

**SQUALEN: BULETIN PASCAPANEN DAN BIOTEKNOLOGI  
KELAUTAN DAN PERIKANAN**  
(SQUALEN: BULLETIN OF MARINE AND FISHERIES POSTHARVEST AND BIOTECHNOLOGY)  
Vol.14 No.3, December 2019

- Publisher : Research and Development Center for Marine and Fisheries Product Processing and Biotechnology (RDCMFPPB)
- Managing Director : Head of Research and Development Center for Marine and Fisheries Product Processing and Biotechnology (RDCMFPPB)
- Editor in-Chief : Prof. Dr. Ekowati Chasanah (Biotechnology of Marine and Fisheries, RDCMFPPB, INA)
- Associate Editor : 1. Ariyanti Suhita Dewi, Ph.D (Marine Natural Product, RDCMFPCB, INA)  
2. Dr. Hedi Indra Januar (Marine Environmet and Fisheries Food Safety, RDCMFPCB, INA)  
3. Syamdidi, M.Sc (Fishery Product, RDCMFPCB, INA)
- Editorial Board : 1. Prof. Dr. Hari Eko Irianto (Fishery Product, RDCMFPCB, INA)  
2. Prof. Dr. Taifo Mahmud (Molecular and Cellular Biology, Oregon State, University, United States)  
3. Prof. Dr. Nicholas Paul (Biochemistry, University of the Sunshine Coast, Australia)  
4. Prof. Dr. Wibowo Manguwardoyo (Microbial Physiology and Biochemistry, University of Indonesia, INA)  
5. Prof. Dr. Jose Alberto Ramirez de Leon (Food Processing, Universidad Autonoma de Tamaulipas, Mexico)  
6. Prof. Dr. Jan Schwarzbauer (Environmental Science, RWTH Aachen University, Germany)  
7. Prof. Dr. Joko Santoso, MSi (Fishery Product, Bogor Agricultural University, INA)  
8. Prof. Dr. Nurul Huda (Food Processing, School of Food Science and Nutrition, Universiti, Malaysia Sabah, Malaysia)  
9. Prof. Dr. Irmanida Batubara, MSi (Tropical Biopharmaca Research Center, Bogor Agricultural University, Indonesia)  
10. Dr. Singgih Wibowo (Fisheries Product Development, RDCMFPPB, INA)  
11. Dr. Dedi Noviendri (Biotechology, RDCMFPCB, INA)  
12. Dr. Dewi Seswita Zilda (Biotechnology, RDCMFPCB, INA)  
13. Dr. Masteria Yunovilsa Putra (Biochemistry, Indonesian Institute of Sciences, INA)  
14. Dr. Puspita Lisdiyanti (Biochemistry, Indonesian Institute of Sciences, LIPI,INA)  
15. Muhammad Taher, Ph.D (Natural Product, International Islamic University Malaysia)
- Peer Reviewers : 1. Prof. Dr. Wibowo Manguwardoyo (Microbial Physiology and Biochemistry, University of Indonesia, INA)  
2. Prof. Dr. Tati Nurhayati (Fishery Product, Bogor Agricultural University, INA)  
3. Dr. Ario Damar (Coastal and Marine Bioecology, Bogor Agricultural University, INA)  
4. Dr. Ireng Darwati (Indonesian Spice and Medicinal Crops Research Institute, INA)  
5. Dr. Amir Husni (Marine Biotechnology, Gadjah Mada University, INA)  
6. Dr. Agung Darmasakti (Marine Science and Environmental, Raja Ali Haji Maritime University, INA)  
7. Dr. Romsyah Maryam (Fisheries Product, RDCMFPPB, INA)  
8. Dr. Miftahul Ilmi (Marine Biotechnology, Gadjah Mada University, INA)  
9. Dr. Stalis Norma Ethica, M.Si (Muhammadiyah University of Semarang, INA)  
10. Ir. Yusro Nuri Fawzya, MSi (Biotechnology, RDCMFPCB, INA)  
11. Bakti Berlyanto Sedayu, MSc (Processing, Mecanitation, and utilization of Fisherie Products and its Waste, Victoria University, AUS)
- Copy Editors : 1. Bagus Hendrajana, MSc  
2. Dina Fransisca, MSi  
3. Endar Marraskuranto, MSi  
4. Nurrahmi Dewi Fajarningsih, M.Biotech (Adv.)  
5. Susiana Melanie, MSc
- Administration Address : Research and Development Center for Marine and Fisheries Product Competitiveness and Biotechnology  
K.S. Tubun Petamburan VI, Jakarta, 10260  
Phone/Fax : +62 (21) 53650157/+62 (21) 53650158  
E-mail : squalenbulletin@kcp.go.id  
squalenbulletin@gmail.com

