

The Rufford Small Grants Foundation

Final Report

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. The Final Report must be sent in **word format** and not PDF format or any other format. 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. Please note that the information may be edited for clarity. 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.

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Ana Golubović
Project title	Distribution and conservation of Hermann's tortoise (<i>Testudo hermanni boettgeri</i>) in Serbia
RSG reference	12291-1
Reporting period	March 2013 to September 2013.
Amount of grant	£6000
Your email address	lunja975@yahoo.com
Date of this report	October 2 nd 2013

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
Investigating favourable habitats for Hermann's tortoises at which distribution information are lacking.			Fully achieved	We managed to cover vast piece of territory of Serbia and find 34 new localities inhabited by Hermann's tortoises. Map with novel UTM coordinates gained is given in additional material.
Establishing long-term population and ecological studies at novel study sites.			Fully achieved	Long-term population and ecological studies are started at three new localities with obviously dense and healthy populations.
Collection of blood samples for DNA data base.			Fully achieved	We collected DNA samples from 21 populations. Map with UTM coordinates of sampled populations is available in additional file.
Recognising possible threats for Hermann's tortoises in their habitats in Serbia			Fully achieved	Except illegal collectors, which seem to be the greatest threat for natural populations in Serbia, agricultural pressure and urbanisation also have negative impact.
Education of local residents		Partially achieved		After talking to residents, their understanding of the problem rose, but percentage of those people in the population is still relatively low.
Promotional lectures at University of Belgrade and Kragujevac, getting students involved in the project.			Fully achieved	A lot of biology students attended our promotional lectures at universities. Unfortunately, only one student was interested enough to participate in the fieldwork. At the field he learned how to measure basics morphological traits of tortoises and basics of CMR studies.
Making educational brochures and posters about Hermann's tortoises			Fully achieved	Brochures are made in Serbian and English with goal to attract the attention of both amateurs and biologists (available at www.shdmr.org).

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

Objective 5 – problems were resident's attitude toward illegal collecting of tortoises and their conservation. During our field trips we talked with local residents about tortoises and problems they

encounter. Unfortunately, in areas where tortoises are abundant all residents, regardless of age, told us about recent activities of illegal tortoise collectors. Most of them were aware that collecting and disturbing of tortoises is forbidden by the national and international laws. These stories proved that illegal trade of tortoises from Balkans is an ongoing problem.

Another problem we encountered is the lack of understanding of local people for the tortoise need for protection. This is not surprising since Hermann's tortoises are abundant in Serbia and intuitive sense for tortoise protection is not present. Additionally, during several past decades Serbia was devastated by many political and financial problems as well as the wars, thus most of the citizens are very poor. Low quality of life and everyday struggles consequently put aside awareness of conservational issues and urgency for nature protection. Conservationists encounter similar problem in most undeveloped countries. More educational effort is needed to overcome such problem, especially with younger part of the population.

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

a) Collection of blood samples for creating DNA data base of Hermann's tortoises from Serbia.

We gathered blood samples from 21 localities (map of UTM coordinates of sampled populations is given in additional file). In dense populations we took samples from several individuals for better overview of the intra-population genetic structure, since these are the populations we expect to suffer the greatest illegal collecting pressure. Once analysed, these data will enable fast and effective recognition of population(s) of origin for tortoises seized on the borders. This is the very first step for returning these animals into the wild.

b) Raising awareness of local community.

At all the places we visited during this project we talked to local people about tortoises and their attitude toward them. Often people were not aware of rapidly declining number of Hermann's tortoise in other parts of its distribution area. They mostly treat them as pests in the gardens because of tortoises' feeding and nesting habits. We managed to partly change their perspective, helping them to understand vulnerability and the laws considering this species. Attitude of the local community about importance and conservation of Hermann's tortoises plays a major role in restricting direct and indirect human impact on habitats and populations of this endangered species.

c) Appending the data on distribution of Hermann's tortoises in Serbia and establishing ecological, population studies at new localities.

During our field work, we discovered 34 new UTM squares for the distribution of Hermann's tortoises (see the map in additional file), and some of the previously known localities are confirmed. Population studies (capture-mark-recapture) are started in 3 dense and obviously healthy populations.

