

NOTE

Note on the Prey Items of Marine Cladocerans

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해산지각류의 먹이에 관한 보고

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Food items of the five species of marine cladocerans were reported to be largely confined to centric diatoms. Reexamination of the prey items, however, revealed that flagellar organisms were also well fed by cladocerans. This additional finding suggests that marine cladocerans might extend their food items to weakly motile flagellates e.g., *Prorocentrum micans*, *Protoferidinium* sp. and unidentified flagellates.

지금까지 자연상태에서 해산지각류의 먹이로서는 주로 중심목 규조류가 섭식되고 있는 것으로 알려져 왔다. 그러나 그들의 장내용물질들을 재검사한 결과, 이들 규조류 외에 편모조류들 역시 해산지각류의 먹이로서 중요한 것으로 판단되었다. 따라서 *Prorocentrum micans*, *Protoferidinium* sp. 등과 미동정된 편모조류 등도 해산지각류의 중요한 먹이로서 추가되어야 할 것으로 밝혀졌다.

Feeding habits of marine cladocerans have already been reported in the Inland Sea of Japan (Kim et al., 1988, 1989), with a number of previous studies in various waters (Bainbridge, 1958; Gieskes, 1971; Jagger et al., 1988). The conclusion was that centric diatoms were major food items. We found, however, substantial remains of unidentified materials in the gut content of all examined specimen. This report adds further on the food item of marine cladocerans described by Kim et al. (1988, 1989), Turner (1984) and Jagger et al. (1988). We reexamined samples collected once or twice a week during the period from April 1986 to May 1987 in the Inland Sea of Japan (cf. Kim et al., 1989) with the scanning electron microgra-

phy.

Despite our former findings (Kim et al., 1988, 1989) in which marine cladocerans were raptorially-feeding herbivore (cf. Jagger et al., 1988), their preference for feeding on immotile organisms and materials (viz. diatoms or detritus) has become somewhat obscure. Since most of unidentified organisms were identified to be phytoflagellates (Fig. 1). *Prorocentrum micans* (A), *Protoferidinium* sp. (B) and other flagellar organisms (C, D) were frequently observed in the gut of marine cladocerans. Although these flagellates were added to the natural food item of marine cladocerans, we suppose that some of phytoflagellates, i.e. *Scrippsiella trochoidea* and *Prorocentrum dentatum*, were not fed by marine

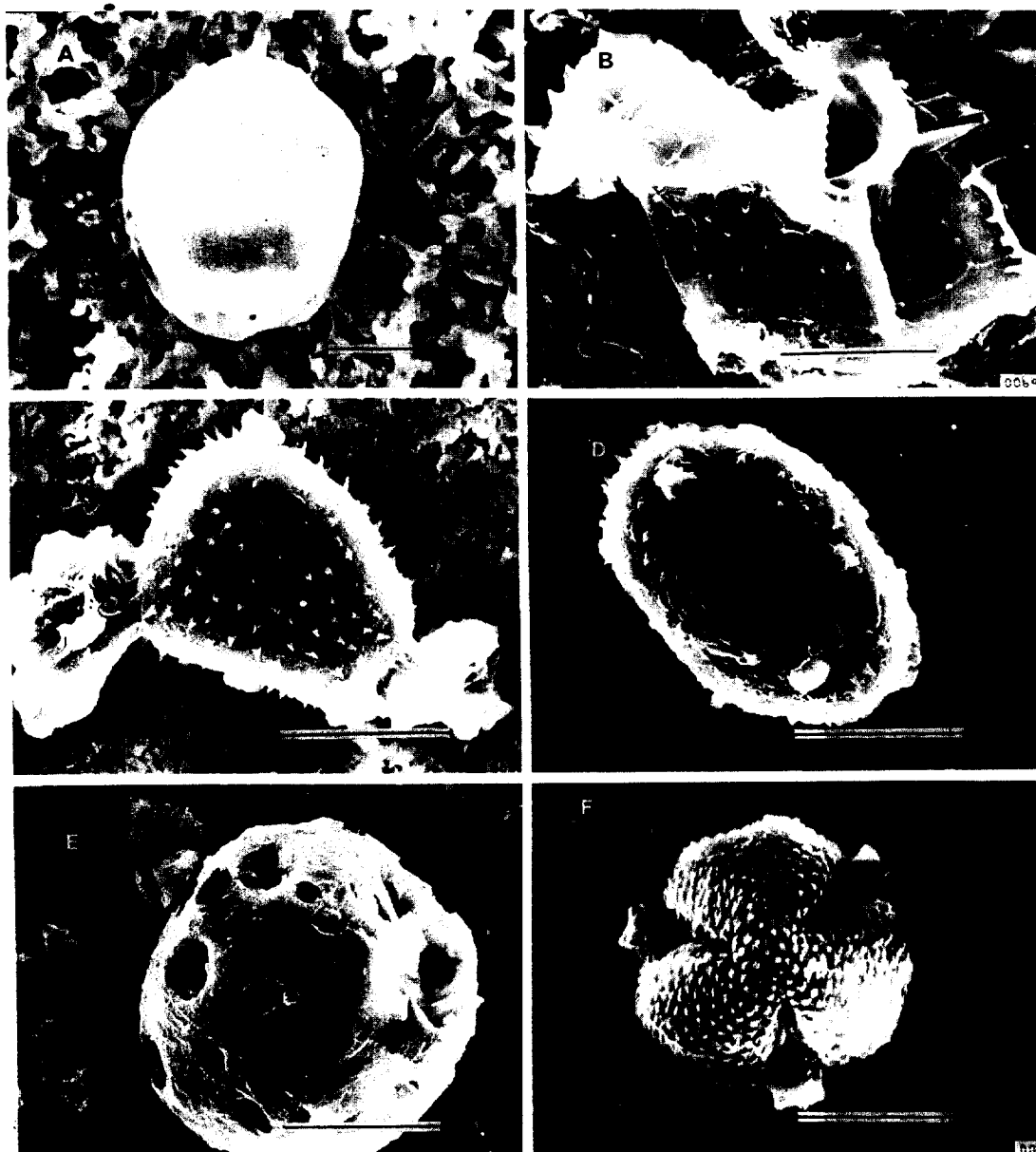


Fig. 1. Gut content of marine cladocerans. (A) *Prorocentrum micans*, (B) *Protoperidinium* sp., (C, D, F) unidentified flagellar organisms, (E) coccolithophore like remains. Scale bars indicate 10 μm except B where 50 μm .

cladocerans. The blooms of phytoflagellates (*S. trochoidea* and *P. dentatum*) did not affect the feeding habits of cladocerans which were observed to be restricted to diatoms at that time. A number of organisms and materials found in the gut of marine cladocerans remains to be unidentified.

Most centric diatoms and some pennate diatoms and flagellar organisms appear to be well fed by marine cladocerans.

ACKNOWLEDGEMENTS

This work was supported in part by the Ministry

of Education, Science and Culture of Japan. Prof. M. S. Han of Hanyang University kindly identified our scanning electron micrography.

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Accepted February 22, 1993