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

Vol.10 No. 1, May 2015

Publisher	:	Research and Development Center for Marine and Fisheries Product Processing and Biotechnology, Research and Development Agency for Marine Affairs and Fisheries (RDCMFPPB)
Managing Director	:	Head of Research and Development Center for Marine and Fisheries Product Processing and Biotechnology
Editor in-Chief	:	Dr. Ekowati Chasanah (Biotechnology of Marine and Fisheries, RDCMFPPB, INA)
Editors	:	<ol> <li>Dr. Achmad Poernomo (Food Safety, Agency of Marine and Fisheries Research and Development, INA)</li> <li>Dr. Bagus Sediadi Bandol Utomo (Fisheries Product Development, RDCMFPPB, INA)</li> <li>Dr. Puspita Lisdiyanti, M.Agr.Chem (Microbiology, Indonesian Institute of Science, INA)</li> <li>Dr. Noer Khasanah (Marine Biotechnology, University of Gadjah Mada, INA)</li> <li>Dr. Antonius Herry Cahyana (Natural Product Chemistry, University of Indonesia, INA)</li> <li>Prof. Dr. Jose Alberto Ramirez de Leon (Food Processing, Universidad Autonoma de Tamaulipas, Mexico)</li> <li>Prof. Dr. Anthony D. Wright (Marine Natural Product Chemistry, University of Hawaii, USA)</li> </ol>
Peer Reviewers	:	<ol> <li>Prof. Dr. Santiago Valdez Hurtado (Food Processing, Universidad de Sonora, Mexico)</li> <li>Prof. Dr. Rijkelt Beumer (Food Microbiology, Agrotechnology and Food Sciences, Wageningen University The Netherlands)</li> <li>Prof. Dr. Nurul Huda (Food Processing, University Sains Malaysia, Malaysia)</li> <li>Prof. Dr. Hari Eko Irianto (Fisheries Product Processing, INA)</li> <li>Prof. Dr. Djagal Wiseso Marseno (Faculty of Agriculture Technology, University of Gajah Mada, INA)</li> <li>Prof. Dr. Rosmawaty Peranginangin (Fisheries Product Processing, RDCMFPPB, INA)</li> <li>Prof. Dr. Jörn Piel (Bacterial Natural Products, Institute of Microbiology, ETH Zurich)</li> <li>Dr. Nahla E.E. Omran (Zoology Department, Faculty of Science, Tanta University, Tanta, Egypt)</li> <li>Prof. Dr. Joko Santoso (Fisheries and Marine, Bogor Agricultural University, INA)</li> <li>Dr. Ir. Alim Isnansetyo (Marine Natural Product, University of Gajah Mada, INA)</li> <li>Dr. Supriyadi (Food Processing and Flavor, University of Gajah Mada, INA)</li> <li>Dr. Singgih Wibowo (Fisheries Product Processing, RDCMFPPB, INA)</li> <li>Dr. Tati Nurhayati (Fisheries Product, Bogor Agricultural University, INA)</li> <li>Dr. Siswa Setyahadi (Agricultural, Indonesian Institute of Science, INA)</li> </ol>
Copy Editor	:	<ol> <li>Tuti Hartati Siregar, M.BioMedSc</li> <li>Dr. Agustinus Robert Uria</li> <li>Dr. Dedi Noviendri</li> <li>Sinta Nurwijayanti, MA</li> <li>Muhamad Darmawan, MT</li> <li>Nurrahmi Dewi Fajarningsih, M.Biotech (Adv.)</li> <li>Diah Ikasari, M.Biotech</li> </ol>
Administration Address	:	Research and Development Center for Marine and Fisheries Product Processing and Biotechnology K.S. Tubun Petamburan VI, Jakarta, 10260 Phone/Fax : +62 (21) 53650157/+62 (21) 53650158 E-mail : squalenbulletin@kkp.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 Processing and Biotechnology.

### Accredited Number: 631/AU2/P2MI-LIPI/03/2015

CITATION IS PERMITTED WITH ACKNOWLEDGEMENT OF THE SOURCE

#### FOREWORD

We would like to present a new volume of the Squalen, Bulletin of Marine and Fisheries Postharvest and and Biotechnology Volume 10 Number 1, 2015. This volume contains the latest research in the field of marine and fisheries postharvest and processing as well as biodiscovery and biotechnology.

There are articles associated to screening and identification of bioactive and chemical components of marine organisms namely: Identification and Antimicrobial Activity of Marine *Streptomyces* from Geographically Different Regions of Indonesia; Chemical Composition and Fatty Acid Profile of Some Indonesian Sea Cucumbers. This also includes mini-review titled Capturing Natural Product Biosynthetic Pathways from Uncultivated Symbiotic Bacteria of Marine Sponges Through Metagenome Mining. Other articles related to fish processing are Screening of Significant Variables for Sliced Frying Fish Ball using Plackett-Burman Design; Mechanical Properties and Biodegradability of Acid-soluble Chitosan-starch Based Film.

We would like to acknowledge Dr. Uju Sadi; Dr. Supriyadi; Dr. Nahla E.E. Omran; and Prof. Dr. Jörn Piel as reviewers in this edition, the authors, and the editorial board members who have involved in the publication process for their passion and hardwork related to manuscript submission, processing, and editing. We hope that this issue will bring valuable information for the readers in the related area. Nonetheless, we realize that the improvement of publication is still needed. Therefore, comments as well as suggestions are welcomed.

Editors

## SQUALEN BULETIN PASCAPANEN DAN BIOTEKNOLOGI KELAUTAN DAN PERIKANAN (SQUALEN: BULLETIN OF MARINE AND FISHERIES POSTHARVEST AND BIOTECHNOLOGY) Vol. 10 No. 1, May 2015

# CONTENT

	Page
FOREWORD	i
CONTENT	. iii
Mechanical Properties and Biodegradability of Acid-soluble Chitosan-starch Based Film Novalia Rachmawati, Radestya Triwibowo, and Roni Widianto	1-7
Screening of Significant Variables for Sliced Frying Fish Ball Using Plackett–Burman Design Syamdidi and Theresia Dwi Suryaningrum	9-15
Identification and Antimicrobial Activity of Marine <i>Streptomyces</i> from Geographically Different Regions of Indonesia	
Rofiq Sunaryanto and Anis Herliyani Mahsunah	. 17-25
Chemical Composition and Fatty Acid Profile of Some Indonesian Sea Cucumbers Yusro Nuri Fawzya, Hedi Indra Januar, Rini Susilowati, and Ekowati Chasanah	27-34
Capturing Natural Product Biosynthetic Pathways from Uncultivated Symbiotic Bacteria of Marine Sponges Through Metagenome Mining: a Mini-Review Agustinus Robert Uria	35-10
Agustinus Robert Ona	55-43

#### 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 biodiscovery 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 insequence 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 insequence. 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 insequence. 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 authors' names followed by the date of their publication, unless there are three or more authors when only the first authors' name is quoted followed by et al. e. g. Smith et al. (1999) or Jones & Smith (2000). References at the end of the paper should be listed in the alphabetical order. Please ensure that every reference cited within the text is also present in the reference list (and vice versa).
- 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, Conclussion, 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. 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.
- 5. Manuscript which does not meet the above requirements will be rejected.
- 6. Editor provides reprint for the author(s).