MSI.8 C.A. Fernandes-Santos: Relationship between ecogeographic sampling and phenotypic diversity of Brazilian *Psidium* germplasm based on categorical descriptors

Relationship between ecogeographic sampling and phenotypic diversity of Brazilian *Psidium* germplasm based on categorical descriptors

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Relationships between eco-geographic origin and phenotypic variation were established for 143 *Psidium* accessions, including araçá (a general term for wild-growing *Psidium* spp. in Brazil) and guava (*P. guajava*) species, sampled in 31 different eco-geographic regions of ten Brazilian States. The accessions were characterized for 35 categorical traits according to the International Union for the Protection of New varieties of Plants (UPOV) descriptors for *P. guajava*. The simple matching coefficient was applied to compute a similarity genetic matrix among the *Psidium* accessions that was used to build a multidimensional scaling graphic and a phenogram tree, according the UPGMA (Unweighted Pair Group Method with Arithmetic Mean) method. The correlation between the cophenetic values and the simple matching matrices was 0.55, and the badness-of-fit value of the multidimensional scaling was 0.30. Eighty-eight percent of araçá accessions were grouped together and it was observed that they clustered according to eco-geographic region. Guava accessions clustered only for collections from

four Brazilian States, without presenting clustering by specific eco-geographic regions. It was expected that capturing rare alleles and an enhancement of genetic variability of *Psidium* germplasm could be achieved by sampling accessions according to predefined geographical areas, even for guava germplasm. It was not possible to distinguish all *Psidium* accessions based on the combined information collected using the 35 UPOV descriptors.