

**Corresponding Autor:** Martha Isabel Torres-Morán, Centro Universitario de Ciencias Biológicas y Agropecuarias,

Universidad de Guadalajara, Km 15.5 Carretera a Nogales, Zapopan, Jalisco

661

**Taxonomic Significance of ISTR to Discriminate Species in *Agavaceae***

1Martha Isabel Torres-Morán, 2Norma Almaraz-Abarca, 1Ana Paulina Velasco-Ramírez,

2Vicente Hernández-Vargas, 2Gildardo Orea-Lara,

2Armando Cifuentes-Díaz de León and 3Carmen Oliver-Salvador

1Centro Universitario de Ciencias Biológicas y Agropecuarias,

Universidad de Guadalajara, Km 15.5 Carretera a Nogales. Zapopan, Jalisco, México.

2Centro Interdisciplinario de Investigación Para el Desarrollo Integral Regional,

Unidad Durango, Instituto Politécnico Nacional, Becarios (COFAA)

3UPIBI-Instituto Politécnico Nacional

**Abstract:** Family *Agavaceae* is endemic of American Continent. From the around 300 species recognized in this family, 217 occur in Mexico. Relevant ethnobotanic relationships among *Agavaceae* and the several native human cultures of the American Continent have been established since prehispanic times. *Agave* is one of the most important genus in that family due to its great diversity and abundance, mainly in arid and semiarid regions of Mexico. In this country, near to 15 species of *Agave* are used to elaborate alcoholic beverages. *Agave tequilana* weber var. azul is indubitable the most important of them because is the raw material to elaborate a particular worldly famous class of mescal, named tequila. *Agave salmiana*, *A. maximiliana* and *A. durangensis* are species less famous than *A. tequilana*, but they also have a high quality and level of carbohydrates and in fact, support local mescal industries. In these last species several taxonomic controversies exist concerning their specific delimitation. In this study the molecular characterization of eight species of *Agavaceae* using ISTR was performed in order to determine the significance of these markers for discriminating among specific taxa. The results suggest that these molecular markers are worthy to typify species of *Agavaceae* and detect intrapopulation variability.

**Key words:** *Agavaceae*, retrotansposons, DNA markers, ISTR