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Habitat distribution, breeding biology and hatchery management of golden (*Tor putitora*) and chocolate mahseer (*Neolissochilus hexagonolepis*): Present scenario & future challenge in India

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Mahseer, the king of freshwater scaly fish belong to the important genus *Tor* and *Neolissochilus* are distributed in the entire IHR (Indian Himalayan region) and peninsular region. The importance of mahseer as a world famous game and sport fish is well known. Considering the importance of this fish in IHR and peninsular rivers, streams and lakes, mahseer has got all the qualities to become the national fresh water fish of India. However, the population of this magnificent fish is declining in natural water bodies and it is considered as an endangered fish as per IUCN status due to various natural and anthropogenic factors. Therefore, knowledge information regarding habitat distribution and its sustainable management, standard protocol for breeding and hatchery management is necessary for improving the status of the fish. ICAR-DCFR has been continuously working in this direction and protocol for breeding and hatchery management of golden and chocolate mahseer has been developed which will be discussed in detail in this paper. The breeding biology in terms of ultrastructural and histological changes in the embryonic and larval surface during organogenesis of the endangered golden mahseer has been studied and will be presented. Significant success stories will be highlighted in the presentation in terms of establishment of fish sanctuaries, mahseer watching and eco-tourism centre in different parts of India. The study embodies the present status of mahseer diversity in IHR, its breeding biology and hatchery management practices, so as to take appropriate steps to mitigate the challenges for its rehabilitation and conservation.

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