

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

# BIODIVERSITAS

**Journal of Biological Diversity**

V o l u m e 2 2 - N u m b e r 5 - M a y 2 0 2 1



**Front cover: *Plochoglottis javanica* Blume**  
(PHOTO: RIANY ANDITA PUTRI KUSWANDI)

---

Published monthly

PRINTED IN INDONESIA

ISSN: 1412-033X

E-ISSN: 2085-4722



9 771412 033764



9 772085 472768

# BIODIVERSITAS

Journal of Biological Diversity  
Volume 22 – Number 5 – May 2021

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), **Mohib Shah** (Pakistan), **Mohamed M.M. Najim** (Srilanka), **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 abbreviated as *Biodiversitas* encourages submission of manuscripts dealing with all biodiversity aspects of plants, animals and microbes at the level of the gene, species, and ecosystem as well as ethnobiology.

**Article types** The journal seeks original full-length research papers, reviews, and short communication. Manuscript of original research should be written in no more than 8,000 words (including tables and picture), or proportional with articles in this publication number. Review articles will be accommodated, while, short communication should be written at least 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). 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. 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 and when the manuscript is accepted for publication, the author(s) still hold the copyright and retain publishing rights without restrictions. Authors or others are allowed to multiply article as long as not 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** The only articles written in English (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. The manuscript is rejected if the content does not in line with the journal scope, does not meet the standard quality, inappropriate format, 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 biodiversity 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 the early of each month (12 times).

**A charge** Starting on January 1, 2019, publishing costs waiver is granted to authors of graduate students from **Least Developed Countries**, who first publish the manuscript in this journal. However, other authors are charged USD 250 (IDR 3,500,000). Additional charges may be billed for language editing, USD 75-150 (IDR 1,000,000-2,000,000).

**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 and Microsoft Word based (*.doc* or *.rtf*; not *.docx*). **Scientific names** of species (incl. subspecies, variety, etc.) should be written in italic, except for italic sentence. Scientific name (genera, species, author), and cultivar or strain should be mentioned completely for the first time mentioning it in the body text, especially for taxonomic manuscripts. Name of genera can be shortened after first mentioning, except generating 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 name should be avoided, otherwise generating confusion. **Biochemical and chemical nomenclature** should follow the order of the IUPAC - IUB. For DNA sequence, it is better used Courier New font. Symbols of standard chemical and abbreviation of chemistry name can be applied for common and clear used, for example, completely written butilic hydroxyl toluene (BHT) to be BHT hereinafter. **Metric measurement** use IS denomination, usage other system should follow the value of equivalent with the denomination of IS first mentioning. Abbreviations set of, like g, mg, mL, etc. do not follow by dot. Minus index (m<sup>-2</sup>, L<sup>-1</sup>, h<sup>-1</sup>) suggested to be used, except in things like "percent" or "per-plot". **Equation of mathematics** does not always can be written

down in one column with text, in that case can be written separately. **Number** one to ten are expressed with 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.

**Title** of the article should be written in compact, clear, and informative sentence, preferably not more than 20 words. Name of author(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. Manuscript written by a group, author for correspondence along with address is required. First page of the manuscript is used for writing above information.

**Abstract** should not be more than 200 words. **Keywords** is about five words, covering scientific and local name (if any), research theme, 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. **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. **Concluding** sentence should be given at the end of the discussion. **Acknowledgments** are expressed in a brief; all sources of institutional, private and corporate financial support for the work must be fully acknowledged, and any potential conflicts of interest are noted.

**Figures and Tables** of maximum of three pages should be clearly presented. Title of a picture is written down below the picture, while title of a table is written above the table. 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, it can be displayed on the website as a supplement.

**References** Author-year citations are required. In the text give the authors name 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 (better, if only 20 for research papers). 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)). 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.

