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European Ground Squirrel Population from Eastern Romania

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Ecology and conservation status of European Ground Squirrel Population from Eastern Romania



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Foreword

*The European ground squirrel (*Spermophilus citellus*) is a Vulnerable species according to IUCN, whose numbers are declining across its entire distribution range. This species is poorly studied in Romania and its recent density, population and distribution are unknown. The aim of this project is to assess the ecology and conservation status of the European ground squirrel population in eastern Romania. During the project we conducted field studies on population ecology and carried out educational activities amongst local communities. This enabled us to better understand the species ecology and threats and promote the protection of the European Ground Squirrel amongst key stakeholders. This project clarified the European Ground Squirrel population status and took the first step towards a European Ground Squirrel national action plan.*

Authors

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Acknowledgements

European Ground Squirrel is a wonderful small mammal species that lives in our region (Moldova) and we appreciate the effort that this species puts in order to survive on these lands despite numerous threats.

This project would not have reached a real impact on the entire region without the financial support of Conservation Leadership Programme and without the important advices of CLP staff. Their counsel regarding the conservation project planning and the implementation improved our knowledge in this field and reshaped our project in order to achieve a better collaboration with the locals and to be more efficient in our actions. We want to thank them very much for their support!

During the project we received important advices from Senior Researcher Dr. Dumitru Murariu, Dr. Yordan Koshev, Mr. Zsolt Hegyeli and Dr. Constantin Ion. These advices improved the research quality of our study and the data analysis.

The educational activities covered a large number of institutions thanks to our volunteers: Elena Sico-ra, Iulia Aursulesei, Beatrice Popa, Loredana Donisan and Andreea Giorgiana Movilă.

Authors,

Summary

The European Ground Squirrel is a small mammal which is endemic to Europe and in continuous decline across the entire distribution range. In 2013 we have conducted 872 quadrants surveys in order to establish the species density, distribution and habitat selectivity. During the field research we found out that the species' major threats are pasture degradation and built up areas. In order to start the conservation measures and because the species ecology is poorly known, we conducted educational and awareness-rising activities in 75 schools, one in a university and three exhibitions in Iasi, Bucharest and Tulcea. Because the European Ground Squirrel is not a priority species for the Romanian environmental authorities, as it is for the European Union, we have conducted meetings to discuss the conservation measures. We established contacts with the environmental authorities and we collaborated with them for agro-payment measures which will contribute significantly to the protection of the species habitat. The project results were integrated in a scientific paper that has been published in the European Scientific Journal and the first book regarding this species, for Romania. The project results were also presented at the Global Multidisciplinary Academic Meeting, 27 – 30 March 2014, Praia, Cape Verde.



European ground squirrel sitting on its hind legs, watching for predators

Introduction

In Eastern Romania the research projects on small mammals are almost nonexistent even if there are living species included in Annex II of Habitat Directive of European Council (92/43/CEE). One of these small mammals is the European Ground Squirrel (*Spermophilus citellus*) which is an endemic species for central and south-eastern Europe.

The European Ground Squirrel has quite specific habitat requirements. It is restricted to short-grass steppe and anthropogenic modified or artificial habitats (pastures, lawns, sports fields, golf courses) on light well-drained soils, where it can excavate its burrows. Its conservation also involves the preservation of other species that prey on the European Ground Squirrel such as the Saker Falcon, Imperial, Lesser Spotted and Booted Eagle and protected mammals such as Marbled or Steppe polecats. Research is needed to determine population status and trends, ecological requirements, potential threats, and appropriate conservation measures.

