

# 短 報

## (Notes)

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### *Leucothea japonica* Komai (Ctenophora; Tentaculata; Lobata) spurts 'ink' when poked<sup>1, 2</sup>

A lobate ctenophore *Leucothea japonica* Komai, 1918 (Family Leucotheidae), having a very fragile gelatinous body, was observed to spurt 'ink' when it was poked gently with the fingers. This is the second ctenophore species showing this kind of behaviour as is most commonly found in cephalopods and opisthobranchs.

An in situ observation was made on a single specimen of *Leucothea japonica* at Sesoko Island, Okinawa Prefecture, southern Japan on November 4, 1992. A moderate size specimen was floating just below the sea surface on the west coast of this island. When poked very gently with the fingers, it immediately ejected a solution like a tincture of iodine, which formed a kind of cloud in the seawater surrounding the animal. This 'ink' was soon diluted by a weak current. When poked again it spurted ink as before. The observation was stopped at this moment to collect some hydromedusae and a small, young ctenophore with tentacles floating near the animal. On a previous occasion ejection of 'ink' was not observed when a large specimen of the same species was gently touched with the fingers. This specimen was part of a plankton assemblage including many hydromedusae of different orders and a ctenophore *Cestum amphitrites* Mertens (Tentaculata, Cestida), and was floating just below the sea surface along the coast of Honmura, Kuchinoerabu Island, Kagoshima Prefecture, southern Japan on May 10, 1991. All the ink substance might have already been spent at the time that this specimen was examined, and probably some time is re-

quired between ejections. However, where this ink substance is stocked and how it is ejected is yet to be clarified.

Similar observations on a lobate ctenophore *Eurhamphaea vexilligera* Gegenbaur, 1856 (Family Eurhamphaeidae) have previously been made by Mayer (1912) from Florida, USA and Taniguchi (1975) from the sea near Enoshima Island, Kanagawa Prefecture on the Pacific coast of mid-Japan. Taniguchi (1975) also reported that the ejected substance killed the animal itself in a very short time in the laboratory and that the solution which looks like a tincture of iodine was bitter in taste. This ink, excreted from numerous pores along the courses of the meridional canals, is supposed to fulfill a protective function as suggested by Mayer (1912) and Taniguchi (1975), but what organisms this substance effects is unknown.

According to my observations none of three other species of ctenophores such as *Beroe cucumis* Fabricius (Atentaculata, Beroida), *Coeloplana willeyi* Abbott (Tentaculata, Platiactenida), and *Bolinopsis mikado* Moser (Tentaculata, Lobata) have ejected ink. Similar examinations on many other ctenophore species are required to illuminate the extent of the above-mentioned behavioural trait and its significance to these two lobate species.

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<sup>1</sup> Received: 8 December 1995/ Accepted: 27 December 1995

<sup>2</sup> ツノクラゲ (有櫛動物門; 有触手綱; カブトクラゲ目) つつくと "墨" 放出

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#### Literature Cited

- Komai, T., 1918. On ctenophores of the neighbourhood of Misaki. *Annot. Zool. Japon.*, **9**: 451-474, 1 pl.
- Mayer, A. G., 1912. Ctenophores of the Atlantic coast of North America. Carnegie Institution of Washington, Washington, 58 pp.
- Taniguchi, T., 1975. Droplets from the plankton net XXVI. Notes on the excretion in *Eurhamphaea vexilligera* Gegenbaur (Ctenophora). *Publ. Seto mar. biol. Lab.*, **22**: 321.

SHIN KUBOTA

*Seto Marine Biological Laboratory, Faculty of Science, Kyoto University, Shirahama, Nishimuro, Wakayama 649-21*

久保田信, 京都大学理学部附属瀬戸臨海実験所