

A new species of the spider genus *Hippasa* (Araneae: Lycosidae) from Yonagunijima Is., the Yaeyama Isls., Japan

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Abstract — A new lycosid species, *Hippasa babai*, is described using the specimens from Yonagunijima Is., which can be distinguished from *H. holmerae* Thorell 1895 by short male palpal tibia as well as broad and thick projection of epigynum.

Key words — *Hippasa babai*, new species, Lycosidae, Yonagunijima, Okinawa, Japan.

The spiders of the genus *Hippasa* are interesting lycosid members because they make funnel webs resembling those of agelenid spiders (Fig. 1). 35 species of the genus *Hippasa* have been described from the old world (Platnick 2006), but no species are found in Japan. Through the spider survey in Yonagunijima Is., made by Yuki G. Baba and me, several specimens of *Hippasa* were obtained. Yonagunijima Is. is located near Taiwan where *Hippasa holmerae* Thorell 1895 has been recorded. Close examination revealed that the species is new to science, so I describe it in this paper under the name *Hippasa babai*.

Holotype and paratypes designated in this paper are deposited in the collection of the Department of Zoology, National Science Museum, Tokyo (NSMT). All measurements are given in mm. Following abbreviations are used in this paper; AER, anterior eye row; MER, median eye row; PER, posterior eye row.

I wish to express my heartfelt thanks to Dr. Tadashi Miyashita, the University of Tokyo, for his critical reading of the manuscript of this paper. I am deeply indebted to Mr. Yuki G. Baba, the University of Tokyo, for offering the specimens used in this study.

Description

Family Lycosidae Sundevall 1833

Genus *Hippasa* Simon 1885

[Japanese name: Tana-ami-komorigumo-zoku]

Hippasa babai new species

[Japanese name: Baba-komori-gumo]

(Figs. 1–6)

Type series. Holotype and paratypes were collected by A. Tanikawa in Yonagunijima Is. Okinawa Pref., Japan. Holotype: ♂, 19-V-2005, Sonai (NSMT-Ar 5928; collected as a young spider, became adult male after raring on 1-VII-

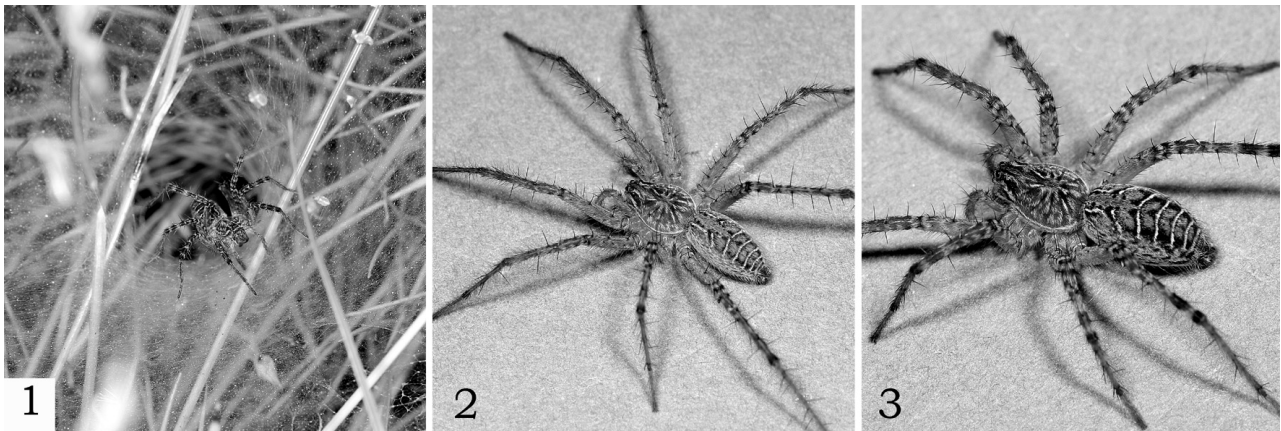
2005). Paratypes: 3♂3♀, same data as holotype (NSMT-Ar 5929-5934; of these, 3♂ and 1♀ were collected as young spiders, became adult males on 1, 14, 20-VII-2005 and female on 9-VII-2005 respectively); 2♀, 22-VI-2004, Kubura-bari (NSMT-Ar 5935-5936).

