

First record of the family Theridiosomatidae from Taiwan, with description of a new species (Arachnida: Araneae)

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Summary

This paper describes and illustrates a new species of the family Theridiosomatidae from Taiwan, namely *Theridiosoma taiwanica* sp. n.

Introduction

The Theridiosomatidae are a small family comprising 72 species belonging to 12 genera, which are mainly distributed in the cosmotropics (Platnick 2004). Coddington (1986) revised this family at the generic level, and indicated four subfamilies by making a cladistic analysis of all genera: Platoninae Coddington, Epeirotypinae Archer, Ogulninae Coddington, and Theridiosomatinae Simon. Members of this family, living almost exclusively in wet or humid, shaded forest habitats, can be distinguished from other spiders by the presence of promarginal pits on the sternum in both sexes (Fig. 1).

Theridiosoma is the largest and most widespread genus in this family. Twenty species have been reported in the world, which are mainly distributed in the tropical region, and range to north and south temperate regions, such as Europe, North America, Korea and New Zealand (Platnick, 2004). Spiders of this genus live in wet, shaded forest understorey, and usually construct simple orbs with the radii joined together, or anastomosed, before they reach the hub (Coddington, 1986).

Although 3 species of the genus *Wendilgarda* have been reported from mainland China (Song *et al.*, 1999; Zhu *et al.*, 2001), no species of this family have previously been found in Taiwan. When examining some spiders collected from Taiwan recently, the authors found a new theridiosomatid species, described here as *Theridiosoma taiwanica* sp. n.

Material and methods

Type specimens are deposited in the National Museum of Natural Science, Taichung, Taiwan (NMNS). All measurements are in mm. Palp measurements are given as: total length (femur, patella, tibia, tarsus). Leg measurements are given as: total length (femur, patella+tibia, metatarsus, tarsus).

Abbreviations used: AME=anterior median eye, ALE=anterior lateral eye, PME=posterior median eye, PLE=posterior lateral eye, MOA=median ocular area.

Theridiosoma taiwanica sp. n. (Figs. 1–6)

Types: Male holotype from Keng-Ting National Park, Pingtung County (22°36' N, 120°30' E), Taiwan, May 2000, Y. L. Hsieh leg. (NMNS-THU-Ar-01-0135); 1♂ 1♀ paratypes, same locality, April 2000, Y. L. Hsieh leg. (NMNS-THU-Ar-01-0133).

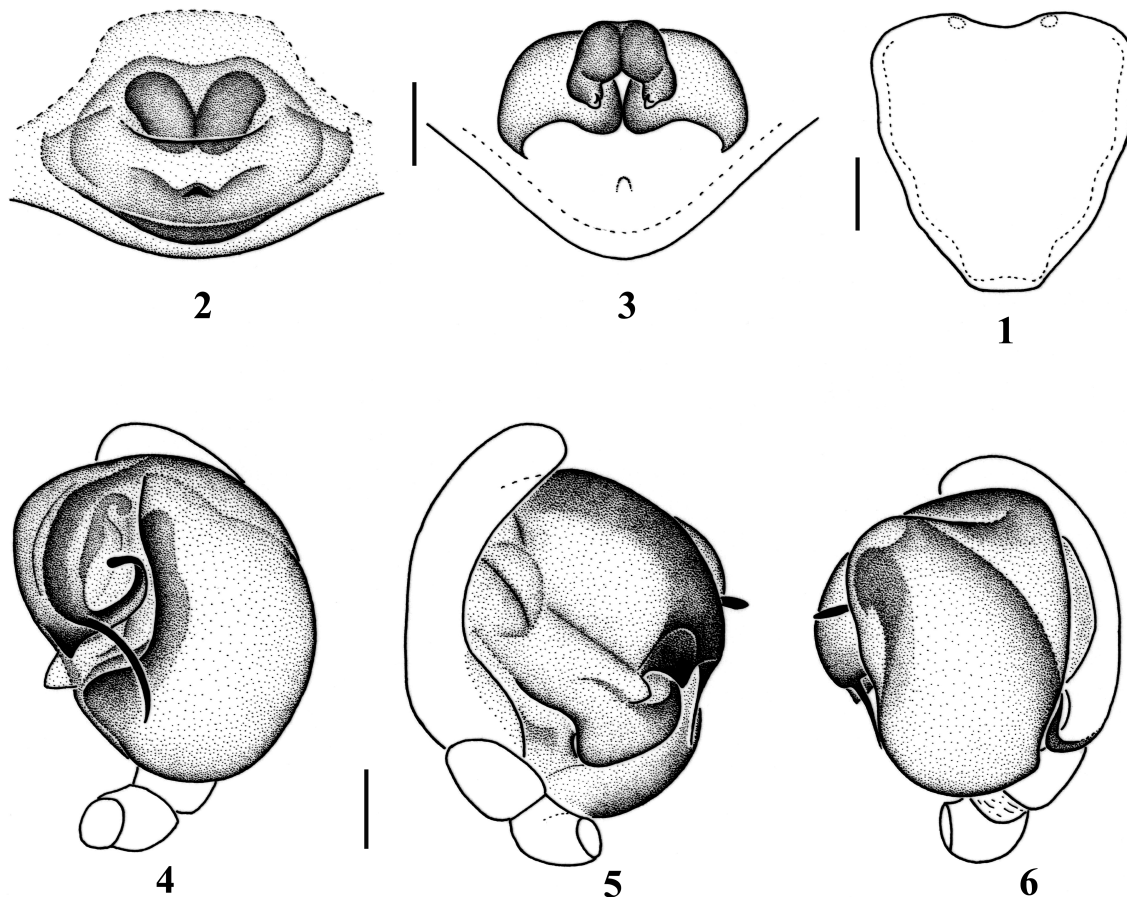
Etymology: The specific name refers to the type locality.

