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Entitled

CHARACTERIZATION OF METALS IN THE INDIAN OIL SARDINE (SARDINELLA LONGICEPS) IN THE NORTHERN UNITED ARAB EMIRATES.

by

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https://eu.bbcollab.com/guest/e96d90a6fee7464fb9273c29648b6edb

Abstract

The marine ecosystems of the world are especially susceptible to pollution arising from anthropogenic sources. I studied the bioaccumulation of 19 elements (As, Ca, Cd, Co, Cr, Cu, Hg, K, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sr, V, Zn) in 120 specimens of Indian oil sardines (*Sardinella longiceps*) were purchased from local fish markets of Sharjah, Ajman and Umm Al Quwain in the United Arab Emirates. The fish samples were dissected to obtain liver, gastrointestinal tract and muscle tissue resulting in total 360 samples. The Varian 720-ES (ICP-OES) system was used for determining metals (As, Ca, Cd, Co, Cr, Cu, K, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sr, V, and Zn) in the liver, gastrointestinal tract and muscle of *Sardinella longiceps* and for (Mercury) Hg concentration, Varian SpectrAA 220 FS, was used. Discriminant analysis showed that some metals were useful in discriminating between the three sampling areas. Cadmium, chromium, and copper were high in concentration in the liver and gastrointestinal tract compared to the internationally acceptable limits. In addition, Cadmium and chromium in the muscle samples had concentrations above or equal to permissible levels. Pollutants in muscle are indicative of high levels in the environment and is of great concern to marine food webs due to their potential for biomagnification. In addition, high levels in muscles is also of health concern to human consumers. Thus, there is an urgent need to monitor pollutants in fish and other marine organisms and link them with specific types of industries. Initiatives need to be taken for managing, protecting, and monitoring the marine environment.

Keywords: Potential toxic element, Bioaccumulation, Arabian Gulf, *Sardinella longiceps*, Spectrometer.