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Development of surrogate broodstock for natural fishery resources management

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Surrogate broodstock development by stem cell transplantation is a powerful reproductive biotechnology for the conservation and propagation of fish genetic resources. In recent time, the technique has gained much attention due to the enormous potential for application in reproductive medicine and stem cell therapy. Currently, the field application of stem cell transplantation in teleost has been broadly restricted to propagation of commercially important fish species such as production of Bluefin tuna through Mackerel recipient. Nevertheless, stem cell transplantation technique has also application beyond this and could play a pivotal role in fishery resources management in open water bodies such as lake, reservoir, etc. Recent reports have revealed that, invasive fish species in lake and reservoir have caused potential damage to the ecosystem resulting into decline in native fish population. One of the classical examples is entry of African catfish *Clarias garipinus* and Channel catfish *Ictalurus punctatus* to Asian water bodies. The impact has been such that, some of the valuable native fish species of the region are on the verge of extinction. It is also true that, such invasive fish species are extremely difficult to control in large size water bodies. In this scenario, turning the invasive fish species into surrogate parents could be a viable alternative to arrest the proliferation of such fish population.

Biography

Sullip Kumar Majhi has completed his PhD in Reproductive Biotechnology from Tokyo University of Marine Science & Technology, Japan and Postdoctoral (JSPS) study on stem cell research from Tokyo University. He is currently working as the Senior Scientist in the Molecular Biology & Biotechnology division of ICAR-National Bureau on Fish Genetic Resources, Lucknow. He has published more than 30 papers in reputed journals and has been serving as an Editorial Board Member of 3 journals.

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