

HYDRAENIDAE:

IV. Additional notes on *Hydraena* KUGELANN

from the Ryukyu Archipelago (Nansei-shoto), Japan

(Coleoptera)

M.A. JÄCH & J.A. DÍAZ

Abstract

Two species of *Hydraena* KUGELANN (Coleoptera: Hydraenidae) are recorded from Yonaguni-jima (Ryukyu Archipelago, Japan): *Hydraena* cf. *sauteri* and *Hydraena* (*Hydraenopsis*) *yonaguniensis* sp.n. The new species is related closely to *H. iriomotensis* JÄCH & DÍAZ from Iriomote-jima (Ryukyu Archipelago, Japan) and *H. orchis* JÄCH & DÍAZ from Lanyu Island (Taiwan).

Key words: Coleoptera, Hydraenidae, *Hydraena*, *Hydraenopsis*, taxonomy, new species, Japan, Ryukyu Archipelago, Yonaguni Island.

Introduction

The *Hydraena* species of the Ryukyu Archipelago (Nansei-shoto) were treated by JÄCH & DÍAZ (1999), who recorded a total of seven species (*Hydraena iheya* JÄCH & DÍAZ, *H. iriomotensis* JÄCH & DÍAZ, *H. okinawensis* JÄCH & DÍAZ, *H. satoi* JÄCH & DÍAZ, *H. sautakei* JÄCH & DÍAZ, *H. socius* JÄCH & DÍAZ, and *H. victoriae* JÄCH & DÍAZ) from six islands (Iriomote-jima, Amami-Oshima, Okinawa-jima, Iheya-jima, Tokuno-shima, Kuchino-shima).

The present paper deals with the *Hydraena* species from Yonaguni-jima, which is the most southwestern island of the Ryukyu Archipelago, lying only about 110 km east of Taiwan and ca. 60 km west of Iriomote-jima.

Acronyms:

NMW Naturhistorisches Museum, Wien

CYKM Coll. Y. Kamite, Ehime University, Matsuyama

Hydraena (*Hydraenopsis*) *yonaguniensis* sp.n.

TYPE LOCALITY: Small stream, Yonaguni-jima, southwestern Ryukyu Archipelago, southern Japan.

TYPE MATERIAL: **Holotype** ♂ (NMW): "JAPAN: Riukyu Yonaguni 2.1.2000 leg. M. Matsumura \ under stone in small stream (dpeth [= depth] 10 cm)". **Paratypes** : 1 ♀ (NMW), same label data as holotype; 1 ♂ + 3 ♀ ♀ (CYKM: 1 ♀, NMW: 1 ♂ + 2 ♀ ♀): Iranda forest track, Yonaguni Town, 24.X.2002, leg. Y. Kamite.

DIFFERENTIAL DIAGNOSIS: Length: ca. 1.5 - 1.6 mm. *Hydraena yonaguniensis* is related very closely to *H. inopinata* JÄCH & DÍAZ from Taiwan, *H. iriomotensis* JÄCH & DÍAZ from Iriomote-jima, *H. isolinae* JÄCH & DÍAZ from Taiwan, and *H. orchis* JÄCH & DÍAZ from Lanyu Island (see JÄCH & DÍAZ 1998, 1999). Ventral side of metatibia of male slightly more distinctly

dilated than in *H. inopinata* and *H. iriomotensis*, but less strongly than in *H. orchis*. Male metatibia not curved and without distinct fringe of long setae. Plaques of male metaventrete as in *H. iriomotensis* and *H. orchis*, reduced to short ridges.

Male terminal sternite subtriangular, with small subapical median cavea; lateral margins deflexed posteriorly; spiculum gastrale ca. two times as long as terminal sternite with which it is fused firmly (Fig. 2).

