

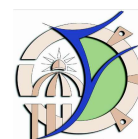


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Article title	Antioxidant and Antimicrobial Evaluation and Chemical Investigation of <i>Rosa gallica</i> var. <i>aegyptiaca</i> Leaf Extracts.
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Abstract

Rosa gallica var. *aegyptiaca* is a species of flowering plant belonging to the Rosaceae family that plays an important role as a therapeutic agent for the treatment of specific types of cancer, microbial infections, and diabetes mellitus. This work presents the first report on the evaluation of the antioxidant and antimicrobial potential along with the phytochemical analysis of *Rosa gallica* var. *aegyptiaca* leaves. Five leaf extracts of hexane, chloroform, methanol, hydromethanol 80%, and water were prepared. Assessment of antioxidant activity was carried out via DPPH radical scavenging assay. Antimicrobial activity against five foodborne pathogenic bacteria—including *Listeria monocytogenes*, *Bacillus subtilis*, *Staphylococcus aureus*, *Escherichia coli*, and *Salmonella enteritidis*—and the fungus *Candida albicans*, was examined using the disc diffusion method. Total phenolic content and total flavonoid content were determined using the Folin–Ciocalteu reagent and aluminum chloride methods, respectively. Isolation, identification, and quantification of phenolic compounds were performed using HPLC-DAD analysis. Amongst the five leaf extracts that were investigated, hydromethanol 80% extract possessed the highest extraction yield, antioxidant activity, total phenolic content, and antimicrobial activity against all tested microbial strains. Moreover, this extract furnished six active phenolic compounds: gallic acid (1), (+) catechin (2), chlorogenic acid (3), (–) epicatechin (4), quercetin-3-*O*- α -d-(glucopyranoside) (5), and quercetin (6). This study provides an alternative utilization of *R. gallica* var. *aegyptiaca* leaves as a readily accessible source of natural antioxidants and antimicrobials in the food and pharmaceutical industries.

القائم بأعمال

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