

Low pH water impairs the tactile sense of the postlarvae of the giant freshwater prawn *Macrobrachium rosenbergii*

Abstract

The effect of low pH on the tactile sense of *Macrobrachium rosenbergii* postlarvae was determined in the laboratory by means of two behavioural assays: shelter (netting) occupancy and jumping response to touch stimuli (taps) by a glass micropipette. The postlarvae were acclimated to pH 4, pH 5, pH 6 and pH 7.5 (control) in 45 L aquaria 5–7 d before the experiments. Shelter occupancy decreased with pH and was significantly lower at pH 4 and pH 5 than at pH 6 and in the control. The jumping response instantly followed a tap 93–98% of the time in the control, pH 6 and pH 5 treatments. However, the postlarvae showed significantly lower jumping response (65%) at pH 4, indicating an impaired tactile sense. Low pH 4–5 probably degrades the chitin of the sensory setae and inhibits the surface mechanoreceptors of the prawn postlarvae.