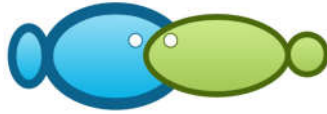


AACL Bioflux, Volume 16(4)

August, 30, 2023



Contents

Herawati T., Kusuma U. P., Zahidah, Herawati H., Nurhayati A., Yustiati A., Ghazali A. B., 2023 Lead (Pb) pollution on the Pangandaran coast, West Java Province, Indonesia. AAAL Bioflux 16(4):1827-1842.

Irfan M., Abdullah N., Subur R., Akbar N., 2023 Application of mesh bags and non-mesh bags using the off-bottom method in seaweed cultivation of *Halymenia sp.* AAAL Bioflux 16(4):1843-1849.

Kristina, Sumantri B., Mulyasari G., 2023 The impacts of Covid-19 on the economy of marine fish traders' households in Bengkulu City, Indonesia. AAAL Bioflux 16(4):1850-1863.

Salim G., Azis, Prasetia A. M., Indarjo A., Rukisah, Meiryani, Lailaturrif'ah, Wulandari E., Jalil A., Fauzi M. A., Toha T., Anggoro S., Ransangan J., Mujiyanto M., 2023 Growth, mortality, and reproductive model of Bombay duck (*Harpodon nehereus*, Hamilton 1822) in Juata Laut waters, North Kalimantan. AAAL Bioflux 16(4):1864-1877.

Nuryadi A. M., Rosmalah S., Muthalib D. A., Hartati, Zarliani W. O. A., Zulkarnain M. I., Rijanto D. A., 2023 A management design for cooperative-based seaweed cultivation business in Southeast Sulawesi Province, Indonesia. AAAL Bioflux 16(4):1878-1886.

Manh H. N., Tram N. D. Q., Ha T. N., Suong T. T. T., Bossier P., 2023 Effects of the replacement of dietary fish oil by soybean oil on growth performance, body composition, and fatty acid profiles of rabbitfish (*Siganus guttatus*) under mono- and polyculture systems. AAAL Bioflux 16(4):1887-1900.

Patty W., Kalangi P. N. I., Laian N., 2023 Application of fish-attracting lights, at surface and underwater, in raft fishing in Manado Bay, North Sulawesi, Indonesia. AAAL Bioflux 16(4):1901-1907.

Hien T. T. T., Tu T. L. C., Duc P. M., La T. S., Eгна H., Phu T. M., 2023 Dietary phosphorus levels affect snakehead (*Channa striata*) fish growth and feed utilisation. AAAL Bioflux 16(4):1908-1916.

Irham, Kadir M. A., Susanto A. N., Harahap Z. A., 2023 Reproduction of Indian mackerel (*Rastrelliger kanagurta*) in North Maluku waters. AAAL Bioflux 16(4):1917-1928.

Badjuka B. Y. M., Hiola T. T., Rokot A., Suleman R., 2023 Risk assessment of blood clams (*Anadara granosa*) consumption in Hulawa Village, Gorontalo Province, Indonesia. AAAL Bioflux 16(4):1929-1939.

Riani I., Bahari B., Budiyanto B., Yusnaini Y., 2023 Improving net returns of whiteleg shrimp (*Litopenaeus vannamei*) farming through the application of optimal stocking density in Kolaka District, Southeast Sulawesi, Indonesia. AAAL Bioflux 16(4):1940-1950.

