Abstract

The zonation of the common intertidal fauna of the rocky shores of Jamaica is described. The tidal range in Jamaica is small (about 24 cm) and it is shown that wave action is an important factor influencing the vertical distribution of the fauna.

Growth rates of Nerita versicolor (Gmelin), Nerita tessellata (Gmelin), Nerita peloronta (Linnaeus), Tectarius muricatus (Linné), Nodilittorina tuberculata (Menke), and Littorina ziczac (Gmelin) are estimated using monthly length frequency samples and monthly measurements of tagged individuals. Mark-recapture data are analysed by constructing monthly Manzer and Taylor plots where shell lengths of individual snails are plotted against shell lengths of the same snails the following month. Theoretical growth curves are calculated using von Bertalanffy's growth equation. Moving averages are applied to the length-frequency data.

All species show seasonal fluctuations in growth, the periods of little or no growth being more pronounced in those species occupying the higher vertical zones (N. peloronta, N. tuberculata, L. ziczac, T. muricatus).

Some breeding information is obtained from length-frequency data and from seasonal fluctuations in growth increments.

Transfer experiments of tagged T. muricatus, between sheltered and exposed regions of a small rocky cove at Green Castle, Jamaica, show that increased exposure to wave action greatly increases both the growth rate and asymptotic length.

Transfer experiments between Jamaica and Miami, Florida, show a reduction in growth increments when N. versicolor from Jamaica are placed in Miami, whereas snails from Miami in Jamaica grow at the same rate as Jamaican snails. Similar experiments with N. tessellata show that growth increments are unaffected by a transfer from Jamaica to Miami. There is, however, an increase in growth when tagged N. tessellata from Jamaica are placed in Barbados and a reduction in growth when snails from Barbados are transferred to Jamaica.