**ABSTRACT**

**INVESTIGATING EFFECTS OF STRESS TO SUPEROXIDE DISMUTASE (SOD) ACTIVITY, GLUTATHION (GSH/GSSG) AND PROTEIN CARBONYL LEVELS IN FISHES FROM SIVAS KANGAL FISH SPRING**

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In this study, stress effects on some biochemical parameters in muscle tissues of Gara rufa obtusa and Cyprinion macrostomus from Sivas Fish Spring was investigated in an attempt to determine the antioxidative role of a variety of stress sources in fishes. The fishes were exposed to different stress sources such as heavy metal, oxygen deficiency, pH, selenium, temperature and nutrient deficiency to determine the superoxide dismutase (SOD) enzyme activity. Changes in glutathion (GSH/GSSG) and protein carbonyl (PC) levels were investigated. Changes in superoxide dismutase enzyme activity, glutathion and protein carbonyl level of groups exposed to different stress sources were observed according to control group.

In superoxide dismutase activity, the highest increase was observed in oxygen deficiency (27.5%) while the highest decrease was observed in heavy metal effect (39.4%) for Garra rufa obtusa species. The highest increase was observed in selenium effect (104.4%) for Cyprinion macrostomus species…

**Key Words:** Oxidative stress, superoxide dismutase, glutathion, protein carbonyl level.