Diagnosis: The new species resembles *Theridiosoma picteti* Simon, 1893 from Sumatra (Brignoli, 1972: 916, figs. 8, 9, 11) in the shape of the palpal organ, but differs from the latter by the palpal bulb being wider, the paracymbium hooked, with its end pointed, and the embolus attenuated distally (Figs. 4–6). This species is also similar to *T. epeiroides* Boesenberg & Strand, 1906 from Russia, Korea and Japan (Chikuni, 1989: 89, fig. 1; Marusik, 1989: 46, fig. 1), but can be distinguished from the latter by the median apophysis of the male palp being small and triangular, lacking a pointed hook at the tip, by one of the embolic apophyses being curved and blunt distally (Figs. 4–6), and by the epigynum being a smoothly curved plate, with a median transverse ridge (Fig. 2).

Male (holotype): Total length 1.53. Cephalothorax 0.71 long, 0.61 wide; abdomen 0.92 long, 0.75 wide. Carapace pear-shaped and orange, with head region slightly elevated. Cervical groove distinct. Chelicerae orange, with 6 teeth on promargin and none on retro-margin. Labium, endites and sternum deep orange. Sternum with many long setae and some grey pigment on lateral sides. Legs orange, with many fine spines and some setae. Abdomen earthy yellow, covered with many thin hairs and with some grey pigment. Eye diameters and interdistances: AME 0.09, ALE 0.08, PME 0.07, PLE 0.05; AME-AME 0.00, AME-ALE 0.02, PME-PME 0.02, PME-PLE 0.07. MOA 0.25 long, front width 0.18, back width 0.16. Measurements of palp and legs: palp 0.81 (0.23, 0.10, 0.10, 0.38); leg I 2.02 (0.65, 0.66, 0.44, 0.27), II 1.79, (0.57, 0.61, 0.36, 0.25), III 1.19 (0.31, 0.39, 0.26, 0.23), IV — (0.43, 0.51, —, —). Palp (Figs. 4–6): paracymbium hooked, with pointed tip; median apophysis small and triangular, not heavily sclerotised; embolus bristle-like, with two basal embolic apophyses, one long and curved, blunt distally, the other small and triangular.

Female: Total length 2.00. Cephalothorax 0.92 long, 0.70 wide; abdomen 1.19 long, 0.87 wide. Chelicerae with 5 teeth on promargin. Other characters as in male holotype. Leg measurements: I 1.99 (0.65, 0.70, 0.39, 0.25), II 1.82 (0.53, 0.65, 0.38, 0.26), III 1.25 (0.34, 0.44, 0.27, 0.20), IV 1.71 (0.52, 0.64, 0.35, 0.20). Leg formula: 1243. Epigynum (Figs. 2–3) a smoothly curved plate, with median transverse ridge; copulatory duct firm and robust; spermathecae touching distally.

Remarks: As Coddington (1986) pointed out, members of the genus *Theridiosoma* can be distinguished



Figs. 1–6: *Theridiosoma taiwanica* sp. n. **1** Sternum of female, ventral view; **2** Epigynum, ventral view; **3** Vulva, dorsal view; **4** Left male palp, ventral view; **5** Ditto, prolateral view; **6** Ditto, retrolateral view. Scale lines=0.1 mm.

from other theridiosomatids by the form of the embolic division: a short, tubular embolus with the embolic apophysis fragmented into several long bristle-like parts. Although the embolic division of the new species described here is much simpler and a little different from the diagnosis provided by Coddington (1986), we think it should belong to this genus because other characters such as the female epigynum and vulva are similar to those of other species of this genus.

Distribution: Taiwan (Pingtung County).

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