

ISSN: 1412-033X  
E-ISSN: 2085-4722

# BIODIVERSITAS

**Journal of Biological Diversity**

Volume 23 - Number 6 - June 2022



*Front cover: Chelonia mydas* (Linnaeus, 1758)  
(PHOTO: BRIAN COLE)

---

Published monthly

PRINTED IN INDONESIA

ISSN: 1412-033X

E-ISSN: 2085-4722





# BIODIVERSITAS

Journal of Biological Diversity  
Volume 23 – Number 6 – June 2022

ISSN/E-ISSN:

1412-033X (printed edition), 2085-4722 (electronic)

## EDITORIAL BOARD:

**Abdel Fattah N.A. Rabou** (Palestine), **Agnieszka B. Najda** (Poland), **Ajay Kumar Gautam** (India), **Alan J. Lymbery** (Australia), **Annisa** (Indonesia), **Bambang H. Saharjo** (Indonesia), **Daiane H. Nunes** (Brazil), **Darlina Md. Naim** (Malaysia), **Ghulam Hassan Dar** (India), **Hassan Pourbabaie** (Iran), **Joko R. Witono** (Indonesia), **Kartika Dewi** (Indonesia), **Katsuhiko Kondo** (Japan), **Kusumadewi Sri Yulita** (Indonesia), **Livia Wanntorp** (Sweden), **M. Jayakara Bhandary** (India), **Mahdi Reyahi-Khoram** (Iran), **Mahendra K. Rai** (India), **Mahesh K. Adhikari** (Nepal), **Maria Panitsa** (Greece), **Mochamad A. Soendjoto** (Indonesia), **Mohamed M.M. Najim** (Srilanka), **Mohib Shah** (Pakistan), **Nurhasanah** (Indonesia), **Praptiwi** (Indonesia), **Rasool B. Tareen** (Pakistan), **Seyed Aliakbar Hedayati** (Iran), **Seyed Mehdi Talebi** (Iran), **Shahabuddin** (Indonesia), **Shahir Shamsir** (Malaysia), **Shri Kant Tripathi** (India), **Subhash C. Santra** (India), **Sugeng Budiharta** (Indonesia), **Sugiyarto** (Indonesia), **Taufiq Purna Nugraha** (Indonesia), **Yosep S. Mau** (Indonesia)

## EDITOR-IN-CHIEF:

S u t a r n o

## EDITORIAL MEMBERS:

English Editors: **Graham Eagleton** (grahameagleton@gmail.com), **Suranto** (surantouns@gmail.com); Technical Editor: **Solichatun** (solichatun\_s@yahoo.com), **Artini Pangastuti** (pangastuti\_tutut@yahoo.co.id); Distribution & Marketing: **Rita Rakhmawati** (oktia@yahoo.com); Webmaster: **Ari Pitoyo** (aripitoyo@yahoo.com)

## MANAGING EDITORS:

**Ahmad Dwi Setyawan** (unsjournals@gmail.com)

## PUBLISHER:

The Society for Indonesian Biodiversity

## CO-PUBLISHER:

Department of Biology, Faculty of Mathematics and Natural Sciences, Sebelas Maret University, Surakarta

## ADDRESS:

Jl. Ir. Sutami 36A Surakarta 57126. Tel. +62-271-7994097, Tel. & Fax.: +62-271-663375, email: editors@smujo.id

## ONLINE:

biodiversitas.mipa.uns.ac.id; smujo.id/biodiv



Society for Indonesia  
Biodiversity



Sebelas Maret University  
Surakarta

## GUIDANCE FOR AUTHORS

**Aims and Scope** *Biodiversitas*, *Journal of Biological Diversity* or *Biodiversitas* encourages submission of manuscripts dealing with all aspects of biodiversity including plants, animals and microbes at the level of the gene, species, and ecosystem. Ethnobiology papers are also considered.

**Article types** The journal seeks original full-length: (1) **Research papers**, (2) **Reviews**, and (3) **Short communications**. Original research manuscripts are limited to 8,000 words (including tables and picture), or proportional with articles in this publication number. Review articles are also limited to 8,000 words, while Short communications should be less than 2,000 words, except for pre-study.

