Phytochemical screening and cytotoxicity evaluation of *Launaea Cornuta* H. (Asteraceae) using brine shrimp

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Abstract

Launaea cornuta is an erect perennial plant with hollow stems up to 1.5 m high and creeping rhizomes and belongs to the family of *Asteraceae* which is the largest family of flowering plants. A single plant can cover a large area as a result of spread by rhizomes. *L. cornuta* can become a dominant weed in a range of semiarid subtropical ecologies. The herb is native to Africa and occurs on alluvial soils in cultivated areas, including irrigated crops, on roadsides, near rivers and bush vegetation. *L. cornuta* is used as a wild vegetable in African communities as source for vitamin C. The decoction is used to treat typhoid, ear pain, stomach pain, chronic join pain, measles, gonorrhea, ascariasis, swollen testicles, warts, diabetes and in the management of breast cancer and benign prostate hyperplasia. The objective of the study was to carryout physical and chemical properties of the plant constituent as well as screening for cytotoxic activity against brine shrimps. The plant materials were collected and dried under shade in the laboratory benches. The ground materials were used for preliminary phytochemical studies and revealed the presence of tannins, flavonoids, alkaloids, glycosides, steroids, coumarins, gums, mucilages, phenols, terpenoids and fatty acids while saponins, volatile oils and phlobotanins were absent. Extraction was achieved by sequential maceration using petroleum ether, chloroform and methanol respectively. Aqueous extract was prepared separately. The organic solvent extracts were dried in *vacuo* while the aqueous extract was lyophilized. The brine shrimp lethality tests were carried out and the petroleum ether and chloroform extracts exhibited moderate cytotoxicity against brine shrimp with LC50 value of 373 μg/ml and

342.7 µg/ml respectively. The varied groups of chemicals reported in this herb suggestively indicate lay scientific evidence for the herb use in various ailments and moderate toxicity against brine shrimp is preliminarily justify the reason for embarking on evaluating the herb fractions for bioactivity.

Keywords: Bioactivity, LC50, Maceration, Toxicity