

A Short Report of Feeding Behaviour on *Acilius kishii* (Coleoptera, Dytiscidae) in Japan

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Acilius kishii (Coleoptera: Dytiscidae) was originally described as a new subspecies of *A. japonicus* BRINCK, 1939 by NAKANE (1963). Later, SATÔ (1984) upgraded the subspecies to an independent species, *A. kishii*. BERGSTEN and MILLER (2005; 2007) revised the genus *Acilius* LEACH, 1817 in the Holarctic Region and supported the taxonomic position of *A. kishii* defined by SATÔ (1984).

A. kishii is an endemic species in Fukui Prefecture, Honshu, Japan and is distributed in only Yashaga-ike Pond. Moreover, number of individuals of this species is few and is estimated less than 1,000 (HOSHINA & INOUE, 2005; 2006). Therefore, Japanese government bans the collection of *A. kishii*.

In general, adults of dytiscid beetles are known to be scavengers or carnivorous (ROUGHLEY & LARSON, 2001). In contrast, BALKE (2005) indicated that many dytiscid beetles would consume plant material to supplement their animal diet.

YAMAZAKI & ÔTSUKI (1993) reported that *A. kishii* fed Diptera and Hymenoptera on the surface of Yashaga-ike Pond. Later HOSHINA & INOUE (2005) observed that *A. kishii* preyed on tadpoles.



Fig. *Acilius kishii* NAKANE chewing a fallen nut.

On 19th, September in 2013, one company which assumes environmental impact assessment duties succeeded in filming of the behavior of *A. kishii* using by an automatic underwater camera. In the moving images for about one and a half minutes (from 1:08 p.m.), one female adult chewing an unidentified falls nut (Cornaceae sp. ?) near surface of the pond was projected. It is possible that *A. kishii* can use plant materials as diets in addition to animals. The ecological knowledge of *A. kishii* is few, and therefore I report its unique behavior in this paper.

There are no fish in Yashaga-ike Pond. Furthermore, the pond is oligotrophic and its biodiversity of aquatic animals is primarily low (HOSHINA & INOUE, 2005; 2006). The phytophagous behavior of *A. kishii* may be caused by the constant deficiency in supply of diets in the pond.

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