

PP-082. Influence of *Hypericum perforatum* essential oil on the mice central nervous system

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The usage of St. John's worth, *Hypericum perforatum* L., Hypericaceae, (abbreviated as *HP*), more specifically of the non-volatile constituents of the plant, in the treatment of a variety of health disorders, is well known, while its predominant usage for the management of depression is best documented. The aim of this study was to evaluate the effect of the essential oil of *HP* on the behaviour of mice in several standard models. The essential oil used in this study was isolated from fresh aerial parts of the plant in the flowering stage, using standard procedures, whereas its chemical composition was analysed using GC/MS and GC. The analyses revealed that the major constituents of the tested oil were: 2-methyloctane, nonane, α -pinene, 3-methylnonane, β -pinene and myrcene. The animals used in the study were female BALB/c mice that were, after the appropriate treatment with the vehicle – olive oil (at 10 ml/kg), diazepam (at 2 mg/kg) and the essential oil of *HP* (at 12.5, 25, 50, 100, 150 and 200 mg/kg), subjected to the open field, light/dark, hole board, rota-rod and wire grasp tests. The behavioural tests revealed an upside parabolic shaped dependence between the applied doses of *HP* oil and the response of the animals, i.e. the lowest and the highest doses produced a very similar effect. This type of dosage-effect dependence was previously observed for other known activities of *HP* extracts in different pharmacological tests (e.g. nociception, depression). Our experiments provided direct proof that the volatiles of *HP* also significantly contribute to the overall effect of this plant species on the central nervous system of mice.

Keywords: *Hypericum perforatum*, essential oil, mouse, anxiety, behaviour.

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