Other specimens examined. All the specimens were collected in Yonagunijima Is.; 4♀, same data as holotype, collected as young spiders, became adult females after raring on 25-VI (3♀) and 14-VII-2005 (1♀) respectively. 1♀, 29-II-2004, Kubura-bari, Y. G. Baba leg.; 3♀ 22-VI-2004, same locality, A. Tanikawa leg.

Description. Coloration and markings. Female and male as shown in Figs. 2–3. Carapace light brown mottled with dark brown. Dorsum of abdomen dark brown with light colored markings. When alive, both carapace and abdomen greenish.

Measurements. Based on the holotype ♂ and paratype 1 ♀ (NSMT-Ar 5932), measurements in parentheses indicate the range among type series. Body ♂7.00 (6.77-7.31), ♀7.67 (7.67-9.00) long. Carapace ♂2.97 (2.97-3.28), ♀3.23 (3.23-3.84) long; ♂2.17 (2.17-2.37), ♀2.37 (2.37-2.80) wide. Length of legs [male/female; tarsus + metatarsus + tibia + patella + femur = total]: I, 1.73 + 2.77 + 2.32 + 1.18 + 2.86 = 10.86/1.48 + 3.10 + 2.00 + 1.24 + 2.67 = 10.49; II, 1.64 + 2.73 + 2.27 + 1.18 + 2.82 = 10.64/1.38 + 2.10 + 1.90 + 1.19 + 2.62 = 9.19; III, 1.55 + 2.91 + 2.18 + 1.05 + 2.73 = 10.42/1.24 + 2.24 + 1.81 + 1.05 + 2.57 = 8.91; IV, 2.09 + 4.32 + 3.00 + 1.14 + 3.41 = 13.96/1.62 + 3.57 + 2.62 + 1.14 + 3.24 = 12.19. Abdomen ♂3.88 (3.52-4.05), ♀4.36 (4.09-5.06) long; ♂1.96 (1.95-1.96), ♀2.45 (2.23-3.18) wide.

Female and male. Carapace longer than wide [length/width ♂1.37 (1.37-1.42), ♀1.37 (1.34-1.43)]. PER procurved, PER wider than MER [PER/MER ♂1.50 (1.50-1.54), ♀1.51 (1.49-1.54)], AER wider than MER

