

## The Rufford Small Grants Foundation

### Final Report

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Congratulations on the completion of your project that was supported by The Rufford Small Grants Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to [jane@rufford.org](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole**

**Grants Director**

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#### Grant Recipient Details

<b>Your name</b>	Çağatay Tavşanoğlu
<b>Project title</b>	Post-fire conservation of the Mediterranean Basin forests: In search of fire ephemerals
<b>RSG reference</b>	13663-1
<b>Reporting period</b>	January 2014 – January 2015
<b>Amount of grant</b>	£6000
<b>Your email address</b>	ctavsanoglu@gmail.com
<b>Date of this report</b>	17.01.2015

**1. Please indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.**

Objective	Not achieved	Partially achieved	Fully achieved	Comments
The local flora and plant diversity of the first year of the burned areas will be determined and will be compared to the unburned areas nearby			X	More fieldwork than that was planned in the first were conducted during the study to cover all plant diversity in the areas.
Scientific data will be obtained to suggest the use of natural regeneration rather than artificial afforestation in burned areas of Turkey			X	We believe in that we obtained enough data for plant diversity to support natural regeneration after fire in Turkish red pine forests, and more will come from the germination experiments in the lab.
It might be obtained the first evidence of the presence of fire ephemerals in the Mediterranean Basin		X		We found several species only in the burned area but not in other habitats around the region. We have one candidate species for a 'fire ephemeral' status, since we have already obtained results for fire-related germination of this species. More results on fire-related germination will come soon, but the experiments have not finalised yet. Therefore, when the experiments completed, we are sure that we will have more candidate species for fire ephemerals.
Governmental and scientific awareness on conservation of burned forest and shrubland areas will increase		X		We discussed the issue with authorities in local forest service by visiting them during our fieldwork periods and we made a workshop to share our results with local authorities and foresters. We are waiting to obtain the full results (including those of germination experiments) to work further on the conservation output of the project by raising the issue to higher-level governmental forest administrations.

MSc thesis of the student participated in the study will be one of the outcomes of the study		X		The MSc thesis has started, and it is planned to finalise within 2015.
Scientific data obtained from the study will be published as a scientific paper in an international journal	X			We are waiting to obtain all results to start to prepare scientific papers about the project. By now, it seems that there will be at least three scientific papers prepared; the first is about the comparison of fungi in the burned and other habitats; the second is about high vascular plant diversity in the recently burned Turkish red pine forest; and the third is about the fire-related germination of plant species in the area. A possible final publication might be on conservation value of burned Mediterranean forests, by synthesising all results from the research.
Popular articles will be published in newspapers in Turkey and news on the project will be published in the newsletters of scientific networks on Mediterranean Basin forestry	X			Again, we are waiting for obtaining the full results. We will share the results in the national ecology congress of Turkey that will be held in fall 2015 in Mugla province where we had conducted our research. We also will share the importance of the results on the conservation of forests with some national newspapers including an environment/ecology section.
The project will increase the cooperation between the project team and the National (Turkey) and local (Mugla) forestry organisations. This will have future contribution on the conservation of Mediterranean forests and shrublands in Turkey			X	The fieldwork of the project completed with the cooperation with local forest services, and we shared the development about our project by visiting them in each fieldwork period. We constructed strong relationships with local forest administrations, and it will help us for future cooperation, and it will increase our potential to affect forestry policies based on conservation biology in this region.
In long term, the results of the project will contribute to the conservation of Mediterranean Basin forest ecosystems, by	X			This is the long-term effect of our project, and we are still hoping that the results will improve the understanding of the value of conservation of Mediterranean forests

changing the understanding of fire effects on ecosystems				after fire.
The project results will have direct implications to the post-fire management of Mediterranean forests in Turkey by increasing the awareness of forest managers upon the importance of natural regeneration of forests after fire for sustaining biodiversity		X		This is also a long-term effect, but we have already started to increase the awareness of forest managers by conducting regular visits, and organising a workshop. We are hoping that after we obtain full results and publish many scientific and popular papers/news, we will be able to increase awareness of more people and authorities in long-term.

**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

In some field periods, it was difficult to complete the all of the planned fieldwork studies with the current study team (due to unplanned field effort was needed). Therefore, many people helped us in various fieldworks to obtain data as it was planned at first.

