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Impact Of Exotic Fishes on Indian Fish Fauna

The exotic fishes like *Cyprinus carpio, Ctenopharyngodon idella, Lebistes reticulates, Tinca tinca, Hypopthalmichthys molitrix, Tilapia mossambica, Salmo trutta fario,Salmo gairdneri gairdneri, Gambssia affinis,Salvelinus fontinalis, Salmo salar, Onchorynchus nerka, Aristichthys nobilis, Piaractus brachypomus,Clarias lazera and Clarias gariepinus* etc were introduced in Indian waters. The transplantation of these fishes into Indian waters has not been a very good experience. The present article is collective information on the exotic fishes and their impact on Indian fish fauna.

Tilapia (Oreochromis mossambicus): In India, the first consignment of tilapia was brought by the Central Marine Fisheries Research Institute (CMFRI), on August of, 1952 from Bangkok and the second by the Madras Fisheries Department in the same year from Ceylon. Tilapia is hardy but display some of the most undesirable characteristics. It bears at a very small size, is difficult to grow to a reasonable market size with huge differences in growth between the sexes. Due to all these characteristics, tilapias are referred as 'weed fish'. The introductions of tilapia into Indian waters have not been a very happy experience. It has adversely affected the indigenous gene pool.

The presence of tilapia in carp nurseries seriously affected the survival and growth of carp fry since tilapia not only feeds extensively on carp fry but its young compete directly with carp spawn and fry for food.

In Pawai lake of Mumbai the major carps have been badly hit with the accidental introduction of *O.massambicus*.Sreenivasan (1967) found that the growth of rates of *Catla catla, Labeo fimbratus and Cirrhinus mrigala* were adversely affected by tilapia in Ayyamkulam pond. He also reported that the growth of Chanos chanos was restricted to less than 100 gm/year, against the usual 500 gm/year in many water bodies of Tamil Nadu due to co-existence with tilapia. In Kabini reservoir tilapia has adversely affected the indigenous Cirrhina reba. During the period from 1980-81 to 1984-85, tilapia has caused decrease of Cirrhina reba's share in the catch from 70% to 20% (Murthy et al., 1986)

Tilapias also form an important fishery of the bheries in West Bengal. Impact of tilapia in the bheries is very severe. The carp fishery that contained up to 93% in 1959 was reduced to nil

by 1971, associated with an overall reduction in the yield to the extent of 87.7%.

According to Jhingran (1985) tilapia is unsuitable for culture along with Indian major carps because of the adverse effect it cases on the growth and production of carps and its depredations on carp fry. Although under certain condition, as under monosex culture, it can grow in to a big size, tilapia is not preferred by consumers due to its usually small size. Das et al (1990) also strongly recommended banning of introduction of exotic fish species in our natural water.

CONCLUSION

There is an urgent need to educate fish farmers about the consequences of unauthorized introduction of exotic fishes and on the efforts needed for minimizing the risk factors. No exotic fish should be introduced unless it is scientifically recommended and approved. The unauthorized entry of the fish seed of undesirable species should be immediately stopped. It is duty of the extension officers/scientists to educate the farmers about the adverse consequences of culture of exotic fishes.

REFERENCES

Dhawan, Asha and Kamaldeep Kaur.2001.*Clarias gariepinus* in Punjab waters. *Fishing Chimes*.21 (5): 56.

Ghatge, S.S., Belsare, S.W., Shelke, S.T. and Bopanna,B.2014.The candidature of Pacu, an exotic fish species in unregulated aquaculture systems in the state of Maharashtra. *Fishing Chimes*,33(10&11):76-78.

Jhingran, V.G. 1985 Fish and Fisheries of India. Hindustan Publishing corporation (India), Delhi.

Karamchandani, S.J. and D.N. Mishra 1980. Preliminary observations on the status of silver carp in relation to Catla in the culture fishery of Kulgarhi reservoir *J. Bombay Nat. Hist Soc.*, 77:261-269.

Murthy,H.S., S.S. Gonda and V.Ayyar 1986. Fisheries of Kabini reservoir in Karnataka *Fishing Chimes*, 6(7): 36 – 38.

Singh,A.K. and Lakra,W.S.2011.Risk and benefit assessment of alien fish species of the aquaculture and aquarium trade into India. *Reviews in Aquaculture*,3:3-18.

Sreenivasan, A. 1967.*Tilapia mossambica*: its ecology and status in Madras state, India, *Madras J. Fish*; 3:33 – 39.

Biography:

Dr. Vishwas Balasaheb Sakhare is Professor, Post Graduate Department of Zoology, Yogeshwari College, Ambajogai (India). He has 23 years' experience as an outstanding teacher and researcher. He has done pioneering work in the field of Reservoir Fisheries, Limnology and Fish biology. Dr. Sakhare has successfully organized National Virtual Conference on Fish and Fisheries of India (CFFI-2020), National Seminar on Changing Perspectives in Inland Fisheries (CPIF-2018),Workshop on Culture and Breeding of Ornamental fishes (CBOF-2017), National Workshop on Techniques of Scientific Writing (TSW-2014), National Conference on Emerging Trends in Fisheries and Aquaculture (ETFA-2012), National Conference on Current Perspectives in Limnology (NCCPL-2009) and Regional Workshop on Water Quality Assessment (Implications in Potability, Productivity and Pollution control).

Professor Sakhare has authored/edited more than 33 books. He is a recognized research guide of Dr.Babasaheb Ambedkar Marathwada University, Aurangabad and Solapur University, Solapur. Under his guidance four students have completed Ph.D. He has published more than 65 research articles and reviews in peer reviewed journals.