



QUINOLIZIDINE ALKALOID COMPOSITION IN DIFFERENT ORGANS OF *LUPINUS ASCHENBORNII*.

ABSTRACT

Lupinus aschenbornii S. Schauer, Fabaceae, grows in the Central Highlands of Mexico, at altitudes between 2800 to 4300 m above sea level. The alkaloid patterns in organs of *L. aschenbornii* were analyzed by Gas-Liquid Chromatography-Mass Spectrometry (GLC-MS). Quinolizidine alkaloids (QA) were identified according to their mass fragmentation patterns, in combination with their Kovats retention indexes. Total QA content in organs differed substantially: seed contained 3.3 mg/g dry weight, flowers 2.8 mg/g DW, leaves 1.9 mg/g DW, stems 1.5 mg/g DW, and pods 1.4 mg/g DW. Roots do not accumulate QA and their profiles differed considerably: while seed stored N-formylangustifoline (17%), 17-oxolupanine (16%), multiflorine (11%) and an unidentified alkaloid (n.i.) 2869 (11%) as main QA, sparteine was absent. In flowers, sparteine reached 73%, in leaves up to 80%, in stems up to 32% and in pods up to 96%. Other QA present were lupanine (32% in stem, 9% in flower and 7% in seed); N-formylangustifoline (9% in stem and 4% in flower); multiflorine (6% in stem and 3% in flower). Differences in QA profile might be a strategy of lupins to avoid adaptation of possible predators because the different QA have different pharmacological properties.

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