

## Two New Species and Two Unrecorded Species of the Family Salticidae (Arachnida: Araneae) from China

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## 中國產 강충거미과 (거미綱: 거미目)의 2新種과 2未記錄種

팽금현 · 공인서\* · 김주필\*\*

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### ABSTRACT

This paper deals with four species of jumping spiders from Hunan province, China. Two new species; *Philaeus daoxianensis* sp. n. and *Simaetha gongi* sp. n., two new ones to China; *Neon ningyo* and *Tasa davidi*. Diagnostic structures, such as body and genitalia organs, are illustrated to each species. Descriptions and known data of geographical distribution also are given. In addition, detailed comparisons of the new species and its similar species are discussed. Type specimens are deposited in Department of Biology, Hunan Normal University, Changsha, Hunan, China.

**Key words :** Araneae, *Philaeus daoxianensis*, *Simaetha gongi*, *Neon ningyo*, *Tasa davidi*, China

### INTRODUCTION

Chinese Salticid species are very plentiful. Hitherto, more than 270 species have been described (Peng *et al.* 1993). Recently, during a study of our collections, we identified some new and newly recorded species. Here are four of them. All measurements are in mm. Scale bars equal 1.0 for all figures of the body and 0.1 for all genital organs. The sequence of leg segments in measurement data are as follows: total length (Femur, Patella+Tibia, Metatarsus, Tarsus)

Abbreviations used : AER= anterior eye row (Eyes I width); AL= abdomen length; ALE= anterior lateral eye; AME= anterior median eye; AW= abdomen width; CL= cephalothorax length; CW= cephalothorax width; EFL= eye field length; PER= posterior eye row (Eyes III width); PLE= posterior lateral eye; TL= total length.

### RESULTS

*Neon ningyo* Ikeda, 1995 (Figs. 1-4)

*Neon ningyo* Ikeda, 1995: 40, figs. 34-46

**Material:** 3 ♂♂, Daoxian country, Hunan Province, 5 April 1992, leg. Gong Liansu.

#### Description

**Male:** TL 1.9, CL 0.9, CW 0.8, AL 1.0, AW 0.8, AER 0.65, PER 0.7, EFL 0.5, Carapace (Fig. 1) light brown with black margin, hairs sparse, lateral sides and front area of eye field black, PME at the midpoint between ALE and PLE; two dark brown longitudinal bands running from ALE ending at posterior margin of carapace; fovea and radial grooves unclear. Sternum like an inverted pear, wider anteriorly, yellowish brown with darker margin. Clypeus greyish brown, anterior margin greyish black, height longer than the radius of AME. Chelicera greyish brown, without tooth. Endites and labium

light yellow. Legs yellowish brown with dark grey annuli, spines long. Abdomen cylindrical, slightly wider anteriorly; dorsum (Fig. 1) light brown, four dark grey longitudinal bands: two on lateral sides (Invisible on dorsal view), two on median area connected by 5 transverse bands; ventrally greyish black, median area yellowish brown. Spinnerets yellowish brown.

**Distribution:** Japan, China (Hunan Province)

*Philaeus daoxianensis* sp. n. (Figs. 5-8)

