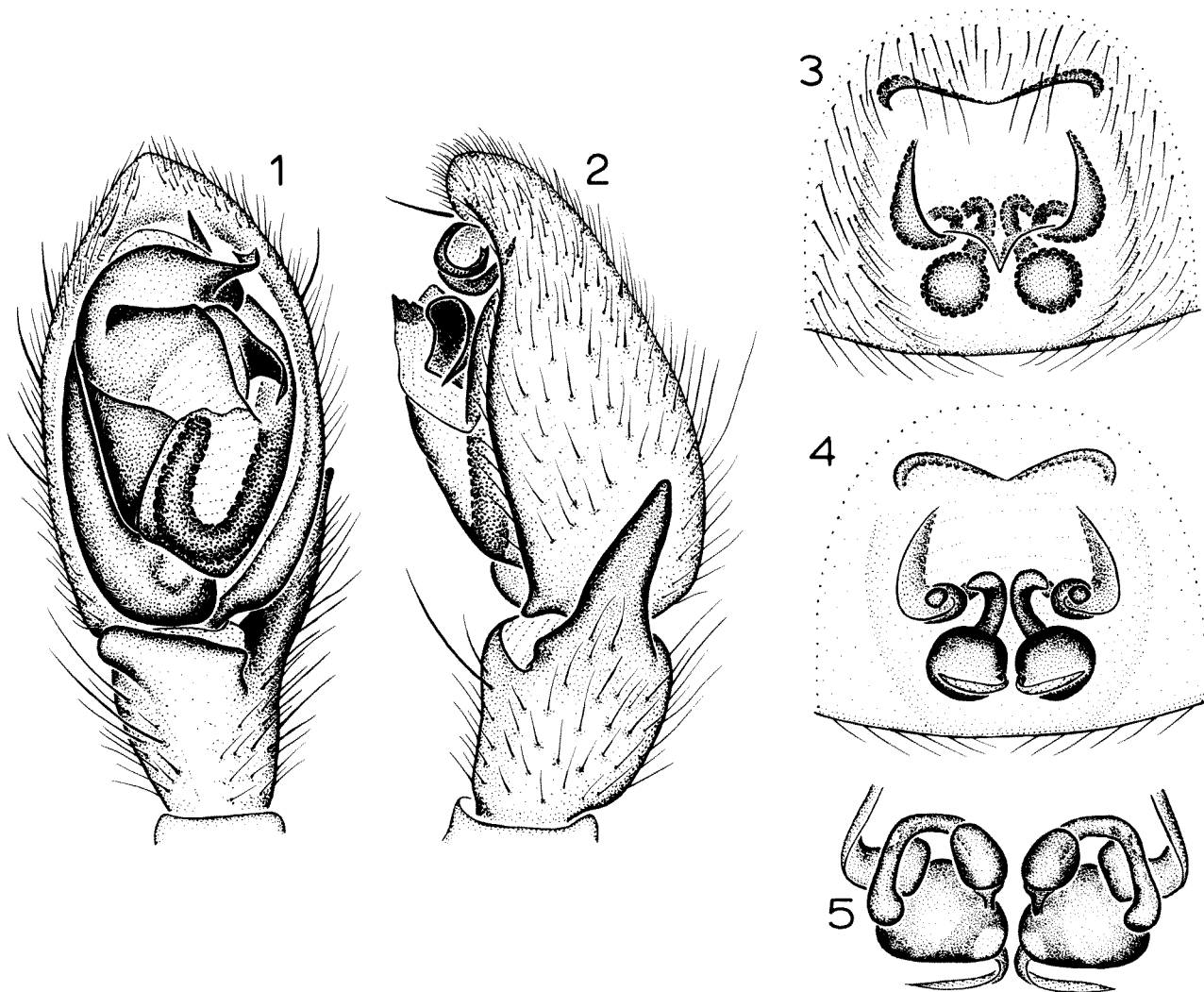
### Diagnosis

Males can be recognized by the expanded tip of the embolar projection (Figs 1, 2), females by the dorsally projecting paramedian epigynal ducts (Figs 3–5).

