

Table of contents

Volume 236

2019

◀ Previous issue Next issue ▶

The 1st International Conference on Fisheries and Marine Science 6 October 2018, East Java, Indonesia

Accepted papers received: 16 January 2019

Published online: 01 March 2019

Open all abstracts

Preface

OPEN ACCESS 011001

The 1st International Conference on Fisheries and Marine Science

+ Open abstract  View article  PDF

OPEN ACCESS 011002

Organizing Committee

+ Open abstract  View article  PDF

OPEN ACCESS 011003

Conference Photos

+ Open abstract  View article  PDF

OPEN ACCESS 011004

Peer review statement

+ Open abstract  View article  PDF

Papers

OPEN ACCESS 012001

The Increase in β -carotene Content in *Dunaliella salina* from the Application of Different Light Intensities

N Sugiati, E D Masithah, W Tjahjaningsih and A A Abdillah

+ Open abstract  View article  PDF

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more,

OPEN ACCESS and Cookies policy.

012002 

Ammonia-eliminating potential of *Gracilaria* sp. And zeolite: a preliminary study of the efficient ammonia eliminator in aquatic environment

M R Royan, M H Solim and M B Santanumurti

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012003

Identification of extracellular enzyme-producing bacteria (proteolytic, cellulolytic, and amylolytic) in the sediment of extensive ponds in Tanggulangrejo, Gresik

OA Artha, Sudarno, H Pramono and LA Sari

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012004

Addition of water from the treatment pond of pangasius fillet waste (*Pangasius* sp.) with different concentrations in the cultivation medium due to the population growth of *Daphnia* sp.

H P Alvian, E D Masithah and M H Azhar

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012005

The growth and survival rate in lettuce aquaponic systems (*Latuca sativa*) of eels in various stocking densities of eel (*Monopterus albus*)

N K Portalia, L Sulmartiwi and B S Rahardja

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012006

The prevalence of benedeniasis in humpback grouper (*Cromileptes altivelis*) in floating net cages in Situbondo Regency, East Java, Indonesia

S O Wijaya, S Subekti and Kismiyati

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012007

The prevalence of fungi on groupers (*Epinephelus* sp.) in cage mariculture systems of the northern coast of Surabaya, East Java

E Yuliasuti, R Kusdawarti and Sudarno

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012008

The spectrum of light and nutrients required to increase the production of phycocyanin *Spirulina platensis*

H A Wicaksono, W H Satyantini and E D Masithah

[+ Open abstract](#) [View article](#) [PDF](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.

012009

The growth and survival rate of the larvae of the sunu grouper (*Plectropomus leopardus*) in different temperatures

L Lutfiyah, D S Budi and M F Ulkhaq

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012010

Preservation of common carp (*Cyprinus carpio*) sperm using 0.9% NaCl and ringer's lactate solution

D S Budi, L A Adawiyah and L Lutfiyah

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012011

Comparison of the efficiency (flash point, freezing point, and viscosity test) of biodiesels from *Sargassum* sp.

M B Santanumurti, M R Royan, S H Samara, S Sigit and M A Alamsjah

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012012

Study of patterns in the relationship of ecdysis with the age of freshwater crayfish *Cherax quadricarinatus* aged 76 Days

A H Fasya

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012013

Maximum density in the *Moina macrocopa* culture able to produce parthenogenesis in female offspring

A S Mubarak, D Jusadi, M Z Junior and M A Suprayudi

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012014

The oxygen content and dissolved oxygen consumption level of white shrimp *Litopenaeus vannamei* in the nanobubble cultivation system

D P Galang, A K Ashari, L Sulmantiwi, G Mahasri, Prayogo and LA Sari

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012015

The effect of the epiphytes of *Chaetomorpha crassa* on the total chlorophyll-a and growth of *Gracilaria verrucosa*

A L L Handayani, R J Triastuti and L Sulmantiwi

[+ Open abstract](#) [View article](#) [PDF](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.

012016 

Growth monitoring of koi fish (*Cyprinus carpio*) in natural hatchery techniques in Umbulan, Pasuruan, East Java

F P Putri and N N Dewi

[+](#) [Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012017

Dynamic Ratio Correlation of N:P in relation to the Diatom Abundance in the Intensive System of the Vannamei (*Litopenaeus vannamei*) Shrimp Pond

E D Masithah, D D Nindarwi, T Rahma and dan R R Satrya P I

[+](#) [Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012018

Dynamic ratio correlation of N:P on the abundance of Bluegreen algae in an intensive system in a white shrimp (*Litopenaeous vannamei*) pond

E D Masithah, D D Nindarwi, A L A Suyoso and D Husin

[+](#) [Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012019

Dynamic ratio correlation of N:P toward phytoplankton explosions in intensive systems of white shrimp pond

E D Masithah, D D Nindarwi, D Husin and T Rahma

[+](#) [Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012020

Development of water and nutrient management models to improve multitrophic seafarming productivity

J A Surbakti, I A L Dewi, M A Alamsjah and M Lamid

[+](#) [Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012021

Pond soil characteristic in reclaimed tidal lowlands and its correlation with the water quality for aquaculture

M Fitriani, I Wudtisin, M Kaewnern and R H Susanto

[+](#) [Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012022

The dynamics of total organic matter (tom) on sangkuriang catfish (*clarias gariepinus*) farming at upt ptpbp2kp and the effectiveness of freshwater bivalve (*anodonta woodiana*) in reducing the total organic matter with varying density

D Arfiati, C D G Putra, A H Tullah, S W A Permanasari and A W Puspitasari

[+](#) [Open abstract](#) [View article](#) [PDF](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our [Privacy and Cookies policy](#).



OPEN ACCESS 012023

Growth and morphological changes in relation to the maturation of male Japanese eel, *Anguilla japonica* injected with human chorionic gonadotrophin (HCG) in the different interval in the tropical region

Y T Hee, F F Ching and S Senoo

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012024

Genetic diversity of the endangered species *Sphyrna lewini* (Griffith and Smith 1834) in Lombok based on mitochondrial DNA

S Hadi, N P Anggraini, E Muttaqin, B M Simeon, B Subhan and H Madduppa

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012025

Sex ratio and size at first maturity of razor clam *Solen* sp. in Pamekasan and Surabaya coastal area, East Java, Indonesia

N Trisyani, N I Wijaya and I Yuniar

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012026

Improving productivity and water quality of catfish, *Clarias* sp. cultured in an aquaponic ebb-tide system using different filtration

E Setiadi, I Taufik, Y R Widyastuti, I Ardi and D Puspaningsih

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012027

Different substrate of trickling filter on growth, survival rate, and water quality of common carp (*Cyprinus carpio*) cultivation by using an intensive recirculation system

E Setiadi, I Taufik, Y R Widyastuti, I Ardi and A Saputra

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012028

Water quality dynamic, production and profitability of catfish, *Clarias* sp. cultured at different design construction of aquaponic