**Type materials:** 2 ♂♂, Daoxian Country, Hunan Province, 1985, leg. Gong Liansu.

**Etymology:** The specific name is derived from its type locality, Daoxian Country.

**Description**

**Male** (Holotype): TL 3.4, CL 1.7, CW 1.2, AL 1.7, AW 1.2, AER= PER 0.9, EFL 0.7.

Carapace black brown, the area around fovea covered by dense white hairs; margin also covered by dense white hairs and like white band; two lateral margins almost parallel; fovea, cervical and radial grooves distinct. Sternum ovoid, brown with dark brown margin. Clypeus entirely covered with white hairs, white band formed with white hairs connects with the same color bands on lateral sides of carapace. Chelicera black brown, 2 promarginal teeth, 1 retromarginal. Endites and labium black brown. Leg I stout and strong, black brown swollen except distal two segments, one short stout spine on anterior side of distal end of tibia I, two short spines on anterior side of metatarsus I; leg IV light greyish brown, with grey annuli, 3 long spines on dorsal side of femur IV; measurements: I 3.0 (0.9, 1.3, 0.5, 0.3); I and III missed; IV 2.7 (0.9, 1.0, 0.5, 0.3). Abdomen (Fig. 5) elongated oval, dorsum greyish brown, each side with longitudinal white band formed by white hairs; four pairs of irregular lightly colored marks on median area; ventrally light brown with two light yellow longitudinal bands. Spinnerets greyish brown. Palpal organ (Figs. 6-8): embolus very long, encircles the bulb by one coil, its distal end almost extends to the distal part of cymbium; two tibial apophyses, ventral one long and thin, dorsal one very short.

**Female:** Unknown.

**Distribution:** China (Hunan Province).

**Remarks:** The new species is allied to *P. senilis* Denis, 1955 (Proszynski, 1984: 110), but differs in: (1) embolus (Figs. 6-8) much longer, encircles the bulb with one coil; that

of the latter doesn't encircle the bulb entirely; (2) tegulum without the triangular apophysis found in that of the latter; (3) two tibial apophyses (Figs. 7-8).

*Simaetha gongi* sp. n. (Figs. 9-14)

**Type materials:** 2 ♀♀, 2 ♂♂, Daoxian Country, Hunan Province, 5 September 1992, leg. Gong Liansu.

**Etymology:** The new species is named in honour of the type specimen collector, Gong Liansu.

**Description**

**Female** (Holotype): TL 1.9, CL 0.9, CW 0.85, AL 1.0, AW 0.9, EFL 0.6. Body with metallic lustre. Carapace (Fig. 9) dark brown, covered with brown and white hairs, no distinct pattern; cephalic region flat and trapezoid, widest at the position of PER; eyes with darker bases. Thoracic region inclined abruptly. Sternum dark brown, hairs sparse, median area lightly colored and with a protuberance. Clypeus dark brown, height about the radius of the AME. Chelicera, endites and labium dark brown, both two margins with two teeth. Legs dark brown, annuli unclear, with feather-like hairs which are especially obvious on legs I and II; spines long, hairs sparse; measurements: I 1.45 (0.55, 0.5, 0.2, 0.2); II 1.25 (0.45, 0.4, 0.2, 0.2); III 1.3 (0.5, 0.4, 0.2, 0.2); IV 1.4 (0.5, 0.4, 0.3, 0.2); formula: 1, 4, 3, 2. Abdomen slightly wider anteriorly; dorsum reddish brown without distinct pattern (Fig. 9); ventrally greyish brown with brown hair, no pattern. Spinnerets light brown. Epigynum (Fig. 11): pocket wide, short and far away from epigastric groove; spermatheca visible on the body. Vulva (Fig. 12): two-chamber spermatheca, lower one much bigger; copulatory canals very short.

**Male:** TL 1.8, CL 0.8, CW 0.85, AL 1.0, AW 0.85, AER 0.6, PER 0.85, EFL 0.5. Body color darker than that of female. Leg I swollen except distal segments; measurements: I 1.6 (0.6, 0.6, 0.2, 0.2); II 1.2 (0.4, 0.4, 0.2, 0.2); III 1.3 (0.5, 0.4, 0.2, 0.2); IV 1.35 (0.45, 0.4, 0.3, 0.2); formula 1, 4, 3, 2. Feather-like hairs on leg I most obvious and typical. The other morphological characteristics similar to those of female. Palpal organ (Figs. 13-14): embolus long, sperm duct stout, tibial apophysis long and finger-shaped.

**Discussion:** Epigyne with a distinct pocket; palp tibia with a retrolateral apophysis; sternum with distinct protuberance. Based on those, we should put the new species in the genus *Simaetha*. While, PER much wider than AER, EFL much longer and body dimension much smaller compared with other species of the genus, Those indicate that the new species

## Four Species of the Salticidae from China

has some similarities to the species of the genus *Simaethuta*. The present classification is tentative.