- Kuts U. S., Hrytsyniak I. I., Kurinenko H. A., Syrovatka D. A., Yaremchuk I. M., Bielikova O. Y., Tretiak O. M., Hryhorenko T. V., 2023 Dynamics of age changes for the biochemical parameters of sperm production in Amur carp (*Cyprinus rubrofasciatus*) of different genes. *AACL Bioflux* 16(4):1951-1962.
- Nafia M., El Achi A., Manchih K., Baali A., Moncef M., 2023 Diet of the leaf scale gulper shark (*Centrophorus squamosus*) in the North Atlantic off Morocco. *AACL Bioflux* 16(4):1963-1973.
- Khasani I., Junaeri A., Ekasanti A., Krettiawan H., Pamungkas W., 2023 Growth performance, survival, and feed efficiency of the giant freshwater prawn (*Macrobrachium rosenbergii*) under various starvation patterns. *AACL Bioflux* 16(4):1974-1984.
- Nasution A. M., Nugraheni R. D., Atmaja N. N., 2023 Traceability schemes and supply chains of tuna fisheries in Indonesian fishing ports: case study of Bitung Ocean Fishing Port and Pondok Dadap Beach Fishing Port, Indonesia. *AACL Bioflux* 16(4):1985-2001.
- Hertati R., Zakaria I. J., Dahelmi D., Novarino W., 2023 Conceptual model of integrated capture fisheries management on conservation area (WKPPT2) in Batang Bungo River, Bungo Regency, Jambi Province, Indonesia. *AACL Bioflux* 16(4):2002-2015.
- Windarto A. B., Rampengan R. M., Pratasik S. B., 2023 The relationship between weight and morphometric size of genus *Margarites* (Mollusca) in Manado coast, North Sulawesi. *AACL Bioflux* 16(4):2016-2024.
- Herawati V. E., Elfitasari T., Windarto S., 2023 Effect of *Curcuma xanthorrhiza* extract added in feed on the growth and body composition of cobia (*Rachycentron canadum*). *AACL Bioflux* 16(4):2025-2038.
- Thamrin, Amrifo V., Mayarni, Raza'i T. S., Rahmadi, Nofrizal, Harahap S. R., 2023 Relationship of the reproductive cycle with the migration of longtail shad (*Tenualosa macrura*) in Bengkalis Riau, Indonesia. *AACL Bioflux* 16(4):2039-2047.
- Syamsuddin M. L., Faiz H. U., Ismail M. R., Harahap S. A., MS Y., Ihsan Y. N., Syamsudin F., Sari Q. W., Aura C. M., 2023 Aquaculture feasibility and suitability of the coastal areas of Karampuang Island, West Sulawesi, Indonesia. *AACL Bioflux* 16(4):2048-2059.
- Pattinaja E. M., Abrahamsz J., Loppies L. R., 2023 A blue economy accounting model for tuna fisher groups in Maluku Province, Indonesia. *AACL Bioflux* 16(4):2060-2071.
- Frananda H., Yulianda F., Boer M., Nurjaya I. W., 2023 Coastal ecology-based management for tsunami mitigation in Padang city, West Sumatera, Indonesia. *AACL Bioflux* 16(4):2072-2080.
- Kolondam B. J., 2023 A brief assessment of NADH dehydrogenase 2 (ND2) gene in tuna fish for species determination through DNA barcoding. *AACL Bioflux* 16(4):2081-2087.
- Ueno-Fukura M., Suarez-Contento L. Y., Aya-Baquero E., Collazos-Lasso L. F., 2023 Embryonic development and performance of *Metynnus orinocensis* larvae reared in systems with biofloc technology. *AACL Bioflux* 16(4):2088-2096.
- Tad-o A. B., Ayanan Jr. D. A., Barangan T. G., Bautista J. C., Gagelonia J. D., Galayugo A. C., Hoggang C. G. B., Kiw-is K. B., Madrid F. G. N., Ramos H. A. R., Tacaca J. O., Tolentino C. R. S., Ziegler J. T., Reyes A. T., 2023 Assessment of fisherfolk profile and their awareness and belief regarding introduced American largemouth bass *Micropterus salmoides* in Pantabangan reservoir. *AACL Bioflux* 16(4):2097-2113.

Lucas-Zambrano G., Trevino-Zambrano L., Velez-Falcones J., Garcia-Bermudez A., Rodriguez-Pesantes D., Freitas L., Lodeiros C., 2023 Suspended culture of the winged oyster *Pteria sterna* (Gould, 1851) in tropical estuary. *AACL Bioflux* 16(4):2114-2123.

Riyanto M., Wiyono E. S., Abdurahman M. I., 2023 Estimation of fishing boats operational waste and its management strategy at Nizam Zachman Ocean Fishing Port. *AACL Bioflux* 16(4):2124-2134.

Purnamawati, Nirmala K., Affandi R., Dewantoro E., Utami D. A. S., 2023 The effect of the addition of banana stem compost to aerated and non-aerated acid sulfate water media on the growth performance of snakehead fish (*Channa striata* Bloch) juveniles. *AACL Bioflux* 16(4):2135-2145.

