

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

BIODIVERSITAS

Journal of Biological Diversity

Volume 21 - Number 9 - September 2020



Front cover: *Spalax microphthalmus* Gueldenstaedt, 1770
(PHOTO: ALEXEY ANDREYCHEV)

Published monthly

PRINTED IN INDONESIA

ISSN: 1412-033X

E-ISSN: 2085-4722



9 771412 033801



9 772085 472805

BIODIVERSITAS

Journal of Biological Diversity
Volume 21 - Number 9 - September 2020

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. 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 mm²) 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⁻², L⁻¹, h⁻¹) suggested to be used, except in things like "per-plant" 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). 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*. 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, Barnet M, Arnold FH, Quake SR, You L. 2008. A synthetic *Escherichia coli* predator-prey ecosystem. *Mol Syst Biol* 4: 187. www.molecularsystemsbiology.com

BIODIVERSITAS

Journal of Biological Diversity
Volume 21 - Number 9 - September 2020

- Inter-primer binding site (iPBS) markers reveal the population genetic diversity and structure of tropical climbing *Cissampelopsis* (Asteraceae) in Thailand** 3919-3928
ONGKARN VANIJAJIVA, PIMWADEE PORNPONGRUNGRUENG
- Genetic variability of Indonesian landraces of *Vigna subterranea*: Morphological characteristics and molecular analysis using SSR markers** 3929-3937
MUHAMMAD FAUZAN FARID ALHAMDI, ASEP SETIAWAN, SATRIYAS ILYAS, WAI KUAN HO
- A 324-years temperature reconstruction from *Pinus latteri* Mason at highland in Chiang Mai Province, Thailand** 3938-3945
PICHIT LUMYAI, KITSADAPAN PALAKIT, KHWANCHAI DUANGSATHAPORN, KOB SAK WANTHONGCHAI
- A hybrid approach of remote sensing for mapping vegetation biodiversity in a tropical rainforest** 3946-3953
WAHYU WARDHANA, WIRASTUTI WIDYATMANTI, EMMA SORAYA, DJOKO SOEPRIJADI, BEKTI LARASATI, DEHA AGUS UMARHADI, YAASIIN HENDRAWAN TRI HUTOMO, FAHMI IDRIS, PANDU YUDHA ADI PUTRA WIRABUANA
- Sanitary situation of Aleppo pine and holm oak on the Sidi R'Ghies forest, Algeria** 3954-3960
MALIKA RACHED-KANOUNI, ZAHIA KADI, HICHEM KHAMMAR, RATIBA BOUSBA, ROMAÏSSA AMRANE, BESMA CHELLAL, LABED ABABSA
- Short Communication: Proportion faunal assemblage of rodents in geocological districts of Mordovia, Russia** 3961-3968
ALEXEY ANDREYCHEV
- A checklist and conservation status of vascular plants in the Limestone forest of Metropolitan Ilocos Norte Watershed Forest Reserve, Northwestern Luzon, Philippines** 3969-3981
MAE ANN R. BATUYONG, MICHAEL A. CALARAMO, GRECEBIO JONATHAN D. ALEJANDRO
- Short Communication: Ethnobotanical study of wild and cultivated vegetables in the Eastern Cape Province, South Africa** 3982-3988
ALFRED MAROYI
- Local knowledge of traditional medicinal plants use and education system on their young of Ammatoa Kajang tribe in South Sulawesi, Indonesia** 3989-4003
SUHARTINI AZIS, SITI ZUBAIDAH, SUSRIYATI MAHANAL, JATI BATORO, SUTIMAN B. SUMITRO
- Milk production and quality of Etawa crossbreed dairy goat that given *Tithonia diversifolia*, corn waste and concentrate based palm kernel cake** 4004-4009
ARIEF, RUSDIMANSYAH, SIMEL SOWMEN, RONI PAZLA, RIZQAN
- Seed-borne pathogenic fungi on some soybean varieties** 4010-4015
LOEKAS SOESANTO, ANNISA RAHMADDILA RIZKY HARTONO, ENDANG MUGIASTUTI, HERI WIDARTA
- High impact of PGPR on biostatistic of *Aphis craccivora* (Hemiptera: Aphididae) on yardlong bean** 4016-4021
HERMANU TRIWIDODO, LISTIHANI

