

## عنوان مقاله:

Potentiality and chemical composition of *Bridelia micrantha* (Berth) extracts and its fractions as biofumigant against economically important stored grain insect pests

## محل انتشار:

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## نویسندگان:

Jacobs Adesina - *Department of Crop, Soil and Pest Management Technology, Rufus Giwa Polytechnic, P. M. B. 1019, Owo, Ondo State, Nigeria*

Yallappa Rajashaker - *Insect Chemical Ecology Laboratory, Institute of Bioresources and Sustainable Development, Department of Science and Technology, Takyelpat, Imphal - 795001, Manipur, India*

Thomas Ofuya - *Department of Crop, Soil and Pest Management, Federal University of Technology, P. M. B. 70F, Akure, Ondo State, Nigeria*

## خلاصه مقاله:

**Purpose:** A study was carried out to determine the potentiality of *Bridelia micrantha* (BM) as biofumigant for the control of some economically important insect pests of stored food grains. **Research Method:** BM powder was sequentially extracted with a series of solvents of increasing polarity in a Soxhlet apparatus and concentrated by the rotatory evaporator. The residues were dissolved in 50ml methanol, assayed for insecticidal activity by fumigant toxicity. Effective and active extract which showed maximum activity was selected for analysis using Gas Chromatography-Mass Spectrometry (GC-MS). **Findings:** Ethyl acetate crude extract and its active fraction (50% hexane: 50% ethyl acetate) showed more potent insecticidal activity with increasing concentration and exposure time. Among the insect species *Tribolium castaneum* is more susceptible and *Rhyzoperthadominica* tolerant of the fumigant toxicity treatments. GC-MS analysis revealed that Dibutyl phthalate (96%), 3-Dodecen-1-al (87%), 13-docosen-1-ol (83%) Ethanol-2-(2-butoxyethoxy) (80%), 2-Butenoic acid, 2 propentl (47%), 4-Hydroxyphenylacetic acid (38%) and Phenyl salicylate (30%) were the major constituents out of the eleven bioactive compounds identified. **Research limitations:** There were no limitations to report. **Originality/Value:** The results suggested that *B. micrantha* may be utilized as a good potential herbal fumigant for the management of stored product-insect pests due to its potent insecticidal activity and chemical composition which contains many different chemicals that have different modes of action on target pests and effective in the conservation of the germinative power of the various food grains

## کلمات کلیدی:

bioactive compound, herbal fumigant, plant derivative, potentiality

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