**Submission** The journal only accepts online submission, through open journal system (<https://smujo.id/biodiv/about/submissions>) or email to the editors at [unsjournals@gmail.com](mailto:unsjournals@gmail.com). Submitted manuscripts should be the original works of the author(s). Please ensure that the manuscript is submitted using the *Biodiversitas* template, which can be found at (<https://biodiversitas.mipa.uns.ac.id/D/guidance.htm>). The manuscript must be accompanied by a cover letter containing the article title, the first name and last name of all the authors, a paragraph describing the claimed novelty of the findings versus current knowledge. Please also provide a list of five potential reviewers in your cover letter. Submission of a manuscript implies that the submitted work has not been published before (except as part of a thesis or report, or abstract); and is not being considered for publication elsewhere. When a manuscript written by a group, all authors should read and approve the final version of the submitted manuscript and its revision; and agree the submission of manuscripts for this journal. All authors should have made substantial contributions to the concept and design of the research, acquisition of the data and its analysis; drafting of the manuscript and correcting of the revision. All authors must be responsible for the quality, accuracy, and ethics of the work.

**Ethics** Author(s) must obedient to the law and/or ethics in treating the object of research and pay attention to the legality of material sources and intellectual property rights.

**Copyright** If the manuscript is accepted for publication, the author(s) still hold the copyright and retain publishing rights without restrictions. Authors are allowed to reproduce articles as long as they are not used for commercial purposes. For the new invention, authors are suggested to manage its patent before published.

**Open access** The journal is committed to free-open access that does not charge readers or their institutions for access. Readers are entitled to read, download, copy, distribute, print, search, or link to the full texts of articles, as long as not for commercial purposes. The license type is CC-BY-NC-SA.

**Acceptance** Only articles written in U.S. English are accepted for publication. Manuscripts will be reviewed by editors and invited reviewers (double blind review) according to their disciplines. Authors will generally be notified of acceptance, rejection, or need for revision within 1 to 2 months of receipt. Manuscripts will be rejected if the content does not in line with the journal scope, does not meet the standard quality, is in an inappropriate format, contains complicated grammar, dishonesty (i.e. plagiarism, duplicate publications, fabrication of data, citations manipulation, etc.), or ignoring correspondence in three months. The primary criteria for publication are scientific quality and biological significance. **Uncorrected proofs** will be sent to the corresponding author by email as .doc or .docx files for checking and correcting of typographical errors. To avoid delay in publication, corrected proofs should be returned in 7 days. The accepted papers will be published online in a chronological order at any time, but printed in January, April, July and October.

**A charge** Starting on January 1, 2017, publishing costs waiver is granted to foreign (non-Indonesian) authors who first publish the manuscript in this journal, especially for graduate students from developing countries. However, other authors are charged USD 250 (IDR 3,500,000).

**Reprints** The sample journal reprint is only available by special request. Additional copies may be purchased when ordering by sending back the uncorrected proofs by email. Manuscript preparation Manuscript is typed on A4 (210x297 mm<sup>2</sup>) paper size, in a single column, single space, 10-point (10 pt) Times New Roman font. The margin text is 3 cm from the top, 2 cm from the bottom, and 1.8 cm from the left and right. Smaller lettering size can be applied in presenting table and figure (9 pt). Word processing program or additional software can be used, however, it must be PC compatible, use the *Biodiversitas* template, and Microsoft Word based (.doc or .rtf; not .docx). **Scientific names** of species (incl. subspecies, variety, etc.) should be written in italics, except in italicised sentences. Scientific names (Genus, species, author), and cultivar or strain should be mentioned completely for the first time mentioning it in the body text, especially for taxonomic manuscripts. The Genus name can be shortened after first mention, except where this may generate confusion. Name of the author can be eliminated after first mentioning. For example, *Rhizopus oryzae* L. UICC 524, hereinafter can be written as *R. oryzae* UICC 524. Using trivial names should be avoided. **Biochemical and chemical nomenclature** should follow the order of the IUPAC - IUB. For DNA sequence, it is better used Courier New font. Standard chemical abbreviations can be applied for common and clear used, for example, completely written butilic hydroxyl toluene (BHT) to be BHT hereinafter. **Metric measurements** should use IS denominations, and other system should use equivalent values with the denomination of IS mentioned first. Abbreviations like g, mg, mL, etc. should not be followed by a dot.

