Keeley J.E., Bond W.J., Bradstock R.A., Pausas J.G. & Rundel P.W. (2012). Fire in Mediterranean Ecosystems: Ecology, Evolution and Management. Cambridge University Press, UK.

Section III

Comparative Ecology, Evolution and Management

Here we utilize those points of convergence and divergence between mediterranean-type climate (MTC) ecosystems to develop a synthesis that reveals emergent properties not evident by study of any one region alone. Comparative study of plant traits, functional types and community responses to fire provides insight into selective factors driving the evolution and ecological assembly of fire-prone plant communities. Feedback processes are crucial to understanding evolution on such landscapes. Fire provides a challenge to understanding selective forces because, although inclusive fitness theory can explain fire-adaptive traits, such traits are dependent on community-level assembly that contributes to fire spread. MTC regions exhibit differences in climate and geology that have led to diverse fire environments, and account for many differences in trait evolution and community assembly. Humans have long been attracted to MTC regions but have not always adapted successfully to these fire-prone landscapes. Urban and peri-urban populations have been highly vulnerable to wildfires in some MTC regions, with differences in vulnerability between regions being due largely to innate differences in fuel loads of indigenous vegetation types and profound differences in population density.