

# A New Record of Spider, *Hersilia asiatica* Song and Zheng, from Taiwan (Araneae: Hersiliidae)

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## ABSTRACT

*Hersilia asiatica* Song and Zheng, 1982 is recorded from Taiwan for the first time. Both male and female are redescribed in the present paper based on the specimens from Taiwan. *Hersilia asiatica* is closely related to *H. savignyi*. However, a large process with few rows of teeth on the pedipalpal patella of the male *H. asiatica* is different from that of *H. savignyi*. Besides, female epigynum and male palpal organ are also available for the diagnosis.

**Keywords:** *Hersilia asiatica*, Araneae, new record, Taiwan

## Introduction

Hersiliids are small-sized, flattened, and fast running spiders which are found frequently on the tree trunks and occasionally on the lichen-covered crags. They are easily recognized by their long posterior spinnerets that are as long as the abdomen or even longer, and by their long legs that stretch out radically on the tree bark. Eight heterogeneous eyes are in two strongly recurved rows on the hump of head region. Two antero-lateral eyes are nocturnal and the others are diurnal. Totally, about fifty species are recognized and mainly distributed in the tropical areas of the world. Only one species, *Hersilia savignyi* Lucas, 1836, had been recorded in Taiwan (Lee, 1964; Chu and Okuma, 1974, 1975). During the past decade, the author had chance to collect spiders from various localities of Taiwan during the field investigation. After examining the specimens, a second species of the genus *Hersilia* was revealed. The present species is identified as *Hersilia asiatica*, a species described by D. Song and S. Zheng from mainland China in 1982, and added to the spider fauna of Taiwan.

## Materials and Methods

Specimens were examined and measured under a stereomicroscope. Female epigynum was removed and pre-cleaned with 10% KOH to examine the inner structures. Measurements were made to the nearest 0.01 mm. All figures were drawn by using a drawing tube. Specimens examined in the present paper are preserved in 70% ethanol and deposited in the Arachnological collection of the Department of Biology,

National Taiwan Normal University (NTNUB-Ar). Abbreviations used in the present paper are defined as: AME, anterior median eye; ALE, anterior lateral eye; PME, posterior median eye; PLE, posterior lateral eye.

## Results and Discussion

*Hersilia asiatica* Song and Zheng, 1982 (Figs. 1A - F)

**Specimens examined:** 1 female, 1 male, and 1 juv. (NTNUB-Ar 75), Chihnkung, Mucha, Taipei, 6-VI-1988, S.-H. CHEN leg.; 1 male (NTNUB-Ar 1067), Laiyi, Pingtung Hsien, 2-II-1994, S.-H. CHEN leg.; 1 male and 2 juv. (NTNUB-Ar 1068), Chialan, Taitung Hsien, 3-I-1994, S.-H. CHEN leg.

**Description:** Measurements. All measurements were done based on adults of one female and three males, but those of legs were based on two adult males. Measurements (in mm) given for female are followed by those of males (mean  $\pm$  SE in parentheses for males only): Body length 6.62, 4.68 - 5.34 (4.91  $\pm$  0.17); carapace length 2.89, 1.97 - 2.26 (2.08  $\pm$  0.08); carapace width 2.82, 1.90 - 2.16 (2.00  $\pm$  0.06); abdomen length 3.74, 2.68 - 3.08 (2.84  $\pm$  0.10); abdomen width 3.41, 2.23 - 2.39 (2.33  $\pm$  0.04); anterior spinneret 0.76, 0.55 - 0.66 (0.61  $\pm$  0.03); posterior spinneret 5.64, 4.00 - 4.86 (4.55  $\pm$  0.22). Measurements of legs are given in Table 1.

Female. Carapace yellowish brown, with a narrow dark brown stripe along the margin and a black patch on the ocular area, heart-shaped, a little longer than broad; head region highly raised; cervical grooves

**Table 1.** Measurements of leg segments of *Hersilia asiatica* Song and Zheng found in Taiwan. (in mm)

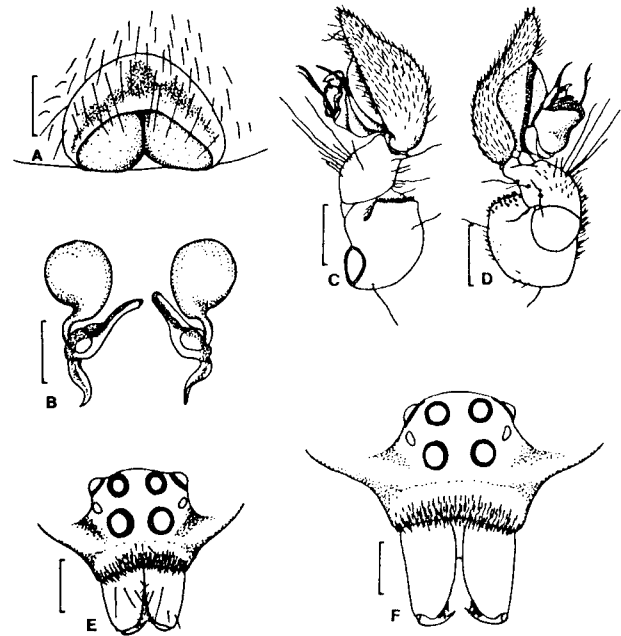
Leg	Femur	Patella+ Tibia	Meta- tarsus	Tarsus 1	Tarsus 2	Total
FEMALE (n = 1)						
I	6.03	6.75	4.85	2.75	0.92	21.30
II	5.90	6.95	5.11	3.02	0.79	21.77
III	2.43	2.59	2.10	0.75		7.87
IV	5.31	5.64	4.79	2.43	0.69	18.86
MALE (n = 2)						
I	*6.43 ± 0.09 **(6.30-6.56)	8.10 ± 0.07 (8.00-8.20)	6.56 ± 0.18 (6.30-6.82)	3.14 ± 0.04 (3.08-3.21)	0.79 ± 0.00 (0.79)	25.02 ± 0.12 (24.86-25.19)
II	6.16 ± 0.00 (6.16)	7.70 ± 0.07 (7.61-7.80)	6.10 ± 0.09 (5.97-6.23)	3.08 ± 0.04 (3.02-3.15)	0.79 ± 0.00 (0.79)	23.84 ± 0.11 (23.68-24.00)
III	2.23 ± 0.05 (2.16-2.30)	2.26 ± 0.07 (2.16-2.36)	1.96 ± 0.04 (1.90-2.03)	0.59 ± 0.00 (0.59)		7.04 ± 0.17 (6.81-7.28)
IV	5.12 ± 0.04 (5.05-5.18)	5.57 ± 0.09 (5.44-5.70)	5.05 ± 0.18 (4.79-5.31)	2.56 ± 0.05 (2.62-2.49)	0.72 ± 0.00 (0.72)	19.01 ± 0.28 (18.62-19.40)