**Distribution:** China (Hunan Province).

**Remarks:** Female of the new species is similar to that of *S. paetula* (Keyserling 1882) (Zabka, 1994: 526, Figs. 16-17), but differs in: (1) epigynal pocket wider, short and further from epigastric groove (Fig. 11); (2) no epigynal ridges appearing in that of *S. tenuior*; (3) no distinct abdominal pattern; (4) body dimension (1.9) is much shorter than that of the latter (4.95). Male of the new species resembles *S. paetula* (Keyserling, 1882) (Zabka 1994: 521, Fig. 13A-D), but differs in: (1) tibial apophysis much longer, that of the latter much shorter and laterally curved; (2) abdominal pattern invisible in the new species, but very clear in *S. paetula*; (3) body dimension (1.8) is much shorter than *paetula* (5.82).

### *Tasa davidi* (Schenkel 1963) (Figs. 15-18)

*Thianella davidi* Schenkel, 1963: 412, Fig. 237 (♂)

*Tasa davidi* Wesolowska, 1981: 157-159, Figs. 88-92 (♂)

**Materials:** 3 ♀♀, 1 ♂, 2 immatures, Daoxian Country, Hunan Province, 3 October 1987, leg. Gong Liansu; 3 ♀♀, Daoxian Country, Hunan Province, 31 September 1987, leg. Gong Liansu; 1 ♀, Daoxian Country, Hunan Province, 10 August 1987, leg. Gong Liansu.

### Description

**Female** (first described here): TL 3.5, CL 1.6, CW 1.1, AL 1.9, AW 1.1, AER= PER 0.9, EFL 0.7. Carapace (Fig. 15) brown densely covered with white hairs, lateral sides and anterior area of eye field dark brown with black brown setae; cervical groove unclear; fovea black, longitudinal. Sternum ovoid, brown with darker margin. Chelicera brown, 2 promarginal teeth, 1 retromarginal. Endites and labium brown to dark brown, distal ends lightly colored, with dense hairs. Plap and legs brown, annuli indistinct, 3 long and curved stout setae on

dorsum of each femur; spines sparse, short and weak; tibia I with 3 spines on anterior side, metatarsus I with 2 pairs on ventral side; measurements: I 2.2 (0.7, 0.9, 0.3, 0.3.); II 1.9 (0.6, 0.7, .03, 0.3); III 2.1 (0.7, 0.7, 0.4, 0.3); IV 2.8 (0.9, 1.0, 0.5, 0.4); formula 4, 3, 1, 2. Abdomen elongated ovoid; dorsum (Fig. 15) greyish black, with white and brown hairs, patterns greyish yellow; ventally greyish brown, 2 longitudinal black bands on median area. Spinnerets greyish black, one greyish black circle in front of the spinneret base. Epigynum (Fig. 16): atrium transverse and arc-shaped; copulatory canals visible on the body, twisted in S-shaped; Vulva (Figs. 17-18): copulatory canals stout, twisted and folded in S-shaped.

