Growth of Tidal Snail Cerithidea moerchii Depends on Submergence Rate and Height of Reed Stem in Brackish Mud Flats

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The tidal snail Cerithidea moerchii living in brackish mud flat in our town (habitat A) was observed frequently climbed up on the reed stem above the water. Snails of this species were also found in the river of the neighboring town (habitat B), but they were significantly smaller than those of the habitat A. In order to clarify why the size of the snail differs between the two habitats, precise analyses were conducted on correlations of brackish water immersion of habitats, reed growing and snail growth. The tide was regular in and out on their habitats. Submerged rate of habitat A was 45.5% and 77.3% of habitat B. It was thus proved that larger snails in habitat A lived under less submerged environment while smaller ones in habitat B were in more immersed habitat. As reed bushes invariably grew in mud flat where tidal snails lived, effects of submergence on growth of the reed bush were examined. In habitat A where submerged rate was low reeds grew very well and their stems became long and thick, while in habitat B where submerged rate was high reeds grew poorly and their stems were thin and short. A parallel phenomenon in the submergence rate, the size of the reeds, and the size of the tidal snail in both habitats was thus found. Close correlations of length of water immersion, growth of reed stems and growth of tidal snails were thus clearly demonstrated.