Two new species of the genus *Irura* Peckham & Peckham, 1901 (Araneae: Salticidae) from Hainan Island, China

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**Abstract** — Two new species of jumping spiders belonging to the genus *Irura* Peckham & Peckham, 1901 collected from Hainan Island, China, were diagnosed, described and illustrated under the names: *Irura bidenticulata* sp. nov. and *I. pungi* sp. nov.

**Key words** — Salticidae; new species; Hainan Island; China

**Introduction**

The family Salticidae, commonly called jumping spiders, is the largest and most diverse spider group in the world and is represented by 573 genera and 5337 known species (Platnick, 2011). Among them, 426 species of 85 genera have been found in China (Li & Wang, 2011; Platnick, 2011).

The salticid genus *Irura* was erected by Peckham & Peckham (1901) based on the type species *Irura pulchra* Peckham & Peckham, 1901. Simon (1903) designated the genus to the group Simaethae. At present it belongs to the subfamily Marpissinae, and includes ten species in the world, mainly distributes in Southeast Asia (*I. bicolor, I. mandarina, I. pygaea* and *I. prima*), southern China (*I. hamatapophysis, I. trigonapophysis, I. longiochelicera, I. yueluensis* and *I. yunnanensis*) and Sri Lanka (*I. pulchra*). In appearance it is close to *Simaetha*. Members of *Irura* were diagnosed according to following characters: flattened and broadened body habitus; long and thick leg I; oval abdomen, dorsum with big and orange apodemes; palp organ with a long cymbial flange, long and thin embolus, unobvious conductor; weakly sclerotized epigynum; pear-shaped spermatheca connecting with S-shaped copulatory ducts.

Hainan Island, located in the South China Sea, is the China’s southernmost province and the country’s second largest island after Taiwan. Only a shallow and narrow strait separates it from Leizhou Peninsula of Guangdong to the north. Hainan has a tropical moist monsoonal climate and forest covers 51.5% of the whole island. It lies entirely in the tropics and has a rich tropical primeval forest home to many rare animals and plants. The spider fauna is very rich and abundant on Hainan. Song et al. (2002) recorded 196 species, belonging to 88 genera and 13 families.

While examining specimens collected from Hainan Island in 2007–2009, we found some undescribed jumping spiders with the flattened and broadened habitus and the long and thick leg I which conform to the generic characters of *Irura*. We describe here two new species new to science under the names: *Irura bidenticulata* sp. nov. and *I. pungi* sp. nov.

**Materials and methods**

All measurements are given in millimeters. Carapace length was measured from the anterior margin to the rear margin of the carapace margin, excluding the clypeus. Total length is the sum of carapace and abdomen length, regardless of the petioli. Eye sizes were measured as the maximum diameter in dorsal or frontal view. The measurements of legs are as follow: total length (femur + patella + tibia + metatarsus + tarsus). All specimens were preserved in 75% alcohol, examined, illustrated and measured under a Tech XTL-II stereomicroscope equipped with an Abbe drawing device. Specimens of the new species were deposited in the Museum of Hebei University (MHBU), Baoding, China.

The abbreviations used in this paper are as follows: AME, anterior median eyes; ALE, anterior lateral eyes; PME, posterior median eyes; PLE, posterior lateral eyes.

**Taxonomy**

*Irura* Peckham & Peckham, 1901


**Type species**: *Irura pulchra* Peckham & Peckham, 1901, by original designation.

*Irura bidenticulata*, new species  
(Figs. 1–10)

Type material. Holotype male, Hainan Island, Ledong
Figs. 1–10 *Irura bidentatiformis* sp. nov. 1. male body, dorsal view; 2. male left leg I, prolateral view; 3. female left leg I, prolateral view; 4. female left chelicer, posterior view; 5. male left chelicer, posterior view; 6. epigyne, ventral view; 7. vulva, dorsal view; 8. male left palp, ventral view; 9. same, retrolateral view; 10. same, dorsal view. Scale lines: 1.0 mm (1–5), 0.25 mm (6–10).

Figs. 11–16 *Irura pengi* sp. nov. 11. male body, dorsal view; 12. male left chelicer, posterior view; 13. male left leg I, prolateral view; 14. male left palp, ventral view; 15. same, retrolateral view; 16. same, dorsal view. Scale lines: 1.0 mm (11–13), 0.25 mm (14–16).


Etymology. The specific name refers to the spermatheca with one dentate processes; adjective.

Diagnosis. The male of the new species is similar to *Irura trigonapophysis* (Peng & Yin, 1991), but can be distinguished from the latter by: the end of cymbial flange bend inward. The female resembles *Irura yueluensis* (Peng & Yin, 1991), but can be distinguished from the latter by: vulva has two pairs of spermathecae, the front pair has a dentation on the tip.

