

2nd International Symposium on Marine and Fisheries Research 2017

IOP Conference Series: Earth and Environmental Science
Volume 139

Yogyakarta, Indonesia
24 - 25 July 2017

Editors:

**Alim Isnansetyo
Indun Dewi Puspita
Noranizan Mohd. Adzahan**

**Suadi
Dini Wahyu Kartika Sari
Anes Dwi Jayanti**

ISBN: 978-1-5108-6153-4
ISSN: 1755-1307

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by the Institute of Physics
All rights reserved. The material featured in this book is subject to
IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of contents

Volume 139

The 2nd International Symposium on Marine and Fisheries Research

24–25 July 2017, Yogyakarta, Indonesia

Accepted papers received: 16 March 2018

Published online: 12 April 2018

Preface

[The 2nd International Symposium on Marine and Fisheries Research](#)

[Editors](#)

[Reviewers](#)

[Keynote Speaker Abstracts](#)

[Index](#)

[Peer review statement](#)

Papers

Aquaculture

[Effect of water irrigation volume on *Capsicum frutescens* growth and plankton abundance in aquaponics system](#)

Y Andriani, Y Dhahiyat, Zahidah, U Subhan, Iskandar, I Zidni and T Mawardiani.....1

[The performance analysis of hybrid seeds between catfish \(*Clarias gariepinus* Burchell\) semarang and sangkuriang strains](#)

F Basuki, T Susilowati and D Harwanto.....11

[Evaluation of traditional plant extracts for innate immune mechanisms and disease resistance against fish bacterial *Aeromonas hydrophila* and *Pseudomonas* sp.](#)

E H Hardi, G Saptiani, I W Kusuma, W Suwinarti and R A Nugroho.....18

[Comparison of three inert markers in measuring apparent nutrient digestibility of juvenile abalone under different culture condition and temperature regimes](#)

K U Nur, L Adams, D Stone, N Savva and M Adams.....27

[Effect of inorganic fertilizer on the growth of freshwater *Chlorella* sp.](#)

R A Rahardini, S Helmiati and B Triyatmo.....35

[The effectiveness of crude papain enzyme supplement for tilapia's \(*Oreochromis niloticus*\) growth at the floating nets of Cirata Reservoir](#)

R Rostika, Sunarto, H N Sugiyanto and L P Dewanti.....44

[Characteristics and environmental carrying capacities of coastal area in Yogyakarta Special Region for aquaculture](#)

B Triyatmo, Rustadi and S B Priyono.....50

[Masculinization of Nile tilapia \(*Oreochromis niloticus*\) using extract of bull testes](#)

A Yustiati, I Bangkit and I Zidni.....60

[Impact of Red Water System \(RWS\) application on water quality of catfish culture using aquaponics](#)

Zahidah, Y Dhahiyat, Y Andriani, A Sahidin and I Farizi.....69

Marine Science

[The axenic treatments for *Kappaphycus alvarezii* \(Rhodophyta\) seedling in laboratory culture](#)

R I Adharini, A R Setyawan, A D Jayanti, Suadi and E A Suyono.....77

[Similarity microalgal epiphyte composition on seagrass of *Enhalus acoroides* and *Thalasia hemprichii* from different waters](#)

R Hartati, M Zainuri, A Ambariyanto, Widianingsih, A Trianto and R T Mahendrajaya.....83

[Zooplankton communities in Cenderawasih Bay National Park, West Papua: can their composition be used to predict whale shark *Rhincodon typus* Smith, 1828 appearance frequencies?](#)

S N Marlina, M Bataona and E N Ihsan.....90

[Biodiversity of gastropod in the Sombu Beach, Wakatobi, Indonesia](#)

F Rahmayanti, F K Nazira, A K Dewi, D F Oktaviani, I N K Millaty, T A Prasetya, H B Sasmita, M Nashrurrokhman, D A Roshitafandi, D Febiansi, H W Sartika, W G Zulfikar, R N Kurnia, D A Islami and Y A Tranggono.....99

