

## A new species of the spider genus *Atypus* (Araneae: Atypidae) from Amami-ôshima, Japan

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**Abstract** — A new atypid species, *Atypus wataribabaorum*, is described using the specimens from Amami-ôshima Is., the Nansei-Isles, Southwest Japan. This is the first record of *Atypus* from a subtropical region of Japan. *Atypus wataribabaorum* has 3 segmented posterior lateral spinnerets as *A. affinis* and *piceus*, but can be distinguished from *A. affinis* by 1) the position of sigilla I being close to the margin of sternum, 2) having prolateral furrow on male palpal femur, 3) the presence of spines on male metatarsus IV; and from *piceus* by having four receptacula.

**Key words** — taxonomy, *Atypus wataribabaorum*, new species, three segmented PLS, Japan, Amami-ôshima

The genus *Atypus* was reviewed world-wide by Schwendinger (1990), who redescribed 12 known species. After his excellent work, Oliger (1998) and Namkung (2002) described a new species from Russian Far East and Korea respectively. Recently, Zhu et al (2006) published a revision of Chinese species including 6 known and 7 new species. Of 26 previously known species, 25 species have been known from the Palearctic region and the remaining one from the Nearctic region.

In Japan, only one species, *Atypus karschi* Dönitz 1887, has been recorded from Hokkaido, Honshu, Shikoku, Kyushu and Yakushima Is. (Shinkai, Andoh & Tanikawa 2004), while has never been known from subtropical regions of Japan. In this paper, I will describe a new species based on the specimens collected from Amami-ôshima Is. located in the subtropical region of the Nansei-Isles.

The type specimens designated in this paper are deposited in the collection of the Department of Zoology, National Science Museum, Tokyo (NSMT). The abbreviations used in this paper are as follows: AER: anterior eye row, AME: anterior median eyes, dAME: the diameter of AME, AME-AME: distant between AMEs, MOA: median ocular area, PER: posterior eye row, PLS: posterior lateral spinneret.

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### Description

Genus *Atypus* Thorell 1890

*Atypus wataribabaorum* new species

[Japanese name: Hiraya-jigumo]

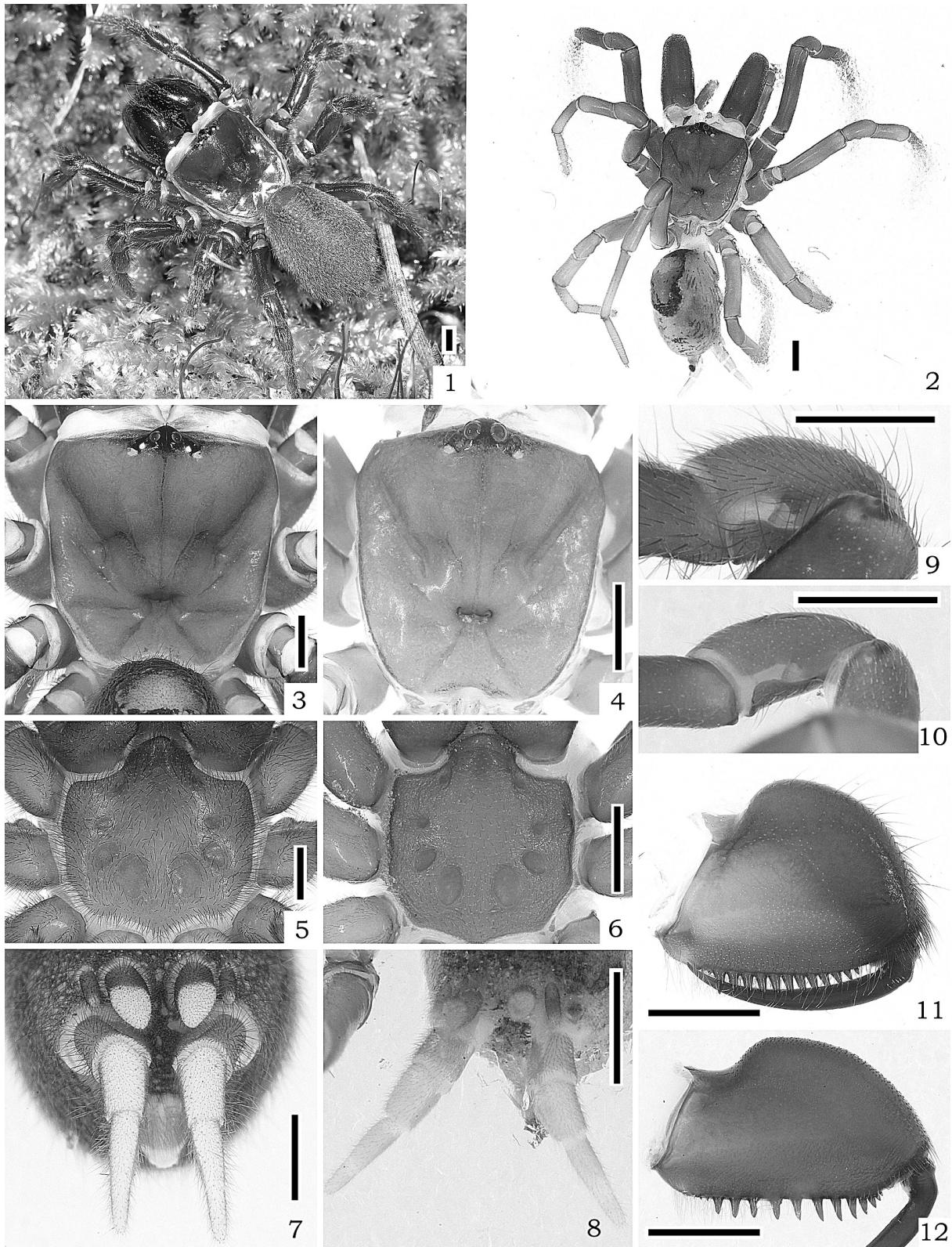
(Figs. 1–14)

