Pancratium maritimum, the sea daffodil, under the threat of climate change

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Pancratium maritimum is a plant species native to the Mediterranean region from the Black Sea to part of the Atlantic coast that is threatened with extinction. It's a bulbous plant that grows on beaches and coastal sand dunes most often with much of the leaves and scapes buried in the sand (Fig. 1).

This plant is receiving much attention from the international scientific community due to its value as a bio-indicator, the potential industrial value of its chemical compounds, and its use as a commercial ornamental plant.

Apart the threat of elevated temperature due to climate change, the plant is also threatened by urbanization, tourism development, tourist trampling, alteration, destruction of dune systems and overcollection, resulting in a significant decrease of populations of P. maritimum.

The flowering season of P. maritimum, and therefore the pleasure in seeing its beautiful flowers, begins in June and ends in September, coinciding with the period of excessive tourism in the Mediterranean, and at a time when simultaneously flowering plant taxa are scarce.

Figure 1. *Pancratium maritimum*

Although, several aspects concerning pollination, pollen morphology, seed dispersal and germination, phytochemistry and genetics of P. maritimum have been investigated, there is a scarcity of data on the ecophysiological traits of P. maritimum inhabiting maritime sands. In other words, despite increasing interest in conservation and restoration of P. maritimum stands, a comparative study on functional traits of the above- and below-ground tissues is still lacking.

Taking into consideration the upcoming climate change and the threats as described above, this study aims to present the possible negative effects of the environmental stress that this plant species will probably endure and also how this daffodil is able to manage the stressful environmental conditions and the poor soil properties that exist in coastal regions. Moreover, this study focuses on potential that this plant can be cultivated outside of its natural habitat ensuring its survival and also its commercial exploitation.