Distribution of zooplankton community in Toli shad (<i>Tenulosa toli</i>) habitats, Sarawak, Malaysia	4022-4033
WAN MOHAMAD AIMAN, FATIMAH MD YUSOFF, AZIZ ARSHAD, ABU HENA MUSTAFA KAMAL, JOHAN ISMAIL, MOHD HANAFI IDRIS, NURUL ULFAH KARIM, ABDULLA AL ASIF	
Distribution and molecular characterization of biosurfactant-producing bacteria	4034-4040
NASSIR ABDULLAH ALYOUSIF, YASIN Y.Y. AL. LUAIBI, WIJDAN HUSSEIN	
The performances of M4 generation of Mentik Susu rice mutants irradiated with gamma ray	4041-4046
WAF A' NUR HANIFAH, PARJANTO, SRI HARTATI, AHMAD YUNUS	
DNA barcode of <i>Metroxylon sagu</i> and others palm species using <i>matK</i> gene	4047-4057
BARAHIMA ABBAS, RUDY JOHANIS KABES, NOUKE LENDA MAWIKERE, REYMAS MARTEN REINHARD RUI MASSA, RUDY APRIANTO MATURBONG	
Effect of growth conditions on β-glucosidase production by local isolate of <i>Aspergillus niger</i> using rice bran substrate	4058-4066
SRI SUGIWATI, MUHAMMAD HANAFI, HANIFAH NURYANI LIOE, MAGGY THENAWIDJAJA SUHARTONO	
Prope legitimate rootstocks determine the selection criteria for drought-tolerant cocoa	4067-4075
MAERA ZASARI, ADE WACHJAR, AGUNG WAHYU SUSILO, SUDARSONO SUDARSONO	
Characteristics of Methicillin-Resistant <i>Staphylococcus aureus</i> (MRSA) and Methicillin Sensitive <i>Staphylococcus aureus</i> (MSSA) and their inhibitory response by ethanol extract of <i>Abrus precatorius</i>	4076-4085
BQ. MUTMAINNAH, AFAF BAKTIR, NI'MATUZHROH	
Induction of autotetraploid <i>Moringa</i> plant (<i>Moringa oleifera</i>) using oryzalin	4086-4093
RIDWAN, WITJAKSONO	
Development of microsatellite markers for the house cricket, <i>Acheta domestica</i> (Orthoptera: Gryllidae)	4094-4099
YASH MUNNALAL GUPTA, SUPATCHAREE TANASARNPAIBOON, KITTISAK BUDDACHAT, SURIN PEYACHOKNAGUL, PHATTHARAPORN INTIM, SOMJIT HOMCHAN	
Short Communication: The effect of water quality on the population density of <i>Pterygoplichthys pardalis</i> in the Ciliwung River, Jakarta, Indonesia	4100-4106
DEWI ELFIDASARI, FAHMA WIJAYANTI, HURUNIN FATHONAH MUTHMAINAH	
Molecular characterization of eight horse breeds in Algeria using microsatellite markers	4107-4115
BENAHAMADI MOHAMMED EL AMINE, BERBER NAIMA, BENYAROU MOHAMMED, AMEUR AMEUR ABDELKADER, HADDAM HADI YOUSOUF, PIRO MOHAMMED, GAOUAR SEMIR BECHIR SUHEIL	
Morphological and molecular identification of seahorses (<i>Hippocampus</i> spp.) from the coast of Sumatra Island, Indonesia	4116-4123
FADIYAH HANIFATURAHMAH, DYAH PERWITASARI-FARAJALLAH, NURLISA ALIAS BUTET, MALA NURILMALA, AGUS OMAN SUDRAJAT, YOSHISHIRO OCHIAI	
Prey items of some amphibians and reptiles in Phu Khieo–Nam Nao Forest Complex, northeastern Thailand	4124-4130
PRAPAIPORN THONGPROH, JIDAPA CHUNSKUL, PEERASIT RONGCHAPHO, CHANTIP CHUAYNKERN, YODCHAIY CHUAYNKERN, RUTTAPON SRISONCHAI, CHIRAWUTH SAENGSR, PREEYA AONPIME, RATCHATA PHOCHAYAVANICH, PERMSAK KANISHTHAJATA, SAMRET PHUSAENSRI, SUTHIN PROMPALAD, SATAPHON TONGPUN, JIRACHAI ARKAJAG, PRATEEP DUENGKAE	
The effect of planting technique on the growth of two <i>Shorea</i> species in Gunung Dahu, Bogor, Indonesia	4131-4138
HENTI H. RACHMAT, PRIJANTO PAMOENKAS, LUSIANA SHOLIAH, RIZKI ARY FAMBAYUN, ARIDA SUSILOWATI	