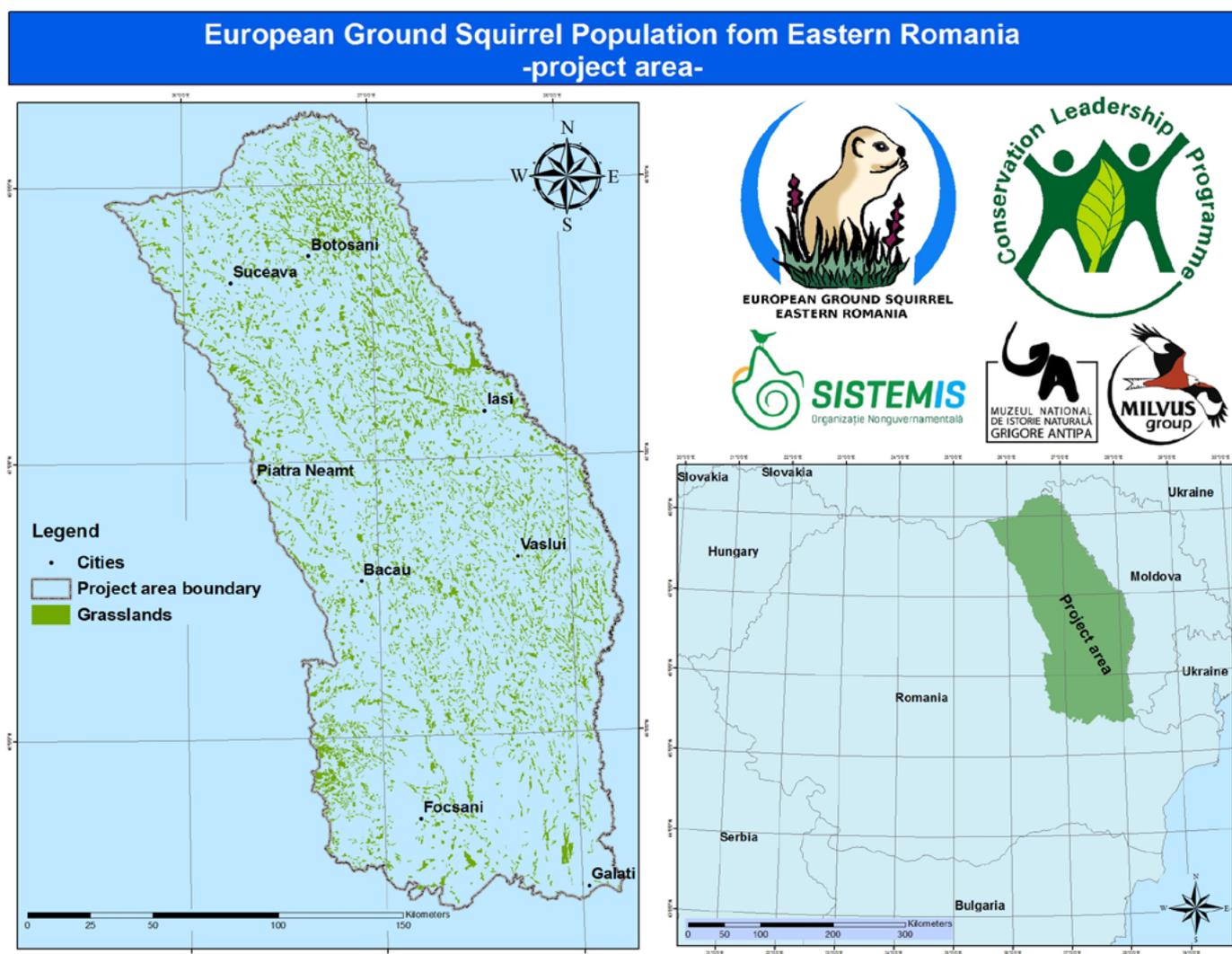
European Ground Squirrel is a poorly studied mammal in Romania and the necessity of information regarding this species is urgent, due to a high decrease along its entire range. There are no recent studies even if its specific habitat has undergone major changes due to agricultural fields expansion and road network densification. At a national scale it is known as a common species for pastures but the population trend is unknown. Some observations made in Southern and Western Romania show that the population is decreasing due to habitat fragmentation and anthropic pressure (Murariu 2006, D.Szilard, pers.comm.).

During the 1st of May 2013 and the 20th April 2014 a young conservationist team conducted the first project on European Ground Squirrel from Eastern Romania. This project was focused on research and conservation strategy. Our Project is focused on the Moldova Region, an area which is considerate as very important for European Ground Squirrel due to high population of this species. These data are mentioned in the scientific literature, but no recent studies were conducted in order to prove their timeliness. Using old data, Romania designated Natura 2000 sites for the European Ground Squirrel Protection. The project will cover 9 Sites of Community Importance and 8 national protected areas from the Moldova Province (Romania) where the European Ground Squirrel was found.

This project was supported by two NGO's, Sistemis Group Association from Iasi and The Association for bird and nature Protection Milvus Group from Târgu Mureş which participated with volunteers for edu-

cational activities and equipment for scientific research. The project was also supported by “Alexandru Ioan Cuza” University of Iasi, Faculty of Biology and by the National Museum of Natural History “Grigore Antipa” (Bucharest). These two institutions were involved in the project research activities and were also vectors for information dissemination regarding the species protection, through their students and visitors.

European Ground Squirrel is a Vulnerable species according to IUCN, which is currently declining across the entire range but the main threats to this species are related to human activity (Murariu 2006). A Vulnerable species is considered to be facing a high risk of extinction in the wild. Therefore it is our duty to stop the decline of this species and to ensure appropriate conservation measures.



Project members

The project activities were conducted by seven researchers, 5 volunteers and 3 advisers. In the following pages we will provide a brief presentation for each team member.