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

Local community showed admirable interest in helping the project team during the field work, both in mapping tortoise distribution area in understudied regions and sharing the knowledge of illegal collecting of tortoises in their neighbourhood. Younger residents enjoyed helping us work with animals and showed deep interest in tortoises. This is why I believe children are the ideal group to start changing public attitude toward tortoises. Some of the residents told us about problems with tortoises in their gardens. They are trying to get rid of tortoises because they eat plants from the gardens and dig holes for the nests in the loose soil. We suggested them to fence the gardens and thus prevent tortoises induced damages.

5. Are there any plans to continue this work?

There are several plans to continue this work. First of all we plan to send DNA samples for genetic analysis in order to form a data base. This data base will be given to the Ministry of Energy, Development and Environmental Protection of Republic of Serbia to enable comparing DNA of tortoises seized at national borders with the data base, which will allow proper returning of these animals into the wild.

We also plan to raise this project to a next level by forming a network with colleagues from neighbouring Balkan countries. Primary goal of this collaboration would be collecting of blood samples and forming of DNA data base for Hermann's tortoise from the whole region. Such expanded data base would be very useful for the proper management of these animals since tortoises seized at borders, not only in Serbia but in the entire region, do not always originate from Serbia. For such further actions we will certainly need financial support from organisations like RSGF. We are planning to keep trying to shape the attitude of the community toward tortoises, primarily working with children in the primary schools. Thus we plan to organize series of interactive lectures for pupils in parts of Serbia where tortoises are abundant.

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

All the news on the project and materials prepared for rising of public awareness are available at the web-site (www.shdmr.org) of the Serbian Herpetological Society "Milutin Radovanović" (SHS). News on the site will be continuously updated until the after-project activities are done.

Results of this project were presented at the Hermann's tortoise workshop which was held at Gonfaron, France, in September 2013, as a part of the Life project (web site of the project: <http://www.tortue-hermann.eu/home.php>). This workshop gathered experts on Hermann's tortoise from both western part of Europe and from the Balkans, and I had an opportunity to present them the main achievements of this project. We received a positive feedback from the audience, which recognized an urgent need for continuation of this work.

Although it was not planed, I collected video material for the short documentary about this project and conservational efforts on Hermann's tortoise. When fully prepared, this documentary will be available online and linked on the SHS website.

Several scientific publications will be written based on data gathered during this project: on conservational status of Hermann's tortoises in Serbia; on genetic variability of this species in Serbia; and on general attitude of the community in Serbia toward tortoises, from the data gained in questionnaires. In all these publications RSGF will be acknowledged.

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

Month	11 th	12 th	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th
Preparation of presentations and questionnaires		X	X									
Presentations at universities of Serbia				X	X							
Preparation of educational materials				X	X	X					X	X
Detail planning of fieldwork				X	X							
Fieldwork						X	X	X	X		X	
Entering data and preparation for analyses					X	X	X	X	X		X	
Printing of educational material											X	X

Although we planned for our project to cover last part of the activity season in 2012 and first part of activity season during 2013, project approval arrived at the beginning of hibernation period. This is why we changed previous plan and conducted whole research in 2013.

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.

Item	Budgeted Amount	Actual Amount	Difference	Comments
First field trip	380	442	+62	fuel prices were higher then expected
Second field trip	320	370	+50	fuel prices were higher
Third field trip	280	327	+47	fuel prices were higher
Fourth field trip	280	323	+43	fuel prices were higher

Road tolls	150	148	+2	
Daily allowances (15 GBP x 5 person x 32 days)	2400	2182	+218	For some field trips there were four researchers
GPS devices	360	363	-3	
Travel expenses for lectures	350	355	-5	
Educational material preparation	600	600		
Educational material printing	850	902	+52	To reach different target groups we made several types of educational material, which raised printing costs
Total	5970	6012	-42	

The actual amount of money I've got from RSGF for this project is 6000 GBP, thus actual difference is 12 GBP.