**Distribution:** China.

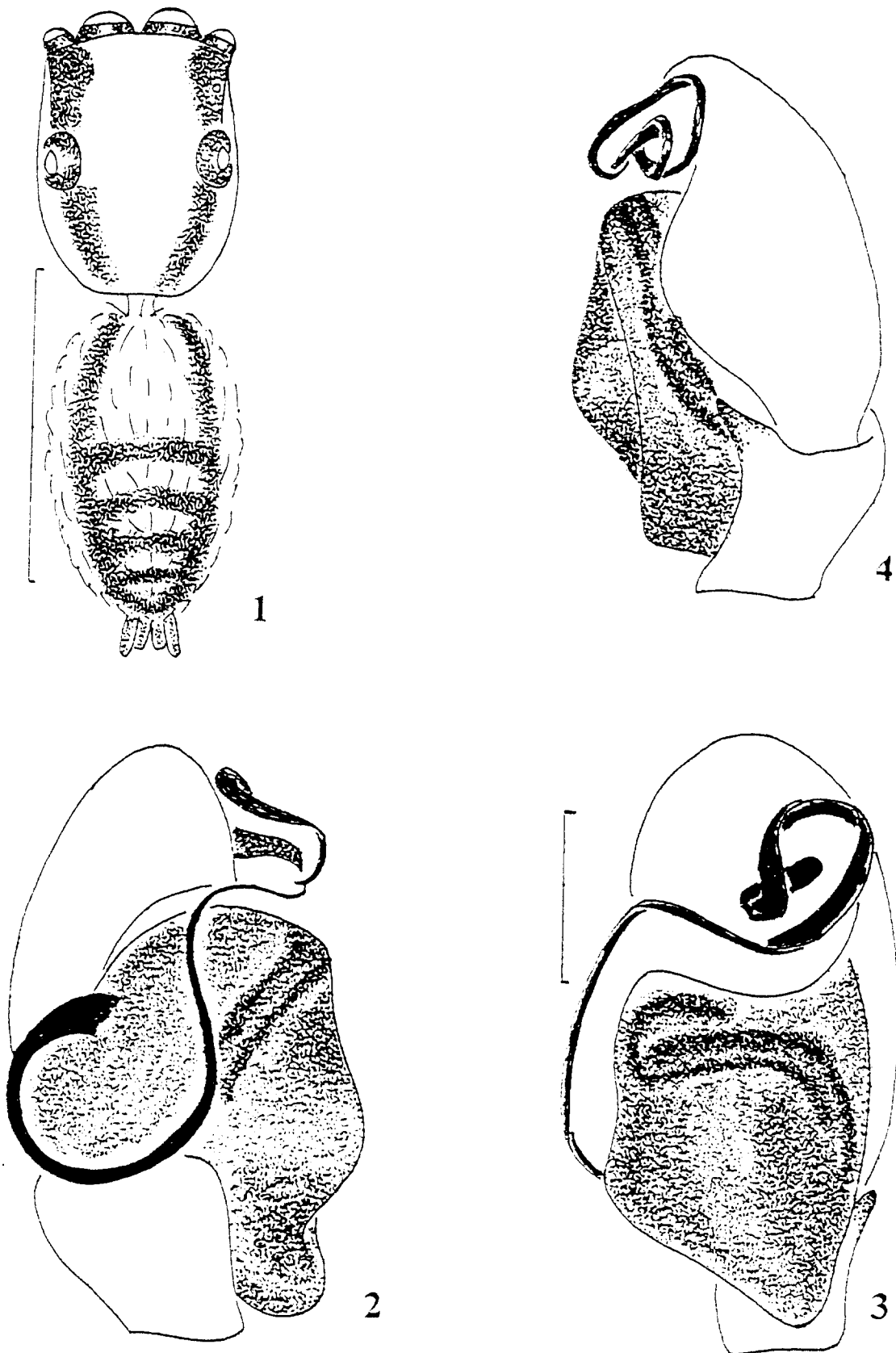
## 적 요

중국의 Hunan성에서 채집한 강충거미과의 2신종인 *Philaeus daoxianensis*와 *Simaetha gongi* 그리고 2미기록종인 *Neon ningyo*와 *Tasa davidi*를 기재보고 한다.

검색어: 거미목, *Philaeus daoxianensis*, *Simaetha gongi*, *Neon ningyo*, *Tasa davidi*, 중국.

