

Abstract:

As at present, aquatic anesthetic drugs are imported from abroad and on the other hand, application of these chemicals is found to be hazardous for consumers, therefore, hence to find a cost-effective, efficient anesthetic drug with less side effects is a more interested subject in the aquaculture industry across the world. The present research aims to assess the anesthetizing effect of pepper mint essence on common carp. In the present study number of seventy common carps with a mean weight and length about $8/52 \pm 1/54$ g and $8/47 \pm 1/16$ cm, respectively at concentrations 200, 250, 300, 350, 400, 450 and 500 ppm pepper mint essence were anesthetized by immersion method. Temperature, pH, and water hardness were recorded $22 \pm 2^\circ$ c, 7 ± 1 and 981 m/l respectively. After preparation of the concentration of essential oils of pepper mint essence, fishes were individually transferred to a container containing the anesthetic solution and induced anesthesia time loss of equilibrium, were recorded. Then fishes out of a container containing a solution of anesthesia were transferred into container containing clean water and regaining equilibrium and complete recovery times recorded. In order to determine the possible effects of peppermint essential oil concentrations of 200, 300, and 400 500 ppm at time 0 and 24h, some samples were taken from the liver, kidney and gill and after preparing microscopic sections and staining them, these sections were examined by light microscopy. Statistical analysis showed that minimum dose required for induce anesthesia by pepper mint essence was 200 ppm in Common carp fish at recommended time (maximum time for induce anesthesia: 3 min). The time of complete recovery in this dose was about 5 min. Also, the results showed that by increasing the concentration of a anesthesia inducing substance, anesthesia inducement get faster and the recovery time of of anesthesia increases. According to the results of histological pathology, optimal concentration 200 ppm has no side effects and it can be used without any concern.

Keywords: Peppermint essential oil, Anesthesia, Common carp, Histopathology



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Subject:

Anesthetic vigor of essential oils of Peppermint (*Mentha pipertia*) in Common
carp (*Cyprinus carpio*) and it is histopathology

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