

SMALL-SCALE DISTRIBUTION PATTERNS OF A LITTORINID SNAIL  
ON PILINGS AT JEPARA ON THE NORTH COAST OF JAVA:  
AN EXPERIMENTAL TEST

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ABSTRACT

A littorinid snail, *Littoraria strigata* (Philippi, 1846), commonly occurring on pilings at the coast of Jepara, North Java, was observed at daytime to aggregate at sea water level irrespective of tidal height, while at night-time the snails dispersed subtidally. It was anticipated that snails occurring on the pilings in a gradient of wave exposure (distance from the shore) showed a gradient in shell morphology. A morphometric analysis revealed that no statistical difference in shell morphology between pilings could be demonstrated but size and weight of the snails was significantly negatively correlated to density. A hypothesis was formulated that aggregation was caused by differences in predation pressure causing higher mortality in subtidal conditions at daytime. The hypothesis was tested by keeping snails on isolated bamboo rods suspended subtidally and intertidally during both day- and night-time conditions. The results showed that snails kept subtidally faced a significant higher mortality during day than at night while no significant difference was found between day and night if snails were kept intertidally.