

# BLODNERSTAS Jo Volt

Front cover: Leopard Cat (Prionailurus bengalensis (Kerr, 1792) (Photo: Bob Silver)

PRINTED IN INDONESIA



Published monthly



ISSN/E-ISSN: 1412-033X (printed edition), 2085-4722 (electronic)

# **EDITORIAL BOARD:**

Abdel Fattah N.A. Rabou (Palestine), Agnieszka B. Najda (Poland), Ajar Nath Yadav (India), 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 Pourbabaei (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), Shubhi Avasthi (India), Subhash C. Santra (India), Sugeng Budiharta (Indonesia), Sugiyarto (Indonesia), Taufiq Purna Nugraha (Indonesia), Wawan Sujarwo (Indonesia), Yosep S. Mau (Indonesia)

#### EDITOR-IN-CHIEF: Sutarno

#### **EDITORIAL MEMBERS:**

English Editors: **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

Published by Smujo International for The Society for Indonesian Biodiversity and 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: (i) Research papers, (ii) Reviews, and (iii) Short communications. Original research manuscripts are limited to 8,000 words (including tables and figures) or proportional to articles in this publication number. Review articles are also limited to 8,000 words, while Short communications should be less than 2,500 words, except for pre-study.

Submission: The journal only accepts online submissions through the open journal system (https://smujo.id/biodiv/about/submissions) or email the editors at **unsiournals@gmail.com**. Submitted manuscripts should be the original works of the author(s). Please ensure that the manuscript is submitted the **Biodiversitas** template. which can he found using 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, and 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 the submitted work has not been published (except as part of a thesis or report, or abstract) and is not being considered for publication elsewhere. When a group writes a manuscript, all authors should read and approve the final version of the submitted manuscript and its revision; and agree on 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 the manuscript, and correcting the revision. All authors must be responsible for the work's quality, accuracy, and ethics.

**Ethics** Author(s) must be 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 can reproduce articles as long as they are not used for commercial purposes. For the new invention, authors must manage its patent before publication.

**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 US 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 align with the journal scope, does not meet the standard quality, is in an inappropriate format, or 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 typographical errors. The accepted proofs should be returned in 7 days to avoid publication delays. The accepted papers will be published online in chronological order at any time but printed at the end of each month.

A charge Authors are charged USD 320 (IDR 4,500,000). Additional charges may be billed for language improvement, 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 email and sending back the uncorrected proofs. 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 sizes can be applied in presenting tables and figures (9 pt). Word processing program or additional software can be used: however, it must be PC compatible, use the Biodiversitas template, and be Microsoft Word based (.doc or .rtf; not .docx). Scientific names of species (incl. subspecies, variety, etc.) should be written in italics, except in italicized 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 the first mention, except where this may generate confusion. name of the author can be eliminated after the first mention. For example, Rhizopus oryzae L. UICC 524 can be written hereinafter 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 sequences, it is better to use 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 systems should use equivalent values with the denomination of IS mentioned first. A dot should not follow abbreviations like g, mg, mL, etc. Minus index (m<sup>-2</sup>, L<sup>-1</sup>, h<sup>-1</sup>) suggested being used, except in things like "per-plant" or "perplot." **Mathematical equations** can be written down in one column with text: in that case, they can be written separately. Numbers one to ten are written in words, except if it relates to measurement, while values above them are written in number, except in early sentences. The fraction should be expressed in decimal. In the text, it should be used "%" rather than "percent." Avoid expressing ideas with complicated sentences and verbiage/phrasing, and use efficient and effective sentences.

The **article's title should be written in a** 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, and address are required. The first page of the manuscript is used for writing the above information.

The Abstract is about 200 words. Include between five and eight Keywords, using scientific and local names (if any), research themes, and special methods used, and sorted from A to Z. All important abbreviations must be defined at their first mention. The running title is about five words. The Introduction is about 600 words, covering the background and aims of the research. Materials and Methods should emphasize the procedures and data analysis. Results and Discussion should be written as a series of connecting sentences; however, manuscripts with long discussions should be divided into subtitles. Thorough discussion represents the causal effect that mainly explains why and how the research results occurred and did not only re-express the mentioned results in sentences. A Conclusion should be given at the end of the Discussion. Finally, Acknowledgements are expressed in brief; all sources of institutional, private, and corporate financial support for the work must be noted.

