

GC/MS ANALYSIS AND ANTI-FUNGAL EVALUATION OF THE OIL OF PTEROCARPUS MILDBRAEDII (HARMS) SHOOTS.

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Human fungal infestations can be very difficult to eradicate as there may be associations of organisms in a reported infection. There is an urgent search for anti-fungal compounds from nature to combat the scourge. Fatty acids are widely occurring in plants and dietary oils and they are known to have antibacterial and anti fungal properties. *Pterocarpus mildbraedii* (Harms) belongs to the family Fabaceae. The leaves are mostly boiled and consumed in soup as food in Nigeria and Ghana. Therapeutically, alcoholic extracts from the leaves and shoots are used in the management of pain, headaches, fungal infections, general microbial infections and fever by local communities.

The evaluation of the chemical constituents of the oil from leaves and shoots of *Pterocarpus mildbraedii* took the form of soxhlet extraction and GC-MS. The investigation of the anti-fungal properties was carried out using the *Agar well diffusion assay* against *Penicillium sp* with Clotrimazole as standard drug. Total oil yield was 0.88%, the GC-MS analysis revealed presence of 8 compounds with α linolenic acid being the most abundant at 67%. It is a polyunsaturated fatty acid essential in human nutrition.

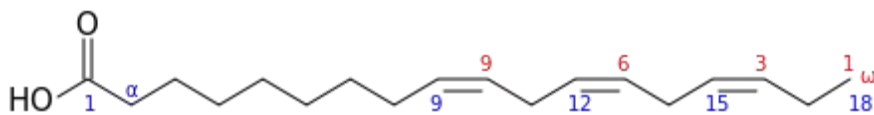


Fig. 1 Chemical structure of α linolenic acid

Phytochemical assays indicated presence of alkaloids, tannins, saponins and flavonoids in the alcoholic extracts. These together with the fatty acids may be responsible for the anti-viral, anti-inflammatory, anti-fungal properties already reported about the plant. The oils worked in a dose dependent manner with higher concentration giving greater inhibition; the greatest zone of inhibition was recorded at 264 $\mu\text{g/ml}$, much more than that of the standard at 10 $\mu\text{g/ml}$. Further research is suggested in order to ascertain the mechanism of action of the fixed oil and the main compound responsible for its bioactivity.

Key words: α Linolenic acid, Fixed oils, Gas Chromatography-Mass Spectrometry.

Pterocarpus mildbraedii