

## **Phytochemical composition of Corsican Teucrium essential oils and antibacterial activity against foodborne or toxi-infectious pathogens**

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**Abstract/Résumé :** The chemical composition of the essential oils of Corsican Teucrium species were studied using capillary GC and GC/MS while the antibacterial activities were determinate by paper disc diffusion method and minimum inhibitory concentration (MIC) assays. We performed the chemical data compilation with previous in-house studies and the comparative data analysis between the six Teucrium species investigated: Teucrium marum, Teucrium massiliense, Teucrium chamaedrys, Teucrium scorodonia subsp. scorodonia, Teucrium polium subsp. capitatum and Teucrium flavum with two subspecies (T flavum subsp. glaucum and T. flavum subsp. flavum). In total, 312 oil components were detected. With the aid of statistical tools, the 64 sample oils were clustered in two main groups. Teucrium essential oils were dominated by mono and/or sesquiterpene hydrocarbon compounds except T. massiliense and T. marum oils which exhibited oxygenated compounds as main components. In addition, we reported for the first time, the antibacterial activities of Corsican Teucrium essential oils against six bacteria: two foodborne pathogens (Campylobacter jejuni and Listeria innocua) and four toxi-infectious bacteria (Staphylococcus aureus, Staphylococcus epidermidis, Enterobacter aerogenes wild type (CIP 60.86) and a multi-drug resistant bacterium E. aerogenes (EAEP289)). With exception of T scorodonia subsp. scorodonia and T chamaedrys oils, all Teucrium essential oils inhibit the bacterial growth of the tested strains. The foodborne pathogen C. jejuni was found to be extremely sensitive to all the Corsican Teucrium oils. Our study suggests that Corsican Teucrium essential oils have the potential to be used as food preservatives and to prevent the growth of nosocomial bacteria. (C) 2012 Elsevier Ltd. All rights reserved..

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