Ridwanudin A., Anggorowati D. A., Pratama I. S., Sahidhir I., Sujangka A., Suryaningrum L. H., Rohmy S., 2023 Growth performance and immune response of tropical abalone (*Haliotis squamata*) fed various animal protein sources. *AACL Bioflux* 16(4):2146-2155.

Patria M. P., Ningrum E. W., 2023 Microfiber found on anchovy from Kawal market, Bintan Island and Banyuasin market, South Sumatera, Indonesia. *AACL Bioflux* 16(4):2156-2165.

Pamungkas W., Darmawan J., Khasani I., 2023 The effect of different diets on the quality of sperm in striped catfish (*Pangasianodon hypophthalmus*). *AACL Bioflux* 16(4):2166-2173.

Herawati E. Y., Valina R., Dini C. F. A., Cahyani V., Handayani M. P., Khasanah R. I., Wiratno E. N., Samuel P. D., 2023 Eutrophication and distribution of dinoflagellates as an indicator of water quality in the Probolinggo coast, East Java, Indonesia. *AACL Bioflux* 16(4):2174-2184.

Quyen N. T. K, Hien H. V., Nhan T. Q., 2023 Determinants behind farmer's participation in collective economic organizations in Vietnam: A study of small-scale shrimp farms. *AACL Bioflux* 16(4):2185-2196.

Sukendi, Thamrin, Putra R. M., Nuraini, Khofifah, 2023 The use of Jamaican cherry leaves solution to remove eggs adhesiveness in the production of Asian redbtail catfish fry (*Hemibagrus nemurus* Valenciennes, 1840). *AACL Bioflux* 16(4):2197-2206.

Pello J., Bunga G. A., 2023 Makan Meting activities by the people of Rote Ndao as an environmental crime. *AACL Bioflux* 16(4):2207-2216.

Marnis H., Syahputra K., Iswanto B., 2023 Single nucleotide polymorphism (SNPs) variation in the immunoglobulin M heavy chain gene of African catfish (*Clarias gariepinus*) strains in Indonesia. *AACL Bioflux* 16(4):2217-2230.

Harahap S. R., Sukendi, Siregar Y. I., Nofrizal, Aramiko R., Syafriansyah, 2023 Assessment of pollution status and spatial-temporal distribution of physico-chemical parameters using the STORET index and GIS methods in Lake Laut Tawar, Aceh, Indonesia. *AACL Bioflux* 16(4):2231-2251.

Kusnanda A. J., Dharma A., Armaini, Syafrizayanti, Chaidir Z., Pardi H., 2023 Antioxidant and α -glucosidase inhibitor activity characterization of bioactive components from *Parachlorella kessleri* AUP5. *AACL Bioflux* 16(4):2252-2263.

Sipahutar A. N., Rifardi, 2023 Effect of sediment accumulation rate on coral cover in the waters of Setan Island, West Sumatra, Indonesia. *AACL Bioflux* 16(4):2264-2275.

Permadi S., Takarina N. D., Prihantini N. B., 2023 Arthrospira as a potential raw material for functional food development in Indonesia. AACL Bioflux 16(4):2276-2288.

Setiaji J., Johan T. I., Heriyanto, Kuswari P. M., Syaputra T., 2023 Antibacterial potential of bacteria isolates from *Hypostomus plecostomus* fish intestine against fish pathogens. AACL Bioflux 16(4):2289-2298.

Tu N. P. C., Ha N. N., Huong N. T., Dong N. V., Quy O. M., Kha N. H. N., 2023 Concentrations of macro and trace minerals in giant tiger prawn, *Penaeus monodon* (Fabricius, 1798), from three different farming systems in southwestern Viet Nam. AACL Bioflux 16(4):2299-2312.

Adriman, Prianto E., Jhonnerie R., El Fajri N., 2023 Sustainability status of mangrove ecosystem management in Sungai Apit Subdistrict, Siak Regency, Indonesia. AACL Bioflux 16(4):2313-2330.

Herawati V. E., Elfitasari T., Darmanto Y. S., Windarto S., 2023 Effect of Nereis virens fermented meal as a fish meal substitute in *Litopenaeus vannamei* juvenile feed on growth performance and nutritional quality. AACL Bioflux 16(4):2331-2342.

