

## PHYTOCHEMICAL AND ANTIOXIDANT ACTIVITIES OF *IN VITRO* AND *IN VIVO* EXTRACTS OF *SPERMACOCE ARTICULARIS* L.f.

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### ABSTRACT

The plant is traditionally used by various tribes for curing a wide range of diseases. A 50% methanolic extract of the *In vitro* leaf, *In vitro* root, *In vivo* leaf and *In vivo* Roots were subjected to phytochemical studies and further investigated for *in vitro* antioxidant and antibacterial activities. *In vitro* antioxidant activity was determined by DPPH free radical scavenging assay, superoxide radical scavenging activity, Nitric oxide radical scavenging activity, hydroxyl radical scavenging activity and reducing power assay. Antibacterial activity was studied by agar well diffusion method. The free radical scavenging activity of the extract was concentration dependent and IC<sub>50</sub> was observed at a concentration of 172.62µg/ml for DPPH free radical scavenging activity, and 80.79µg/ml for hydroxyl radical scavenging activity. The extract showed significant total antioxidant activity and reducing power. The results obtained from current study demonstrate that the leaf, root extract of *Spermacoce articularis* L.f. possess significant antioxidant Presence of various classes of phytochemicals e.g. Phenols, flavonoids, saponins, alkaloids etc. contribute highly to its medicinal values.

**KEYWORDS:** Spermacoce Articularis, DPPH, Antioxidant, Reducing Power