



## Antioxidant potentialities and Antiradical Activities of *Oxalis corniculata* Linn from Tanzania.

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### ABSTRACT

**Introduction:** This study provides essential antioxidant potentialities of the plant *Oxalis corniculata* Linn (creeping wood sorrell) indigenous from Tanzania and the associated precursors of biochemical compounds responsible for its folkloric pharmacological rationales.

**Methodology and Results:** Extracts were made from the whole plant using methanol and ethanol solvents. DPPH assay was used to evaluate its antioxidant potentials while phytochemical screening for precursors of biochemical compounds responsible for its pharmacological rationales was qualitatively determined. Total antioxidant necessary to decrease the initial DPPH radical concentration by 50% ( $EC_{50}$ ) value, were obtained from the linear regression plots of Sigma Plot R (2001). Results showed significant activities in all antioxidant assays compared to the reference antioxidant ascorbic acid in a dose dependent manner. In DPPH scavenging assay the  $EC_{50}$  value of the crude extract was found to be 0.04 mg/ml while that of the reference standard ascorbic acid was 0.59 mg/ml. Likewise the highest iron chelating ability of 97.31% was obtained at a higher crude extract concentration of 0.4 mM while the lowest ability of 23.25% was obtained at the lowest crude extract concentration of 0.001mM. It also portrayed high antiradical activities of up to EAU515 = 1.868 number of antiradical unit and several precursors of biochemical compounds including Flavonoids, Terpenoids, Coumarins, Glycosides, as well as Steroids and Phytosteroids.

**Conclusion and application of results:** The results indicated that *Oxalis corniculata* could be an important dietary source of antioxidants with high scavenging abilities as well as rich in biomolecules that are precursors of most biologically active chemicals of medical importance. These findings may thus, justify their wide usage in traditional medicine and envisage a purposeful thoroughly study for possible developments into nutraceutical and drugs.

**Key words:** antioxidants, antiradical, folk medicine, *Oxalis corniculata*, DPPH