EVALUATION OF ANTIOXIDANT AND ANTI-DIABETIC PROPERTIES OF ARISTOLOCHIA RINGENS ROOT THROUGH PHYTOCHEMICAL AND MINERAL PROFILING

BY

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CERTIFICATION

This is to certify that this research work was carried out and reported by **ADEYEMO H ABIBAT IYABO** (Matriculation Number: **HND/23/SLT/FT/0490**) under my supervision in the Department of Science and Laboratory Technology (Biochemistry Unit), Institut e Of Applied Sciences, Kwara State Polytechnic Ilorin, Kwara State, Nigeria.

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DEDICATION

This project is dedicated to the Almighty God, whose boundless wisdom and guidanc

e have helped me throughout my studies and this project work.

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ABSTRACT

Aristolochia ringens is a medicinal plant that has been used traditionally in the management of several diseases. Aim: This study is focused on investigating the phytochemical contents, mineral contents, free radical scavenging, and alpha-amylase inhibitory activities of Aristolochia ringens (Vahl.) root Materials and Methods: The plant materials were collected, dried, coarsely grounded, and extracted using methanol. The methanol extract was then partitioned into n-hexane and ethyl acetate to obtain the respective extracts. The qualitative phytochemical screening of the extracts was carried out using standard methods. Selected elements were determined from the plant material using Atomic Absorption Spectroscopy (AAS). The antioxidant assays were carried out using the reducing power and 2,2-Diphenyl-l-1-picrylhydrazyl assay methods. The alpha-amylase inhibitory activities were determined preliminarily using the starch-iodide assay. Results: The extraction gave the methanol extract (ArMe) which on partitioning gave the n-Hexane (AmH), ethyl acetate extract (ArEa), and the residual methanol extract (ArRMe), qualitative phytochemical screening shows the presence of flavonoids, steroids, cardiac glycosides, and phlobatannin in all the extracts with tannins and alkaloids found in only ArRMe, saponins is found in ArRMe and ArEa. Elemental analysis shows a significant level of the selected elements Ca, Mg, K, Fe, Zn, Na, Cu, Co, and Se in ppm. Antioxidant results show that all extracts exhibit dose-dependent reducing properties and an increase in DPPH scavenging activity. Conclusion: These results further confirmed some of the traditional uses of A. ringens in the management of high blood pressure, diabetes, and inflammatory conditions.

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