

## Genetic characterization of natural populations of the medicinal plant *Palicourea coriacea* (Rubiaceae) with molecular markers

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**ABSTRACT.** *Palicourea coriacea* (Rubiaceae) is a herbaceous, perennial species typical of the Cerrado; it is popularly known as “douradinha”, because of its yellow flowers. It is utilized in popular medicine, mainly for the treatment of renal diseases. We used RAPD markers to evaluate the genetic structure of nine natural populations of *P. coriacea*, totaling 168 individuals, collected in the States of Goiás and Bahia. This species showed a high level of genetic diversity, with  $H_e$  values varying between 0.259 and 0.338, with an overall mean of 0.296. Analysis by AMOVA revealed that 23% of the total variability was between populations and 77% was within populations. The estimate of apparent gene flow ( $Nm$ ) was 0.83. Analyses of the fixation index ( $f$ ) using a Bayesian approach yielded a mean value of 0.98, suggesting that this is an autogamous species. Analyses of genetic divergence and spatial pattern of the populations utilizing  $\theta^B$  and  $\Phi_{ST}$  matrices, pair to pair, revealed no correlation between geographic distance and genetic distance; the nine populations grouped randomly, without relation to their geographic origin. The hypothesis that geographically close populations should be genetically

close was discarded based on the Mantel test; the correlation was 0.155 ( $P = 0.23$ ). The degree of interpopulational differentiation was relatively high, which allows us to recommend a strategy of sampling for the *ex situ* conservation of genetic variability, utilizing a larger number of populations. For *in situ* conservation, we suggest preservation of a larger number of areas in the Cerrado, where this species naturally occurs.

**Key words:** Douradinha; Random amplified polymorphic DNA; Genetic variability