

Final Evaluation Report

Your Details	
Full Name	Sergey Vasiljevich Titov
Project Title	Assessment of the population status of the moth <i>Catocala deducta</i> and the development of measures to preserve its habitats in the floodplain of the Irtysh River
Application ID	28371-1
Grant Amount	4970 £
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Date of this Report	June 27, 2020

1. 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 find out the state of the population of <i>Catocala deducta</i> on the territory of the state zoological nature reserve "Ertis zhagalaauy".				Over the entire period of work, a stable population of <i>Catocala deducta</i> was found only in the north of the Pavlodar region (control site No. 3). During the late summer - early autumn cycle of phenological observations from 08/13/2020 to 10/15/2020, 42 individuals were observed, including 17 females and 25 males. <i>Catocala deducta</i> is a very vulnerable species, since we record only a single local population of this species in the floodplain forests of the study region along the entire length of the Irtysh River.
Determine the conservation status of the species on the territory of the Irtysh River Floodplain Zoological Reserve. Development of scientifically grounded measures to preserve <i>Catocala deducta</i> and its ecosystem on the territory of the Zoological Reserve "Floodplain of the Irtysh River"				Scientifically grounded measures for the conservation of <i>Catocala deducta</i> and its ecosystem have been developed and are advisory for nature conservation organizations, mainly for specialists of the Irtysh River floodplain Zoological Reserve. Also for a wide range of citizens, for all residents of the Pavlodar region, especially for those who live in the vicinity of the Irtysh river valley. We convey scientifically based measures in the form of lectures and seminars to a wide range of listeners during visits to schools and universities. In the final publication on the study of <i>Catocala deducta</i> , we provide a list of conservation measures as a separate item.
Prepare a scientific biological justification for the inclusion of <i>Catocala deducta</i> in the Red Book of the Republic of Kazakhstan.				On the basis of the research carried out and the scientific work on the topic of the project being prepared for publication, a biological rationale was formed for the inclusion of <i>Catocala deducta</i> in the Red Book of Kazakhstan.

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

The main difficulties arose at the stage preceding our research. They consisted in finding an official organisation with acceptable conditions of cooperation, on behalf of which it was necessary to conduct our research and accounting. Many organisations did not agree to cooperate without highly lucrative offers in their favour. In this connection, it became necessary to open an independent NGO for the conservation of biological diversity of insects in Kazakhstan "Public Association Entomolife". All these stages in the organisation of work were unforeseen to a large extent due to the lack of personal experience in this direction. Also, difficulties arose against the backdrop of the Covid-19 pandemic, due to restrictions on leaving the city for field work and subsequently conducting seminars and lectures on the project among schoolchildren and students of Toraigyr University. The consequences of vaccination were also unintended. After receiving the vaccine, I felt very weak for a long time. But in the end, thanks to the support of the Rufford Foundation for the unforeseen difficulties that arose during the project, solutions were found.

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

1. For the first time in the history of ecological and entomological research in Kazakhstan, it was possible to find out the state of the population of *Catocala deducta* on the territory of the state zoological nature reserve "Ertis zhalalauy".
2. Conduct first public discussions to increase the understanding of vulnerable insects and a healthy natural environment among the local population in the Pavlodar region.
3. Development of measures to preserve the *Catocala deducta* habitat for nature conservation organizations and stakeholders on the territory of the Ertis Zhagalaauy State Zoological Nature Reserve.

4. Briefly describe the involvement of local communities and how they have benefited from the project.

The Pavlodar Regional Territorial Inspectorate of Forestry and Wildlife of the Republic of Kazakhstan provided me with official permission No. 2-13- / 313 dated April 23, 2019 to conduct entomological research on the territory of the Ertis Zhagalaauy State Zoological Nature Reserve for a period of 2019-2020. Thanks to this cooperation, this environmental organisation will for the first time receive at its disposal a publication (after printing), which will contain comprehensive information on the composition of the fauna of the higher lepidoptera insects of the reserve, and on the most vulnerable species *Catocala deducta*, with recommendations for the protection of this species and its habitat. Also, this organisation can count on my help as a specialist partner, regional entomologist in future projects of environmental protection. Volunteer nature lovers of the city of Pavlodar (Sergey Efremov, Aset Delmukhambetov, Talgat Abylhasanov, Vitaly Radchenko, Vitaly Maksimov, Artem

Fedotov) took part in our expeditions. Thus, a group of activists was formed from caring people who are ready to take part in regular research. Geobotanist Viktor Kamkin from the Toraigyr University who kindly agreed to participate in the project as a co-author of a future publication on the topic of the project also took part.

5. Are there any plans to continue this work?

It is necessary to continue monitoring the state of the *Catocala deducta* population and start studying the state of the southern populations of the species in the territory of eastern Kazakhstan. I also see the development and implementation of measures for the artificial cultivation of *Catocala deducta* and other endangered species, with the aim of their further reintroduction into natural habitats, as an important decision for the conservation of the species. Continue work to popularise natural sciences, create ecological paths in all districts of the Pavlodar region in joint cooperation between local educational schools, universities, non-governmental organisations and representatives of the Pavlodar regional territorial inspection of forestry and wildlife of the Republic of Kazakhstan.