Aedeagus (Fig. 1): Very similar to that of *H. iriomotensis* and *H. orchis* (see JÄCH & DÍAZ 1998: Fig. 11a-c, and JÄCH & DÍAZ 1999: Fig. 1a-c). Main piece with one well-developed dorsal seta, and with a few additional very short setae, which are approximately in the same position as in *H. iriomotensis*. Phallobase asymmetrical, forming a closed ring. Distal lobe very intricately shaped, not clearly delimited from main piece, composed of several appendages, each of which differs slightly from those of *H. iriomotensis* and *H. orchis*. Left paramere short and inconspicuous, best seen in dorsal view; with a few subapical setae. Right paramere largely fused to main piece, with two longitudinal rows of rather long setae; apex more similar to that of *H. iriomotensis* than to *H. orchis*. The aedeagus of *H. yonaguniensis* can be distinguished from the aedeagi of *H. isolinae* and *H. inopinata* (see JÄCH & DÍAZ 1998: Figs. 8a-c, 9a-c) mainly by the shape of the apex of the distal lobe and by the shape of both parameres.

Gonocoxite (Fig. 3) more or less identical with those of the other species of the *H. isolinae* complex (see JÄCH & DÍAZ 1998: Figs. 8d, 10a, 11d, JÄCH & DÍAZ 1999: Fig. 1e): subtriangular; dorsal sclerotized plate surpassing ventral plate proximally; without distinct caveae; basal condyles well-developed.

Spermatheca (Fig. 4) not significantly different from that of *H. iriomotensis* (JÄCH & DÍAZ 1999: Fig. 1f-g): proximal portion tubular, very long and strongly curved; distal portion tubular.

Female tergite X (Fig. 5) very similar to that of *H. orchis* (see JÄCH & DÍAZ 1998: Figs. 11g): disc sparsely covered with trichoid setae (without squamose setae); subapical setae trichoid, pointed, with one pair of very long sublateral setae; hyaline apical margin slightly excised medially.

DISTRIBUTION: *Hydraena yonaguniensis* is known only from the type locality.

ETYMOLOGY: This species is named in reference to the type locality.

