

BASIC KNOWLEDGE IN MARINE SCIENCES

Edited by

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Table of Contents

Chapter	Page
Part 1 Algae	
Chapter 1 Algae	
<i>Normawaty Mohammad-Noor</i>	2
Chapter 2 Microalgae	
<i>Normawaty Mohammad-Noor</i>	7
Chapter 3 Seaweed	
<i>Normawaty Mohammad-Noor</i>	12
Chapter 4 Importance of Algae	
<i>Anidha Visvanathan & Normawaty Mohammad-Noor</i>	17
Chapter 5 Toxic Microalgae	
<i>Anidha Visvanathan & Normawaty Mohammad-Noor</i>	23
Chapter 6 Benthic Dinoflagellates	
<i>Anidha Visvanathan & Normawaty Mohammad-Noor</i>	28
Chapter 7 Diatoms	
<i>Anies Aznida Sa'ari & Normawaty Mohammad-Noor</i>	34
Chapter 8 Techniques to Collect Benthic Dinoflagellates	
<i>Anidha Visvanathan & Normawaty Mohammad-Noor</i>	42
Chapter 9 Techniques to Collect Sand-Dwelling Dinoflagellates	
<i>Asilah Al- Has & Normawaty Mohammad-Noor</i>	47
Chapter 10 Technique to Collect and Determination of Algal Cell Density	
<i>Normawaty Mohammad Noor, Anies Aznida Sa'ari & Asilah Al- Has</i>	53

Chapter 11 Technique to Establish Microalgae into Pure Culture	
<i>Normawaty Mohammad-Noor & Mohamad Fuad Mohamad Anuar</i>	58
Chapter 12 Media for Microalgae Culture	
<i>Normawaty Mohammad-Noor & Mohamad Fuad Mohamad Anuar</i>	63
Chapter 13 Scanning Electron Microscopy	
<i>Normawaty Mohammad-Noor & Asilah Al-Has</i>	69
Chapter 14 Making Seaweed Herbarium	
<i>Normawaty Mohammad-Noor</i>	74
 Part 2 Beach Profile and Sediment Characteristics <hr/>	
Chapter 15 Beach Profile	
<i>Shahbudin Saad</i>	80
Chapter 16 Littoral Environmental Observation	
<i>Shahbudin Saad</i>	90
Chapter 17 Grain-Size Analysis	
<i>Shahbudin Saad</i>	97
 Part 3 Coral Reef <hr/>	
Chapter 18 Suspended Sediment in Coral Reef Area	
<i>Shahbudin Saad</i>	113
Chapter 19 Line Intercept Transect	
<i>Shahbudin Saad</i>	118

Chapter 20 Coral Recruitment	
<i>Shahbudin Saad.....</i>	127
Chapter 21 Coral Reef Fish Assemblages	
<i>Shahbudin Saad.....</i>	132
Chapter 22 Determination of Coral Cover (Coral Lifeforms) in Marine Environment	
<i>Mohamed Kamil Abdul Rashid.....</i>	137
 <hr/>	
Part 4 Marine Pollution	
Chapter 23 Determination of Aliphatic and Aromatic Hydrocarbons in Marine Environment	
<i>Mohamed Kamil Abdul Rashid.....</i>	144
Chapter 24 Determination of Dissolved Inorganic Nitrogen (DIN) in Marine Environment.	
<i>Mohamed Kamil Abdul Rashid.....</i>	151
Chapter 25 Water Sampling Techniques	
<i>Anies Aznida Sa'ari, Kamaruzzaman Yunus & Akbar John.....</i>	158
Chapter 26 Determination of Fecal Coliform and <i>Escherichia coli</i> (<i>E. coli</i>) in Marine Environment	
<i>Mohamed Kamil Abdul Rashid.....</i>	163
Chapter 27 Determination of Organochlorine Insecticides in Oyster and Marine Sediment	
<i>Mohamed Kamil Abdul Rashid.....</i>	170
Chapter 28 Detection of Heavy Metals in Sediment and Biological Samples	
<i>Anies Aznida Sa'ari, Akbar John & Kamaruzzaman Yunus.....</i>	179
Chapter 29 Laboratory Protocols - Sediment Sample Analysis	
<i>Anies Aznida Sa'ari., Kamaruzzaman Yunus & Akbar John.....</i>	186

Chapter 30 *Anadara granosa* – A Potential Bioindicator in Coastal Waters of Langkawi Island, Malaysia

Kamaruzzaman Yunus, Mohd Zahir Md Suhaimi, Fikriah Faudzi, Mohd Fuad Miskon & Akbar John 195

Chapter 31 Bioaccumulation of Selected Metals in Commercially Important Marine Fishes from Selangor Coastal Waters, Malaysia

Kamaruzzaman Yunus., Rina Sharlinda Zabri, Fikriah Faudzi, Mohd Fuad Miskon & Akbar John 206

Part 5 Fish

Chapter 32 Larval Feeding Behavior and Sensory Organs

Yukinori Mukai 215

Chapter 33 Procedure of Histological Experiment

Yukinori Mukai 221

Chapter 11 Techniques to establish microalgae into pure culture

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Introduction

Establishing pure culture of microalgae is important in order to study on a particular species in more detail. Microalgae cultures can be used to study genetic characteristics, bioactive compounds, life cycle, physiology of the cell etc. There are several techniques that can be applied to establish pure culture and these techniques will be explained below.

Single cell isolation/Pipette isolation (Guillard, 1973)

The technique is to be carried out in rapid and gentle way to avoid stress to the cell.

- Draw out the pipette to form micropipettes by using a fine flame from a bunsen burner. The narrow end should be about twice the diameter of the cell to be isolated.
- Place few drops of sterile medium onto a sterile glass slide.
- Locate algal cell to be isolated in the sample using inverted microscopy. Use high magnification to find the cell and change to low magnification when want to isolate the cell. By using a tube that is attached to the micropipette, suck up a single cell. Depending on the individual's skill, the cell can be sucked up by using only micropipettes.
- Transfer the cell to a drop of sterile medium on glass slide.
- Pick up the cell from one drop to another drop to “wash” the cell. The more times a cell is washed the less likely it suffers bacterial contamination. However, the risk of cell damage