FACE MASKER /SKIN REJUVENATING MASK USING *Macaranga* sp. EXTRACT.

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This Final Year Project Report entitled FACE MASKER /SKIN REJUVENATING MASK USING *Macaranga* sp. EXTRACT was submitted by Nuruljannah binti Azlan in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

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ABSTRACT

Macaranga sp. was frequently used in traditional medicine in the past such as an emetic, antipyretic, antitussive, and anti-inflammatory since it contains a range of substances and bioactivity which is antioxidants. A substance known as antioxidant has the ability to slow down the effects of photoaging on the skin which is induce by the free radicals. This research investigates the antioxidant activity, total phenolic content and toxicity test in the *Macaranga* sp. which is *Macaranga tanarius*. This research also formulated a peel-off gel mask of *M. tanarius*. *M. tanarius* leaves was extracted by using the maceration process and absolute methanol. Then, DPPH (1,1-diphenyl-2-pycrilhidrazil) assay was used to measure antioxidant activity, modified Folin-Ciocalteau method was used to quantify the Total Phenolic Content (TPC) and toxicity test was investigated using a Brine Shrimp Lethality Assay (BLSA). From the results, it showed that *M. tanarius* possess a strong antioxidant activity with DPPH scavenging percentage of 73.98 % until 97.49 %. TPC in *M. tanarius* leaves was 1.204 mg GAE/g which indicated a low phenolic content. The low TPC could be due to prolonged heat exposure during drying process. In toxicity test, low concentration of extract (0.05 mg/ml) showed a low toxicity of *M. tanarius* extraction with only 20 % mortality of the nauplii. Lastly, a peel-off gel mask was formulated and prepared by using *M. tanarius* extract, Polyvinyl Alcohol (PVA), and basic gel base. The peel-off gel mask could have a significant antioxidant effect to our skin based on the results from DPPH free scavenging assay. The peel-off gel mask is also potentially safe to be used as toxicity test indicated low toxicity on shrimps. As a conclusion, the *M. tanarius* has a potential to be developed in the cosmetic usage such as a peel-off gel mask.

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