



**ICSMEAP029**

## **Adaptive Physiological Activity of the Fish During Thermal-Stress and Thermal Adaptation**

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### **ABSTRACT**

The Indian major carp *Catla catla* subjected to slow temperature change from 22°C to 32°C (heat-adaptation) and 32°C to 22°C (cold-adaptation) at the rate of 1°C /60hrs showed a gradual elevation of Rate of heart beat in heat-adaptation and gradual decrease of rate of heart beat in the case of cold-adaptation and in both cases reached the control values within 35days. whereas *Catla catla* exposed abruptly to a temperature change from 22°C to 32°C and vice-versa at the rate of 1°C/hr. exhibited neither elevation nor decrease in the Rate of heart beat and they could not reach the control values within 35 days. Stress is a physiological load acting upon the fish, whereas adaptation is a slow process of compensation without physiological load.

**Key Words :** *Catla catla*, Rate of heart beat, Temperature-Stress, Temperature-adaptation