

問題番号 [1 5] <海洋生物学>

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

(1) Choose TWO topics from the following five and discuss. Give at least an example of specific taxa/species name (in Latin or English) in your discussion. (25 points each)

- (a) Ecological niches in rocky intertidal organisms
- (b) Seasonal patterns of algal beds in temperate regions
- (c) Obligatory mutualism in coral associated communities
- (d) Anthropogenic impact on marine organisms
- (e) Distribution and ecological functions of mangroves

(Total 50 points)

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(1) In contrast to terrestrial vascular plants, marine algae possess a variety of photosynthetic pigments. Discuss this with the possible reasons behind from ecological and evolutionary points of view. (25 points)

(2) Two species of herbivorous gastropods occur on temperate intertidal shores and are known to share the same food resources, microalgae on the substrate surface. In order to clarify the possible competitive relationship between these two species, devise and explain an experiment, either in the field or in the laboratory, paying particular attention to (i) the hypothesis you propose to test with the experiment, (ii) possible results and their interpretations. (25 points)

(Total 50 points)