Minus index (m-2, L-1, h-1) suggested to be used, except in things like "per-plant" or "per-plot". **Mathematical equations** can be written down in one column with text, in that case can be written separately. **Numbers** one to ten are written in words, except if it relates to measurement, while values above them written in number, except in early sentence. The fraction should be expressed in decimal. In the text, it should be used "%" rather than "percent". Avoid expressing ideas with complicated sentence and verbiage, and used efficient and effective sentence.

The **Title** of the article should be written in compact, clear, and informative sentence, preferably not more than 20 words. Author name(s) should be completely written. Name and institution address should also be completely written with street name and number (location), postal code, telephone number, facsimile number, and email address. Manuscripts written by a group, author for correspondence along with address is required. First page of the manuscript is used for writing above information.

The **Abstract** should not be more than 200 words. Include between five and eight **Keywords**, using both scientific and local names (if any), research themes, and special methods which used; and sorted from A to Z. All important **abbreviations** must be defined at their first mention. Running title is about five words. The **Introduction** is about 400-600 words, covering the background and aims of the research. **Materials and Methods** should emphasize on the procedures and data analysis. **Results and Discussion** should be written as a series of connecting sentences, however, for manuscript with long discussion should be divided into subtitles. Thorough discussion represents the causal effect mainly explains for why and how the results of the research were taken place, and do not only re-express the mentioned results in the form of sentences. A **Conclusion** should be given at the end of the discussion. **Acknowledgments** are expressed in brief; all sources of institutional, private and corporate financial support for the work must be fully acknowledged, and any potential conflicts of interest must be noted.

**Figures and Tables** of three pages maximum should be clearly presented. Include a label below each figure, and a label above each table (see example). Colored figures can only be accepted if the information in the manuscript can lose without those images; chart is preferred to use black and white images. Author could consign any picture or photo for the front cover, although it does not print in the manuscript. All images property of others should be mentioned source. There is no **Appendix**, all data or data analysis are incorporated into Results and Discussions. For broad data, supplementary information can be provided on the website.

**References** In the text give the author names followed by the year of publication and arrange from oldest to newest and from A to Z. In citing an article written by two authors, both of them should be mentioned, however, for three and more authors only the first author is mentioned followed by et al., for example: Saharjo and Nurhayati (2006) or (Boonkerd 2003a, b, c; Sugiyarto 2004; El-Bana and Nijs 2005; Balagadde et al. 2008; Webb et al. 2008). Extent citation as shown with word "cit" should be avoided. Reference to unpublished data and personal communication should not appear in the list but should be cited in the text only (e.g., Rifai MA 2007, pers. com. (personal communication); Setyawan AD 2007, unpublished data). In the reference list, the references should be listed in an alphabetical order. Names of journals should be abbreviated. Always use the standard abbreviation of a journal's name according to the **ISSN List of Title Word Abbreviations** ([www.issn.org/2-22661-LTWA-online.php](http://www.issn.org/2-22661-LTWA-online.php)). Please include DOI links for journal papers. The following examples are for guidance.

### Journal:

Saharjo BH, Nurhayati AD. 2006. Domination and composition structure change at hemic peat natural regeneration following burning; a case study in Pelalawan, Riau Province. *Biodiversitas* 7: 154-158. DOI: 10.13057/biodiv/d070213

### Book:

Rai MK, Carpinella C. 2006. Naturally Occurring Bioactive Compounds. Elsevier, Amsterdam.

### Chapter in book:

Webb CO, Cannon CH, Davies SJ. 2008. Ecological organization, biogeography, and the phylogenetic structure of rainforest tree communities. In: Carson W, Schnitzer S (eds) *Tropical Forest Community Ecology*. Wiley-Blackwell, New York.

