

First Record of the Genus *Anapistula* (Araneae, Symphytognathidae) from Asia

Hirotsugu Ono

Department of Zoology, National Science Museum, 3–23–1 Hyakunin-chô,
Shinjuku-ku, Tokyo, 169–0073 Japan

Abstract A new species of the family Symphytognathidae (Araneae) is described from Hachijôjima Island of Izu Islands, Tokyo, Japan, under the name of *Anapistula ishikawai* sp. nov. The spider was obtained from leaf litter by extracting with Tullgren Funnel. The genus *Anapistula* Gertsch, 1941, hitherto known from Central America, Australia and Africa, is recorded from Asia for the first time.

Key words: Taxonomy, Araneae, Symphytognathidae, *Anapistula*, Izu Islands, Japan, new species.

Introduction

Hachijôjima is a volcanic island situated in the northwestern Pacific, about 300 km south from the city of Tokyo. Seventy species of spiders have been known from the island (Ono, 2001).

In a small collection of spiders carried out from this island through an entomological research trip made by the National Science Museum, Tokyo, in July 2001, an interesting female spider was included. She shows an extremely small body size less than 1 mm and a peculiar shape of prosoma with only four eyes and lacking palps. On the basis of characteristics of eyes, chelicerae and female genitalia, the spider was recognized as a new species of the genus *Anapistula* Gertsch, 1941, in the family Symphytognathidae. The description of the new species will be given in the present paper.

Up to the present, only one symphytognathid spider, namely an undescribed *Patu* species reported by Hiramatsu and Shinkai (1993), was known from Japan (Ono, 1996). Besides, only five species were described under *Anapistula*, that is, *A. secreta* Gertsch, 1941, type species of the genus (mainly Central America), *A. australia* Forster, 1959 (Queensland, Australia), *A. boneti* Forster, 1958 (Mexico), *A. benoiti* Forster et Plat-

nick, 1977 (Zaire) and *A. caecula* Baert et Jocqué, 1993 (Ivory Coast). Although their distributional range widely covers the tropics of the world, the genus have not been known in Asian regions. Therefore, this genus is recorded for the first time to the Asian spider fauna.

The type specimen of the new species is deposited in the collection of the Department of Zoology, National Science Museum, Tokyo (NSMT).

The author wishes to express his sincere thanks to Dr. Masaaki Tomokuni (NSMT), and Mr. Tadashi Ishikawa, Tokyo University of Agriculture, Atsugi, for offering invaluable specimen used in this paper.

Family Symphytognathidae

[Japanese name: Yuagigumo-ka]

Genus *Anapistula* Gertsch, 1941

[Japanese name: Usuiro-Yuagigumo-zoku]

Anapistula, Gertsch, 1941, p. 2. — Forster, 1958, p. 12; Forster, 1959, p. 272; Forster & Platnick, 1977, p. 21; Davies, 1988, p. 326.

Diagnosis. Four eyes in diads (with an exception of *Anapistula boneti* with six eyes). Cephalic part of prosoma not elevated. Chelicerae not completely fused. Spermathecae globular,

connected lateral branches to median duct. Male palpal organ with long conductor.

Type species. *Anapistula secreta* Gertsch, 1941 (Panama, Bahama Islands, Columbia, Costa Rica, Jamaica, Mexico and Florida).

Other species included. *Anapistula boneti* Forster, 1958 (Mexico), *A. benoiti* Forster et Platnick, 1977 (Zaire), *A. caecula* Baert et Jocqué, 1993 (Ivory Coast), *A. australia* Forster, 1959 (Australia), and *A. ishikawai* sp. nov. (Japan).

