

Los marcadores moleculares como el ADN mitocondrial se están imponiendo como herramienta taxonómica complementaria de los caracteres fenotípicos (esqueléticos), especialmente en grupos como las esponjas con una taxonomía tan complicada que requiere una gran especialización, y sobre todo, en grupos con pocas diferencias esqueléticas.

Genetic diversity of Mediterranean populations of *Gracilaria bursa-pastoris* (S. G. Gmelin) Silva (Gracilariales, Rhodophyta)

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G. bursa-pastoris (S. Gmelin) P. Silva (Gracilariales, Rhodophyta) show a high morphological plasticity in its type locality, which is generically referred to the Mediterranean Sea. In order to assess the existence of a relation between morphological and genetic variations of the different natural forms, the genetic diversity was analysed by allozyme electrophoresis on four Mediterranean tetrasporic populations.

Low levels of genetic diversity were found, ranging from 10 to 50% for the percentage of polymorphic loci (*P*), from 1.1 to 1.9 for the average number of alleles per locus (*A*) and from 0.005 to 0.186 for the expected heterozygosity (*He*). About the 74% of the genetic variability is concentrated among populations, while only the 26,36% characterized diversity within populations.

No relationship was detected between morphological variation and allozyme analysis.

The population of Licata differed genetically from all the other examined populations, and therefore a deep analysis must be performed on this population to confirm its taxonomic status.