



Study of the thermohygro-metric conditions of *Juniperus turbinata* habitat in the island of El Hierro (Canary Islands)

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The biggest population of *Juniperus turbinata* throughout the Canary Islands is located in the island of El Hierro. The current extent of juniper woodlands is very small compared with the potential distribution due to heavy exploitation for centuries. Nowadays, the recovery of its natural habitat has such a high environmental and scenic interest since this is a protected species in Europe; however, an improved understanding of the environmental factors that help or limit its recovery is indispensable. Under the JUNITUR project the populations of juniper woodlands in El Hierro are being studied, which are subjected to highly different environments. These environments are mainly determined by their altitude and exposure to NE trade winds. The main objective of this study is to compare the thermohygro-metric conditions of three juniper woodlands, located at different altitude and orientation in El Hierro, which present different recovery rates. We are currently using air sensor data loggers fixed to tree branches for recording hourly temperature and humidity data in the three study areas. For this preliminary approach, we analyse daily data of two annual cycles (from September 2012 to August 2014). Our first results show similar thermohygro-metric annual cycles among the three study areas. The largest differences are detected in winter temperature and summer humidity between the north (to windward) and south (to leeward) faces of the island. The juniper woodland with a highest recovery rate shows the most extreme temperature conditions in both winter and summer seasons. This last juniper woodland is located leeward to trade winds at 996 m a.s.l. In general terms, the results of this research project might contribute to the knowledge of the juniper bioclimatology in the westernmost of the Canary Islands.

Key words: bioclimatology, El Hierro, habitat, *Juniperus turbinata*, protected species