Name: **Gheorghe Zaharia**

Position: **Biologist**

Nationality: **Romanian**

Age: **23**

Education with highest level completed: Bachelor

When acquired and previous education experience: Bachelor in Biology - 2012

Current Employer: “Alexandru Ioan Cuza” University of Iasi

Current Job Title: researcher

Team Role: field activity, educational activities, database records

Relevant skills and experience you brought to the project: For this project I took part mostly on surveys and organized database records. I have 3 years of experience on field activities and 1 year on database administration.

Describe the skills and knowledge you will gain through this project: This project gave me the possibility to learn more about mammals and how they interact with anthropogenic actions and to specialize in this field. I have learned to organize and analyse data obtained from field work and to formulate conclusions.

Name: **Laurentiu Petreanu**

Position: **Biologist**

Nationality: **Romanian**

Age: **24**

Education with highest level completed: Master

When acquired and previous education experience: Master in Biodiversity and System Productivity – 2013, Bachelor – 2009, High school in Tourism - 2006

Current Employer: Romanian Ornithology Society, The Association for bird and nature Protection Milvus Group

Current Job Title: Researcher

Team Role: field activity, educational activities, database records

Relevant skills and experience you bring to the project: For this project I mostly took part on surveys and database records. I have experience in educational activities, participating in two programs of environmental educations in schools.

Describe the skills and knowledge you gain through this project: This project improved my knowledge on small mammals and gave me a useful experience for my training as a researcher.

Name: **Andrei Stefan**

Position: **Biologist**

Nationality: **Romanian**

Age: **28**

Education with highest level completed: Master

When acquired and previous education experience: Master in Biodiversity and System Productivity - 2010

Bachelor in Biochemistry - 2008 High school, Agricultural science and Food Industry - 2004

Current Employer: Faculty of Biology, "Alexandru Ioan Cuza" University of Iasi, Romania

Current Job Title: researcher

Team Role: field activity, educational activities, database records

Relevant skills and experience you bring to the project: For this project I mostly took part on surveys and database records. I have experience in educational activities participating in one program of environmental educations in high schools.

Describe the skills and knowledge you will gain through this project: This project improved my knowledge on small mammals and gave a useful experience for my training as a researcher. I also gained experience in mammals diseases connected to their activities and habitat.

Name: **Marina Iosub**

Position: **GIS expert**

Nationality: **Romanian**

Age: **25**

Education with highest level completed: Master

When acquired and previous education experience: Master in Geography – 2013, Bachelor in Environment Geography - 2010

Current Employer: Faculty of Geography and Geology, “Alexandru Ioan Cuza” University of Iasi, Romania

Current Job Title: researcher

Team Role: field activity and GIS analysis

Relevant skills and experience you bring to the project: I graduated the Faculty of Geography, Environment Geography Section. I have experience in GIS analysis and environmental risks due to my research in this field and to my implication in student projects from our faculty.

Describe the skills and knowledge you gain through this project: This project improved my knowledge on environmental risks from the natural point of view. My experience previous to this project was focused on anthropic and land management risks. Due to this project I got more experience in multidisciplinary analysis and especially in integrating protected species measures in environmental risks assessment.

Name: **Vlad Andrei Verdeanu**

Position: **GIS expert**

Nationality: **Romanian**

Age: **25**

Education with highest level completed: Master

When acquired and previous education experience: Master in Geography – 2013, Bachelor in Environment Geography - 2010

Current Employer: Faculty of Geography and Geology, “Alexandru Ioan Cuza” University of Iasi, Romania

Current Job Title: researcher

Team Role: field studies, land use and habitat management analysis

Relevant skills and experience you bring to the project: During the faculty studies I was involved in land use analysis and habitat mapping using remote sensing protocols. In this project I worked on Moldavian habitat mapping using satellite images and I modeled land use development. This analysis helped us better understand the habitat fragmentation process and gave us the possibilities to develop management strategies for European Ground Squirrel protection.

Describe the skills and knowledge you gain through this project: This project gave me the possibilities to work more on land use and habitat mapping and trained me in protected species environment analysis. This collaboration with biologists was a great opportunity to better understand species requirements and land management practice for nature protection.

Name: **Lucian Fasola**

Position: **biologist**

Nationality: **Romanian**

Age: **35**

Education with highest level completed: Bachelor

When acquired and previous education experience: Bachelor in Biology - 2012

Current Employer: Romanian Ornithology Society

Current Job Title: researcher

Team Role: field activity, educational activities, database records

Relevant skills and experience you bring to the project: For this project I took part mostly on surveys and database records. I have 3 years experience on field activities and 1 year on database administration. I also have experience in educational activities participating in two programs for scholars in which I was responsible for environment and animal protection.

Describe the skills and knowledge you will gain through this project: This project improved my knowledge on small mammals and gave me a useful experience for my training as a researcher.

