

The Rufford Small Grants Foundation

Final Report

Congratulations on the completion of your project that was supported by The Rufford Small Grants 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	Pavel Kvartalnov
Project title	Tugay forests in Tajikistan: the last remainders of globally endangered ecosystem
RSG reference	9304-1
Reporting period	2011
Amount of grant	£5922
Your email address	<u>cettia@yandex.ru</u>
Date of this report	16 November 2011



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
1.Collecting the modern information about the state of riverbank forests and adjacent deserts animal communities of Tigrovaya Balka Reserve				We described diversity of mammals, birds and reptiles at Shakh sands (Kabodian region, Amu-darja valley). We found more than 20 species of reptiles including several rare for Tajikistan (<i>Boiga trigonata, Naja oxiana,</i> <i>Varanus griseus, Phrynocephalus</i> <i>interscapularis,</i> etc.). Bird fauna include about 50 breeding species. We can compare animal diversity on the protected territory and outside it using results published by authors who worked at Tigrovaya Balka. We had the second studied region– thickets at Panj river (GBAO (Gorny Badakhshan), Ishkashim region, 2700 m over sea level. So we can compare animal diversity and the level of protection of plain and mountain natural communities.
2.Estimate numbers of rare bird, mammal and reptile species				The numbers (and ever presence) of rare vertebrate species were not known in South part of Kabodian region (Shakh sands) before our research
3.Studying numbers, distribution, ecology and breeding biology of animals from two key groups - Sylviidae warblers and Agamidae lizards				We found and described nests, eggs and nestlings of <i>Acrocephalus orinus</i> (previously unknown) and <i>Phylloscopus sindianus</i> (previously not described in former Soviet Central Asia), collected information about breeding biology, distribution, etc. of these birds and other warbler species. We described a phenomenon of reduced territoriality for passerine birds inhabit bushes and reeds at semideserts that allows them to breed with high density in unstable habitats, and a phenomenon of prolonged arriving that allows <i>A. orinus</i> to breed in unpredicted mountain weather conditions. We received new proofs for <i>A. dumetorum</i> does not breed in Tajikistan. We found that a Toad-headed agama which inhabits sands at South-West Tajikistan (at the right side of the Panj River) is not <i>Phrynocephalus sogdianus</i> (that was previously thought) but more



A.We planned to estimate		widely distributed <i>Ph. interscapularis</i> . We selected the third key group – Lycaenidae butterflies that were studied at Badakhshan by Anatoly Krupitskiy. We collected data about distribution and species diversity of these butterflies (two species new for science were found) We had not the possibility to inspect the
numbers of globally vulnerable species - Acrocephalus orinus and Phrynocephalus sogdianus		territory where <i>Ph. sogdianus</i> is thought to survive (Kashka-Kum desert, Tigrovaya Balka reserve)
5.We expected to study the possibility of <i>Acrocephalus</i> <i>orinus</i> breeding at the forests at plains		
6.We wanted to receive the information about modern status, interspecific interactions, social organization, ecology and social behaviour of several Sylviidae warbler species		The social life of <i>Acrocephalus orinus</i> and <i>Phylloscopus sindianus</i> was completely unknown before our studies
7.We wanted to record acoustic signals of warblers		
8.We planned to take tissue (blood or skin) samples for DNA analyses		
9.We expected to get the information about species richness of Agamidae lizards, based also on DNA analyses of tissue samples, information about ecology and numbers of <i>Phrynocephalus sogdianus</i> , <i>Phrynocephalus</i> <i>raddei</i> , <i>Phrynocephalus</i> <i>mystaceus</i> , <i>Laudakia</i> <i>lehmanni</i> , <i>Trapelus</i> <i>sanguinolentus</i> .		
10.We wanted to collect blood samples and information about ecology of <i>Parus bokharensis</i> - a		Svyatoslav Fedorov who planned to study <i>Cervus elaphus bactrianus</i> and <i>Parus</i> <i>bokharensis</i> at the field became ill and could not take part in our expedition. The



species, potentially		information about Cervus elaphus was		
vulnerable - due to the		collected by Z. Amirov (Dushanbe) and P.		
intergradation with Parus		Kvartalnov. S. Fedorov will do DNA-analysis of		
major, and also the		blood samples from Parus bokharensis and		
information about numbers		other birds.		
and ecology of Cervus		Cervus elaphus is still common (but with		
<i>elaphus bactrianus</i> and		decreasing numbers) in Tigrovaya Balka		
Phasianus colchicus bianchii.		reserve (according to Z. Amirov), rare and		
		possibly unstable populations exist outside		
		protected territory.		
		The information about distribution, numbers		
		and ecology of Phasianus c. bianchii was		
		collected by G. Garibmamadov and P.		
		Kvartalnov		

