

**TITLE PAGE**

**PHYTOCHEMICAL AND ANTIMICROBIAL ANALYSIS OF HULLS AND  
NUTS OF *Tetracarpidium conophorum* (ukpa)**

**BY**

**UKPAI, EKENEM GRACE**

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## CERTIFICATION

Ukpai, Ekenem Grace, a post graduate student in the Department of Applied Microbiology and Brewing and has satisfactorily completed the requirement of course and research work for the degree of Master of Science (M.Sc.) in Medical Microbiology.

The work embodied in her thesis is original and has not been submitted in part or full for any other diploma or degree in this or any other University.

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Prof. (Dame) E.I. Chukwura

Supervisor

---

Dr Chris Anyamene

Head of Department

Applied Microbiology

and Brewing,

Nnamdi Azikiwe

University, Awka.

**DEDICATION**

This work is dedicated to the Almighty God, my sweet darling husband Mr Chancel Ukpai and children, Hadassah and Praise.

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**ABSTRACT**

Phytochemical and antimicrobial analyses were carried out on the hulls and edible nuts of *Tetracarpidium conophorum*, one of Nigerians' valuable medicinal plants belonging to the family Euphorbiaceae. Phytochemical analysis of the aqueous, ethanol and n-hexane extracts revealed the presence of alkaloids, glycosides, reduced compound sugar, carbohydrates, protein in both hull and nut. However, from proximate analysis only the hull indicated a significant amount of tannins (66%) and flavonoids (16%). Test also revealed the presence of saponins in the nut (6%). Antibacterial and antifungal evaluation of the extracts from hull and nut were done using the agar diffusion technique with serial doubling dilutions of extracts applied to appropriate wells. Statistical evaluation at 5% level of significance, indicated that there were significant differences in the responses of the tested organisms to the aqueous, ethanolic and n-hexane extracts with respect to the different concentrations; source of extract (hull or nut); pathogenic species (*Staphylococcus aureus*, *Streptococcus pyogenes*, *E. coli*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Candida albicans*, *Aspergillus* spp ). However, there was no significant difference between the values obtained in relation to the state of nut (cooked and uncooked). The antimicrobial analysis revealed that the extracts from the hull had a higher antimicrobial activity. Furthermore, bacterial species were more susceptible to the extracts than fungal species. The introduction of the use of this valuable plant in the treatment of infections would be of great positive impact to the pharmaceutical industry.

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