Figures and Tables of three pages maximum should be clearly presented. Include a label below each figure and above each table (see example). Colored figures can only be accepted if the manuscript's information can be lost without those images; the chart is preferred to use black and white images. The 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 as sources. Although there is no **Appendix**, all data or data analysis is incorporated into Results and Discussions. For comprehensive/broad data, supplementary information can be provided on the website.

References Preferably 80% of it comes from scientific journals published in the last 10 years. 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 should be avoided, as shown with the word "cit." 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 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). 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 the 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 the 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. DOI: 10.1038/msb.2008.24. www.molecularsystembiology.com.

THIS PAGE INTENTIONALLY LEFT BLANK

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



New leaf fall disease in rubber-pathogen characterization and rubber clone resistance evaluation using detached leaf assay MUHAMAD RIZQI DAROJAT, SINTHO WAHYUNING ARDIE, FETRINA OKTAVIA, SUDARSONO	1935-1945
Estimating carbon storage of <i>Eucalyptus urophylla</i> vegetation in Mutis Timau Nature Reserve, East Nusa Tenggara, Indonesia using remote sensing analysis RONGGO SADONO, WAHYU WARDHANA, PANDU YUDHA ADI PUTRA WIRABUANA	1946-1952
Morphology and pitcher's color <i>Nepenthes</i> in Batu Lubang Sibolga Area, North Sumatra Province, Indonesia MHD. RAFI'I MA'ARIF TARIGAN, SUHARTINI AZIS, INDAYANA FEBRIANI TANJUNG, CORNELI PARY, MIZA NINA ADLINI, UMMI NUR AFINNI DWI JAYANTI, ARDIANTO, ANDI YURNI ULFA	1953-1961
Genetic diversity among five native Thai chickens and Khiew-Phalee chickens in lower- northern Thailand using mitochondrial DNA barcodes PHROMNOI SIRIWADEE, LIKITTRAKULWONG WIROT, PUANGMALEE THANAPOL, NUCHCHANART WIRAWAN	1962-1970
Antimicrobial activities of endophytic bacteria isolated from Ageratum conyzoides Linn. NARUMON BOONMAN, JARUWAN CHUTRTONG, CHANATE WANNA, SIRIPHAN BOONSILP, SUPATRA CHUNCHOB	1971-1979
Diversity, nutrient contents and production of forage plants in an integrated cattle livestock-oil palm plantation in East Kalimantan, Indonesia TAUFAN PURWOKUSUMANING DARU, WIDI SUNARYO, HENNY PAGORAY, SUHARDI, HAMDI MAYULU, IBRAHIM, APDILA SAFITRI	1980-1988
Genetic diversity and phylogenetic analysis of mayfly <i>Caenis</i> (Insecta: Ephemeroptera) using Cytochrome C Oxidase I (COI) and 12s rRNA genes from Thailand NARUMON PRAKRONGRAK, BOONSATIEN BOONSOONG, MONTHIRA MONTHATONG	1989-1997
Carbon sink and greenhouse gas emission of dryland vegetation cover in tourism villages in Flores Island, East Nusa Tenggara, Indonesia FATMA LESTARI, INDRA NI TUA, ADONIS MUZANNI, DANESTA FEBIANTO NUGROHO, ANDRIO A. WIBOWO, TRI WARTONO, BAIDURI WIDANARKO, ASEP SAEPULLAH, ROBIANA MODJO, MIFTACHUL FARIDA, DADAN ERWANDI, DESSY DWI ARYANI, ABDUL KADIR, ANINDHITA IRSALINA WIDIATMOKO, HENDRA, ZICO JUNI HERWANTO, MILA TEJAMAYA, RIZAL ALFIANSYAH HAMID, FATMAH, EZSA LARASHATI GUNAWAN, DINA LUSIANA SETYOWATI, M. FAIZIR HAFIDS, ROSSI YULIANI	1998-2005
Short Communication: Distribution and diversity of Gastropods in the rice-fish farming system	2006-2012
REN FITRIADI, MUSTIKA PALUPI, RAIS FIKRI AZHARI, RIZKY ADE CANDRA, PURNAMA SUKARDI	
Diversity of herbal medicine in Mamasa District, West Sulawesi, Indonesia ELIS TAMBARU, RESTI URA', MUSTIKA TUWO	2013-2022
Mapping of seagrass ecosystem on Bontosua Island, Pangkep District, South Sulawesi, Indonesia	2023-2030
DWI ROSALINA, KHAIRUL JAMIL, YASSER ARAFAT, REZKI AMALIA, ANI LEILANI	