Name: **Emanuel Stefan Baltag**

Position: **Project leader**

Nationality: **Romanian**

Age: **28**

Education with highest level completed: PhD

When acquired and previous education experience: PhD in Ornithology, Master in Biodiversity and System Productivity - 2010 Bachelor in Biology - 2008 High school, Environmental science - 2005

Current Employer: Faculty of Biology, "Alexandru Ioan Cuza" University of Iasi.

Current Job Title: postdoctoral researcher

Team Role: coordinating, field work organizing, field work activity, organizing the meeting with authorities and stakeholders, report and scientific article writing

Relevant skills and experience you bring to the project: More than 8 years of field activity, monitoring and survey protocols designing. I was involved in Natura 2000 developing for Eastern Romania. I have experience in Protected Area Tools and spatial analysis due to a research mobility at Christian-Albrechts-Universität zu Kiel, Germany. I also work in density and distribution modelling especially for mammals and bird species which occur in Eastern Romania.

Describe the skills and knowledge you gain through this project: This project helped me to better understand the European Ground Squirrel distribution and the population trends. I got more experience on mammals studies and monitoring protocols. This project also gave me the knowledge to explain the necessity of European Ground Squirrel protection and to lobby for their habitat conservations.



European ground squirrel sitting on its hind legs, eating seeds

Aim and objectives

The project has brought into the spotlight one of our protected species, which has been less studied in our country. The project aim was to study the ecology and establish conservation status of European Ground Squirrel Population from Eastern Romania.

In order to achieve this aim, the project was based on three main objectives which were strongly connected to each other:

Project objective 1:

Studying the ecology of the European Ground Squirrel from Moldova Region.

Project objective 2:

Identify the main threats to the European Ground Squirrel population from Moldova Region.

Project objective 3:

Developing the conservation measures and promote the protection of this species in the local communities.

These objectives were selected in order to establish the basic knowledge for developing the species conservation strategy. We also started working on people education regarding the small mammal protection, because we believe that education is the first step for animal protection.

Another objective which were not included as a distinct direction at the project start, was to publish all our data in order to bring this new information to the scientific community, but also to make it available for authorities and local communities.

Methodology

The main part of this project is represented by the field work which we performed to record data for density and distribution and to quantify the main threats.

There are no uniform methods available to estimate the European Ground Squirrel density for monitoring studies (Cepáková & Hulová 2002, Katona et al. 2002). We have used direct observations (daily activities) and indirect observations (counting the entries in the burrows) that are visible on the small grassy meadows. We investigated the abundance by counting the vertical spring burrow entrances on transects (3X150m) within a distance of 2,5 m on every side of the counted European ground squirrel holes (Koshev 2008) and by direct counting of animals (Katona et al. 2002). This counting was done during the first period of their activity, when the young are not outside. All the data was recorded on forms specially created for this study (Annex I). In study points we have discussed with locals about species existence and threatening factors in the area, as well as the need of protection and conservation of European ground squirrel. They were able to give us valuable information, being an important source of information more specifically on threatening factors.

To quantify the main threats for our target species we recorded all the possible threats, which were first reported in the scientific literature, but also those which we found on the field and we think that can affect the European Ground Squirrel population. Land management, the number of grazing domestic animals, information about surrounding habitats and human disturbance were also recorded.

The field data was integrated in a PostgreSQL database that was created for easy access and to be uploaded on the internet in future projects.

Our studies results were used for discussions with the stakeholders and local environmental authorities, to adapt as much as possible, the conservation measures to their possibilities of management and resources exploitations.

For a better protection, but also a project impact we organized presentations in 75 schools and local communities and photo exhibitions in 2 museums and one Botanical Garden. These educational activities were conducted in order to give the possibility to the local communities to learn more about this species. They will protect and they will try to ensure the implementation of the conservations measures if they feel close to the target species. All the project actions were accompanied by brochures (Annex II) and posters (Annex III).

The final results were integrated in a book about the European Ground Squirrel population conservation in Moldova Region. This is the first book on European Ground Squirrel from Romania. The scientific results were published in an international journal for a better visibility in the research community. The results were also presented in an International Conference (GAM2014).

For the project visibility but also for continuing education, a website and a Facebook account were created. These two tools are very important for supporting the European Ground Squirrel conservation.



European ground squirrel watching for predators from his burrow

Outputs and Results

The project developed according to its schedule and all the proposed results were achieved. Some of the results were slightly changed in order to be more effective. Also, some of the results were achieved with more energy and effort than it was presumed.

To achieve Objective 1 we trained 3 students for small mammals research and 2 students for GIS analysis. With their help we conducted surveys on the randomly selected transects and exceeded the number of proposed transects (500 in the project proposal). During the field research we conducted 872 monitoring squares which were recorded in a PostgreSQL database, specially designed for this project. Using this database we calculated the density, habitat selectivity and the distribution range. This database could be used for multiple analyses and also for receiving new data from future projects.

