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Title:	Study of heavy metal contamination in shark muscle tissue on the west coast of india
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Abstract:	<p>Elasmobranchs are a group of cartilaginous fish that include sharks, rays, and skates, totaling roughly 1,150 species that live in various aquatic habitats. Despite being widely distributed, sharks and rays face a serious extinction threat, primarily due to overfishing. Across the world, 30 percent of elasmobranchs are classified as Vulnerable, Endangered, or seriously in danger of going extinct. Oceans are under ever-increasing threats of fishing, industrial waste disposal, oil spill, and ship accidents, creating immediate and long-term disturbances in this ecosystem. Water pollution caused by the sudden release of mine tail- ings, disposal of high metal wastes, expansion of industrial areas, and the use of leaded gasoline and paint can lead to increased levels of these toxic chemicals and heavy metals in the marine ecosystem. These toxins can enter the food chain and cause bioaccumulation over time. Exposure to heavy metals has been associated with both chronic and acute tox- icity, which causes retardation; neurotoxicity can harm the kidneys, cause the emergence of various cancers, harm the liver and lungs; bones can become brittle; and in the case of extremely high exposure, there is even a chance of death. Hence it is imperative to study heavy metal toxicity in the edible parts of commercially exploited shark species in India. We analyzed heavy metals present in the muscle tissue of sharks on the west coast of In- dia. We collected 20 samples from blacktip sharks (<i>Carcharhinus limbatus</i>) from Malvan, Maharashtra, and 23 samples from silky sharks (<i>Carcharhinus falciformes</i>) from Kochi. We processed the samples by oven-heating, followed by powdering, and analyzed them for heavy metal content using ICP MS. In the heavy metal content of seawater we found that, Scandium, Zinc, Nickel, Copper, Lead, and Yttrium were higher in Kochi seawater than in Malvan seawater whereas for the element Barium, Malvan seawater shows a higher concentration. Copper, Zinc, and Manganese show a higher range in Malvan than in Kochi, even though the baseline pollution level is higher in Kochi. Except for the elements Copper, Zinc, and Manganese, there is no noticeable difference in the concentration of heavy metals in the fish muscle tissue between the two sites. The heavy metal levels in the tissue were above permissible limits for many elements, which is of concern for both shark and human health.</p>
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