

**DISTRIBUTION IN RELATION TO ENVIRONMENT OF THE MARINE
SNAIL, *LITTORINALI'IT OREA* (GASTROPODA: PROSOBRANCHIA) AT
HELGOLAND (NORTH-SEA)**

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ABSTRACT

The study describes seasonal fluctuation of a *L. littorea* population at an artificial pier on Helgoland. External factors which may influence the population were studied. There was no detectable influence of tidal magnitude when spring tide and neap tide were compared. There was no relationship between wind and wave stress and the number of snails on the pier. Increasing temperature in summer was correlated with an increase in the total number of snails. Other seasons did not show significant relationships. The number of snails increased on the pier during summer (July to Aug.), was constant in autumn (Sep. to Nov.), increased considerably in peak winter (Dec. to Jan.), and decreased through the following months until August the following year. Fluctuation of snail numbers in summer could be related to a limited downward migration, whereas in winter the population density was considerably higher due to decreased downward migration. Counts of marked individuals in squares on the pier suggested a trend of predominating lateral movement and less exchange downwards. Accordingly, individual snails experience at least several days of equal time of desiccation at low tide. The method of marking is discussed in relation to the habitat of the snails.