



**NIGERIAN SOCIETY OF BIOCHEMISTRY  
AND MOLECULAR BIOLOGY**

**BOOK OF ABSTRACTS**

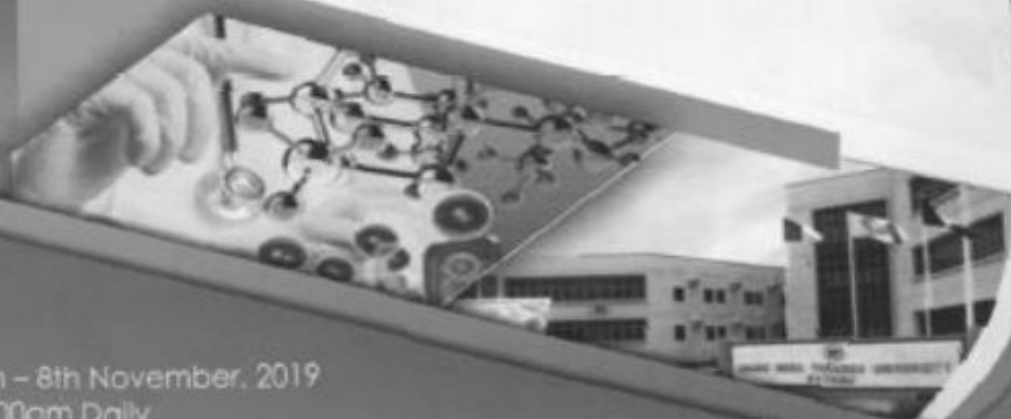
**37<sup>th</sup> ANNUAL  
SCIENTIFIC CONFERENCE  
KATSINA 2019**

**THEME:**  
**BIOCHEMISTRY & MOLECULAR BIOLOGY:  
OPTIMISING THE VALUE OF LOCAL RESOURCES  
FOR DIRECT FOREIGN INVESTMENT AND YOUTH EMPOWERMENT**

**DATE:** 4th – 8th November, 2019

**TIME:** 10:00am Daily

**VENUE:** Umaru Musa Yaradua University, Katsina, Katsina State



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ENP 251	PROTECTIVE EFFECT OF <i>FICUS SYCAMORE</i> BERRIES METHANOL EXTRACT ON ASPIRIN INDUCED GASTRIC MUCOSAL INJURY	276
ENP 252	EVALUATION OF THE EFFECT OF <i>TELFAIRIA OCCIDENTALIS</i> AQUEOUS EXTRACTS COADMINISTERED WITH ASCORBIC ACID, ON SOME BIOCHEMICAL PARAMETERS IN 2, 4 -DINITROPHENYLHYDRAZINE INDUCED ANAEMIC MICE	277
ENP 253	ANTIPLASMODIAL, ANALGESIC AND ANTI-INFLAMMATORY ACTIVITIES OF ALKALOIDS FROM <i>MAYTENUS SENEGALENSIS</i> LEAF EXTRACT IN MICE	277
ENP 254	SYNTHESIS, IDENTIFICATION AND EFFECTS OF PINEAPPLE PEEL EXTRACT-MEDIATED SILVER NANOPARTICLES ON GERMINATION OF <i>CELOSIA ARGENTEA</i> SEEDS	278
ENP 255	IN VITRO ANTIOXIDANT STATUS AND POLYPHENOL ANALYSIS OF <i>VITEX DONIANA</i> LEAVES EXTRACT	279
ENP 256	ANTIOXIDANT ACTIVITY, TOTAL FLAVONOID AND TOTAL PHENOLIC CONTENT OF ETHYL-ACETATE AND N-BUTANOL FRACTIONS OF <i>DETARIUM MICROCARPUM</i> STEM BARK	279
ENP 257	A BIOCHEMICAL EVALUATION OF THE ANTI-DIABETIC AND ANTIOXIDANT ACTIVITIES OF <i>TETRAPLEURA TETRAPTERA</i>	280
EPN 258	PRODUCTION AND CHARACTERIZATION OF ANTI-MICROBIAL SOAP FROM NEEM SEED OIL	280
EPN 259	COMPARATIVE STUDY OF BIOGAS GENERATION FROM KITCHEN WASTE AND COW DUNG AND AS AN ALTERNATIVE TO FOSSIL FUEL	281
ENP 260	ANTIOXIDANT, TOTAL PHENOLIC AND FLAVONOID CONTENTS OF THE METHANOL WHOLE PLANT EXTRACT AND FRACTIONS OF <i>PLANTAGO RUGELII</i> DECNE (PLANTAGINACEAE)	281
ENP 261	INHIBITION OF QUORUM SENSING IN <i>CHROMOBACTERIUM VIOLACEUM</i> BY <i>CENTAUREA PRAEcox</i> EXTRACTS	282
ENP 262	GC-MS ANALYSIS OF ENTEROPOLING FRACTIONS FROM <i>ANNONA SENEGALENSIS</i> ROOT AND STEM BARK.	283
ET 001	EFFECT OF MODIFIED ASCORBIC ACID ON SERUM AND BRAIN TISSUE ACTIVITIES OF ANTIOXIDANT ENZYMES AND MDA OF TBI RATS	285
ET 002	ISOLATION AND CHARACTERISATION OF <i>ASPERGILLUS NIGER</i> AND <i>SACCHAROMYCES CEREVISIAE</i> FOR BIOETHANOL PRODUCTION.	285
ET 003	AN OVERVIEW ON EFFECTS OF ANTIBIOTICS TO THE DEVELOPMENT AND COLONIZATION OF PRETERM GUT MICROBIOTA.	286
ET 004	PLANT GROWTH PROMOTING POTENTIALS OF PHOSPHATE-SOLUBILIZING BACTERIA ISOLATED FROM RUMEN CONTENT OF WHITE FULANI CATTLE INDIGENOUS TO NIGERIA	286
ET 005	PARTIAL PURIFICATION OF PHOSPHATASE EXTRACTED FROM <i>ASPERGILLUS TUBINGENSIS</i> ISOLATED FROM CRUDE OIL CONTAMINATED SOIL.	287