**3. Briefly describe the three most important outcomes of your project.**

Firstly, we detected several candidates for fire ephemeral plant species in our study area. In the study area, we found many species only in the recently burned site but not in old-burned site, unburned site and roadsides. These species are candidates for fire ephemerals, and the final results of the germination experiments will be used to decide whether these candidate species have a potential to be identified as ‘fire ephemeral’.

Secondly, we found that recently burned *Pinus brutia* forests bear incredibly high plant species diversity in comparison to other habitats around the region.

The last, and possibly the most important, outcome of the project is the possible implications for conservation of burned habitats. This outcomes arise when we combine all the data and results altogether. Burned *Pinus brutia* forests are of importance in terms of conservation biology since they harbour high plant diversity, many plants under threat, and many plants adapted local fire regimes. Their flora is different than the rest of the local habitats, so to sustain beta and gamma diversity in Mediterranean environments, burned forest stands should be protected from any human intervention and use.

**4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).**

The project currently has an important effect on the mind of local people and government officials. During the workshop we conducted in a town near the study area, the attendance and interest of forest officials and local people was quite high. Another workshop was held in the primary school of the village nearby the burned forest. We had the opportunity of promoting our project and sharing initial project results with the attendants. Our talks on high biodiversity of burned forests and our claims related to the need for conservation of these burned areas drew high attention. Their knowledge on the fire-related dynamics of Mediterranean pine ecosystems, and we believe in that general consciousness of the public on the ecological importance of burned habitat has increased.

**5. Are there any plans to continue this work?**

Yes. The current plan is to go on observing the studied area for an extra year. This will lead us to enhance the results of the current project and let us make more complete conclusion about the existence of fire ephemerals.

**6. How do you plan to share the results of your work with others?**

After the first results on germination ecology of the plant species are obtained, the results will be shared with the Forest Service of Turkey as a report in Turkish language.

We will prepare three scientific papers to send international scientific journals. These papers will be related to plant diversity in burned areas, germination ecology of plants in relation to fire, and conservation importance of burned Mediterranean habitats.

We will also prepare popular articles on the result of our study by pointing out the importance of conservation of the burned Mediterranean habitats.

**7. Timescale: Over what period was the RSG used? How does this compare to the anticipated or actual length of the project?**

The time period for the study was sufficient for the fieldwork, but it was needed more time to finalize the laboratory experiments since we started the experiments late due to intense fieldwork and subsequent herbarium/lab studies.

**8. Budget: Please provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used.**

**1 GBP (sterling)= 3.52 TL (Turkish liras) as of 17.01.2015**

Item	Budgeted Amount	Actual Amount	Difference	Comments
Rent a car	1020	1400	+380	We conducted more field studies than we had planned at the beginning.
Fuel consumption	1600	1800	+200	We conducted more field studies than we had planned at the beginning.
Accommodation costs	620	860	+240	Although we used free accommodation (staying in tent) in a few fieldwork periods, more people helped to the project personnel during the field studies, and therefore the accommodation costs increased.
Food and beverage	400	400	0	Although we conducted more fieldworks with more people, our daily expenditures for food were lower than we had expected.
Wage for M.Sc. student	1300	1300	0	-
Field equipment	100	100	0	-
Consumables for lab experiments	400	100	-300	Many existing lab consumables were used for the experiments.
Stationery expenses	60	60	0	-
Workshop activities	400	200	-200	Local forest administrations supported some of the expenses of the workshop.
Scientific meeting participation	100	0	-100	I have not participated in a scientific meeting about the project yet, but I planned to participate in Turkish national ecology congress in fall 2015 to present results of the Rufford project.
<b>TOTAL</b>	<b>6000</b>	<b>6220</b>	<b>+220</b>	

**9. Looking ahead, what do you feel are the important next steps?**

I think, the most important next step is to get more observations and evidences to generalise our results. This will improve our conclusions on fire ephemerals and conservation importance of the burned Mediterranean forests.

Another important next step may be the dissemination of the information we obtained from this project to the relevant forest managers, scientists, and stakeholders.

**10. Did you use the RSGF logo in any materials produced in relation to this project? Did the RSGF receive any publicity during the course of your work?**

We had opportunity to cite the financial support of RSGF in the workshops we held and in a seminar held in Hacettepe University Department of Biology. During the upcoming period, RSGF will receive more publicity when we publish scientific papers in the context of this project, during our discussions with Forest Service officials, in the MSc Thesis including the work we held under this project, in Turkish National Ecology Congress that will be held in September 2015.

**11. Any other comments?**

Many thanks for your support.