A COMPARATIVE GENETIC ANALYSIS OF PHOENIX ATLANTICA IN CAPE VERDE

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Abstract

The Cape Verde palm tree, *Phoenix atlantica*, holds a high ecological and cultural importance within Cape Verde archipelago ecosystem. However, recent studies have raised questions about its distinctiveness, due to its close relationship with and potential origin from its relative, the date palm (*Phoenix dactylifera*). In this study, employing an expanded sample set and a diverse array of molecular markers, we characterized *P. atlantica* in Cape Verde and thoroughly investigate its relationship with other *Phoenix* species. Our findings reveal genetic markers responsible for the differentiation of a *P. atlantica* genetic pool. Additionally, we uncover evidence of the recent divergence of *P. atlantica* from northern African date palm populations, suggesting a relatively recent colonization in Cape Verde. These results pose a significant advancement in elucidating the enigma the provenance of *P. atlantica* and its connection to *P. dactylifera*, representing a crucial step forward for Cape Verde nature conservation. Furthermore, our study reveals distinct genetic patterns across various islands in the archipelago. Overall, our results contribute to the intricate historical trajectories and characterization of palm trees in Africa.

Keywords: *Phoenix atlantica*, *Arecaceae*, Cape Verde, population genetics, oceanic islands.