

## Abstract

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Title of diploma thesis:

### **Evaluation of natural substances using *in vivo* tests with *Artemia salina***

Biological activity evaluation of substances is important because of toxic effect's assessment on chemical and physiological functions of organisms and their parts. For acute toxicity evaluation was used crustacean *Artemia salina* in this study. They were tested aqueous extracts isolated from various plant drugs of *Salviae folium*, *Apii semen*, *Coptidis rhizoma*, *Evodiae fructus*, *Zanthoxyli radix* and *Ziziphi fructus* and two isolated alkaloids galanthamine and huperzine A. For each extract and alkaloid was calculated value of lethal concentration  $LC_{50}$ . Results of this study showed, that the extract of *Coptis chinensis*,  $LC_{50} = 0,134 \pm 0,004$  mg/ml, had most toxic effects. Further the extract's toxicity decreased in the order *Ziziphus jujuba*,  $LC_{50} = 0,817 \pm 0,165$  mg/m > *Zanthoxylum nitidum*,  $LC_{50} = 1,154 \pm 0,015$  mg/ml > *Salvia officinalis*,  $LC_{50} = 2,074 \pm 0,462$  mg/ml > *Evodia rutaecarpa*,  $LC_{50} = 2,166 \pm 0,244$  mg/ml > *Apium graveolens*,  $LC_{50} = 4,041 \pm 0,108$  mg/ml. Tested alkaloids don't demonstrated any toxicity activity in determined concentrations.

Key words: *Artemia salina*, natural substances, alkaloids, toxicity, biological activity