

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. 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	Gordana Grbic
Project title	Subotica spiders II – further research and education on sandland spiders in Serbia
RSG reference	21594-B.
Reporting period	March 2017 / March 2018
Amount of grant	£10,000
Your email address	gordana_grbicns@yahoo.com
Date of this report	14.03.2018.

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
To make an updated list of spider species				As continuation of previous project, we expanded the inventory list of species by 40%. The determination is not complete yet, but at the end we will have around 200 spider species. Since, we began with no data at all, this is a huge success.
Building a new spider museum collection				The old museum collection was from 1929, not in good shape and not available to the public. The new museum collection has 120 spider species (385 individuals - 219 males, 166 females). It was built according to general recommendations and could be used as educational tool for students or researchers.
To establish a National Spider Day				This special event was organised on 18 th November 2017 at the Institute for Nature Conservation of Vojvodina Province. The programme was for adults and children. More than 100 adults came, to our surprise, and more than 50 children participated in workshops. This event was proclaimed the best event in The Institute for Nature Conservation of Vojvodina Province for 2017.
Traditional dissemination of knowledge for schoolchildren				As in previous RSG project we did some promotion of spiders through schoolchildren's workshops. They are the best group to work with. This part was fully achieved.
Students education and training				Several students were involved in all segments of project. Same problem as it was in previous RSG was detected again. More interest they showed in the field activities than in laboratory. But some progress is visible. There were more of them interested to stay till the end of the project than it

				<p>was in the past. Some of our field students were volunteers at The Spider Day event.</p>
Manuscript in some previewed arachnological journal				<p>We presented only our preliminary research results and new list of species. But since determination of spiders is not yet done, our journal submission and publication of the result will take a little.</p>
Promotion spiders and project through traditional media				<p>We successfully overcome the problem to get an attention from the media. We had several interviews on TV and local Radio shows, and some local TV station was present during our The National Spider Day.</p>
Social media promotion				<p>Our website is still active, and very popular. Please take a look www.paukovisrbije.com Our Facebook popularity is also rising. In March 2017 we had 170 likes on the page, but now we have 380 likes. That is a huge number since we are talking about unpopular and scary spiders. Please take a look at https://www.facebook.com/paukovisrbije</p>

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

The main problem during this project was economic uncertainty as a result of political situation with the UK leaving the European Union. This act affected currency instability. Exchange rate that was used during the project application to calculate the costs and implementation reality was so different and influenced our budget a lot. So we had to rearrange a lot and to discard some activities to cover our loss. We decided not to design and develop a website as a supplement for determination and museum collection. This will stay for some future tasks and projects. It is not a big loss, because there are some websites in foreign languages, especially in English and German, with this support, but they are not suitable for all in Serbia.

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

The First: an updated list of spider species: In the previous project, we chose an atypical locality for our research – a wet place in a sandy area. This provided a unique inventory list of species. For the current continuation job, we chose a more typical place: a sandy meadow, a mixed *Quercus-Populus* forest, and some *Acacia* shrubs on sand. This way we expanded the inventory list of species by 40% or more.

The determination is not complete yet, but at the end we will have around 200 spider species. Since, we begun with no data at all, this is a huge success.

The Second: Building a new spider museum collection: In Serbia, only one very old (from 1929) spider collection exists. Since it was lost in storage for a quite some time it's in a very bad condition and is not available to researchers or students. That means it could not be used as an educational tool and comparative collection. During this project lots of different spiders were collected, so we prepared a new collection that could be used by anyone having an interest in Serbian spiders. The new museum collection has 120 spider species (385 individuals - 219 males, 166 females). This zoological wet collection was build according to general recommendations and represents an important legacy for future generations. It is deposited at the Natural History Museum, Belgrade, Serbia.

The Third: Event National Spider Day: Spiders are usually associated with various myths and superstitions that made them an unpopular group of animals. We decided to establish THE SPIDER DAY for popularisation purpose. It was a day dedicated to spiders only, with popular lectures, workshops, exhibitions, and all kinds of activities that could help increase their popularity. It was organised on 18th November 2017, at the The Institute for Nature Conservation of Vojvodina Province. The programme was for adults and children. More than 100 adults were present, to our surprise, and more than 50 children participated in workshops. Decorations and refreshments were also in the shape of spiders!!! We even made a spider balloon sculpture 2 m high. This event was proclaimed the best event in The Institute for Nature Conservation of Vojvodina Province for 2017. According to the box for compliments and complaints people were satisfied, and hope this will become a traditional event. We hope that too, so we could make spiders more friendly animal. For more information about our event please visit our Facebook page Paukovi Srbije.

https://www.facebook.com/pg/paukovisrbije/photos/?tab=album&album_id=1874423236204390

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

Now, after two RSG projects in the same area we raised some awareness about spider significance in the ecosystems of Subotica Sandland protected area and about spiders in general. Members of local community now have some information that could use for personal and practical development. That is a crucial point for next step of environmental sustainability projects and path, since we detected a very delicate or sensitive problem there. Their agricultural activities make a great influence on the protected area that they love so much. The chemical drifts are huge and affect target and non-target organisms that live in the protected area. So now, together, we have to find the way to stay sustainable.

