

2nd International Conference and Exhibition on Pharmacognosy, Phytochemistry & Natural Products

August 25-27, 2014 DoubleTree by Hilton Beijing, China

GC-MS identification of alkaloids from the genus *Lycoris*

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The genus *Lycoris*, a group of Amaryllidaceae plants distributed in temperate regions of Eastern Asia, is known for containing representative alkaloids typical of this botanical family with a wide range of biological activities (such as lycorine and galanthamine). The alkaloids found in Amaryllidaceae species have shown many pharmacological properties including antiprotozoal, antiviral, antitumoral, and acetylcholinesterase inhibitory activities. One of the most renowned compounds of this group is galanthamine, a drug marketed for the treatment of Alzheimer's disease (Razadyne®, formerly Reminyl®). In the present work, the species *L. albiflora*, *L. aurea*, *L. chinensis*, *L. haywardii*, *L. incarnata*, *L. longituba*, *L. radiata*, *L. sprengeri*, and *L. squamigera*, and one variety (*L. radiata* var. *pumila*) have been evaluated by means of a simple and rapid methodology that exploits the advantages of gas chromatography-mass spectrometry (GC-MS) for alkaloid profiling and direct quantification from dry plant material. GC-MS is a proven useful, fast and specific technique with good sensitivity for the study and identification of complex alkaloid mixtures from various plants of different groups, requiring very low amounts of plant material and no derivatization step. The results were analyzed using AMDIS 2.64 software (NIST). Structures belonging to the lycorine-, homolycorine-, haemanthamine-, narciclasine-, tazettine-, montanine- and galanthamine-series were identified and quantified. Galanthamine and lycorine-type compounds were predominated and showed a high relative abundance in comparison with other alkaloids detected in the extracts. Interestingly, *L. longituba* revealed itself to be a potential commercial source of bioactive alkaloids.

Biography

Ying Guo is a PhD student at the Faculty of Pharmacy, University of Barcelona. With four scientific articles published, as well as one recently accepted for its publication, she is currently in the third year of her thesis which is focused on natural products research.

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