

# ***Heriades* Bees of the Ryukyu Islands, Japan, with Description of a New Subspecies (Hymenoptera, Megachilidae)**

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**Abstract.** Additional records of *Heriades* bees are made for the Ryukyu Islands, including a new subspecies, *Heriades sakishimanus hirashimai*. And the male of *Heriades sakishimanus sakishimanus* is newly described.

**Key words:** Hymenoptera, Megachilidae, *Heriades*, new subspecies, the Ryukyu Islands.

## **Introduction**

Only one species of the genus *Heriades* SPINOLA, *H. sakishimanus* described from the Sakishima Islands by YASUMATSU & HIRASHIMA (1965), was hitherto known from the Ryukyu Islands. Although IKUDOME & YAMANE (1990) reported on the distribution of megachilid bees in the Ryukyu Islands and recorded twenty-three species from there, the bees of the genus *Heriades* remained not well investigated.

In this paper, *Heriades* of the Ryukyu Islands was revised, and a new subspecies of *H. sakishimanus* is described from Yaku-shima, the N. Ryukyus. In addition, the male of the nomino-typical subspecies is described for the first time, and new locality records are also given.

Most of specimens examined in this study are those that IKUDOME & YAMANE (1990) reported. In the paragraph of distribution an asterisk(\*) indicates a new locality.

## **Descriptions**

### **1. *Heriades sakishimanus sakishimanus* YASUMATSU et HIRASHIMA**

[Japanese name: Sakishima-ko-hakiribachi]

(Fig. 1-B & E)

*Heriades sakishimanus*: YASUMATSU et HIRASHIMA, 1965: 253-254 (female).

**Male.**

Body length about 5 mm.

Coloration. Black except for the followings: flagellum beneath brownish; tegulae shiny fuscous; wings subhyaline, veins and stigma fuscous; legs mostly piceous; posterior margins of metasomal terga slightly brownish or piceous.

Pilosity. Hairs on body generally as in female, but paraocular area and lower portion of clypeus with hairs long, slightly yellowish white; metasomal terga 1 & 2 each with white hair band laterally.

Structure. Similar to female, but punctures on frons, mesoscutum, scutellum and mesopleuron much larger and coarser than those in female. In connection with *H. sauteri* from Taiwan, apical margin of metasomal sternum 3 slightly salient laterally, mildly sinuate in the middle, as in Fig. 1-B. Penis valves of genitalia slender, subparallel-sided, as in Fig. 1-E.

Specimens examined. Okinawa-jima: 1 male, Sosu, Kunigami, 25 vi 1994, S. IKUDOME leg. Ishigaki-

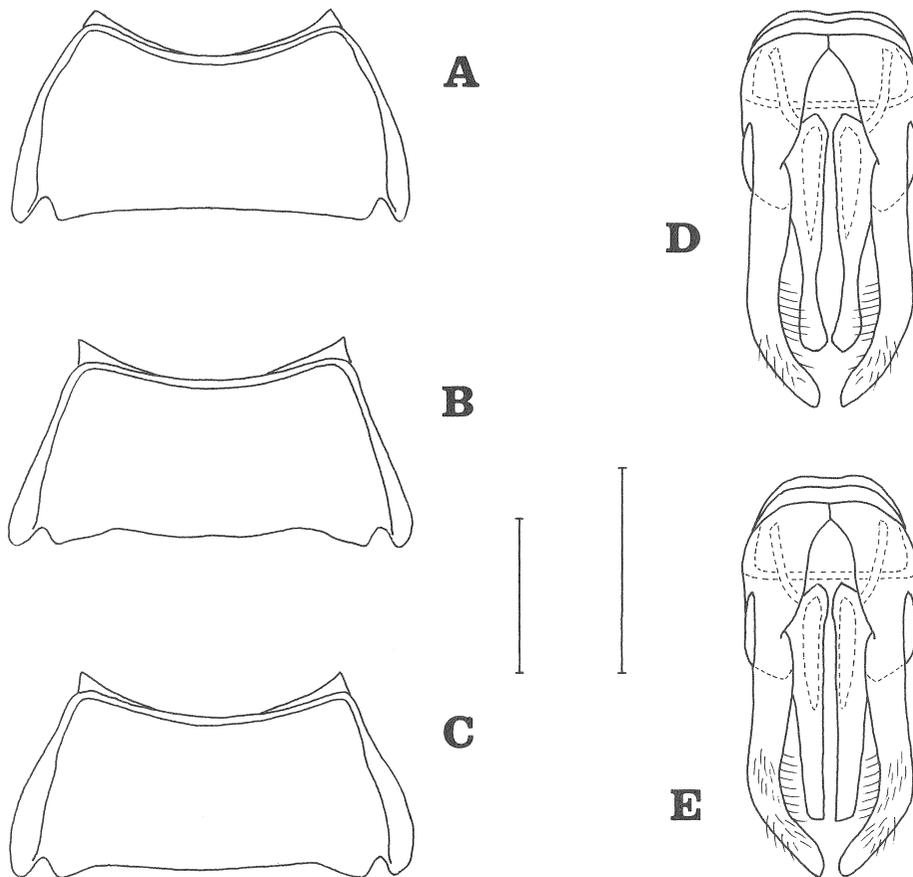


Fig. 1. Male metasomal sternum 3 omitted hairs in ventral view (A, B & C) and male genital capsule in dorsal view (D & E). — A & D: *Heriades sauteri*. B: *H. sakishimanus sakishimanus*. C: *H. s. hirashimai* ssp. nov. E: *H. s. sakishimanus* or *H. s. hirashimai* ssp. nov. (sketched the former from Iriomote-jima in reality). Scale bars = 0.5 mm (left: A, B & C. right: D & E).