5. Are there any plans to continue this work?

Yes, of course. Subotica Sandland is very unique place with so many possibilities. During our two projects in the row we only scratch the surface. Although, we tried to choose untypical and typical habitats, there are a lot of others still unexplored. Those are interesting sedge habitats for example, or ash forest or even some urban habitat or agricultural field. With no data about spiders at those habitats, any one of them could be interesting for further investigation.

During our research, we detected some potential new treat to protected area such as the chemical drift as result of pesticides application on agricultural land in the border line. This is a serious problem that should be research more carefully so we could provide the best solution for farmers and nature. Sustainable farming should be in focus in the future. Using sustainable farming practices, they can continue with the tradition of agriculture without harming the protected area and non-target organisms such as spiders.

With increasing information in Serbian language, after two RSG projects, dissemination of news and knowledge going better than we expected so, continuation is necessary and duty. The full congress hall during The Spider Day event was the best indicator that people in Serbia are interested in this subject and we have to provide them possibilities to gain knowledge this way and some entertainment so they could learn during the fun time.

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

The preliminary list of species that we detected this year will be delivered to the management of the protected area and that is The Public Company "Palić-Ludaš". Now they will have an updated list with around 200 spider species at Subotica Sandland. We also send a copy of the list to the Ministry of Environmental Protection of Serbia, so it could be officially added to a national database. The manuscript with final data will be submitted next year in some previewed arachnological journal, because more results will be added after we finish with determination of species. After the manuscript publication the result will be input in the Serbian biodiversity database, as well as to other trans-national databases such as 'Fauna Europea'. The reference collections are deposited at Educons University and in Nature Museum in Basel (Switzerland). The new Museum collection is deposit in at the Natural History Museum, Belgrade, Serbia and could be share with everyone who will shows some interest in Serbian spiders. All our results and progress will also be available on our website and Facebook page.

At The Rufford Small Grant conference on 27th and 28th September, 2018 at Srebrno Jezero, Serbia, the results of this project will be presented as lecture.

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 RSG was used from March 2017 to March 2018. This corresponds to the anticipated length of the project.

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.

There was a big fluctuation in currency exchange between project application and implementation, since UK decided to leave the European Union. During the application process the local exchange rate was around 146.99 RSD/£, but during implementation the range was from 133 – 129 RSD/£. This currency instability influenced our budget a lot. So we have to rearrange our money and to discard some activities to cover our lost. We decided not to design and develop a website as a supplement for determination and museum collection. This will stay for some future tasks and projects.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Wages for fieldwork	840	840		
Wages for laboratory work	420	420		
Car rental	1500	1525	+25	Service price increased but since we are the old customer, we got some discount
Fuel	670	670		
Material for pitfall traps	150	380	+230	Higher costs and different prices for the same supplies that we used in previous projects
Expended laboratory material	250	420	+170	
Biodiversity posters	250	250		We printed less material for the same price
Website for determination	1000	0	0	This activity was discarded and money was transfer where it was needed
Glass material for the museum collection	650	720	+70	Different costs for the supplies
Building a wet collection	450	450		
Mosaic high school competition supplies	250	355	+105	Higher costs and different prices for the supplies
Awards for the high school competition	150	150		

Digital camera, Ring light for microscope	690	690		
4D: Tarantula Spider Anatomy Model	150	150		We bought 2 instead of 3
The Spider Day illustration	300	350	+50	Service price increased
Projector and Screen	900	590	-310	We made a shopping during some sales and achieved excellent discount. This difference was used for lecturers
Workshop material for the Spider Day	340	600	+260	Higher costs and different prices for the supplies
Accommodation and transportation for lecturers	150	400	+250	In the original budget we miscalculate cost for this item
Promotional products for the Spider Day	250	300	+50	Different prices for the supplies and service
Catering for adults and kids at the Spider Day	640	740	+100	Different prices for the supplies and service
total	10000	10000	+1000	

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

Future plans should go in three directions: to choose new habitats for data gathering, to establish an NGO that will have spiders and biodiversity as its focus, to expand the event the National Spider Day and to work on manuscripts and stories on our Serbian languages.

Choosing new habitat was explained in section number 5.

Huge interest in the event the National Spider Day and Facebook page, constant question and emails about "is there any" society or something similar push us to think that maybe it is time to establish an NGO that will be dedicated to spiders. This could be a centre of spider research and protection. Our voice will have more influence worldwide but more important we will become more visible to our government. It is difficult to be a part of policy framework as an expert individual, but as NGO we have more chance to be asked and to be involved in biodiversity strategy for example in Serbia. The NGO could be the next step in dealing with detected problem such as chemical drifts in the area and initiator for sustainable farming research projects.

