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DNA fingerprinting based on SSR amplification profiles for Sicilian hazelnut (*Corylus avellana L.*) germplasm identification

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Hazelnut (*Corylus avellana L.*) is an important crop in the world and Italy is the second producer after Turkey. In Sicily hazelnut crop represents an essential element for a sustainable local development, for landscape protection of marginal mountain areas and for a defensive action against deterioration of the land and hydrogeological instability. The Sicilian hazelnut production is based on main cultivars and local selection identified by local name. Therefore there is an increasingly need to develop a method to detect cases of synonyms and to describe the germplasm diversity. Simple Sequence Repeats (SSR) have been used to true-to-type characterization of cultivars (Wünsch and Hormaza , Boccacci et al.). In this work, the genetic diversity of 53 hazelnut accessions was analysed by using a set of SSR loci (Boccacci and Botta). Most of SSR loci were polymorphic, enabled to detect a high level of molecular diversity and to identify several cases of homonyms, synonyms and somatic mutants. An UPGMA clustering analysis and PCoA were carried out to investigate the genetic relationships among accessions. This analysis provides new insight into the Sicilian hazelnut diversity useful to support morphological characterization and to identify unambiguously all genotypes. Genotyping is one of the most important step to recovery Sicilian hazelnut food chains and a useful starting point for the development of a conservation strategy and for the establishment of a core collection of Corylus avellana L. germplasm.

Biography

Leopoldo Naranjo-Briceno has received the PhD in Molecular Biology and Biotechnology, genetic and metabolic engineering of filamentous fungi graduated at the Universidad de León, Spain, and worked as Researcher at the Instituto de Biotecnología de Le ón (INBIOTEC). In 2005, he returned to Venezuela as Associated Researcher in the Biotechnology Centre at the Fundació n Instituto de Estudios Avanzados (IDEA) for more than 10 years. Currently, he is permanent professor and researcher in applied mycology at the Universidad Regional Amaz ónica Ikiam and Head of the Grupo de I+D+i de Microbiología Aplicada. He has been regional representative of the Latin American Association of Mycology, Vice Gestor of the CYTED Program, and Liaison Officer at the International Centre for Genetic Engineering and Biotechnology (ICGEB).

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