### 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:

Assaed AM. 2007. Seed production and dispersal of *Rhazya stricta*. 50<sup>th</sup> 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, Barnet M, Arnold FH, Quake SR, You L. 2008. A synthetic *Escherichia coli* predator-prey ecosystem. *Mol Syst Biol* 4: 187. [www.molecularsystemsbiology.com](http://www.molecularsystemsbiology.com)

# BIODIVERSITAS

Journal of Biological Diversity  
Volume 22 - Number 5 - May 2021

---

- Crowing sound and inbreeding coefficient analysis of *Pelung* chicken (*Gallus gallus domesticus*)** 2451-2457  
BUDI S. DARYONO, MIFTAHUL MUSHLIH, AYUDHA BAHANA ILHAM PERDAMAIAAN
- Diversity and traditional knowledge of medicinal plants in home gardens of Kampung Masjid Ijok, Perak, Malaysia** 2458-2465  
MOHD RAZNAN RAMLI, POZI MILOW, SORAYYA MALEK
- Soil environmental factors shape the rhizosphere arbuscular mycorrhizal fungal communities in South African indigenous legumes (Fabaceae)** 2466-2476  
AFOLAKEMI ABIBAT ALIM, RASHEED ADELEKE, ANNAH MOTEETEE
- Review: Fruit collapse and heart rot disease in pineapple: Pathogen characterization, ultrastructure infections of plant and cell mechanism resistance** 2477-2488  
DIEGO MAURICIO CANO-REINOSO, LOEKAS SOESANTO, KHARISUN, CONDR O WIBOWO
- Population genetic structure of hard clam (*Meretrix lyrata*) along the Southern coast of Thailand** 2489-2496  
JUTHAMAS SUPPAPAN, PRADIT SANGTHONG, APIRAK SONGRAK, VERAKIAT SUPMEE
- Isolation and characterization of N-fixing and IAA producing rhizobacteria from two rice field agro-ecosystems in South Sulawesi, Indonesia** 2497-2503  
NINING HAERANI, ELKAWAKIB SYAM'UN, BURHANUDDIN RASYID, FERANITA HARING
- Distribution and genetic diversity of *Spodoptera frugiperda* J. E. Smith (Noctuidae: Lepidoptera) on maize in West Sumatra, Indonesia** 2504-2511  
NOVRI NELLY, HASMIANDY HAMID, EKA CANDRA LINA, YUNISMAN
- Climate effects on the growth of *Pinus latteri* and *Pinus kesiya* at the Intakin Silvicultural Research Station, Chiang Mai Province, Thailand** 2512-2519  
MATAYAWEE NAUMTHONG, KRITSADAPAN PALAKIT, KHWANCHAI DUANGSATHAPORN, PATSI PRASOMSIN, PICHIT LUMYAI
- The physical and chemical characteristics of several accessions of sorghum cultivated on drylands in East Nusa Tenggara, Indonesia** 2520-2531  
LINCE MUKKUN, HERIANUS JUSTHIANUS D. LALEL, YASINTA LETEK KLEDEN
- The hematological profile of *Barbonymus altus* to evaluate water quality in the Badher Bank Conservation Area, Blitar, East Java, Indonesia** 2532-2541  
ASUS MAIZAR SURYANTO HERTIKA, SUPRIATNA, ARIEF DARMAWAN, BIMO AJI NUGROHO, AGUNG DWI HANDOKO, AGUSTIANSI YEYEN QURNIAWATRI, RANITA AYU PRASETYAWATI
- Potency of secondary metabolites of *Trichoderma asperellum* and *Pseudomonas fluorescens* in the growth of cocoa plants affected by vascular streak dieback** 2542-2547  
MANIPPO SIMAMORA, MOHAMMAD BASYUNI, LISNAWITA
- Incorporation of pectin during biosynthesis of bacterial cellulose by *Gluconacetobacter xylinus* InaCC B404: Possibility for producing green food packaging** 2548-2553  
SUKMIYATI AGUSTIN, ENDANG TRI WAHYUNI, SUPARMO, SUPRIYADI, MUHAMMAD NUR CAHYANTO
- Pollination compatibility of *Dendrobium* spp. orchids from Bali, Indonesia, and the effects of adding organic matters on seed germination under in vitro culture** 2554-2559  
IDA AYU PUTRI DARMAWATI, IDA AYU ASTARINI, HESTIN YUSWANTI, YUYUN FITRIANI