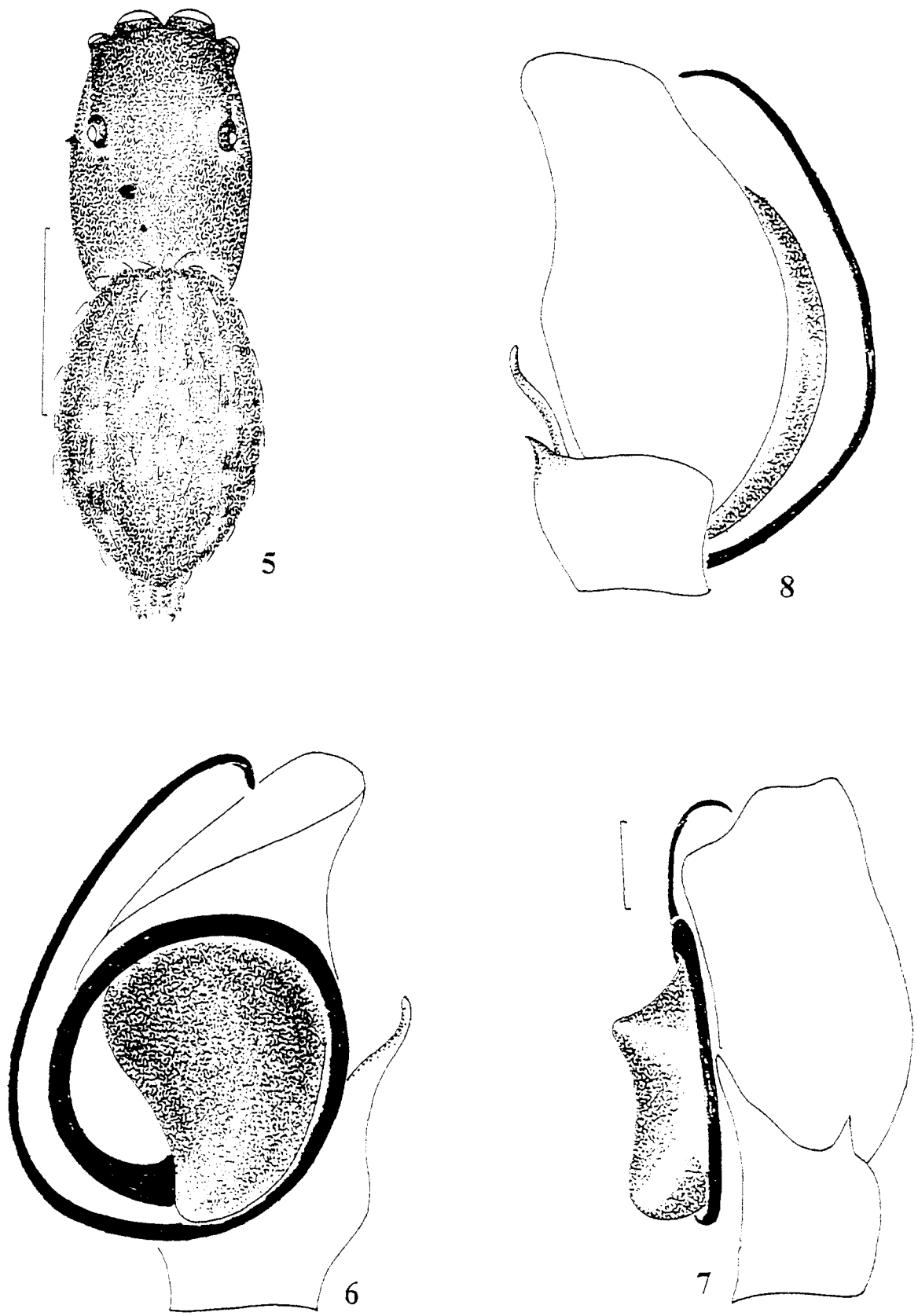
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