Y R Widyastuti, E Setiadi, I Taufik and L Setijaningsih

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012029


Effect of C:N ratio on the spore production of *Bacillus* sp. indigenous shrimp pond

A Yuniarti, N B Arifin, M Fakhri and A M Hariati

[+ Open abstract](#) [View article](#) [PDF](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



-
- OPEN ACCESS** 012030
Comparative Test on Bacteria in the Digestive Tract of Vannamei Shrimp (*Litopenaeus vannamei*) at Intensive and Extensive Ponds in Ujungpangkah, Gresik
D Ningrum, M Arief and dan K T Pursetyo
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012031
Growth Performance of Laboratory-Scale *Chaetoceros calcitrans* in Different Containers
M Jannah, M F Ulkhaq, M H Azhar, Suciyono and dan W Soemarjati
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012032
Study of the Dynamic Density and Diversity of Plankton at Different Brackishwater Pond Managements in Gresik, East Java
O Tilahwatih, E D Masithah and dan B S Rahardja
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012033
The Effect of Demineralization Stage of Agar's Solid Waste on the Characterization of Activated Carbon
R Febrianto, Sudarno and R Kusdarwati
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012034
The Dynamic of Density and Diversity of Cyanophyta in Different Pond Bases in Educational Pond of Faculty of Fisheries and Marine Universitas Airlangga
S Z Cahyani, E D Masithah and Prayogo
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012035
Effect of Different Salinity Level within Water Against Growth Rate, Survival Rate (FCR) of Catfish (*Clarias* sp.)
D Prananingtyas, Prayogo and S Rahardja
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012036
Molecular identification and phylogenetic reconstruction of two fiddler crabs (*Uca forcipata* and *Uca triangularis*)
S Andriyono, H Pramono and H W Kim
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012037
See our Privacy and Cookies policy. 

The molecular identification and phylogenetic reconstruction of Palaemonid and Penaeid shrimp from the southern part of Bangladesh

M J Alam, S Andriyono, A T M Eunos and H W Kim

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012038

Morphometric characteristics of Fur Cockles (*Anadara spp.*) in Wonokromo and Juanda Estuary, Surabaya

P B Pamungkas, K T Pursetyo, J Triastuti and N N Dewi

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012039

Stock status of ark clams (*Anadara spp.*) based on dredge fishing of the east coast of Surabaya, Indonesia

N N Dewi, K T Pursetyo, O P Darmono, F R Fachri, F S Puspitasari and A Damora

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012040

The distribution patterns and biomass of bivalves in Segoro Tambak estuary, Sedati, Sidoarjo, East Java

S H Liyana, L A Sari, N N Dewi, E D Masithah, A M Sahidu and K T Pursetyo

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012041

Inventorization of reef fish on Tabuhan Island, Banyuwangi, East Java, Indonesia

Suciyono, M A Azhar, M F Ulkhaq and H Kenconoajati

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012042

Dynamic study on the effect of calcium hydroxide and sodium bicarbonate treatment on the N/P ratio and plankton abundance

M R N Tsany, E D Masithah, B S Rahardjo and D D Nindarwi

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012043

Distribution patterns and the biomass of bivalves at Segoro Tambak estuary, Sedati, Sidoarjo, East Java

S H Liyana, L A Sari, N N Dewi, E D Masithah, A M Sahidu and K T Pursetyo

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012044

Optimization of diatom *Hantzschia ostrearia* cultivation in different mediums and nutrients

Seputri Pratiwi and Coenraads Polle



S Arsad, C Stavrakakis, V Turpin, P Rossa, Y Risjani, L A Sari, F S Prasetya and J-L Mouget

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012045

Coastal ecosystem model based on environmental suitability and carrying capacity of the fishpond in Banyuwangi Region, East Java, Indonesia

E W Setyaningrum, Maghdalena, A T K Dewi, M. Yuniartik and E D Masithah

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012046

Development and succession of sessile macrofouling organisms on the artificial structure in the Shallow Coastal Waters of Sabah, Malaysia

M A M Affandy, J Madin, K P Jakobsen and M Auluck

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012047

Fish species difference around the light of metal halide lamps and LED lamps with mini purse seine operation

M A Sofijanto, D Arfiati, T D Lelono and A Muntaha

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012048

Status of coral diseases and compromised health syndromes on Pemuteran shallow reefs, North Bali island

W Karim

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012049

Management options for restoring artificial coral reefs in Indonesia: strengthening in institutional approach

Rudianto and Ahmad Zainul

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012050

Growth of salt-secretor and non-salt secretor mangrove seedlings with varying salinity and their relations to habitat zonation

M Basyuni, Ramayani, A Hayullah, Prayunita, M Hamka, L A Putri and S Baba

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012051

Distribution of *Ctenactis Echinata* and *Fungia Consinna* coral on Mamburit island,

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



Sawiya, D Arfiati, Guntur and U Zakiyah

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012052

Diversity species and condition of seagrass ecosystem in Teluk Awur and Prawean Jepara

I Riniatsih, A Ambariyanto, E Yudiati, R Hartati, W Widianingsih and R T Mahendrajaya

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012053

Copper (Cu) and Cadmium (Cd) toxicity on growth, chlorophyll-a and carotenoid content of phytoplankton *Nitzschia* sp

D Hindarti and A.W. Larasati

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012054

Vegetation Characteristic and Micro Environment of Mangrove Rehabilitation Forest at Coastal Areas of East Sinjai, South Sulawesi

H Setiawan

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012055

The Use of Water Lettuce (*Pistia stratiotes*) as Phytoremediator for Concentration and Deposits of Heavy Metal Lead (Pb) Tilapia (*Oreochromis niloticus*) Gills

A A D Amalia, B S Rahardja and Rr J Triastuti

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012056

The Effectiveness of Heavy Metals Pb, Cd and Zn Reduction in NPK Fertilizer Waste Combined with Biofilters of Seaweed (*Gracillaria* sp.), Blood Clam (*Anadara* sp.), and Zeolite

A R K Sari, R K Harryes, F A Anggraini, M A Alamsyah and dan A Ahadi

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012057

The Effectiveness of Combining *Gracilaria* Sp. Seaweed Biofilter and *Anadara granosa* Shell with Zeolite in the Decrease in the Level of Mercury (Hg) Heavy Metal

J A Spespatri, B S Rahardja and A A Abdillah

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012058

The Effectiveness of Combination of Seaweed (*Gracillaria* sp.), Blood Clam (*Anadara granosa*), and Zeolite as Biofilter in the Reduction of Heavy Metal Copper (Cu)

A A D Amalia, B S Rahardja and Rr J Triastuti

[+ Open abstract](#) [View article](#) [PDF](#)



[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012059

Bioaccumulation of Cadmium (Cd) Heavy Metal on Seaweed (*Gracilaria* sp.) in Traditional Fishpond of Jabon Subdistrict, Sidoarjo District