<b>Karyotype variation in lesser short-nosed fruit bat <i>Cynopterus brachyotis</i> (Müller 1838) from Special Region Yogyakarta, Indonesia</b> HUSNI MUBAROK, NIKEN SATUTI NUR HANDAYANI, IBNU MARYANTO, TUTY ARISURYANTI	<b>2560-2568</b>
<b>Seasonal dynamics and spatial distribution of lepidopterans in selected locations in Mordovia, Russia</b> ALEXANDER B. RUCHIN	<b>2569-2575</b>
<b>Genetic diversity and morphological responses of <i>Capsicum annum</i> varieties under aluminium stress</b> ANDRIYANI, NURUL JADID	<b>2576-2582</b>
<b>Demarcation area between juvenile and mature wood in <i>Elaeocarpus angustifolius</i></b> ISTIE RAHAYU, GILANG DWI LAKSONO, WAYAN DARMAWAN, AKHIRUDDIN MADDU, ESTI PRIHATINI	<b>2583-2590</b>
<b>Morphological characteristics and habitat conditions of suweg (<i>Amorphophallus paeoniifolius</i>) around Mount Ciremai National Park, West Java, Indonesia</b> ASEP ZAINAL MUTAQIN, DENNY KURNIADIE, JOHAN ISKANDAR, MOHAMAD NURZAMAN, TEGUH HUSODO	<b>2591-2600</b>
<b>Endophytic fungi as potential biocontrol agents of <i>Phytophthora palmivora</i> in the cocoa plant</b> AGNES V. SIMAMORA, MAYAVIRA V. HAHULY, JULINDA BD. HENUK	<b>2601-2609</b>
<b>Characteristics of lactic acid bacteria isolated from palm sugar from West Sumatra, Indonesia and their potential as a probiotic</b> NURAZIZAH RAMADHANTI, SRI MELIA, JAMES HELLYWARD, ENDANG PURWATI	<b>2610-2616</b>
<b>Characteristics of vegetation as determinant of Timor Friarbird (<i>Philemon inornatus</i>) distribution in Bipolo Lanscape of West Timor Island, Indonesia</b> BLASIUS PAGA, SATYAWAN PUDYATMOKO, LIES RAHAYU WIJAYANTI FAIDA, IGN. PRAMANA YUDA, NURPANA SULAKSONO	<b>2617-2635</b>
<b>First report of bullet wood (<i>Mimusops elengi</i>) sudden decline disease caused by <i>Ceratocystis manginecans</i> in Indonesia</b> R. PRATAMA, A. MUSLIM, S. SUWANDI, N. DAMIRI, S. SOLEHA	<b>2636-2645</b>
<b>Predicting suitable areas for <i>Baccaurea angulata</i> in Kalimantan, Indonesia using Maxent modelling</b> GUNAWAN, SULISTIJORINI, TATIK CHIKMAWATI, SOBIR	<b>2646-2653</b>
<b>Short Communication: Morphometric variations in two populations of <i>Limnophora marginata</i> Stein, 1904 (Diptera, Muscidae) in Ecuador</b> MARÍA ALEJANDRA RUIZ, CAMILA ACOSTA-LÓPEZ, ANA SOTO-VIVAS	<b>2654-2657</b>
<b>Genetic diversity and population structure of <i>Seriphidium</i> Sub-genus of <i>Artemisia</i> from different terrains of Balochistan, Pakistan</b> ABDUL REHMAN, SHAZIA SAEED, ALIA AHMED	<b>2658-2664</b>
<b>Phenotypic characterization of antimicrobial drug resistance of <i>Staphylococcus aureus</i> and <i>S. epidermidis</i> strains isolated from various community infections in Oum El Bouaghi city, Algeria</b> AMINA RAHMANI, LAAREM MERADI, KARIMA MALAWI, FATMA KHANFOUF	<b>2665-2671</b>
<b>Novel chitinolytic bacteria from the shrimp shell processing waste</b> MASHURI MASRI, EKA SUKMAWATY, LASINRANG ADITIA	<b>2672-2681</b>
<b>Reproductive aspects of naleh fish (<i>Barbonymus</i> sp.): A native species from Nagan river, Aceh Province, Indonesia</b> DENI EFIZON, AGUNG S. BATUBARA, ZAINAL A. MUCHLISIN, ROZA ELVYRA, SYAMSUL RIZAL, MOHD M. SITI-AZIZAH	<b>2682-2690</b>