[Analysis of habitat characteristics of small pelagic fish based on generalized additive models in Kepulauan Seribu Waters](#)

A A Rivai, V P Siregar, S B Agus and H Yasuma.....104

[Pattern of relative growth in cockle *Anadara antiquata* in Ihamahu coastal waters, Central Maluku](#)

L Siahainenia, S F Tuhumury, P A Unepetty and N C Tuhumury.....116

[Characteristic sediment and water column chlorophyll-a in the sea cucumber's *Paracaudina* sp. habitat on the Kenjeran Water, Surabaya](#)

W Widianingsih, M Zaenuri, S Anggoro, H P Kusumaningrum and R Hartati.....123

[DNA barcode of *Acropora hyacinthus* of Karimunjawa Archipelago](#)

D P Wijayanti, E Indrayanti, H Nuryadi, S A Rintiantono and A Sabdonu.....132

Fisheries Management and Oceanography

[Food preference of red devil \(*Amphilophus labiatus*\) in the Sermo Reservoir, Kulon Progo Regency](#)

A Ariasari, S Helmiati and E Setyobudi.....140

[Performance of rumpon-based tuna fishery in the Fishing Port of Sendangbiru, Malang, Indonesia](#)

D G R Wiadnya, A Damora, M M Tamanyira, D Nugroho and A Darmawan.....148

[The impact of ENSO on regional chlorophyll-a anomaly in the Arafura Sea](#)

D M P R Dewi, D Fatmasari, A Kurniawan and M A Munandar.....154

[The growth and reproduction of Seren \(*Diplocheilichtys pleurotaenia*\) in the Jatigede Reservoir Sumedang Regency Province of West Java](#)

T Herawati, A Yustiati, S Y Dilia and Adhardiansyah.....161

[Correlation analysis of Standardized Precipitation Index \(SPI\) for the water debit and level of the Cisadane River during El Niño and La Niña years](#)

A N Khoir, M Rohmah and Nuryadi.....169

[Fish fauna in the Krueng Geumpang River, Indonesia](#)

M Nasir, M Munira and Z A Muchlisin.....177

[Dominancy of *Trichodesmium* sp. in the Biawak Island](#)

D J Prihadi.....183

[Ocean wave characteristic in the Sunda Strait using Wave Spectrum Model](#)

R Rachmayani, N S Ningsih, S R Adiprabowo and S Nurfitri.....190

[Population dynamics of the yellowstripe scad \(*Selaroides leptolepis* Cuvier, 1833\) and Indian mackerel \(*Rastrelliger kanagurta* Cuvier, 1816\) in the Wondama Bay Water, Indonesia](#)

R Sala, R Bawole, F Runtuboi, Mudjirahayu, I A Wopi, J Budisetiawan and Irwanto.....198

[The effect of monsoon variability on fish landing in the Sadeng Fishing Port of Yogyakarta, Indonesia](#)

D Subarna.....206

[Different responses of chlorophyll-a concentration and Sea Surface Temperature \(SST\) on southeasterly wind blowing in the Sunda Strait](#)

A Wirasatriya, Kunarso, L Maslukah, A Satriadi and R D Armanto.....216

Fisheries Socio-Economics

[Local government units initiatives on coastal resource management in adjacent municipalities in Camarines Sur, Philippines](#)

A Z Faustino and H L Madela.....223

[The vulnerability of fishermen's community and livelihood opportunity through drought and seasonal changes in border area of Indonesia-Timor Leste](#)

A D Jayanti, W Fitriya, E Setyobudi, S A Budhiyanti, Suadi and S J Kune.....230

[Public perspective towards marine litter in West Aceh City](#)

I Kusumawati, M Setyowati, E Riana and T Prartono.....239

[Challenges in managing freshwater fishery resource through Lebak Lebung Auction approach: a case study in Pangkalan Lampam District Ogan Komering Ilir Regency](#)

