

The Rufford Foundation Final Report

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

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Aleksandar Simović
Project title	Distribution and conservation of the highly endangered lowland populations of the Bosnian Adder (<i>Vipera berus bosniensis</i>) in Serbia
RSG reference	17042-1
Reporting period	March 2015 – March 2016
Amount of grant	£ 5,000
Your email address	alexandar.simovic@gmail.com
Date of this report	30.03.2016

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
Precisely determine distribution				With very limited potential habitats in Vojvodina province we found adders in 10 new UTM squares (10 x 10 km). With seven previously known squares, that equates to 17 UTM squares occupied with adders in Vojvodina province. Within those 17 UTMs, there are more than 30 new locations. New data represent <u>≈78%</u> of all records in Vojvodina province.
Documenting threatening factors				We recorded threatening factors both for habitats and Bosnian adders. Main threats for habitats are deforestation and agriculture increase. Almost all sites where adders live are managed by "Vojvodina Šume" and they primary source of income is logging, luckily the largest parts of known habitats occupied by adders are not in the plan for logging. Other big problem is urbanisation in adder habitats; people build houses and other objects in adder habitats, and most of this objects are illegal and build in protected areas. We talked with stakeholders but they can't do much unfortunately, and with new laws in Serbia most of this objects will be legalised easily. Other problems that comes with urbanisation are intentional fires and killing and disturbing adders. There is also some habitats type change: replacing old oak forests with fast growing cloned poplars and transforming oak forest into fenced hunting grounds with unnaturally large numbers of game. Other minor problems are illegal collection from the wild and deaths on roads.
Capture-mark-recapture studies				We started CMR studies on two sites, one is located in Landscape of Outstanding Features "Vršačke planine" and second one in Special Nature Reserve "Obedska bara", and we marked more than 150 individuals, which is fantastic number for viper species. We need to continue monitoring these two populations in the future.
Collecting DNA samples				We collected DNA samples from almost every locality where we found Bosnian adders,

				except National park "Fruška Gora", where we observed just one specimen, and we couldn't catch it.
Raise public awareness and education				We made posters and leaflets that we distributed to kindergartens, schools, universities, NGOs, and directly in the field. We held numerous lectures at University of Novi Sad, University of Belgrade, kindergartens and primary schools near known and new adder habitats. Our website about Bosnian adder is up and running, and people can find almost all information about this subspecies there, ask questions, and directly communicate with us. Also we had talks and lectures directly in the field with local inhabitants, managers and rangers of protected areas, and other people working in them. We saw big progress in education of kids and people, and we will continue to work on it.
*New data for other reptile and amphibian species				When we were in the field and searched for adders, we also found other species of reptiles, and amphibians, and after that we had one new big database of new data for lowland Serbia. We found new sites for <i>Lissotriton vulgaris</i> , <i>Triturus dobrogicus</i> , <i>Bufo bufo</i> , <i>Bufotes viridis</i> , <i>Pelophylax ridibundus</i> , <i>Pelophylax lessonae</i> , <i>Pelophylax kl. Esculentus</i> , <i>Rana dalmatina</i> , <i>Bombina variegata</i> , <i>Bombina bombina</i> , <i>Pelobates fuscus</i> , <i>Hyla arborea</i> , <i>Emys orbicularis</i> , <i>Anguis fragilis</i> , <i>Lacerta agilis</i> , <i>Lacerta viridis</i> , <i>Coronella austriaca</i> , <i>Zamenis longissimus</i> , <i>Natrix natrix</i> and <i>Natrix tessellata</i> . *Not included in project, but all this finds will help in future protection of adders habitats, and there is many new records for Serbia herpetofauna and batrachofauna.

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

We did not have major difficulties apart from the weather conditions, so we had to rearrange a certain dates for field trips, later in May and June 2015 we had difficulties with very hot days, and we were limited for few hours in the morning and evening, and in that period after rainy May grass and vegetation was really high, so it was more difficult to spot and catch adders.

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

- We managed to find adders in more than 30 new locations, and new data represent ~78% of all records in Vojvodina province. We also confirmed

adders presence on old and literature locations. Some of this data is already published in first Red book of Reptiles in Serbia.

- We started monitoring two adders populations in our research area, and this is the first ever detailed studies on *Vipera berus bosniensis* in Serbia, so we will be able to see changes and negative effect in the future.
- We successfully promoted Bosnian adders as valuable and useful species for humans, how they are important in ecosystems, and why we need to protect them and their habitats.

