

EFFECTS OF KUDOA ANATOLICA (CNIDARIA: MYXOZOA) ON THE MEAT QUALITY OF ATHERINA HEPSETUS (ATHERINIDAE)

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Some species of the myxozoan genus *Kudoa* are of significant concern to marine aquaculture due to their negative impacts in the musculature and meat quality of fish hosts. Recent studies showed that some species also pose a threat to human health when ingested in raw fish. *Kudoa anatolica* has recently been described from several organs including muscles of Mediterranean sand smelt *Atherina hepsetus* collected from Sinop coasts of the Black Sea and this study focused on its effects on the meat quality of host fish. In this research study, fish were divided into four groups according to infection intensities of *K. anatolica* in fish muscles, uninfected (A), slightly infected (B), moderately infected (C), highly infected (D), and the crude protein, crude lipid, crude ash, water, fatty acids and amino acids contents of each group were analysed. The crude protein, crude fat, crude ash and water content of uninfected fish meat (A) were 21.9, 2.3, 2.6 and 73.1% respectively. Total crude protein and crude lipid contents of all infected groups (B, C, D) of fish were less than that of uninfected group (A). Total amino acid and essential amino acid levels were determined at their highest values in uninfected group (A) and statistically significant decreases were found in the amount of both amino acids as the infection rate increased from B to D ($p < 0.05$). Of the amino acids determined in fish meat, alanine, arginine, glutamic acid, histidine, proline and serine contents of uninfected group (A) were higher than those highly infected group (D). The amount of SFA and PUFA in group A were higher than those the infected groups B, C and D. The ratio of omega-6/omega-3 of uninfected group (A) was determined as 0.45 and decreased in the infected groups (B, C, D). We can conclude that increasing *Kudoa anatolica* infection levels decreased the nutritional composition of *Atherina hepsetus* meat and this is the first investigation proving negative impacts of a *Kudoa* species on the nutritional composition of its host fish.

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