

BIODIVERSITY OF ZOOPLANKTON IN ESTUARINE
MANGROVES OF SETIU LAGOON, TERENGGANU

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**BIODIVERSITY OF ZOOPLANKTON IN ESTUARINE
MANGROVES OF SETIU LAGOON, TERENGGANU**

BIBI SHAHEEDA AMIR SHARIFUDDIN

**Thesis Submitted in Fulfillment of the Requirement for the Degree of
Master of Science in the Institute of Oceanography
University College of Science and Technology Malaysia
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Abstract of thesis presented to the Senate of University College of Science and Technology Malaysia (KUSTEM) in fulfillment of the requirement for the Degree of Master of Science.

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MANGROVES OF SETIU LAGOON, TERENGGANU

RISMI SHAHEEDA . ABDUL RAHMAN

March 2014

Chairman

Member

Member

SPECIAL DEDICATION

MAMA & AYAH
ANYA, ALANG & PYE
CU, PAK USU, JAJA & DAYAH
ABANG, KAK JEN & DANIEL
KAKAK, ABG MOHNI & ADAM
KHALID & SITI
NANA
DIN
And beloved HERO

Abstract of thesis presented to the Senate of University College of Science and Technology Malaysia (KUSTEM) is fulfillment of the requirement for the Degree of Master of Science.

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BIBI SHAHEEDA AMIR SHARIFUDDIN

March 2006

Chairman : Dr. Zaleha binti Kassim

**Member : Associated Professor Sulong Ibrahim
Dr. Ahmad Shamsuddin bin Ahmad**

Institute : Institute of Oceanography

Zooplankton community in the estuarine mangroves of Setiu Lagoon was studied in order to understand the biodiversity status and their relationship with environmental factors. Sampling was conducted throughout year 2004 following the monsoonal season. Eight sampling points were established in the lagoon starting from the upper reach of the estuary (Kuala Katup) to the mouth of the estuary (Pulau Gemia). Three random quadrates were laid horizontally in front of each sampling point where the distance is about 1.5 meter from the mangrove forests. Zooplankton were obtained using a 110 μ m mesh size of Kitahara net and physico-chemical parameters were measured *in-situ* using a Quanta hydrolab. Fourteen groups of zooplankton have been identified inhabiting estuarine mangrove of Setiu lagoon throughout year 2004 with peak densities found during post-monsoon season (403,963 ind.m⁻³) and were highly concentrated at St 1 (231,407 ind.m⁻³) and St 6 (195,520 ind.m⁻³). Copepods comprised of copepodite and adult stages dominated the

zooplankton community in Setiu lagoon and peaked during pre-monsoon season (226,930 ind.m⁻³). Adult stages of copepod were dominated by Cyclopoida (99,451 ind.m⁻³) followed by Harpacticoida (60318 ind.m⁻³) and Calanoida (30,165 ind.m⁻³). Twelve species of copepods belonging to Order Calanoida and Harpacticoida were identified where the most dominant species was *Euterpina acutifrons*. Species diversity (H'), was found highest during post-monsoon season compared to other seasons and such a higher diversity was recorded at the lower reach station rather than upper reach station. In general, zooplankton community in Setiu Lagoon was dominated by copepods (comprised of both adult and copepodite stages) ranging from 56 percent to 63 percent. Other dominant groups were nauplii, polychaete larvae, Zoea and Chaetognatha. Zooplankton community particularly copepods (comprised of both adult and copepodite stages) in Setiu Lagoon are depend on salinity fluctuations.