### Abstract:

Assaeed AM. 2007. Seed production and dispersal of *Rhazya stricta*. 50th annual symposium of the International Association for Vegetation Science, Swansea, UK, 23-27 July 2007.

### Proceeding:

Alikodra HS. 2000. Biodiversity for development of local autonomous government. In: Setyawan AD, Sutarno (eds.) *Toward Mount Lawu National Park; Proceeding of National Seminary and Workshop on Biodiversity Conservation to Protect and Save Germplasm in Java Island*. Universitas Sebelas Maret, Surakarta, 17-20 July 2000. [Indonesian]

### Thesis, Dissertation:

Sugiyarto. 2004. Soil Macro-invertebrates Diversity and Inter-Cropping Plants Productivity in Agroforestry System based on Sengon. [Dissertation]. Universitas Brawijaya, Malang. [Indonesian]

**Information from internet:** Balagadde FK, Song H, Ozaki J, Collins CH, Barnett M, Arnold FH, Quake SR, You L. 2008. A synthetic *Escherichia coli* predator-prey ecosystem. *Mol Syst Biol* 4:187. [www.molecularsystembiology.com](http://www.molecularsystembiology.com)

# BIODIVERSITAS

Journal of Biological Diversity  
Volume 23 - Number 6 - June 2022

---

- Short Communication: Foraging habitat characterization of green sea turtles, *Chelonia mydas*, in the Cenderawasih Bay, Papua, Indonesia: Insights from satellite tag tracking and seagrass survey** 2783-2789  
RICARDO F. TAPILATU, HENGKI WONA, BENYAMIN MOFU, DUAIT KOLIBONGSO, NUR ALZAIR, MARK ERDMANN, BRAM MARUANAYA
- Diversity of bird species in Pangheotan grassland and Mount Masigit Kareumbi Hunting Park, West Java, Indonesia** 2790-2798  
SUSANTI WITHANINGSIH, PARIKESIT, RAKHA
- The diversity of Carangidae (Carangiformes) was revealed by DNA barcoding collected from the traditional fish markets in Java and Bali, Indonesia** 2799-2806  
SAPTO ANDRIYONO, MD. JOB AIDUL ALAM, LAKSMI SULMARTIWI, A. SHOFY MUBARAK, HERU PRAMONO, SUCIYONO, GDE RAKA ANGGA KARTIKA, ALFI HERMAWATI, WASKITA SARI, SINAR PAGI SEKTIANA
- Screening, isolation, and characterization of amylase-producing bacteria from Poring hot spring Sabah, Malaysia** 2807-2815  
BAK ZAIBAH FAZAL, CAHYO BUDIMAN, ZARINA AMIN, CLEMENTE MICHAEL WONG VUI LING
- Natural distribution of the genus *Dacrydium* Lamb. (Podocarpaceae) in Central Kalimantan, Indonesia** 2816-2822  
SITI MAIMUNAH, PAUL J.A. KESSLER, SAPTO INDRIOKO, MUHAMMAD NAIEM
- Multidrug-resistant *Salmonella* species from chicken meat sold at Surabaya Traditional Markets, Indonesia** 2823-2829  
FARAH FANISSA, MUSTOFA HELMI EFFENDI, WIWIEK TYASNINGSIH, EMMANUEL NNABUIKE UGBO
- Carbon storage potential of *Eucalyptus urophylla* at several density levels and forest management types in dry land ecosystems** 2830-2837  
LUSIA SULO MARIMPAN, RIS HADI PURWANTO, WAHYU WARDHANA, SUMARDI
- Bacterial vaginosis pattern and antibiotic susceptibility testing in female patients using high vaginal swabs** 2838-2844  
ISRAA ABDUL AMEER AL-KRAETY, SDDIQ GHANI AL-MUHANNA, SHAIMA RABEA BANOON, ABDOLMAJID GHASEMIAN
- Mangrove species of Mantehage Island, Bunaken National Park, North Sulawesi, Indonesia** 2845-2852  
RIGNOLDA DJAMALUDDIN, BRAMA DJABAR
- Profile of Multidrug Resistance and Methicillin-Resistant *Staphylococcus aureus* (MRSA) on dairy cows and risk factors from farmer** 2853-2858  
ASWIN RAFIF KHAIRULLAH, SRI AGUS SUDJARWO, MUSTOFA HELMI EFFENDI, SANCAKA CASHYER RAMANDINIANTO, MARIA AEGA GELOLODO, AGUS WIDODO, KATTY HENDRIANA PRISCILIA RIWU, DYAH AYU KURNIAWATI, SAIFUR REHMAN
- Short Communication: Effectiveness of cinnamon leaf extract to control anthracnose disease on large chilies in Bali, Indonesia** 2859-2864  
ANAK AGUNG KETUT DARMADI, NI LUH SURIANI, I KETUT GINANTRA, SANG KETUT SUDIRGA
- Short Communication: Metabolites of *Albizia* inhibit in vitro growth of phosphate solubilizing microbial consortia isolated from tea garden soil of Darjeeling hills, India** 2865-2870  
SUMEDHA SAHA, ARINDAM GHOSH, SUKANYA ACHARYYA, MALAY BHATTACHARYA

