Movement and home range of golden mahseer (*Tor putitora*, Hamilton 1822) inhabiting the Himalayan waters in India

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The present study is aimed to document the movement and habitat use of golden mahseers (*Tor putitora*) inhabiting the Himalayan waters in India. A total of nine adult golden mahseers (two males and seven females) fitted with a VHF radio tag were monitored between pre-monsoon and post-monsoon periods. The individuals were found dispersed with the maximum recorded distance of 4231.23 and 6119.11 m in the Kosi and Kolhu rivers respectively. Home ranges for males (0.0245 sq. km) and larger individuals (0.0697 sq. km) exhibited released side fidelity, whereas females (0.361 sq. km) and smaller individuals (0.459 sq. km) moved long distances. The results of this study identify the movements and spatial ecology knowledge of golden mahseer to conserve fish habitats.

Keywords: Golden mahseer, habitat preference, kernel density, radio telemetry, spatial ecology.

in the natural running rivers of the Himalayan foothills, up to 1500 m of altitude[10,12,13]. Being a large-sized fish with gaming qualities, the golden mahseer is the most intensively studied among all the *Tor* species[14–16].

The golden mahseer migrates in phases during different seasons[10,14], characterized by water currents and optimal water-quality conditions. The field observations by Nautiyal *et al.*[16] and Nautiyal[17] revealed that the movement of these fishes is triggered by water temperature, water velocity and turbidity during the migratory phase, and the mature adult fishes ascend the lower tributaries in the rainfed Himalayan rivers. Aquatic habitat features such as water velocity, depth, temperature and other physio-chemical parameters are essential for the movement and distribution of the golden mahseer in these rivers[18,19]. However, little is known in this regard; being a sensitive fish, even modest disturbances in the golden mahseer habitat might cause the population to decline. As a result, despite several efforts of conserve, its distribution in the Indian Himalayan stretch