A TEST OF RHEOTACTIC BEHAVIOUR OF THE BLUE MUSSEL
MYTILUS EDULIS L.

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ABSTRACT

Many marine invertebrates show rheotaxis. Marine mussels may orientate the inhalant siphon to Yards currents to optimize feeding and sanitary conditions thereby improving growth rates. The blue mussel, Mytilus edulis, forms extensive beds on both hard and soft substrata. Mussels are active filter-feeders showing great mobility by constant reorientation and attachment by aid of a well developed foot and byssus threads. We predicted that mussels would show rheotaxis and orientate uniformly in relation to currents to optimize feeding. To test this hypothesis, orientation of mussels in the field were observed using underwater stereophotography. Furthermore, experiments in situ and in a laboratory flume were performed. The results showed that Mytilus edulis lack rheotaxis. Movements within a mussel patch were highly dynamic indicating that rheotactic behaviour may be concealed by the difficulty in experimentally separating competition for space from competition for food.