Gushchin V., Polishchuk O., 2023 Comparison of the survival rate of largemouth bass (*Micropterus salmoides*) fingerlings during the winter period in ponds and a wintering complex in the northern part of Ukraine. AACL Bioflux 16(4):2343-2348.

Anwar I. P., Putri M. R., Setiawan A., Tarya A., Mandang I., Nurfitri S., Tatipatta W. M., 2023 Detecting chlorophyll-a concentration and bloom patterns in the coastal area around Indonesia's new capital city (Nusantara) using ocean color reanalysis data. AACL Bioflux 16(4):2349-2368.

Maksum K., Firtri A. D. P., Sasmita S., 2023 Estimation and causes of marine debris of gillnet fishing equipment components in the northern sea of Central Java, Indonesia. AACL Bioflux 16(4):2369-2379.

Nugroho E. D., Ardiansyah R., Kurniawan N., Widodo, Rahayu D. A., Sururi A. M., 2023 An in-silico study on the chemical compounds from *Macrobrachium longipedia* as antiviral compounds against covid-19. AACL Bioflux 16(4):2380-2390.

Nurafifah I., Hardianto M. A., Erfianti T., Amelia R., Kurnianto D., Suyono E. A., 2023 The effect of acidic pH on chlorophyll, carotenoids, and carotenoid derivatives of *Euglena sp.* as antioxidants. AACL Bioflux 16(4):2391-2401.

Sahami F. M., Hamzah S. N., Habibie S. A., 2023 Length-weight relationship of nine species of the Nike fish school (post-larva Gobioidae) in Gorontalo Bay waters, Indonesia. AACL Bioflux 16(4):2402-2408.

**International Standard Serial Number
Online ISSN 1844–9166; Print ISSN 1844-8143**

Published by Bioflux – six issues per year (bimonthly); in cooperation with The Natural Sciences Museum Complex (Constanta, Romania)

The journal includes original papers, short communications, and reviews on Aquaculture (Biology, Technology, Economics, Marketing), Fish Genetics and Improvement, Aquarium Sciences, Fisheries, Ichthyology, Aquatic Ecology, Conservation of Aquatic Resources and Legislation (in connection with aquatic issues) from wide world.

Editor-in-Chief

Petrescu-Mag I. Valentin: USAMV Cluj, Cluj-Napoca, University of Oradea (Romania)
Gavriloaie Ionel-Claudiu (alternate): SC Bioflux SRL, Cluj-Napoca (Romania).