Description. Males length 3.46–3.80. Holotype total length 3.80: cephalothorax 1.75 long, 2.05 wide; abdomen 2.05 long, 1.88 wide. Carapace yellow. Eyes with black rings except AMEs. Carapace moderately granular, brown with blackish sides, white setae and metallic luster; two big round spots between the second eye rows (Fig. 1). The first eye row 1.65 wide, third eye row 2.05 wide, eye area 0.99 long. Eye size: AME 0.53, ALE 0.30, PME 0.07, PLE 0.20. Clypeus height 0.13. Fovea extremely short, cervical groove and radial grooves indistinctly. Chelicerae (Fig. 5) yellow brown, with condyles, and with some small promarginal dentation, one combined retromarginal tooth, and one middle tooth between promargin and retromargin. Endites and labium yellow brown, with black hairs on the anterior margin. Sternum oval. Leg I (Fig. 2) slightly swollen and more robust than the others. Tibia I with two pairs of ventral spines, metatarsus I with two pairs of ventral spines. Leg measurements: I 4.66 (0.82 +1.29 +1.29 +0.76 +0.50), II 2.87 (0.99 +0.56 +0.50 +0.46 +0.36), III 2.41 (0.86 +0.33 +0.46 +0.50 +0.26), IV 2.85 (0.96 +
0.50 + 0.56 + 0.50 + 0.33). Leg formula: 1423. Abdomen broadly oval, yellow brown; dorsal with white, flat and short metaesenec hairs, and three pairs of muscular impressions; venter with two grayish longitudinal stripes, bilaterally with black oblique lines. Anterior spinnerets grey brown, others light yellow.

Male Palp (Figs 8–10). Brown, tibia with a membranous structure at the joint, the end of cymbial flange bent inward; retrolateral tibial apophysis membranous, tip obtuse and cloven; embolus long and thin, originating prolaterally.

Females. Total length 3.30–3.87. A paratype female total length 3.63: cephalothorax 1.65 long, 2.25 wide; abdomen 1.29 long, 1.88 wide. Anterior eye row 1.62 wide, posterior eye row 1.95 wide, eye area 0.86 long. Eye size: AME 0.50, ALE 0.07, PME 0.07, PLE 0.20. Chelicerae (Fig. 4) with one promarginal tooth and one large keel-like retromarginal tooth. Leg I (Fig. 3) slightly swollen and more robust than the others. Leg measurements: 13.75 (1.19 + 0.43 + 0.93 + 0.75 + 0.45), II 3.66 (1.05 + 0.23 + 1.05 + 0.83 + 0.50), III 3.26 (1.00 + 0.38 + 0.55 + 0.88 + 0.45), IV 4.59 (1.20 + 0.38 + 1.00 + 1.38 + 0.63). Leg formula: 4123. Other characters are similar to those of males.

Epigynum (Figs 6–7) with only one pair of small copulatory openings; vulva with two pairs of spermathecae, the front pair large with a dentation process apically, the posterior pair spermatheca almost oval.

Distribution. China (Hainan).

Remarks. The specimens of the new species were collected from shrubs and plants by sweep net. They crawl from one side to the other side of the leaves, or jump from leaf to another leaf. At present, this new species is known only from Hainan, China.

*Irura pengi*, new species (Figs. 11–16)

Type material. Holotype male, Hainan Island, Qionghzhong County, Litum Mountain (19°14′ N, 109°48′ E), 18 August 2007, Feng Zhang leg.

Etymology. The specific name refers to an expert on Salticidae in China, Xian-jin Peng.

Diagnosis. This new species is similar to *Irura hamatopophyssis* (Peng & Yin, 1991), but can be distinguished from the latter by the promarginone with one combined basally teeth; and by the cymbial flange extending to the palpal tibia.

Description. Male holotype total length 3.33: cephalothorax 1.58 long, 1.78 wide; abdomen 1.75 long, 1.55 wide. Carapace (Fig. 11) yellow. Eyes with black surroundings except for anterior median eyes. Carapace external moderately granular, brown with blackish sides, white setae and with metallic luster. First eye row 1.50 wide, second eye row 1.43 wide, third eye row 1.70 wide; eye area 0.93 long. Eye size: AME 0.45, ALE 0.25, PME 0.05, PLE 0.23. Clypeus height 0.12. Fovea extremely short, cervical and radial grooves unclear. Chelicera (Fig. 12) dark brown, with one promarginal tooth and one retromarginal tooth, the retromarginal tooth with a dentate process above the base. Endites, labium, dark brown with black hairs on the margin. Sternum oval. Leg I and other femora drak brown, with light yellow tiples and sparse black hairs. Leg I slightly swollen and more robust than the others. Tibia I with one pair of ventral spines, metatarsus I with two pairs of ventral spines (Fig. 13). Leg measurements: I 3.83 (1.32 + 0.73 + 0.89 + 0.46 + 0.43), II 2.48 (0.86 + 0.4 + 0.46 + 0.43 + 0.33), III 2.05 (0.73 + 0.30 + 0.33 + 0.36 + 0.33), IV 2.44 (0.89 + 0.36 + 0.46 + 0.4 + 0.33). Leg formula: 1243. Abdomen broad oval; dorsal with white metaesenec hairs, and three pairs of muscular impressions; venter with two grayish black longitudinal stripes, the bilaterally with black oblique lines. Anterior spinnerets grey brown, others light yellow.

Male Palp (Figs. 14–16). Brown, tibia with a membranous area at the joint, cymbial flange long, with pointed tip; retrolateral tibial apophysis digitiform, embolus long and thin.

Distribution. China (Hainan).

References


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