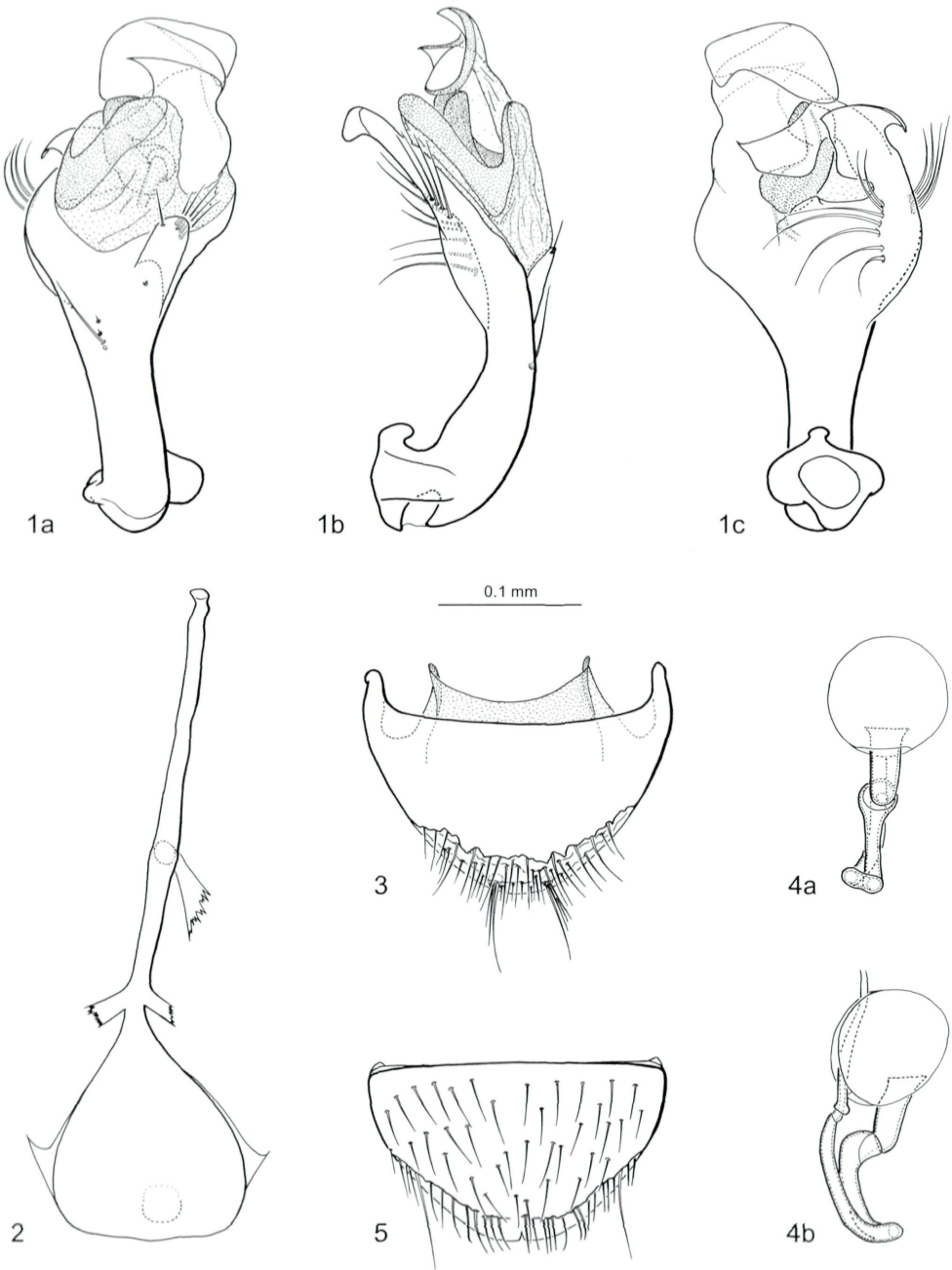
DISCUSSION: *Hydraena yonaguniensis* is a member of the *Hydraena isolinae* species complex (*H. inopinata*, *H. iriomotensis*, *H. isolinae*, and *H. orchis*), which is characterized by the presence of a conspicuous ledge on the ventral side of the male profemur. Within this complex it seems to be related most closely to *H. iriomotensis* and *H. orchis*. Possible synapomorphies uniting these three species are the shape of the plaques of the metaventrete, the strongly reduced left paramere and the shape of the apex of the right paramere.

The overall similarities of the female characters of *H. yonaguniensis* and the two females listed under "additional material" of *H. iriomotensis* by JÄCH & DÍAZ (1999) seem to confirm the specific identity of the latter.

Hydraena (Hydraenopsis) cf. sauteri d'ORCHYMONT

MATERIAL EXAMINED:

J A P A N: YONAGUNI: 5 ♂♂ + 3 ♀♀ (NMW: 5 exs., CKM: 3 exs.): Iranda forest track, Yonaguni Town, 24.X.2002, leg. Y. Kamite.



Figs. 1 – 5: *Hydraena yonaguniensis*; 1) aedeagus, a) dorsal, b) lateral, c) ventral view; 2) spiculum gastrale and terminal male sternite; 3) gonocoxite; 4) spermatheca, different views; 5) female tergite X.

These specimens either belong to *Hydraena sauteri* or they represent a new species. However, they cannot be identified with certainty as long as no males of *Hydraena sauteri* from Taiwan have been examined. *Hydraena sauteri* was described from two females (see JÄCH & DÍAZ 1998); males are still unknown.

Hydraena sautakei JÄCH & DÍAZ from Okinawa can be distinguished from *Hydraena* cf. *sauteri* by some aedeagal details.

Males of *Hydraena* cf. *sauteri* are distinguished easily from *H. yonaguniensis* by the ventral side of the metatibia not being dilated; females are distinguished easily by the distinctly produced ventrite 6.

Acknowledgements

We are obliged very much to Y. Kamite, M. Matsumura, Prof. M. Satô, and H. Yoshitomi for sending specimens from Yonaguni Island.

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Band/Volume: [3](#)

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