*Type series*: All the type specimens were collected near Mt. Yuwandake, Uken-son, Amami-ôshima Is., Kagoshima Pref., Japan. Holotype: ♂, using pit-fall traps from 26-VI to 13-VII-2004, Y. D. Watari leg. (NSMT-Ar 5917). Paratypes: 4♂, same data as the holotype (NSMT-Ar 5918–5921). 1♀, 8-II-2006, Y. G. Baba leg. (NSMT-Ar 5922).

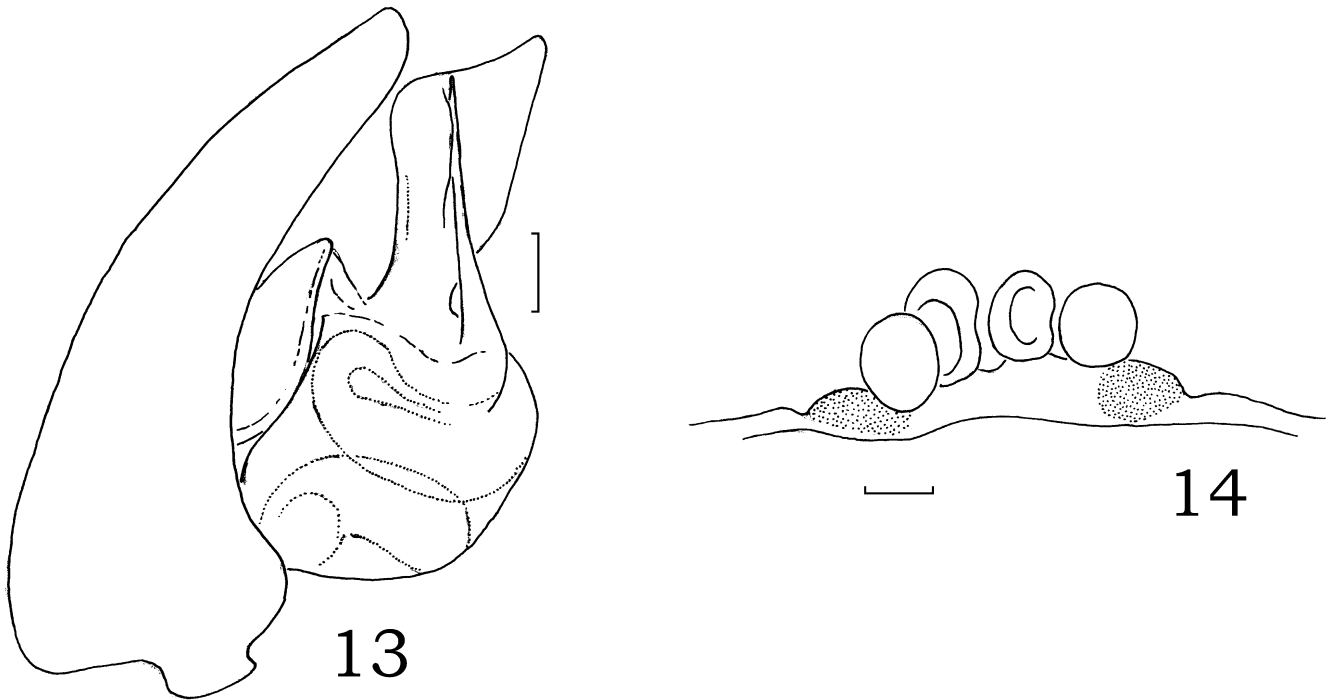
*Other specimens examined*. 6♂, same data as the holotype.

