

海洋生物学 (1 / 1)

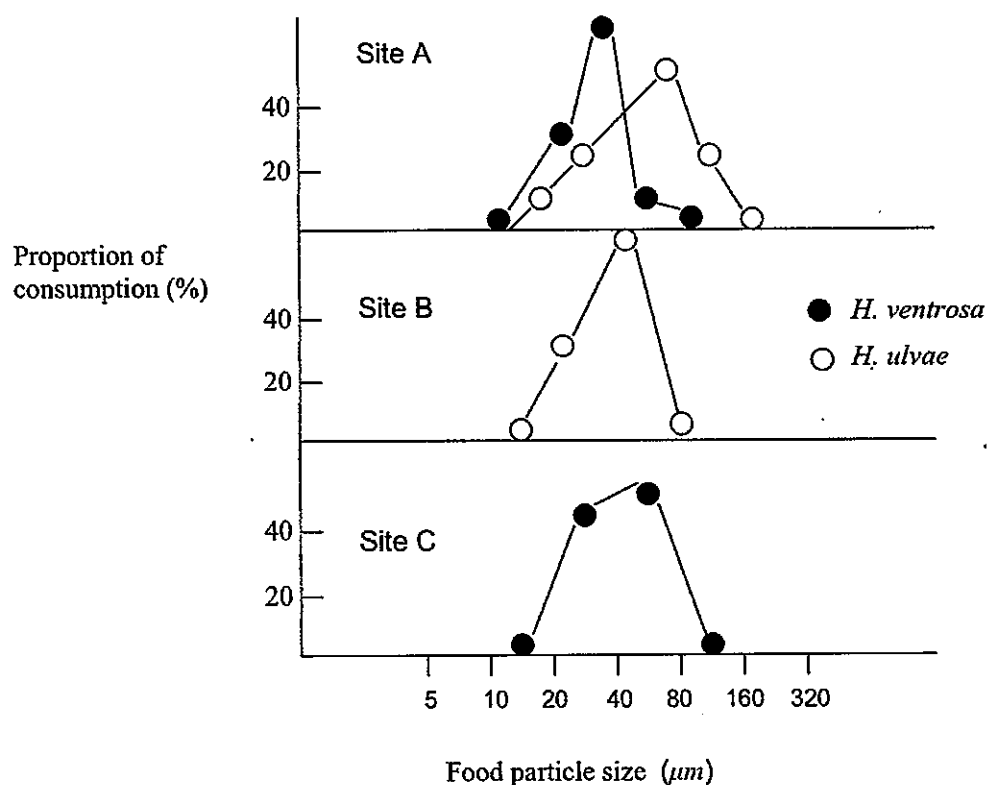
(解答は英語・日本語のどちらでもよい(英語/ラテン語と指示してある場合以外)。文法などの間違いは採点に影響しない)

[1] Choose TWO topics from the following six and discuss. (30 points)

- (1) Vertical distribution of intertidal organisms
- (2) Effects of physical disturbances in shallow subtidal habitats
- (3) Effects of physical disturbances in stream habitats
- (4) Distribution and diversity of kelp forests in world's seas
- (5) Advantages of small size in phytoplankton
- (6) Migration of pelagic fishes

[2] The figure below shows the results of a well-known field study in which the feeding ecology of *Hydrobia ventrosa* and *H. ulvae* were investigated in three sites of a mudflat in northern Europe. Answer the following questions. (total: 45 points)

- (1) Name the taxonomic category (phylum and class, in Latin/English) of these species. (5 points)
- (2) Explain the feeding mode (what and how they consume) of these species. (5 points)
- (3) Explain what the figure shows. (15 points)
- (4) Plan and explain an experiment to test the possible effects of interspecific competition in these species (20 points).



[3] Answer the following questions on marine food webs. (total: 25 points)

- (1) Explain what marine autotrophs are. (5 points)
- (2) Describe an example of a food web from either (a) rocky shore, (b) estuary, or (c) kelp forest systems. (10 points)
- (3) Explain how humans as predators could affect marine food webs. (10 points)