

First Description of the Female of *Matidia spatulata* Chen and Huang, 2006 from Taiwan (Araneae, Clubionidae)

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ABSTRACT

The female of *Matidia spatulata* Chen and Huang, 2006 from Taiwan is described and illustrated for the first time. It can be distinguished from other congeners by having two sickle-shaped depressions in the epigynum. Data of two additional males are also given in this paper.

Key words: Araneae, Clubionidae, *Matidia*, *Matidia spatulata*, Taiwan

Introduction

Spiders of *Matidia* Thorell, 1878 are nocturnal and tree-dwelling with a slender, greenish body. They can be easily distinguished from other genera of the Clubionidae by having a longest leg I, a narrow head, and a ribbon-shaped embolus in the male palp (Deeleman-Reinhold, 2001). Genus *Matidia* is a small genus and a total of 16 species mainly from South and Southeast Asia are recorded (Barrion and Litsinger, 1995; Deeleman-Reinhold, 2001; Platnick, 2011). *Matidia spatulata* Chen and Huang, 2006 is a monotypic species that was described based on two males from Taiwan.

Recently, two females and two additional males of *M. spatulata* were discovered from regions of Taiwan other than the type locality. In this paper, we describe the female for the first time, and provide new collecting data on males.

Materials and Methods

Spiders were collected by searching the foliage along the trails at night. The specimens were preserved in 70% ethanol and deposited in the Arachnological collection of the Department of Life Science, National Taiwan Normal University (NTNUB-Ar). Alcohol-preserved specimens were examined and measured under a stereomicroscope (Leica M3Z). The female epigynum was dissected

and cleaned in a hot 10% KOH solution to examine the inner genital structures. Specimens were photographed using a Nikon Coolpix 995 camera attached to the stereomicroscope (Leica M3Z). Figures were drawn with the aid of a drawing tube attached to the stereomicroscope. All measurements given are in mm. Measurements of palp are shown as: total length (femur, patella, tibia, tarsus). Measurements of leg are shown as: total length (femur, patella and tibia, metatarsus, tarsus). Abbreviations used in this paper are: AER, anterior eye row; ALE, anterior lateral eye; AME, anterior median eye; AW, anterior width of MOA; MOA, median ocular area; MOA-L, length of MOA; PER, posterior eye row; PLE, posterior lateral eye; PME, posterior median eye; PW, posterior width of MOA.

Systematic Account

Matidia spatulata Chen and Huang, 2006
(Figs. 1-5)

Matidia spatulata Chen and Huang, 2006: 68, f. 1A-C (holotype ♂, NTNUB-Ar 7386, from Chilan, Tatung, Ilan, Taiwan, 31 Mar. 1997 and paratype 1 ♂, NTNUB-Ar 21666, Kuantzeling, Paiho, Tainan, 14 Mar. 2004, Shyh-Hwang Chen leg., in Department of Life Science, National Taiwan Normal University, Taiwan, examined).

Specimen examined

New Taipei City: 1 male (NTNUB-Ar 38754),

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Wulai, Chiachiuliao, alt. 200 m., 26 Aug. 2009, Ming-Che Guo leg. Hualien County: 1 male and 1 female (NTNUB-Ar 45705, 45706), Fuli, Loshan, alt. 400 m., 28 Mar. 2009, Wen-Juen Huang leg. Taitung County: 1 female (NTNUB-Ar 36869), Tajen, Tupan, alt. 200 m., 24 Apr. 1993, Shyh-Hwang Chen leg.

Diagnosis

Matidia spatulata can be diagnosed by having a coiled embolus and a spatulate-like tibial apophysis widened distally on the male palp (Chen and Huang, 2006). The female differs from most other congeners (characters given in parentheses) by having two sickle-shaped depressions (one depression) in the epigyne and the irregular spermatheca (globular spermatheca).

Description

Male. See descriptions and illustrations of Chen and Huang (2006).