Short Communication: Morphological and molecular description of <i>Contracaecum</i> sp. larvae (Nematoda: Anisakidae) in common rudd fish of the Shurkul reservoir of Uzbekistan	2031-2036
BAKHROM. B. SOATOV, ABDURAKHIM E. KUCHBOEV, ROKHATOY. R. KARIMOVA, OYBEK. O. AMIROV	
Floristic composition and carbon stock estimation under restored mangrove area in Bagan Serdang, North Sumatra, Indonesia MELINDA SURIANI HAREFA, ZULKIFLI NASUTION, ELING TUHONO, ARIDA SUSILOWATI	2037-2044
First report of pentastomiasis and the lung histopathological changes in Oriental Rat Snake ( <i>Ptyas mucosa</i> ) in Sidoarjo, East Java, Indonesia HANI PLUMERIASTUTI, GARINDRA TIARA PRANASHINTA, LUCIA TRI SUWANTI, ANNISE PROBONINGRAT, KUSNOTO	2045-2051
Uncovering the ethnobotanical importance of community forests in Chai Nat Province, Central Thailand SUKANDA CHAIYONG,, WITTAYA PONGAMORNKUL, PRATEEP PANYADEE, ANGKHANA INTA	2052-2063
Characterization and identification of <i>Trichoderma</i> on shallots isolated from three elevation regions in West Sumatra, Indonesia EKA SUSILA, FRI MAULINA, DENI EMILDA	2064-2071
Screening of phyllospheric and endophytic bacteria as biocontrol agents of <i>Xanthomonas oryzae</i> pv. oryzae TITA WIDJAYANTI, RESTU RIZKYTA KUSUMA, LUQMAN QURATA AINI, CINDY DIAH AYU FITRIANI, ANTOK WAHYU SEKTIONO, MOCHAMMAD SYAMSUL HADI, YOGO SETIAWAN	2072-2079
Diversity, carbon stock and associated biota of seagrass beds in Central Tapanuli District, North Sumatra, Indonesia MIRA MAULITA, ERICK NUGRAHA, RATNA SUHARTI, NANDA W. TANJUNG, MOHAMMAD SAYUTI, MUGI MULYONO, SAYURI MANTANI, R. HARYO BIMO SETIARTO	2080-2087
A comparison between the ectomycorrhizal fungal communities associated with the natural and plantation populations of <i>Dipterocarpus alatus</i> THARNRAT KAEWGRAJANG, MASAHIDE YAMATO, THARIKA POLAMART, UTHAIWAN SANGWANIT	2088-2098
Ant preference for different types of bait at sugarcane plantations in East Java, Indonesia BAMBANG TRI RAHARDJO, FAIZ NASHIRUDDIN MUHAMMAD, YOGO SETIAWAN, AKSHA FEBRYADI, MUHAMMAD IHSAN, DENNIS WIBOWO, ITO FERNANDO	2099-2106
Ecological characteristics of pine processionary moth <i>Thaumetopoea pityocampa</i> (Lepidoptera: Notodontidae) larval nests in pine and cedar forests of Algeria BOUZAR-ESSAIDI KHALED, RAHIM NOUREDDINE, MEFTAHI BADREDDINE, BENFEKIH LEILA	2107-2113
Ethnobotany of Zingiberaceae in Mae Hong Son, Northern Thailand ANGKHANA INTA, CHUSIE TRISONTHI, WITTAYA PONGAMORNKUL, PRATEEP PANYADEE	2114-2124
Bacterial diversity in the western slopes of Mount Lawu, Karanganyar, Indonesia RETNO ROSARIASTUTI, SUTAMI, SETYA NUGRAHA, BAMBANG SIGIT AMANTO	2125-2133
Evaluation of stingless bee honey quality ( <i>Tetragonula laeviceps</i> ) based on their physicochemical from different origins AGUSSALIM, ARDO SABIR, MUHAMAD SAHLAN, ALI AGUS	2134-2142
Effectiveness of bio-fungicide formula on rhizome rot disease of red ginger and its plant growth HUSDA MARWAN, ISLAH HAYATI, SRI MULYATI	2143-2148
,,, _,	

