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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 motto 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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Contents

Chapters		Pages
	Table of Contents	1 - 2
	Preface	3
Chapter 1	<i>Pivotal Part of Probiotics in Aquaculture</i>	5 - 21
	Abstract	5
	1.1. Introduction	6
	1.2. Definition of Aquaculture	7
	1.3. Definition of Probiotics	8
	1.4. Historical Background of Probiotics	8
	1.5. Selection of Probiotics (Characteristics of good probiotics)	9
	1.6. Methods for Probiotic administration	10
	1.7. The process of administration is influenced by several key conditions	12
	1.8. Beneficial role of Probiotics in Aquaculture	14
	1.9. Future prospects and challenges	16
	1.10. Research Gaps and Future Perspectives	17
	1.11. Conclusion	17
	References	17- 21
Chapter 2	<i>Structure and Function of the Olfactory Organ in Humped Featherback, <u>Chitala chitala</u> (Hamilton, 1822)</i>	22 - 36
	Abstract	22
	2.1. Introduction	23
	2.2. Materials and methods	23
	2.2.1. Source of materials	23
	2.2.2. Scanning Electron Microscopical Method	24
	2.2.3. Histological methods	24
	2.3. Results	25
	2.4. Discussion	30
	2.5. Conclusion	32
	References	32 - 36
Chapter 3	<i>Interference and Effect of Microplastic Pollution on Ocean Carbon Sequestration and Global Marine Carbon Circulation</i>	37 - 50
	Abstract	37
	3.1. Introduction	38
	3.2. Concentration and Distribution of MPs in Ocean	39

	3.3. Ocean Carbon Flux	40
	3.4. Effect of MPs on Marine System	41
	3.4.1. Effect on Phytoplankton	41
	3.4.2. Effect on Zooplankton	43
	3.4.3. Effect on Marine Biological Pump	43
	3.4.4. Effect on Seabed Nutrient Circulation	44
	3.5. Conclusion	45
	References	45 - 50
Chapter 4	<i>The Assessment of Microbiological Water Quality and Its Impacts on the Kangsaboti River Basin, West Bengal, India</i>	51 - 64
	Abstract	51
	4.1. Introduction	52
	4.2. Aims and objectives	53
	4.3. Materials and methods	53
	4.4. Results and discussion	55
	4.5. Conclusion	62
	References	63 - 64
Chapter 5	<i>Toxicity and toxicological effects of Cyanobacterial toxin: Microcystin on fish</i>	65 -75
	Abstract	65
	5.1. Introduction	66
	5.2. Structure of Cyanobacteria	67
	5.3. Habit and Habitat	67
	5.4. Cyanobacterial toxins	67
	5.5. Microcystin and its effects on fishes	68
	5.6. Conclusion	71
	References	72 - 75
	Authors Contribution	76

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, eosinophilic 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, crypt and 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