O Ardiyansyah, Sudarno and Rosmanida

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012060

Identification of Proteolytic Bacterial Isolates in Sediment Ecosystem of Gunung Anyar Mangrove Forest, Surabaya

P B Utomo, Sudarno and B S Rahardja

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012061

The Analysis of Cockle (*Anadara inaequalvis*) Gonad Maturity Level in the Estuary of Banjar Kemuning River, Sedati, Sidoarjo

R F Saputra, E D Masithah and P D Wulansari

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012062

Spatial and Temporal Variation of Biomass Blood Cockle (*Anadara* sp.) in Estuaries Dadapan, Sedati Sub-District, Sidoarjo, East Java

M R Ramadhan, K T Pursetyo, Prayogo and N N Dewi

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012063

Distribution Patterns and Biomass of Bivalve in Juanda and Segoro Tambak Estuary in Sedati, Sidoarjo, East Java

S H Liyana, E D Masithah and A M Sahidu

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012064

Analysis of Cadmium (Cd) Heavy Metal on Sediment and Mangrove Leaves *Avicennia marina* at Mangrove Ecotourism Wonorejo, Surabaya

W C Dermawan, Prayogo and B S Rahardja

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012065

Analysis of Lead (Pb) Value Comparison on Seaweed (*Euचेuma cottonii*) in Bluto and Saronggi Sumenep Marine, Madura, East Java

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our [Privacy](#) and [Cookies](#) policy.



[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012066

The potential addition of lemuru oil to commercial feed to increase the content of EPA and DHA in eels (*Monopterus albus*)

A Imanisa, M B Santanumurti, M Lamid and Agustono

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012067

Effect of lysine in addition to commercial feed on crude protein and the energy digestibility of gourami (*Osphronemus gouramy*)

D Setiyawan, S H Samara, Agustono and M A A Arif

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012068

Addition of the papain enzyme to commercial feed against protein retention and feed efficiency in eels (*Anguilla bicolor*)

DA Liono, M Arief, Prayogo and W Isoni

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012069

Combination of papain enzyme and phytase enzyme in commercial feed and the protein and energy retention of tilapia *Oreochromis niloticus*

A Saifulloh, M B Santanumurti, M Lamid and W P Lokapirnasari

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012070

The effect of giving cake artificial feed on the survival rate, and growth of Common carp (*Cyprinus carpio*) larva in an Installation of Freshwater Culture (IBAT) in Punten, Batu.

I P Zainiyah, Rozi, W H Satyantini and A M Sahidu

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012071

The Utilization of Phytase Enzymes and SEM Analysis in order to increase the Quality of Rice Bran as a Layer and Fish Feed

M Lamid, Anam Al-Arif and S H Warsito

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012072

The dynamic relationship of phytoplankton abundance and diversity in relation to white shrimp (*Litopenaeus vannamei*) feed consumption in intensive ponds

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our [Privacy and Cookies policy](#).



[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012073

Effect of partial replacement of fish meal with *Spirulina platensis* meal in practical diets and culture location on growth, survival, and color enhancement of percula clownfish *Amphiprion percula*

S Hudaidah, B Putri, S H Samara and Y T Adiputra

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012074

The Effect of Different level of Probiotic Addition on Commercial Feed against Digestibility and Efficiency of Nile Tilapia Feed (*Oreochromis Niloticus*)

D Taufik, M Arief and H Kenconoati

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012075

The Effect of Adding Synbiotics Into Commercial Feed Towards Protein Retention and Fat Retention of Dumbo Catfish (*Clarias sp.*)

H Syevidiana, M Arief and I S Hamid

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012076

The Effect of Adding Lysine in Commercial Feed on Growth Rate, Feed Efficiency, and Feed Conversion Ratio to Tambaqui (*Colossoma Macropomum*)

L V D Putra, U Agustono and S H Kenconoati

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012077

The Effect of Coconut Shell Liquid Smoke in Commercial Feed on Total Bacteria of *Pseudomonas Aeruginosa* in the Tilapia's Kidney (*Oreochromis niloticus*)

M Rahmawati, Sudarno and S Subekti

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012078

The Effect of Coconut Shell Liquid Smoke in Commercial Feed Towards Total *Pseudomonasaeruginosa* Bacteria on Gastrointestinal Tract Tilapia (*Oreochromis Niloticus*)

S Rahmadini, Sudarno and S Subekti

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012079

Antibacterial activity of honey in preserving high-pressure cooked milkfish stored at room temperature

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



D A Hakim, W Tjahjaningsih and Sudarno

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012080

Bacterial composition in the gastrointestinal tract of *Uca* spp crabs fed on *Avicennia marina* leaf litter

M A B Kareho, E D Masithah and W Tjahjaningsih

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012081

The correlation between ectoparasite infestation and the total plate count of *Vibrio* sp. in pacific white shrimp (*Litopenaeus vannamei*) in ponds

G Mahasri, Rozi, A T Mukti, W H Satyantini and N M Usuman

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012082

In vitro study of an ethanolic extract of coffea leaves to inhibit freshwater pathogenic bacteria

H Kenconoajati, MF Ulkhaq, DS Budi and MH Azhar

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012083

The effect of noni fruits (*Morinda citrifolia*) with different ripeness stages against the total erythrocytes and leukocytes of comet goldfish (*Carassius auratus*) infested by *Argulus*

E Setyaningsih, Kismiyati and S Subekti

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012084

The protection capacity of the crude and whole protein spores of *Myxobolus koi* as an immunostimulant material development in goldfish (*Cyprinus carpio*) for preventing Myxobolus

G Mahasri, M Yusuf, R Woro and M B Santanumurti

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012085

Identification of white spot syndrome virus (WSSV) in pacific white shrimps (*Litopenaeus vannamei*) from ponds postexposure to immunogenic membrane proteins (*Zoothamnium penaei*)

P A Wiradana, G Mahasri, R E R Sari, U C Marwiyah and R Prihadhana

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012086

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



Gills and swimming leg histopathologies in pacific white shrimp (*Litopenaeus vannamei*) from ponds exposed to the immunogenic membrane proteins of *Zoothamnium penaei*

R E R Sari, G Mahasri, P A Wiradana and U C Marwiyah

[+](#) [Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012087

Total plate count and identification of vibrio in pacific white shrimp (*Litopenaeus vannamei*) from ponds and in those exposed to immunogenic protein membrane *Zoothamnium penaei*

U C Marwiyah, G Mahasri, R E Ratnasari and P A Wiradana

[+](#) [Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012088

Effectiveness of *Nitrobacter* on the specific growth rate, survival rate and feed conversion ratio of dumbo catfish *Clarias* sp. with density differences in the aquaponic system