Effect of paranet shade level on plant microenvironment, growth, and yield of three strawberry varieties	2149-2155
NUR EDY SUMINARTI, HUSNI THAMRIN SEBAYANG, MOHAMAD DAWAM MAGHFOER, BULAN	
The potential of five wild growing aromatic plants from Hemaq Beniung Customary Forest on antidiabetic activity HARLINDA KUSPRADINI, AGMI SINTA PUTRI, KISWANTO, HAYATUS SA'ADAH, FAJRIANSYAH, MUHAMMAD AKMAL RIZQULLAH, ANISA GIFTA LARASATI, NAJMIA AFIFAH ZULFA, SAAT EGRA, KOSEI YAMAUCHI, TOHRU MITSUNAGA	2156-2162
Fungal community associated with mixed infection of anthracnose and stem end rot diseases in Chokanan Mango ANI WIDIASTUTI, SURYANTI, ALVINA CLARA GIOVANNI, ISLAMINATI ANNA SANTIKA, NIKEN RASMI PARAMITA	2163-2170
Diversity and species composition of lichens across altitudinal range in the Batang Toru Forest, North Sumatra, Indonesia NURSAHARA PASARIBU, OKY KUSUMA ATNI, JULIUS PAOLO SIREGAR	2171-2178
Pollination biology of yellow passion fruit ( <i>Passiflora edulis</i> forma flavicarpa) at typical Indonesian small-scale farming RAMADHANI EKA PUTRA, GUNAWAN WIBISANA, IDA KINASIH, RIKA RAFFIUDIN, R.C. HIDAYAT SOESILOHADI, HERY PURNOBASUKI	2179-2188
Seaweed diversity and community structure on the west coast of Aceh, Indonesia ERNIATI, ERLANGGA, YUDHO ANDIKA, MULIANI	2189-2200
Isolation and identification of lactic acid bacteria from traditional food sarobuong of Kuantan Singingi District, Riau, Indonesia SARYONO, ISMAWATI, NOVA WAHYU PRATIWI, SILVERA DEVI, MERRY YOHANA SIPAYUNG, NABELLA SURAYA	2201-2206
Fish diversity of the Bengawan Solo River estuary, East Java, Indonesia VERYL HASAN, NANTASA E. ANDRAINI, WAHYU ISRONI, LUTHFIANA A. SARI, AYU L. NAFISYAH, NINA N. DEWI, DIAN N. A. PUTRI, TYAS A. B. PRASASTI, ACHMADI A. RAMADHANI, KIKI DANIEL, JOSIE SOUTH, LUCAS O. VIEIRA, FELIPE P. OTTONI, MAFTUCH, ABDUL R. FAQIH, PANDU. Y. A. P. WIRABUANA, MUHAMMAD B. TAMAM, FITRI S. VALEN	2207-2216
Age, growth, mortality, and population characteristics of the red snapper ( <i>Lutjanus malabaricus</i> ) in the Timor Sea waters, Indonesia SUSY HERWATY, ACHMAR MALLAWA, NAJAMUDDIN, MUKTI ZAINUDDIN	2217-2224
Evaluation Deoxyribonucleic acid (DNA) fragmentation of local Indonesian cattle frozen sperm using Halomax® method TEGUH ARI PRABOWO, SIGIT BINTARA, LIES MIRA YUSIATI, PRADITA IUSTITA SITARESMI, DIAH TRI WIDAYATI	2225-2230
Edge effects at multifunctional agro-landscapes in Jember, Indonesia, on the augmentation of butterfly diversity AGUNG SIH KURNIANTO, NANANG TRI HARYADI, NILASARI DEWI, MIFTACHURROHMI, ANDI ROHMANA, GITINDRA IKHLASUL AMAL, LUHUR SEPTIADI, ANGGUN SAUSAN FIRDAUS, NUR LAILA MAGVIRA	2231-2241
Metabolomic and sensomic approach to characterize key aroma of aromatic mangoes from Indonesia MARIA BELGIS, YULI WITONO, GIYARTO, NUR FATHONAH SADEK, ELOK LUTFI MASRUROH, HERLINA	2242-2250
The importance of DNA barcode reference libraries and selection primer pair in monitoring fish diversity using environmental DNA metabarcoding DEWI IMELDA ROESMA, DJONG HON TJONG, SYAIFULLAH, NOFRITA, MUHAMMAD NAZRI JANRA, FURQAN DWI LINTANG PRAWIRA, VIOLA MUTIARA SALIS, DYTA RABBANI AIDIL	2251-2260

