Patrones espaciales de daño en copa en el sabinar de la Reserva Biológica de Doñana a consecuencia de un evento extremo de sequía

Spatial patterns of canopy damage in a juniper woodland of the Doñana Biological Reserve as a consequence of an extreme drought event

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Juniper woodlands (*Juniperus phoenicia ssp turbinata*) inhabit the stabilized sand dunes of Doñana National Park. The Monitoring Team of Doñana Biological Station conducts a long-term ecological monitoring since 2003 of terrestrial plant communities following a multi-scale approach in the Doñana Biological Reserve (RBD). Several extreme weather events (frost and drought) throughout the year 2005 caused a severe canopy damage and mortality to the terrestrial plant communities including Junipers. This paper assesses the effects of such events on Juniper populations using spatial analysis of canopy damage. Results show that 20% of individuals had more than 50% canopy damage, almost 12 % of individuals had more than 80% and 8% of them were fully defoliated. In addition, there was a higher percentage of juveniles affected, a negative relationship was found between canopy damage and tree height and significant differences were observed between plots.

Key words: extreme events; spatial patterns, Doñana Biological Reserve; canopy damage, Juniper woodlands.