Concentrations of 17 elements in muscle, gills, liver and gonads of five economically important fish species from the Danube River

The Danube River in the vicinity of the city of Belgrade receives large amounts of untreated or poorly treated communal and industrial waste waters. The aim of this study was to assess elemental accumulation patterns in a number of economically important fish species in this area that belong to different trophic levels. Concentrations of 17 elements (Al, As, B, Ba, Cd, Co, Cr, Cu, Fe, Li, Mn, Mo, Ni, Pb, Se, Sr and Zn) were assessed in liver, muscle, gills and gonads of silver carp (Hypophthalmichthys molitrix), freshwater bream (Abramis brama), white bream (Blicca bjoerkna), common carp (Cyprinus carpio) and wels catfish (Silurus glanis) from the Danube River in Serbia by the use of ICP-OES. Silver carp specimens were differentiated from the other four species by high concentrations of Al and Fe in the liver. Common carp specimens were differentiated by high concentrations of Zn in gills, muscle and liver. Distribution of elements among different tissues had a consistent pattern among the species. Concentrations of Pb, Cd, As, Zn, Cu and Fe in muscle were at acceptable levels for human consumption, while concentrations of Fe and Zn were above maximum acceptable concentrations in liver and gonads.

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