Our field activities also included the recording of the main threats, this being the Objective 2 of our project. To have a complete overview on the species' threats we reviewed the scientific literature, extracting those which were identified in other countries. In order to analyse the habitat capacity to sustain the species population we started the land use analysis, using satellite images and also to collect data on the main threats. These were recorded in the PostgreSQL database and we analysed them in order to elaborate the conservation measures. The conservation measures were developed according to the species necessities at the local level and to the agricultural practices from Eastern Romania. Also, we discussed them with the local communities and environmental authorities.

In order to start the conservation measures we started the Education and information dissemination (Objective 3). During the project we prepared one brochure (6520 copies) and one poster (700 copies) for species conservation and we conducted educational and awareness-raising activities in 75 schools and high schools and in one university (70 in the project proposal). Three photo and drawing exhibitions were organized and the educational materials were distributed to the public in 2 museums (National Museum of Natural History "Grigore Antipa" - Bucharest and the Danube Delta Museum - Tulcea) and one Botanical Garden. With the financial support from Sistemis Group Association we made 200 magnets and 2000 bookmarks (Annex V). These were used to bring the species more close to local communities and were freely distributed. Another action of information and awareness on the status of European Ground Squirrel was organized on April

22nd 2014, Earth Day. Then we made a project presentation stand and we provided information to visitors, the target group of this date being wider.

An internet site was developed in order to protect the species protection and also to increase public awareness about species conservation: www.popandau.com and a Facebook account was created: <http://www.facebook.com/popandaul.moldova>. We conducted meetings with the environmental authorities (8 meetings) to discuss the conservation measures which we developed. The project results were integrated in a scientific paper which was published in the European Scientific Journal and was presented on an international conference.

The results were integrated in a book about European Ground Squirrel. This book was reviewed by 3 mammal specialists from Romania. This is the first book about our target species from Romania.



European ground squirrel eating leafs

Achievements and Impacts

Analysing the achievements and impacts we see the project as a success for small mammal studies. This project covered the main aspects of the European Ground Squirrel ecology and started to implement some of the conservation measures in Moldova Region.

During the project field activity we conducted 872 survey squares, 372 more than the number proposed. These data gave us a high degree of confidence in our results: density, distribution and habitat selectivity. The density of European Ground Squirrel from our study area is very high, revealing a key area for species protection (Baltag et al, 2014). The relative abundance varied in the study area, but the species was found in 66.19 % of the study area. The mean density for the entire study area was 15.41 individuals/ha, but if we calculate the density only for those areas where we found the species the value is 27.33 individuals/ha. Most of the large colonies are not included in Natura 2000 sites as it was recommended. Natura 2000 areas are mainly located outside potential *Spermophilus citellus* habitat, since most of the protected areas were located in woodland. This situation will influence the species' protection strategy on a long term, therefore these data will be used for future designation of Natura 2000 sites and will also be available for governmental authorities in order to implement the required conservation measures. Regarding the distribution, most of the large colonies are located in the southern part of the Moldova Region because of the better climatic conditions and many grasslands.

During the field activities we recorded all threats which we found in or around our survey squares and using GLM analysis we calculated the major threats for the European Ground Squirrel population from Eastern Romania. The results of these analyses revealed that pasture degradation and building up areas are the main threats. These data are comparable with those founded in Bulgaria. A very important threat which starts to be more frequent and with a high amplitude are the floods. Information from the locals were very helpful in determining past and current threatening factors. In the 2013 autumn 4 large colonies were almost completely destroyed by this hydrological phenomenon. Flooding started to be more common in the last years when this hydrological phenomenon covered large valleys from the southern part of our study area. Most probably this new threat is related to climate change and is very difficult to be analysed at a regional scale. For these reasons our field data will be included in the European distribution and population evolution modelling which will be conducted in 2014. These models will include climate change data and will quanti-

fy the impact on this species. The analyses will quantify the future impact of flooding, the hydrological phenomenon which destroyed large colonies from different parts of the species distribution range. The results of these models could be extremely important for the future conservation strategy.

The data was integrated in a PostgreSQL database, which can sustain the next data on European Ground Squirrel from Moldova Region and even from Romania. This database is highly important for us because it makes our data management easier and the data analysis is going much feaster due to a large compatibility with computer software.

To support the species' conservation we conducted educational and awareness-raising activities in 75 schools and high schools and in one university. At these activities we had a high participation, with more than 3000 people. Lectures were held with technical equipment (video projector) presenting the biology, ecology and threats of the European Ground Squirrel. We encouraged biology teachers and teachers in general to disseminate information from the presentation made by us to other classes or nearby schools.