\* Mean ± SE    \*\* (Ranges)

distinct. Eyes heterogenous strongly recurved. Diameters of eyes in ratio, AME : ALE : PME : PLE = 7 : 4 : 6 : 5. ALE closer to PLE than to ALE. Median ocular area as long as broad, anterior margin slightly longer than the posterior (1.06 : 1). Clypeus (Fig. 1F) longer than the diameter of AME (1.71 : 1). Chelicerae brown; fang reddish brown; promargin of the fang groove armed with 3 large triangular teeth and retromargin with 8 - 9 minute processes. Maxilla yellowish brown, oblong in shape. Labrium light brown, with a yellow stripe on the front margin, broader than long. Sternum yellow, heart-shaped, with an obtuse end between the fourth coxae. Pedipalp yellow, with brown bends on the proximal ends of tibia and tarsus, and on the distal end of tarsus. A black claw at the tip of pedipalp. Legs light yellow on coxa, and with greyish brown bends on the rest segments, order of length 2 > 1 > 4 > 3. Except for Leg III, Legs I, II, and IV each possessing two tarsal segments.

Abdomen pentagonal, longer than broad and widest at two third of the abdomen. Dorsum grayish brown, with 4 pairs of small dark brown spots in two lines. A dark brown patch on the anterio-lateral corner of the abdomen. Venter light yellow. Anterior spinnerets composed of two segments; distal segment very short. Median spinnerets as long as anterior spinnerets. Posterior spinnerets situated outside of the median spinnerets; distal segments much longer, 4.4 times the length of proximal segments. Anterior spinneret shorter than the proximal segment of the posterior spinneret. Epigynum and female genitalia as shown in Figs. 1A - B.

Male. Similar to female in shape and coloration. Diameters of eyes in ratio, AME : ALE : PME : PLE = 4 : 2 : 3 : 3. Clypeus (Fig. 1E) nearly as long as the diameter of AME (1.08 : 1). Order of leg length, 1 > 2 > 4 > 3. Distal segment of posterior spinnerets 4.8 times the length of proximal segment. Patella of pedipalp strongly enlarged and a large truncated process with few rows of short spines situated on the inner side



**Fig. 1.** *Hersilia asiatica* Song and Zheng. A. Female epigynum, ventral view; B. Female genitalia, dorsal view; C. Right male pedipalp, ventral view; D. Male pedipalp, dorsolateral view; E. Head of male, frontal view; F. Head of female, frontal view. (A-D, scale = 0.2 mm; E-F, scale = 0.5 mm)

of the process (Figs. 1C - D).

**Distribution:** Taiwan and China (Zhejiang and Guangdong).

**Remarks:** Although the author unable to compare Taiwanese specimens with the type specimen or the original description written by Song and Zheng in 1982, both female epigynum and male palpal organ of Taiwanese specimens are completely identical to those of *Hersilia asiatica* in mainland China based on the description and figures in Hu (1984). Because Hu's figures completely follow those of Song and Zheng

(1982). Without inspection of the type specimen and the original publication will not alter the accuracy of present identification. The present species is closely related to *Hersilia savignyi* Lucas, 1836. However, a large process with few rows of teeth on the pedipalpal patella of *Hersilia asiatica* is not present on that of *H. savignyi*. Besides, female epigynum and male palpal organ are also diagnostic.

### Acknowledgements

The author wishes to express his sincere thanks to Dr. Y. Wang, National Taiwan Normal University, for the help on field investigation, and to Mr. C.-W. Hsu, Hsinchu Senior High School, for the loan of his valuable literature.

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## 亞洲長疣蜘蛛，一種臺灣的新記錄蜘蛛 (蜘蛛目：長疣蜘蛛科)

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### 摘要

本文記載在臺灣首次發現的亞洲長疣蜘蛛(*Hersilia asiatica* Song and Zheng, 1982),並描述雌雄個體之形態特徵及其分布。本種與薩氏長疣蜘蛛(*Hersilia savignyi* Lucas, 1836)極為類似,但是亞洲長疣蜘蛛之雄蜘蛛觸肢膝節有一截平的突起,並著生數列黑褐色小棘在此突起上可資區別。此外,雌蜘蛛的外雌器和雄蜘蛛的觸肢器形態亦與薩氏長疣蜘蛛不同。

關鍵詞: 亞洲長疣蜘蛛、長疣蜘蛛科、新記錄、台灣