Squalen: Buletin Pascapanen dan Bioteknologi Kelautan dan Perikanan (Squalen: Bulletin of Marine and Fisheries Postharvest and Biotechnology) published periodically three times a year i.e. May, August, and December by Research and Development Center for Marine and Fisheries Product Competitiveness and Biotechnology

**Accredited Number: 21/E/KPT/2018**

CITATION IS PERMITTED WITH ACKNOWLEDGEMENT OF THE SOURCE

## FOREWORD

We are happy to announce publication of the second issue of Squalen, Bulletin of Marine and Fisheries Postharvest and Biotechnology, volume 14 no 3 year of 2019. The Squalen Bulletin is one of our publication series under Research Center for Marine and Fisheries Product Processing and Biotechnology management. On last November, the Squalen Bulletin has been accepted for indexation by Scopus and is expected to be listed by the first quarter of 2020.

This issue consists of 5 original research articles in the field of marine biotechnology and fisheries, i.e Extraction and Partial Characterization of Lectin from Indonesian Brown Algae *Padina australis* and *Padina minor*, Increasing Chitinase Activity of *Serratia marcescens* PT-6 through Optimization of Medium Composition, Potency of Catfish (*Clarias* sp.) Protein Hydrolysates as Candidates Matrices for Microbiology Reference Material, Growth Hormone, Nitrogen and Potassium Content in the Formulated Solid Waste from Agar Processing for Fertilizer Application, and Emerging Pollutants from Industrial Emission and Their Health Hazards in Indonesian Seafood: A Review.

We would like to extend sincere appreciation to our reviewers for their thoughtful comments and efforts towards improving our manuscript on behalf of the entire editorial board and the publisher. It was with the good co-operation, enthusiasm, and support of the reviewers that made Squalen Bulletin periodically published.

We would also like to thank all our contributors for their kind co-operation extended during the various stages of processing of the manuscript in this bulletin. We hope readers will find these articles are useful and in return can stimulate further studies on marine and fisheries post-harvest and biotechnology.

Editors

**SQUALEN BULETIN PASCAPANEN DAN BIOTEKNOLOGI KELAUTAN DAN PERIKANAN**  
**(SQUALEN: BULLETIN OF MARINE AND FISHERIES POSTHARVEST AND BIOTECHNOLOGY)**  
**Vol. 14 No. 3 December 2019**

**CONTENT**

	Page
<b>FOREWORD</b> .....	i
<b>CONTENT</b> .....	iii
Extraction and Partial Characterization of Lectin from Indonesian Brown Algae <i>Padina Australis</i> and <i>Padina Minor</i> Nurrahmi Dewi Fajarningsih, Naomi Intaqta, Danar Praseptiangga, and Choiroel Anam .....	103-111
Increasing Chitinase Activity of <i>Serratia marcescens</i> PT-6 through Optimization of Medium Composition Akhdad Awaludin Agustiar, Imas Faturrohmah, Bektu Wulan Sari, Nurul Binti Isnaini, Indun Dewi Puspita, Triyanto, Amir Husni, and Ustadu .....	113-120
Potency of Catfish ( <i>Clarias</i> sp.) Protein Hydrolysates as Candidates Matrices for Microbiology Reference Material, Eti Kurniawati, Bustami Ibrahim and Desniar.....	121-130
Growth Hormone, Nitrogen and Potassium Content in the Formulated Solid Waste from Agar Processing for Fertilizer Application, Jamal Basmal, Muhamad Luthfian Henrida, Rinta Kusumawati, and Nurhayati.....	131-139
Emerging Pollutants from Industrial Emission and Their Health Hazards in Indonesian Seafood: A Review Dwiyitno.....	141-153

**AUTHORS GUIDELINES**  
**SQUALEN: BULETIN PASCAPANEN DAN BIOTEKNOLOGI KELAUTAN DAN PERIKANAN**  
**(SQUALEN: BULLETIN OF MARINE AND FISHERIES POSTHARVEST AND BIOTECHNOLOGY)**

1. Scope: research paper, short communication and reviews in the field of postharvest, food safety and environment, and bio-discovery of marine and fisheries.
2. Language: English. It is preferable that manuscripts are professionally edited. The abbreviated name or expression should be cited in full at first usage, followed by the accepted abbreviation in parentheses. Metric SI units should generally be used. Chemical formulas and solutions must specify the form used, e.g. anhydrous or hydrated and the concentration must be in clearly defined units. Common species names should be followed by the Latin binomial (Italic) at the first mention.
3. Manuscript: should be prepared max. 15 pages, double-spaced (except for title, tables, figures, and bibliography which is prepared in single-spaced) in Microsoft Word on A4 paper, font (Arial 10).

