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## Genetic diversity of the cactus pear (*Opuntia spp*) in Morocco as revealed by morphological descriptors and molecular markers

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The genus *Opuntia* is originated from the arid and semi-arid regions of Mexico and has more than 1,500 species worldwide. It plays important socio-economic and environmental roles and is used for human consumption, for its beneficial effects on health (anti-cancer, anti-viral, anti-diabetes and anti-oxidant effects among others), as fodder and for the manufacture of pharmaceutical and cosmetic products. In Morocco, the cactus has an area of 120 000 ha; however, the genetic diversity of its species has never been studied. In this work, we evaluated the genetic diversity of 124 *Opuntia* accessions using 10 morphological descriptors. The accessions belong to 7 species: *O. ficusindica*; *O. megacantha*; *O. robusta*; *O. aequatorialis*; *O. dillenii*; *O. leucotricha* and *O. inermis*; and were collected from 8 regions of Morocco. Our results showed a great similarity between accessions. Thus, a molecular study was carried out with ISSR and RAPD markers. Molecular markers have generated 72 bands, 70 were polymorphic. The dendrogram produced by the UPGMA method showed the presence of 7 groups, which was confirmed by principal component analysis. Our results revealed a high genetic similarity between *O. ficusindica* and *O. megacantha* and will be very useful for genetic breeding and conservation programs.

### Biography

Youssef El Kharrassi is a PhD Student, and he is 29 years old doing a thesis in cotuelle between the University of Burgundy Faculty of Gabriel Sciences Dijon France and Hassan 1st University Faculty of Science and Technology of Settat Morocco. He is also a Researcher at the National Institute of Agronomic Research Settat Morocco. He has published more than 3 papers in reputed journals.

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