<b>Stable isotope analysis to assess the trophic level of arthropod in sugarcane ratoon agroecosystem</b> HERI PRABOWO, BAMBANG TRI RAHARDJO, GATOT MUDJIONO, AKHMAD RIZALI	2871-2881
<b>Early field growth performance of ten selected bamboo taxa: The case study of Sabal bamboo pilot project in Sarawak, Malaysia</b> NURUL HUSNA MOHD HASSAN, NIZAM ABDULLAH, DAYANG NORZIEYANA AWANG KELANA, MUGUNTHAN PERUMAL	2882-2892
<b>Profiling the natural settlement habitat of spiny lobster, <i>Panulirus</i> spp. to determine potential diets and rearing conditions in a lobster hatchery</b> MUHAMAD AMIN, LEDHYANE IKA HARLYAN, KHAMSIAH ACHMAD, RARA DIANTARI	2893-2898
<b>A comparative study among dairy goat breeds in Lumajang and Malang, East Java-based on milk organoleptic and milk composition</b> MIRA FATMAWATI, LUCIA TRI SUWANTI, MUFASIRIN, WORO HAMBARRUKMI, LUCIA ENDAH SUKESI, ROFIAH, ENDRA NOVIANTO, BINAR KINASIH WAHYUTYAS	2899-2903
<b>Phytochemical test and optimization of transdermal patches of <i>Carica papaya</i> extract: Formulation design of candidate drug for wound healing</b> TAHARA DILLA SANTI, TONGKU NIZWAN SIREGAR, AMALIA SUTRIANA, RITA ANDINI, ADITYA CANDRA	2904-2913
<b>High impact of <i>Clerodendrum paniculatum</i> leaf extract to suppress zucchini yellow mosaic virus infection in zucchini plants</b> NI PUTU PANDAWANI, LISTIHANI LISTIHANI, I KETUT WIDNYANA, PUTU EKA PASMIDI ARIATI, DEWA GEDE WIRYANGGA SELANGGA	2914-2919
<b>Comparative foliar morphological and palynological studies of Cleomaceae of Assam, India</b> BARNALI DAS, SHILPA ROY, SUSHMITA KALITA, KRISHNA KUMAR BORO, MADHUSHMITA NATH, NAMITA NATH	2920-2934
<b>New distribution record of <i>Varuna litterata</i> (Fabricius, ) from Caraga Region, Philippines: Analysis on morphometry, length/width-weight relationship, and condition factor</b> JESS H. JUMAWAN JECO JED J. RUALES, MARIA CRISTINA A. AVILA	2935-2942
<b>Genetic diversity based on SSR markers of 30 <i>Aeridinae</i> sub-tribe orchid genetic resources of Indonesian Ornamental Crop Research Institute, Cianjur, Indonesia</b> MEGA WEGADARA, MINANGSARI DEWANTI, ERNIAWATI DININGSIH, FITRI RACHMAWATI, DEWI SUKMA, SUDARSONO SUDARSONO ,	2943-2956
<b>Antimicrobial activity of actinomycetes isolated from mangrove soil in Tuban, Indonesia</b> FATIMAH, FATICHATUS SUROIYAH, NIKMATUS SOLIKHA, NAZIL DWI RAHAYUNINGTYAS, TINI SURTININGSIH, TRI NURHARIYATI, NI'MATUZHAROH, MOCH. AFFANDI, ALMANDO GERALDI, AHMAD THONTOWI	2957-2965
<b>The abundance of arthropods and natural enemies on two growth phases of hybrid corn, Solok District, Indonesia</b> DINI HERVANI, SILVIA PERMATA SARI	2966-2972
<b>Selection of tomato breeding lines based on morphological traits associated with high yield potential in double-cross population</b> WITRI NUR ANISA, ENIK NURLAILI AFIFAH, RUDI HARI MURTI	2973-2980
<b>Diversity and antibacterial activity of endophytic fungi isolated from the medicinal plant of <i>Syzygium jambos</i></b> KURRATUL 'AINI, ELFITA, HARY WIDJAJANTI, ARUM SETIAWAN	2981-2989
<b>Herpetofauna distribution in different land cover types of West Java, Indonesia</b> ERRI NOVIAR MEGANTARA, JIRJIZ JAUHAN, SYA SYA SHANIDA, TEGUH HUSODO, DERRI ACHMAD FAUZI, RANDI HENDRAWAN, INDRI WULANDARI, YUANSAH	2990-2999
<b>Land cover change impact analysis: an integration of remote sensing, GIS and DPSIR framework to deal with degraded land in Lapan Watershed, North Sumatra, Indonesia</b> RAHMAWATY, ABDUL RAUF, MOEHAR MARAGHIY HARAHAP, HARRY KURNIWAN	3000-3011

