

## The Rufford Foundation

### Final Report

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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. 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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
Your name	Tijana Čubrić
Project title	Evaluation of current population status and threats of nose-horned viper ( <i>Vipera ammodytes</i> ) in Serbia
RSG reference	19578-1
Reporting period	May 2016-March 2017
Amount of grant	£4985
Your email address	<a href="mailto:tijanacubric@hotmail.com">tijanacubric@hotmail.com</a>
Date of this report	30 <sup>th</sup> March 2017

**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
Collecting basic population data and evaluating habitat quality				We achieved to collect distribution data for all six locations and mapped the habitats. We measured and marked every viper and we collected environmental data. The production of habitat map is in process and it will be sent to Institute for nature conservation in Serbia.
Collecting tissue for DNA analyses				We collected DNA samples for 34 specimens which is enough for future analyses.
Establishing foundation for continuous population monitoring				We started population monitoring for five populations: in Svilajnac surroundings, in Krupanj surroundings, and three populations in Kraljevo surroundings. Of these five populations, three are dense and healthy.
Evaluating people attitude toward nose-horned viper				We interviewed local inhabitants in all six locations.
Education of local community				We have spoken with all interviewed inhabitants and distributed brochures and leaflets. We gave lectures to local communities in Krupanj and Bosilegrad. Krupanj's newspaper called "Glas Podrinja" wrote an article about our lecture and also local TV station filmed our lecture. Even though most of them were interested to hear about nose-horned vipers, negative attitudes still persist among part of the local community.
Education of children				We gave lectures and distributed leaflets, brochures and posters at five schools (three primary and two high schools) and in the most of the

				schools children were interested to hear about snakes and ask questions.
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**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

We had problem with the weather in the spring season as it was raining so we rescheduled our fieldwork activities. That resulted with smaller sample but still enough to perform analyses. Due to this obstacle we were not able to fully analyse selected local populations in Djerdap National Park and in Bosilegrad, but we were there, established contact with the local communities and have good communication for the continuation of the study.

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

1. Establishing long-term monitoring. We started long-term monitoring for five populations (in Svilajnac surroundings, in Krupanj surroundings, and three populations in Kraljevo surroundings). Three of them are dense and further mark-recapture studies will enable us to gather more information about this viper's biology and ecology. Population in Krupanj surroundings is particularly important as we have the information that it is harvested for the venom supply and its monitoring will enable us to evaluate this impact and help our authorities to react.
2. Conservation output-Changing social perception toward nose-horned viper and breaking the prejudices: We managed to partly change perspective of local inhabitants about snakes in our conversations with them. Especially we changed local farmer's believing in some of the folk legends about aggressive nature of this viper. We also send the project report to Serbian institute for Nature Conservancy and manager of National park "Djerdap" and hopefully it will help them in further monitoring and conservation actions. We also communicated in this matter with the officers in charge for Nature reserve Kunovica near city of Niš.
3. Contribution to the knowledge about nose-horned viper. As data about this species biology and ecology are scarce, our findings are very valuable. We already sent two papers to the peer-reviewed journals and results of this project will be presented to scientific community at the 5th Biology of the Vipers Conference in Chefchaouen in Morocco in May 2017. This presentation is sponsored by Ministry of Education, Science and Technological Development of Republic of Serbia and by special student grant provided by the Scientific and Organisational Committee of the conference.

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

Local farmers had direct benefit from our project as they have heard the proper information about behaviour of nose-horned viper and about its important role in medicine and pest regulation. We explained them the proper procedure in the case

of the viper's bite which was very valuable for them and they were interested to hear because some of them or their members of family and neighbours already had an experience of being bitten by this viper. We provided them with the guide brochures which contain photos of non-venomous and venomous snake species in Serbia and they find it very useful as many of them cannot distinguish among species. In Krupanj surroundings and Kraljevo surroundings three members of the local community participated in our project by showing us localities where they have seen the nose-horned vipers.

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

Yes, this work must be continued. First, we are going to send DNA samples to our colleagues abroad to perform genetic analyses which will give us insight in genetic structures of studied populations which is very important for population in Krupanj surroundings (which is harvested) and population in Svilajnac surroundings (which was harvested). We are going to continue education activities in sense of holding lectures in schools and educating also other target groups of local inhabitants. We hope that with the financial support from the organisations like The Rufford Foundation we will continue monitoring of nose-horned viper populations in the area of our study.

