

The holm oak *Myrto communis-Quercetum rotundifoliae* in Alentejo - Portugal. Post-fire vegetation recovery in two stations (Forest Perimeter of Contenda and Aljustrel)

Pereira, M.^{1,2}, Guiomar, N.^{1,2}, Martins, M.³

¹Departamento de Paisagem, Ambiente e Ordenamento, Universidade de Évora, Portugal; ² Instituto de Ciências Agrárias e Ambientais Mediterrânicas, Universidade de Évora, Portugal; ³ Instituto de Geografia e Ordenamento do Território, Centro de Estudos Geográficos, Universidade de Lisboa, Portugal (mariziacmdp3@gmail.com)

Abstract

This work, developed in the Southern mainland Portugal, Alentejo, focused in the Forest Perimeter of Contenda (38° 01' N e 7° 13' W) and Aljustrel (37° 53' N e 08° 07' W), where holm oak forests belonging to the *Myrto communis-Quercetum rotundifoliae* Rivas Goday in Rivas Goday, Borja, Esteve, Galiano, Rigual & Rivas-Martínez 1960 have been identified. The Forest Perimeter of Contenda is subjected to the Forest Regime. Here, the field surveys were carried in an area destined to the maintenance of a healthy population of deer for hunting by means of sustainable management activities with minimal impacts on the ecosystem. In Aljustrel, the study area is not significantly disturbed by forestry or agricultural activities, so it has been maintained as a refuge for small game hunting species. In 2009, a high severity fire reached these areas, in a total extent of 153ha. This perturbation is not frequent in holm oak forests since much of them are converted into agroforestry systems where the understory management is made according to the multifunctional agro-pastoral activities. Thus, the real impacts of wildfires are virtually unknown in such ecosystems. This study applies the classic sigmatist method of Braun-Blanquet, with the realization of phytosociological relevés and tables in the analysis of the flora and vegetation of the burned holm oaks forests. Both stations were studied through relevés made before and after the fire (1998, and 2010 plus 2012 respectively). Also, were compared some relevés made in 2012 in the affected areas and in adjacent areas not burned. In Contenda as in Aljustrel, it was possible to identify the holm oak climatophilous series with Mariânico-Monchiquense and Luso-Extremadurensis distribution (*Myrto communis-Querceto suberis* sigmetum) and the respective sub-serial stages (*Asparago albi-Rhamnetum oleoides* Rivas Goday 1959, *Genisto hirsutae-Cistetum ladaniferi* Rivas Goday 1955, *Ulici eriocladi-Cistetum ladaniferi* Rivas-Martínez 1979, *Phlomido lychnitidis-Brachypodietum phoenicoidis* Br.-Bl., P. Silva & Rozeira 1955 and grasslands of *Tuberarietea guttatae* (Br.-Bl. in Br.-Bl., Roussine & Nègre 1952) Goday Rivas & Rivas-Martínez 1963 in Rivas-Martínez 1978 nom. mut.). The burnt area (with a lower density of trees than in the reference areas) shows now a greater biological richness than in 1998. Three years after the fire, and despite its violence, the post-fire recovery shows that the floristic compositions of the reference areas tend approach.

Keywords: Holm oak forest, sub-serial stages, wildfires, post-fire recovery.