<b>Assessing soil properties in various agroforestry lands in Kuningan District, West Java, Indonesia using Visual Evaluation of Soil Structure (VESS)</b> TEGUH JATI PURNAMA NURHENI WIJAYANTO, BASUKI WASIS	3012-3021
<b>Range of host plants, spatial distribution, and insect predator of <i>Phenacoccus manihoti</i> (Hemiptera: Pseudococcidae) as an emerging pest of cassava plants in Bali, Indonesia</b> I WAYAN SUPARTHA, DWI WIDANINGSIH, I WAYAN SUSILA, I KADEK WISMA YUDHA, I WAYAN EKA KARYA UTAMA, PUTU ANGGA WIRADANA	3022-3030
<b>Ecological index of freshwater gastropods in Kolaka District, Southeast Sulawesi, Indonesia</b> SALWIYAH, MUHAMMAD FAJAR PURNAMA	3031-3041
<b>Genetic stability of melon (<i>Cucumis melo</i> L. cv. Meloni) based on inter-simple sequence repeat and phenotypic characteristics</b> ADIB FAKHRUDDIN YUSUF, WIKO ARIF WIBOWO, BUDI SETIADI DARYONO	3042-3049
<b>Wildlife-vehicle collisions in Khao Yai National Park, Thailand: Impact on native species for some conservation management</b> NATTAPHAT RATTANAWANAWONG, NARIS BHUMPAKPHAN, UTIS KUTINTARA, RONGLARP SUKMASUANG	3050-3061
<b>Arthropods community on maize plantation in West Pasaman, West Sumatra, Indonesia</b> SILVIA PERMATA SARI, IRFAN SULIANSYAH, NOVRI NELLY, HASMIANDY HAMID	3062-3072
<b>The distribution of benthic foraminifera in coral reefs ecosystem of East Penjaliran Island, Seribu Islands, Indonesia</b> SUHARTATI MUHAMMAD NATSIR	3073-3080
<b>Occurrence of common core structure and genotype-specific signatures among the <i>Vibrio</i> of environmentally diverse vended crabs and shrimps from selected Lagos seafood markets</b> OLUBUSOLA A. ODENIYI, ODUNAYO J. OLAWUYI, OLUDAYO OGUNSANYA, JOHN O. UNUOFIN	3081-3090
<b>Short Communication: Agronomical characteristics of sweet corn under different plant growth regulators during the dry season</b> SYARIFUL MUBAROK, FIKY YULIANTO WICAKSONO, ANNE NURAINI, BAYU PRADANA NUR RAHMAT, RAHMAT BUDIARTO,	3091-3098
<b>New records of mycobiota associated with stored wheat and its by-products in Iraq</b> WASAN F. FADHIL, ABDULLAH H. AL-SAADON, , FALEH M. AL-MOUSSAWI	3099-3107
<b>Biosurfactant activity of phylloplane bacteria from an ornamental plant, <i>Colocasia esculenta</i> L.</b> ALPINA BUKHORI, DWI SURYANTO, KIKI NURTJAHJA	3108-3114
<b>Morpho-physiological responses of <i>iaa9</i> tomato mutants to different levels of PEG simulated drought stress</b> ERNI SUMINAR, RAHMAT BUDIARTO, ANNE NURAINI, SYARIFUL MUBAROK, HIROSHI EZURA	3115-3126
<b>The Family Plagiochilaceae (Marchantiophyta) in Batang Toru Forest, North Sumatra, Indonesia</b> RISJUNARDI DAMANIK, NURSAHARA PASARIBU, ETTI SARTINA SIREGAR, SYAMSUARDI	3127-3134
<b>Impacts of invasive tree species <i>Bellucia pentamera</i> on plant diversity, microclimate and soil of secondary tropical forest in West Sumatra, Indonesia</b> SOLFIYENI, SYAMSUARDI, CHAIRUL, ERIZAL MUKHTAR	3135-3146
<b>An Algerian endemic species in danger to disappear due to pandemic, <i>Origanum vulgare</i> subsp. <i>glandulosum</i> (Desf.) Letsw</b> IMENE ADOUANI, NACIRA BOULAACHEB	3147-3155

