

**Pollen Flavonoid/Phenolic Acid Composition of Four Species of Cactaceae and its
Taxonomic Significance**

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Abstract: The pollen flavonoid/phenolic acid composition of 14 individual of *Stenocactus multcostatus* subsp. *zacatecasensis* (Britton et Rose) U. Guzmán et Vázquez-Benitez, comb. et stat. nov., 11 of *Echinocereus enneacanthus* Engelman, 8 of *Echinocereus pectinatus* (Scheidweiler) Engelman and 12 of *Mammillaria heyderi sensu lato* (all belonging to Cactaceae) was analyzed by HPLC/DAD with the aim of determining the role of pollen profiles of flavonoid/phenolic acid as valuable markers in those taxa. The flavonoid/phenolic acid composition of pollen was evaluated within and among the taxa analyzed. The results suggest that (a) the flavonoid/phenolic acid profiles of these species are among the most complex reported, (b) that quercetin, kaempferol and herbacetin glycoside derivatives are the major phenols found in the pollen of these species of cactus, (c) that some intrapopulation variability is present in all four species and (d) that these pollen flavonoid/phenolic acid profiles tend to be species-specific, so that they can represent important taxonomic markers in Cactaceae.

Key words: *Stenocactus multcostatus*, *Echinocereus enneacanthus*, *Echinocereus pectinatus*, *Mammillaria heyderi*, pollen flavonoids