Producing renewable electric energy through a microbial fuel cell in the rice field HADI WISA NUGRAHA, GUNAWAN DJAJAKIRANA, SYAIFUL ANWAR, DWI ANDREAS SANTOSA	4139-4146
Antibacterial, cytotoxicity and metabolite profiling of crude methanolic extract from andaliman (<i>Zanthoxylum acanthopodium</i>) fruit MADA TRIANDALA SIBERO, ANGGUN PUSPITARINI SISWANTO, RETNO MURWANI, EVAN HANSEL FREDERICK, ALDI PRATAMA WIJAYA, EMMY SYAFITRI, KINDI FARABI, SHUN SAITO, YASUHIRO IGARASHI	4147-4154
Screening and molecular identification of lipolytic bacteria from spent bleaching earth SITI SOLEHA, ENDAH RETNANINGRUM	4155-4161
Native trees in Nug-as forest Key Biodiversity Area, Cebu, Philippines EDGARDO P. LILLO, ARCHIEBALD B. MALAKI, STEVE MICHAEL T. ALCAZAR, BERNARDO R. REDOBLADO, JOHN LOU B. DIAZ, JUANITA P. PINOTE, RAAMAH ROSALES, INOCENCIO E. BUOT JR.	4162
The phosphorus load and the variation of the trophic states of Cirata Reservoir (West Java, Indonesia) from 1988 to 2017 NIKEN T.M. PRATIWI, ZULHAMSYAH IMRAN, INNA PUSPA AYU, ALIATI ISWANTARI, DWI YUNI WULANDARI	4176-4183
Ultrastructure of <i>Lejeunea</i> spp. leaves surface in a lowland tropical urban forest of Universitas Indonesia Campus, Depok, Indonesia AFIATRY PUTRIKA, DHITA MUTIARA NABELLA, ANDI SALAMAH, NISYAWATI, ASTARI DWIRANTI	4184-4191
Characterization of a bacteriocin as biopreservative synthesized by indigenous lactic acid bacteria from dadih soya traditional product used in West Sumatra, Indonesia ENDAH RETNANINGRUM, TANIA YOSSI, RINI NUR'AZIZAH, FADILLA SAPALINA, PERISKILA DINA KALI KULLA	4192-4198
Characterization of <i>Bacillus</i> spp. from the rhizosphere of potato Granola varieties as an antibacterial against <i>Ralstonia solanacearum</i> NUR PRIHATININGSIH, TRIWIDODO ARWIYANTO, BAMBANG HADISUTRISNO, JAKA WIDADA2	4199-4204
Antioxidant activity and compound constituents of gamma-irradiated black rice (<i>Oryza sativa</i> L.) var. Cempo Ireng indigenous of Indonesia VENTY SURYANTI, RIYATUN, SUHARYANA, SUTARNO, OZI ADI SAPUTRA1	4205-4212
Abundance and characterization of microorganisms isolated from oil palm empty fruit bunches waste under aerobic, anaerobic, and facultative anaerobic conditions DERMIYATI, RADIX SUHARJO, MARELI TELAUMBANUA, RULLY YOSITA, ANGGI WINANDA SARI, ANIS PUJI ANDAYANI	4213-4220
Community structure analysis of soil insects and their potential role as bioindicators in various ecosystem types in Lombok, West Nusa Tenggara, Indonesia IMMY SUCI ROHYANI	4221-4227
Short Communication: Genetic polymorphism of registered and popularly cultivated coffee (<i>Coffea</i> spp.) in the Philippines using inter-simple sequence repeats markers ARLEEN C. PANALIGAN, MIRIAM D. BALTAZAR, GRECEBIO JONATHAN D. ALEJANDRO	4228-4233
Abundance of soil microbes, endophytic fungi and blast disease of paddy rice with three pest management practices SURYO WIYONO, BONJOK ISTIAJI, HERMANU TRIWIDODO, ANDIKA S. SURYANINGSIH	4234-4239
Microbial study of organisms isolated from nutritional fruit juices surrounded by local fruit market in Nanded, Maharashtra, India ASHWINI SHANKARRAO DESHMUKH, MUJAHED M. SIDDIQUI, UMAR KHAN PATHAN, UMESH PRAVIN DHULDHAJ	4240-4246

- Exploring functional fungi on organic matter decomposition of oil palm empty bunches as bio-resource in land remediation** 4247-4252
BURHANUDDIN RASYID, AMBO ALA, TUTIK KUSWINANTI, SUKRIMING SAPARENG
- Growth performance and nutritional quality enrichment of *Phronima pacifica* by *Chlorella vulgaris* and *Chaetoceros calcitrans* as natural feed** 4253-4259
VIVI ENDAR HERAWATI, ZUMALALLAIL NAILULMUNA, NURMANITA RISMANINGSIH, JOHANNES HUTABARAT, PINANDOYO, TITA ELFITASARI, PUTUT HAR RIYADI, OCKY KARNA RADJASA5
- Population genetic structure of Blue Swimming Crab (*Portunus pelagicus*) in the Gulf of Thailand** 4260-4268
VERAKIAT SUPMEE, AMONSAK SAWUSDEE, PRADIT SANGTHONG, JUTHAMAS SUPPAPAN
- Potentially lactic acid bacteria as an EPS producing starter from yellow sweet potato fermentation** 4269-4275
NETI YULIANA, SUMARDI, EDO JATMIKO, MENTARI ROSALINE, MUHAMMAD IQBAL
- Forensic genetic case study: Species identification and traceability of sea turtle caught in illegal trade in Bali, Indonesia** 4276-4283
NI PUTU DIAN PERTIWI, MAULID DIO SUHENDRO, NI LUH ASTRIA YUSMALINDA, I NYOMAN GIRI PUTRA, I GUSTI RICCA MAHATMA PUTRI, ENEX YUNI ARTININGSIH, M. DANIE AL MALIK, NI KADEK DITA CAHYANI, ANDRIANUS SEMBIRING
- Indigenous knowledge of the people in Karya Usaha Hamlet (Kubu Raya, West Kalimantan, Indonesia) on the processing and diversity of plants that enhance toddler's appetite** 4284-4290
RUQIAH GANDA PUTRI PANJAITAN, MITALIA, RUHYAT PARTASASMITA
- Allometric equations for estimating biomass of community forest tree species in Madiun, Indonesia** 4291-4300
PANDU YUDHA ADI PUTRA WIRABUANA, RAHMANTA SETIAHADI, RONGGO SADONO, MARTIN LUKITO, DJOKO SETYO MARTONO, JERIELS MATATULA
- Fumigant and feeding deterrent activity of essential oils against *Cryptolestes ferrugineus* (Stephens) (Coleoptera: Laemophloeidae)** 4301-4308
SILVI IKAWATI, TOTO HIMAWAN, ABDUL LATIEF ABADI, HAGUS TARNO
- First chromosome analysis of Thai pufferfish *Pao cochinchinensis* (Steindachner, 1866)** 4309-4316
MANACHAYA PISSAPARN, SUMALEE PHIMPHAN, PATCHARAPORN CHAIYASAN, ALONGKLOD TANOAMTONG, THOMAS LIEHR, CHATMONGKON SUWANNAPOOM, MONTRI REUNGSING, WEERAYUTH SUPIWONG
- Effect of genotype, concentration and timing of salicylic acid application to *Phalaenopsis* against *Dickeya dadantii* infection** 4317-4324
I PUTU WAHYU SANJAYA, DEWI SUKMA, SUDARSONO, MING-TSAIR CHAN
- Male-sterile induction method in foxtail millet (*Setaria italica*)** 4325-4330
RIZKI BAGUS NUGROHO, WILLY BAYUARDI SUWARNO, NURUL KHUMAIDA, SINTHO WAHYUNING ARDIE
- Coral diversity on artificial reef from coconut shells in northern Bali, Indonesia** 4331-4338
EGHBERT ELVAN AMPOU, GEDE IWAN SETIABUDI, NURYANI WIDAGTI, I NYOMAN DODIK PRASETIA
- Crowing characteristics of Pelung chickens at different age and body weight** 4339-4344
INDRAWATI Y. ASMARA, DANI GARNIDA, RUHYAT PARTASASMITA
- Chemical composition and antimicrobial activity of *Pinus halepensis* from Algeria** 4345-4360
RIMA HAICHOUD, MESSAOUD RAMDANI, TAKIA LOGRADA, PIERRE CHALARD, GILLES FIGUEREDO
- Metabolic profiling and pathway analysis in red arillus of *Salacca sumatrana* demonstrate significant pyruvate, sulfur, and fatty acid metabolisms** 4361-4368
MIFTAHUL HUDA FENDIYANTO, RIZKY DWI SATRIO, DIDI DARMADI