A S Taragusti, M B Santanumurti, B S Rahardja and Prayogo

[+](#) [Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012089

The erythrocyte and leucocyte profile of saline tilapia (*Oreochromis Niloticus*) in a cultivation system with nanobubbles

M Gunanti, P D Wulansari and K Kinzella

[+](#) [Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012090

The prevalence and intensity of ectoparasites infecting vanname shrimp (*Litopenaeus vannamei*) reared in different ponds

N Nurlatiffah, Kismiyati and MF Ulkhaq

[+](#) [Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012091

Protozoan parasites of Vannamei Shrimp (*Litopenaeus vannamei*) in farmed fish from Pasuruan, Indonesia

U Hafidloh and P D W Sari

[+](#) [Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012092

Growth of *Bacillus* sp. and *Flavobacterium* sp. in culture media with the addition of liquid whey tofu waste

W H Satyantini, R M Pratiwi, A M Sahidu and D D Nindarwi

[+](#) [Open abstract](#) [View article](#) [PDF](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



OPEN ACCESS 012093

The effect of noni *Morinda citrifolia* L. fruit extracts on the gill histopathological changes of Nile tilapia *Oreochromis niloticus*

A T Mukti, E Dewi, W H Satyantini, L Sulmartiwi, Sudarno and M Hassan

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012094

Prevalence and intensity of ectoparasites in Pacific white shrimp (*Litopenaeus vannamei*) seeds from a pond and hatchery

G Mahasri, T Hidayat and Sudarno

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012095

Prevalence and intensity of ectoparasites in gabus fish (*Channa striata*) at Cangkringan Fishery Cultivation Technology Development Center, Sleman, Yogyakarta

E N Fitriani, Rozi, M Arief and H Suprpto

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012096

Antibacterial activity of bitter melon (*Momordica charantia* L.) leaf extract against *Aeromonas hydrophila*

D A Masithoh, R Kusdarwati and D Handijatno

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012097

Determination of the *aerolysin* gene in *Aeromonas hydrophila* using the polymerase chain reaction (PCR) technique

G Christy, R Kusdawarti and D Handijatno

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012098

Bioaccumulation and histopathological effect on the gills and liver of silver barb (*Barbonymus gonionotus*) exposed to the heavy metal nickel

I Purwanti, W Arroisi, B S Rahardja and L Sulmartiwi

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012099

Identification and prevalence of the ectoparasite *Octolasmis* in sand lobster (*Panulirus homarus*) and bamboo lobster (*Panulirus versicolor*) in Floating Net Cages in Sape, Bima Regency, West Nusa Tenggara Province, Indonesia

L. Yusgita, Kismiyati, S. Subekti, P D Wulansari and M K Amiin

[+ Open abstract](#) [View article](#) [PDF](#)
This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



OPEN ACCESS

012100

Treatment of *Chlorella sp.* extract on heat shock cluster (HSC) response from the tissue and bloodcells proliferation of *Epinephelus fuscoguttatus-lanceolatus* infected by *Viral Nervous Necrosis*

U Yanuhar, I Al-Hamidy and N R Caesar

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012101

Superoxide dismutase (SOD) and metallothionein (MT) *Tubifex tubifex* at the acute mercury exposure

I M Widiastuti, A M S Hertika, M Musa and D Arfiati

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012102

Antifungal activity of marine sponges (Class Demospongiae) collected from Biak, Indonesia

R D Kasitowati, K Wittriansyah, A Trianto, D C Pratiwi and M A P Panjaitan

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012103

Antibacterial activities of *Physalis angulata* herb extract on white feces diseases (WFD) in *Litopenaeus shrimp vannamei*

E Saraswati and AS Wijaya

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012104

The Effects of Mercury Chloride (Hgcl₂) on the Changes in Hematology and Blood Sugar Level in Carps (*Cyprinus carpio*)

I Setiyowati, H Suprpto and G Mahasri

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012105

Change in Two-Spot Catfish Histopathological Liver (*Mystus nigriceps*) Accumulated with Heavy Metal Cadmium (Cd) in Ketingan Estuary, Sidoarjo - East Java, Indonesia

L Anggitasari, H Suprpto and dan D D Nindarwi

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012106

Effectiveness of Pepaya Leaf Extract (*Carica Papaya L.*) to Control Ectoparasite *Argulus* on Common Carp (*Cyprinus Carpio*)

L S Azizah, Kismiyati and A H Fasya

[+ Open abstract](#) [View article](#) [PDF](#)
This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



-
- OPEN ACCESS** 012107
Bacterial Identification from Marine Ornamental Fish in Fish Quarantine, Quality Control and Fishery Products Safety Class I Denpasar, Bali
N R Rukmana, G Mahasri, S N Hidayah, M F Ulkhaq and H Kenconoajati
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012108
Prevalence and Intensity of Ectoparasites of Tilapia (*Oreochromis niloticus*) in Ponds with Low, Medium and High Stocking Density
M Indahsari, Kismiyati and M F Ulkhaq
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012109
Texture profile of the bread produced from composite flour *Bruguiera gymnorrhiza* flour (BGF) and wheat flour
M N G Amin, M N Hasan, Zakariya, S A Pralebda, H Pramono, E Saputra, S Subekti and M A Alamsjah
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012110
The potential of seaweed waste (*gracilaria* sp. and *eucheuma cottonii*) as a medium density fiberboard (mdf)-based pot material for better water use efficiency in tomato plants
H Kurnia, R R Rifadi, Agustono, M N G Amin, S A Sudjarwo and M A Alamsjah
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012111
Characterization of edible coating based on surimi fillet catfish as biodegradable packaging
E Saputra
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012112
Characteristics of the fish protein isolate recovered from Sardine by-products using the Isoelectric Solubilization- Precipitation method
H. Pramono, N T Irawan and M R A Firdaus
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012113
The potential of peptides derived from the chymotrypsin hydrolysate of soft shelled turtle yolk against the Angiotensin I Converting Enzyme
D Y Pujiastuti and J L Hsu
[+ Open abstract](#) [View article](#) [PDF](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



-
- OPEN ACCESS** 012114
Kappa and iota carrageenan combination of *Kappaphycus alvarezii* and *Eucheuma spinosum* as a gelatin substitute in ice cream raw material product
I Suryani, D I Permata Sari, D M Astutik and A Abdillah
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012115
Detection of antibiotic-resistant *Salmonella* sp. in the seafood products of Surabaya local market
H Pramono, A Kurniawan, N Andika, T F Putra, M A R Hazwin, S Utari, A P Kurniawan, E D Masithah and A M Sahidu
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012116
The effect of kappa-carrageenan fortification on the physicochemical and organoleptic properties of milkfish galantin
D Darmawan, L Sulmartiwi and A A Abdillah
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012117
The application of a high voltage electric field (HVEF) to reduce *Escherichia coli* and *Salmonella thyphimurium* bacteria in red snapper (*Lutjanus* sp.) fillets
D J Subakti, H Pramono and J Triastuti
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012118
Isolation and identification of fish import consumption bacteria in a fish quarantine center, focusing on the quality control and safety of fishery products at Tanjung Priok, Jakarta
H S Farizky and W H Satyantini
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012119
Replacement of gum arabic by dry *Spirullina* sp. biomass as a food emulsifier in bread making
D Wulandari, M N G Amin, E D Masithah, M Lamid and M A Alamsjah
[+](#) Open abstract [View article](#) [PDF](#)
-
- OPEN ACCESS** 012120
Nutrient improvement of *Bruguiera gymnorrhiza* peel fruit through fermentation using commercial tempeh (Indonesian fermented soybean) mold
M N G Amin, R A Prastiya, M N Hasan, Zakariya and M A Alamsjah
This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.
[+](#) Open abstract [View article](#) [PDF](#)
-