Editors

Abdel-Rahim Mohamed M.: National Institute of Oceanography and Fisheries, Alexandria (Egypt)
Adascalitei Oana: Maritime University of Constanta, Constanta (Romania)
Amira Aicha Beya: Badji Mokhtar Annaba University, Annaba (Algeria)
Ansori Arif Nur Muhammad: Uttaranchal University, Dehradun (India)
Arockiaraj A. Jesu: SRM University, Chennai (India)
Appelbaum Samuel: Ben-Gurion University of the Negev (Israel)
Baharuddin Nursalwa: Universiti Malaysia Terengganu, Terengganu (Malaysia)
Balint Claudia: USAMV Cluj, Cluj-Napoca (Romania)
Boaru Anca: USAMV Cluj, Cluj-Napoca (Romania)
Bora Florin D.: USAMV Cluj, Cluj-Napoca (Romania)
Breden Felix: Simon Fraser University (Canada)
Burny Philippe: Universite de Liege, Gembloux (Belgium)
Caipang Cristopher M.A.: Temasek Polytechnic (Singapore)
Chapman Frank: University of Florida, Gainesville (USA)
Creanga Steofil: USAMV Iasi, Iasi (Romania)
Cristea Victor: Dunarea de Jos University of Galati, Galati (Romania)
Das Simon Kumar: Universiti Kebangsaan Malaysia, Bangi, Selangor (Malaysia)
Dimaggio Matthew A.: University of Florida (USA)
Georgescu Bogdan: USAMV Cluj, Cluj-Napoca (Romania)
Ionescu Tudor: University of Oradea, Oradea (Romania)
Karayucel Ismihan: University of Sinop, Sinop (Turkey)
Khamesipour Faham: Shiraz University, Shiraz (Iran)
Kosco Jan: Presov University, Presov (Slovakia)
Kovacs Eniko: USAMV Cluj, Cluj-Napoca (Romania)
Kucska Balázs: Hungarian University of Agriculture and Life Sciences, Kaposvár (Hungary)
Mehrad Bahar: Gorgan University of Agricultural Sciences and Nat. Res. (Iran)
Miclaus Viorel: USAMV Cluj, Cluj-Napoca (Romania)
Molnar Kalman: Hungarian Academy of Sciences, Budapest (Hungary)
Mousavi-Sabet Hamed: University of Guilan, Someh Sara, Guilan (Iran)
Muchlisin Zainal Abidin: Universiti Sains (Malaysia), Syiah Kuala University (Indonesia)
Muntean George Catalin: USAMV Cluj, Cluj-Napoca (Romania)
Nowak Michal: University of Agriculture in Krakow (Poland)
Nyanti Lee: Universiti Malaysia Sarawak, Sarawak (Malaysia)
Odagiu Antonia: USAMV Cluj, Cluj-Napoca (Romania); BENA, Thessaloniki (Greece)
Olivotto Ike: Universita Politecnica delle Marche, Ancona (Italy)
Oroian Firuta Camelia: USAMV Cluj, Cluj-Napoca (Romania)
Papuc Tudor: USAMV Cluj, Cluj-Napoca (Romania)
Parvulescu Lucian: West University of Timisoara (Romania)
Pasarin Benone: USAMV Iasi, Iasi (Romania)
Pattikawa Jesaja Ajub: Pattimura University, Ambon (Indonesia)
Petrescu Dacinia Crina: Babes-Bolyai University, Cluj-Napoca (Romania), Universite de Liege, Gembloux (Belgium)
Petrescu-Mag Ruxandra Malina: Babes-Bolyai University, Cluj-Napoca (Romania), Universite de Liege, Gembloux (Belgium)
Petrovici Milca: West University of Timisoara (Romania)
Pratasik Silvester Benny: Sam Ratulangi University, Manado (Indonesia)
Proorocu Marian: USAMV Cluj, Cluj-Napoca (Romania)
Putri A. R. Sahni: Hasanuddin University, Makassar (Indonesia)
Ray Sunuram: Khulna University (Bangladesh)
Rhyne Andrew: Roger Williams University; New England Aquarium, Boston (USA)
Ruchin Alexander B.: Joint Directorate of the Mordovia State Nature Reserve and National Park «Smolny», Saransk (Russia)
Safirescu Calin: USAMV Cluj, Cluj-Napoca (Romania)
Sándor Zsuzsanna J.: National Agriculture Research and Innovation Center, Gödöllő (Hungary)
Serrano Jr. Augusto E.: University of the Philippines Visayas (Philippines)

Sima Nicusor-Flavius: USAMV Cluj, Cluj-Napoca (Romania); BENA, Thessaloniki (Greece)
Tlusty Michael F.: New England Aquarium, Boston (USA)
Vesa Stefan Cristian: Iuliu Hatieganu UMF, Cluj-Napoca (Romania)
Vintila Iuliana: Dunarea de Jos University of Galati, Galati (Romania)
Wariaghli Fatima: University Mohammed V in Rabat, Rabat (Morocco)
Yusli Wardiatno: Bogor Agricultural University, Bogor (Indonesia).

Contact Publisher

SC Bioflux SRL, 54 Ceahlău Street, Cluj-Napoca, 400488, Romania, European Union.

Ioan Valentin Petrescu-Mag, e-mail: zoobiomag2004@yahoo.com

Note that there is also an electronic version of the journal. You may download the fulltext version of AACL Bioflux – Volume 16/2023 from <http://www.bioflux.com.ro/aac/> – open access.

All articles included in AACL Bioflux are peer reviewed (double blind peer-review is used). Each published article was seen before by two reviewers; the two peer-reviews are made independently.