## ENP 255

IN VITRO ANTIOXIDANT STATUS AND POLYPHENOL ANALYSIS OF *Vitex doniana* LEAVES EXTRACT

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**Abstract**

Free radicals are generated in all living cells as part of normal cellular function, also generation of excess free radical either from exogenous or endogenous sources are responsible for many diseases. Antioxidants are machines that scavenge or neutralised free radical directly or indirectly. This study was designed to evaluate the antioxidant and phytochemical activities of *Vitex doniana* leaves. Hexane, ethyl acetate, acetone and methanol were used as extractive solvents. Total flavonoids, phenolic and extracts scavenging activity on DPPH were determined spectrophotometrically at different wave lengths. Solvents yielded (5.24), (6.85), (7.48) and (7.99) % w/w respectively. Preliminary phytochemical screening revealed the presence of alkaloids, flavonoids, steroids, tannins, saponins, anthraquinones and phenols. Flavonoids highest value (59.99±2.23) was seen in methanol while least value (29.88±2.15) in hexane. Also phenolic value in methanol (12.22±0.20) and least value (5.19±0.61) was recorded in hexane. Methanol scavenging activity on DPPH was (83.8±0.85%) and least value (43.51±3.42%) was observed in hexane. This study revealed that *Vitex doniana* possessed antioxidant status, quantitatively, flavonoids demonstrated higher solubility than phenols also, phytoconstituents present could be responsible for the observed effects.

**Keywords:** *Vitex doniana*, scavenging, Antioxidant and Polyphenolics

## ENP 256

ANTIOXIDANT ACTIVITY, TOTAL FLAVONOID AND TOTAL PHENOLIC CONTENT OF ETHYL-ACETATE AND N-BUTANOL FRACTIONS OF *Detarium microcarpum* STEM BARK

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**Abstract**

Flavonoids and phenolic are natural antioxidants found in plants that can scavenge free radicals. The present study was aimed to investigate the antioxidant activity, total flavonoid and total phenolic content of ethyl-acetate and n-butanol fractions of *Detarium microcarpum* stem bark. Aqueous extraction was carried out on *Detarium microcarpum* stem bark and the crude extract was further fractionated sequentially using ethyl-acetate and n-butanol solvents. For ethyl-acetate and n-butanol fractions, the total flavonoid content were 45.76±2.59 and 234.42±0.71 mg/g quercetin equivalents while total phenol content were 11.54±0.20 and 2.97±0.31 mg/g Gallic acid equivalents respectively. Ethyl acetate fraction showed the highest DPPH free radical scavenging activity with 65.31% inhibition while n-butanol showed the highest reducing power and H<sub>2</sub>O<sub>2</sub> free radical scavenging activities with 65.31% and 52.55% inhibition at a higher concentration. This result suggests that an extract from this plant could be used as a natural antioxidant supplement.

**Keywords:** Antioxidant activity, *Detarium microcarpum* stem bark, total flavonoid, total phenol, reducing power