



**University of Zabol  
Graduate school  
Faculty of Natural Resources  
Department of Fisheries**

**The Thesis Submitted for the Degree of M.Sc.  
Of Fish Products Processing**

**Title:**

**Chemical, microbial and sensory characterization of  
*Hypophthalmichthys molitrix* during storage in ice  
containing *Myrtus communis* extract**

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## **Abstract**

The aim of this study was to investigate the effect of leaf extract on the quality of shelf life of silver carp during storage in ice. The powdered leaves of the plant were dissolved in boiling water for 15 to 20 minutes, and then the extract was obtained by filtering off the paper. In the next step, the extracted leaf extract was evaluated using discontinuous and microdilution methods at different concentrations. The results showed that leaf extract of the plant in the concentration of 100 µl / g had the most antibacterial properties. Keeping of silver carp was done by immersion in extracts and adding extracts to ice. The chemical parameters (TBA, PV, pH, TVB-N) and microbial (TVC and PTC) were measured at 0, 24, 72, 144, 216, 288 and 360 hours. The results showed that chemical parameters increased during storage, but this increase was less in the treatments containing leaf extract of the plant. The levels of TVC and PTC were less than those of other treatments. Therefore, the application of leaf extract of the plant is recommended as an antibacterial natural preservative during fish storage in ice.

**Key words:** *Myrtus communis* extract, Antibacterial activities. Ice storage *Hypophthalmichthys molitrix*