<b>Exploring biofertilizer potential of plant growth-promoting rhizobacteria candidates from different plant ecosystems</b> DWI AGUSTIYANI, TIRTA KUMALA DEWI, NUR LAILI, ACHIRUL NDITASARI, SARJIYA ANTONIUS	<b>2691-2698</b>
<b>Structural elucidation of the exopolysaccharide produced by <i>Curvularia lunata</i> isolate RJ01</b> JAY JAYUS, ROBBY AKROMAN, NURHAYATI, ARI SATIA NUGRAHA, BAMBANG PILUHARTO, ROBERT JAMES SEVIOUR	<b>2699-2705</b>
<b>The roles of ameliorants on tree seedling growth for land rehabilitation</b> SLAMET BUDI YUWONO, ALAWIYAH, MELYA RINIARTI, DERMIYATI	<b>2706-2714</b>
<b>Insertion of cellulase gene in yeast expression vector (pYY1 and pWYH257 Plasmid) as a candidate for cellulosic ethanol-producing strain</b> ARIEF MUAMMAR, INDAH OKTAVIANA, JOSEPH CHOANSANDHIKA, NIKEN SATUTI NUR HANDAYANI	<b>2715-2721</b>
<b>Assessing fluctuation of ant populations in a distinct ecological habitat for the purpose of tracking climate change effects</b> WAQAR MAJEED, MASUD KHAWAJA, NAUREEN RANA	<b>2722-2727</b>
<b>Early growth evaluation and estimation of heritability in a sengon (<i>Falcataria moluccana</i>) progeny testing at Kediri, East Java, Indonesia</b> ADITYA NUGROHO, DEDEN D. MATRA, ISKANDAR Z. SIREGAR, NOOR F. HANEDA, YUNIK ISTIKORINI, RIKA RAHMAWATI, YAHYA AMIN, ULFAH J. SIREGAR	<b>2728-2736</b>
<b>Finger millet based staple beverages consumed by the Gadaba ethnic community of Odisha, India: Preparation and nutritive characteristics</b> ARUP KUMAR MISHRA, RANJANA BAJPAI, AMRITA SWAIN <sup>3</sup>	<b>2737-2742</b>
<b>Metabolite correlation with antioxidant activity in different fruit maturation stages of <i>Physalis peruviana</i></b> SYARIFUL MUBAROK, FIKY YULIANTO WICAKSONO, RAHMAT BUDIARTO, BAYU PRADANA NUR RAHMAT, SUCINTA AULIDA KHOERUNNISA	<b>2743-2749</b>
<b>Proteomic approach: Identification of <i>Nephotettix virescens</i> vector protein transmitting the tungro virus in rice</b> WASIS SENOAJI, BAMBANG TRI RAHARDJO, HAGUS TARNO	<b>2750-2755</b>
<b>Biometrics, distribution, and breeding notes of Savanna Nightjar (<i>Caprimulgus affinis</i>) in several islands of Indonesia</b> WAHYU WIDODO, EKO SULISTYADI	<b>2756-2762</b>
<b>Genetic analysis on grain physical characteristics and grain color from the crosses of black x white rice genotypes</b> SITI NURHIDAYAH, EFRIN FIRMANSYAH, TOTOK AGUNG D HARYANTO, PRITA SARI DEWI	<b>2763-2772</b>
<b>Antibacterial activity, antioxidant potential, total phenolic and flavonoids of three species of Rubiaceae from Banggai Island, Indonesia</b> PRAPTIWI, DIAH SULISTIARINI, ERSALIANY NURUL PRATIWI QODRIE, DENI SAHRONI	<b>2773-2778</b>
<b>Pests and diseases on <i>Falcataria moluccana</i> trees in agroforestry systems with pineapple in East Java, Indonesia</b> SRI RAHAYU, ANANTO TRIYOGO, SITI M. WIDYASTUTI, MUSYAFI', FIQRY ARDIANYAH	<b>2779-2788</b>
<b>Prevalence of Extended-Spectrum Beta-Lactamases in producing <i>Escherichia coli</i> in beef sold in traditional markets in Surabaya, Indonesia</b> DHANDY KOESOEMO WARDHANA, DEVI AYU SAFITRI, SUWAIBATUL ANNISA, NENNY HARIJANI, AGNES THERESIA SOELIH ESTOEPANGESTIE, LAILATUL MAGHFIROH	<b>2789-2793</b>
<b>Freshwater vertebrates monitoring in Maninjau Lake, West Sumatra, Indonesia using environmental DNA</b> DEWI IMELDA ROESMA, DJONG HON TJONG, MUHAMMAD NAZRI JANRA, DYTA RABBANI AIDIL	<b>2794-2802</b>

