

海洋生物学 (1 / 2)

(注意) 全ての問題を 1 枚の答案用紙に解答すること。裏も使用してよい。

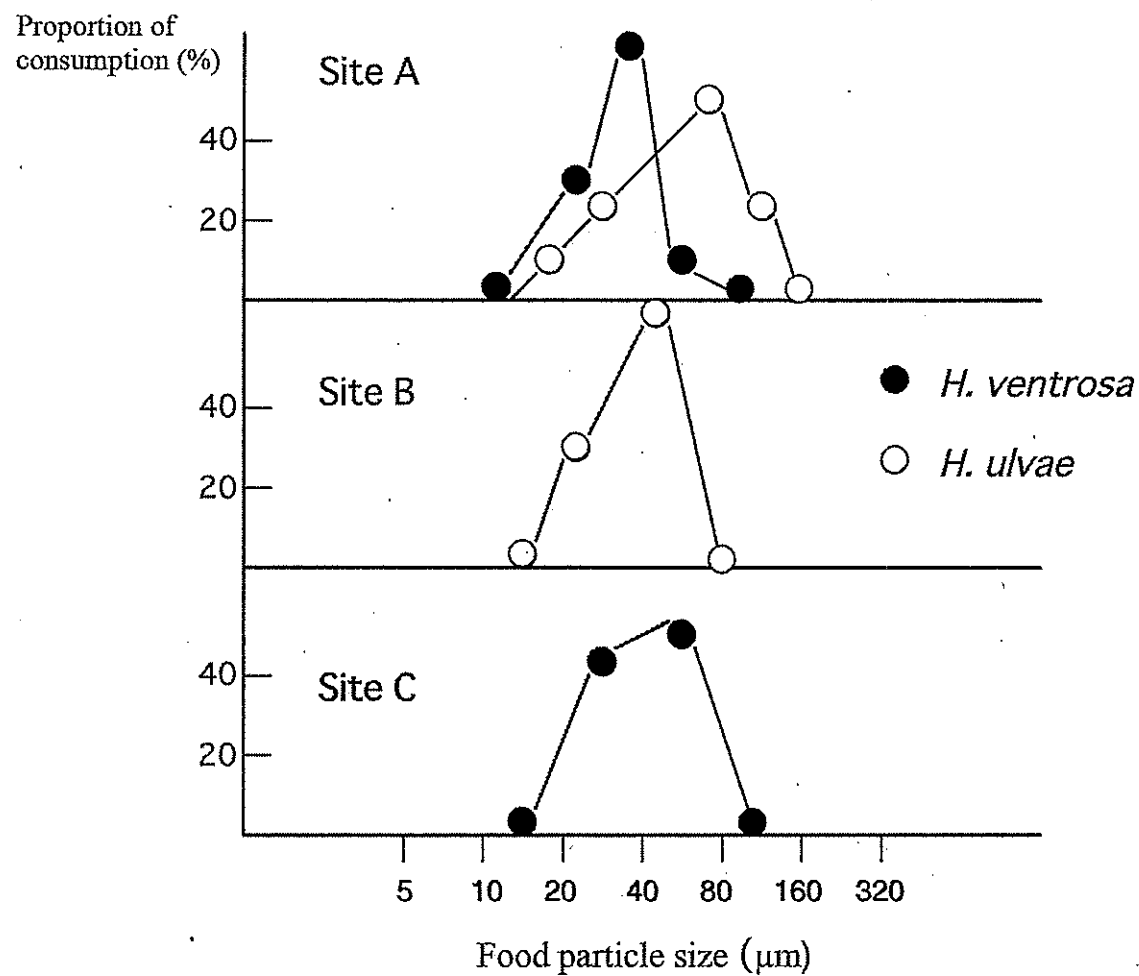
(解答は英語・日本語のどちらでもよい [英語/ラテン語と指示してある場合以外]。文法などの間違いは採点に影響しない)

[1] Choose one of the following topics and discuss. (20 points)

- (1) Mechanisms of zonation on rocky intertidal shores
- (2) Morphological and ecological characteristics of mangroves
- (3) Vertical distribution of zooplankton
- (4) Mechanisms and consequences of coral bleaching
- (5) Ecological roles of large marine predators

[2] The figure below shows the results of a field study in which the feeding ecology of mud snails *Hydrobia ventrosa* and *H. ulvae* was investigated in three sites of a tidal flat in northern Europe. Answer the following questions. (total: 40 points)

- (1) Name the taxonomic category (phylum and class, in Latin/English) of these species. (10 points)
- (2) Explain what the figure shows. (15 points)
- (3) Plan and explain an experiment to test the possible effects of interspecific competition in these species. (15 points)



海洋生物学 (2 / 2)

(注意) 全ての問題を 1 枚の答案用紙に解答すること。裏も使用してよい。

[3] Answer the following three questions concerning seagrasses. (total: 20 points)

- (1) Explain briefly the taxonomic differences between seagrasses and marine algae. (5 points)
- (2) "Seagrasses always propagate by sexual reproduction". Discuss whether this statement is true or not. (5 points)
- (3) Explain the ecological relationship between seagrass beds and coral reef fishes. (10 points)

[4] Two species of holothurian echinoderms of unknown feeding habits occur on a subtropical seabed. In order to clarify the interspecific relations between these two species, devise and explain a field /experimental study, paying particular attention to (a) the hypothesis that you propose to test with the experiment, (b) possible results and their interpretations. (20 points).