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	Ilona Stepanyan
Project title	Elaboration of in-situ and ex-situ conservation measures for two red-listed species of Armenian Amphibians (*Ommatotriton ophryticus* and *Pelobates syriacus*)
RSG reference	19622-2
Reporting period	May 2016 – June 2017
Amount of grant	£5000
Your email address	stepanyanil@yahoo.com
Date of this report	16.06.2017

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
Control of the actual condition of known populations and habitats of two Armenian Red Book amphibian species.				Conditions of known populations of targeted species were controlled; habitats condition data were generalised in database.
Revealing of habitats suitable for the species survival, but not inhabited yet.				New habitats suitable for the two species' survival were revealed. Due to rather short time of project implementation, this activity could not cover all prospective localities of mentioned provinces.
Collecting as much as possible individuals of newt from populations living in inauspicious habitats and re-placing them into comfortable habitats newly revealed.				Over than 30 adults' and 20 2-year old newts from populations living in inauspicious habitats in Lori Province were collected and replaced into comfortable habitats newly revealed in Lori and Tavush Province. Besides, eight adults and 25 juveniles of spadefoot were re-placed into comfortable habitats.
Looking for the new populations, using in particular folk information with following checking of localities and census of populations revealed.				The new populations of spadefoot in Ararat, Armavir and Kotayk Provinces of Armenia were revealed. Due to rather short time of project implementation, this activity could not cover all prospective localities of targeted species.
Adaptation to our conditions methodology of breeding of newt and spadefoot in ex-situ conditions including: creation of sustainable laboratory populations of both species, and implementation of pilot experiments of re-introduction and				Vivarium was created; breeding of northern banded newt in ex-situ conditions was done; Young generation of newts was brought up. Experiments of reintroduction and introduction of newts from laboratory population to the habitats suitable were implemented. Juveniles of spadefoot, collected from inauspicious habitats, and grown in

introduction of target species from laboratory' population to the habitats suitable for both species survival but not inhabited yet.				vivarium were placed into comfortable habitats newly revealed. Due to rather short time of project implementation, this activity was started and implemented successfully but not fully.
Perform public awareness rising activity.				Public awareness activity with students involved into the project was done. Lectures in several middle and higher schools of six towns and 20 villages of six provinces of Armenia were carried out. Meetings with local communities' authorities of six Provinces and staff of Protected Areas of Tavush, Kotayk, Vayots Dzor Provinces were carried out. Educational materials were disseminated among community members and schools of studied area. Training courses on study and conservation measures of targeted Red Book Armenian amphibian species were done.
Elaboration and submission to the stakeholders, including Ministry of Nature Protection of RA draft recommendations for conservation of *Ommatotriton ophryticus* and *Pelobates syriacus* in Armenia.				Respective documents were elaborated and submitted.

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

Most of difficulties were due to unexpected weather conditions during period of the project implementation; there was drought in 2016 and unusually long and cold winter in 2016-2017. Thus, population density in some localities was very low and we were forced to carry out additional expedition for collecting individuals for breeding.

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

- Some biotopes of newt (four) and spadefoot (four) were assessed, GIS-mapped and proposed for creation of protected areas.

- Conditions for implementation of methodology of breeding of newt ex-situ were created. Youngest were released to comfortable habitats. Tadpoles of spadefoot from inauspicious habitats were collected, their breeding to more adopted juveniles was carried out and juveniles were re-placed into comfortable habitats. Pilot experiments of in-situ reintroduction and introduction of newts from inauspicious habitats to the habitats suitable for the newt survival, but not inhabited yet are carried out;
- Consciousness of the local people was raised due to complex activities in the field of public awareness raising.

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

Members of local communities, authorities of nature conservation as well as pupils of some schools were directly involved in project implementation, in particular, they provided us with data on distribution and abundance of target species in the vicinities of their settlements, participated in releasing of newts and spadefoots into the suitable habitats, etc.

Lectures and meetings carried out lead to the public awareness rising in local communities, including young generation on the importance of protection of not only target amphibian species but also of conservation of habitats as a whole.

5. Are there any plans to continue this work?

I am going to continue all the activities respecting to study and conservation of amphibian fauna of my country.

In particular, it is necessary to continue revealing of habitats of amphibian species, especially, red-listed ones, monitoring and assessment of conditions of all their populations and habitats. I am going to continue my researches on amphibians' biology, ecology, genetics, etc.

Using capacities created in the framework of the current project, I am going to continue my work on breeding of protected amphibian species *ex-situ* and my activity or their introduction and re-introduction into suitable habitats.

In my plans is also promoting and supporting conservation activity at all levels – from community to government. In this sense, I am planning to continue my educational and public awareness rising activity.

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

- The project results (report, recommendations, draft Action Plan) will be submitted to Scientific Council of Scientific Centre of Zoology and Hydroecology of National Academy of Sciences of Armenia, and Yerevan State University, to the staff of Armenian Protected Areas and to the Ministry of Nature Protection in particular, to Department of Especially Protected

Areas. Presentations and lectures will be carried out in the: "Young Biologists Association" NGO (YBA), offices of Armenian Branch of WWF, REC Caucasus, high educational institutions and selected schools in Dilijan, Sevan, Gavar, Vanadzor, Kapan, Goris, Hrazdan, etc.