Notes:

No.	Not/Partially/Fully Achieved
1	
Ν	We did not get the permission to work on the main territory of Tigrovaya Balka Reserve
Р	We briefly inspected a small part of forest at the territory of Tigrovaya Balka Reserve; Z.
	Amirov collected current information about numbers of large mammals at "Tigrovaya
	Balka"
F	We got the information about riverbank forests and shrubs and nearby semideserts at
	Shakh sands (outside the protected territory), where the animal diversity was not studied
	previously
2	
F	Achieved for Shakh sands (Kabodian region) and Panj valley in Ishkashim region
3	
F	We collected rich materials about Hippolais rama, Acrocephalus orinus, Acrocephalus
	stentoreus, Phylloscopus sindianus (breeding birds), Acrocephalus dumetorum (transient),
	Phrynocephalus interscapularis
4	
N	The territory where we had possibility to work was inhabited not by Ph. sogdianus, but by a
	closely related Ph. interscapularis
Р	We found that Ph. sogdianus does not inhabit the Kabodian region of Tajikistan
F	We estimated numbers and distribution of A. orinus at Panj valley; we did not found this
	species in Kabodian region
5	
F	We found that A. orinus breeds only in bushes at river valleys at 2000-3000 m above sea
	level
6	
F	Achieved for Acrocephalus orinus, A. stentoreus, Cettia cetti, Phylloscopus sindianus,
	Hippolais rama, Hippolais pallida; several other Sylviidae species were found on passage or
	were breeding but not studied closely
7	
F	Achieved for Acrocephalus orinus, A. dumetorum, Hippolais rama, H. pallida and



r	
	Phylloscopus sindianus; voices of several other bird species were also recorded
8	
F	Achieved for 18 bird species included A. orinus and for several reptile species included Ph.
	interscapularis from Kabodian region
9	
F	We collected information about biology of species recently inhabit Kabodian region:
	Phrynocephalus interscapularis and Trapelus sanguinolentus. We found that South
	Tajikistan is inhabited by two species from Phrynocephalus interscapularis complex: Ph.
	sogdianus and Ph. interscapularis s.str. (although agamas from Tajikistan can represent an
	undescribed taxon within discussed species complex; further studies are needed)
10	
Ν	We could not work in Tigrovaya Balka reserve where these species are abundant
Р	We collected information about ecology of all these species at Kabodian region
F	We estimated numbers and distribution of these species outside the protected territory;
	we collected blood samples from Parus bokharensis

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

We planned to work at the territory of "Tigrovaya Balka" reserve, but at the last moment (after our arrival to Dushanbe) we did not receive the permission to stay at the protected territory. We chose another place to study desert and forest fauna on plains – the vicinities of Teshik-Tash village (Kabodian region), where vertebrate fauna was not studied earlier. We also took advantage of the opportunity to work at mountain river valleys in Gorny Badakhshan Autonomous Region.

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

- A. We collected information about the current condition of forest, bush and desert natural communities of South Tajikistan, their fauna (mainly vertebrate), current protection status and major threats for them.
- B. We collected new information about ecology, numbers and distribution of several threatened or poorly studied species such as *Acrocephalus orinus*, *Phylloscopus sindianus*, *Phrynocephalus interscapularis*, etc., including two undescribed species of butterflies (fam. Lycaenidae).
- C. We achieved an effective collaboration between scientists from Russia and Tajikistan in collecting materials at the field, data processing, planning nature conservation activities (involving local government organisations and local communities).

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

The main problem for nature conservation in the modern Tajikistan is to detect the permissible level of human pressure on forests, bushes and deserts. We can try to protect all threatened nature communities but it will not be the solution of the problem. Nowadays people in Tajikistan can not live without cutting wood (for heating, cooking and building houses), grazing livestock and occupying new lands for agricultural activities. Our aim is to give clear directions how they should to organise economic activity of the local people to local government organisations (Hunting and Forestry services, etc.). We found that the human press on natural communities at plains at SW Tajikistan is



too high. The activity of the local people should be regulated. Some areas should be strictly protected, but on others the moderate human activity can be retained without irreversible consequences for flora and fauna. In mountain rivers valleys nearly all patches of bushes are strictly protected now by the local Forestry organisation, but we found that the moderate level of human activities (logging, grazing livestock, etc.) can be healthy for local nature communities.

The local people benefit from the knowledge of the local fauna and flora that include species interesting for international tourists. The local people asked us to give them such information. There are a lot of guest houses at the South of Tajikistan (mainly at Pamir villages), but not many of tourists stay there more than for a night. Tourists with full information about the local biological diversity (including rare and endemic species such as *Acrocephalus orinus*, different reptile species, etc.) will stay at guest houses for a longer period. Nearly all local men every year go to Russia and other countries searching for a work. Developing an ecotourism in Tajikistan will give a work for people and develop their desire to conserve the nature.