Feeding preference and growth response of early adults abalone, <i>Haliotis squamata</i> on some macroalgae	4369-4375
DENY SUHERNAWAN YUSUP, I GEDE MAHARDIKA, I WAYAN SUARNA, I NYOMAN ADIASMARA GIRI	
Population density, multiple harvesting, and ability of <i>Ipomoea reptans</i> to compete with native weeds at tropical wetlands	4376-4383
BENYAMIN LAKITAN, KARTIKA KARTIKA	
Folk name and lore of birds from the Sundanese of West Java, Indonesia: An ethno-ornithological survey	4384-4395
DEDE MULYANTO, JOHAN ISKANDAR, ALIYA MADANI, RIMBO GUNAWAN, RUHYAT PARTASASMITA	
The growth of <i>Shorea leprosula</i> at various planting distances and slopes in Gunung Dahu Research Forest, Bogor, Indonesia	4396-4404
PRIJANTO PAMOENKAS, HENTI H. RACHMAT, NADYA KHALIFA	
Heterospecific and conspecific associations of trees in lowland tropical forest of New Guinea	4405-4418
AGUSTINUS MURDJOKO, MARTHEN MATHIAS JITMAU, DONY ARISTONE DJITMAU, RIMA HERLINA SETIAWATI SIBURIAN, ANTONI UNGIRWALU, ALFREDO OTTOW WANMA, ZULFIKAR MARDIYADI, ALEXANDER RUMATORA, WOLFRAM YAHYA MOFU, ANTON SILAS SINERI, SEPUS MARTEN FATEM, DESCARLO WORABAI, NUNANG LAMA EK MAY, MAX JONDUDAGO TOKEDE, HERMAN WARMETAN, CHARLY BRAVO WANGGAI, JIMMY FRANS WANMA, ELIESER VIKTOR SIRAMI, JOHANA BETY PAEMBOANAN, ERNI UNENOR, RELAWAN KUSWANDI, KRISMA LEKITOO, LISNA KHAYATI, NITHANEL MIKAEL HENDRIK BENU, JUNUS TAMBING, ANDI SASTRA BENNY SARAGIH	
Ethnoecology of paddy-fish integrative farming (<i>minapadi</i>) in Lampegan Village, West Java, Indonesia	4419-4432
IIK NURUL FATIMAH, JOHAN ISKANDAR, RUHYAT PARTASASMITA	
Short Communication: The presence of Bull shark <i>Carcharhinus leucas</i> (Elasmobranchii: Carcharhinidae) in the fresh waters of Sumatra, Indonesia	4433-4439
VERYL HASAN, MAHENO SRI WIDODO	
Various medicinal plants traded in the village market of Karangwangi Village, Southern Cianjur, West Java, Indonesia	4440-4456
BUDIAWATI S. ISKANDAR, JOHAN ISKANDAR, RUHYAT PARTASASMITA, BUDI IRAWAN	
The diversity of wild orchids in the southern slope of Mount Merapi, Yogyakarta, Indonesia eight years after the 2010 eruption	4457-4465
FEBRI YUDA KURNIAWAN, FAUZANA PUTRI, AHMAD SUYOKO, HIMAWAN MASYHURI, MAYA PURQI SULISTIANINGRUM, ENDANG SEMIARTI	