Species diversity and traditional utilization of bamboos (Poaceae) on the Phu Thai Ethnic Group in northeastern Thailand SUMRUAY SUDCHALEAW, SURAPON SAENSOUK, PIYAPORN SAENSOUK, SARAWOOD SUNGKAEW	2261-2271
Determination of phytochemical constituents, antibacterial and antioxidant activities of ethanolic leaf extracts of <i>Pterocarpus erinaceus</i> EMMANUEL CHIKODIRI OKOLI, ISAAC JOHN UMARU, OTITOJU OLAWALE	2272-2277
Vegetation analysis and ethnobotanical study of rubber agroforests in South Sumatra, Indonesia SYAIFUL EDDY, SYAMSUL RIZAL, TRIMIN KARTIKA, KESI JUWITA SARI	2276-2283
Habitat preference of leopard cat ( <i>Prionailurus bengalensis</i> Kerr. 1792) in the Cisokan Hydropower Development Area, West Java, Indonesia SYA SYA SHANIDA, ERRI NOVIAR MEGANTARA, TEGUH HUSODO, ASEP ZAINAL MUTAQIN, DWI RUSTAM KENDARTO, INDRI WULANDARI	2284-2293
Isolation and screening of <i>Pseudomonas fluorescens</i> isolates against <i>Fusarium</i> oxysporum f. sp. radicis-lycopersici and their effects on seedling growth of <i>Paraserianthes falcataria</i> YUSRAN YUSRAN	2294-2301
Morphological identification of the Squirrel ( <i>Callosciurus notatus</i> ) tongue trough Scanning Electron Microscopy (SEM) and histochemistry EMILIA IKA MEGAWATI, STANISLAUS IVAN DAVIN PRADIPTA, ULFAH DAMIA, ULAYATUL KUSTIATI, HEVI WIHADMADYATAMI, DWI LILIEK KUSINDARTA	2302-2314
Morpho-physiological-based selection criteria for chili ( <i>Capsicum annuum</i> ) under drought stress during vegetative to generative phase PENI LESTARI, MUHAMAD SYUKUR, TRIKOESOEMANINGTYAS, WAHYU WIDIYONO	2315-2323
Floristic composition and diversity of indigenous wild food resources in northwestern Cagayan, Philippines SHELLA B. CACATIAN, JOHN LESTER T. TABIAN	2324-2333
<b>Can cities provide butterfly-friendly habitats?</b> NURUL L. WINARNI, NURULIAWATI, BHISMA G. ANUGRA, ACHMAD R. JUNAID, SRI WIDAYANTI, ASLAN, AGUNG NUGROHO, INDRAWAN MIGA, MUHAMMAD B. KURNIAWAN, MELLISSA LIESTANTI, RIZKA A. LUTFIANI, YULIA WULANDARI	2334-2341
The diversity and abundance of weeds in sugarcane (Saccharum officinarum) plantations and its relationships with Hymenoptera parasitoids diversity DENNIS WIBOWO, BAMBANG TRI RAHARDJO, SRI KARINDAH, FAIZ NASIRUDDIN MUHAMMAD	2342-2349
Effect of Beauveria bassiana and Metarhizium anisopliae on the growth of Spodoptera frugiperda by seed inoculation JELLY MILINIA PUSPITA SARI, SITI HERLINDA, SUWANDI SUWANDI, ELFITA	2350-2357
Effect of soil types on root infection of <i>Acacia mangium</i> and <i>Eucalyptus pellita</i> by <i>Ganoderma philippii</i> and <i>Pyrrhoderma noxium</i> Heru Indrayadi, Morag Glen, Fahrizawati, Bayo Alhusaeri Siregar, ANTO RIMBAWANTO, MARDAI, BUDI TJAHJONO, CAROLINE MOHAMMED	2358-2364
Pathogenicity of Vibrio parahaemolyticus causing Acute Hepatopancreatic Necrosis Disease (AHPND) in shrimp ( <i>Litopanaeus vannamei</i> ) in Serang, Banten, Indonesia AFANDI SAPUTRA, MAFTUCH, SRI ANDAYANI, UUN YANUHAR	2365-2373
Phylogenetic analysis of <i>Streptomyces</i> producing antimicrobial agent isolated from Kukup Beach Sand, Yogyakarta, Indonesia AMBARWATI AMBARWATI, BROTO SANTOSO, AAN SOFYAN	2374-2383
Diversity of endophytic fungi of rice plants in Padang City, Indonesia, entomopathogenic to brown planthopper ( <i>Nilaparvata lugens</i> Stal) TRIZELIA, HALIATUR RAHMA, MY SYAHRAWATI	2384-2392