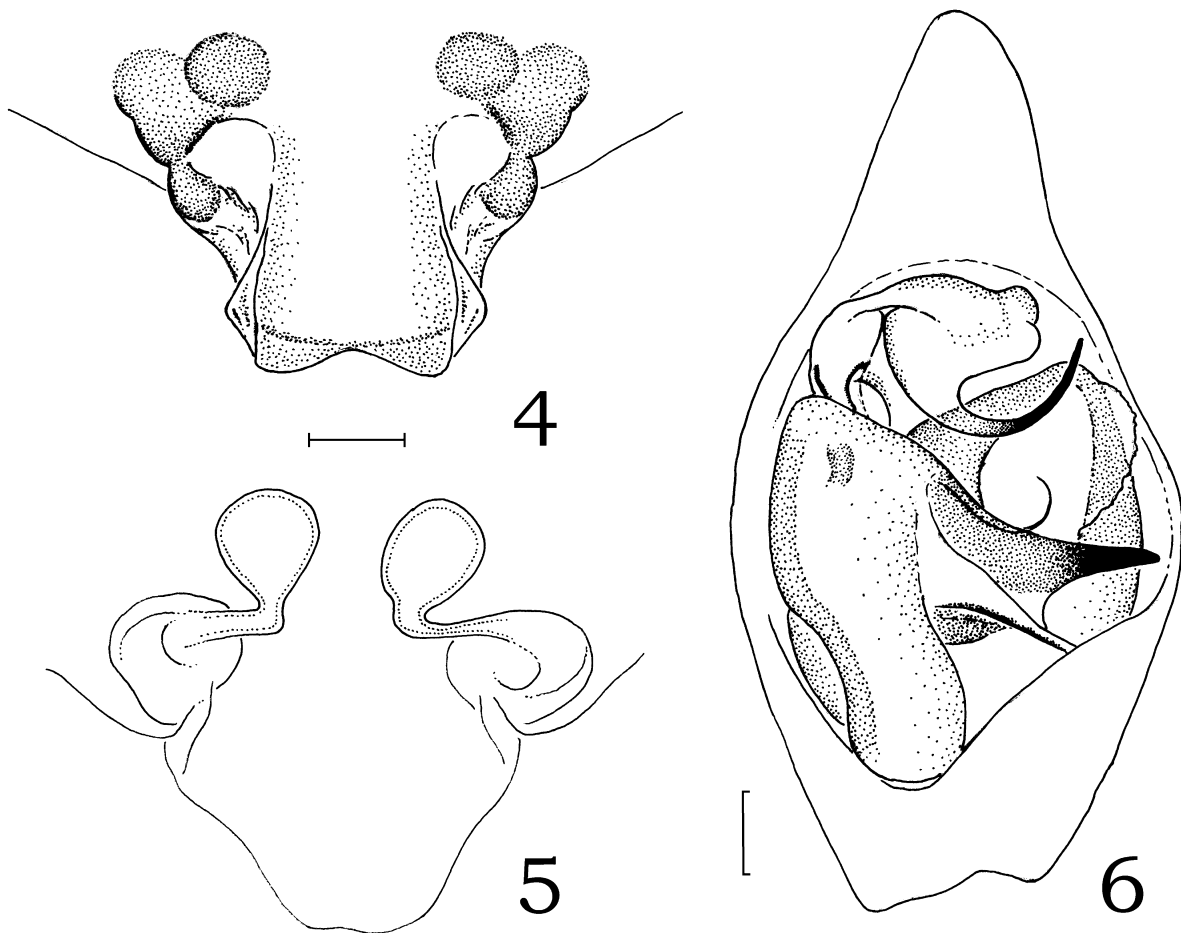


Figs. 1-3. *Hippasa babai* new species — 1, female on its web; 2, male (holotype, NSMT-Ar 5928); 3, female (paratype, NSMT-Ar 5932).

[AER/MER ♂1.22 (1.21-1.23), ♀1.23 (1.20-1.29)]. Fang furrow of chelicera with 3 teeth on both anterior and posterior margins. Labium wider than long [length/width ♂0.82 (0.79-0.89), ♀0.77 (0.74-0.83)]. Sternum longer than wide [length/width ♂1.13 (1.12-1.16), ♀1.14 (1.13-1.15)]. Length of leg I/length of carapace ♂3.66 (3.29-3.66), ♀3.25 (2.65-

3.25). Male palp (Fig. 6): terminal apophysis curved anticlockwise. Abdomen longer than wide [length/width ♂1.98 (1.80-2.07), ♀1.78 (1.57-1.85)]. Epigynum with broad and thick tongue-like projection (Fig. 4), which is not entirely covered with hairs.

Remarks. The present new species closely resembles



Figs. 4-6. *Hippasa babai* new species — 4, epigynum, ventral view (paratype, NSMT-Ar 5932); 5, same, dorsal view (paratype, NSMT-Ar 5932); 6, male palp, ventral view (holotype, NSMT-Ar 5928). (Scales: 0.1 mm.)

Hippasa holmerae Thorell 1895. By examining the syntypes of *H. holmerae* from Burma preserved in the Natural History Museum, London (BM1895.9.21.731-2, BM1895.9.21.733-50), I found that *H. babai* can be distinguished from *H. holmerae* by the following points. The ratio of the length of male palpal tibia to that of tarsus is smaller in *babai* than in *holmerae* (*t*-test: $t = -7.42$, $df = 6$, $p = 0.003$; Table 1). The projection of epigynum is not entirely covered with hairs and broad and thick in *babai*, but covered with many hairs and narrow and thin in *holmerae*.

Distribution. Japan (Yonagunijima Is. of the Yaeyama Isls.).

Etymology. The specific name is dedicated to Mr. Yuki G. Baba, the University of Tokyo, who found this spider in Yonagunijima Is. for the first time.

Notes. *Hippasa babai* makes a funnel web on the short grasslands (Fig. 1) near the seashore. The spider is lurking in the retreat during daytime, but waiting at the entrance of the retreat at night. A mother spider attaches a cocoon to its spinnerets and holds spiderlings on its back like other lycosid spiders. A mother spider with a cocoon or spiderlings is always found in the retreat. Although *H. babai* has been found only in Yonagunijima Is. up to the

Table 1. The ratio of the length of male palpal tibia to that of tarsus in *Hippasa holmerae* Thorell 1895 and *H. babai* new species.

Species	N	Range	Mean \pm SD
<i>H. holmerae</i>	4	0.88–0.96	0.92 \pm 0.038
<i>H. babai</i>	4	0.68–0.76	0.73 \pm 0.036

present, more surveys are necessary in similar habitats in other islands.

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Received August 7, 2006 / Accepted September 21, 2006