Three photo and drawing exhibitions were organized and 4000 brochures were distributed to the public in 2 museums and one Botanical Garden. These museums, the National Museum of Natural History "Grigore Antipa" (Bucharest) and the Danube Delta Museum (Tulcea) are among the most visited natural history museums from our country. Because the species needs our help, we started the discussion with Romanian Government officials for agro-environmental payments for those pastures which sustain European Ground Squirrel colonies. This will contribute significantly to habitat conservation and will attract the stakeholders' attention to protect this species. Hopefully the agro-environmental measures will be ready in 2015.

In order to raise the project visibility and to make the information accessible, a part of the project information is now available on the website: www.popandau.com. This site will be used as a platform for species studies and information dissemination. The site maintenance will be ensured by Sistemis Group Association. Also, a Facebook account was established and using these social tools we started spreading many information about our target species but also about its relatives (other mammals) from Romania.

The scientific result of our studies were published in a scientific article and the first book about European Ground Squirrel is available. Also, our results were presented at the Global Multidisciplinary Academic Meeting (GAM2014), 27 – 30 March 2014, Praia, Cape Verde. All these publications and scientific communication reveals important data for European Ground Squirrel population from Eastern Romania.

The book about European Ground Squirrel will have a high impact because it is the first comprehensive material on this species in Romanian language.

Conclusion

European Ground Squirrel population from Eastern Romania project brings valuable information for this small mammal species from an unstudied area. The results of this project reveals high densities of European Ground Squirrel in Moldova Region, showing larger colonies in the southern part of the project area. The main threats for European Ground Squirrel are related to human activities (pasture degradation and building up areas), fact which give us more responsibility to protect this species.

In order to start the conservation actions we conducted educational and awareness-raising activities in schools, museums, universities and botanical garden. More than 6500 brochures and 700 poster with information regarding European Ground Squirrel importance and conservation were distributed in the local communities in order to bring this mammal more close to them.

The scientific data collected during the field activities was published in a scientific journal and was presented in an international conference (GAM 2014). To make the European Ground Squirrel more known and to explain its ecology, importance and the conservation requirement we published a book about this species. The book is written in a common language in order to be accessible not only for the scientific community but also for local farmers, students and all the interested people.

This project also contributes to species conservation in other parts of Romania (not only in the project area) due to large dissemination of information through educational materials, website, Facebook account and presentations.

Problems encountered and lessons learnt

The project proceeded as expected and almost in accordance with the proposed plan. However there were some changes in the time scale due to a higher number of surveyed squares. Because we saw that in many areas we could not find European Ground Squirrel colonies (40% of transects did not reveal any European Ground Squirrels) we increased the number of transects. This took more time on the field for recording data on numbers, habitat selectivity and especially on threats. Also, the time for data analysis took longer because the amount of data was higher. But we are happy to say that we have the best data on the species' ecology from Romania and this is the project with the largest surveyed area.

Another delay was recorded in preparation of the variables for distribution prediction. Because we selected a high resolution for our grid cell (250 X 250 m) we spent more time for variable construction. However, we decided to work with a higher resolution because the species could sometimes inhabit small patches of grassland. Using this grid cell we got more precision in our analyses and the prediction model became stronger.

The discussions with the stakeholders and the environmental authorities were another important issue. The European Ground Squirrel is a poorly known species for Romania and most of the stakeholders did not know that it is protected. They told us about how they destroy the burrows and how they catch the animals and kill them. They recognise that the species is decreasing now but it was very difficult to make them understand that the European Ground Squirrel is not an enemy for agriculture (beliefs from the communistic period). Changing the people's beliefs was one of the greatest challenges.

Through the implementation of this project we learned that it's very important to discuss directly with the local people and to bring them more close to our species because they do not have the opportunity to learn about the necessity of species protection. Also, we established contacts with the environmental authorities and we will collaborate with them for agro-payments measures which will significantly contribute to the protection of the species' habitat because the stakeholders will receive money if they follow the measures.

The booklet which was proposed in the project application became, in time, a book. We decided to make it more complex and to explain more aspects from species ecology because there were large fields unknown even by biologists. But we tried to make this book very accessible for everybody, not only for the sci-

entific community. This was a real challenge. We gave the manuscript to various people to read it and to give us a detailed feedback with those aspects which are difficult for them to understand. Each time we improved the text in order to be more accessible. This took a lot of time, much more than we expected. At the end we are happy with the text and we believe that this book will be a very important tool for species conservation.



European ground squirrel near burrow

In the future

Besides the project activities, we will continue to support species protection in schools and universities and we will organise other exhibitions in museums and other public institutions from Romania and Republic of Moldova. The field equipment will be used for species monitoring which will continue in the next period in order to record more data on population dynamics.

During the project we developed a collaboration with two NGO's from Southern and Western Romania. With their help we can cover the entire territory of the Romanian population of European Ground Squirrel. They helped us in educational activities, carried out presentation about the species protection in schools and high schools from their region. We will collaborate with them in the next period to extend the European Ground Squirrel monitoring in their areas too. Also, we start the discussion for European Ground Squirrel national plan. This will significantly contribute in the species' protection and will be part of the national strategy for European Ground Squirrel conservation.

