### ANALYSIS OF KELAKAI (Stenochlaena palustris) AND ITS ANTIOXIDATIVE, LIPASE AND LIPID FORMATION IN ADIPOCYTES INHIBITORY CAPABILITIES

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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

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### ABSTRACT

### ANALYSIS OF KELAKAI (Stenochlaena palustris) AND ITS ANTIOXIDATIVE, LIPASE AND LIPID FORMATION IN ADIPOCYTES INHIBITORY CAPABILITIES

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With rising world obesity rates, weight management has become an emerging method to stay healthy. *S. palustris* which is rich in antioxidants, the lack of which may be related to obesity, was tested to see if it has any potential for managing obesity. Water, 50% methanol and methanol extracts of *S. palustris* were tested for lipase inhibitory activity and lipid accumulation inhibition in 3T3-L1 adipocytes. DPPH antioxidant activity was also tested. Water extract showed the highest lipase inhibition and methanol extract showed the highest lipid accumulation inhibition in adipocytes. Subsequent fractionation was done on the water extract into first water, 50% methanol and methanol fractions with DIAION HP20 gel. The 50% methanol and methanol fractions with RP-18 gel. No relationship between antioxidant activity and lipase activity was found as the highest DPPH activity was found in the water fraction of the 50% methanol fraction. LC-MS data corroborate this conclusion.

Keywords: Obesity, antioxidant, DPPH, Lipase, Adipocyte, S. palustris, fractionation.

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Evelyn Antoinette Halim

## DEDICATION

I dedicate this work for all researchers and their relentless pursuit of truth.



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