



Isolation and characterization of simple sequence repeat markers for the herbaceous species *Phyla scaberrima* (Verbenaceae)

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ABSTRACT. *Phyla scaberrima* (Verbenaceae) is a herbaceous species distributed from Mexico to Panama. Because of its well-known sweet properties and other medicinal uses, this species is cultivated in South America and the Caribbean. *Phyla scaberrima* has been arbitrarily extracted from nature, resulting in a severe reduction in its gene pool. In this study, we developed and characterized 11 simple sequence repeat markers for *P. scaberrima* to determine the genetic variability and patterns of population structure of the species. Fifty-six alleles were detected in a sample of 48 individuals belonging to 3 different populations. The average number of alleles per locus was 5.09, while the polymorphic information content ranged from 0.000-0.587. The observed and expected heterozygosities varied from 0.000-0.543 and from 0.000-0.651, respectively. Two loci exhibited significant deviation of the expected Hardy-Weinberg proportion. The 11 primer pairs were

also tested for cross-amplification to 6 species of the related genus *Lippia*. The transferability rate ranged from 4 loci in *Lippia florida* and *L. rotundifolia* to 6 loci in *L. corymbosa* and *L. microcephala*. The 11 primer sets were shown to be valuable tools for population genetic studies in *P. scaberrima* and in species of the genus *Lippia* in which primer transferability was detected.

Key words: Aztec sweet herb; Medicinal species; Microsatellites markers; Primers