

## A new species of the genus *Gedea* (Araneae: Salticidae), fissidentate jumping spiders, from Japan

Hiroyoshi Ikeda

Kanade 1099, Ashigarakami-gun, Kanagawa Pref., 258–0018 Japan

E-mail: mail2-ikeda@nifty.com

---

**Abstract** — A new fissidentate jumping spider, *Gedea okinawaensis* sp. nov., is described from Japan. The genus *Gedea* is recorded from Japan for the first time.

**Key words** — Salticidae, fissidentate jumping spiders, *Gedea okinawaensis*, new species, Japan

---

### Introduction

The genus *Gedea* consists of five small-sized species, which range from Southeast Asia to China (Prószyński 2012). Simon (1903) mentioned that this genus *Gedea* is closely related to the genus *Emathis* and belongs to Emathideae, which has a retromarginal tooth with three or four cusps. The *Gedea* species except *G. unguiformis* Xiao & Yin 1991 were described on the basis of only male specimens, and their females have not been recorded.

In the present paper, I described a new species of *Gedea* using specimens collected from the Southern Ryukyus, Japan. This genus is new to the spider fauna of Japan (cf. Ono et al., 2009).

### Materials and methods

The type specimens designated are deposited in the collection of the National Museum of Nature and Science, Tsukuba, Ibaraki Pref., Japan.

The terminology used for salticid morphology follows that of Davies & Žabka (1989). ALE–PME was measured from the anterior margin of the anterior lateral eye to the posterior margin of the posterior median eye in dorsal view. All measurements are given in millimeters, and the range from the minimum to the maximum values of for the type specimens is shown in parentheses.

Abbreviations used are as follows: ALE, anterior lateral eye; AME, anterior median eye; p, prolateral; PLE, posterior lateral eye; PME, posterior median eye; r, retrolateral.

Genus *Gedea* Simon 1902

Type species: *Gedea flavogarius* Simon 1902

*Gedea okinawaensis* sp. nov.

[Japanese name: Nokoba-haetori]

(Figs. 1–11)

**Type series.** Holotype. ♂, Yona, Kunigami-son,

Okinawa-jima Island, Okinawa Pref., Japan, 22-V-1997, T. Sasaki & T. Kuwae leg. (NSMT-Ar 12501). Paratypes: ♀, Nakijin-son, Okinawa-jima Island., 23-VI-1995, A. Shinkai leg. (NSMT-Ar 12502); 4♂1♀, Same data as holotype (NSMT-Ar 12503); 1♂1♀, same data as the specimens of NSMT-Ar 12502 (NSMT-Ar 12504).

**Other specimens examined.** 1♀, Iriomote-jima Island, Okinawa Pref., Japan, 4-V-1985, A. Tanikawa leg. (NSMT-Ar 12505); 1♀, Komi, Iriomote-jima Is., 30-XII-1988, A. Tanikawa leg. (NSMT-Ar 12506); 1♂1juv., Nagojoshi, Nago-city, Okinawa-jima Island, 28-III-1997, T. Kuwae leg. (NSMT-Ar 12507); 1♀, Nagojoshi, Nago-city, 3-IV-1997, H. Ikeda leg. (NSMT-Ar 12508); 2♀, Nakijin, 3-IV-1997, H. Ikeda leg.; 1♀, Yona, 26-VI-1997, T. Sasaki leg. (NSMT-Ar 12509).

