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Anti-malarial activities of *Acalypha wilkesiana*

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Aim: Our research is aimed at investigating medicinal plants for their bioactive compounds. We recently evaluated the in vitro anti-cancer activity of a Nigeria medicinal plant - *Margaritaria discoidea* (Baill.) G.L. Webster. The aim of this current study is to investigate crude extracts of *Acalypha wilkesiana* Mull. Arg. for their anti-malarial activities and identification of potential bioactive compounds.

Methods: The plant was sourced from a bio reserve in Nigeria. Both the aqueous and organic extracts of the plant were screened for anti-malarial activities on plasmodium falciparum. Following bioassay-guided fractionation, potential bioactive compounds from *A. wilkesiana* were identified by gas chromatography mass spectrometry following trimethylsilylation derivation. The anti-malarial activity of one of the compounds was confirmed.

Results: Preliminary screening of the extracts disclosed that the aqueous and organic extracts of *A. wilkesiana* had significant anti-malarial activities; with the aqueous extract being the most active. Further partitioning of the organic extract in four solvents: n-hexane, ethyl acetate, n-butanol and water, showed that the ethyl acetate fraction had the most promising activity with total elimination of the parasite. One of the potential bioactive compounds in *A. wilkesiana* is gallic acid (IC50 of 26.8 μ M) against *P. falciparum*.

Conclusions: *A. wilkesiana* possesses anti-malarial activity against the intraerythrocytic stage of development. Gallic acid is one of the anti-malarial compounds in this plant.

Biography

Okiemute Rosa Johnson-Ajinwo is a PhD student at the Keele University, UK. She is also a Lecturer at the University of Port Harcourt, Rivers State, Nigeria, where she has lectured for six years in the Department of Pharmaceutical/Medicinal Chemistry of the Faculty of Pharmaceutical Sciences, before embarking on her PhD research in the UK. She has published more than 10 papers in reputed journals. Her PhD research is aimed at obtaining new compounds from medicinal plants which could provide leads for the treatment of malaria and ovarian cancer and is currently writing a book chapter on ovarian cancer.

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