Genetic diversity and biogeographic determinants of population structure in *Araucaria angustifolia* Bert. O Ktze.

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Parana pine (*Araucaria angustifolia*) is a dioecious species threatened on extinction that plays an important social and economic role especially in South region of Brazil. This study seeks to estimate the scale of genetic differentiation and correlate genetic distance with an ecologically weighted spatial distance. From this collection we samples 12 sites across the species range and 10 samples per site. SSR genotyping was conducted and the data was analyzed using several complimentary approaches. Descriptive statistics among sampling sites were used to develop ranking to genetic diversity. Additionally genetic diversity was partitioned non-hierarchically to estimate the size and composition of genetic clusters using a Bayesian assignment method. Finally genetic distances between individuals were correlated with pair-wise least cost path distances derived from niche quality models. These models were used to weight spatial distances in order to identify barriers to gene flow among the north and south regions in the range and to correlate these barriers to long-term biogeographic processes that have influenced the flora of southern Brazil. These data have important implications on future conservation planning for this species. Results from these data also have an important role in supporting forestry tree improvement programs.

Keywords: biogeography, niche modeling, ex situ conservation