<b>Diversity, risk and management feasibility of invasive alien plants in the border zone of Sicike-cike Nature Tourism Park, North Sumatra, Indonesia</b> MUHAMMAD KOMARUL HUDA, NURSAHARA PASARIBU, SYAMSUARDI, ETTI SARTINA SIREGAR	3156-3165
<b>Perceived biodiversity of fruit species for urban greenery in Indonesia: Case studies in Bogor, Jakarta, and Yogyakarta</b> ISMI PUJI RUWAIDA, EDI SANTOSA, ANAS DINURROHMAN SUSILA, WINARSO DRAJAD WIDODO, ADE WACHJAR, NIZAR NASRULLAH	3166-3177
<b>Callus induction with 6-BAP and IBA as a way to preserve <i>Prunus ledebouriana</i> (Rosaceae), and endemic plant of Altai and Tarbagatai, East Kazakhstan</b> AIDYN ORAZOV, ANAR MYRZAGALIYEVA, NASHTAI MUKHITDINOV, SHYNAR TUSTUBAYEVA	3178-3184
<b>Ethnopharmacological documentation and molecular authentication of medicinal plants used by the Manobo and Mamanwa tribes of Surigao del Sur, Philippines</b> VINCE ADRIAN D. ILAGAN, GRECEBIO JONATHAN D. ALEJANDRO, DAVID JEFFERSON B. PARAGUISON, SJHON MIGUEL W. PEROLINA, GABRIEL R. MENDOZA, ANDREI B. BOLINA, RUBY RATERTA, MARIANITA B. VALES, GIL JOSHUA D. SUAREZ, FREDDIE A. BLASCO,	3185-3202
<b>A checklist of cephalopods from continental shelf of Sarawak, Malaysian Borneo</b> WAN ZABIDII WAN MORNII, RUHANA HASSAN, LIRONG YU ABIT, KAMIL LATIF	3203-3208
<b>Tolerance response of varied tomato genotypes grown at excess manganese (Mn)</b> SITI ZAHARA, NONO CARSONO, RIJA SUDIRJA, MOCHAMAD ARIEF SOLEH	3209-3218
<b>Yield evaluation of curly chili lines in three lowland locations</b> MUHAMAD SYUKUR, ZULFIKAR DAMARALAM SAHID, SOBIR, AWANG MAHARIJAYA, ARYA WIDURA RITONGA, YUNANDRA, SULASSIH, MUHAMMAD RIDHA ALFARABI ISTIQLAL, ABDUL HAKIM, YUDIWANTI WAHYU, TOBIAS MONIZ VICENTE, MUKHLISIN, KARLIN AGUSTINA, YURSIDA, KUNCI MUSLIMIN, SITI HAFSAH, NURA, ANDRY SETYAWAN	3219-3223
<b>Vegetation development in post-gold mining revegetation area in Minahasa, North Sulawesi, Indonesia</b> KANIA GITA LESTARI, SRI WILARSO BUDI, DYAH TJAHYANDARI SURYANINGTYAS, EKA YUDHIMAN	3224-3233
<b>Insect community in sengon (<i>Falcataria moluccana</i>) stands damaged by stem borers at various altitudes</b> YUSUF ARDIAN SUTRISNO, ANANTO TRIYOGO, PRIYONO SURYANTO	3234-3242
<b>The potential of young and old <i>Euphorbia hirta</i> leaves extract as antibacterial against <i>Escherichia coli</i> and antihelminthic against <i>Ascaridia galli</i> obtained in Sentul chickens</b> MARYATI PUSPITASARI, ABUN, ANA ROCHANA, TUTI WIDJASTUTI	3243-3250
<b>Fundamentals of using Geographical Information Systems in predicting the distribution of <i>Helicoverpa armigera</i> Hübner, 0 (Lepidoptera: Noctuidae)</b> RASUL RUZMETOV, IKRAM ABDULLAEV, LOLA GANDJAEVA, ZAFARBEK MATYAKUBOV, KAKHRAMON RAZZAKOV , ABDULLA ISKANDAROV, ODILBEK OTAEV, SHODLIK IBRAGIMOV	3251-3256
<b>Molecular characterization of toxic benthic dinoflagellate, <i>Prorocentrum lima</i> in west Indonesian waters using LSU S rDNA gene</b> RIANI WIDIARTI, NEVIATY PUTRI ZAMANI, DIETRIECH GEOFFREY BENGEN, HAWIS MADDUPPA	3257-3263
<b>Biological control of <i>Sclerotinia minor</i> attack on pyrethrum plants by <i>Trichoderma harzianum</i> in glasshouse experiment</b> YAN RAMONA, IDA BAGUS GEDE DARMA YASA, MARTIN A. LINE	3264-3269



