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Profiling of Phenolic Compounds of Somatic and Reproductive Tissues of Agave Durangensis Gentry (Agavaceae)

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Abstract: Problem statement: In Durango, Mexico, mescal is elaborated from wild plants of *Agave durangensis*. This species shows a high morphological variability within and among populations, what makes its taxonomic delimitation a hard task. **Approach:** In this study the pollen and foliar phenolic compositions of *Agave durangensis* were analyzed by HPLC/DAD with the aim of determining the significance of phenol profiles to delimit this taxon. **Results:** The foliar phenol compositions were evaluated within and among two populations and between juvenile and adult plants. *Agave asperrima* Jacobi, *Dasylirion* sp. and juvenile samples of *A. shrevei* Gentry subsp. *shrevei*, *A. shrevei* Gentry subsp. *matapensis* Gentry and *A. wocomahi* Gentry, were also analyzed to stand comparisons with. The results from this study indicated that pollen and foliar profiles of adults, indicated the presence of several chemotypes within the Type locality of *Agave durangensis* and revealed chemical differences between the both analyzed populations. **Conclusion/Recommendations:** Chemical and morphological differences and biogeographical evidence suggest the recognition of two different taxonomic entities in this morphological variable group.

Key words: Pollen flavonoids, foliar flavonoid profiles, Agave phenolic variability