BIODIVERSITAS

Journal of Biological Diversity
Volume 21 - Number 9 - September 2020

- Inter-primer binding site (iPBS) markers reveal the population genetic diversity and structure of tropical climbing *Cissampelopsis* (Asteraceae) in Thailand** 3919-3928
ONGKARN VANIJAJIVA, PIMWADEE PORNPONGRUNGRUENG
- Genetic variability of Indonesian landraces of *Vigna subterranea*: Morphological characteristics and molecular analysis using SSR markers** 3929-3937
MUHAMMAD FAUZAN FARID ALHAMDI, ASEP SETIAWAN, SATRIYAS ILYAS, WAI KUAN HO
- A 324-years temperature reconstruction from *Pinus latteri* Mason at highland in Chiang Mai Province, Thailand** 3938-3945
PICHIT LUMYAI, KITSADAPAN PALAKIT, KHWANCHAI DUANGSATHAPORN, KOB SAK WANTHONGCHAI
- A hybrid approach of remote sensing for mapping vegetation biodiversity in a tropical rainforest** 3946-3953
WAHYU WARDHANA, WIRASTUTI WIDYATMANTI, EMMA SORAYA, DJOKO SOEPRIJADI, BEKTI LARASATI, DEHA AGUS UMARHADI, YAASIIN HENDRAWAN TRI HUTOMO, FAHMI IDRIS, PANDU YUDHA ADI PUTRA WIRABUANA
- Sanitary situation of Aleppo pine and holm oak on the Sidi R'Ghies forest, Algeria** 3954-3960
MALIKA RACHED-KANOUNI, ZAHIA KADI, HICHEM KHAMMAR, RATIBA BOUSBA, ROMAÏSSA AMRANE, BESMA CHELLAL, LABED ABABSA
- Short Communication: Proportion faunal assemblage of rodents in geocological districts of Mordovia, Russia** 3961-3968
ALEXEY ANDREYCHEV
- A checklist and conservation status of vascular plants in the Limestone forest of Metropolitan Ilocos Norte Watershed Forest Reserve, Northwestern Luzon, Philippines** 3969-3981
MAE ANN R. BATUYONG, MICHAEL A. CALARAMO, GRECEBIO JONATHAN D. ALEJANDRO
- Short Communication: Ethnobotanical study of wild and cultivated vegetables in the Eastern Cape Province, South Africa** 3982-3988
ALFRED MAROYI
- Local knowledge of traditional medicinal plants use and education system on their young of Ammatoa Kajang tribe in South Sulawesi, Indonesia** 3989-4003
SUHARTINI AZIS, SITI ZUBAIDAH, SUSRIYATI MAHANAL, JATI BATORO, SUTIMAN B. SUMITRO
- Milk production and quality of Etawa crossbreed dairy goat that given *Tithonia diversifolia*, corn waste and concentrate based palm kernel cake** 4004-4009
ARIEF, RUSDIMANSYAH, SIMEL SOWMEN, RONI PAZLA, RIZQAN
- Seed-borne pathogenic fungi on some soybean varieties** 4010-4015
LOEKAS SOESANTO, ANNISA RAHMADDILA RIZKY HARTONO, ENDANG MUGIASTUTI, HERI WIDARTA
- High impact of PGPR on biostatistic of *Aphis craccivora* (Hemiptera: Aphididae) on yardlong bean** 4016-4021
HERMANU TRIWIDODO, LISTIHANI

