Abstract

Quinolizidine alkaloids such as lupanine, 13-hydroxylupanine, multiflorine, angustifoline and sparteine, which are present in the species of the genus Lupinus, have been reported to have biopesticide and pharmacological activities. The aim of this study was to quantify the content and variation of the individual alkaloids in seeds of L. mexicanus, L. exaltatus, L. montanus and L. stipulatus collected in different states of Mexico. Lupanine was the major (5.05 ± 0.37 mg/g) alkaloid found in L. mexicanus, whereas sparteine was the main alkaloid present in L. montanus (3.97 ± 0.49 mg/g). Conversely, L. stipulatus contained only small quantities of lupanine and sparteine (0.1 ± 0.002 and 0.04 ± 0.01 mg/g, respectively). Angustifoline was detected only in L. montanus, but in a very low amount (0.048 ± 0.03). The results of this study indicate that L. mexicanus and L. montanus can be considered as important sources of lupanine and sparteine for their use as natural pesticide or pharmacological agents.

Keywords