

# Effects of Sublethal Doses of Cadmium on Plasma Thyroid Hormone Levels in Yellowfin Seabream (*Acanthopagrus latus*)

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## Abstract

Cadmium is a heavy metal that is known as a pollutant in aquatic environments. This heavy metal may cause destroying effects via affecting on fish endocrine glands and metabolism. Thyroid hormones have the important role in growth, development and reproduction system in fish. The aim of the current study was the assessment of Cadmium effects on thyroid function in male Yellowfin Seabream, *Acanthopagrus latus*. Fish specimens were exposed to different Cadmium concentrations (1, 3, 6, 9 and 12 mg/liter) those were selected according to the toxicity test, for 2 weeks. Blood samplings were conducted at 7 and 14 days after the test was started. Plasma levels of thyroid hormones (triiodothyronine and tetraiodothyronine) were assayed using Radioimmunoassay method. Plasma T3 levels and T3/T4 ratios had significant and indirect relation with Cadmium concentrations whereas T4 showed direct relation and increased significantly after Cadmium exposure. These results demonstrated the negative effects of Cadmium on thyroid hormones homeostasis via inhibiting the 5'-monoiodinase and T4 to T3 conversion.

Keywords: Heavy metal, Endocrine system, Thyroxin, Triiodothyronine, Biomarker.

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