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

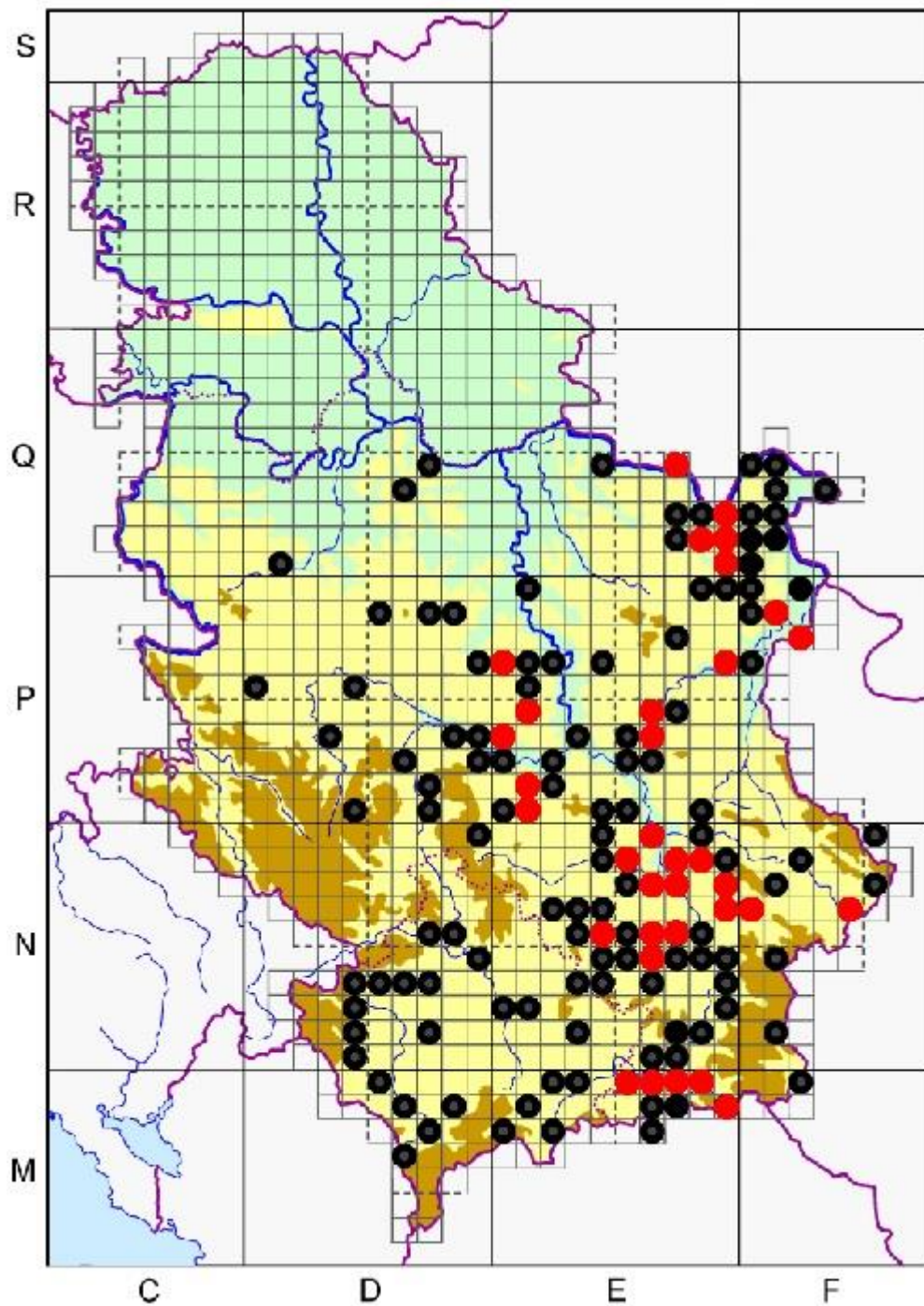
- Analysing the collected DNA samples and creating the DNA database.
- Forming a network with colleagues from surrounding Balkan countries and gathering blood samples for the overall DNA database.
- Helping local community to understand and protect tortoises from their close environment, since they are the one in direct contact with the animals and illegal collectors.
- Establishing temporary shelters for chelonians seized at the borders, since none such shelter exists in the central Balkans.
- Making similar data base for other chelonians from Serbia and the Balkans which are under strong illegal exporting pressure.

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?

