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Chronic Exposure of Mercury on Amino Acid Level in Freshwater Fish Clarias batrachus (Linn.)

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Abstract : Virtually all metals are toxic to aquatic organisms because of the devastating effect of these metals on humans; heavy metals are one of the most toxic forms of aquatic pollution. Metal concentrations in aquatic organisms appear to be of several magnitudes higher than concentrations present in the ecosystem. Mercury is one of the most toxic heavy metals in the environment. The principal sources of contamination in wastewater are chloralkali plants, battery factories, mercury switches, and medical wastes. Elevated levels of mercury in aquatic organisms specially fish represent both an ecological and human concern. Amino acid levels were estimated in five tissues (gills, liver, kidney, brain and muscle) of Clariasbatrachus after 28 days of chronic exposure to mercury. Free amino acids serve as precursor for energy production under stress and for the synthesis of required proteins to face the metal challenge.

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