<b>Biological and management design for sustainable wetland rice farming in Siak District, Riau, Indonesia</b> RACHMIWATI YUSUF, INDRA FUADI, USMAN M. TANG, RAHMAN KARNILA, USMAN PATO,	<b>2803-2814</b>
<b>Short Communication: Allometric model to estimate bifoliate leaf area and weight of kaffir lime (<i>Citrus hystrix</i>)</b> RAHMAT BUDIARTO, ROEDHY POERWANTO, EDI SANTOSA, DARDA EFENDI, ANDRIA AGUSTA4	<b>2815-2820</b>
<b>Phylogenetic positions of three <i>Amorphophallus</i> species natively growing in the Meratus Mountains, South Kalimantan, Indonesia</b> DINDIN HIDAYATUL MURSYIDIN, MUHAMMAD ALDY HERNANDA	<b>2821-2828</b>
<b>Resistance status and physiological activity test of <i>Spenochlea zeylanica</i> and <i>Ludwigia octovalvis</i> in paddy field to ,4-D and metsulfuron-methyl herbicides</b> RIZKY RAHMADI, NANIK SRIYANI, YUSNITA, HIDAYAT PUJISISWANTO, DWI HAPSORO	<b>2829-2838</b>
<b>Maintaining tree biodiversity in urban communities on the university campus</b> ARIDA SUSILOWATI, AHMAD BAIQUNI RANGKUTI, HENTI HENDALASTUTI RACHMAT, APRI HERI ISWANTO, MOEHAR MARAGHIY HARAHAP, DENI ELFIATI, BEJO SLAMET, IDA MALLIA GINTING	<b>2839-2847</b>
<b>Diversity and performance of eight new promising potato (<i>Solanum tuberosum</i>) genotypes in Garut District, West Java, Indonesia</b> AWANG MAHARIJAYA, MUHAMAD SYUKUR, LINDA NUR SALMA, ULVI LEVIA SANUBARY	<b>2848-2858</b>
<b>The growth, aboveground biomass, crown development, and leaf characteristics of three <i>Eucalyptus</i> species at initial stage of planting in Jepara, Indonesia</b> <b>pandu yudha adi putra wirabuana, syamsu alam, jeriels matatula,</b> MOEHAR MARGHIY HARAHAP, YUSANTO NUGROHO, FAHMI IDRIS, ALNUS MEINATA, DEWA AYU SEKAR	<b>2859-2869</b>
<b>Short Communication: Examining taxa representation in Asian zoos and aquaria using historic records</b> JAMES EDWARD BRERETON, SHELBY RENEE BRERETON	<b>2870-2875</b>
<b>Distribution and prevalence of scurf (<i>Monilochaetes infuscans</i>) on sweet potato (<i>Ipomea batatas</i>) in West Java, Indonesia</b> SITARESMI DEWAYANI, HARIS MAULANA, NOLADHI WICAKSANA, TARKUS SUGANDA, VERGEL CONCIBIDO, AGUNG KARUNIAWAN	<b>2876-2883</b>
<b>Bioactive compounds of ethanol extract from agarwood leaves (<i>Aquilaria malaccensis</i>) and antimicrobial activity against bacteria and fungi growing on the skin</b> RIDWANTI BATUBARA, BASUKI WIRJOSENTONO, AMIR HAMZAH SIREGAR, URIP HARAHAP, TAMRIN	<b>2884-2890</b>
<b>Local knowledge of Sundanese village people on traditional medicine: A case study in Cibeurih Hamlet, Nagarawangi Village, Sumedang District, Indonesia</b> SINTIAMI RAMADHANI, JOHAN ISKANDAR, RUHYAT PARTASASMITA, ENENG NUNUZ ROHMATULLAYALY	<b>2891-2898</b>
<b>Changes of tree species diversity in peatland impacted by moderate fire severity at Teluk Meranti, Pelalawan, Riau Province, Indonesia</b> LAILAN SYAUFINA, ANNAS ABI HAMZAH	<b>2899-2908</b>
<b>The presence and abundance of harmful dinoflagellate algae related to water quality in Jakarta Bay, Indonesia</b> ANNISA KHAIRA NASUTION, NOVERITA DIAN TAKARINA, HIKMAH THOHA	<b>2909-2917</b>
<b>Application of inter-SINE amplified polymorphism (ISAP) markers for genotyping of <i>Cucumis melo</i> accessions and its transferability in <i>Coleus</i> spp.</b> SITI YULI MEILANDA SORMIN, AZIZ PURWANTORO, AGUS BUDI SETIAWAN, CHEE HOW TEO	<b>2918-2929</b>