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

We already send project reports to two institutions (Serbian institute for Nature Conservancy, including office in Niš, and National park "Djerdap") and held two lectures for biology and ecology students at Faculty of Science and Mathematics in Niš and lecture at Institute for Biological Research „Siniša Stanković” University of Belgrade. We have submitted two papers to scientific journals and we are planning to write two more (one about habitat requirements and other about genetic structure). Furthermore, the results of this project will be presented at the 5th Biology of the Vipers Conference in May this year.

Photographs and some interesting information about this viper and snakes in general are regularly shared at project's Facebook page (<https://www.facebook.com/sacuvajmoposkoka/>) in Serbian and English language. We also share our findings with the NGO's: Biological society "Dr Sava Petrović" from Niš, Serbian Herpetological Society "Milutin Radovanović" from Belgrade and KAPD Balkan from Kraljevo. We filmed a short video of releasing nose-horned viper to her habitat after measurement and we shared it on project's You Tube channel (<https://www.youtube.com/watch?v=OikPaZVwnlw&feature=youtu.be>).

### **7. Timescale: Over what period was The Rufford Foundation grant used? How does this compare to the anticipated or actual length of the project?**

The grant was spent from April 2016 to March 2017. In April, May, June, July, August, September and October 2016. We spent the grant funds for the printing of the education material and for the equipment and on the fieldwork. In November and December 2016 and in January and February 2017, we held our presentations in Niš

and Belgrade and gave lectures in two public schools in Kraljevo. Then, at the end of February and beginning of March 2017, we spent the rest of grant on two extra short field trips.

**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
1 field trip(fuel) Djerdap	53	53		
2 field trip (fuel)-Jelasnicka Gorge	38	38		
3 field trip (fuel) Ibar valley	16	16		
4 field trip (fuel) Bosilegrad	65	65		
5 field trip (fuel) Krupanj	45	45		
6 field trip (fuel) Svilajnac	26	26		
Road-tool	11	11		
Accommodation + food + drink for all 6 fields for 3 persons	2115	1900	215	Actually we spend less money on food and drink so we used this extra money to conduct one short field trip in Svilajnac (in September 2016.) and short field trip in Kraljevo surroundings (base of mountain Goč) in October 2016.
Fuel cost for lectures at University of Novi Sad, Belgrade and Kragujevac	107	40	67	We held lectures in Belgrade and Niš and scheduled lectures in Novi Sad and Kragujevac for April and May. Due to exam period and student field trips we did not held them earlier.
Education material (design + print of 2000 leaflets, 2000 guide brochures, 300 questionnaires 50 posters and 50 T-shirts)	1400	1300	100	Here also, the cost of the printing was less so we use the extra money to conduct two field trips in Kraljevo surroundings in second half of February and in March 2017.
GPS devices Garmin eTREX	224	224		
2 thermometers	16	16		
200 DNA tubes	50	50		
Data logger	53	53		
Exo Terra - Infra Red Thermometer	30	30		
Exo Terra - Collapsible Snake Hook	20	20		
Camera	450	450		
Accommodation + food + drink + fuel for 4 extra field trip in Svilajnac and Kraljevo		315		As we had extra money from our previous fields and from printing the education material, we invested that in

				this 4 field trips.
R1100-250 DNA/RNA Shield	266	266		
<b>TOTAL</b>	4985	4918	67	Reserved for lectures in Novi Sad and Kragujevac if the RSGF permits

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

1. Analysing DNA samples.
2. Continuation of monitoring of viper's populations.
3. We need to expand research area to cover as much as viper's habitats as it is possible, especially the locations where this viper was/is harvested. This will help us to gather the data about specimens and habitat characteristics crucial for analysis in biology and ecology studies in order to contribute to conservation of this species.
4. Continuation of education of local community about snakes. We also need to spread this activity through visiting as many villages (where are habitats for this viper) as possible and help local community in sense of teaching them how to react in case of encounter with this viper and what to do in a case of snake bite.

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

Yes, we used The Rufford Foundation logo in leaflets, guide brochures, posters, t-shirts and in our PowerPoint presentations. We also mentioned RSGF in the acknowledgements in our submitted papers and it will be mentioned in our presentation on the forthcoming 5th Biology of Vipers Conference in Morocco. The Rufford Foundation was mentioned in all our lectures and we introduced foundation's activity to biology and ecology students.

**11. Please provide a full list of all the members of your team and briefly what was their role in the project.**

**12. Any other comments?**

I am using this opportunity to thank The Rufford foundation for the grant because our work and conservation activities could not be possible without you! It was unique experience to me and an opportunity to really contribute in conservation of this neglected group of animals through making a significant impact.