cE3c
centre for ecology, evolution and environmental changes

6th Annual Meeting 2020

Frontiers in E3

1-2 October

Online

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Book of ABSTRACTS

1 October 2020 Thursday

TL 2 - Evolutionary processes that shape biodiversity and adaptation to environmental changes

Short Talk

Molecular assessment of cashew diversity unravels distinctive differentiation routes in CPLP countries

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Cashew tree (*Anacardium occidentale* L.) is a tropical crop from the Anacardiaceae family, native to Brazil. Cashew has acquired a high socio-economic importance in several tropical regions as a main agriculture commodity; however, the inadequate management of cultivated areas poses a huge threat towards its sustainable production. Despite its high economic importance, few studies addressing its genetic diversity have been pursued. Thus, our work is the first study evaluating the genetic diversity of cashew using microsatellites (SSRs) molecular markers, through a comprehensive sampling from several Portuguese Speaking Countries (*i.e.*, Brazil, Cabo Verde, Guinea-Bissau, Angola, Mozambique, East-Timor). Genetic diversity analysis and population's structuring of cashew crop throughout CPLP regions were evaluated and results obtained revealed a great intra and inter-population diversity. The population structuring allowed suggesting some hypotheses about the introduction of cashew trees in East-Timor, through the African continent or maritime route. In addition, the genetic flow observed between the populations from Brazil and Cabo Verde shows a clear membership reflecting the historical introduction of this crop into the African continent. Molecular diversity assessment of cashew allowed us to detect a high genetic diversity between countries, which could be associated to cultivars (yet to be characterized) and/or ecotypes adapted to different eco-climatic conditions, along a West-East genetic differentiation. This work intends to be first working step towards a future clarification of the introduction history of cashew since 16th century from Brazil, through understanding its genetic diversity at a global scale.