

## عنوان مقاله:

Research Article: The adjuvant effect of Myrtle, *Myrtus communis*, extract on hematological, Immuno-physiological, antioxidant responses, and tissue histomorphology of gill and liver in juvenile Siberian sturgeon, *Acipenser baerii*

## محل انتشار:

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## خلاصه مقاله:

This study aimed to evaluate the effect of Myrtle, *Myrtus communis*, extract on hematological, immuno-physiological, antioxidant responses, bactericidal activity, and tissue histomorphology of gill and liver in juvenile Siberian sturgeon, *Acipenser baerii*. Siberian sturgeon were exposed to 4 doses of myrtle extract including 25% (67.4 mg/L; M25), 50% (134.9 mg/L; M50), 75% (202.0 mg/L; M75), and 100% (269.8 mg/L; M100) of the maximum allowable concentration and a control treatment (without exposure myrtle extract). Hemoglobin and red blood cell values were significantly increased in fish exposed to the myrtle extracts ( $p < 0.05$ ). The white blood cell was lower in M25 and M75, while the highest value was found in M100 treatment ( $p < 0.05$ ). Myrtle extract did not affect the lymphocyte value in the course of exposure ( $p > 0.05$ ). The highest albumin and total protein levels were observed in M25 and M50 groups. The highest values of lysozyme and total immunoglobulin (Ig) activities were observed in M50, M75 and M25, M50, respectively ( $p < 0.05$ ). Superoxide dismutase and catalase activities of those fish exposed to M50 and M75 were significantly higher than the control and M100 groups ( $p < 0.05$ ). The lowest glutathione peroxidase value was observed in the control group compared to the others ( $p < 0.05$ ). The severe changes such as adhesion and curling of gill lamella discern were observed in fish exposed to different levels of myrtle extracts. Moreover, in the control group, severe hepatocyte destruction was accompanied by nucleus pyknosis, but the severity of atrophy was observed in M75 and M100 treatments. Overall, the results suggested that myrtle in the range of 67.4-202 mg/L could be applied as a stimulant agent to Siberian sturgeon aquaculture.

## کلمات کلیدی:

Exposure, Myrtle, Immuno-physiological, Siberian sturgeon

## لینک ثابت مقاله در پایگاه سیویلیکا:

