ANTIMICROBIAL POTENCY OF LEAF EXTRACTS FROM UTAZI (*Gongronema latifolium*) AND OKAZI (*Gnetum africanum*) AGAINST SELECTED CLINICAL ISOLATES

BY

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CERTIFICATION

This is to certify that this project work was carried out by **Loretta Olohivoni EGUAIKHIDE** in the Department of Microbiology, Faculty of Life Sciences, University of Benin, Benin City under my supervision.

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PROF. E.I ATUANYA **DATE**

(Project Supervisor)

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DEDICATION

This project work is dedicated to God and my family members for their unwavering support.

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I express my wholehearted gratitude to God who equipped me with the strength and grace throughout this journey.

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ABSTRACT

Plants are the most abundant natural primary source of drugs utilized to treat ailment,s and several plants rich in phytochemicals used as medicine have Nigerian origin. Locally, extracts of plants such as roots, stems, flowers, and fruits are used in the treatment of diseases. This study evaluates the antimicrobial potency of leaves of culinary relevant local Nigerian plants; *Gongronema latifolium* (Utazi) and *Gnetum africanum* (Okazi) against selected clinically relevant bacterial and fungal species- *Staphylococcus aureus, Escherichia coli, Klebsiella* sp, *Candida* sp and *Trichophyton sp*. It also served to assess the phytochemical constituents that contribute to their effectiveness as antimicrobial agents. The leaves were obtained, identified, pulverized, and then the leaves extracts were prepared with cold water and methanol. The phytochemical composition of the leaves were determined using standard procedures. The antimicrobial potency was evaluated at concentrations of 2000mg/ml, 1000mg/ml, 500mg/ml and 250mg/ml. Ethanolic extracts proved to be more potent demonstrating broader zones of inhibition and bactericidal activity. *Gongronema latifolium* (Utazi) aqueous extracts demonstrated higher antimicrobial activity compared to their ethanol counterparts against Gram-negative *Klebsiella* sp (20.00mm) and fungal *Trichophyton* sp (15.00mm), while *Gnetum africanum* (Okazi) aqueous extract was more active against Candida sp (15.00mm). The leaf extracts demonstrated only static activity against *Escherichia coli* and *Staphylococcus aureus*. This study further reinforces the basis of the use of traditional plants in the treatment of microbial infections. However, future investigation on the mechanism of action, toxicity level is essential to fully optimize the potential of *G. latifolium* (Utazi) and *G. africanum* (Okazi) as therapeutic agents in the treatment of infections caused by microorganisms.