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Final Report of Ashot Aslanyan



RUFFORD
SMALL
GRANT

CONSERVATION OF CRITICALLY ENDANGERED
SPECIES OF REPTILES OF ARARAT VALLEY,
ARMENIA



Yerevan, 2013

Application ID:	11394-1
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Conservation Issue:

Main objective of our project is to preserve three Critically Endangered species of reptiles: persian toad agama *Phrynocephalus horvathi* (IUCN Red List of Threatened Species, 2012) and Pleske's racerunner *Eremias pleskei* (IUCN Red List of Threatened Species, 2012) as well as spur-thighed tortoise *Testudo graeca armeniaca* which listed in IUCN, 2012 as Vulnerable, however the subspecies *T. g. armeniaca* is one of the rarest which distributed on restricted areas in wild that's why listed as Critically Endangered in Red Book of Armenia.

The unique stony semidesert with poorly known endangered plant and animal species is located in the Araks River Valley in southern west of Armenia, and has some of the richest and most fertile land in Armenia. During the last decades this area has undergone major anthropogenic transformation, resulting in the degradation of the natural environment. Almost all the land is in private hands, and much of these holdings are ploughed. Thus, under habitat transformation the exceptional biodiversity of semidesert is attackable and endangered. As result many species have almost vanished from the Ararat Valley.

Establishing the new specially protected natural territories for the conservation of natural populations of the plants and animals on this territory will protect their habitat from privatization of land for agricultural development. It would also prevent the overstocking of grazing animals for commercial reasons.

The immediate conservation activities on this territory are urgent because our opportunity to save the unique and seriously declining populations of plants and animals in Ararat Valley of Armenia is rapidly decreasing.

Methods:

During 2012 - 2013 years we carried out the intensive fieldworks for inventory and monitoring of lizards and tortoises. 23 expeditions were carried out to the Armavir and Ararat provinces of Ararat Valley of Armenia. The field research was focused on documenting the distribution and abundance animals in addition to gathering the requisite data about their habitat. Data collection and analysis was comprised the following components recorded in the standard field protocol. No reptiles will be captured. This study was be a kind of population monitoring in previously surveyed areas in addition to which survey was be carried out in new areas. The surveys were made mainly in the southern-western part of Armenia during spring - autumn seasons. The numbers of reptiles, sex and GPS location in each area have been marked. Data from intensive field surveys was mapped using GIS technology.



 area of surveys

Results of fieldworks:

The number of lizards and tortoises at the Ararat Valley of Armenia during census of 2012-2013 was much less than it estimated before and these target species are on edge of extinction.

During 2012 year surveys we have following results: The animals met and counted only in spring season. We didn't meet target animals in June – October period, which is explained by the arid climate of area, where many reptiles become inactive.

Phrynocephalus horvathi: Population estimates for *Ph. horvathi* before during detailed research (Tadevosyan, 2005) in Ararat Province have always been much larger (11 individuals on 1 hectare) than actual numbers. In Ararat Province the density of *Ph. horvathi* were very low: 1 individual on territory of 25 hectares (we carry out census according to the same scheme and methods on random squares 20 x 20 m as it was made by Tigran Tadevosyan in 2005). We have not found any lizards on four sites, known from literature resource, in Armavir Province, because of habitats were fully destroyed.

Eremias pleskei. We have found *E. pleskei* only in one site, which located in Ararat Province. *E. pleskei* was abundance here (15 individuals on 1 hectare), however distributed on very restricted area (120 hectares).

Testudo graeca armeniaca. We was met only 2 individuals during spring survey on territory of 150-160 hectares in Armavir Province, and 6 individuals on the area of 25 - 27 hectares in Ararat Province, where situation better than in Armavir.

During spring 2013 we were continued our surveys and received following results:

Phrynocephalus horvathi: In Ararat province in 2013 we have found in the same population more individuals then in 2012: 4 lizards on 2 hectares, however less that they were census in 2006 year. During spring 2013 we have discover two tiny populations of *Ph. horvathi* in Armavir province. In first population we have met one male on 4.5 hectares while in next site we met only one female on area of 6.4 hectares. Both populations are surrounded and isolated by agricultural land and, furthermore, was imminently threatened by planned ploughing.

Eremias pleskei. This species we have found in the same area as in 2012 in one locality at Ararat Province, where they were abundant on very restricted area. We surveyed other 4 populations noted in literature in Armavir Province, however they were fully destroyed.

Testudo graeca armeniaca 2 individuals (adult males) were found in Ararat Province on 4.5 hectares in one site and 2 tortoises (young and adult female) in next site on 9 km distance. We have not checked other populations in Armavir Province during 2013.

2012-2013 FIELD SURVEYS CONCLUSION

Phrynocephalus horvathi: from 21 known populations in Armenia now we were found out few lizards only in 3 different sites (1 in Ararat Province, and 2 in Armavir Province). To our regret, all populations near cities Yerevan, Echmiadzin and Armavir are fully destroyed due to urbanization and land transformed.

