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CBV | Centro de Biotecnologia Vegetal
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P 113. Chemical composition and pharmacological activities of essential oils of *Lavandula* spp.

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Keywords: *L. stoechas* subsp. *luisieri*; *L. viridis*; Acute toxicity; Analgesic effect; Anti-inflammatory activity

Lavandula spp. belong to the family *Lamiatae* and some species are often used in popular medicine and have been used for centuries in a large number of medical applications and in aromatherapy. Although similar ethnobotanical properties of *Lavandula* spp., its essential oils, general chemical composition and therapeutic applications differ from different species.

Lavandula stoechas L. subsps. *luisieri* (Rozeira) Rozeira and *L. viridis* L'Hér are endemic to the Iberian Peninsula, widespread in the South of Portugal, namely in Southern Alentejo and Algarve. The aim of our study was evaluate the chemical composition and toxicological and pharmacological activities of leaves essential oils of spontaneous plants of *L. stoechas* L. subsps. *luisieri* (Alentejo) and *L. viridis* (Algarve). The essential oils of these wild plants, collected in spring, were obtained by hydrodistillation in a *Clevenger*-type apparatus and its chemical composition was evaluated by GC/FID. The acute toxicity of essential oils was evaluated "*in vitro*" using brine shrimp (LC₅₀) and "*in vivo*" using Swiss mice (DL₅₀). The analgesic and anti-inflammatory pharmacological properties of *L. stoechas* subsp. *luisieri* essential oil were evaluated in mouse or rats by the *Amour-Smith* and carrageen-induced paw edema tests, respectively.

Results showed important differences in chemical composition of essential oils from two species analyzed either to diversity and proportion of its constituents. The essentials oils showed citotoxicity against *Artemia salina* and a DL₅₀ higher than 2000 mg/kg for mice. The analgesic and anti-inflammatory activities of essential oils were exhibit for the doses of 100 and 200 mg/kg.

These essential oils from *Lavandula* spp. showed important biological properties and studies will continue in order to clarify its hepatotoxicity and nephrotoxicity and to evaluate its potential use for pharmacological and nutritional applications.