

A Chemometric Interpopulation Study of the Essential Oils of *Cistus creticus* L. Growing in Crete (Greece)

Costas Demetzos*, Thalia Anastasaki and Dimitrios Perdetzoglou

School of Pharmacy, Department of Pharmacognosy, University of Athens, Panepistimiopolis Zografou, Athens 15771, Greece.

Fax: +3022182210. E-mail: demetzos@galenos.pharm.uoa.gr

* Author for correspondence and reprint requests

Z. Naturforsch. **57c**, 89–94 (2002); received September 9/October 15, 2001

Cistus creticus, Essential Oil, Labdane Diterpenes

The chemical composition of the essential oils of twenty-five populations of *Cistus creticus* subsp. *creticus* L. from the island of Crete (Greece) and their interpopulation variability were analysed in detail by GC-MS. 142 compounds were identified representing an average of 56.8–89.8% of the oil composition. The components are represented here by homologous series of monoterpenes, oxygenated monoterpenes, sesquiterpenes, oxygenated sesquiterpenes, diterpenes, labdane diterpenes, aldehydes, alkanes, esters, fatty acids, ketones, and others. Labdane diterpenes were detected and identified in the essential oils and have been found in high percentage composition. The results from the chemical analysis of the essential oils were submitted to chemometric cluster analysis in order to detect some pattern distribution and to identify which constituents can differentiate the groups of individuals. Two main chemotypes (clusters) were well differentiated; the first deals with eight populations of West Crete and the second with the rest of the populations. Cluster analysis based on labdane type diterpenes patterns, proved to be the best chemotype for the examined populations among the other chemical groups.