A Comparative Study of the Effect of Clove Oil at Different Concentrations on Induction time, Behavior of Anesthesia and Recovery Time in Red Clown Fish (*Amphiprion rubacinctus*)

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Abstract

The aim of this study was to study the effect of clove oil at different concentrations on induction time, anesthetic effect on behavior and recovery time in red clown fish (*Amphiprion rubacinctus*). Altogether 60 clown fishes were used in this study. They were divided into 12 groups and each group contained 5 fishes. The first ten groups was treated with clove oil of 10, 20, 30, 40, 50, 60, 70, 80, 90 and 100 ppm respectively the 11th treatment used 75 ppm of MS-222 (this was the positive control) while the 12th treatment used 1000 ppm of ethanol considered as the negative control. The results showed that the more concentration of clove oil was, the less induction time at stage 3 plan 2. The concentration of clove oil at 30-70 ppm was effective for induction time, behavior anesthesia and recovery time. The recommended concentration of clove oil for red clown fish was 60 ppm. Clove oil did not affect the water quality before and after the experiment. The quality of water was tested through Nitrite (NO₂⁻), Chlorine(Cl₂), Ammonium (NH₄), Alkalinity and pH.

Keywords:  induction time, recovery time, *Amphiprion rubacinctus* and clove oil