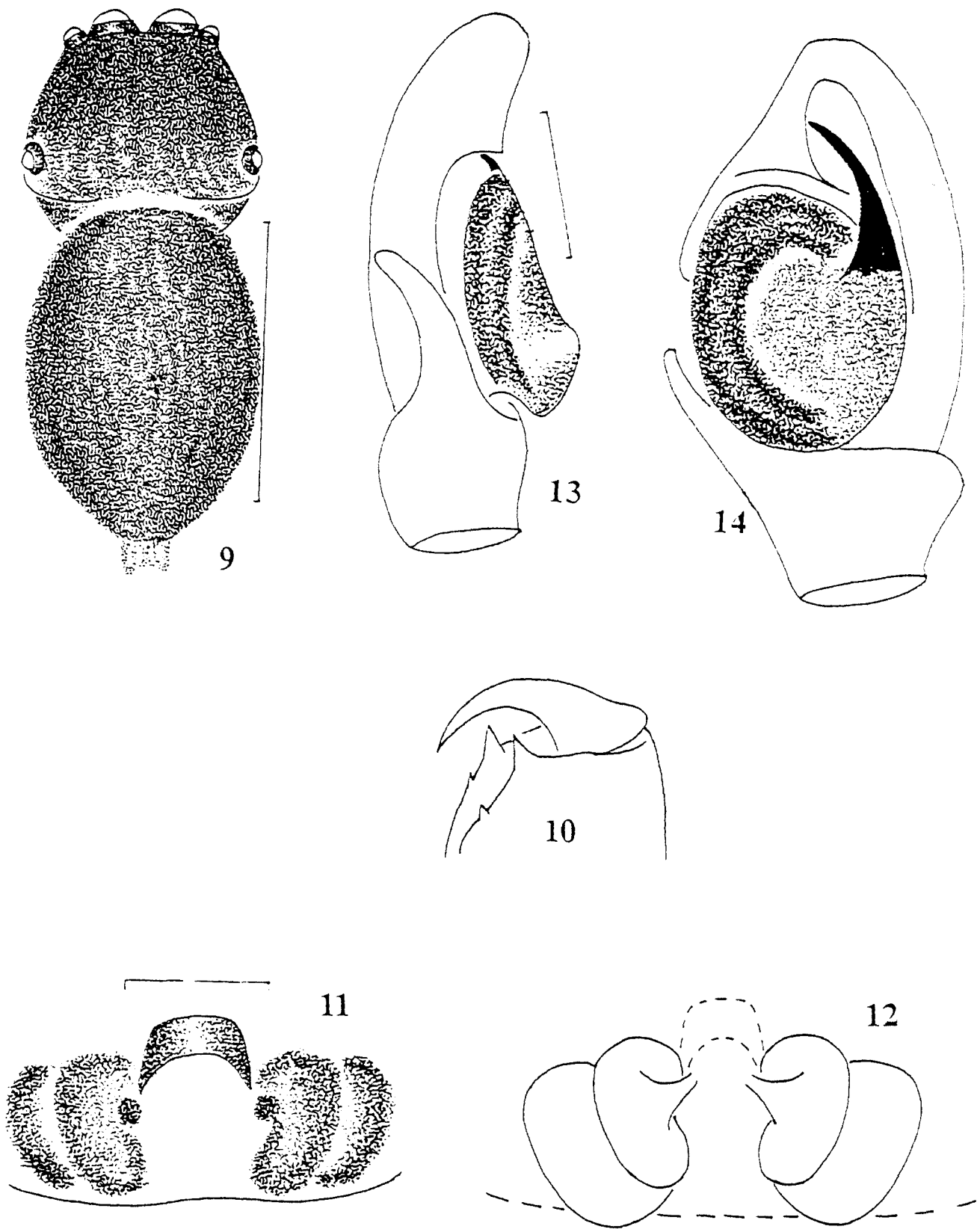
**Figs. 1-4.** *Neon ningyo* Ikeda, 1995.