- It is planned to submit our results to"Ecolur" NGO which is orientated to the dissemination of ecological information as a media structure.
- The project results will be presented at different conferences, first of all at the planned conference "Biological diversity and conservation problems of the fauna of the Caucasus-3" which have to be held from 26th-29th September 2017 in Yerevan, Armenia. The following papers are already prepared and submitted to the editorial board of the Conference:

    1. Stepanyan I.E., Pipoyan S.Kh. 2017. "Habitats' condition and major threats of *Ommatotriton ophryticus* Berthold, 1846 in Armenia"
    2. Stepanyan I. E., S.Kh. Pipoyan, M.Yu. Kalashian, M.V. Arzumanyan, T. A. Hayrapetyan 2017. "Habitats' condition and major threats of *Pelobates syriacus* Boetter, 1889 in Armenia".

- Further scientific papers will be prepared and published in peer-reviewed journals.

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

RSGF was used during period of mid-May 2016 – mid-June 2017. This is generally corresponds with anticipated length of the project with shifting of about 1 month in comparison with my application. Besides, 1 month prolongation of our work was due to unexpected weather conditions and necessity of carrying out of additional expedition as it is described above (point 2).

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
Purchasing of aqua terrariums 250 litres 7 units	700	670.3	-29.7	Due to fluctuations of exchange rate (AMB/GBP) and internal prices in AMD some sums were saved.
Purchasing of aqua terrariums 100 litres 3 units	150	149	-1	
Purchasing of accessories (filters, Thermometers, etc.)	150	148.5	-1.5	
Purchasing of animals 'feed	140	125.2	-14.8	
Public utilities (water,	130	120.2	-9.8	

electricity)				
Maintenance of equipment	100	100	-	-
Fuel: £0.6/L x 15 L/100 km x 5000+ extra 400 km	450	486	+36	For one extra expedition were spent fuel for 400 km
Car rent and driver: £35/ day x 40 days (8 trips))+2 extra days	1400	1470	+70	Car rent expenditure was spent for extra expedition with 2 days duration
Per diems: £8 /person /day x 4 persons x 40 days (8 trips))+extra 2 days trips with 2 persons involved	1280	1312	+32	Per diems for extra expedition were covered
Publication of Illustrative and didactic materials.	500	423.8	-76.2	Some discounts were got due to friendly position of publishers to environmental publications
Total	5000	5005	+5	

It became available to save some amount during creation and exploitation of vivarium due to some exchange rates and internal prices fluctuations during reporting period. Some sums were saved during publication of illustrative materials. The respective sums were spent for extra expedition.
The rate of £sterling / Armenian dram (AMD) was from 708 to 614 AMD/£

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

The following steps can be considered as most important:

- Promotion of activities for creation of EPNAs for the conservation of red-listed amphibian species in the localities proposed in the framework of our project.
- Continuation of filed surveys to fulfil distributional data on protected species.
- Continuation of activities targeted to *ex-situ* breeding and introduction/ reintroduction of newts and spadefoot to the natural suitable habitats.
- Continuation of activities in the field of public awareness rising.
- Continuation of educational activities, both among pupils and graduate students, preparation of qualified specialist – zoologists and conservationist.

I would like to mention here one prospective issue. It is supposed to create some kind of centre for survival and breeding of some wetland red-listed species (including newts, some plants and fish) in Lori province of Armenia at the land belong to amateur conservationist who is ready to provide this land for conservation purposes. We have some preliminary agreement with this person, and hopefully, will be able to implement this idea.

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 RSGF logo in all the materials published (informational flyers, posters, calendars). In all of our lections, meetings and discussions RSGF role was accented. Besides, RSG support was mentioned in all respective scientific publications.

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

Principal investigator: Dr. Ilona Stepanyan (Scientific Centre of Zoology and Hydroecology of NAS)
Co-ordinated all the activities regarding to implementation of the Project, arranged and participated in field surveys, GIS mapping of data obtained, creation of vivarium, organized and participated in the complex of activities in the field of public awareness raising (publication and dissemination of information materials, meetings, lectures, consultations with local authorities and people).

Prof. Dr. Samvel Pipoyan (Department of Biology and Metodology of its teaching, Armenian State Pedagogical University)
participated in field survey, meetings with local communities authorities, provided consultations on vivarium creation, newt breeding and rising of newt and spadefoot juveniles;

Meri Arzumanyan, Fist year postgraduate student of Faculty of Biology, (Yerevan State University)
Participated in: training courses, field survey, laboratory work, supplementing of database, analysis of data newly revealed, lecturing in schools, meetings with locals;

Gayane Nikogosyan, 2nd year Magister student, (Faculty of Biology, Yerevan State University) Participated in: training courses, field survey, vivarium work, supplementing of database, analysis of data newly revealed, lecturing in local schools, meetings with locals;

Asthik Gevorkyan, 2nd year Bachelor student, (Department of Biology, Armenian State Pedagogical University)
Participated in: field and laboratory work, training courses.

Elya Khachatryan, 2th year Bachelor student, (Department of Biology, Armenian State Pedagogical University)
Participated in: field and laboratory work.

12. Any other comments?

We are thankful for support of RSGF, which allows to release in-situ and ex-situ conservation measures for two red-listed species of Armenian Amphibians (*Ommatotriton ophryticus* and *Pelobates syriacus*), and distributing information on importance of targeted species conservation and their protection among local people, and young generation.