Vegetation recovery after wildfires in Portuguese main forest ecosystems

Paula Maia[1], Adriana Laranjeira[1], Rosa Pinho[1], Joaquim Sande Silva[2], Jacob Keizer[3]

[1] Biology Department of the University of Aveiro (UA)
[2] Centre for Applied Ecology Professor Baeta Neves (CEABN), Lisbon Technical University
[3] Centre for Environmental and Sea Studies (CESAM), Environment Department of the University of Aveiro (UA)

The research project PHOENIX, financed by the Portuguese Foundation for Science and Technology (FCT), with co-funding of FEDER through POCI2010, involves the Centre for Applied Ecology "Prof. Baeta Neves" and the universities of Trás-os-Montes and Aveiro. One of the project's tasks, carried out by the UAveiro, is to better the knowledge of vegetation recovery after wildfires in Portuguese main forest ecosystems.

The results reported here were obtained by field work from 2005 to 2007. A first field campaign concerned stands of Maritime Pine (*Pinus pinaster*) and eucalypt (*Eucalyptus globulus*) in north-central Portugal (Águeda and Albergaria-a-Velha) that burnt in 1995, 2004 and 2005. It involved a total of 18 vegetation relevees, with three replicas per forest type and wildfire year. To this end, the undergrowth floristic composition was described in plots of 100 m2, divided into 100 subplots of 1 m2. A second campaign concerned two types of oak stands, i.e. cork and pyrenean oak ((*Quercus suber* and *Q. pyrenaica*), located in the Trás-os-Montes region and burnt in 1996, 2001 and 2005. In total, 15 vegetation relevees were made, using plots of 60 m2 and 60 subplots.

The results of the second campaign are still undergoing further analysis but those of the first campaign suggest that: i) floristic composition changes noticeably with the time following the last fire; ii) recovery processes are rather distinct in Maritime Pine and eucalypt stands, with species richness decreasing with time in the former and increasing in the latter; iii) wildfire increases floristic dissimilarity between Maritime Pine and eucalypt stands, at least temporarily. The preliminary results for the two oak forests indicate that they differ not only from each other but specially also from the pine and eucalypt plantation in their post-fire recovery.

287 words