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### Is *Dimorphandra exaltata* (Leguminosae) an endangered tree species: evidence of genetic studies and herbarium records

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*Dimorphandra exaltata* (Schott) is a rare tree legume with few registers of occurrence in herbariums (*specieslink* and Global Biodiversity Information Facility). It occurs in the southeastern Brazil, in the Atlantic Forest, mainly in transition areas with Cerrado (savanna), in disturbed and fragmented areas. In this study we estimated the genetic diversity, population structure and gene flow between populations of *D. exaltata* to evaluate if it could be considered endangered of extinction. We sampled 50 individuals in Serro, Contagem and Esmeraldas municipalities in Minas Gerais state, which were genotyped for 11 microsatellite loci. The population genetic structure was evaluated by Analysis of molecular variance (AMOVA) and spatial Bayesian clustering method implemented in GENELAND 4.0.7. A coalescent approach implemented in MIGRATE-N 3.6 was used to estimate the mutation scaled migration ( $M$ ). The populations showed low genetic diversity, with Serro, Contagem and Esmeraldas showing expected heterozygosity ( $H_E$ ) equal to 0.434, 0.307 and 0.357, respectively, and number of alleles per locus ( $N_A$ ) equal to 3.750, 4.250 and 2.750, respectively. The mean  $H_E$  and the mean  $N_A$  were 0.360 and 3.583, respectively. The populations were moderately divergent, with  $F_{ST}$  estimated by AMOVA equal to 0.130 ( $P = 0.00$ ). Three genetic clusters were estimated by the Bayesian clustering method with each cluster representing one population ( $PP = 0.71$  for each population).  $M$  varied from 81.667 to 5.667, with high values for spatially near populations (Contagem and Esmeralda) and low for the geographically isolated population (Serro). The low genetic diversity, smaller even than the critically endangered species of the same genus (*D. wilsonii*), and the low genetic connectivity of the distant population, combined with rarity and habitat fragmentation altogether suggest that *D. exaltata* should be considered as a threatened species.

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