

EVALUATION OF THE USE OF DIFFERENT SOLVENTS FOR PHYTOCHEMICAL CONSTITUENTS, ANTIOXIDANTS OF *RETAMA RAETAM* STEMS

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Introduction & Objectives:

The present investigation evaluated 4 different solvent compositions (water , methanol , ethyl acetate and hexane) for their relative capacity to extract total phenolic and total flavonoid (TF) components of the stems of *Retama raetam* , endemic to the South Algeria , as well as to profile the composition of these plant materials and to measure their antioxidant capacity

Methodology (Material and methods):

The total phenolic content of plant material used in the present investigation was measured using the Folin–Ciocalteu assay. Total flavonoids were assayed by AlCl₃ and in vitro antioxidant activity was evaluated using the 2, 2-diphenyl-1-picrylhydrazyl and total antioxidant capacity

Results and Discussion:

The highest total phenolic and flavonoid content were observed: 47.42 ± 7.26 mg EAG/g extract and 41.06 ± 2.60mg EAG/g of extract for methanol and aqueous fractions, respectively. The highest flavonoid content was 15.15 ± 1.04 mg ER/g extract in the methanolic extract of *Retama raetam* stems . The aqueous extract of the *Retama raetam* stems showed the highest levels of DPPH radical-scavenging activity (IC₅₀ = 0,41±0.19 mg/ml) . The highest total antioxidant activity (VCEAC) was 0.02±0.0022 M , observed in methanolic extracts of *Retama raetam* stems .

Conclusion:

This study suggests that *Retama raetam* stems extracts exhibit great potential for antioxidant activity and may be useful for their nutritional and medicinal functions.

Keywords: *Retama raetam* stems, total phenolic, flavonoid, antioxidant activity .

References

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