

# Alkaloid Variability in *Leucojum aestivum* from Wild Populations

Liliya Georgieva<sup>a</sup>, Strahil Berkov<sup>b</sup>, Violeta Kondakova<sup>a</sup>, Jaume Bastida<sup>b</sup>,  
Francesc Viladomat<sup>b</sup>, Atanas Atanassov<sup>a</sup>, and Carles Codina<sup>b,\*</sup>

<sup>a</sup> AgroBioInstitute, bul. Dragan Tsankov 8, 1164 Sofia, Bulgaria

<sup>b</sup> Departament de Productes Naturals, Biologia Vegetal i Edafologia, Facultat de Farmàcia,  
Universitat de Barcelona, Av. Joan XXIII s/n, 08028 Barcelona, Catalonia, Spain.  
Fax: +34934029043. E-mail: carlescodina@ub.edu

\* Author for correspondence and reprint requests

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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 *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 *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.

**Key words:** *Leucojum aestivum*, *in vitro* Cultures, GC-MS