

ABSTRACT

The two plants of family Aizoaceae *Trianthema portulacastrum* L. and *Zaleya pentandra* (L.) C. Jeffrey were compared from ethnopharmacological perspective. The process of static-state maceration was used for the extract preparation and established that more phytochemical contents were macerated in fruit extract of *T. portulacastrum* L. but the quantitative analysis had revealed that more phytochemicals were present in leaf extracts, similar to findings reported in *Z. pentandra* (L.) C. Jeffrey. *T. portulacastrum* L. contain at most 34.3 c-3-gE mg/100g anthocyanin, 7.981 β -cE mg/100g carotenoid, 202.49 RE μ g/g flavonoid and 197.89 GAE μ g/mL phenols. While, *Z. pentandra* (L.) C. Jeffrey contain to the maximum 37.18 c-3gE mg/100g anthocyanin, 7.774 β -cE mg/100g carotenoid, 203.19 RE μ g/g flavonoids and 183.01 GAE μ g/mL phenols. The antimicrobial assessment affirmed by agar well diffusion technique had revealed that the fruit extract of *T. portulacastrum* L. was effective against *Bacillus subtilis*, *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Aspergillus niger* and *Fusarium solani*. In addition, the stem macerate of the respective plant had offered opposition to *Escherichia coli*. While, the leaf extract of *Z. pentandra* (L.) C. Jeffrey had put forward contradiction to *B. subtilis* as well as *S. aureus*; stem extract had revealed opposition to *E. coli* and fruit extract had inhibited the growth of *P. aeruginosa*, *A. niger* and *F. solani* most efficaciously. The antioxidant analysis established that *T. portulacastrum* L. demonstrated IC_{50} 15.79 (DPPH scavenging assay), 109.74 \pm 0.56 TE μ M/mL (FRAP), 98.76 \pm 0.73% lipid peroxidation (FTC), 91.65 \pm 0.53% metal chelating and 147.46 \pm 1.27 AE μ g/ml. Total antioxidant efficacy. *Z. pentandra* (L.) C. Jeffrey provided comparable potency with IC_{50} 14.10 (DPPH scavenging assay), 94.83 \pm 0.71 TE μ M/mL (FRAP), 79.83 \pm 0.80% lipid peroxidation (FTC), 85.00 \pm 0.49% metal chelating and 144.81 \pm 1.07 AE μ g/mL total antioxidant capacity. The dose-dependent anthelmintic appraisal render the stem macerates of *T. portulacastrum* L. and the fruit extracts of *Z. pentandra* (L.) C. Jeffrey most effective. Conclusively, the results of both plants under inquisition were relatable in some aspects but none of the test specimen outperformed other.