

**KELAKAI (*Stenochlaena palustris*): A REVIEW ON ITS ETHNOBOTANY,
BIOACTIVITIES AND ACTIVE COMPOUNDS**

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

KELAKAI (*Stenochlaena palustris*): A REVIEW ON ITS ETHNOBOTANY, BIOACTIVITIES AND ACTIVE COMPOUNDS

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Due to the increase of demands for natural functional food, Indonesia as the home of 30,000 species of plants could possess high potential for the development. Kelakai (*Stenochlaena palustris*) is one of the underutilized medicinal fern in Indonesia and has only been used traditionally by Dayak ethnic society and other Asia countries for various health benefits. Based on the proximate content, the plant showed great potentials as diet food and natural source of iron, vitamin C, beta-carotene, and folic acid. The diverse phytochemical compounds found in the plant varied from phenols, flavonoids, anthocyanins, hydroxycinnamic acid, proanthocyanidins, tannins, alkaloid, saponin, carotenoid, terpenoids, fatty acid, fatty acyl ester, and phytosterol, where all compounds contributed to the bioactivity of the plant. Kelakai exerted very strong antioxidant and good antidiabetic activities, especially as AGI agent. The plant could also suppress obesity, cholinesterase, and cancer cells moderately. However, the plant possessed weak antimicrobial activity, especially towards gram-negative bacteria and fungi. Mature sterile fronds were suspected to be the most potent parts of the plant and methanol was the best solvent to obtain the most potent bioactivities. This review shall highlight the potential of kelakai as a new engaging functional food.

Keywords: Kelakai, Stenochlaena palustris, Ethnobotany, Bioactivity, Active compounds, Phytochemical, Functional food.

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DEDICATION

I dedicate this work for the further development of local Indonesian food product

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