*Description*. Measurements. Based on the paratype 1♀ and the holotype ♂, measurements in parentheses for male traits indicate the range among specimens, ♀/♂, in mm. Body 14.63/11.38 (8.75–11.50) long (including chelicerae). Carapace 4.33/3.03 (2.77–3.20) long (medially); 4.72/3.17 (2.80–3.27) wide. Length of legs [tarsus + metatarsus + tibia + patella + femur = total]: I, 1.20 + 1.68 + 1.32 + 1.64 + 3.40 = 9.24/1.57 + 2.27 + 1.70 + 1.40 + 3.17 = 10.11; II, 1.04 + 1.40 + 1.08 + 1.72 + 2.80 = 8.04/1.53 + 2.07 + 1.37 + 1.40 + 2.73 = 9.10; III, 0.84 + 1.32 + 0.80 + 1.52 + 2.40 = 6.88/1.60 + 1.83 + 1.20 + 1.07 + 2.30 = 8.00; IV, 1.28 + 1.96 + 1.28 + 1.60 + 2.92 = 9.04/1.90 + 2.77 + 1.67 + 1.23 + 2.87 = 10.44. Abdomen 6.13/3.84 (3.20–4.09) long, 3.80/2.32 (2.17–2.55) wide.

Female and male. Carapace (Figs. 3–4) wider than long or almost wide as long [length/width 0.92/0.96 (0.93–1.01)]. PER wider than AER [AER/PER 0.96/0.92 (0.92–0.98)];



**Figs. 1–12.** *Atypus wataribabaorum* new species — 1–2, habitus; 3–4, carapace; 5–6, sternum; 7–8, spinnerets; 9–10, patellar I, retrolateral view; 11–12, left chelicera prolatateral view. [Odd numbers: female paratype (NSMT-Ar 5922), even numbers: male holotype (NSMT-Ar 5917), scales: 1 mm.]



**Figs. 13–14.** *Atypus wataribabaorum* new species — 13, male left palp prolateral view (holotype: NSMT-Ar 5917); 14, female genitalia, dorsal view; depressions of receptacula seem to be artifact (paratype: NSMT-Ar 5922). (Scales: 0.1 mm.)

MOA wider behind than in front [anterior width/posterior width 0.61/0.77 (0.71–0.79)]; AMEs slightly projecting (Figs. 3–4), AME-AME/dAME 0.63/0.57 (0.33–0.57). Chelicera (Figs. 11–12) with 12/12 (11–12) identical teeth, with granular texture in male. Sternum (Figs. 5–6) slightly longer than wide [length (including labium)/width 1.01/1.10 (1.10–1.14)], sigilla I close to margin. Length of leg I/length of carapace 2.13/3.34 (3.08–3.43). Patellar membrane I and II white (Fig. 9–10), male femur I and II with granular texture, male metatarsus IV with spines. Male palpal conductor narrow (Fig. 13), femur with prolateral furrow. Abdomen longer than wide [length/width 1.61/1.66 (1.48–1.66)]. Female genitalia (Fig. 14): atrium low, with 4 receptacula, basal stalks indistinct. PLS 3 segmented (Figs. 7–8).

**Coloration and markings.** Female and male. Carapace and dorsum of abdomen uniformly brown without any markings, except dark colored patch on anterior part of abdomen in the specimens faded in alcohol.

**Distribution.** Japan (Amami-ôshima Is.)

**Etymology.** Specific name is dedicated to Messrs. Yuya D. Watari and Yuki G. Baba, the Univestiy of Tokyo, who collected the type specimens after enthusiastic searching.

**Remarks.** *Atypus wataribabaorum* has 3 segmented PLS as *A. affinis* and *A. piceus*. It can be distinguished from *affinis* by the following points: 1) sigilla I marginal; 2) male palpal femur with prolateral furrow; 3) male metatarsas IV with spines. *Atypus wataribabaorum* has four receptacula, but *piceus* has multiple.

**Notes.** Young spiders of *Atypus wataribabaorum* make a vertical purse-web attached to the base of tree, while adult spiders make a horizontal one beneath litter layer. It is unknown when and how changes from vertical to horizontal webs occur.

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