

**MORPHOLOGICAL AND GENETIC ANALYSIS OF *Triplaris guayaquilensis* Wedd
(POLYGONACEAE): ONE NATIVE TREE OF ECUADOR**

**ANÁLISIS MORFOLÓGICO Y GENÉTICO DE *Triplaris guayaquilensis* Wedd (POLYGONACEAE): UN
ÁRBOL NATIVO DE ECUADOR**

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In this paper, we assessed six native populations (55 trees) of *Triplaris guayaquilensis* Wedd (Fernan Sanchez), one of the major forest species from Ecuador, using morphological and AFLP (Amplified Fragment Length Polymorphisms) data. The populations were collected through two macro-sites (Central coastals: Quevedo, Ventanas, la Guayas; Andean surroundings: la Maná, Patricia Pilar, Pichincha). The populations showed the following traits: straight shaft (66 %); round, irregular top shape (50 %); and branch insertion angle 0° - 30° (86 %). Four qualitative (straight shape, type of leaf edge, leaf width and leaf pubescence) and four quantitative (commercial tree height, basal area, commercial volume and total volume) traits were the most explicative traits present after Principal Component Analysis (PCA). PCA separated populations into two groups: one group included populations from Central Coastals which showed morphological traits highly and positively correlated with wood production, and the other group included populations with lower tree growth from the Andean surroundings. Populations from Central Coastals showed the highest values of genetic diversity indexes, AFLP markers separated populations based on the macro site of origin. For $K = 2$ Bayesian analysis separated FS populations into two groups; two populations from Central Coastals region and the other four the Andean surroundings region (3) and 1 from Central Coastals (La Guayas). For greater K values, the genetic fragmentation of populations by origins was evident since for $K = 5$ four groups were performed: one including populations from Quevedo and Ventanas and other from La Guayas (Coastals), the third group included trees from La Mana and Pichincha and the fourth, from Patricia Pilar (Andean surroundings). Results suggested the constant and effective genetic recombination or the genetic flow among and within Fernan Sanchez populations with a clear tendency towards genetic differentiation.