

PHYTOCHEMISTRY AND BIOACTIVITY SOME IRANIAN MEDICINAL HERBS FROM SOUTHWESTERN, IRAN

Abdollah Ghasemi Pirbalouti^{1,2*}, Lyle Craker², Ahmadreza Golparvar³ 1
Shahrekord Branch, Islamic Azad University, Research Center of Medicinal Plants & Ethno-
veterinary, PO Box: 166, Shahrekord, Iran (aghasemipir@psis.umass.edu) 2 Medicinal Plants
Program, Stockbridge School of Agriculture, Collage of Natural Science, University of
Massachusetts, Amherst, MA 01003, USA 3 Khorasgan Branch, Islamic Azad University,
Department of Plant Breeding

INTRODUCTION: Essential oil (EO) and extracts from medicinal and aromatic plants by steam distillation and solvent extraction are good sources of biologically active compounds known as phytochemicals [1]. The current study was done to identify chemical compositions and antibacterial and antioxidant activities of some Iranian medicinal herbs.

MATERIALS AND METHODS: The essential oils obtained from dried different parts of 20 Iranian medicinal plants collected from the alpine of southwestern Iran, including *Satureja bachtiarica*, *Satureja kellalensis*, *Thymus daenensis*, *Ziziphora clinopodioides*, *Echinophora cinerea*, *Echinophora platyloba*, *Heracleum lasiopetalum*, *Zaravschanica membranacea*, *Ferulago angulata*, *Achillea wilhelmsii*, *Achillea kellalensis*, *Tanacetum chiliophyllum*, *Tanacetum polycephalum*, *Artemisia haussknechtii*, *Artemisia aucheri*, *Hypericum helianthemoides*, *Hypericum scabrum*, and *Hypericum perforatum*, *Myrtus communis*, and *Valeriana sisymbriifolia* were analyzed by GC and GC/MS to determine chemical compositions [2]. The antibacterial activity of essential oils within concentration ranges from 16 - 500 µg/mL was individually evaluated against clinical isolates of positive-Gram bacteria and two negative-Gram bacteria. The DPPH radical scavenging activity of the essential oils was determined using DPPH assay [3].

RESULTS AND DISCUSSION: Results of present study indicated that some Iranian medicinal plants play an important role in primary healthcare system of these tribal communities. In total, the essential oils of the studied species indicated moderate-to-good inhibitory activities against some bacteria. In addition, the essential oils from the studied medicinal plants had weak-to-good antioxidant activity. In conclusion, the essential oils from some Iranian medicinal herbs especially the family Lamiaceae can be used as an alternative preservative instead of synthetic ones in food industry.

Keywords: Medicinal plants, Antibacterial activity, Antioxidant activity, GC/MS.

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