Female (NTNUB-Ar 36869). Total length 5.16. Carapace length 1.88, width 1.36, ratio of length/width 1.38; abdomen length 3.28, width 1.20. Measurements of palp and legs: palp 2.00 (0.64, 0.28, 0.44, 0.64); I 8.36 (2.28, 3.32, 1.80, 0.96), II 7.00 (1.96, 2.72, 1.48, 0.84), III 4.52 (1.32, 1.56, 1.12, 0.52), IV 7.76 (2.36, 2.48, 2.20, 0.72). Diameters of AME 0.08, ALE 0.10, PME 0.11, PLE 0.10. Carapace yellowish green, longer than wide, somewhat flattened. Thoracic groove short and shallow. Eyes in two parallel transverse rows, PER straight, wider than AER. Distance between AMEs (0.05) slightly longer than that of AME and ALE (0.04), distance between PMEs (0.19) longer than that of PME and PLE (0.08). The length of MOA slightly longer than AW (ratio of MOA-L/AW 1.10), PW longer than AW (ratio of AW/PW 0.55). Height of clypeus 0.04. Chelicerae yellowish green, armed with three promarginal and two small retromarginal teeth; the distal-most promarginal tooth closer to the fang-base than that of retromarginal one. Labium yellowish green, longer than wide. Sternum heart-shaped, longer than wide. Leg formula 1-4-2-3. Femur IV longer than femur I. Abdomen cylinder, pale grayish yellow. Epigynum with two sickle-shaped depressions, a part of dark brown copulatory duct and spermatheca can be seen through tegument anteriorly. Copulatory duct coiled and widened at genital opening, leading to a globular hyaline busa and irregular brown

spermatheca.

Variations. Measurements of a female from Loshan (NTNUB-Ar 45706) were given. Total length 5.82. Carapace length 2.04, width 1.44, ratio of length/ width 1.42; abdomen length 3.78, width 1.32. Height of clypeus 0.04. Diameters of AME 0.08, ALE 0.12, PME 0.10, PLE 0.12; ratio of MOA-L/ AW 1.18, ratio of AW/ PW 0.54. Leg formula 1-4-2-3. Femur IV longer than femur I. Measurements of two additional males (NTNUB-Ar 38754, 45705) from Chiachiuliao and Loshan were given. Total length 4.94-5.72. Carapace length 1.94-2.24, width 1.36-1.60, ratio of length/ width 1.40-1.43; abdomen length 3.00-3.48, width 0.88-1.00. Height of clypeus 0.05. Diameters of AME 0.09-0.10, ALE 0.12-0.14, PME 0.12-0.13, PLE 0.11-0.13; ratio of MOA-L/AW 1.08-1.21, ratio of AW/ PW 0.56-0.57. Leg formula 1-4-2-3. Femur I longer than femur IV.

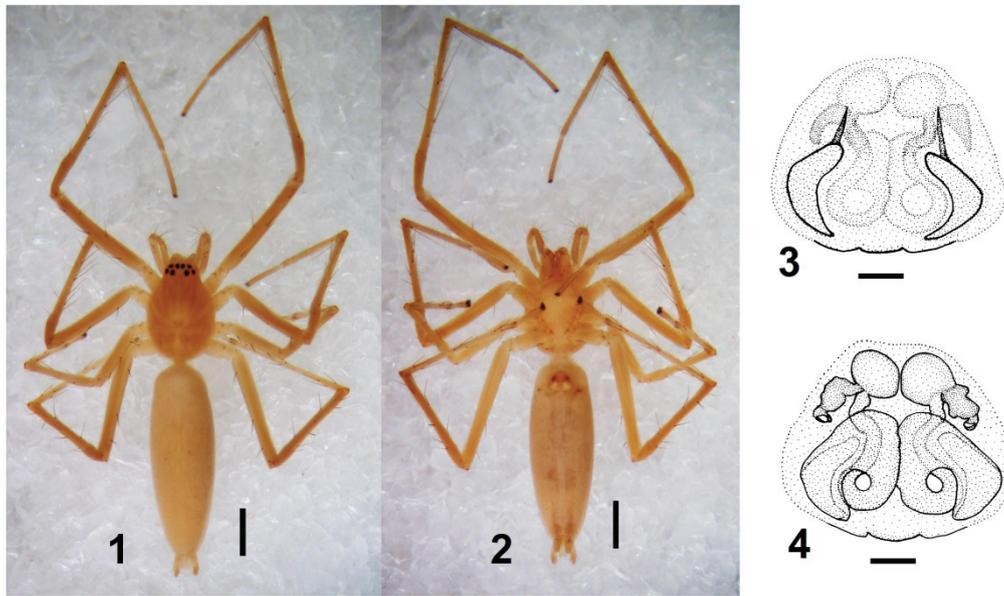
Distribution

Taiwan (Fig. 5).

Discussion

Spiders of the genus *Matidia* were reviewed by Deeleman-Reinhold (2001), most species are distributed in South and Southeast Asia except for *M. spatulata*, the only species of *Matidia* found in Taiwan where it becomes the northern boundary of the genus. Although the female *M. spatulata* has two depressions in the epigynum in contrast to one central depression on all the other congeners, characters of the genital organ of male palp, the dental distribution pattern of chelicera, and the leg formula indicate that *M. spatulata* undoubtedly belongs to the genus *Matidia*. In the length of legs, leg I longer than leg IV is a diagnostic character of the genus that infers femur I should longer than femur IV as in case of the males. However, the female of *M. spatulata* have femur IV longer than femur I that is also present in at least two southeast Asian species, *M. virens* and *M. simian* (Deeleman-Reinhold, 2001).

