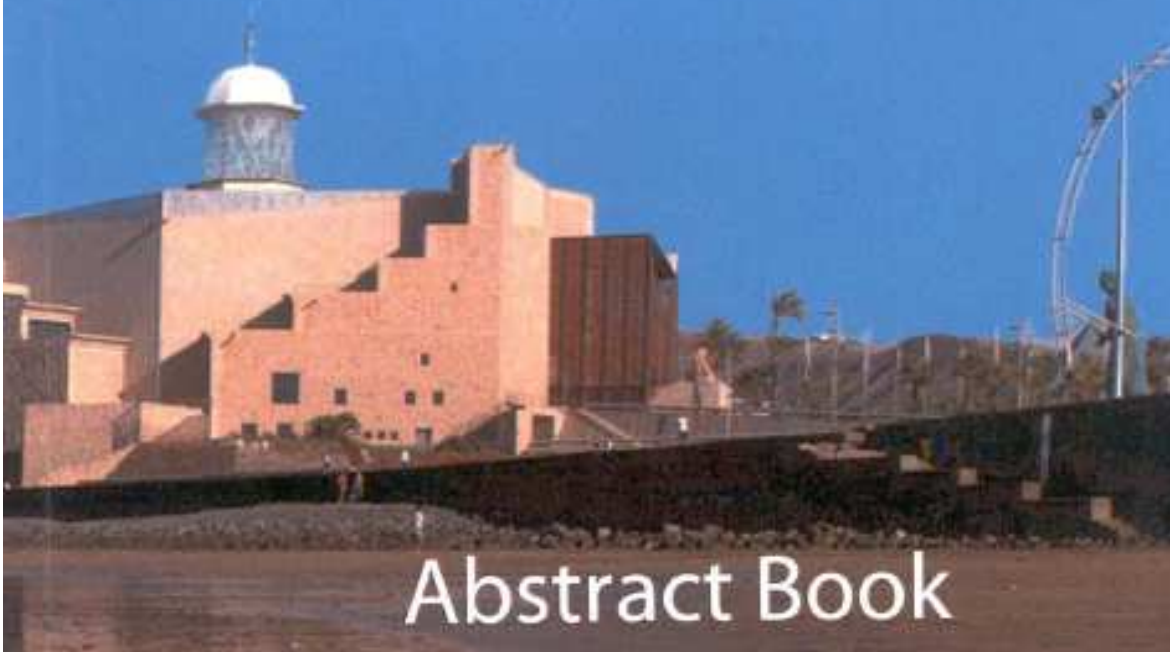




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WATERBORNE METHYLMERCURY PRODUCES CHANGES IN ANTIOXIDANT AND IMMUNE STATUS IN THE GILTHEAD SEABREAM (*SPARUS AURATA* L.)

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In the aquatic systems, the organisms are continuously exposed to several chemicals. Among them, mercury is an environmental contaminant that causes acute and chronic damage to multiple organs. In fish, practically all organic mercury is in the form of methylmercury (MeHg), which has been associated with animal and human health problems. In the present study we have evaluated the effects of waterborne exposure to sub-lethal concentrations of MeHg ($10 \mu\text{g L}^{-1}$) on the teleost fish gilthead seabream (*Sparus aurata*). Firstly, MeHg waterborne-exposed seabream specimens showed higher hepatosomatic index after 10 days, increased liver antioxidant enzyme activities after 2 days (superoxide dismutase and catalase), reduced serum biological antioxidant potential (BAP test) after 10 and 30 days and no effect on the levels of reactive oxygen metabolites (d-ROMs test). Regarding the immune response, serum complement was increased by MeHg waterborne-exposure after 30 days of treatment while the head-kidney leucocyte peroxidase and phagocytic activities were significantly increased after 10 and 30 days, respectively. This study describes, for the first time, the effects of waterborne MeHg exposure in the gilthead seabream immunity.

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