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Genetic characterization of *Rubus glaucus* Benth progenitors through SNPS and SSR

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Rosacea family comprise nearly 90 genera, with *Rubus* genus among them with 750 species (Longhi et al., 2014). This genus also includes a plant commonly known as *mora de Castilla* or *mora de los Andes* (*Rubus glaucus*). Genetic variability of the genus is well documented and has been widely studied considering phenotypic, morphologic, chromosomic and molecular features, highlighting important aspects such number of chromosomes, polyploidy and hybridization (Alice and Campbell, 1999). *Rubus glaucus* Benth (*mora de Castilla*) is an agricultural product with one of the biggest potential within Colombian-Andean Region. In the country, along 2014 it was achieved a total production of 150 thousand tons/year and in 2015, the plant's area accounted 66.770 hectares with average yielding of 11 tons per hectare per year (ENA, 2015). In this sense, the agricultural-food chain of *mora de Castilla* in Colombia is constituted by associated producers, with the intention of increasing performances through the behavior evaluation of promising plant material against high impact-phytopathogenic agents. Accordingly, this work pretends to strengthen the species characterization process of *mora de Castilla* through last generation molecular markers SSR and SNPs tending to identify tolerance-related genes in *Rubus glaucus* cultivars against anthracnose caused by *Colletotrichum gloeosporioides* through transcriptome analysis (RNAseq) in susceptible species. Hence, 15 SRR markers showed positive amplification with a bi-allelic behavior for 14 of them, giving place to 29 loci and 58 alleles. Moreover, from 78 SPNs markers, only 36 yielded positive amplification. Obtained sequences showed high homology with species belonging Rosaceae family, as a result, genetic diversity based on SNPs data consisting in 8837 loci with 1082 effective alleles and an average polymorphism of 12.49% Revealed that genetic libraries constructed with SNPs and SSR markers showed high discrimination power for commercial cultivars of *Rubus glaucus*.

Biography

Ana Maria Lopez Gutierrez possesses wide experience into the fields of plant biology and plant genetics. Her work has concentrated in the investigation of plant diversity using SSR, SNPs and AFLP markers but also tending to the identification of resistance genes in susceptible and tolerant species against bacterial and fungal infections affecting crops with commercial/food interests.

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