Antimicrobial Activity and Composition of the Essential Oil of *Gontscharovia popovii* from Iran

Ali Sonboli[a,*], Fatemeh Sefidkon[b], and Morteza Yousefzadi[c]

[a] Department of Biology, Medicinal Plants and Drugs Research Institute, Shahid Beheshti University, Evin, P.O. Box 19835-389, Tehran, Iran. Fax: (+9821)2418679.
E-mail: a-sonboli@sbu.ac.ir
[b] Research Institute of Forests and Rangelands, P.O. Box 13185-116, Tehran, Iran
[c] Department of Ecology & Systematic, Research Institute of Applied Sciences, ACECR, Tehran, Iran

* Author for correspondence and reprint requests

Z. Naturforsch. **61c**, 681-684 (2006); received February 27, 2006

The aerial parts of *Gontscharovia popovii* (B. Fedtsch. and Gontsch.) Boriss. were collected at full flowering stage. The essential oil was isolated by hydrodistillation and analyzed by a combination of capillary GC and GC-MS. Thirty-one components were identified with the main constituent being carvacrol (71.9%), followed by linalool (5.5%), *p*-cymene (4.5%) and γ-terpinene (4.4%). The *in vitro* antimicrobial activity of the essential oil of *G. popovii* was studied against seven Gram-positive and Gram-negative bacteria (*Bacillus subtilis*, *Enterococcus faecalis*, *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Escherichia coli*, *Pseudomonas aeruginosa* and *Klebsiella pneumoniae*) and three fungi (*Candida albicans*, *Saccharomyces cerevisiae* and *Aspergillus niger*). The results of the bioassays showed that the oil exhibited strong antimicrobial activity against all the tested fungi and bacteria except for the resistant bacterium *Pseudomonas aeruginosa*.

Key words: Gontscharovia popovii, Labiatae, Antimicrobial Activity