-
- OPEN ACCESS** 012121
DPPH scavenging property of bioactives from soft corals origin palu bay, Central Sulawesi, Indonesia
W A Tanod, U Yanuhar, Maftuch, D Wahyudi and Y Risjani
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012122
Extraction of bioactive compounds fruit from *Rhizophora mucronata* using sonication method
Ernawati, E Suprayitno, Hardoko and U Yanuhar
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012123
Harvesting *Chaetoceros gracilis* by flocculation using Chitosan
W AA Yamin, S R M Shaleh, F F Ching, R Othman, M Manjaji-Matsumoto, S Mustafa, S Shigeharu and G Kandasamy
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012124
The Use of Rajungan (*Portunus Pelagicus*) Shells as Flour in Wet Noodles Ingredient
A Rahma, A A Abdillah and E Saputra
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012125
The Potential of Lindur Fruit Flour (*Bruguiera Gymnorhiza*) in Reducing Oil Absorption of Milkfish Nugget during the Deep Frying Process
A Widyastuti, AA Abdillah and Laksmi Sulmartiwi
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012126
Chemical and Sensory Characteristics of Flakes Made from Seaweed (*Euचेuma cottonii*) and Soybean (*Glycine max* (L.) Merrill)
I R Firdarini, Kismiyati and A Manan
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012127
The Effect of Maltodextrin Concentration on the Characteristics of Snappers' (*Lutjanus* sp.) Peptone
R Ningsih, Sudarno and Agustono
[+ Open abstract](#) [View article](#) [PDF](#)
-
- OPEN ACCESS** 012128
This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more,
[open our Privacy and Cookies policy.](#)



Physics and Chemical Characteristics of Sargassum Sp. Seaweed with Addition of Sodium Alginate Stabilizer to Different Concentrations

M Via, A A Abdillah and M A Alamsjah

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012129

The Effect of Sorbitol Addition on the Characteristic of Carrageenan Edible Film

M Rahmawati, M Arief and W H Satyantini

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012130

The Utilization of Flower Crab (*Portunus Pelagicus*) Shell as Pasta Flavor

R Rahmawati, E Saputra and A A Abdillah

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012131

Income analysis of catching fish using dogol (demersal danish seine) in the sub-district of Brondong, Lamongan

A Aulia, A M Sahidu and Agustono

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012132

Area development based on conservation and ecotourism on the Cemara Beach (Pine Trees Beach), Pakis, Banyuwangi, East Java Province, Indonesia

E W Setyaningrum, A T K Dewi, K P Prapti, Z Erwanto and H D Susanti

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012133

Socioeconomic and institutional factors affecting the sustainable development for fisheries in Bontang City, Indonesia

B I Gunawan

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012134

Factors influencing the market requirements fulfillment in small medium enterprise fish processors in East Java

W Sulistyowati, Soemarno, A Efani and M Primyastanto

[+ Open abstract](#) [View article](#) [PDF](#)

JOURNAL LINKS

[Journal home](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more,

[see our Privacy and Cookies policy.](#)



Information for organizers

Information for authors

Contact us

Reprint services from Curran Associates

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our [Privacy and Cookies policy](#).



PAPER • OPEN ACCESS

Distribution patterns and the biomass of bivalves at Segoro Tambak estuary, Sedati, Sidoarjo, East Java

To cite this article: S H Liyana *et al* 2019 *IOP Conf. Ser.: Earth Environ. Sci.* **236** 012043

View the [article online](#) for updates and enhancements.

You may also like

- [The distribution patterns and biomass of bivalves in Segoro Tambak estuary, Sedati, Sidoarjo, East Java](#)
S H Liyana, L A Sari, N N Dewi *et al.*
- [The suitability of seagrass ecological function for the survival of the bivalvia on the East Coast of Lombok, Indonesia](#)
A Syukur, B N Hidayati, A Idrus *et al.*
- [Distribution patterns of gregarine parasitism of wild marine bivalve, *Anadara cornea* \(reeve, 1844\) concerning seasonality and water quality](#)
Mohd Ihwan Zakariah, Hassan Mohd Daud, Reuben Sunil Kumar Sharma *et al.*



244th Electrochemical Society Meeting

October 8 – 12, 2023 • Gothenburg, Sweden

50 symposia in electrochemistry & solid state science

Abstract submission deadline:
April 7, 2023

Read the call for papers &
submit your abstract!

Distribution patterns and the biomass of bivalves at Segoro Tambak estuary, Sedati, Sidoarjo, East Java

S H Liyana³, L A Sari¹, N N Dewi¹, E D Masithah², A M Sahidu², K T Pursetyo^{2*}

¹Department of Fish Health Management and Aquaculture, Faculty of Fisheries and Marine Universitas Airlangga, Campus C Unair 60115 Surabaya, Indonesia

²Department of Marine Faculty of Fisheries and Marine Universitas Airlangga, Campus C Unair 60115 Surabaya, Indonesia

³Aquaculture Study Program, Faculty of Fisheries and Marine Universitas Airlangga, Campus C Unair 60115 Surabaya, Indonesia

*Corresponding author: kustiawan@fpk.unair.ac.id

Abstract. Indonesia's marine waters have a variety of flora and fauna species that live and associate therein. This study used the observation method and a descriptive analysis. The results showed that the bivalvia distribution pattern in Segoro Tambak Estuary looks diverse with a distribution index value <1 which was in the range of 0.3 - 0.4. The highest average bivalve biomass was temporarily at 2.02 ton/km², which was in March, and the lowest was 0.95 ton/km² in January. The highest total average density was temporally 6 ind/10m² in March and the lowest was 3 ind/10m² in February. Low wind and current speeds in March caused the highest density and biomass in March. The content of the organic matter such as BOD was in the range of 33.38 to 53.89 mg/l from the threshold of <20 mg/l and the COD was in the range of 242.6-643.11 mg/l from the threshold of 80 mg/l. This far exceeds the threshold, but bivalves can still live in these waters because bivalves are aquatic bioindicators. Bivalve life at Segoro Tambak Estuary is also supported by muddy substrate conditions that are suitable for bivalve life.

