ABSTRACT

Results prove the relationship between regeneration ability and plant species traits, as well as the existence of unburned patches near the burned ones. Black pine had regenerated from seeds dispersed from cones that have remained intact on unburned or scorched trees, close enough to the burned patches, while Greek fir displayed remarkably low regeneration, lacking of any response mechanism. Plant species recovery seems to be controlled by the geology as it was found weaker in plots overlying carbonate, permeable, not easily erodible formations as compared to that observed over clastic, impermeable, erodible formations of schists, even for the same species. In conclusion, post-fire vegetation recovery at the landscape level seems to be a complex process controlled not only from species biology but also from the landscape features.

Clark et al. (2015) suggest that some species are more resilient to heat stress than others, and that these responses are mediated by differences in their physiology and anatomical traits. In addition, they found that some species were more likely to experience drought stress, which can lead to lower photosynthetic rates and reduced growth rates. These findings support the notion that species traits and environmental conditions play critical roles in determining post-fire vegetation recovery patterns.