

 Look Up Full Text

Full Text from Publisher



Save to EndNote online

Add to Marked List

◀ 1 of 1 ▶

Macrobenthic Diversity and Community Composition in the Pahang Estuary, Malaysia

By: Mohamamad, A (Mohamamad, Azfar)^[1,2]; Jalal, KCA (Jalal, K. C. A.)^[1,2]

JOURNAL OF COASTAL RESEARCH

Pages: 206-211 Special Issue: 82

DOI: 10.2112/SI82-030.1

Published: FAL 2018

Document Type: Article

[View Journal Impact](#)

Abstract

The Pahang estuary is known to be one of the most productive natural ecosystems in Malaysia and provides food for a variety of organisms. Unfortunately, many species are increasingly threatened there because of declining conditions in natural aquatic ecosystems. Macrobenthic community composition has been extensively used to determine the quality of the aquatic environment for a long time. The Pahang estuary is undergoing poor conditions in water quality and riverbank vegetation because of sand dredging and other human activities. These activities prove the greatest threats to habitat loss, degradation of water quality, and declining indigenous fish population. Based on the above perspectives, a study was conducted on macrobenthic diversity and community along with benthic organisms in the Pahang estuary, Malaysia. The study was divided into three zones. Zone 1 was identified as low in diversity of the macrobenthic community in Pahang estuary with the diversity index (H') of 0.35; only polychaete worms and bivalves were identified from this area. Polychaete represented by *Neries* sp. bivalve class was represented by *Yoldia* sp. in this zone. For Zone 2, the number and types of benthic communities were low because of human disturbance, but they still exist because of detritus that acts as food and habitat provided by the mangrove. This area was identified as a lowest diversity index of macrobenthos (polychaete, bivalves, and gastropods) with the value of 0.31. The diversity index for Zone 3 was highest among all three zones, with the diversity index of 0.38 along with three classes of macrobenthos, which were polychaete, bivalves, and gastropods. Polychaete was represented by *Neries* sp., bivalves by *Yoldia* sp., and gastropods by *Nassarius* sp., respectively. The lower diversity of the macrobenthic community reveals the alarming conditions of the Kuala Pahang because of massive human disturbances along the Pahang estuary. Long-term monitoring for species diversity is necessary for the sustainable development of aquatic resources in this fascinating tropical estuary.


Keywords

Author Keywords: Macrobenthos; diversity; polychaete; bivalves; gastropods; Pahang estuary


KeyWords Plus: NEANTHES-JAPONICA IZUKA; WATER-QUALITY; URBAN RUNOFF; SEDIMENTS; BIODIVERSITY; MANGROVE; IMPACTS; BAY

Author Information

Reprint Address: Jalal, KCA (reprint author)


 Int Islamic Univ Malaysia, Dept Marine Sci, Kuantan, Pahang, Malaysia.

Reprint Address: Jalal, KCA (reprint author)

 Int Islamic Univ Malaysia, Kulliyah Sci, Inst Oceanog & Maritime Studies, Kuantan, Pahang, Malaysia.

Addresses:

 [1] Int Islamic Univ Malaysia, Dept Marine Sci, Kuantan, Pahang, Malaysia

 [2] Int Islamic Univ Malaysia, Kulliyah Sci, Inst Oceanog & Maritime Studies, Kuantan, Pahang, Malaysia

E-mail Addresses: jkchowdhury@iium.edu.my

Funding

Funding Agency	Grant Number
Research Management Centre, International Islamic University Malaysia	RIGS16-398-0562

[View funding text](#)

Citation Network

In Web of Science Core Collection

0

Times Cited

 Create Citation Alert

42

Cited References

[View Related Records](#)

Use in Web of Science

Web of Science Usage Count

5

Last 180 Days

5

Since 2013

[Learn more](#)

This record is from:

Web of Science Core Collection

- Science Citation Index Expanded

Suggest a correction

If you would like to improve the quality of the data in this record, please suggest a correction.

Publisher

COASTAL EDUCATION & RESEARCH FOUNDATION, 5130 NW 54TH STREET, COCONUT CREEK, FL 33073 USA

Journal InformationImpact Factor: [Journal Citation Reports](#)**Categories / Classification**

Research Areas: Environmental Sciences & Ecology; Physical Geography; Geology

Web of Science Categories: Environmental Sciences; Geography, Physical; Geosciences, Multidisciplinary

See more data fields

◀ 1 of 1 ▶

Cited References: 42Showing 30 of 42 [View All in Cited References page](#)

(from Web of Science Core Collection)

1. **Phytochemical analysis and antibacterial potential of leaf extract of bauhinia linn. : an ethnomedicinal plant** Times Cited: **11**
 By: Afzal, J.; Ullah, N.; Hussain, Z.; et al.
 Matrix Science Pharma Volume: 1 Issue: 2 Pages: 17-19 Published: 2017
[\[Show additional data\]](#)
2. **Benthic macro-invertebrate community composition within a mangrove/seagrass estuary in northern New Zealand** Times Cited: **1**
 By: Alfaro, A. C.
 Estuarine, Coastal and Shelf Science Volume: 66 Issue: 1-2 Pages: 97-110 Published: 2004
3. **Clinical waste management practices in District Faisalabad** Times Cited: **2**
 By: Ali, S. S.; Ijaz, N.; Aman, N.; et al.
 Earth Sciences Pakistan Volume: 1 Issue: 2 Pages: 4-6 Published: 2017
[\[Show additional data\]](#)
4. **QUANTITATIVE ESTIMATES OF BENTHIC PROTOZOA IN TROPICAL MARINE SYSTEMS USING SILICA-GEL - A COMPARISON OF METHODS** Times Cited: **54**
 By: ALONGI, DM
 ESTUARINE COASTAL AND SHELF SCIENCE Volume: 23 Issue: 4 Pages: 443-450 Published: OCT 1986
5. **A testable linear model for diversity trends in estuaries** Times Cited: **142**
 By: Attrill, MJ
 JOURNAL OF ANIMAL ECOLOGY Volume: 71 Issue: 2 Pages: 262-269 Published: MAR 2002
6. **Selectivity of subtidal benthic invertebrate communities for local microalgal production in an estuarine mangrove ecosystem during the post-monsoon period** Times Cited: **30**
 By: Bouillon, S; Koedam, N; Baeyens, W; et al.
 JOURNAL OF SEA RESEARCH Volume: 51 Issue: 2 Pages: 133-144 Published: MAR 2004
7. **Sediment analysis** Times Cited: **477**
 By: Buchanan, JB.
 Methods for the Study of Marine Benthos Pages: 41-65 Published: 1984
 Publisher: Blackwell Scientific, Oxford
8. **Crude oil spill on the phytoplankton community of a swamp forest stream 19 years after spill** Times Cited: **2**
 By: Chindah, A. C.; Braide, S. A.
 African Journal Environmental Studies Volume: 2 Pages: 1-8 Published: 2001
9. **DISTRIBUTION AND DENSITY OF THE BENTHIC FAUNA IN THE SOUTHERN NORTH SEA IN RELATION TO BOTTOM CHARACTERISTICS AND HYDROGRAPHIC CONDITIONS** Times Cited: **83**
 By: CREUTZBERG F; WAPENAAR P; DUINEVELD G; et al.
 Rapports et Proces-Verbaux des Reunions Conseil International pour l'Exploration de la Mer Volume: 183 Pages: 101-110 Published: 1984