



## **W53 MERCURY AND METHYLMERCURY CONTENT, FATTY ACIDS PROFILE, AND PROXIMATE COMPOSITION OF CONSUMED FISH IN CANANÉIA, SÃO PAULO, BRAZIL**

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Given the fact that chemical constituents vary greatly from species to species, as well as, from individual to individual of the same species due to differences in seasons, locations, habitat, gender, age and feeding habits, it is important to know the composition and nutritional value of some Brazilian fish species consumed by coastal populations. Cananéia city is surrounded by an important estuarine system that supports a diversity of aquatic life and represents an important food source to the local community. In this study, 53 individuals of the four most commonly consumed fish species by the Cananéia city population, State São Paulo, Brazil, were analyzed to determine contaminants, *i.e.*, total mercury (Total Hg) and methylmercury (MeHg), as well as proximate composition and fatty acid profile. The samples were acquired from local fisheries. The muscle of three carnivorous species, namely, *Centropomus parallelus* (Robalo Peba), *Macrodon ancylodon* (Pescada) and *Micropogonias furnieri* (Corvina), and one planktivorous species, *i.e.*, *Mugil platanus* (Tainha), were analyzed. The determination of MeHg and Total Hg was performed by using Cold Vapour Atomic Absorption Spectrometry (CV-AAS). The analytical methodology was validated by means of certified reference materials, and precision and accuracy were determined accordingly. The fatty acid profile was determined by Gas Chromatography (GC), whilst AOAC methods were used for proximate analysis. The Total Hg averages and ranges for the species analyzed were: 193 µg/Kg (61-712), 191 µg/Kg (56-456); 1,071 µg/Kg (516-2,008) and 33 µg/Kg (<10-98) for *Centropomus parallelus*, *Macrodon ancylodon*, *Micropogonias furnieri* and *Mugil platanus*, respectively. MeHg averages and ranges for these species were: 88 µg/Kg (22-399); 171 µg/Kg (37-452); 652 µg/Kg (227-1,487) and <10 µg/Kg, respectively. Total polyunsaturated fatty acid contents varied from 21.9% in Corvina to 26.4% in Tainha; and total saturated fatty acids from 28% in Pescada to 41.8% in Tainha. These species presented similar proportions of polyunsaturated fatty acids of the  $\omega$ -3 family (average of 17.8%) and of the  $\omega$ -6 family (average of 7.0%), while the Corvina species presented the lowest contents of these fatty acids (15.8 and 6.1%, respectively). The results for proximate composition and MeHg and Total Hg for the four fish species analyzed were treated: 1) considering the individuals of