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	Heliana Dundarova
Project title	Underground Habitats as a Unit for Conservation of Vulnerable Bat Communities in South-Western Kyrgyzstan
RSG reference	24890-1
Reporting period	February 2019 -April 2019
Amount of grant	£ 5000
Your email address	h.vulgaris@gmail.com
Date of this report	13.04.2019

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
Research of the important summer bat colonies in South-Western Kyrgyzstan			■	According to the project schedule, from April to May 2018 research on the available information about the underground habitats in south-western Kyrgyzstan was provided. This part of the project was conducted with Alexey Dudashvili, the director of the Foundation for the Preservation and Exploration of Caves. From June to September 2018 we accomplished eight field expeditions in nine caves in the Osh region (Tuya-Muyun mountain range and Aravan district) and two in Batken region, where 12 bat species were identified. Most of the caves are important nursery sites for *Rhinolophus ferrumequinum, Rh. bocharicus, Rh. lepidus, Myotis blythii* and *M. emarginatus*. In addition, at Ajidar-Unkur and Duvahan-Unkur caves up to 10000 individuals of *M. blythii* were observed. Within Aktur-Pak and Kan-i-Gut caves a small colony from five *B. capsica* was found.
Assessment of the main threats for the nursery colonies			■	The main threats for bats are the illegal tourism and improper disposal of garbage in and in front of the caves. During the summer months, people practice "bat nest" hunting. They use hand-made flares whose fire and smoke have negative impact on the bat colonies, as well as destroying the cave microclimate. The illegal tourism or so-called vandalism had a destructive influence on the colonies and cave structure. Further, Kyrgyzstan became a popular tourist destination the last few years and most of the tour operators conducted excursions to the

				caves close the villages. The influence of such anthropogenic factors has a negative impact on the species composition and abundance of bats. Since the damaging consequences of these activities to bats are largely unknown to people, neither social control nor surveillance by public authorities is present.
Capacity building trainings and workshops				A series of capacity building workshops were helped during the summer part of the project. Students from the Osh State University actively participated in all field expeditions.  Lectures and practices for bat identification, ecology and conservation were provided. Further, two students will continue with bat research during their masters. We also prepared information stickers and a newspaper article to popularise bat conservation in the south-west part of Kyrgyzstan. 
Research of the bat hibernacula presence				During the winter part of the project 2 field expeditions were conducted from February to March 2019. We visited

				seven caves in Osh region. Hibernating colonies of *Rhinolophus lepidus* and *Rh. ferrumequinum* were found only in two of them. Single specimens of *Rhinolophus hipposideros, Plecotus strelkovi* and *Barbastella capsica* were found in the other two caves. We also measured the underground temperature and humidity. All caves were drier and with higher temperature compared with those which are famous bat hibernacula.
Bat conservation in South-Western Kyrgyzstan				The studied caves play a vital role in the life-cycle of *Rhinolophus ferrumequinum, Rh. lepidus, Myotis blythii* and *M. emarginatus* which use them as nursery sites. According to the available literature and our data *M. blythii* gives birth at mid- May, followed by *M. emarginatus* at the beginning of June, and *Rh. ferrumequinum, Rh. bocharicus* and *Rh. lepidus* from mid-June to the middle of July. Furthermore, four species (*Rh. bocharicus, Rh. hipposideros, Barbastella capsica* and *Tadarida teniotis*) are in to the Red Data Book of Kyrgyzstan. Activities such as speleology, mine closure and tourism in these caves have a disastrous effect on bat fauna. From May 15th to August 15th such activities have to be restricted from the public authorities in time to protect the important summer bat colonies and the rare bat species from the Red Data Book. Results from our work was shared with the Foundation for the Preservation and Exploration of Caves. Altogether we prepared a report which was presented in front of the authorities from the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic.

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

The infrastructure of the south part of Kyrgyzstan is poorly developed, compared with the northern part. Due to a lack of local transportation and normal roads, the implementation of the field work was a great challenge. Most of the time the field expeditions were dependent on the availability of local guides with a car. Therefore, our project expenses rose. The cost increase resulted in failure to visit for a second time the two caves in Batken region and to explore the known from the literature caves in Nookat district.

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

1. Actual data for the state of the summer bat colonies in south-western Kyrgyzstan – most of the caves have significant role for the cave-dwelling bats by being nursery sites. According to our preliminary census some of them contain one of the biggest summer aggregations for *Rh. lepidus* and *M. blythii*.