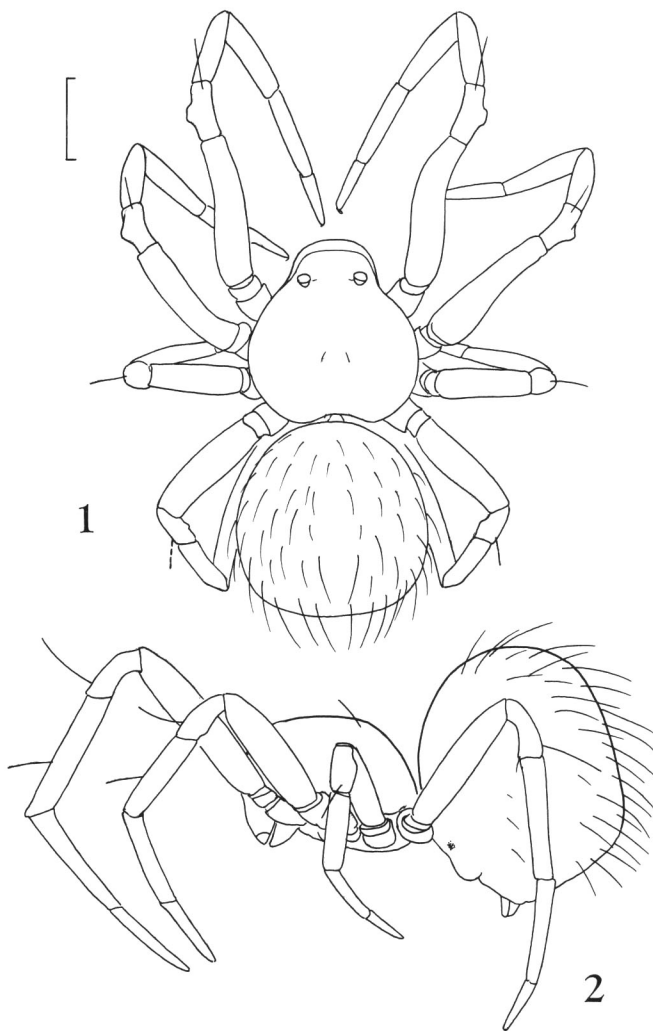
Distribution. Japan, southern North America, Central America, northern South America, Australia, Central Africa.

***Anapistula ishikawai* sp. nov.**

[Japanese name: Hachijou-usuiro-yuagigumo]

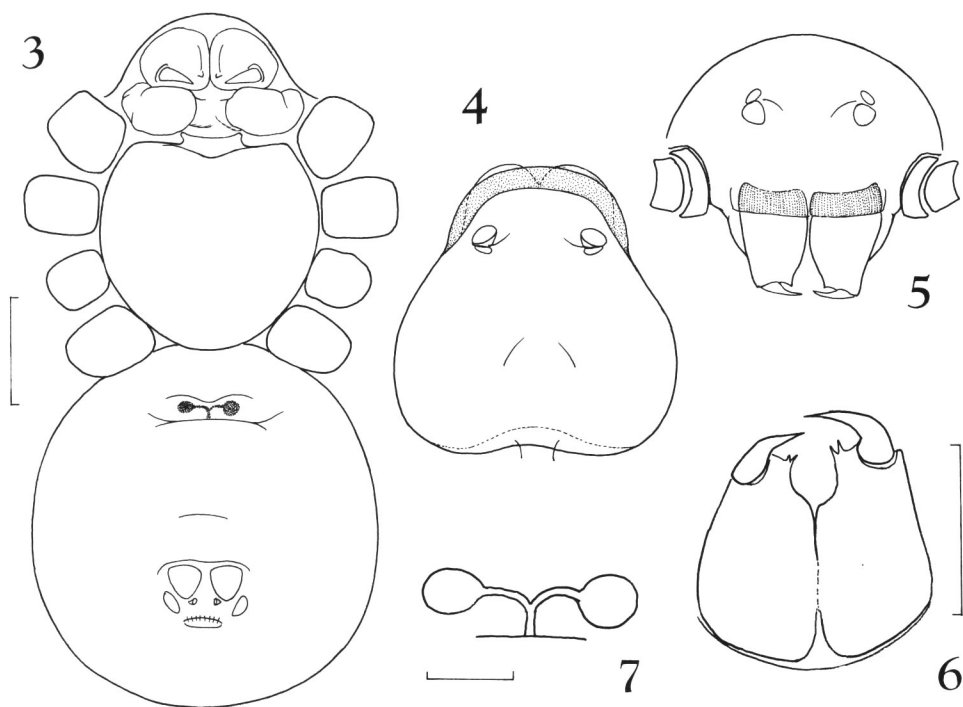
(Figs. 1–7)

Diagnosis. This new species resembles *Anapistula benoiti* Forster et Platnick, 1977, described from Zaire in the structure of female genitalia, especially in the joining position of lateral branches with spermathecae. However, branches of the new species are much shorter than those of the latter species. The branch of one side is longer than median duct in *ishikawai* sp. nov., while that is much shorter than the duct in



Figs. 1–2. *Anapistula ishikawai* sp. nov., female holotype (NSMT-Ar 5223) from Hachijōjima Island, Japan.

— 1, Body, dorsal view; 2, body, lateral view. [Scale: 0.14 mm.]



