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Kumpulan Abstrak

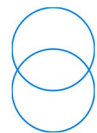
Abstract Collection

Seminar Antarabangsa ke-12

**Ekologi, Habitat Manusia dan
Perubahan Lingkungan di Dunia Melayu**

*12th International Conference on Ecology, Human Habitat
and Environmental Change in Malay World*

"TOWARDS A PARADIGM SHIFT IN ECOLOGY, HUMAN HABITAT AND ENVIRONMENTAL CHANGES IN MALAY WORLD"



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ABSTRACT COLLECTION

**12th International Conference on Ecology, Human Habitat
and Environmental Charge in Malay World**



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**Faculty of Fisheries and Marine, Universitas Riau, Indonesia
Universiti Kebangsaan Malaysia
2024**

Foreword from Chairperson of the Committee

We give thanks to God Almighty, because by His mercy and grace, the Proceedings of 12th International Conference on Ecology, Human Habitat and Environmental Change in Malay World can finally be completed.

This proceeding contains 63 research article titles in both full paper and abstract form written by lecturers, academics and researchers from a number of universities in Indonesia and Malaysia, especially the University of Riau and the National University of Malaysia. All of these articles were presented in this seminar.

We would like to extend our heartfelt thanks to all the authors who have contributed their writings, shared new knowledge, and provided their experiences in this proceeding. We hope that these proceedings will serve not only as a valuable documentary record and a reference source for researchers but also as a means to disseminate new knowledge and ideas that will support the advancement of scientific development in the future.

We also extend our sincere gratitude to the drafting team for their hard work and dedication in publishing these proceedings within a limited timeframe.

**Chairperson of the Committee,
Dr. Ir. Deni Efizon, M.Sc.**

Foreword from the Dean of Fisheries and Marine Faculty

The 12th EHMAP Seminar featured two keynote speakers: Prof. Dr. Ir. Bintal Amin from Universitas Riau (UNRI) and Prof. Madya Asyaari Muhammad from ATMA Universiti Kebangsaan Malaysia (UKM); and two plenary speakers: Dr. Windarti, M.Sc. (UNRI) and Prof. Madya Zuliskandar (ATMA UKM).

We would like to extend our sincere gratitude to all the presenters and seminar participants for their valuable contributions. We hope that this seminar serves as a platform for exchanging scientific information among participants and that the outcomes will contribute to the advancement of science, particularly in the field of environmental studies and related disciplines.

We also look forward to the continued success of this annual seminar, held in collaboration with the Fisheries and Marine Faculty of Riau University and ATMA Universiti Kebangsaan Malaysia, and hope that it will be conducted regularly and sustainably.

Thank you.

**Dean,
Prof. Dr. Ir. Rifardi, M.Sc.**

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Study on Malay Traditional Medicine Ingredients Using Selected Zingiberaceae Species for Carotenoid, Antioxidant and Antimicrobial Properties and Activities

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Abstract: The traditional uses of the family Zingiberaceae have a long history and include everything from folk medicine to culinary applications. Numerous ginger species have been the subject of numerous phytochemical, pharmacological, and molecular studies worldwide. The identification of novel bioactive molecules with a variety of bioactivities, including antioxidant, antiviral, antibacterial, and anti-inflammation activities, has boosted interest in its therapeutic qualities. Therefore, the ultimate aims of this study is to establish a scientific basis in supporting the claims of the therapeutic effects of the Malay traditional medicinal plants for a better understanding in preserving, conserving and utilising the traditional knowledge to sustain the Malay cultures and its identity for future references. HPLC analysis was used to quantify carotenoid in 12 ginger species whereas DPPH and MIC test were used to measure the antioxidant properties and antimicrobial activities. The results established that Kunyit (*C. longa*), a dark orange-fleshed rhizome, was found to have the highest carotenoid content ($578.38 \pm 6.37 \mu\text{g/g DW}$) and demonstrated substantially the highest DPPH scavenging activity of 98.43% inhibition at the concentration of 1 mg/ml. The MIC antimicrobial test established that the highest antimicrobial inhibitory activity was obtained from the extract of Temu emas (*C. heyneana*) which recorded the lowest MIC values ranged from 2 to 3 $\mu\text{g}/\mu\text{l}$ against all five pathogenic microorganisms. These findings also highlighted that different extraction method and rhizome flesh colour can influence the antimicrobial activities and DPPH scavenging activity.