2. First attempts for bat conservation in Kyrgyzstan – during the USSR period some of the caves from the Osh region were state reserves. Today none of them are protected by the law. Based on our data, all of them are important summer roosts for bats. Therefore, we made a report which was shared with the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyzstan. The local authorities will start drafting rules to limit access to those caves according to the European best practice.

3. Involvement of students from Osh State University – due to a lack of bat experts in the country, all stages of the project were provided with the active participation of students. I believe that it is an important step for the assembly of a working bat group in Kyrgyzstan

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

All the time, I worked with the local communities in Osh and Aravan. During most of the field expeditions I used the family house of Daniar Imlokov as a base camp. Daniar is a professional speleologist and teacher in Aravan village. We provided exploration trips close to the village with two of his students (below left). I also had the opportunity to present and promote bat and cave conservation in one of the Osh schools (below right).


This experience helped me to gain deeper insight into the education and conservation problems. The result is that the local communities are more aware about the significance of bats.

5. Are there any plans to continue this work?

The south-western part of Kyrgyzstan is a transboundary territory situated between Tajikistan and Uzbekistan. The plan is to continue with the monitoring of the caves in Kyrgyzstan. Further, I want to proceed the exploration and expand the project into the surrounding countries. The first steps were already done in Tajikistan at the end of March. I was invited by Tolibjon Khabilov (Director of Institute of Natural Sciences of Khujand State University named after acad. B. Gafurov, professor, Khujand, Tajikistan), and Dilbar Tadzhibaeva (candidate of biologic science, researcher at the Institute of Natural Sciences of Khujand State University named after acad. B. Gafurov, Khujand, Tajikistan) to join in the winter monitoring in the northern part of the country close to the border with Kyrgyzstan. We also carried out a bat seminar in the University of Khujand.

The scope of our future projects will be bat conservation trough the focus of education.

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

During the project we shared our field work results through the project page on Facebook and the website of Osh State University. The preliminary results were presented on the Conservation Asia 2018 conference in Bishkek. We are planning to publish the project results in a conservation peer-reviewed journal.

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 Rufford Foundation Grant was used in the period June – September 2018 and February – April 2019, in congruence with the project schedule.

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
Research equipment	1255	1255		22 mist nets with different lengths, 6 telescopic poles, bag for poles and 20 medium bags for bats were bought From Ecotone (Poland).
Transportation	1740	1740		The transportation sum includes tickets, taxes, insurance and research and cave equipment transportation from Bulgaria to Kyrgyzstan
Workshops and information campaigns	275	275		The sum was used for expedition flag, T-shirts, leaflet and workshops.
Fuel	800	1130	+ 330	Fuel, food and lodging price was higher than planned because I also covered all the students' and local guides expenses. I was able to cover the differences using my personal savings.
Food and lodging	930	1600	+ 670	
Caving equipment				The caving equipment is provided by the Foundation for the Preservation and Exploration of Caves.
Total	**5000**	**6000**	**+ 1000**	* Local unit exchange is: £1 = 93.1635 KGS

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

This is a pilot Rufford award and will be used as a basis for extensive bat conservation research in central Asia until the Completion Grant. The inventory of bat species and systematic monitoring of the important bat colonies is significant step for bat conservation in that part of the world.

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?

We used the Rufford logo on our expedition flag, T-shirts, leaflet, all workshops and presentations. The logo was used on the project Facebook page, news and the website of our partners (Foundation for the Preservation and Exploration of Caves and Osh State University):
https://www.facebook.com/kyrgyzbats/

https://kaktakto.com/multimedia/fotoreportazh-o-vandalizme-v-unikalnyx-peshherax-kyrgyzstana/?fbclid=IwAR0ton96iC_LZZw12K4-j205OuuMKo_HPzo2lyRSVslY0FBDM5ywdwbaZdQ

http://speleo.kg/english/

https://www.oshsu.kg/

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

Dr. Alexey Dudashvili helps to gather the whole information about caves in the study region. He participates actively from the beginning to the end of the project.

Dr. Zheenbek Kulenbekov is a team member from the beginning of the project. He helps during the conservation Asia conference, with the project PR and provides me with key contacts from the Central Asian region.

Dmitry Milko gave valuable advice on how to prepare our field expeditions.

The dean of the faculty of natural science, Osh State University **Abdurashid Nizamiev**, the head of the department of zoology **Kursanbek Altybaev** and the faculty teacher **Guliza Momosheva** supported the aim to establish a bat working group in the University. During the project 3 students: **Pirimkul Mamatkalykov**, **Begaim Sultanbek kyzy,** and **Eldiar Kochkorov** actively participated in all field expeditions and training seminars. They showed interest in bat fauna exploration and conservation in Kyrgyzstan.