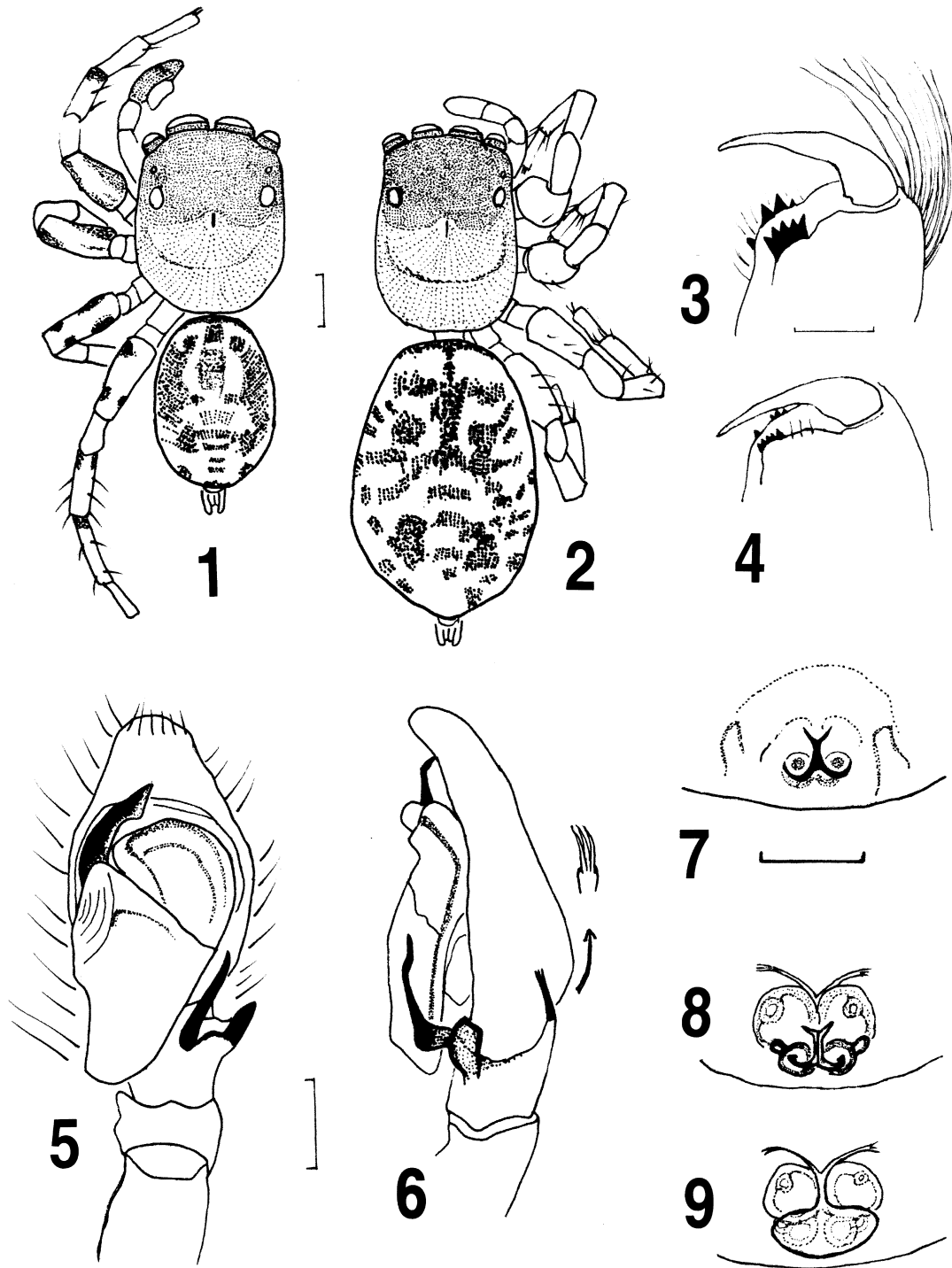
**Diagnosis.** Small-sized salticid. Chelicerae with a retromarginal tooth with five cusps in both sexes. Cephalothorax black to brown. Dorsum of abdomen having black kumadori-like markings. In males, embolus thick, and palpal tibia possessing three retrolateral apophyses, which are long, robust and thin respectively. In females, epigynum with two gonopores and median guide.