Chen and Huang (2006) pointed out that *Matidia spatulata* “occurs in the secondary forest of the low mountain areas at elevations below 500 m in Taiwan” and inferred “the breeding season of *M. spatulata* is probably in spring and in early summer”. The present specimens confirm that *M. spatulata* is widely distributed in the low mountain



Figures 1-4. *Matidia spatulata* Chen and Huang, 2006. 1. Dorsal side view of body; 2. Ventral side view of body; 3. Epigynum, ventral view; 4. Vulva, dorsal view. Scales: 1 mm (1, 2); 0.1 mm (3,4).

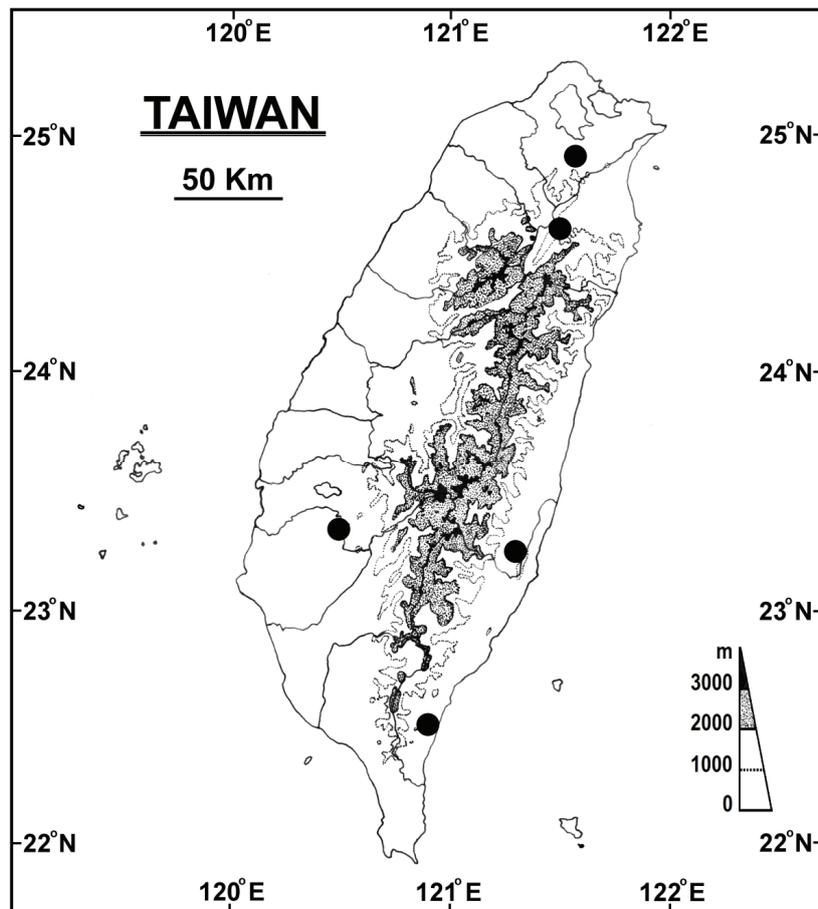


Figure 5. Map showing the collection localities of *Matidia spatulata* (solid circles) in Taiwan.

areas at elevations below 500 m of the whole island. In addition, a female guarding her eggs under a silken sheet on the underside of leaves was observed at Loshan, eastern Taiwan in early April, 2011 (Huang unpublished data) and a male (NTNUB-Ar 38754) was collected at Wulai, northern Taiwan in late August, 2009 that confirms the breeding season of *M. spatulata* should be in months from March to August (from early spring to late summer). However, only six specimens to date were obtained, thus the biology of *M. spatulata* needs to be studied in the future.

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台灣特有種鏟形馬蒂蛛雌蛛之描述 (蜘蛛目, 袋蛛科)

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摘 要

本文首次繪圖及描述鏟形馬蒂蛛 (*Matidia spatulata* Chen et Huang, 2006) 雌蛛在台灣之發現。鏟形馬蒂蛛雌蛛在外雌器上具有二個鐮刀形凹洞, 與本屬其他雌蛛僅具有單一中央凹洞不同。此外, 二隻新發現雄蛛的形質特徵亦在本文中描述。

關鍵詞: 蜘蛛目、袋蛛科、馬蒂蛛屬、鏟形馬蒂蛛、台灣

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