

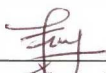
PHYTOCHEMICAL SCREENING AND BIOACTIVITIES OF
Boesenbergia rotunda

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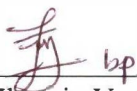
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This Final Year Project Reported entitled “**Phytochemical Screening and Bioactivities of *Boesenbergia rotunda***” was submitted by Fatin Nurafiqah Binti Ghazali, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Chemistry, in the Faculty of Applied Sciences and was approved by



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ABSTRACT

PHYTOCHEMICAL SCREENING AND BIOACTIVITIES OF *Boesenbergia rotunda*

The qualitative phytochemical screening as well as antioxidant and antibacterial activities of *Boesenbergia rotunda* (Zingiberaceae) have been investigated. The phytochemicals were extracted by sequential maceration using *n*-hexane, ethyl acetate and methanol, while phytochemical screening was performed using several chemical tests. 2,2-Diphenyl-1-picrylhydrazyl and disc diffusion methods were used to determine antioxidant and antibacterial activities, respectively. Flavonoids, phenols, steroids and terpenes were found to be present in the *n*-hexane, ethyl acetate and methanol extracts. However, alkaloids, saponins, tannins were absent in all extracts. Thin layer chromatography analysis revealed that the best separation of compound for the *n*-hexane extract was achieved by using *n*-hexane:diethyl ether (3:2), while better separation of compounds in ethyl acetate extract was accomplished using *n*-hexane:ethyl acetate (2:3). The best solvent system for methanol extract was *n*-hexane:ethyl acetate (1:1). All extracts demonstrated no DPPH radical scavenging activity at concentration of 1000 µg/mL. All extracts showed antibacterial activity towards *S. aureus* (10.25-14.50 mm) and *E. coli* (9.67-17.00 mm). The methanol extract exhibited the highest inhibitory activity toward *S. aureus* and *E. coli* with the inhibition zones diameter were 14.50 and 17.00 mm, respectively.