

# Asian Journal of Tropical Biotechnology

| Asian J Trop Biotechnol | vol. 19 | no. 2 | December 2022 |  
| ISSN 2775-300X | E-ISSN 2775-4715 |

*Zingiber officinale* flower photo by S.K. Siddhartthan



# Asian Journal of Tropical Biotechnology

| Asian J Trop Biotechnol | vol. 19 | no. 2 | December 2022 |

---

<b>Antioxidant potential of ginger extract on metals (lead, cadmium, and boron) induced oxidative stress in maize plant</b>	<b>45-51</b>
CHUKWUMA STEPHEN EZEONU, SILAS VERWIYEH TATAH, CHINEDU IMO, OJOCHENEMI EJEH YAKUBU, QUEEN HABU GARBA, KAYODE AROWORA, ISAAC JOHN UMARU, MOSES ANDODUA ABAH, MICHAEL SUNDAY ABU, EMOCHONE ROY YOHANNA, MGBEDE TIMOTHY	
<b>The deleterious effects of chitosan application on red chili pepper growth and capsaicin biosynthesis under drought stress</b>	<b>52-61</b>
MUHAMMAD ABDUL AZIZ, RIZKITA RACHMI ESYANTI, KARLIA MEITHA, FENNY MARTHA DWIVANY	
<b>Phytochemical composition of <i>Dichrocephala integrifolia</i> crude extracts, antiviral activity and toxicity</b>	<b>62-71</b>
ABDI HUSSEIN HADUN, JAMES MBARIA, GRABRIEL OLUGA ABOGE	
<b>Identifying bacteria associated with diseased <i>Oreochromis niloticus</i> in Lake Kariba, Zambia</b>	<b>72-80</b>
TIPEZENJI SAKALA, ROBINSON H. MDEGELA, BERNARD M. HANGOMBE	
<b>Pectinase production from a local isolate of <i>Aspergillus niger</i> using orange bagasse as a carbon source</b>	<b>81-86</b>
MGBEDE TIMOTHY, MIDA HABILA MAYEL, EMOCHONE ROY YOHANNA, MOSES ABAH ADONDUA, UGWUOKE KENNETH CHINEKWU, BIYARGA BUMA BINUNGA, TYRON JANET	



# Asian Journal of Tropical Biotechnology

| Asian J Trop Biotechnol | vol. 19 | no. 2 | December 2022 |

## ONLINE

<http://smujo.id/bbs>

## p-ISSN

2775-300X

## e-ISSN

2775-4715

## PUBLISHER

Society for Indonesian Biodiversity

## CO-PUBLISHER

Universitas Sebelas Maret, Surakarta, Indonesia

## OFFICE ADDRESS

Jl. Ir. Sutami 36A Surakarta 57126, Central Java, Indonesia. Tel./Fax.: +62-271-663375, email: [editors@smujo.id](mailto:editors@smujo.id)

