Faculty Name: Dr. Saroj Kumar Ghosh

Title of Book: Sustainable Aquaculture Practices (Chapter: Chapter 2 Structure and Function of the Olfactory Organ in Humped Featherback, Chitala chitala (Hamilton, 1822)

The use of water bodies for the purpose of aquaculture by considering environmental, economic, and social sustainability for improving the capacity building of the common fishers is the key moto of this book. This book can give a path for eco-friendly aquaculture practices having economic sustainability for giving a constant profit with good long-term prospects, also includes social sustainability bearing social responsibility for contributing to the general well-being of the local community. Finally, such articles related to sustainable aquaculture practices for the whole-some development may act on Sustainable Development Goals (SDGs) globally. This book is planned to help in understanding and progress of the aquaculture, restoration from environmental pollution, and safety from environmental toxicology.

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Sustainable Aquaculture Practices

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Authors Contribution

Chapter 1

Pivotal Part of Probiotics in Aquaculture

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Chapter 2

Structure and Function of the Olfactory Organ in Humped Featherback, Chitala chitala (Hamilton, 1822)

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Chapter 3

Interference and Effect of Microplastic Pollution on Ocean Carbon Sequestration and Global Marine Carbon Circulation

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Chapter 2 Structure and Function of the Olfactory Organ in Humped Featherback, *Chitala chitala* (Hamilton, 1822)

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Abstract

The olfactory organ of *Chitala chitala* (Osteoglossiformes: Notopteridae: Notopterinae) was described morphologically by means of light and scanning electron microscopes.The elongated boat shaped olfactory rosette was made up of a series of lamella, radiated from central raphe. The lamella consisted of two layers of epithelium enclosing the central core which contained fibrous connective tissues, nerve fibres, blood vessels and few pigment cells. The olfactory epithelium was comprised of sensory receptor cells, basal cells, eosinophilc granule cells, mucous cells and two types of supporting cells distinguished as ciliated columnar or nonciliated oval type. These cells were identified by their staining properties, architecture, surface feature and distribution pattern in the olfactory mucosa. The sensory epithelium was adorned with anatomically distinct ciliated, microvillous, cryptand rod receptor cells for receiving olfactory stimuli from aquatic surroundings. The cellular composition of the olfactory organ was discussed with chemosensory system of the fish accomplished.

Keywords: Chital, Olfactory structure, Cellular organization, Olfaction