The event The Spider Day was a great success, more than anyone expected to be. Unfortunately it was available only for people living close by, maybe around 50 km. People in Serbia do not have money to spend to travel just for pleasure. It would be more useful for knowledge dissemination to organise this kind of event in several big cities around the country. This way we could reach more people that care about nature, and know their spiders in the neighbourhood. That could cost less, and could have more significance to our future research and promotion of spiders.

And of course the information about spiders in Serbian language. Lack of this information mixed with various myths and superstitions made spider an unpopular group of animals. We are still trying to change that. It is a slow process, but there is some visible progress. Website in Serbian language was an excellent move, and the great beginning. But continuation is necessary in the shape of books, or educational camps, web or real seminars and so on.

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 RF Logo in all oral presentations wherever we gave it and at workshop presentations too. During the television or radio interview we mention our prime sponsor, of course. For the Spider Day we printed t-shirts for participants and volunteers with promotion logo in front and on back was printed sponsors logo including The Rufford logo. On the spiders site www.paukovisrbije.com there is a logo of RF and links to my project, and RF home page. We tag The Rufford foundation at every workshop or event that we share on our Facebook page.

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

Team member	Project tasks:
Ambros Hänggi , PhD in Biology, arachnologist, Switzerland	Collecting, determination, lecturer for The Spider Day, and field education.
Natasa Zugic , PhD in Biology, specialist in biomonitoring, Serbia	Data analysis and student education.
Luka Katusic , PhD in Biology, arachnologist, Croatia	Lecturer for The Spider Day
Olivera Vukovic – psychologist, researcher on Arachnophobia phenomena in Serbia	Lecturer for The Spider Day
Igor Idjuski – MSc in Environmental protection, Serbia	Lecturer for The Spider Day
Milan Krsmanovic – bachelor student that was completed our training last year.	Fieldwork, laboratory work and promotion work;
Student Mila Jojić and Student Agnes Erdos , bachelor students at the Faculty of Science, Department of Biology and Ecology, Novi Sad, Serbia	Fieldwork, laboratory work and promotion work;
Gordana Sijacki , artist, sculptor, high school teacher	High school exhibition organization for the Spider Day event, mosaic evaluation
Milos Jovic – senior curator at the Natural History Museum, Belgrade, Serbia	Advisor for building museum collection
Dragisa Savic , PhD in Biology, employee at Public company The Fruska Gora	Field work photo documentation, photo exhibition organization for The Spider Day

National Park.	
Dragana Ratkovic and Sonja Kruzevic , journalists, radio and TV presenter, host of radio and TV talk shows	Announcement of events, promotion work, radio and TV broadcasting

Volunteers for the Spider Day event

1. Mladen Horvatovic – PhD in biology – live tarantula exhibition
2. Milan Saric – MSc in biology – dice game judge
3. Mila Jojić – biology student - dice game judge
4. Agnes Erdos – biology student - children collage art adviser
5. Karadžin Aleksandar – biology student - children collage art adviser
6. Stanišić Aleksa – biology student - food and beverage
7. Dronjak Aleksandra – biology student - food and beverage
8. Matić Aleksandra – biology student - coat check
9. Nemanja Jokić – biology student - children drawing art adviser
10. Aleksandar Jovanovic – profesional photographer

12. Any other comments?

I would like to add 2 things at the end.

First is about additional funding. During the application process I was advised from The Rufford trustees to try to find some other source of finance beside the Rufford Foundation. I took this advice very seriously and during the project implementation I gained some additional funding for some special tasks and activities. All those extra money was based on personal business connections.

Refreshments for the event the Spider Day (juices and water) was a donation by Minaqua BB, a factory of natural mineral water from Novi Sad, Serbia. Total amount of donation was around £100.

The Institute for Nature Conservation of Vojvodina Province supported the event The Spider Day by give us their congress hall and exhibition space without compensation. Usual price for renting the congress hall with the same capacity on the whole day cost around £600 in Serbia, and for the exhibition space we will have to spend additional £300, because we had a workshops and photo exhibition at the same time. This way theirs donation was around £900.

Public company The Fruska Gora National Park provided the 20 floor easels for the photo exhibition that we have. For example, total price for renting the 20 easels for 10 days in the raw is around £700. This way theirs donation to us was around £700.

So, as conclusion, based on my personal contacts my project was supported additionally with around £1700. It is not a lot but it is a first step that I made towards co-funding.

Second thing that I would like to add is my gratitude to The Rufford Foundation, for give me an opportunity to conduct this project and to continue my work on spiders.

It was my pleasure, and satisfaction to work under your sponsorship. Biodiversity research in my country is neglected, so importance of this project is even bigger than it looks like at the first glance. The Balkans is one of the most important centres of the European biodiversity and still not explored properly. I hope our cooperation will continue in the future.