### Material Examined

**Australia: Queensland:** Griffith University site, Nathan, Brisbane, Dec. 11, 1975 (G. Oliver, QMB), 1♂, 1♀. **Victoria:** 7.7 km ENE confluence of Lindsay River and Mularoo Creek, 34°07'S, 141°12'E, mallee site 112, Nov. 1985, drift fence pitfall trap (A. L. Yen, MOV), 1♀; 12.1 km ESE confluence of

Lindsay River and Mularoo Creek, 34°09'S, 141°15'E, mallee site 106, Nov. 1985, drift fence pitfall trap (A. L. Yen, MOV), 1♂; 10.4 km NW junction Murray Valley Highway and Annuello Road, 34°46'S, 142°31'E, mallee site 19, Oct. 1985, drift fence pitfall trap (A. L. Yen, MOV), 2♂. **India: Uttar Pradesh:** 5 mi SW Dehra Dun, Dec. 9, 1961, elev. 600 m (E. S. Ross, D. Q. Cavagnaro, CAS), 1♀. **Indonesia: Java:** Buitenzorg (PAN), 1♀ (syntype); Kagok or Diatinegoro (PAN), 1♂ (syntype). **Krakatau:** no specific locality, Apr. 1920 (AMNH), 1♂; Anak Krakatau, 6°06'S, 105°26'E, Sept. 2–10, 1984, litter (M. Harvey, MOV), 2♀. **Lesser Sunda Islands:** Lombok (NMW), 1♀; Sumba Island, July–Aug. 1992, pitfall traps, grassland and forest edges (M. Jones, CDR), 7♂, 3♀. **Sumatra:** "D. Talong" (NMW), 1♂. **Malaysia: Sarawak:** no specific locality (Doria, Beccari, MCG), 1♀ (holotype). **Pakistan: Punjab:** 13 mi NW Jhelum, Dec. 15, 1961, elev. 350 m (E. S. Ross, D. Q. Cavagnaro, CAS), 1♀. **Thailand:** Pattaya, Dec. 1–15, 1979, secondary forest (Å. Holm, UUZM), 1♂.



Figures 1–5 *Zelotes sarawakensis* (Thorell): 1, left male palp, ventral view; 2, same, retrolateral view; 3, female epigynum, ventral view; 4, same, dorsal view; 5, same, anterior view.

**Description***Male (Queensland)*

Total length 4.25. Carapace 1.92 long, 1.58 wide. Femur II 1.22 long. Eye sizes and interdistances: AME 0.05, ALE 0.07, PME 0.06, PLE 0.06; AME-AME 0.05, AME-ALE 0.01, PME-PME 0.05, PME-PLA 0.05, ALE-PLA 0.06; MOQ length 0.18, front width 0.15, back width 0.18. Palp with transverse terminal apophysis, rounded embolar base, distally expanded embolar projection, and straight embolus (Figs. 1, 2). Leg spination: femur IV p0-0-1; tibiae: III d1-0-0, v1r-2-2, r1-1-1; IV r2-1-1; metatarsus III v2-0-0.

*Female (Queensland)*

Total length 4.93. Carapace 1.98 long, 1.50 wide. Femur II 1.15 long. Eye sizes and interdistances: AME 0.05, ALE 0.07, PME 0.06, PLE 0.05; AME-AME 0.05, AME-ALE 0.01, PME-PME 0.04, PME-PLA 0.05, ALE-PLA 0.05; MOQ length 0.19, front width 0.15, back width 0.16. Posterior epigynal margin projecting posteriorly along midline, median epigynal ducts abruptly narrowed anteriorly, paramedian epigynal ducts projecting dorsally (Figs. 3-5). Leg spination: femur IV p0-0-1, r0-0-1; tibia III d1-0-0, v1r-2-2; metatarsus III v2-0-0.

**Distribution**

Pakistan east to Thailand and Borneo, south to Victoria.

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Gruber (NMW), M. Harvey (MOV), R. Raven (QMB), A. Stojewska (PAN), and L. Wallin (UUZM); M. Shadab (AMNH) provided the illustrations.

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