<b>Amphibian and reptile diversity of Peleng Island, Banggai Kepulauan, Central Sulawesi, Indonesia</b> AWAL RIYANTO, CAHYO RAHMADI	<b>2930-2939</b>
<b>Ichthyofaunal diversity in snow-fed Mardi Stream of Gandaki River, Central Nepal</b> NEETI CHAPAGAIN, NARESH PANDEY, PRABHA CHITRAKAR	<b>2940-2948</b>
<b>Enhancement of manganese extraction in a biochar-enriched bioleaching column with a mixed culture of indigenous bacteria</b> ENDAH RETNANINGRUM, WAHYU WILOPO, I WAYAN WARMADA	<b>2949-2955</b>
<b>Biological and environmental profiling of three Philippine <i>Tetrastigma</i> species (Vitaceae) in northeastern Cagayan, Luzon, Philippines</b> JEFF M. OPEÑA, CHARLOT L. MARAMAG, CALIXTO B. ALICAY, MARVIN V. BALOLOY, CLARIBEL A. GASPAR, FROILAN A. PACRIS JR., JEAN S. TORRES, LYLE B. SUMER, GERLIE A. BAYANI, RACHEL C. SOTTO	<b>2956-2970</b>
<b><i>Cordia africana</i> but not <i>Juniperus procera</i> and <i>Podocarpus falcatus</i> respond positively to arbuscular mycorrhizal fungi at the early stages of seedling development</b> FISSEHA ASMELASH, TAMRAT BEKELE, ZERIHUN BELAY, FASSIL KEBEDE	<b>2971-2980</b>
<b>Diversity and zonation of mangrove flora in Belitung Island, Indonesia</b> AFRI IRAWAN, TATIK CHIKMAWATI, SULISTIJORINI	<b>2981-2992</b>
<b>Bioaccumulation and phytoremediation of some heavy metals (Mn, Cu, Zn and Pb) by bladderwort and duckweed</b> NAYYEF M. AZEEZ	<b>2993-2998</b>
<b>Morphogenetic identification, description and pathogenicity of novel pathogens on Iraqi wheat plant (<i>Triticum aestivum</i>) causing head blight and crown rot diseases</b> MOHANAD KHALAF MOHAMMED-AMEEN, MOHAMMED HUSSEIN MINATI, MOHAMMED HAMZA ABASS,	<b>2999-3005</b>

---