

EFFECTS OF EXPOSURE TO WATER-SOLUBLE FRACTIONS OF
LUBRICANT OIL (MESRAN® SAE 40 W) ON ATTACHMENT FORCE
OF THE SNAIL *LITTORARIA SCABRA*
(LITTORINIDAE: GASTROPODA)

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ABSTRACT

Attachment force in gastropods has been used to measure responses of marine snails *Littoraria scabra* (shell length of 18-24 mm) to water-soluble fractions (WSF) of lubricant oil (Mesran SAE 40 W) in different concentrations. The ability to adhere to the substratum was measured in two ways: 1) the weight required to lift up an animal when it attached to a substratum (termed tenacity). 2) the percentage of animals falling down from the wall of the experimental chamber (termed endurance). Higher concentrations of WSF and longer exposure times reduced the attachment force, both with respect to tenacity and endurance. This was related to the production of mucus as the first self-defence response of *L. scabra* to the oil. Production of mucus was the sublethal response, which required energy that finally drained the resources available for attachment to the substrate. Statistical tests showed that the effect of WSF on tenacity and endurance, and their interaction, were significant ($p < 0.05$) in all experiments.