Figs. 3–7. *Anapistula ishikawai* sp. nov., female holotype (NSMT-Ar 5223) from Hachijōjima Island, Japan.
 — 3, Body, ventral view; 4, prosoma, dorsal view; 5, prosoma, frontal view; 6, chelicerae, removed, ventral view; 7, genitalia, ventral view. [Scales: 3–6, 0.1 mm; 7, 0.025 mm.]

benoiti (cf. Fig. 7 and Forster & Platnick, 1977, fig. 74).

Type specimen. Holotype: ♀, obtained from leaf litter on forest floor by extracting with Tullgren Funnel, Noboryōtōge Pass, altitude 300–450 m, eastern part of Hachijōjima Island, Izu Islands, administratively belonging to Tokyo (Metropolitan), Japan, 33°05'N, 139°50'E, 5–VII–2001, T. Ishikawa leg. (NSMT-Ar 5223).

Description (based on the female holotype; male unknown). Measurement: Body length 0.65 mm, prosoma length 0.30 mm, width 0.25 mm, opisthosoma length 0.33 mm, width 0.30 mm; lengths of legs [total length (femur+patella+tibia+metatarsus+tarsus)]: I 0.97 mm (0.30+0.10+0.19+0.13+0.25), II 0.84 mm (0.25+0.10+0.16+0.10+0.23), III 0.75 mm (0.21+0.10+0.13+0.13+0.18), IV 0.91 mm (0.29+0.11+0.20+0.13+0.18).

Prosoma longer than wide (length/width 1.20), furnished with a pair of setae at the eyes, at the

middle and along the posterior declivity, respectively (Fig. 4), cephalic part not elevated. Four eyes (lateral ones) present in two diads; anterior eye much larger than posterior one (3 : 2 in diameter), clypeus wide, as same as distance between anterior eyes (Fig. 5). Labium much wider than long (length/width 0.31), labial suture line procurved; maxillae wider than long, rounded; sternum slightly wider than long (length/width 0.94), globose (Fig. 3). Chelicerae weakly fused at the middle, each one with two teeth (Fig. 6). Palps absent. Leg formula IV–I–II–III; each patella with a long dorsoapical spine; joint between tarsus and metatarsus inflexible.

Opisthosoma covered with long hairs, globular, slightly longer than wide (length/width 1.10), very high (height/length 1.25) and posteriorly expanded beyond spinnerets (Figs. 1–2). Book-lung not visible. Anterior spinnerets much larger than posterior ones; median spinnerets very small; colulus absent (Fig. 3).

Female genitalia (Fig. 7). Epigynum wider than long, not sclerotized, paired spermathecae globular, connected by relatively long lateral branches to a short median duct.

Coloration and markings. Prosoma light yellow, without any marking; labium, maxillae and sternum yellow; chelicerae light yellowish brown; legs light greyish brown. Opisthosoma pale beige without markings.

Distribution. Known only from type locality.

Remark. This species is dedicated to Mr. Tadashi Ishikawa, Tokyo, the collector of the specimen.

References

- Baert, L., & R. Jocqué, 1993. *Anapistula caecula* n. sp., the smallest known female spider (Araneae, Symphytognathidae). *J. Afr. Zool.*, **107**: 187–189.
- Davies, V., 1988. An illustrated guide to the genera of orb-weaving spiders in Australia. *Mem. Qld. Mus.*, **25**: 273–332.
- Forster, R. R., 1958. Spiders of the family Symphytognathidae from North and South America. *Amer. Mus. Novit.*, (1885): 1–14.
- Forster, R. R., 1959. The spiders of the family Symphytognathidae. *Trans. Roy. Soc. N. Z.*, **86**: 269–329.
- Forster, R. R., & N. I. Platnick, 1977. A review of the spider family Symphytognathidae (Arachnida, Araneae). *Amer. Mus. Novit.*, (2619): 1–29.
- Gertsch, W. J., 1941. Report on some arachnids from Barro Colorado Island, Canal Zone. *Amer. Mus. Novit.*, (1146): 1–14.
- Hiramatsu, T., & A. Shinkai, 1993. Web structure and web-building behavior of *Patu* sp. (Araneae: Symphytognathidae). *Acta Arachnol.*, **42**: 181–185.
- Ono, H., 1996. A list of spider families of Japan. In Ishii, M., T. Ohtani & Y. Johki (eds.): *The Encyclopaedia of Animals of Japan*, **8** (Insects I): 25–27. Heibonsha, Tokyo. (In Japanese.)
- Ono, H., 2001. Spiders (Arachnida, Araneae) from Izu Islands, Tokyo, Japan. *Mem. Natn. Sci. Mus.*, Tokyo, (37): 261–277.