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

- **Local children:** we held numerous lectures at kindergartens and primary schools near adders known and new habitats. Local children (aged 4-12 years) from kindergartens and primary schools were a key and best group for education and investment in the future, we already have experience in education, and older people are not good group, because it's very hard to change their wrong opinions; on the other hand children enjoyed everything they heard about adders and snakes in general. We provided leaflets to children and posters to biology classrooms in schools.
- **Managers and rangers of protected and unprotected areas:** we spoke with them directly in the field; they didn't know too much about adders, some did not even know that there are adders in areas where they work, we exchanged our knowledge and experience with them, and we think that in the future will be much better.
- **Local inhabitants:** like with managers and rangers, we spoke with local inhabitants directly in the field, some of their homes are really close to adder habitats, and in some places they are overlapping. Some people have really bad opinions about snakes, and sadly they don't want to change anything, but there is also some people who respect snakes, animals in general, and care about environment. We provided leaflets to all people, so they can contact us when they spot adders.
- **Students:** we held lectures on almost all universities around research area, some of them went with us in the field, and now they are fully trained for field work and snakes research.

5. Are there any plans to continue this work?

Yes, we need to continue monitoring already mentioned two populations and their habitats in Landscape of Outstanding Features "Vršačke planine" and Special Nature Reserve "Obedska bara", also we need to continue our efforts for necessary action and management plans this year. We will analyse collected DNA samples, also there are some indications that population from Landscape of Outstanding Features "Vršačke planine" belongs to subspecies *Vipera berus berus*. We will

continue working with kids, managers and rangers of protected and unprotected areas through lectures and workshops.

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

Some of our early data is already in first Red Book of Reptiles in Serbia, published in October 2015. We already submitted one paper, and we have preparing and have ideas for others. Our data will be presented at biology/ecology/herpetology conferences. Also our data will be available for new Red List assessments of European vipers, and we will give data to national institutions (Institute for Nature Protection of Serbia, Ministry of Agriculture and Environmental Protection). We presented our work at The Rufford Small Grants Conference in Bosnia and Herzegovina "Nature knows no boundaries".

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

According to plan, except some small changes in fieldtrips dates, grant was used from February 2015 to February 2016.

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
Travel for lectures in Novi Sad, Belgrade and Kragujevac (550km)	100	100	0	
First field trip March 2014 (350km)	60	60	0	
Second field trip April 2014 (500km)	80	80	0	
Third field trip first half of May 2014 (650km)	110	110	0	
Fourth field trip second half of May 2014 (370km)	63	63	0	
Fifth field trip June 2014 (565km)	105	105	0	
Travel for final lectures in Novi Sad, Belgrade and Kragujevac (550km)	100	100	0	
Road-toll (9 x both ways)	200	200	0	

Daily allowance (for food, drink, etc) 18 GBP x 4 persons x 25 days	1800	2304	504	We decided not to buy the camera, so we used that money for additional seven fieldwork days, so we had 32 instead of 25 fieldwork days
Educational material preparation (material, design and photos) and website	150	95	-55	Our project site is made free, so costs were lower.
Educational material print (1000 leaflets, 500 questionnaires, 100 posters, 100 t-shirts)	700	780	80	Costs for educational material was a little bit higher, so we used remaining money from educational material preparation.
Meeting in October 2014	500	500	0	
Camera	450	0	0	We decided not to buy the camera, so we used that money for additional seven fieldwork days
Data logger Kestrel 4300	320	312	-8	Lower price
GPS device Garmin eTrex 30	200	183	-17	Lower price
200 DNA tubes	50	0	0	We got DNA tubes for free thanks to our Institute.
TOTAL	4988	4992	4	

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

One of the biggest things that we need to do in future is investigate the distribution of and major threats to populations of Bosnian adder on high mountains below Sava and Danube rivers in Serbia. There is a huge gap between lowland and highland populations in Serbia, and currently there is a huge amount of anthropogenic pressure on vulnerable alpine habitats in Serbia. Also we need to start monitoring high mountain populations of adders, after that we will be able to compare almost everything between lowland and highland populations and threats to them. After this we will have whole image about Bosnian adder distribution and threats on state level, so we will be able to take conservation measures on highest levels, and cooperation with decision makers will be much easier.

We need to continue population studies on two established sites, and continue working on conservation efforts in lowland areas.

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?

Yes, we used RSGF logo during all project activities, including: lectures at universities, schools, kindergartens, we printed leaflets, posters and t-shirts with RSGF logo, logo is published on various websites, including our project web page

<http://berusbosniensis.shdmr.org> and webpage of Serbian herpetological society "Milutin Radovanović" <http://www.shdmr.org>, and on our pages on Facebook, where single posts had more than 30 000 hits.

11. Any other comments?

I wish to thank Rufford Small Grants Foundation for big support and help to start the conservation of lowland Bosnian adder and its habitats in Serbia and giving me a chance to lead project like this, my team members and I learned a lot of things . I hope that we will continue working together on protection of this unique and vulnerable subspecies and its habitats.