

# ABSTRACT

Charles University in Prague

Faculty of Pharmacy in Hradec Králové

Department of Pharmaceutical Botany and Ecology

Candidate: Beáta Bystroňová

Consultant: RNDr. Jitka Vytlačilová, Ph.D.

Title of diploma thesis:

## **The evaluation of alkaloids using *in vivo* tests with *Artemia salina* II.**

The most common cause of dementia in the elderly is probably Alzheimer's disease (AD). The prevalence of this disease increases considerably. Nowadays only acetylcholinesterase inhibitors are being used for the treatment of AD, they can relieve symptoms of AD, but can't stop progression of the disease. Consequently there is a need for therapeutic agents against AD, which act on various pathological levels.

More intensive recent studies are being carried out on natural substances that could pharmacologically affect AD neurodegenerative processes. Our aim was to carry out the toxicological screening for each tested substance. For the purpose of this work we have used *Artemia salina* in the experiment which seems to be suitable organism for evaluating acute toxicity. The experiment was conducted in a miniature environment.

Four substances which belong to isoquinoline alkaloids: stylophine, tetrahydropalmatine, canadine and scoulerine were tested. The greatest toxicity showed stylophine, slightly lower tetrahydropalmatine and canadine. The lowest toxicity of tested substances showed scoulerine.