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**ABSTRACTS**



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## Mercury and arsenic in the marine food web of Southwest coast of India

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Bioaccumulation of mercury and arsenic in the trophic system of Arabian sea was studied to understand their levels in the ecosystem and the safety of seafood. Finfishes and shellfishes belonging to different ecological groups were collected from the commercial fish landings of Cochin Fisheries Harbour and from the coastal waters of Kerala. Body tissue and liver samples from different size groups of the selected species covering the young and adult stages (different age groups) of a total 52 species were collected. The concentration of mercury and arsenic were analyzed using standard procedures by Atomic Absorption Spectrophotometer. Selected species occupying trophic levels 4.1-5.0, 3.1-4.0 and 2.1-3.0 were used to study the bioaccumulation levels. The results indicated that the level of mercury and arsenic in all commonly occurring fishes were either below detectable limits or within permissible limits and found to be safe for consumption. Fish of different size groups (juvenile to adults), different maturity stages, males and females showed mercury and arsenic within permissible levels prescribed by the WHO. The Hg level was slightly above permissible limit in the sword fish *Xiphias gladius* and in dogtooth tuna which are oceanodromous fishes and are known to accumulate mercury. Bioaccumulation of mercury in liver was observed in 64.2% of the fishes studied. However, in other body parts of these species, Hg was below detectable level. Bioaccumulation of arsenic was observed only in 30% of the fishes. However, both in the liver and other body parts, levels of arsenic were within permissible limits.

**Keywords:** Bioaccumulation, trophic levels, mercury, arsenic