B Muslimin and Suadi.....245

[Livelihood analysis of floating net cages fish farmers at Sendang Village Sub-district of Gajah Mungkur Reservoir of Wonogiri Regency](#)

Z N A Nissa, Suadi and Sukardi.....255

[Techno-socio-economic analysis of losses in capture fishery: a case study in Pelabuhan Ratu, Sukabumi, West Java Province](#)

A Nurhayati and A H Purnomo.....264

[Economic valuation of mangrove ecosystem: empirical studies in Timbulsloko Village, Sayung, Demak, Indonesia](#)

T A Perdana, J Suprijanto, R Pribadi, C R Collet and D Bailly.....272

[Analysis of eco-innovation with triple helix approach: case-study of biofloc catfish farming in Yogyakarta](#)

D Purwadi and I Nurlaily.....278

[Economic impact studies on development project of New Yogyakarta International Airport to aquaculture in Kulonprogo Coastal](#)

F Rachman, M C Satriagasa and W Riasasi.....283

[Technological adaptation in traditional fisheries: way to survive](#)

A Salam.....290

[Selection of sustainable seaweed and grouper aquaculture development strategy: a case of Pulau Panjang, Serang Regency Banten Province](#)

P A Soejarwo, W P Fitriyanny, A Heriati and A R Hakim.....298

[Bioeconomic of profit maximization of red tilapia \(*Oreochromis sp.*\) culture using polynomial growth model](#)

D Wijayanto, F Kurohman and RA Nugroho.....306

Fish Processing Technology

[The use of preservatives consist of green tea, piper betel and potassium sorbate on boiled salted fish processing](#)

F Ariyani, I Hermana and I Hidayah.....313

[Chitinase activity of *Pseudomonas stutzeri* PT5 in different fermentation condition](#)

N Chalidah, I N Khotimah, A R Hakim, B A Meata, I D Puspita, P S Nugraheni, Ustadi and S Pudjiraharti.....322

[Prebiotic index evaluation of crude laminaran of *Sargassum* sp. using feces of wistar rats](#)

A Chamidah.....332

[ACE inhibition and antioxidant activity of different part of *Channa striata* prepared by various cooking method](#)

E Chasanah, S Budiari, M Thenawijaya and N S Palupi.....340

[Physicochemical properties of chitooligosaccharide prepared by using chitosanase from *Stenotrophomonas maltophilia* KPU 2123](#)

Y N Fawzya, A Rahmawati and G Patantis.....347

[Production and characterization of the healthy brown rice milk with sodium alginate addition from brown algae *Sargassum binderi* as emulsifier](#)

R N Latifah and F M Warganegara.....355

[Extracting of yellowfin tuna \(*Thunnus albacares*\) fish skin gelatin as influenced by alkaline concentration and extraction times](#)

E M Mafazah, Y Pranoto and A Rohman.....363

[The effect of mimosa and syntan mixture on the quality of tanned red snapper leather](#)

M Pratama, L Sahubawa, A Pertiwiningrum, Y Rahmadian and I D Puspita.....370

[Enhancing the economic value and consumer preferences of commercial *mondol* stingray \(*Himantura gerardi*\) leather creative products](#)

L Sahubawa, A Pertiwiningrum and Y Rahmadian.....377

[The changes of astaxanthin content and chemical characteristics of tiger prawn \(*Penaeus monodon*\) due to processing: boiling, smoking and frying](#)

F Swastawati.....385

[Identification of chitinolytic bacteria isolated from shrimp pond sediment and characterization of their chitinase encoding gene](#)

A U Triwijayani, I D Puspita, Murwantoko and Ustadi.....392

[Optimization of alginate alkaline extraction technology from *Sargassum polycystum* and its antioxidant properties](#)

E Yudiati, G W Santosa, M R Tontowi, S Sedjati, E Supriyantini and M Khakimah.....398