1. Introduction

According to [1], Indonesia's marine waters have various species of flora and fauna that live and are associated therein [2]. Approximately 80%, or about 8,000 species, live in various depths of marine water and the rest live in freshwater [3]. Bivalves are a type of mollusk that lives in freshwater and marine habitats, mostly as a microphagous. In accordance with [1][2], bivalves as an organism are generally found in marine waters, especially in coastal zone or littoral zone that are widely used by most people. As stated by [3][4], the class of bivalves includes various kinds of shellfish and mussels as a component of the food chain. They are also indicators used for water quality monitoring. Many types of bivalve have an economic meaning, namely as food sources, such as *Anadara granosa*, *Anadara antiquate*, *Anadara gubernaculum* and *Anadara inaequalv* is as a craft and others [5].

The spreading of bivalves in water is determined by the abiotic, biotic and bivalve tolerance of each of the environmental factors. The abiotic factors include water chemistry, the type of substrate, food availability and biotic factors such as life cycle patterns that are associated with the bivalve distribution patterns [6]. Distribution patterns can be defined as patterns of distance between individuals within a population of boundary [7]. According to [8], random distribution is a rare thing in nature. Similar distribution can occur when competition between individuals is hard; there is an



interaction of positive antagonism that encourages the sharing of the same space. However, [7] stated that the most common pattern of spread is clustering.

An estuary is closed water located in the downstream part of a river which is related to the sea. It is very possible that a mixture between the two will occur [9]. Mixing these two water masses can result in physical changes such as sedimentation. These physical changes can have a major influence on the biota, prompting them to adapt to their environment. The estuary area is a habitat for various kinds of benthic animal organisms, one of which is bivalves [1]. Segoro Tambak Estuary is a location for fishing for shellfish by the local community [10]. Fishing shells is done in the traditional way, but the exploitation of these resources tends to override the principles of natural resource sustainability. The pressure to preserve the resources of the shells at Segoro Tambak Estuary is feared to need to increase with the advanced activity of the people in the region.

So far, there has been no specific research that has examined the distribution patterns and biomass of the bivalves at Segoro Tambak Estuary. The purpose of this study was to determine the distribution patterns and biomass of bivalves at Segoro Tambak Estuary, Sedati, Sidoarjo, East Java.

2. Material and methods

2.1 Place and time of the research

This research was carried out at Segoro Tambak estuary, Sedati, Sidoarjo, East Java between January and March 2018. The sample processing was carried out at the Laboratory of Anatomy and Aquaculture, in the Faculty of Fisheries and Marine, Universitas Airlangga, in the Laboratory of Research and Standardization Agency (BARISTAND) Surabaya, in the Nutrition Laboratory of Public Health Faculty, Universitas Airlangga and in the Soil Mechanics Laboratory of the Institut Teknologi Sepuluh November Surabaya.

2.2 Tools and material

The tools that were used in this research include a boat, trawl, basket, water samplers, ice cooler box, plastic bag, refractometer, thermometer, Secci Disk, pH pen, paper tags, permanent marker, Ekman Grab, Global Positioning System (GPS), bivalvia samples, seawater, sediment, HNO₃ solvent, and ice cubes.

2.3 Method

This study used the observation method with a descriptive analysis, carried out by describing the data that was collected without intending to make conclusions that apply to the public or an attempt at generalization.

2.4 Bivalve sampling

Bivalves sampling was carried out using trawl. A trawl is an item of fishing gear made from semicircular iron with a dividing net on the sides. The maximum number of trawls that it is possible to fit in one boat is three [11]. Garments that were equipped with a rope were lowered to the bottom of the water and pulled by the boat for one minute at a speed of 3-4 m/min at a predetermined point. Later on, the trawl was lifted after three minutes. Bivalves that were already clean from the mud were put into a plastic clip that had been labeled and distinguished by repetition. The bivalve samples were then put into a cooler box that contained ice cubes. After that, the bivalve samples were labeled and transported using a vehicle to the Laboratory of Anatomy and Cultivation of the Faculty of Fisheries and Marine, Airlangga University, in order to observe their biomass.

2.5 Sediment sampling

The sediment sample was taken using an Ekman grab at the same point as the bivalve sampling. According to [12], the Ekman grab is suitable for soft sediment sampling from a boat because it can only be done at each point and does not need to be repeated. The Ekman grab was sunk to the bottom of the water, and then the ballast iron was pushed into the water so then the Ekman grab could be

closed. The closed Ekman grab was then lifted onto the boat to handle the sediment. After that, the sediment sample was put into a cooler box to be taken to the Soil Mechanics Laboratory of the Institut Teknologi Sepuluh November Surabaya and the Nutrition Laboratory of Public Health Faculty of Universitas Airlangga Surabaya in order to test the organic substrates and ingredients in the sediment.

2.6 Water sampling

The seawater sample was taken to obtain data on the water's quality. The water sample was taken from the boat using a water sampler at a depth of 30 cm below the surface of the water and was put into a bottle. The water sample was immediately stored in a cool box that had been filled with ice cubes at a temperature of $\pm 4^{\circ}\text{C}$. Storage at a temperature of $\pm 4^{\circ}\text{C}$ can preserve the sample for up to 1 - 2 days. The water sample that was obtained was immediately taken to the Laboratory of Research and Standardization Agency (BARISTAND) Surabaya to be tested for ammonia, nitrite, nitrate and COD.

2.7 Data analysis

The data analysis was carried out descriptively, which involves describing the data that was obtained. The research data was processed using calculation parameters with identification data as a reference. The calculation parameters that were used included the distribution index (Id), density index (Q) and biomass index (B).

2.7.1 Distribution index

$$Id = \frac{n \sum Xi^2 - N}{N(N - 1)}$$

Information:

- Id : Morisita index
- n : Number of sampling points
- N : Total amount of individuals obtained
- Xi : Amount of individuals in each point

The results of Morisita index were grouped as follows:

- Id < 1 : Various distribution patterns
- Id = 1 : Random individual distribution patterns
- Id > 1 : Grouped individual distribution patterns

2.7.2 Density index

$$D = v \times t$$

Information:

- D : Long Sweep or / Distance swept (m)
- v : Withdrawal Speed (Km/hour)
- t : Withdrawal time (hours)

2.7.3 Biomass index

$$a = D \times h$$

Information:

a : Unit length of swept area (m²)

d : Long Sweep or / Distance swept (m)

h : Trawl length (m)

$$Q = \frac{Cw}{a \times Cf}$$

Information:

Q : Density per sweep area (ind/m²)

Cw : Fishing Results (ind)

a : Length of sweep area (m²)

Cf : Breakout factor (0.4)

3. Result and discussion

3.1 Result

Segoro Tambak Estuary is a clam fishing area. It is a meeting area of several river streams which have a more varied mixture of water and organic matter. The dominant bivalves that live in Segoro Tambak Estuary include *Anadara granosa*, *Anadara inequalvis*, *Anadara gubernaculum*, *Mactra* sp. and *Paphia undulate*; all between 3 - 6 cm long and 4 - 5 cm wide. The most common bivalve species that can be found is *Anadara inaequalvis* and the least common is *Mactra* sp. The results of the bivalve identification can be seen in Figure 1.

