

BIOACTIVITIES OF INVASIVE PLANT *AUSTROEUPATORIUM INULIFOLIUM*

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Austro eupatorium inulifolium (Kunth) King & Robinson (Asteraceae) is an aggressive invasive plant which is introduced to Sri Lanka from its native South America. The plant is well established in the wet zone of Sri Lanka including Knuckles range. We report herein, the bioactivities of *A. inulifolium* where antioxidant, cytotoxic, phytotoxic and antifungal properties were investigated. *A. inulifolium* plants were randomly collected from Rathota in the Knuckles range. Air-dried and ground plant material was sequentially extracted with CH₂Cl₂ and MeOH. Concentrated CH₂Cl₂ and MeOH crude extracts (using different series of concentrations) were subjected to bioassays viz., cytotoxic activity against *Artemia salina*, phytotoxic activity against two dicots and two monocots (*Amaranthus mangostanus*, *Raphanus sativus*, *Zea mays* and *Poa sp.* respectively) on seed germination and seedling growth, antifungal activity against *Cladosporium cladosporioide* and the antioxidant activity using DPPH assay. The antioxidant activity was highest in MeOH extract of leaves (IC₅₀ 33.66 ppm; the standard α -tocopherol 10.02 ppm). The MeOH extracts of flowers and leaves, and CH₂Cl₂ extract of roots showed promising cytotoxic effect (LD₅₀ 15.22, 22.92, 27.91 ppm respectively; the standard lactone compound 0.80 ppm). Interestingly, the antifungal activity was only found in CH₂Cl₂ extract of roots. Methanolic extracts of leaves and flowers greatly inhibited the seed germination and seedling growth of the two dicot species, while root and stem extracts inhibited the seed germination and seedling growth of all four species tested. There were no significant effect on the germination of monocots by CH₂Cl₂ extracts of leaves and flowers but the growth of the radical was slightly stimulated. The results indicate the presence of antioxidant compounds, cytotoxic compounds, antifungal compounds and allelopathic compounds in *A. inulifolium*.