jima: 1 female, Omoto-dake, 18 viii 1991, Sk. YAMANE leg. Iriomote-jima: 1 female, Tsukiga-hama, 15 vi, 1988, K. NAKAMINE leg.; 1 female, Komi, 3 vii 1988, Sk. YAMANE leg.; 1 male, Ohara, 6 viii 1981, J. TSUKAHARA leg.; 1 female, Funaura, 13 ix 1989, Sk. YAMANE leg. Uchibanare-jima (near Iriomote-Jima): 3 females, 3-4 viii 1988, Y. FUJII leg.

Floral record. Oleaceae: *Ligustrum lucidum*, 1 male (Okinawa-jima).

Flight record. Mid June to mid September.

Distribution. Japan: The Ryukyu Islands (Amami-oshima, Okinawa-jima\*, Ishigaki-jima, Iriomote-jima and Uchibanare-jima\*) Although I have never seen any materials from Amami-oshima, YASUMATSU & HIRASHIMA (1965) suggested that the single male specimen from Amami-oshima recorded as *H. sauteri* by HIRASHIMA (1958) was this species.

Remarks. The female of this species is known closely allied to those of *Heriades sauteri* COCKRELL from Taiwan and *H. fujiyamai* YASUMATSU et HIRASHIMA occurring on Hachijo-jima (YASUMATSU & HIRASHIMA, 1965). Furthermore, the male of this species is similar to that of *H. sauteri* from Taiwan, but is different from the latter as follows: apical margin of metasomal sternum 3 nearly rectilinear in *H. sauteri*, as in Fig. 1-A; penis valves of genitalia narrowed in the middle, slightly broadened apically in *H. sauteri*, as in Fig. 1-D.

## 2. *Heriades sakishimanus hirashimai* ssp. nov.

[Japanese name: Hirashima-ko-hakiribachi]

(Fig. 1-C & E)

*Heriades* sp.: IKUDOME & YAMANE, 1990: 79.

Types. Holotype: female (type No. 3080, in Entomological Laboratory, Faculty of Agriculture, Kyushu, University = KU), 0-60 m, Miyanoura, Yaku-shima, Kagoshima Pref., 26 vii 1982, S. IKUDOME leg. Paratypes: 7 females and 1 male, same data as the holotype (2 females in KU, 5 females and 1 male in Laboratory of Biology, Kagoshima Women's Junior College = KWJC); 1 male, same locality and collector as the holotype, 28 vi 1982 (in KU); 1 male, 20 m, Yahazu-misaki, Yaku-shima, Kagoshima Pref., 28 ix 1982, same collector as the holotype (in KWJC).

Although no significant difference is found on the structure of male genitalia between the populations of Iriomote-jima and Yaku-shima, bees of Yaku-shima is recognized as a distinct subspecies, as suggested by IKUDOME and YAMANE (1990). Bees of Yaku-shima differ from those of Iriomote-jima as follows:

### **Female.**

Body length 5-6 mm. Ocelloccipital distance comparatively long, about as long as or only slightly

shorter than postocellar distance (much shorter in the nomino-typical subspecies); width of genal area in the middle against maximum width of eye seen in profile distinctly broader than in the nomino-typical subspecies; posterior face of propodeum broadly polished and impunctate above, but its basal portion with transverse lineo-reticulation microscopically.

#### Male.

In addition to the characters of female, hairs on frons, vertex and dorsal plates of thorax darker, brown; apical margin of metasomal sternum 3 salient laterally, but hardly sinuate in the middle, as in Fig. 1-C.

Floral record. Araliaceae: *Aralia elata*, 6 females and 1 male. Vitidaceae: *Ampelopsis brevipedunculata*, 2 females. Euphorbiaceae: *Mallotus japonicus*, 1 male. Compositae: *Crepidiastrum lanceolatum*, 1 male.

Flight record. Late June to late September.

Distribution. Japan: Yaku-shima\* (the N. Ryukyus).

Ethymology. The subspecific epithet is named after Prof. Emeritus Yoshihiro HIRASHIMA of Kyushu University. He gave me the information that he witnessed a *Heriades* bee in Yaku-shima.

Remarks. In relation to the 4 affined species and subspecies of *Heriades*, the ratio of the width of genal area in the middle against the maximum width of eye seen in profile is recognized as follows: *H. fujiyamai* (the former is as long as, or slightly longer than, the latter) > *H. sakishimanus hirashimai* > *H. s. sakishimanus* > *H. sauteri*.

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