Full report about our results (in Russian and Tajik) will be send to people from local communities in Kabodian region and Badakhshan.

5. Are there any plans to continue this work?

We plan to continue our investigations of threatened landscapes of Tajikistan in 2012 year and later. We want to organise an expedition to Badakhshan (in May-July 2011). This expedition will include zoologists and botanists from Lomonosov MSU, Moscow Zoological Museum, Pavlovsky Institute of Zoology and Parasitology (Dushanbe) and Pamir Biological Institute. We want to continue our studies of impact of human activity to riverside forests and bushes and other natural communities at mountain streams in Tajikistan. We want to get new information about breeding ecology and distribution of *Acrocephalus orinus*, other vertebrate species, invertebrate communities of mountain streams and plant communities of mountain river valleys and nearby slopes.

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

We are preparing scientific and popular publications on Russian, Tajik and English languages. The first article is already published in Russia in "Priroda" (a popular scientific journal of Russian Academy of scienses) [**Kvartalnov P.V., Samotskaya V.V., Abdulnazarov A.G.** (2011) From museum collections to live birds [First data about breeding biology of Large-billed reed warbler (*Acrocephalus orinus*)]. – Priroda (popular science journal of Russian Academy of Sciences). N12. Pp. 54-56 (in Russian, with colour photographs)]. We presented our results on seminars organized in Moscow and S.-Petersburg by Moscow and S.-Petersburg Naturalists Societies and Moscow Entomology society in October and November 2011. We will send our project reports to international and local nature conservation organizations (including The Wetlands International, WWF, etc.). Our data will be included to the new edition of the Red Data Book of Tajikistan.

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

We used the grant for payment for expenses for the expedition (April-July 2011). Now we are continuing to work on the project: we are processing collected materials, preparing scientific publications and developing actions for nature conservation in Tajikistan.



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	Actual	Difference	Comments
	Amount	Amount		
Flight	1563	4081	-2518	We had eight persons flied from
Moscow-Dushanbe				Moscow to Dushanbe and backward
				(more than we supposed initially)
Travel by car from	125	775	-650	We travelled by car from Dushanbe
Dushanbe to				to Kabodian region, inspected three
Tigrovaya Balka				regions searching for reptiles,
Reserve				travelled from Dushanbe to Horog
				and further to Zumudg and Langar
Decetives fourth a	1250	1250		(Badakhshan)
Reactives for the	1250	1250	0	
molecular (DNA)				
Paving for houses	1250	526	71/	We paid for staving in guest houses in
and hoats at the	1250	530	/14	lilikul Kabodian regions and in
Reserve				Badakhshan (Zumudg village) we did
				not use boats
Paying for hotel and	400	360	40	We lived in guest apartments in
registration in				Institute of Zoology and Parasitology,
Dushanbe				so we paid only for registration, but
				we had to pay for the hotel in Khorog
				(one night); we had to pay for
				registration for more people than we
				planned initially, we paid also for the
				permission for working in frontier
				regions
Medical insurance	84	433	-349	We took it for eight persons (more
Facelin Taliliatan	2500	1125	4075	that we supposed initially)
Food in Tajikistan	2500	1125	1375	Although we had more people in
				expedition, the food in Tajikistan was
Mist-nets	313	313	0	
Equipment and	8/	8/	0	
reactives for taking	04	04	0	
blood and tissue				
samples				
Memory cards for	63	63	0	
recorders and				
cameras				
Total	7632	9020	-1388	

Local exchange rates (for 01.05.2011): 1 GBP = 46.25 RUB = 7.58 TGS

The differences were compensated by the grant from the Russian Fund for Basic Researches (#01-04-01363)



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

- A. Continue field investigations in Tajikistan
- B. Continue data processing and publication of results
- C. Establish effective collaboration between scientific institutes (both Tajik and Russian) and Tajik government organisations (including Ministry of Natural resources) to organise monitoring of threatened nature communities and to develop protection measures

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?

We used the RSGF logo in scientific presentations dealing with our results. We refer to the RSFG in our publications (including publications about breeding biology of *Acrocephalus orinus*). We give the full information about the RSGF to people with whom we worked (from Tajikistan and Russia), to our colleagues and all people interested in our project.

11. Any other comments?

Our project is quite unique because nowadays it is one of few long-time scientific and nature conservation projects carried out by together Russian and Tajik specialists. This project is very important for Tajik scientists: it involves young specialists from Tajikistan who has now little opportunities for international scientific collaboration. The project is also very important for Russian students who have little possibilities to work in such regions as Central Asia.