Eremias pleskei: from 4 known populations in Armenia now we have met lizards only in one site (in Ararat Province)

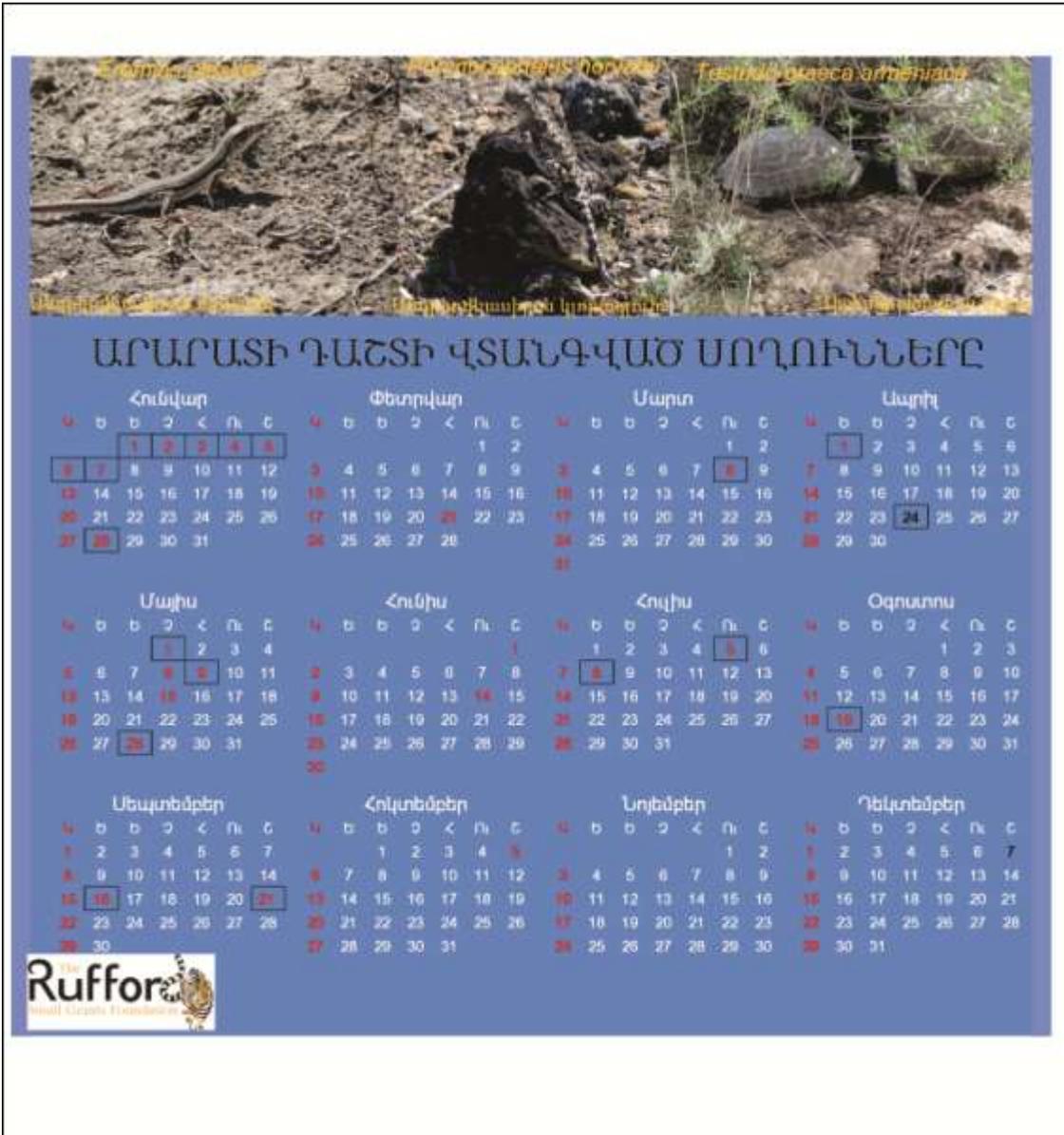
Testudo graeca armeniaca: the distribution of tortoises was poor studied before. Currently in 4 populations of Ararat and Armavir Provinces are possible to find tortoises. In all areas they low densities in small patches of suitable habitat.

Three species are endemic to Ararat Valley and geographically isolated. Currently distribution of this species is highly fragmented and extremely limited in total extent. The destruction of their habitat has been the principal cause of reptiles' declines. Most of the semi-desert land has currently converted to agriculture and endangered species close to extinction if present agricultural practices continue. Heavy grazing by free-ranging livestock, such sheep, is also cause of habitat damage. Next serious threat to the survival of many small populations of target species is illegal collecting. Both commercial dealers and individual enthusiasts and even scientists (who mostly collected them for genetic studies and museum collections) engage in this activity.

***Ph. horvathi*, *E. pleskei* and *T. graeca armeniaca* are on edge of extinction and their surviving now much in danger of imminent extinction than previously.**

Other activities

A wall calendar for 2013 was produced and distributed at free of cost to the local people, students, teachers and relevant governmental and non-governmental organizations.



A bachelor thesis of student of Faculty of Biology, Yerevan State University - Mariam Yeghazaryan was defended in 2012 on topics of conservation of endangered species of reptiles of Ararat Valley, while master work of Ruzanna Petrosyan are on stage of field researches and analyses.



Field work with participation of students

Illustrations



Typical habitat of *Ph. horvathi*, *E. pleskei* and *T. g. armeniaca*



Spring in desert



Adult male of *Ph. horvathi*



Young *E. pleskei*



Two males of *T. g. armeniaca*



Overgrazing in habitat of *Ph. horvathi*



***Ph. horvathi*' photo session**