

New Records of Aquatic Beetles (Coleoptera, Dytiscidae and Hydrophilidae) from Kodakara-jima and Taira-jima Islands in the Tokara Islands, the Ryukyu Archipelago, Japan

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The Tokara Islands consisting 12 islands is area of zoogeographical border, between Oriental and Palaearctic Regions. HOSOYA *et al.* (2009) and HOSOYA (2011) listed 53 species of aquatic beetles, which are aquatic on all life stages, belonging to the families Haliplidae, Gyrinidae, Noteridae, Dytiscidae, Hydraenidae, Hydrochidae, Hydrophilidae, Elmidae, recorded from the Tokara Islands. Additionally, NAKAJIMA (2003) recorded *Hyphydrus lyratus* belonging to the family Dytiscidae from Takara-jima Island. Because two terrestrial species, *Sphaeridium dimidiatum* and *Peratogonus reverses*, of Hydrochidae in the imago are included in this list (HOSOYA, 2011), presently 52 aquatic beetles species have been known from the Tokara Islands. Most of the records are reported from Takara-jima (35 species) and Nakano-shima (33 species) Islands (NAKAJIMA, 2003; HOSOYA, 2011). In the aquatic beetles, the dytiscid beetles have been the record in only three islands: Nakano-shima (21 species), Takara-jima (17 species) and Akuseki-jima (three species) Islands, and the aquatic hydrophilid beetles have been the record in only two islands: Takara-jima (13 species) and Nakano-shima (nine species) Islands (HOSOYA, 2011).

In this paper, we reported new record of two species of the family Dytiscidae in Kodakara-jima Island, and one species of the family Dytiscidae and one aquatic species of the family Hydrophilidae in Taira-jima Island, the Tokara Islands. These species are the first record of the aquatic beetles from Kodakara-jima and Taira-jima Islands in the Tokara Islands. Aquatic beetles were collected in curtain light-trap (two 18-watt fluorescent lamps and two 20-watt chemical fluorescent lamps using dynamo, and two 8-watt black fluorescent lamps using battery) at about 20:00–22:00.

In Kodakara-jima Island, there is the approximately 40 m square reservoir which can become the biotope of the aquatic beetles on the Mt. Takenoyama. Taira-jima Island has abundant water as having cultivated paddy-rice until 2009, and a further research of the aquatic beetles and other aquatic insects is necessary.

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Family **Dytiscidae**

Copelatus andamanicus REGIMBART, 1899

Specimens examined. 3 exs., the start of the trail up Mt. Takenoyama, Kodakara-jima Island, the Tokara Islands, Kagoshima Pref., Japan, (N29.2218, E129.3269, alt. 28 m), by light-trap, 2.VIII.2010, T. HOSOYA, Y. MURAI, T. KONAGAYA & K. KURAMITSU leg. New to Kodakara-jima Island.

Copelatus andamanicus is distributed in the Ryukyu Archipelago from Yaku-shima Island to the south, Taiwan, Borneo and the Andaman Islands (MORI & KITAYAMA, 2007). The Tokara Islands are located near northern limit of the distribution of the species recorded from Nakano-shima, Akuseki-jima and Takara-jima Islands (MATSUI *et al.*, 1988; HOSOYA *et al.*, 2009; HOSOYA, 2011). The species was designated to “characterized species of distributional pattern” in the red data book by Kagoshima Prefecture (2003), because of northern limit of the distribution in Japan.

Hydaticus rhantoides SHARP, 1882

Specimens examined. 2 ♀♀, Yokose Coast, Kodakara-jima Island, the Tokara Islands, Kagoshima Pref., Japan, (N29.2261, E129.3241, alt. 19 m), by light-trap, 1.VIII.2010, T. HOSOYA, Y. MURAI, K. KURAMITSU & T. KONAGAYA leg.; 6 ♂♂, 6 ♀♀, the start of the trail up Mt. Takenoyama, Kodakara-jima Island, the Tokara Islands, Kagoshima Pref., Japan, (N29.2218, E129.3269, alt. 28 m), by light-trap, 2.VIII.2010, T. HOSOYA, Y. MURAI, T. KONAGAYA & K. KURAMITSU leg. New to Kodakara-jima Island.

8 ♂♂, 2 ♀♀, village (Kenko Square), Taira-jima Island, the Tokara Islands, Kagoshima Pref., Japan, (N29.6891, E129.5308, alt. 146 m), by light-trap, 11.VIII.2010, T. HOSOYA leg. New to Taira-jima Island.

Hydaticus rhantoides is common species in the Ryukyu Archipelago, and is widely distributed in west of Honshu, Shikoku, Kyushu, the Ryukyu Archipelago, Taiwan, China and Southeast Asia (MORI & KITAYAMA, 2007). The species have been recorded from Nakano-shima and Takara-jima Islands in the Tokara Islands (MATSUI *et al.*, 1988; HOSOYA *et al.*, 2009; HOSOYA, 2011).

Family **Hydrophilidae**

Regimbartia attenuata (FABRICIUS, 1801)

Specimens examined. 20 exs., village (Kenko Square), Taira-jima Island, the Tokara Islands, Kagoshima Pref., Japan, (N29.6891, E129.5308, alt. 146 m), by light-trap, 11.VIII.2010, T. HOSOYA leg. New to Taira-jima Island.

Regimbartia attenuata is common species, and is widely distributed in Honshu, Shikoku, Kyushu, the Ryukyu Archipelago, Taiwan, China, Southeast Asia, South Asia, Arabia and North of Australia (SATÔ, 1985). The species have been recorded from Nakano-shima and Takara-jima Islands in the Tokara Islands (MATSUI *et al.*, 1988; HOSOYA *et al.*, 2009; HOSOYA, 2011).

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