Distribution of zooplankton community in Toli shad (<i>Tenulosa toli</i>) habitats, Sarawak, Malaysia	4022-4033
WAN MOHAMAD AIMAN, FATIMAH MD YUSOFF, AZIZ ARSHAD, ABU HENA MUSTAFA KAMAL, JOHAN ISMAIL, MOHD HANAFI IDRIS, NURUL ULFAH KARIM, ABDULLA AL ASIF	
Distribution and molecular characterization of biosurfactant-producing bacteria	4034-4040
NASSIR ABDULLAH ALYOUSIF, YASIN Y.Y. AL. LUAIBI, WIJDAN HUSSEIN	
The performances of M4 generation of Mentik Susu rice mutants irradiated with gamma ray	4041-4046
WAFA' NUR HANIFAH, PARJANTO, SRI HARTATI, AHMAD YUNUS	
DNA barcode of <i>Metroxylon sagu</i> and others palm species using <i>matK</i> gene	4047-4057
BARAHIMA ABBAS, RUDY JOHANIS KABES, NOUKE LENDA MAWIKERE, REYMAS MARTEN REINHARD RUI MASSA, RUDY APRIANTO MATURBONG	
Effect of growth conditions on β-glucosidase production by local isolate of <i>Aspergillus niger</i> using rice bran substrate	4058-4066
SRI SUGIWATI, MUHAMMAD HANAFI, HANIFAH NURYANI LIOE, MAGGY THENAWIDJAJA SUHARTONO	
Prope legitimate rootstocks determine the selection criteria for drought-tolerant cocoa	4067-4075
MAERA ZASARI, ADE WACHJAR, AGUNG WAHYU SUSILO, SUDARSONO SUDARSONO	
Characteristics of Methicillin-Resistant <i>Staphylococcus aureus</i> (MRSA) and Methicillin Sensitive <i>Staphylococcus aureus</i> (MSSA) and their inhibitory response by ethanol extract of <i>Abrus precatorius</i>	4076-4085
BQ. MUTMAINNAH, AFAF BAKTIR, NI'MATUZHROH	
Induction of autotetraploid <i>Moringa</i> plant (<i>Moringa oleifera</i>) using oryzalin	4086-4093
RIDWAN, WITJAKSONO	
Development of microsatellite markers for the house cricket, <i>Acheta domestica</i> (Orthoptera: Gryllidae)	4094-4099
YASH MUNNALAL GUPTA, SUPATCHAREE TANASARNPAIBOON, KITTISAK BUDDACHAT, SURIN PEYACHOKNAGUL, PHATTHARAPORN INTIM, SOMJIT HOMCHAN	
Short Communication: The effect of water quality on the population density of <i>Pterygoplichthys pardalis</i> in the Ciliwung River, Jakarta, Indonesia	4100-4106
DEWI ELFIDASARI, FAHMA WIJAYANTI, HURUNIN FATHONAH MUTHMAINAH	
Molecular characterization of eight horse breeds in Algeria using microsatellite markers	4107-4115
BENAHAMADI MOHAMMED EL AMINE, BERBER NAIMA, BENYAROU MOHAMMED, AMEUR AMEUR ABDELKADER, HADDAM HADI YOUSOUF, PIRO MOHAMMED, GAOUAR SEMIR BECHIR SUHEIL	
Morphological and molecular identification of seahorses (<i>Hippocampus</i> spp.) from the coast of Sumatra Island, Indonesia	4116-4123
FADIYAH HANIFATURAHMAH, DYAH PERWITASARI-FARAJALLAH, NURLISA ALIAS BUTET, MALA NURILMALA, AGUS OMAN SUDRAJAT, YOSHISHIRO OCHIAI	
Prey items of some amphibians and reptiles in Phu Khieo–Nam Nao Forest Complex, northeastern Thailand	4124-4130
PRAPAIPORN THONGPROH, JIDAPA CHUNSKUL, PEERASIT RONGCHAPHO, CHANTIP CHUAYNKERN, YODCHAIY CHUAYNKERN, RUTTAPON SRISONCHAI, CHIRAWUTH SAENGSR, PREEYA AONPIME, RATCHATA PHOCHAYAVANICH, PERMSAK KANISHTHAJATA, SAMRET PHUSAENSRI, SUTHIN PROMPALAD, SATAPHON TONGPUN, JIRACHAI ARKAJAG, PRATEEP DUENGKAE	
The effect of planting technique on the growth of two <i>Shorea</i> species in Gunung Dahu, Bogor, Indonesia	4131-4138
HENTI H. RACHMAT, PRIJANTO PAMOENGGAS, LUSIANA SHOLIAH, RIZKI ARY FAMBAYUN, ARIDA SUSILOWATI	