We are now working for a new project application in order to sustain the European Ground Squirrel conservation in Romania. Extending the project area for the entire country is essential for a better protection of this species.



European ground squirrel coming out from the burrow

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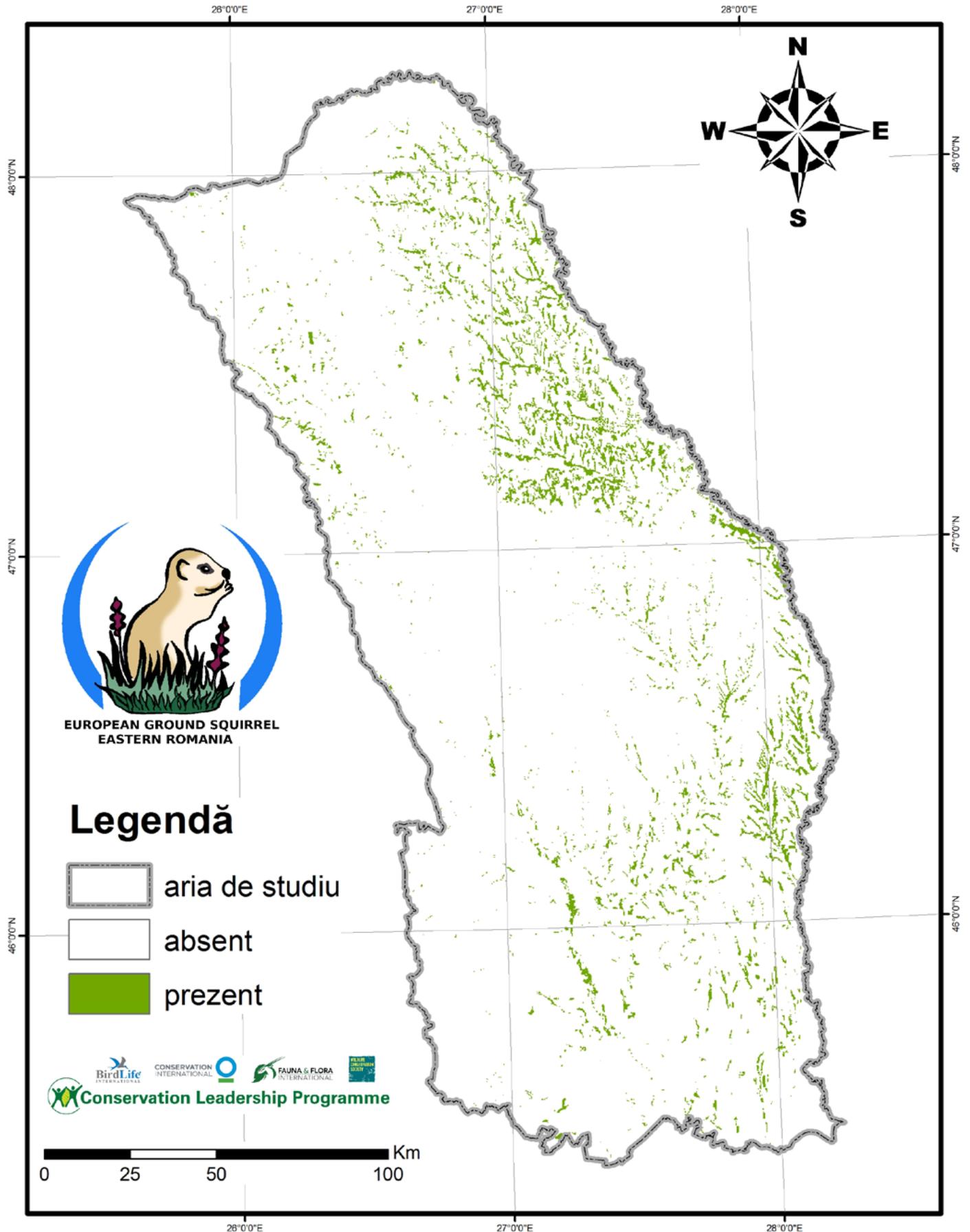
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Distribution map of European ground squirrel in the project area (Moldova Region)



EUROPEAN GROUND SQUIRREL
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Project poster - used in educational activities

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**EUROPEAN GROUND SQUIRREL
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a cărei populație se află
în declin pe întregul areal
de răspândire!**

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Proiect finanțat prin





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Popândăul (*Spermophilus citellus*)