## PERIOD OF ISSUANCE

June, December

## EDITOR-IN-CHIEF

**Suranto** – Universitas Sebelas Maret, Surakarta, Indonesia

## ASSOCIATE EDITOR

**Ahmad Dwi Setyawan** – Universitas Sebelas Maret, Surakarta, Indonesia

## EDITORIAL BOARD

**Ari Pitoyo** – Universitas Sebelas Maret, Surakarta, Indonesia

**Artini Pangastuti** – Universitas Sebelas Maret, Surakarta, Indonesia

**Asish Kumar Parida** – CSIR-Central Salt & Marine Chemicals Research Institute, Bhavnagar, India

**Brijmohan Singh Bhau** – CSIR-North-East Institute of Science & Technology, Jorhat, Assam, India

**Ghulam Nabi** – Institute of Hydrobiology, the Chinese Academy of Sciences, Wuhan, China

**Heru Kuswantoro** – Indonesian Legumes and Tuber Crops Research Institute, Malang, Indonesia

**Indrastuti A. Rumanti** – Indonesian Center for Rice Research, Sukamandi, Subang, Indonesia

**Mallappa Kumara Swamy** – Universiti Putra Malaysia, Malaysia

**Martin Mkandawire** – Cape Breton University, Nova Scotia, Canada

**Megga Ratnasari Pikoli** – Universitas Islam Negeri Syarif Hidayatullah Jakarta, Indonesia

**Mohammed Arifullah** – Universiti Malaysia Kelantan, Jeli, Malaysia

**Saifeldin A. F. El-Nagerabi** – College of Arts and Sciences, Nizwa University, Nizwa, Oman

**Yosep Seran Mau** – Universitas Nusa Cendana, Kupang, Indonesia

*List of reviewers: <https://smujo.id/bbs/reviewers>*



Society for Indonesian  
Biodiversity



Universitas Sebelas Maret  
Surakarta, Indonesia

## GUIDANCE FOR AUTHORS

**Aims and Scope** *Asian Journal of Tropical Biotechnology* (Asian J Trop Biotechnol) (formerly *Biotechnologi*, *Biotechnological Studies*) encourages submission of manuscripts dealing with all aspects of biotechnology, especially from tropical regions, that emphasize issues germane to improve human life, includes cell biochemistry, enzymes and proteins, applied genetics and molecular biotechnology, genomics and proteomics, applied microbiology and cell physiology, environmental biotechnology, improvement of crop productivity, public health and waste management, as well as product formation and manipulation of biological processes for use in the agricultural, pharmaceutical biotechnology and allied industries.

**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/bbs/about/submissions>) or, for login problems, email the editors at [unsjournals@gmail.com](mailto:unsjournals@gmail.com) (or [editors@smujo.id](mailto:editors@smujo.id)). Submitted manuscripts should be the original works of the author(s). Please ensure that the manuscript is submitted using the template, which can be found at (<https://biodiversitas.mipa.uns.ac.id/D/template.doc>). 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. They should come from outside your institution and better from three different countries. 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. 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 significance. **Uncorrected proofs** will be sent to the corresponding author by system or email as .doc or .docx files for checking and correcting typographical errors. The corrected 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.

**Free of charge** This publication is dedicated entirely to the advancement of science and technology, therefore author(s), or author institution(s) are not subject to publication fees. **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 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 in early sentences, or 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 SI denominations, and other systems should use equivalent values with the denomination of SI 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 "per-plot." **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 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, especially for the first and the last name. **Name and institution** address should also be completely written with street name and number (location), postal code, telephone number, facsimile number, and email address. We choose local names in Bahasa Indonesia for universities in Indonesia. The mention of "strata" program, should be avoided. Manuscript written by a group, author for correspondence along with address is required (marked with "\*"). **The title page** (first page) should include title of the article, full name(s), institution(s) and address(es) of the author(s); the corresponding authors detailed postage and e-mail addresses (P), and phone (O) and fax numbers (O).

**Abstract** A concise abstract is required (about 200 words). The abstract should be informative and state briefly the aim of the research, the principal results and major conclusions. An abstract is often presented separately from the article, thus it must be able to stand alone (completely self-explanatory). References should not be cited, but if essential, then cite the author(s) and year(s). Abbreviations should be avoided, but if essential, they must be defined at their first mention. **Keywords** are about five words, covering scientific and local name (if any), research themes, and special methods used; and sorted from A to Z. **Abbreviations** (if any): All important abbreviations must be defined at their first mention there. **Running title** is about five words.

**Introduction** is about 600 words, covering the aims of the research and provide an adequate background, avoiding a detailed literature survey or a summary of the results. **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 a manuscript with long discussion should be divided into subtitles. Thorough discussion represents the causal effect mainly explains 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. **Acknowledgements** 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 a maximum of three pages should be clearly presented. The title of a picture is written down below the picture, while the 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; 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 the source. Author is suggested referring to Wikipedia for international boundaries and Google Earth for satellite imagery. If not specifically mentioned, it is assumed to refer to these sources. **There is no appendix**, all data or data analysis is incorporated into Results and Discussions. For broad data, it can be displayed on the website as a supplement.

**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](http://www.issn.org/2-22661-LTWA-online.php)). Please include DOI links for journal papers. The following examples are for guidance.

### Journal:

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

The usage of "et al." in long author lists will also be accepted:

Smith J, Jones M Jr, Houghton L et al. 1999. Future of health insurance. *N Engl J Med* 325: 325-329. DOI: 10.1007/s002149800025.

### 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](http://www.molecularsystembiology.com).

THIS PAGE INTENTIONALLY LEFT BLANK