Producing renewable electric energy through a microbial fuel cell in the rice field HADI WISA NUGRAHA, GUNAWAN DJAJAKIRANA, SYAIFUL ANWAR, DWI ANDREAS SANTOSA	4139-4146
Antibacterial, cytotoxicity and metabolite profiling of crude methanolic extract from andaliman (<i>Zanthoxylum acanthopodium</i>) fruit MADA TRIANDALA SIBERO, ANGGUN PUSPITARINI SISWANTO, RETNO MURWANI, EVAN HANSEL FREDERICK, ALDI PRATAMA WIJAYA, EMMY SYAFITRI, KINDI FARABI, SHUN SAITO, YASUHIRO IGARASHI	4147-4154
Screening and molecular identification of lipolytic bacteria from spent bleaching earth SITI SOLEHA, ENDAH RETNANINGRUM	4155-4161
Native trees in Nug-as forest Key Biodiversity Area, Cebu, Philippines EDGARDO P. LILLO, ARCHIEBALD B. MALAKI, STEVE MICHAEL T. ALCAZAR, BERNARDO R. REDOBLADO, JOHN LOU B. DIAZ, JUANITA P. PINOTE, RAAMAH ROSALES, INOCENCIO E. BUOT JR.	4162
The phosphorus load and the variation of the trophic states of Cirata Reservoir (West Java, Indonesia) from 1988 to 2017 NIKEN T.M. PRATIWI, ZULHAMSYAH IMRAN, INNA PUSPA AYU, ALIATI ISWANTARI, DWI YUNI WULANDARI	4176-4183
Ultrastructure of <i>Lejeunea</i> spp. leaves surface in a lowland tropical urban forest of Universitas Indonesia Campus, Depok, Indonesia AFIATRY PUTRIKA, DHITA MUTIARA NABELLA, ANDI SALAMAH, NISYAWATI, ASTARI DWIRANTI	4184-4191
Characterization of a bacteriocin as biopreservative synthesized by indigenous lactic acid bacteria from dadih soya traditional product used in West Sumatra, Indonesia ENDAH RETNANINGRUM, TANIA YOSSI, RINI NUR'AZIZAH, FADILLA SAPALINA, PERISKILA DINA KALI KULLA	4192-4198
Characterization of <i>Bacillus</i> spp. from the rhizosphere of potato Granola varieties as an antibacterial against <i>Ralstonia solanacearum</i> NUR PRIHATININGSIH, TRIWIDODO ARWIYANTO, BAMBANG HADISUTRISNO, JAKA WIDADA2	4199-4204
Antioxidant activity and compound constituents of gamma-irradiated black rice (<i>Oryza sativa</i> L.) var. Cempo Ireng indigenous of Indonesia VENTY SURYANTI, RIYATUN, SUHARYANA, SUTARNO, OZI ADI SAPUTRA1	4205-4212
Abundance and characterization of microorganisms isolated from oil palm empty fruit bunches waste under aerobic, anaerobic, and facultative anaerobic conditions DERMIYATI, RADIX SUHARJO, MARELI TELAUMBANUA, RULLY YOSITA, ANGGI WINANDA SARI, ANIS PUJI ANDAYANI	4213-4220
Community structure analysis of soil insects and their potential role as bioindicators in various ecosystem types in Lombok, West Nusa Tenggara, Indonesia IMMY SUCI ROHYANI	4221-4227
Short Communication: Genetic polymorphism of registered and popularly cultivated coffee (<i>Coffea</i> spp.) in the Philippines using inter-simple sequence repeats markers ARLEEN C. PANALIGAN, MIRIAM D. BALTAZAR, GRECEBIO JONATHAN D. ALEJANDRO	4228-4233
Abundance of soil microbes, endophytic fungi and blast disease of paddy rice with three pest management practices SURYO WIYONO, BONJOK ISTIAJI, HERMANU TRIWIDODO, ANDIKA S. SURYANINGSIH	4234-4239
Microbial study of organisms isolated from nutritional fruit juices surrounded by local fruit market in Nanded, Maharashtra, India ASHWINI SHANKARRAO DESHMUKH, MUJAHED M. SIDDIQUI, UMAR KHAN PATHAN, UMESH PRAVIN DHULDHAJ	4240-4246

- Exploring functional fungi on organic matter decomposition of oil palm empty bunches as bio-resource in land remediation** 4247-4252
BURHANUDDIN RASYID, AMBO ALA, TUTIK KUSWINANTI, SUKRIMING SAPARENG
- Growth performance and nutritional quality enrichment of *Phronima pacifica* by *Chlorella vulgaris* and *Chaetoceros calcitrans* as natural feed** 4253-4259
VIVI ENDAR HERAWATI, ZUMALALLAIL NAILULMUNA, NURMANITA RISMANINGSIH, JOHANNES HUTABARAT, PINANDOYO, TITA ELFITASARI, PUTUT HAR RIYADI, OCKY KARNA RADJASA5
- Population genetic structure of Blue Swimming Crab (*Portunus pelagicus*) in the Gulf of Thailand** 4260-4268
VERAKIAT SUPMEE, AMONSAK SAWUSDEE, PRADIT SANGTHONG, JUTHAMAS SUPPAPAN
- Potentially lactic acid bacteria as an EPS producing starter from yellow sweet potato fermentation** 4269-4275
NETI YULIANA, SUMARDI, EDO JATMIKO, MENTARI ROSALINE, MUHAMMAD IQBAL
- Forensic genetic case study: Species identification and traceability of sea turtle caught in illegal trade in Bali, Indonesia** 4276-4283
NI PUTU DIAN PERTIWI, MAULID DIO SUHENDRO, NI LUH ASTRIA YUSMALINDA, I NYOMAN GIRI PUTRA, I GUSTI RICCA MAHATMA PUTRI, ENEX YUNI ARTININGSIH, M. DANIE AL MALIK, NI KADEK DITA CAHYANI, ANDRIANUS SEMBIRING
- Indigenous knowledge of the people in Karya Usaha Hamlet (Kubu Raya, West Kalimantan, Indonesia) on the processing and diversity of plants that enhance toddler's appetite** 4284-4290
RUQIAH GANDA PUTRI PANJAITAN, MITALIA, RUHYAT PARTASASMITA
- Allometric equations for estimating biomass of community forest tree species in Madiun, Indonesia** 4291-4300
PANDU YUDHA ADI PUTRA WIRABUANA, RAHMANTA SETIAHADI, RONGGO SADONO, MARTIN LUKITO, DJOKO SETYO MARTONO, JERIELS MATATULA
- Fumigant and feeding deterrent activity of essential oils against *Cryptolestes ferrugineus* (Stephens) (Coleoptera: Laemophloeidae)** 4301-4308
SILVI IKAWATI, TOTO HIMAWAN, ABDUL LATIEF ABADI, HAGUS TARNO
- First chromosome analysis of Thai pufferfish *Pao cochinchinensis* (Steindachner, 1866)** 4309-4316
MANACHAYA PISSAPARN, SUMALEE PHIMPHAN, PATCHARAPORN CHAIYASAN, ALONGKLOD TANOAMTONG, THOMAS LIEHR, CHATMONGKON SUWANNAPOOM, MONTRI REUNGSING, WEERAYUTH SUPIWONG
- Effect of genotype, concentration and timing of salicylic acid application to *Phalaenopsis* against *Dickeya dadantii* infection** 4317-4324
I PUTU WAHYU SANJAYA, DEWI SUKMA, SUDARSONO, MING-TSAIR CHAN
- Male-sterile induction method in foxtail millet (*Setaria italica*)** 4325-4330
RIZKI BAGUS NUGROHO, WILLY BAYUARDI SUWARNO, NURUL KHUMAIDA, SINTHO WAHYUNING ARDIE
- Coral diversity on artificial reef from coconut shells in northern Bali, Indonesia** 4331-4338
EGHBERT ELVAN AMPOU, GEDE IWAN SETIABUDI, NURYANI WIDAGTI, I NYOMAN DODIK PRASETIA
- Crowing characteristics of Pelung chickens at different age and body weight** 4339-4344
INDRAWATI Y. ASMARA, DANI GARNIDA, RUHYAT PARTASASMITA
- Chemical composition and antimicrobial activity of *Pinus halepensis* from Algeria** 4345-4360
RIMA HAICHOOR, MESSAOUD RAMDANI, TAKIA LOGRADA, PIERRE CHALARD, GILLES FIGUEREDO
- Metabolic profiling and pathway analysis in red arillus of *Salacca sumatrana* demonstrate significant pyruvate, sulfur, and fatty acid metabolisms** 4361-4368
MIFTAHUL HUDA FENDIYANTO, RIZKY DWI SATRIO, DIDI DARMADI

