

Hind-leg Swinging of the Horned Beetle, *Allomyrina dichotoma septentrionalis* (Coleoptera, Scarabaeidae) in Feeding

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When the horned beetles were sucking artificial sap placed on a wood block in a transparent plastic box (33 cm in length \times 19 cm in width \times 24 cm in height), the following strange behavior in feeding was observed under ca. 40 lux and 24-26°C between 22:00 and 3:00 in the Laboratory of Biology.

While sucking sap, both males and females were clinging to the wood block with their forelegs and midlegs ("clinging posture"), and reciprocally swinging their hind legs: the beetles first joined their hind legs together with their claws (Fig. 1A) and then swung their left or right leg up with a quick and somewhat irregular motion several times (Fig. 1B, C), rubbing their abdomen with their hind legs. A short sound ("click") occurred when the joined legs were released.

The clinging posture was similar to the "mounting posture" in courtship (see IGUCHI, 1996). In the mounting posture, however, they swung their abdomens, and not their hind legs.

There has been no discussion of "hind-leg swinging" in recent papers (e.g. EBERHARD, 1980; OBATA & HIDAKA, 1983; OHTANI & KURIBAYASHI, 1985), but in a videotape under natural conditions (KURIBAYASHI, 1985). Dr. T. OHTANI, the editorial supervisor of the video, informed me that this behavior had been observed at midnight both in Nakanoshima-island (Fukuoka Pref., 1984) and in Kobe City (Hyogo pref., 1990). Swinging width of the beetle in the video seemed to be smaller than that of my beetles, though they closely resemble each other.

It is still uncertain why *A. d. septentrionalis* displays such strange behavior.

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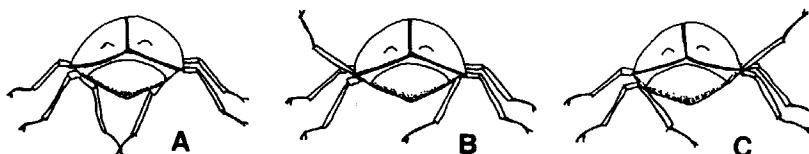


Fig. 1. Hind-leg swinging of a male joining his hind legs together (A) and then swinging his left (B) or right (C) hind leg up.

References

EBERHARD, W. G., 1980. Horned beetles. *Sci. Am.*, **242**(3): 124-131.

IGUCHI, Y., 1996. Sexual behavior of the horned beetle, *Allomyrina dichotoma septentrionalis* (Coleoptera, Scarabaeidae). *Jpn. J. Ent.*, **64**, 870-875.

KURIBAYASHI, S., 1985. Kabutomushi (ver. 1). Video Hakubutsushi 1 (22 min.), Asmik Co. Ltd., Tokyo. (Narration in Japanese.)

OBATA, S. & T. HIDAKA, 1983. Recognition of opponent and mate in Japanese horned beetle, *Allomyrina dichotoma* L. (Coleoptera, Scarabaeidae). *Kontyû, Tokyo*, **51**: 534-538.

OHTANI, T. & S. KURIBAYASHI, 1985. Urinating posture of the Japanese horned beetle, *Allomyrina dichotoma* (Linnaeus). *Kontyû, Tokyo*, **53**: 245-246. (In Japanese.)

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