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

Mainly, I intend to share the results of the work carried out in the project through the distribution of publications in the scientific and popular scientific regional journal "Bulletin of the Pavlodar House of Geography" and the scientific journal "Ecologica Montenegrina", which will be published in the near future. I also plan to share the published results using links in social networks to the page of our site dedicated to the current project "Rufford <https://entomolife.wordpress.com/#Projects>. By distributing information posters-calendars in A3 format in interested organisations not only in Pavlodar region, but throughout Kazakhstan.

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

The grant was used from 2019-2021, although it was planned for the period from 2019-2020. Going beyond the time frame occurred due to the extension of the project due to the time it took to open its organisation "Public Association Entomolife" and due to quarantine measures that interfered with the conduct of field research and face-to-face meetings with students of schools and the university.

8. Budget: 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. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Fieldwork	2379	2371		
Daily expenses on expedition - £ 18.71 for 1 day 38 days * 2 people (project manager + driver)	1422	1414	-8	Remaining financial resources were used to cover price changes due to course changes for field equipment and supplies
Rent a car with a driver	957	957		
Fieldwork equipment	887	888	+1	
Power generator KIPOR IG2000 s	464	464		
Mercury lamp Osram HWL 160W 225V E27 (3 pcs x £ 4.03)	12	12		
Cell Traps (5 pieces * £ 10.07)	50	50		
Screen for attracting nocturnal insect `` A " 1.8m x 1.4m x 1.4m (2 pcs * £ 113.5)	227	228	+1	Price change due to exchange rate differences
White UV fluorescent lamp in a protective tube 12V / 8W (2pcs. * £ 15.2)	30	30		
Battery 12V / 7.2Ah (14.4-15V, 2.40A) (2 pcs. * £ 33.6)	67	67		
Battery charger al300 pro aka 2/6 / 12V (2 pcs * £ 18.4)	37	37		
Field consumables	215	221	+6	
Baits (red wine) (10 liters x £ 5.03)	50	53	+3	Bought 12L at £ 4.4
Sugar (5kg * £ 0.5)	3	3		
Rope (25 meters * £ 0.6)	15	18	+3	Price change, purchased 25m at £ 0.7
Production of posters - calendars (A1 format) (60 штук x £ 2,45)	147	147		
Programming & data processing	486	196	-290	

Creation of HTML website to provide public information on the progress of the project: 12 hours / £ 8 = £ 96	96	96		
Field data entry throughout the entire fieldwork course 60h x £ 2.5	100	100		
Modification of the BiodivDB database, which will be used for entry and processing of data, and connected to the PHP web page for providing on-line public information: 20 hours / £10 = £200	200		-200	
Web host rental (SQL&PHP) 6 months / £15 = £90	90		-90	
Salary	429	429		
Salary of S.V. Titov (required due to part-time employment at the main job - 0.75%): Fieldwork: 38 days. = 304 hours / £ 1.20 = £ 364.80 Processing collected material: 36 hours / £ 1.20 = £ 43.20 Organizational work: Meetings: 11 hours. Seminars: 10 hours. Total 21 hours / £ 1.00 = £ 21.00	429	429		
Costs of publishing scientific article	385	125	-260	
The cost of publishing a scientific article	385	125	-260	In the press. £ 260 reallocated for the purchase of air tickets to the conference (Moscow)
Organisational expenses	189	189		
The cost of opening and maintaining a bank account and drawing up financial reports for the project -	189	189		
Sub-total	4970	4419	-551	
Not RF Funded				
Air tickets Nur-Sultan - Moscow; Moscow - Nursultan		291	+291	
Tax		290	+290	
TOTAL	4970	5000	+30	

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

A very important action would be to study and understand the state of the rest of the populations, which probably still exist upstream of the Irtysh River in the territory of eastern Kazakhstan from the nominative territory of the description of the species (Zaisan lake) in 1843, because it is obvious that the species spreads from south to north along river systems. Also, I believe that it is necessary to take measures for the artificial cultivation of *Catocala deducta* and other endangered species, with the aim of their further reintroduction into natural habitats, in order to neutralise the negative anthropogenic actions affecting the decline in the number of this rare species. It is necessary to establish work to popularise the natural sciences, create ecological paths in all districts of the Pavlodar region in joint cooperation between local educational schools, universities and representatives of the Pavlodar regional territorial inspection of forestry and wildlife of the Republic of Kazakhstan, which monitors the safety of the state zoological nature reserve "Ertis zhakalauy".

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

The Rufford Foundation was mentioned as a grantor and partner at every stage of work: in reports, in writing publications, during lectures and seminars, on a personal page in FB, on our website page <https://entomolife.wordpress.com/#Projects> Logo Foundation Rufford has been used in scientific educational posters that are distributed to our lecturers and seminars, as well as on the t-shirts of the project participants and on board the rental car during field research.

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

Sergey Titov - project manager (planning, plan management, processing and analysis of field data, reporting, photography).

Matjaz Cernila - colleague and partner from Slovenia (Kamnik), a project participant (participation in planning, digital information processing, field data processing, data publication on a specialized website).

Anton Volynkin - colleague and partner from Russia (Barnaul city) project consultant.

12. Any other comments?

On behalf of our team, I would like to express my deep gratitude to the Rufford Foundation for the financial and moral support of our research at all stages of the work!

The planned publications on the topic of the project are expected to be released in the coming months. We will inform about the release of publications as soon as they go into scientific circulation.