Drastic effects of Climate Change on Mediterranean marine forests

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DRASTIC EFFECTS OF CLIMATE CHANGE ON MEDITERRANEAN MARINE FORESTS

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Macroalgal forests have gone missing in several temperate rocky shores during the last decades, triggering important changes in the seascape. *Cystoseira* species are some of the main habitat-forming species on shallow water Mediterranean rocky bottoms and follow the same tendency, which has been mainly related to habitat destruction and pollution. Here we suggest that abnormal positive thermal events may have contributed to this widespread *Cystoseira* decline. Densities and size structure distribution of *C. crinita* showed a drastic decline on a relict population coinciding with abnormal high summer temperatures. Additionally, we experimentally tested in the laboratory the cause-effect of high temperatures and UV radiation on *C. crinita* populations. Although, *C. crinita* was able to resist punctual high temperature peaks, exceptional and maintained periods of high temperatures (28ºC) lead to the death of all individuals, compromising the viability of these populations. Thus, climate change may seriously compromise *C. crinita* stands and act synergically with historical drivers of macroalgal decline such as pollution, habitat destruction and increased herbivorism.

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