Abstract

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Název: Alkaloids of family *Amaryllidaceae*: genus *Zephyranthes*

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The aim of this diploma thesis was to summarize all knowledge about alkaloids izolated from *Zephyranthes* plants of *Amaryllidaceae* family. It contains a detail overview of botanical charactericts of phytochemically studied plants of the genus *Zephyranthes*. Also the overview of alkaloids with bilogical activity was described.

Within the genus *Zephyranthes* 10 species were studied phytochemically and 89 alkaloids were isolated from this plants. This alkaloids are divided in several structural groups. The lycorine-, haemanthamine-, galanthamine- and pancratistatine-type alkaloids occure the most frequently. Acetylcholinesterase-inhibitory, anticancer and antimalarial activity of the alkaloids was described like the most important. The most significant acetylcholinesterase-inhibitory activity was observed in alkaloids from galanthamine sctructural type. Anticancer activity was found the most in lycorine-, pancratistatine- and haemanthamine- type alkaloids. The most notable antimalarial activity was observed in lycorine- and heamanthamine- type alkaloids.

Keywords

Zephyranthes, *Amaryllidaceae*, alkaloids, anticancer activity, cholinesterase inhibitors, Alzheimer's disease, antimalarial activity