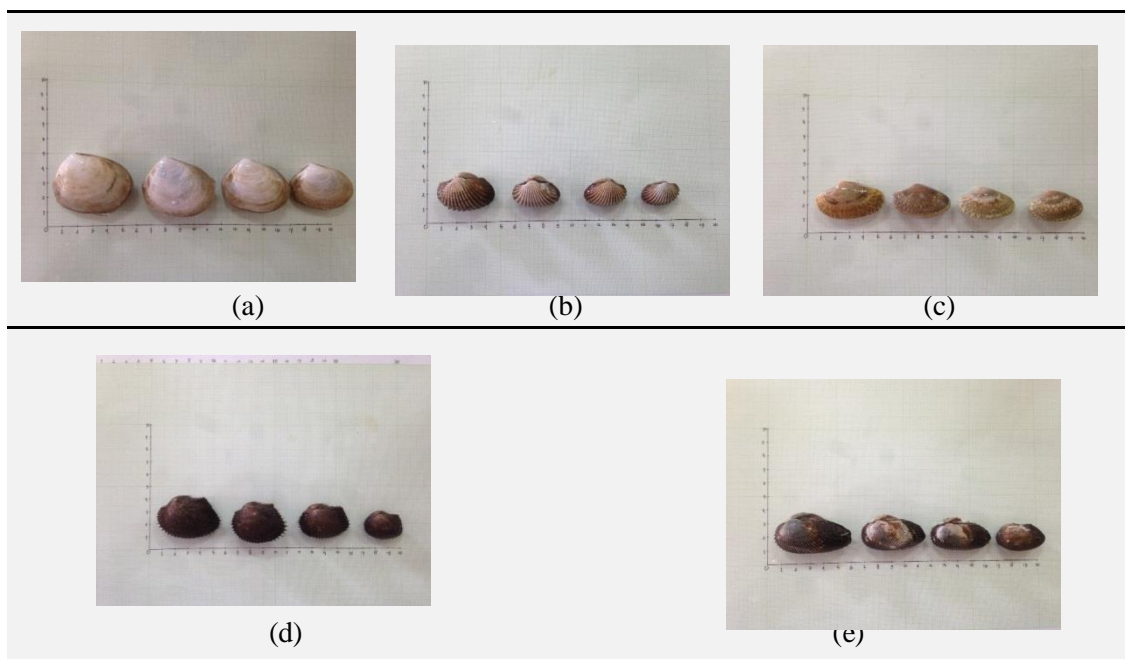


Figure 1. The results of the bivalve identification from the predominant fishing at Segoro Tambak Estuary: (a) *Mactra* sp., (b) *Anadara granosa*, (c) *Anadara gubernaculum*, (d) *Anadara inaequalvis* and (e) *Paphia undulata*.

The results of the research at Segoro Tambak Estuary, Sedati, Sidoarjo, East Java for three months of observation showed that the bivalvia distribution pattern at Segoro Tambak Estuary looked to be diverse with a distribution index value <1 , which is in the range of 0.3 - 0.4. The bivalve distribution pattern data can be seen in Table 1.

Table 1. Bivalve distribution patterns in Segoro Tambak Estuary for the January - March 2018 period.

Period	Distribution Index Value	Distribution Pattern
January	0,35	Similar
February	0,38	Similar
March	0,4	Similar

Information: Results of the primary data processing

The average biomass value of the highest bivalves was temporarily 2.02 tons/km² in March and the average biomass value of the lowest bivalves was temporarily 0.95 tons/km² in January. The temporarily data average biomass of the bivalves at Segoro Tambak Estuary can be seen in Figure 2.

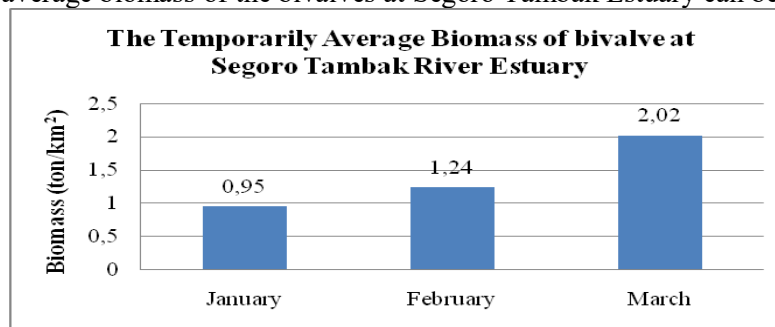


Figure 2. The temporarily data average of the biomass of the bivalves at Segoro Tambak Estuary

The highest total average density value that was temporarily 6 ind/10m² was found in March and the lowest density value which 3 ind/10m² in February. The density average of the bivalves at SegoroTambak Estuary can be seen in Figure 3.

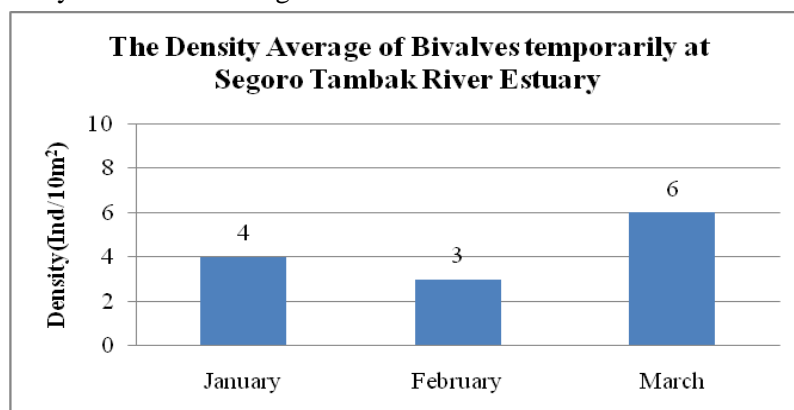


Figure 3. The density average data of the bivalves temporarily at Segoro Tambak Estuary.

The test results of the sediment fraction of Segoro Tambak Estuary analyzed at the Soil Mechanics Laboratory of the Institut Teknologi Sepuluh November Surabaya showed that Segoro Tambak Estuary was dominated by mud. The results of the Segoro River Estuary sediment testing from the January - March period can be seen in Table 2.

Table 2. Test results of the Segoro Tambak Estuary in the January - March period.

