UNIVERSITI TEKNOLOGI MARA

ANTIOXIDANT PROPERTIES OF *PHYLLANTHUS ACIDUS* FRUIT

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This Final Year Project Report entitled "Antioxidant Properties of *Phyllanthus acidus* fruit" was submitted by Ahmad Rabani Bin Hashim, in partial fulfilment of the requirements for the Degree in Bachelor of Pharmacy (Hons) was approved by;

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ABSTRACT

ANTIOXIDANT PROPERTIES OF *PHYLLANTHUS ACIDUS* FRUIT

Ahmad Rabani Bin Hashim

Lacking attention and fewer study has been done on *Phyllanthus acidus* fruits as potential source of natural antioxidant that beneficial to our health. Free radicals and reactive oxygen species (ROS) have been extensively studied in recent years with regard to their relevance physiological and pathological importance connected with oxidative stress that will lead to chronic diseases and cancers as well. Antioxidants are substances that can fight and destroy excess free radicals and repair oxidative damage. This study was conducted to determine total phenolic content and antioxidant activity of *Phyllanthus acidus* fruits. The samples were freeze dried and extracted using two different methods; water and methanolic extraction. Total phenolic content was assessed by using Folin-Ciocalteu method whereas antioxidant activity was determined through 1,1 -diphenyl-2-picrylhydrazyl (DPPH) radical scavenging assay. The results obtained were then analysed by using Statistical Package for Social Sciences (SPSS) version 17.0. The results showed that methanolic sample has higher phenolic content (11.98±0.06 µg GAE/µg dry weight (1000µg/ml)) compared to aqueous sample (6.71±0.03 µg GAE/µg dry weight (1000µg/ml)). On the other hand, as for antioxidant activity, higher scavenging effect was exhibited in aqueous sample as compared to methanolic sample. Statistically, analysis of variance showed no significant differences in mean total phenolic contents between samples tested ($p>0.05$). In addition, there was a significant differences between aqueous sample and methanolic sample in antioxidant activity and scavenging effect as well ($p<0.05$).

In conclusion, *Phyllanthus acidus* fruits can be considered as a potential available sources that serves as good natural antioxidant.