**Description.** *Male* (holotype). Body length 4.09 (3.13–4.09); cephalothorax length 1.88 (1.63–2.00), width 1.46 (1.25–1.58), height 0.96 (0.79–1.13); abdomen length 1.79 (1.46–2.09), width 1.25 (1.04–1.42). Eye field: Width of eye row I 1.30 (1.17–1.32), width of eye row III 1.15 (1.04–1.17), length of pars cephalica 0.85 (0.77–0.88), ALE–PME 0.48 (0.42–0.52), AME diameter 0.41 (0.36–0.42); ratio ALE/AME 0.61 (0.58–0.64), ALE/PLE 1.36 (1.17–1.36), PME/PLE 0.32 (0.29–0.38). Chelicera bearing one retromarginal tooth with five cusps and four promarginal teeth, distally fringed with many setae on retrolateral surface (Fig. 3). Measurements and spination of legs as shown in Tables 1 and 2 respectively. Leg III longest.

Palp (Figs. 5–6). Embolus thick. Palpal tibia bearing three retrolateral apophyses, its two ventral apophyses that are long and short respectively, and dorsal apophysis

**Table 1.** Measurements of leg segments of *Gedea okinawaensis* sp. nov. in male holotype and one of female paratypes (NSMT-Ar 12502) ( $\sigma^2/\rho^2$ : in mm).

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	1.09/0.87	0.68/0.57	0.82/0.65	0.67/0.40	0.42/0.35	3.67/2.84
II	0.97/0.84	0.54/0.50	0.70/0.57	0.50/0.37	0.33/0.33	3.05/2.61
III	1.17/1.14	0.58/0.48	0.73/0.67	0.75/0.67	0.47/0.40	3.71/3.36
IV	1.14/0.97	0.53/0.40	0.75/0.72	0.82/0.58	0.46/0.43	3.70/3.11



**Figs. 1-9.** *Gedea okinawaensis* sp. nov., male holotype (1, 3, 5-6) and female paratype (2, 4, 7-9). 1, male, dorsal view; 2, female, dorsal view; 3, male chelicera; 4, female cheliceral teeth; 5, male palp, ventral view; 6, same, retrolateral view and dorsal apophysis tip; 7, female epigynum, ventral view; 8, female internal genitalia, ventral view; 9, same, dorsal view. Scales=0.5 mm (1-2); 0.2 mm (3-9).

**Table 2.** Spination of legs of *Gedeia okinawaensis* sp. nov. in male holotype and one of female paratypes (NSMT-Ar 12502).

Leg	Femur	Patella	Tibia	Metatarsus
I ♂	0-1-1-1 • 1p/0	0/0	0/1r-2-2	0/2-2
I ♀	0-1-1-1 • 1p/2	0/0	0/2-2-2	0/2-2
II ♂	0-1-1-1 • 1p/0	0/0	0/1r-1r-2	0/2-2
II ♀	1-1-1-1 • 1p/0	1p/0	0/2-2-2	0/2-2
III ♂	1-1-1-1 • 2p/0	2/0	0-2-2/1p-0-2	2-2/2-2p2r
III ♀	1-1-1 • 1p/0	2/0	0-2-0/2-0-2	0-2-2/2-2p2r
IV ♂	1-1-1/0	2/0	1r-2-2/1p-0-2	0-1r-2/2-2p2r
IV ♀	1-1-1/0	2/0	2-0-0/0-2-2	0-2-2/0-2p2r

**Figs. 10–11.** *Gedeia okinawaensis* sp. nov. 10, specimens from Nakijin, Okinawa-jima Island (male — female — female), dorsal view; 11, same, ventral view.

bearing three apical spines.

