A063 *Jasonia glutinosa* (L.) D.C.: volatile compounds and preliminar pharmacological study

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Jasonia glutinosa (L) D.C. (Jg) (family Asteraceae), popularly known in Spain as "té de roca", "té de piedras" or "té de Aragón" grows on the east of Spain on alkaline grounds and is commonly used as a digestive, spasmodic and laxative. On this work we study the volatile compounds, by comparing two different methods in order to obtain the isolation of the volatile fraction: distillation of the fresh plant, in order to obtain the essential oil and direct thermal desorption. An optical microscopy study was made from the air part of the plan to complete its identification, and taking into account the traditional use, pharmacological tests from the aqueous extract of Jg on the intestinal motility of the mouse were made, by using the charcoal's model. Male mice NMR-1 (25-30 g) under 18 hours of fast, were orally supplied with the extract (10 ml/kg), 15 minutes later, they orally received 0.1 ml of charcoal and finally 30 minutes later the animals were sacrified, the small intestine was removed and the charcoal's displacement was measured to indicate the intestinal motility. A variation's analysis and the Dunnett's test were applied in order to obtain the statistical analysis. Thirty-four compounds were identified on the essential oil, accounting 89% of total volatile composition. The main elements were: camphor (31.5%), borneol (15.6%), caryophyllene oxide (11.4%), nerolidol (8.6%) and bornile formate (2.9%). Direct thermal desorption joined to gas chromatography-mass spectrometry allowed the identification of 22 compounds, which only accounted 15.5% of the total volatile composition. The most important compounds were camphor (7.3%), borneol (3.6%), caryophillene oxide (2.5%), cadinol (1.8%) and spathulenol (1.3%). 21 of these compounds have been identified for the first time on the essential oil of Jg. The results of the preliminary pharmacological study indicated that the aqueous extract produces an significant increase on the gastrointestinal mobility on the mouse of 7% with the dose used. This data apparently support the popular use.

A064 Effect of royal jelly to lipid peroxidation in diabetic rats

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Royal jelly is a thick milky product secreted from hypopharyngeal (cephalic) and mandibular glands of young worker bees (*Apis mellifera* L.). Little has been know about the antioxidant activity (1, 2). In order to investigate the antioxidant effect of royal jelly, diabetic Wistar rats were induced by intravenous administration of streptozotocin, 50 mg/kg. Serum glucose, malondialdehyde (MDA), glutathione, superoxide dismutase (SOD), catalase and glutathione peroxidase activities were monitored throughout the experiments. The very high level of serum glucose (499.33 + 20.56 mg%) compared to the control group (166.00 + 19.95 mg%) was found to confirm hyperglycemic condition. Serum MDA level was also high in diabetic rat and significantly different ($p < 0.001$) when compared to the control group.

In the post-treatment groups, lyophilized royal jelly at 2.0 g/kg body weight/day was administered orally for 8 weeks in the following day after streptozotocin injection. It was found that royal jelly significantly decreased ($p < 0.001$) serum MDA in diabetic rat after 4 week of diabetic induction. For the pre-treatment groups, the same dose of lyophilized royal jelly was administered orally 2 weeks before streptozotocin injection. Royal jelly also significantly decreased ($p < 0.001$) serum MDA in diabetic rat after 4 week of diabetic induction. In both pre- and post-treatment groups, the glutathione, SOD, catalase and glutathione peroxidase activities were not significantly changed from the control groups. The indirect measurements of free radicals (MDA) indicated the action of royal jelly to inhibit lipid peroxide formation in diabetic rats.

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