

Identification of Metalliferous Ecotypes of *Cistus ladanifer* L. using RAPD Markers

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The genetic diversity of *Cistus ladanifer* ssp. *ladanifer* (Cistaceae) growing on ultramafic and non-ultramafic (basic and schists) soils in the NE of Portugal was studied in order to identify molecular markers that could distinguish the metal-tolerant ecotypes of this species. Random Amplified Polymorphic DNA (RAPD) markers were used in order to estimate genetic variation and differences between populations. The RAPD dataset was analysed by means of a cluster analysis and an analysis of molecular variance (AMOVA). Our results indicate a significant partitioning of molecular variance between ultramafic and non-ultramafic populations of *Cistus ladanifer*, although the highest percentage of this variance was found at the intra-population level. Mantel's test showed no relationship between inter-population genetic and geographic distances. A series of RAPD bands that could be related to heavy metal tolerance were observed. The identification of such markers will enable the use of *Cistus ladanifer* in phytoremediation procedures.

Key words: *Cistus ladanifer*, RAPD Markers, Metal Tolerance