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Nutritional composition of omnivorous and carnivorous wild freshwater fish from Tagus River basin

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Portugal is one of the countries in the world with highest *per capita* fish consumption (59.9 kg/year) (1), mainly saltwater fish from Atlantic Northwest and marine aquaculture. However, in the interior of Portugal is traditional the consumption of wild freshwater fish (common carp [CC], iberian barbel [IB], crucian carp [CrC] and largemouth bass [LB]). These species are very interesting as game fishing and also very important in the local cuisine due to their characteristic flavor. In summer and autumn there are several regional gastronomic festivals related to freshwater fishes. Little is known about nutritional composition of the edible part of these fish species. The aim of this study was to evaluate the nutritional composition and fillet heavy metal contamination of wild *Cyprinidae* family omnivorous freshwater fish, CC (*Cyprinus carpio* Linnaeus, 1758), IB (*Luciobarbus comizo* Steindachner, 1864) and CrC (*Carassius carassius* Linnaeus, 1758) (n=40 samples), and wild *Centrarchidae* family carnivorous freshwater fish LB (*Micropterus salmoides* Lacépède, 1802) (n=20 samples) from Tagus River basin lentic systems (hydroelectric power plants dams and small irrigation reservoirs). We concluded that the omnivorous fish had significantly higher levels of humidity, ash, Ca and fat and carnivorous fish had significantly higher levels of protein Na, Mg and K. All samples exhibit very low levels of heavy metals (Cd, Cr, Pb) below the apparatus limit of quantification (Cd LOQ<0.05; Cr LOQ<0.03; Pb LOQ<0.2) and fish legal values (Cd <0.05 mg/kg body weight, Pb <0.3 mg/kg body weight (2) and Cr <0.05-0.15 mg/kg body weight (3). These results may be a reference for further studies, primarily as a source of information for the consumers and for conservation through restocking (*L. comizo*), and also for the development of commercial projects of aquaculture (*C. carpio* and *M. salmoides*).

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References:

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