	Parameter	Unit	Value
Organic Matter	C	%	24,76-31,25
	N	%	9,25-10,73
	P	%	0,74-0,98
	COD	-	49,79-58,64
Fraction	Gravel	%	1,91`
	Sand	%	9,43
	Mud	%	88,67
	Particle Size	Mm	<0,075
	Substrate Size	-	Muddy

Information: Results of the Primary Data Processing

The results of the water quality measurement was obtained from direct measurements in the field and also from in the laboratory. The data on the water quality of Segoro Tambak Estuary in the January - March period can be seen in Table 3.

Table 3. Results of the water quality measurement from Segoro Tambak River Estuary in the January - March Period

Parameter	Unit	Test Result	Quality Standard
Temperature	°C	27,7-30,8	28-32
Ph	-	7,9-8,4	6, 5-8,5
DO	Ppm	5,16-6,53	>5
Salinity	Ppt	28-36	-
Transparency	M	0,8-2	>3
Suspended Solids (TSS)	mg/l	8-48	80
Free Ammonia (NH ₃ -N)	mg/l	<0.0113	0,016
Nitrate (NO ₃ -N)	mg/l	<0,011-<0.030	0,008
Nitrite (NO ₂ -N)	mg/l	0,012-0,03	0,06
BOD	mg/l	33,38-53,89	<20
COD	mg/l	242,6-643,11	80

Information: Results of the Primary Data Processing

Quality standards based on the Minister of Environment Decree No. 51 of 2004

The data on the oceanographic condition, including wind speed and current speed, were obtained from Tanjung Perak Maritime Meteorology Station in Surabaya. The data on the wind and current speed of Segoro Tambak Estuary can be seen in Table 4.

Table 4. Data on the wind and current speed at Segoro Tambak.

Month	Wind Speed (knot)	Current Speed (cm/second)
January	3,70	1,81
February	3,72	1,51
March	2,12	0,68

Information: Secondary Data (Tanjung Perak Maritime Meteorology Station, Surabaya, 2018).

3.2 Discussion

The biomass and dispersal of the bivalves in the water was determined by the biotic and abiotic environment, in addition to the bivalve tolerance of each of the environmental factors [6]. These physical changes can have a major influence on the biota when it comes to adapting to their environment. The input of the water that comes from the river flow in Segoro Tambak Estuary will also affect the life of the biota inside. Segoro Tambak Estuary has more than one flowing river, so it has a high organic matter content [13]. This is in accordance with [9], who stated that mixing these two water masses can lead to physical changes such as sedimentation.

The bivalve distribution pattern at Segoro Tambak Estuary looks similar to the temporary observation with a distribution value <1 . This is supported by the statement of [14], in that the value of the Morisita index ($Id < 1$) showed that the pattern of distribution of the biota in the waters was identical. A particular diversity distribution pattern can occur because the bivalve larvae are not settling in the water or substrate when the time comes to metamorphose into adulthood. The larvae react to certain physical chemical factors such as if the substrate is not good, if the biota is not permanent, and if was no metamorphosis [15].

Oceanographic conditions also have an effect on the bivalve distribution patterns in the water. This is related to the wind and current speed. The highest density and biomass occurred in March. This is because the wind and current speed in March had the lowest value compared to January and February. According to [16], the current is a limiting factor because it can affect bivalve life, where a strong current will blow the organism so then only certain types are able to survive.

Segoro Tambak Estuary is a water area that is related to mangrove areas, which are the main cause of the high organic matter content in these waters. Bivalves can still live in this condition despite the high levels of BOD and COD that are far beyond the normal limit. These conditions are because the nature of the bivalve as a bioindicator means that it can withstand high BOD and COD conditions. Bivalves do more osmoregulation processes than just digesting food, causing the biomass values to be low. This is consistent with [17]'s statement that the regulation of mollusk osmoregulation is a special adaptation technique that will keep them alive in a new environment, where there is an imbalance in the amount of water needed to maintain their body fluids wherever they live.

4. Conclusion

Research on the bivalvia distribution patterns in Segoro Tambak Estuary, Sedati, Sidoarjo, East Java between January and March 2018 resulted in a similar bivalve distribution pattern. The highest average bivalve biomass and density was in March. The pattern of the bivalvia distribution and biomass at Segoro Tambak Estuary was influenced by the environmental conditions, oceanographic conditions and fishing activities by local fishermen.

5. References

- [1] Yunus A H Irawan and F Idris 2015 *Bivalvia Community Structure in the Waters of Waters of Kawal River* (Kepulauan Riau: Universitas Maritim Raja Ali Haji) p 201
- [2] Zarkasyi M M H Zayadi and S Laili 2016 *Bioscience-Tropic*: 2 1-10

- [3] Khalil M 2016 *Shellfish bioecology of the genus Anadara Bivalvia: Archidae* Sefa Bumi Persada
- [4] Junaidi E E P Sagala and J Joko 2010 *JPS* **13** 50-54
- [5] Ambarwati R and T Trijoko 2011 *berkalahayat* **4** 1-7
- [6] Mardatila S I Izmiarti and J Nurdin 2010 *Biocelbes* **10** 25-31
- [7] Campbell N A J B R 2008 *Biology Eighth Edition Volume 3* (Jakarta: Erlangga) p 355
- [8] EP O 1994 *Ecology Basics Third Edition Translation: Tjahjono Samingan* (Yogyakarta: Gadjah Mada University Press) p 255
- [9] Taqwa R N and M R Muskananfolo 2014 *Manag of Aqua Res J* **3** 125-133
- [10] Sukandar C J Harsindhi Dewi C S U Handayani M Maulana A W Supriyadi and Bahrono A 2016 *Profile of Coastal Villages in East Java Province in Marine Coastal and Supervision Fisheries and Marine Services of East Java Province Surabaya* (Surabaya: Diskanla Jawa Timur) p 155
- [11] Indonesia W W F f N 2015 *Small Scale Fisheries Handling Guide Series World Wide Fund for Nature Indonesia*: 15-20
- [12] Blackwell W 2013 *Methods for the Study of Marine Benthos 4th edition* (USA: John Wiley and Sons Ltd Oxford) p 203
- [13] Dewi N 2018 *IOP Conference Series: Earth and Environmental Science* IOP Publishing
- [14] Brower J E Zar J H 1997 *Field and Laboratory Method for General Ecology* (Dubuque, IA : W.C. Brown Publishers) p 237
- [15] Lindawaty I Dewiyanti S Karina 2016 *JIM FKP* **1** 114-123
- [16] Pancawati D N D Suprpto and P W Purnomo 2014 *Journal Manag of Aqua Res* **3** 141-146
- [17] Lantu S 2010 Osmoregulation in Aquatic Animals *J Per dan Kel* **6** 46-50

Acknowledgment

The authors are grateful to the Faculty of Fisheries and Marine, Airlangga University which had provided us the area and laboratory space to conduct this research. All authors approved the final draft of the manuscript, and we declare that there is no conflict of interest in all aspects of the work.