Coloration and markings in ethanol (Figs. 1, 10–11). Cephalic part of cephalothorax and surroundings of eyes black with white hairs, thoracic part brown with white hairs. Clypeus brown with white hairs. Sternum brown stained with black. Labium, maxillae and chelicerae yellowish brown. Dorsum of abdomen gray with dark speckled spots and with white hairs. Venter of abdomen with broad longitudinal black band. Legs I and II: Femora laterally black, tibiae and metatarsi distally blackish, other parts yellowish brown. Leg III and IV: Femora and tibiae black on proximal and distal ends and metatarsi proximally black, other parts yellowish brown.

*Female* (one of paratypes, NSMT-Ar 12502). Body length 4.34 (3.46–4.84); cephalothorax length 1.83 (1.67–1.92), width 1.31 (1.31–1.46), height 0.83 (0.83–0.88); abdomen length 2.50 (1.88–2.71), width 1.88 (1.38–2.00). Eye field: Width of eye row I 1.21 (1.17–1.29), width of eye row III 1.14 (1.09–1.19), length of pars cephalica 0.78 (0.75–0.84), ALE–PME 0.47 (0.40–0.47), AME diameter 0.40 (0.37–0.42); ratio ALE/AME 0.58 (0.58–0.64), ALE/PLE 1.08 (1.08–1.36), PME/PLE 0.38 (0.31–0.38). Chelicera bearing one retromarginal tooth with five cusps, three bristles on retromargin and four teeth on promargin (Fig. 4). Measurements and spination of legs as shown in Tables 1 and 2 respectively. Leg III longest.

Genitalia (Figs. 7–9). Epigynum with median guide which is anteriorly Y-shaped, posteriorly reversed Y-shaped (Fig. 7). Internal structure as shown in Figs. 8–9.

Coloration and markings in ethanol (Figs. 2, 10–11) Cephalothorax almost same as in male. Dorsum of abdomen almost same as in male, but venter of abdomen gray without black longitudinal area. Legs I and II: All segments yellowish brown. Legs III and IV: Femora laterally blackish, tibiae and metatarsi proximally blackish. Color

variation of females as shown in Figs. 10–11.

**Etymology.** This specific name is derived from Okinawa-jima Island, where the type locality belongs.

**Distribution.** Japan (only known from Okinawa-jima Island and Iriomote-jima Island, Okinawa Pref.).

**Remarks.** This species resembles *Gedea unguiformis* from China and *Gedea flavogularis* from Java, but they can be distinguished from each other by the structures of the tibial apophyses of the male palp, the median guide shape of the epigynum and the number of cusps on the retromarginal tooth of the chelicerae. The dorsum of the abdomen having black kumadori-like markings is characteristic. Kumadori is Japanese kabuki make-up art method.

#### Acknowledgements

I wish to express my thanks to Dr. Akio Tanikawa, Mr. Akira Shinkai, Mr. Takeshi Sasaki, Mr. Tsukasa Kuwae for offering the specimens, and to Dr. Hirotsugu Ono for scientific advice.

#### References

- Davies, V. T. and Žabka, M. 1989. Illustrated keys to the genera of jumping spiders (Araneae: Salticidae) in Australia. Mem. Queensland Mus., 27: 189–266.
- Ono, H., Ikeda, H. and Kono, R. 2009. Salticidae. In: Ono, H. (ed.) 2009. The Spiders of Japan. Pp. 558–588. Tokai University Press, Kanagawa, Japan.
- Prószyński, J. 2012. Monograph of the Salticidae (Araneae) of the world. 1995–2011. On internet <<http://www.miiz.waw.pl/salticid/main.htm>>
- Simon, E. 1902. Description d'Arachnides nouveaux de la famille des Salticidae (Attidae) (suite). Annales de la Societe entomologique de Belgique, Bruxelles, 46: 24–56, 363–406.
- Simon, E. 1903. Histoire Naturelle des Araignees, 2 (3–4): 669–1080.
- Xiao, X. & Yin, C. 1991. Two new species of the family Salticidae from China (Arachnida: Araneae). Acta Zootaxon., 16: 48–53.

Received February 20, 2013 / Accepted April 2, 2013