

3rd Symposium of Young Researchers on Pharmacognosy



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BOOK OF ABSTRACTS



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Phytochemical and pharmacological studies of *Centrapalus pauciflorus*

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Background: *Centrapalus pauciflorus* (Willd.) H. Rob. (syn: *Vernonia pauciflora*, Astereaceae [1,2]) is native to Africa. It is an herbaceous annual plant growing up to 5 m in height [3, 4]. It is used for medicinal purposes in the treatment of diabetes, chest pain, external injury, and stomach problems [5].

Aims: To evaluate anti-cancer potentials and isolate compounds from *C. pauciflorus* using bioassay guided fractionation.

Methods: Powdered plant material (548 g) was extracted with methanol using percolation method. Solvent-solvent fractionation of water-chloroform mixture gave organic (chloroform) portion. The organic portion was subjected to OCC on polyamide using step gradient of methanol-water to yield five fractions: 20%, 40%, 60%, 80%, and 100% MeOH, respectively. All five fractions were evaluated on human ovarian (A2780), cervical (HeLa) and breast (MCF-7, 231) cancer cell lines for their antiproliferative activities. 60% MeOH fraction was subjected to normal and reverse phase VLC, normal and reverse phase HPLC and preparative TLC. Structures were established using NMR and HRMS data.

Results: 60% MeOH fraction of *C. pauciflorus* showed tremendous antiproliferative activity on all cancer cell lines evaluated. Phytochemical investigation of the 60% MeOH fraction led to the isolation of 35 compounds, mainly coumarins and chromones but also flavonoids and others. 22 of the isolated compounds are new natural products.

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