Este un mamifer de dimensiuni mici (18 – 24 cm și 200 – 350 g). Face parte din familia veverițelor și trăiește la nivelul solului sau în galerii. Corpul este alungit, de culoare gălbui-maronie, uneori chiar gri sau roșcat, iar pe spate poate prezenta pete mai deschise la culoare. Partea inferioară a corpului este de culoare alb-murdar sau chiar cenușiu. Capul este relativ mare, în comparație cu restul corpului, ochii fiind la rândul lor mari și negri. Urechile sunt mici și abia se observă din blană. Popândăul este o specie de mamifer ce se întâlnește în Europa. A dispărut însă din Germania, Croația și Polonia, în această din urmă, reușindu-se să se reintroducă pe suprafețe restrânse. Dispariția speciei din țările menționate mai sus, precum și scăderea numărului de indivizi pe mare parte din aria sa de distribuție cu mai mult de 30%, a determinat includerea sa în categoria „Vulnerabil” (IUCN Red List), ceea ce presupune o protecție strictă, atât asupra acestei specii, cât și a habitatelor preferate. Chiar dacă acoperă o suprafață mare la nivel național, distribuția sa este fragmentată, în special din cauza discontinuității habitatului caracteristic.

Habitatul popândăului este reprezentat de arii deschise, stepe, pajiști, diguri acoperite cu iarbă mică și mai rar de fâșiile de vegetație de pe marginea drumului sau fânețe. Uneori poate fi observat și în terenurile agricole (cu precădere câmpurile cu lucernă), dacă în apropierea acestora sunt zone cu pajiște. Este întâlnit cu precădere în zonele de șes și de deal. În aceste habitate își construiește galerii subterane, având intrarea verticală, după care tunelul continuă în lateral, astfel încât să se poată ascunde imediat în cazul unei amenințări. Sistemele de galerii au aproximativ 5 cm în diametru și prezintă mai multe intrări. În ariile ce se inundă temporar, popândăul își construiește galeriile în diguri sau alte zone mai înalte.

Se hrănește cu plante, în special cu cele ierboase, dar consumă cu plăcere și semințe sau alte părți vegetale. Datorită hranei pe care o consumă, popândăul hibernează în perioada rece a anului (din septembrie până în martie), când posibilitatea de hrănire scade considerabil. Primăvara, după ce iese din hibernare, intră în perioada de împerechere. După o gestație de 25 – 28 de zile, femela poate da naștere la 5 – 8 pui, aceștia stând lângă părinți, până la două luni.



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Chiar dacă are un număr mare de pui pe an, popândăul are și un număr mare de prădători, atât printre mamiferele carnivore (dihorul comun, hermelina, câinii și pisicile), cât și printre păsările răpitoare (șorecarul mare, șoimul dunărean) și ocazional - barza. Acest număr mare de prădători este compensat în mod natural de numărul mare de pui.



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Șoim dunărean (*Falco cherrug*)

Din nefericire, popândăul are un „prădător” mai mare decât cei amintiți mai sus, omul! Populația de popândău are cel mai mult de suferit din cauza transformării pajiștilor în terenuri agricole sau fânețe (prin abandonarea pășunatului) dar și din cauza fragmentării habitatelor pe care le folosesc prin construirea de drumuri, canale, extinderea localităților sau a plantațiilor pe zonele de pajiște. În multe cazuri, acest animal este scos din galerii de către oameni și omorât pentru distracție sau din credința că este o specie dăunătoare. În realitate, popândăul aduce o contribuție însemnată la conservarea pășunilor, menținând o compoziție floristică sănătoasă și un nivel de înălțime al vegetației ierboase la cote normale pentru aceste habitate.

Project brochure- used in educational activities

European Gound Squirrel population from Eastern Romania

Project funded by Conservation Leadership Programme



Conservation Leadership Programme



European Ground Squirrel population from Eastern Romania – Final Report

Keywords

European Ground Squirrel, Eastern Romania, conservation, ecology



Summary

The European Ground Squirrel is a small mammal which is endemic to Europe and in continuous decline across the entire distribution range. In 2013 we have conducted 872 quadrants surveys in order to establish the species density, distribution and habitat selectivity. During the field research we found out that the species' major threats are pasture degradation and built up areas. In order to start the conservation measures and because the species ecology is poorly known, we conducted educational and awareness-rising activities in 75 schools, one in a university and three exhibitions in Iasi, Bucharest and Tulcea. Because the European Ground Squirrel is not a priority species for the Romanian environmental authorities, as it is for the European Union, we have conducted meetings to discuss the conservation measures. We established contacts with the environmental authorities and we collaborated with them for agro-payment measures which will contribute significantly to the protection of the species habitat. The project results were integrated in a scientific paper that has been published in the European Scientific Journal and the first book regarding this species, for Romania. The project results were also presented at the Global Multidisciplinary Academic Meeting, 27 – 30 March 2014, Praia, Cape Verde.



Conservation Leadership Programme