<b>Quality and storage time of traditional dangke cheese inoculated with indigenous lactic acid bacteria isolated from Enrekang District, South Sulawesi, Indonesia</b>	<b>3270-3276</b>
MUHAMMAD ASKARI ZAKARIAH, RATMAWATI MALAKA, AMRAN LAGA, AMBO AKO, MUHAMMAD ZAKARIAH, FAILAL ULFI MAULIAH	
<b>Diversity and abundance of water birds in the mangrove area of south coast of Bangkalan, Madura Island, Indonesia</b>	<b>3277-3284</b>
AJENG RAMADHANI, RENI AMBARWATI, RAGIL SATRIYO GUMILANG	
<b>Chromosome number and reproductive mode of some Pteris species (Pteridaceae) in Thailand</b>	<b>3285-3296</b>
PONPIPAT LIMPANASITTICHAJ, TASSANAI JARUWATTANAPHAN	
<b>Cryopreservation of Gaga' chicken semen from South Sulawesi, Indonesia with the addition of L-carnitine, hyaluronic acid, sucrose and their combination in diluent</b>	<b>3297-3302</b>
KHAERUDDIN, SRI WAHJUNINGSIH, GATOT CIPTADI, MUHAMMAD YUSUF, HERMAWANSYAH, SAHIRUDDIN	
<b>Diversity of butterflies in the tropical wetland of Kayan-Sembakung Delta, North Kalimantan, Indonesia</b>	<b>3303-3312</b>
HARMONIS ABDUL RAHIM, HENDRA ADI HIDAYAT, OSHLIFIN RUCHMANA SAUD, MUHAMMAD WILUJENG, RUBEN SAMPE, KARLINA FITRI KARTIKA, AMINUDIN, TUNGGUL BUTAR BUTAR	

---