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Anti-oxidant activity and phytochemical screening of aqueous, methanolic and ethyl acetate extracts from three Kenyan *Ruellia* species viz. *Ruellia prostrata*, *Ruellia lineari-bracteolata* and *Ruellia bignoniiflora*Christine Ong'ayo Wangia¹, Orwa J A², Muregi F W¹, Kareru P G³, Cheruiyot K¹ and Kibet J²¹Jomo Kenyatta University of Agriculture and Technology, Kenya²Kenya Medical Research Institute, Kenya³Mount Kenya University, Kenya

The objective of this study was to determine the qualitative phytochemical constituents and anti-oxidant activity of crude extracts from whole plant parts of Kenyan *Ruellia* species viz. *Ruellia Prostrata* (RPM), *Ruellia Bignoniiflora* (RBK) and *Ruellia Lineari-Bracteolata* (RLB). Kenyan *Ruellia* (Acanthaceae family) species are perennial creepers with widespread medicinal uses including analgesic and anti-inflammatory activity. Sequential extraction by cold maceration was done using petroleum ether, chloroform, ethyl acetate and methanol. Aqueous extraction was done by boiling. The phytochemical screening tests were based on visual observation of color change and precipitate formation. Antioxidant activity was performed based on the ability of the aqueous, methanol and ethyl acetate extracts to scavenge the free radicals produced by 2,2-Diphenyl-1- Picryl Hydrazyl (DPPH). Ascorbic acid was used as a reference standard. The tests were evaluated at eight concentrations (3.9, 7.8, 15.6, 31.3, 62.5, 125, 250 and 500 ug/ml). The antioxidant activity of plant extracts and ascorbic acid increased with increase in concentration. Methanolic extract exhibited a higher antioxidant activity with IC50 values in (ug/ml) of 2.87 (RLB), 20.58 (RPM) and 24.44 (RBK). Aqueous extracts revealed IC50 values of 7.23 (RLB), 51.92 (RPM) and 66.42 (RBK). The ethyl acetate extract showed a lower activity with IC50 values of 22.26 (RPM), 29.33 (RLB) and 237.17 (RBK). Ascorbic acid standard exhibited a comparable activity with IC50 value of 2.11 ug/ml. Phytochemical analysis revealed the presence of terpenoids, saponins, flavonoids, tannins and cardiac glycosides. Flavonoids and tannins are a major group of compounds that act as primary antioxidants. The presence of these compounds could attribute to their potent antioxidant activity.

Biography

Christine Ong'ayo Wangia is a Senior Lecturer in the Department of Pharmacology, Jomo Kenyatta University of Agriculture and Technology, Kenya. She completed her Bachelor of Pharmacy degree from the University of Nairobi, Kenya and a Master's degree in Drug Assay at Department of Pharmacology, All India Institute of Medical Sciences, New Delhi. She is currently pursuing her PhD in Medicinal Phytochemistry at the Jomo Kenyatta University of Agriculture and Technology. She has presented her research findings in both local and international conference like 4th Annual Conference on Medicinal Plants and Herbal Products, Rockville, USA from 6th September to 8th September 2012.

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