Ethnobotanical study on using bamboo for kites making in Sumedang District, West Java, Indonesia MUHAMMAD IHSAN, BUDI IRAWAN, BUDIAWATI S. ISKANDAR, JOHAN ISKANDAR	2393-2401
Diversity and ecology of molluscs (Gastropods) in Mountain streams, Nurota Mountain Range, Uzbekistan JASUR KUDRATOV, ABDUVAEIT PAZILOV, ZOKIR MAXAMMADIYEV, RA'NO URAZOVA, BEKZOD OTAKULOV, BAXRITDIN BAZAROV, KHUDOYOR KELDIYAROV, ZARINA SOATOVA, XULKAR URINOVA	2402-2408
Usability of planted mangroves in the coastal area of Semarang, Indonesia, as the source of secondary metabolite extracts ENDAH DWI HASTUTI, MUNIFATUL IZZATI, SRI DARMANTI	2409-2415
Physicochemical, thermal properties, and in vitro rumen fermentation of four different underutilized fruit by-products RUSLI FIDRIYANTO, GUNAWAN PRIADI, RONI RIDWAN, NAHROWI NAHROWI, ANURAGA JAYANEGARA	2416-2425
Application of organic fertilizer enriched with <i>Trichoderma harzianum</i> on shallot ( <i>Allium cepa</i> ) cultivation in ultisols NUNI GOFAR, TRI P. NUR, SHINTA D. I. PERMATASARI, SITI MUSLIMAH, HAMDHANIE FIKRI, ANUNG HARYONO, PUJIATI, HANA ALFIANITA UTAMI	2426-2433
Nematode functional traits and community structure change from river to the terrestrial border in Segara Anakan Mangrove, Indonesia ARDHINI RIN MAHARNING, ERWIN RIYANTO ARDLI, ROMANUS EDY PRABOWO	2434-2446
Short Communication: Dacini tribe's fruit fly species in Depok (Indonesia) with special reference to the abundance of orchard fly, <i>Bactrocera dorsalis</i> , for fruit pest controlling QORY HERRAHMAWATI, RATNA YUNIATI, YASMAN	2447-2457
Characterization of microbiota and secretory Ig-A in the domestic duck (Anas platyrhynchos) small and large intestine R. SUSANTI, NUR RAHAYU UTAMI, ARI YUNIASTUTI	2458-2466
Participation of community in mangrove conservation in coastal area of the Valentine Strait, West Seram, Maluku, Indonesia MARLON I. AIPASSA, MARTHA E. SIAHAYA, HENDRIK S.E.S. APONNO, YOSEP RUSLIM, ROCHADI KRISTININGRUM	2467-2474
Secondary metabolites of the granular form of <i>Pseudomonas fluorescens</i> P and its applications to control tomato bacterial wilt LOEKAS SOESANTO, DHIMAS AULI SAPUTRA, MURTI WISNU RAGIL SASTYAWAN, ENDANG MUGIASTUTI, AGUS SUPRAPTO, RUTH FETI RAHAYUNIATI	2475-2482
Floristic diversity of the steppe area of Tissemsilt, Northwest of Algeria LAÏD GUEMOU, SAHNOUNE FELLAH, MOHAMED MAIRIF, KADDA MOHAMED LAMINE CHOUHIM, BADREDDINE MOUSSAOUI, IKRAM NOURELHOUDA BOUZEMARENE, CHAHINEZ BOUBEKEUR	2483-2491
Antibiotic resistance of emerging pathogenic bacteria of hybrid grouper farming in Indonesia INDAH ISTIQOMAH, ALIM ISNANSETYO, MURWANTOKO, DESY PUTRI HANDAYANI, YANI NUR'AINI LESTARI, ARIEF TASLIHAN, I GUSTI NGURAH PERMANA, ENDANG WIJAYANTI	2493-2501