Feeding preference and growth response of early adults abalone, <i>Haliotis squamata</i> on some macroalgae	4369-4375
DENY SUHERNAWAN YUSUP, I GEDE MAHARDIKA, I WAYAN SUARNA, I NYOMAN ADIASMARA GIRI	
Population density, multiple harvesting, and ability of <i>Ipomoea reptans</i> to compete with native weeds at tropical wetlands	4376-4383
BENYAMIN LAKITAN, KARTIKA KARTIKA	
Folk name and lore of birds from the Sundanese of West Java, Indonesia: An ethno-ornithological survey	4384-4395
DEDE MULYANTO, JOHAN ISKANDAR, ALIYA MADANI, RIMBO GUNAWAN, RUHYAT PARTASASMITA	
The growth of <i>Shorea leprosula</i> at various planting distances and slopes in Gunung Dahu Research Forest, Bogor, Indonesia	4396-4404
PRIJANTO PAMOENKAS, HENTI H. RACHMAT, NADYA KHALIFA	
Heterospecific and conspecific associations of trees in lowland tropical forest of New Guinea	4405-4418
AGUSTINUS MURDJOKO, MARTHEN MATHIAS JITMAU, DONY ARISTONE DJITMAU, RIMA HERLINA SETIAWATI SIBURIAN, ANTONI UNGIRWALU, ALFREDO OTTOW WANMA, ZULFIKAR MARDIYADI, ALEXANDER RUMATORA, WOLFRAM YAHYA MOFU, ANTON SILAS SINERI, SEPUS MARTEN FATEM, DESCARLO WORABAI, NUNANG LAMA EK MAY, MAX JONDUDAGO TOKEDE, HERMAN WARMETAN, CHARLY BRAVO WANGGAI, JIMMY FRANS WANMA, ELIESER VIKTOR SIRAMI, JOHANA BETY PAEMBOANAN, ERNI UNENOR, RELAWAN KUSWANDI, KRISMA LEKITOO, LISNA KHAYATI, NITHANEL MIKAEL HENDRIK BENU, JUNUS TAMBING, ANDI SASTRA BENNY SARAGIH	
Ethnoecology of paddy-fish integrative farming (<i>minapadi</i>) in Lampegan Village, West Java, Indonesia	4419-4432
IIK NURUL FATIMAH, JOHAN ISKANDAR, RUHYAT PARTASASMITA	
Short Communication: The presence of Bull shark <i>Carcharhinus leucas</i> (Elasmobranchii: Carcharhinidae) in the fresh waters of Sumatra, Indonesia	4433-4439
VERYL HASAN, MAHENO SRI WIDODO	
Various medicinal plants traded in the village market of Karangwangi Village, Southern Cianjur, West Java, Indonesia	4440-4456
BUDIAWATI S. ISKANDAR, JOHAN ISKANDAR, RUHYAT PARTASASMITA, BUDI IRAWAN	
The diversity of wild orchids in the southern slope of Mount Merapi, Yogyakarta, Indonesia eight years after the 2010 eruption	4457-4465
FEBRI YUDA KURNIAWAN, FAUZANA PUTRI, AHMAD SUYOKO, HIMAWAN MASYHURI, MAYA PURQI SULISTIANINGRUM, ENDANG SEMIARTI	

Front cover: *Spalax microphthalmus* Gueldenstaedt, 1770
(PHOTO: ALEXEY ANDREYCHEV)

Published monthly

PRINTED IN INDONESIA

ISSN: 1412-033X

E-ISSN: 2085-4722



9 771412 033801



9 772085 472805

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

BIODIVERSITAS

Journal of Biological Diversity

Volume 21 - Number 9 - September 2020