AACL Bioflux has a publishing agreement, or is indexed, abstracted or full text reproduced by/in the following scholar/scientific databases, search engines, libraries, publishers:

ISI Web of Science – via CABI and Zoological Record
Zoological Record (direct submission/coverage)
Scopus - Elsevier; Sciverse
Scimago - Journal Rank
CAB International - CAB Abstracts
ProQuest
China Educational Publications Import & Export Corporation - SOCOLAR
Ulrich's Periodicals Directory
CAB Direct (as part of CABI)
Wolters Kluwer - Ovid LinkSolver
Polish Ministry of Science and Higher Education – 2.00 pts/article
The National Science Digital Library - NSDL
The University of Hong Kong Libraries – HKUL Database
Deutsche Nationalbibliothek - ZDB Database
State Library of Ohio - OhioLINK Database
Smithsonian Institution Libraries
Biblioteka Główna Uniwersytetu Medycznego w Poznaniu
Google Scholar, Academic
Athabasca University - ICAAP Database
University of Southampton - ROAR
Georgetown University Library - NewJour
Università degli Studi di Modena e Reggio Emilia – SBA, Risorse Elettroniche
Simon Fraser University - PKP
University of Tsukuba - Tulips Database
Teikyo Scientific University- NTU Database
LIS Links: Link Library of Open Access English Language Journals
Fayetteville State University - Charles W. Chesnutt Library
Vrije Universiteit Brussel - VUB e-journal list
Russian CJDB
Universitat Giessen - Digitale Bibliothek
Pace University Library
Tel Aviv University. Gitter-Smolarz Library of Life Sciences and Medicine
MALMAD – Israel Center for Digital Information Services
California State University – Monterey Bay Library
Réseau des Bibliothèques de l'Université Joseph Fourier et de l'Institut National Polytechnique de Grenoble
University of Saskatchewan – University Library (Electronic Journals)
YanXue Resource – YXRES
Feng Chia University – Electronic Library
Main Library of the University of Agriculture in Krakow
SUMMON Database
uOttawa Library
Università di Roma Tor Vergata - Digital Library
UTC Lupton Library
University of Notre Dame - Hesburgh Libraries
Guilford College - Hege Library
Eastern Michigan University Library - Periodicals locator
Universiteitsbibliotheek Gent - Tijdschriften
Chung Yuan Christian University Library
ArgosBiotech
Ecole Polytechnique Federale de Lausanne - Library
Rowan University – Library Services
James Cook University Library – Australia
Ministerstwo Nauki i Szkolnictwa Wyższego Warszawa
Kun Shan University Library



CCG-IBT Biblioteca
Reference Zone – Nigeria
Dayang Journal System
Riley-Hickingbotham Library
Politechnika Wroclawska
Universite Paris Diderot – Revues Electroniques
ERSA – Chinese Library.

Our collaborators



SciVerse Scopus is the world's largest abstract and citation database of peer-reviewed literature and quality web sources. Contains 41 million records, 70% with abstracts; Nearly 18,000 titles from 5,000 publishers worldwide; 70% of content is pulled from international sources; Includes over 3 million conference papers; Provides 100% Medline coverage; Offers sophisticated tools to track, analyze and visualize research.

Socolar

The free scholastic search engine is established by China Educational Publications Import and Export Corporation (CEPIEC). Under the leadership of China Ministry of Education, CEPIEC is the only company dealing with publication ex-
im business in the education field. CEPIEC has been serving colleges and universities, research institutions and public libraries in China for more than 20 years, providing them with excellent academic resources from all over the world.
Contact: No 41 Zhong Guan Cun Street, Haidian District, Beijing, P.R.China 100080.
Tel: +86 (0)10 6251 4068;
e-mail: li_yanxia@cepiec.com.cn
Fax: +86 (0)10 6251 4068 www.cepiec.com.cn



CABI is a not-for-profit international organization that improves people's lives by providing information and applying scientific expertise to solve problems in agriculture and the environment. Their mission and direction is influenced by their member countries who help guide the activities they undertake. These include scientific publishing, development projects and research, and microbial services. 2010 marked 100 years of CABI. Since its beginnings as an entomological committee in 1910, it then developed into a Commonwealth organization before becoming a truly international service in agricultural information, pest identification and biological control in the mid 1980s.

Zoological Record (part of Biosis)

ION contains the organism names related data gathered from the scientific literature for Thomson Reuters' *Zoological Record*® database. Viruses, bacteria and plant names will be added from other Thomson Reuters databases such as *BIOSIS Previews*® and *Biological Abstracts*®



THOMSON REUTERS

Index to Organism Names (ION)



ELSEVIER PRODUCTS

Elsevier B.V., Bibliographic Databases, Radarweg 29, 1043 NX Amsterdam, The Netherlands.



