Alkaloid Variability in *Leucojum aestivum* from Wild Populations

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*Leucojum aestivum* (summer snowflake) is a plant species used for the extraction of galanthamine, an acetylcholinesterase inhibitor for the treatment of Alzheimer’s disease. Extracts from bulbs collected from 18 Bulgarian populations and from shoot-clumps obtained \textit{in vitro} from 8 different populations showed variations in their alkaloid composition. Nineteen alkaloids were detected in the studied samples by GC-MS. Typically, the alkaloid fractions of *L. aestivum* bulbs were dominated by galanthamine type compounds, but lycorine, haemanthamine and homolycorine type alkaloids were also found as dominant compounds in some of the samples. Extracts from the shoot-clumps obtained \textit{in vitro} were found to contain galanthamine or lycorine as main alkaloids. The galanthamine content ranged from 28 to 2104 µg/g dry weight in the bulbs, and from traces to 454 µg/g dry weight in the shoot-clumps.

\textbf{Key words: Leucojum aestivum, in vitro Cultures, GC-MS}