**Research Paper** manuscripts should contain the following sections :

- a. Title: brief, concise and informative, reflecting the manuscript material. Avoid the abbreviation and formula where possible. Author's name, institution, and address are written under the title.
- b. Abstract : a concise and factual abstract is required. The abstract should state briefly the purpose of research, the principle method, result and conclusion. Non-standard or uncommon abbreviation should be avoided, but if essential they must be defined at their first mention in the abstract itself. Abstract should not exceed 250 words.
- c. Key words: contain 3 to 5 words, referred from Agrovocs
- d. Introduction: state the background and objective(s) of the work, avoiding a detailed literature survey or a summary of the results.
- e. Material and Methods: provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference; only relevant modification should be described.
- f. Results and Discussion: results should be clear and concise. Discussion should explore the significance of the results of the work, not repeat them. Avoid extensive citation and discussion of published literature.
  - Tables: Short, clear and must be able to stand alone. Table should have a title and number in sequence and are placed above the table, font (Arial 10).
  - Figures and graphics: Prepared in appropriate pattern usable for black and white versions of all the color illustrations. Graphics should be prepared in MS Excel. Figure should have a title and number in sequence. Figure and graphics title and their explanation or notes are placed below the figures or graphics, font (Arial 10).
  - Pictures/photograph: Prepared in contrast color or B/W. Pictures/photographs should have a title and number in sequence. TIFF: color or grayscale photographs (halftones) always use a minimum of 300 dpi; bitmapped line drawings use a minimum of 1000 dpi; combinations bitmapped line/halftone (color or grayscale) a minimum of 500 dpi is required.
- g. Conclusion: Concise considering the title, objectives and research results.
- h. Acknowledgement: Collate acknowledgements, if any, in separate sections at the end of the article before the reference and do not, therefore, include them on the title page, as a footnote to the title or otherwise.
- i. Bibliography: Follow the APA (American Psychological Association) style referencing. References in the text should cite the latest and primary references at least 80% are strongly advised.

a. Journal with DOI; b. Journal without DOI; c. Thesis or dissertation; d. Book Chapters

Houbraken, J. A., Frisvad, J. C., & Samson, R. A. (2010). Taxonomy of *Penicillium citrinum* and related species. *Fungal Diversity*, 44(1), 117-133. doi: 10.1007/s13225-010-0047-z

Yu, Z., Lang, G., Kajahn, I., Schmaljohann, R., & Imhoff, J. F. (2008). Scopularides A and B, Cyclodepsipeptides from a marine sponge-derived fungus, *Scopulariopsis brevicaulis*. *Journal of Natural Products*, 71(1), 1052-1054.

Prigent, S. (2005). Interactions of phenolic compounds with globular proteins and their effects on food related functional properties. ph.D. Thesis. Wageningen University, The Netherlands.

Lanier, T. C., Carvajal, P., & Yongsawatdigul, J. (2005). Surimi gelation chemistry. In J.W. Park (Ed) *Surimi and surimi seafood*, p. (pp. 435-489). Boca Raton, FL: CRC Press Taylor and Francis Group.

**Review Paper**, manuscript should be written as a continuous articles sub headings that reflect the matter discussed, not necessarily the same as the sub heading of the research paper (Abstract, Introduction, Discussion, Conclusion, Acknowledgement, References)

4. Submission of manuscript: A soft copy of the manuscript should be submitted electronically by Open Journal System (OJS) at website: [www.bbp4b.litbang.kkp.go.id/squalen-bulletin](http://www.bbp4b.litbang.kkp.go.id/squalen-bulletin). Manuscript should be uploaded as Word (.doc) files (not write-protected) or/ and MS Excel for the figures or graphics. The text file must contain the entire manuscript including title page, abstract, keywords, text, references, tables, and figures. All the manuscripts submitted to 'Squalen: Buletin Pascapanen dan Bioteknologi Kelautan dan Perikanan (Squalen: Bulletin of Marine and Fisheries Postharvest and Biotechnology)' will be reviewed by peer reviewers and editors. Manuscript submitted should not be submitted or under reviewed other journal.
5. Manuscript which does not meet the above requirements will be rejected.
6. Editor provides reprint for the author(s).