1. Total body, dorsal view, 2. Palpal organ, prolateral view, 3. Ditto, ventral view, 4. Ditto, retrolateral view



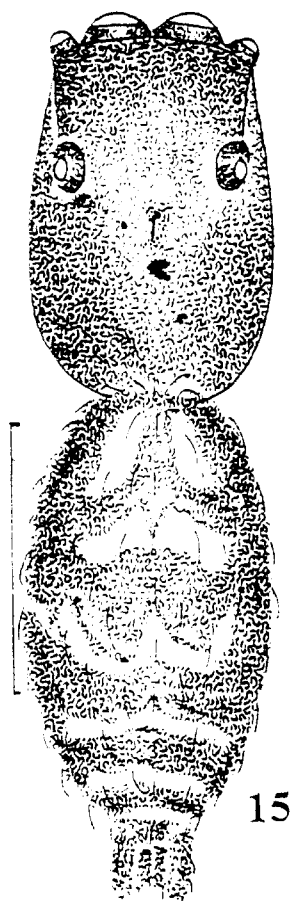
**Figs. 5-8.** *Philaeus daoxianensis* sp. n.

5. Total body, dorsal view, 6. Palpal organ, ventral view, 7. Ditto, retrolateral view, 8. Ditto, dorsal view

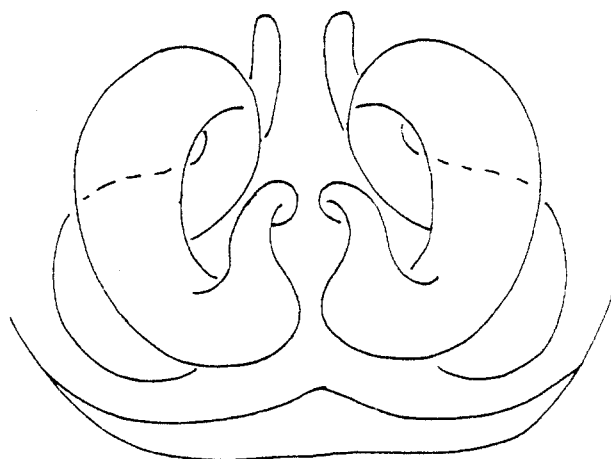


**Figs. 9-14.** *Simaetha gongi* sp. n.

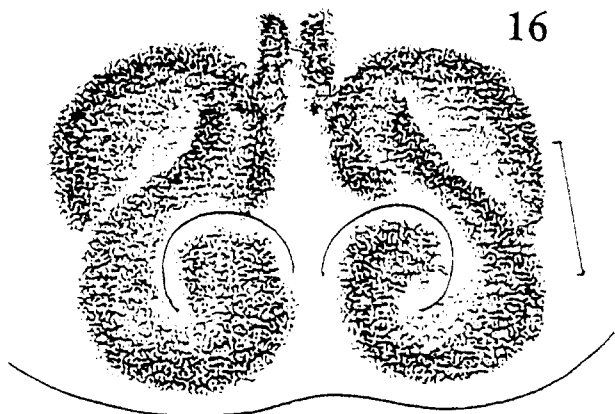
9. Total body, female, dorsal view, 10. Chelicera, ventral view, 11. Epigynum, ventral view, 12. Vulva, dorsal view, 13. Palpalorgan, ventral view, 14. Ditto, prolateral view



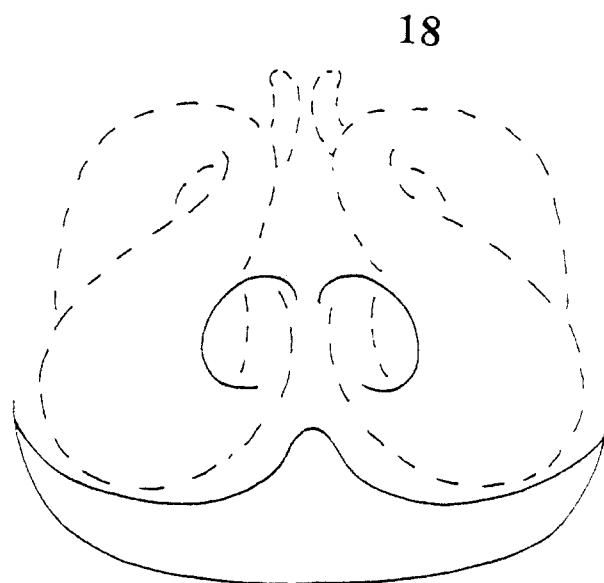
15



17



16



18

**Figs. 15-18.** *Tasa davidi* (Schenkel, 1963).  
15. Total body, dorsal view, 16. Epigynum, ventral view, 17. Vulva, dorsal view, 18. Ditto, ventral view Scale bars = 1.0 (1, 5, 9, 15), 0.1 (2-4, 6-8, 10-14, 16-18)