



RAPD-based genetic diversities and correlation with morphological traits in *Camellia* (Theaceae) cultivars in China

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ABSTRACT. *Camellia* is an economically important ornamental plant that has many uses, such as in beverages, foods and medicines. We examined 15 *Camellia* cultivars in Wenzhou, China, using RAPD markers and measurements of three traits (petal color, flower diameter, blooming period). PCR amplification with 15 random primers produced 1935 bands, observed at 88 amplification loci; 77% of the amplified loci were polymorphic, with a mean of 4.5 polymorphic loci per primer. The similarity coefficient ranged from 0.5419 to 0.7933 among the 15 samples; the lowest value was between Manao (*C. reticulata*) and Feibai FR (*C. japonica*), and the largest value was between Chidan (*C. japonica*) and Yuanyang FG (*C. japonica*). Cluster analysis divided the 15 cultivars into two groups at the similarity coefficient of 0.65. A correlation was found between RAPD markers and petal color in the first group. No correlation was found between RAPD markers and the other traits (flower diameter, blooming period). This study provides information useful for the identification, classification, phylogenesis, and breeding of *Camellia* cultivars.

Key words: *Camellia*; Genetic diversity; Correlation; Petal color; Morphological trait; RAPD marker