



## Considering the effect of common myrtle (*Myrtus Communis*) on stimulating immunological system of gold fish (*Carassius auratus*)

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### Abstract

The present study was aimed to investigate the effect of myrtus extract (*Myrtus communis*) in gold fish (*Carassius auratus*) diet on growth, survival and some immunological indicators of this species. For this purpose 0.5, 1 and 1.5 mg of the extract was added to fish diet and was used after drying. The investigation period was 60 days. For this purpose 250 specimens of gold fish that their initial weight was 8.5 gr were transported to aquaria which content 40 liter water. After 4 weeks, as a adaptation period, the fish were distributed in 4 treatments. 3 treatments were feed by diet content three level of extract 0.5, 1 and 1.5% and one group was as a control. At the end of experiment, all fish were biometry and based on obtained data some groth parameter such as specific growth rate (SGR), daily growth rate (DGR), Condition factor (CF) and Increasing body weight (IBW) and survival were calculated. At the end of experiment, the blood of fish were collected and the amounts of hematocrit, MCV, MCH and MCHC, Heterophil, lymphocyte and compleman ( $C_4$ ,  $C_3$ ) as some of nonspecific immunological parameters were measured. The results showed that with increasing the amounts of myrtus extract in fish diet, the level of CH50 was increased that this increasing was significant in 1 and 1.5% treatments in compared with control group ( $P < 0.05$ ). The amounts of  $C_3$  and  $C_4$  were also higher in treatments containing extract than control group but they had not significant different ( $P > 0.05$ ). Generally, the results of this experiments showed that the myrtus extract had a positive effect on immunological parameters of fish and it can be as a immonostimulant for this fish. So, using of this extract is recommended for fish diet.

**Keywords:** myrtus extract (*Myrtus communis*), immunological, blood parameters, gold fish (*Carassius auratus*)