

Anesthetic efficacy of clove oil and its impact on hematological and biochemical changes in *Channa striatus* (Bloch, 1793)

Authors:

Jeyasheela P, Haniffa MA
and Kavitha K

Institution:

Centre for Aquaculture
Research and Extension
(CARE), St. Xavier's College
(Autonomous),
Palayamkottai,
Tamil Nadu-627005, India

Corresponding author:
Haniffa MA

ABSTRACT:

Channa striatus is one among the dominant group of air breathing freshwater fishes in Southeast Asian countries. In the present study, fish anesthetic clove oil was used to study the hematological and biochemical changes at different concentration (400 ppm, 450 ppm and 500 ppm) and time interval (0 h, 1h and 24 h) in *C. striatus*. The induction and recovery time was noted for each treatment groups. Erythrocyte count (T/L), Hemoglobin and Hematocrit values showed elevated levels when compared to control. RBC, Hb and Ht values significantly increased 1 h after anesthesia and returned to normal after 24 h. Anesthetic treated fishes exhibited marked decrease in WBCs when compared to control group. The rest of the indices (MCV, MCH, MCHC, Lymphocytes, Monocytes, Neutrophils) were at comparable levels in all groups. The anesthetic treated fishes were found to show a significant increase in the concentration of glucose. The rest of the indices (TP, ALB, GLOB, ALT, AST) were at comparable levels in all groups. Results of the study suggested that the use of clove oil at the concentrations of 400, 450 and 500 ppm does not cause irreversible damage on the blood parameters as well as biochemical profile in *C. striatus*.

Keywords:

C. striatus, Anesthesia, Induction and recovery time.