

***Coffea* spp. and *Coffea canephora* Diversity Evaluated with Microsatellites and SNPs. Lessons from Comparative Analysis**

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SUMMARY

Coffea genus includes more than 80 taxa, representing a high genotypic and phenotypic diversity. Our study leads to an evaluation of diversity, based on two types of markers, microsatellites (SSR) and Single Nucleotide Polymorphisms. *Coffea* diversity was evaluated at two levels: 20 species of the genus were analysed whereas a wider sampling was performed for *Coffea canephora*. 60 SSR markers were used; they provided new information concerning *Coffea* genus structuration and phylogenetic relationships between species. At the interspecific level, results are consistent with the geographical distribution of species. Within *C. canephora*, the knowledge of the genetic diversity of wild and cultivated populations is important as preliminary information for genetic improvement. Results obtained are consistent with previous studies. Furthermore, a new group including the Ugandan genotypes was identified, constituting the most eastern located independent genetic group, with a level of diversity comparable to Congolese genotypes. Analyses on SNPs diversity have also been performed for some specific genes implicated in sucrose and diterpen metabolisms. Results give complementary data on diversity, and indicate if these genes were subjected to natural or artificial selection, indicating the best putative candidate genes. Consequences for the identification of tools for Marker Assisted Selection are discussed.