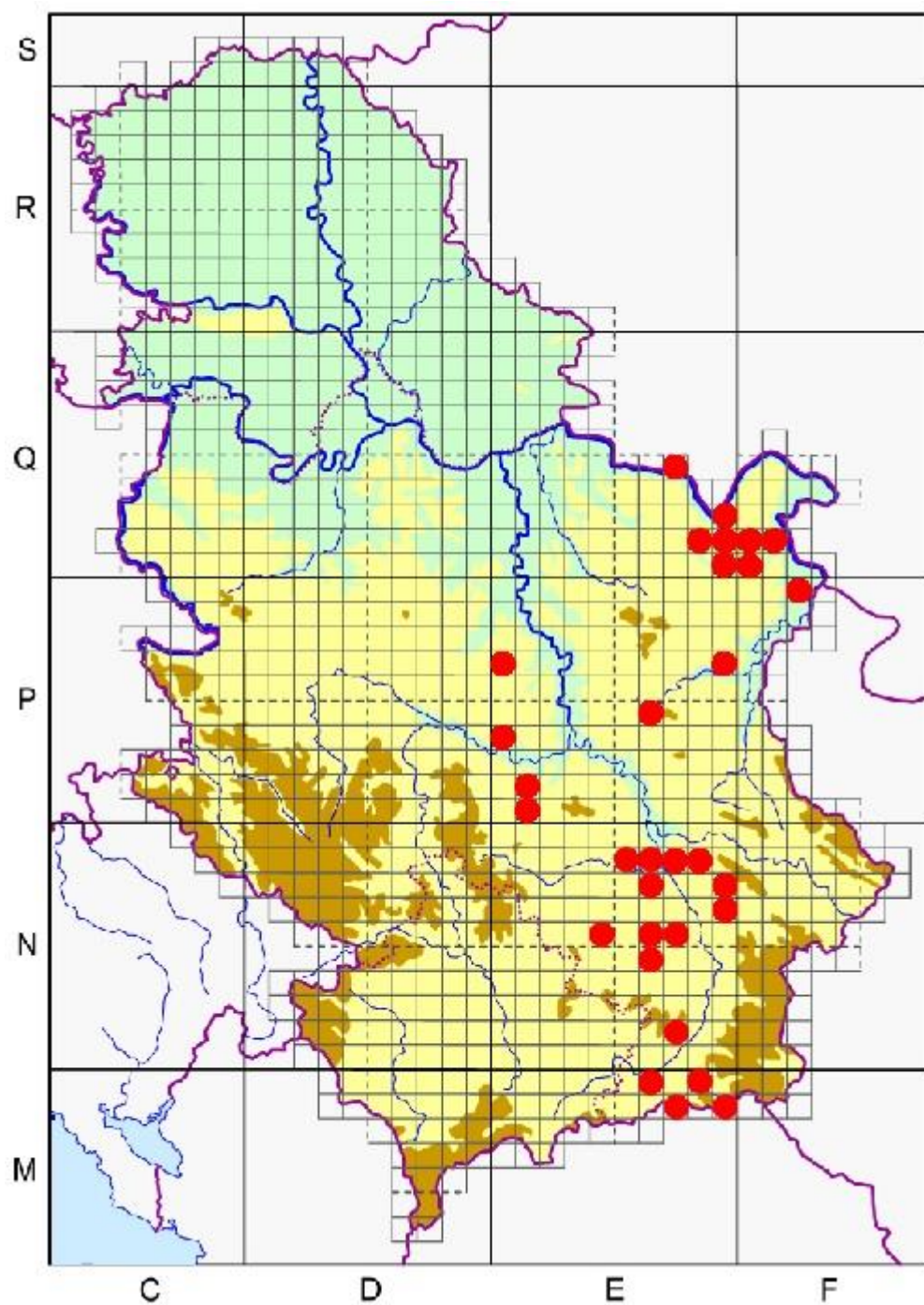
The RSGF logo was used in all presentations of the project (at universities in Serbia and at the workshop in France). Logo is also printed on the brochures, posters and T-shirts prepared during this project. The logo will be shown in the documentary about this project, with a permission of RSGF. RSGF received publicity during this project, both in local community, during our field work, and among scientists, during lectures in Serbia and France. Also RSGF will be acknowledged in all the publications which will come out from this project.

11. Any other comments?

I am grateful to RSGF for the financial support which enabled me and my team to accomplish this project. The data and samples we collected are unique and necessary for our future work on Hermann's tortoises. Although I strongly feel this project will impact protection of tortoises in Serbia, I think we only started resolving the problem of conservation of chelonians on the Balkans.



Map of *Testudo hermanni* distribution in Serbia. Literature data are given in black spots; red spots represent new UTM coordinates found during Rufford project.



Map with UTM coordinates of populations where blood samples were collected.