



Threats and biodiversity in the mediterranean biome

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ABSTRACT

Aim Global conservation assessments recognize the mediterranean biome as a priority for the conservation of the world's biodiversity. To better direct future conservation efforts in the biome, an improved understanding of the location, magnitude and trend of key threats and their relationship with species of conservation importance is needed.

Location Mediterranean-climate regions in California-Baja California, Chile, South Africa, Australia and the Mediterranean Basin.

Methods We undertook a systematic, pan-regional assessment of threats in the mediterranean biome including human population density, urban area and agriculture. To realize the full implications of these threats on mediterranean biodiversity, we examined their relationship with species of conservation concern: threatened mammals at the global scale and threatened plants at the subcoregional scale in California, USA.

Results Across the biome, population density and urban area increased by 13% and agriculture by 1% between 1990 and 2000. Both population density and urban area were greatest in California-Baja California and least in Australia while, in contrast, agriculture was greatest in Australia and least in California-Baja California. In all regions lowlands were most affected by the threats analysed, with the exception of population density in the Chilean matorral. Threatened species richness had a significant positive correlation with population density at global and subcoregional scales, while threatened species were found to increase with the amount of urban area and decrease as the amount of natural area and unfragmented core area increased.

Main conclusions Threats to mediterranean biodiversity have increased from 1990 to 2000, although patterns vary both across and within the five regions. The need for future conservation efforts is further underlined by the positive correlation between species of conservation concern and the increase in population density over the last decade. Challenges to reducing threats extend beyond those analysed to include human–environmental interactions and their synergistic effects, such as urbanization and invasive species and wildfires.

Keywords

Conservation biogeography, mediterranean-type ecosystems, population density, threatened species, urbanization.

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