Report

Rufford Small Grants Conference in Bosnia and Herzegovina
"Nature knows no boundaries"

Hotel "Palace" Banja Luka, Bosnia and Herzegovina
21st – 22nd March, 2016

Organized by:
Ana Ćurić, *Society for research and protection of biodiversity*
Dušan Jelić, PhD, *Croatian Herpetological Society – Hyla, Croatian Institute for Biodiversity*

Summary Report

by Ana Ćurić, April, 2016.

Introduction

The Rufford Small Grants Conference in Bosnia and Herzegovina "Nature knows no boundaries" was held on 21st – 22nd March, 2016 in Banja Luka. This is one of many RSGF conferences held all over the World with main reason to share our experience during the projects and to connect RSGF winners. The RSG Conference in Bosnia and Herzegovina is also the first conference held in Europe. In Balkan region, including Turkey, Rufford Small Grants Foundation has supported more than 85 nature conservation projects from applicable countries. In year 2016 Banja Luka was host of seven countries (Bosnia and Herzegovina, Montenegro, Serbia, Kosovo, FYR Macedonia, Albania and Turkey) with 33 researchers participating the Rufford Small Grants Foundation conference (Fig.1).

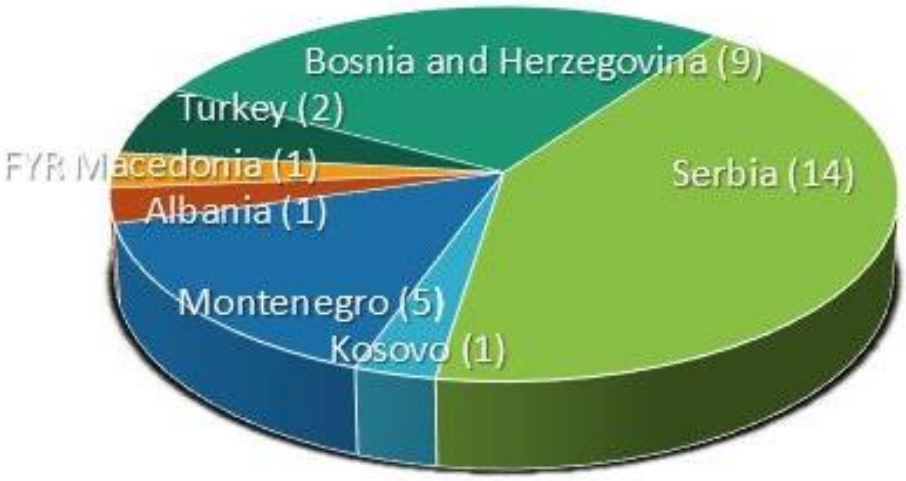


Fig. 1. Number of participants by countries

On the first Balkan RSG conference among 33 participants we had an opportunity to hear experiences and development of the projects which started even 10 years ago (Fig.2). First Rufford Small Grants were surely the first step for further researches, development of ideas, fight with irrational government and conservation.

For the better overview, during the conference we divided all project into seven taxonomic groups: Plants, Fungi, Insects, Fish, Amphibian and Reptile, Birds and Mammals. Most projects were involving species of herpetofauna (amphibians and reptiles) while the insect group also had a large number of projects. There was just one project regarding fungi research in FYR Macedonia, which is surely alarming regarding the fungi biodiversity and important role in the ecosystem (Fig.3).

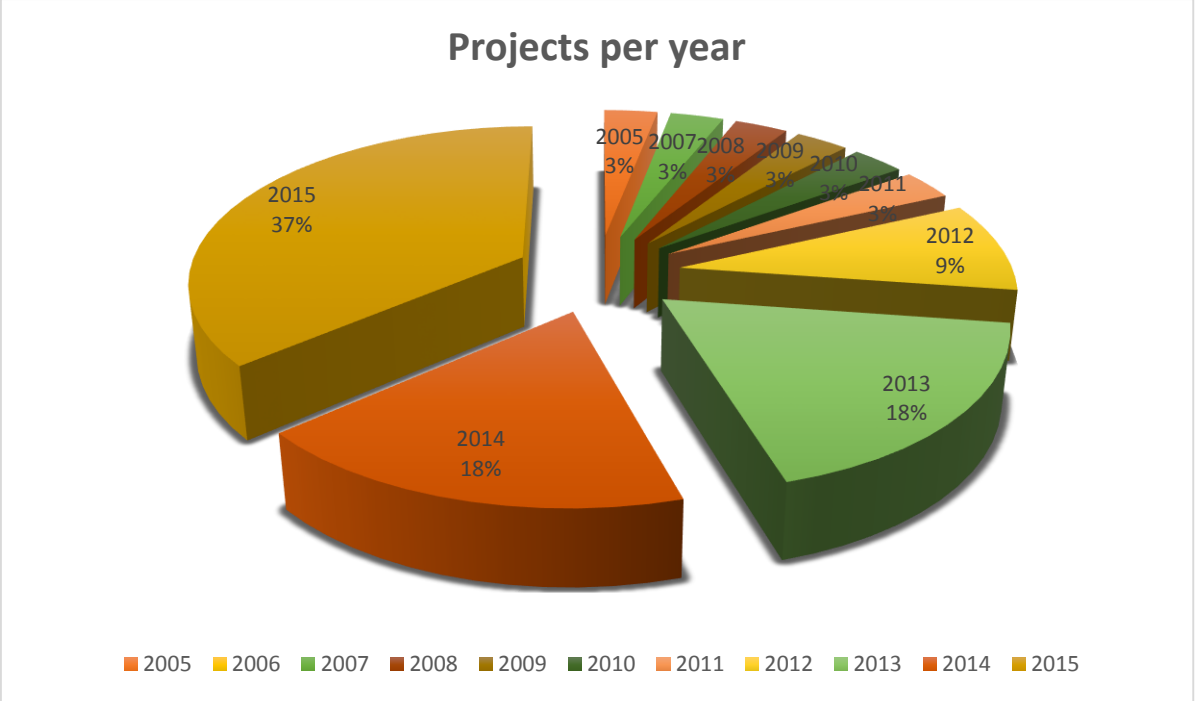


Fig. 2. Percentage of won grants from 2005 – 2015 for participants of Balkan applicable countries and Turkey

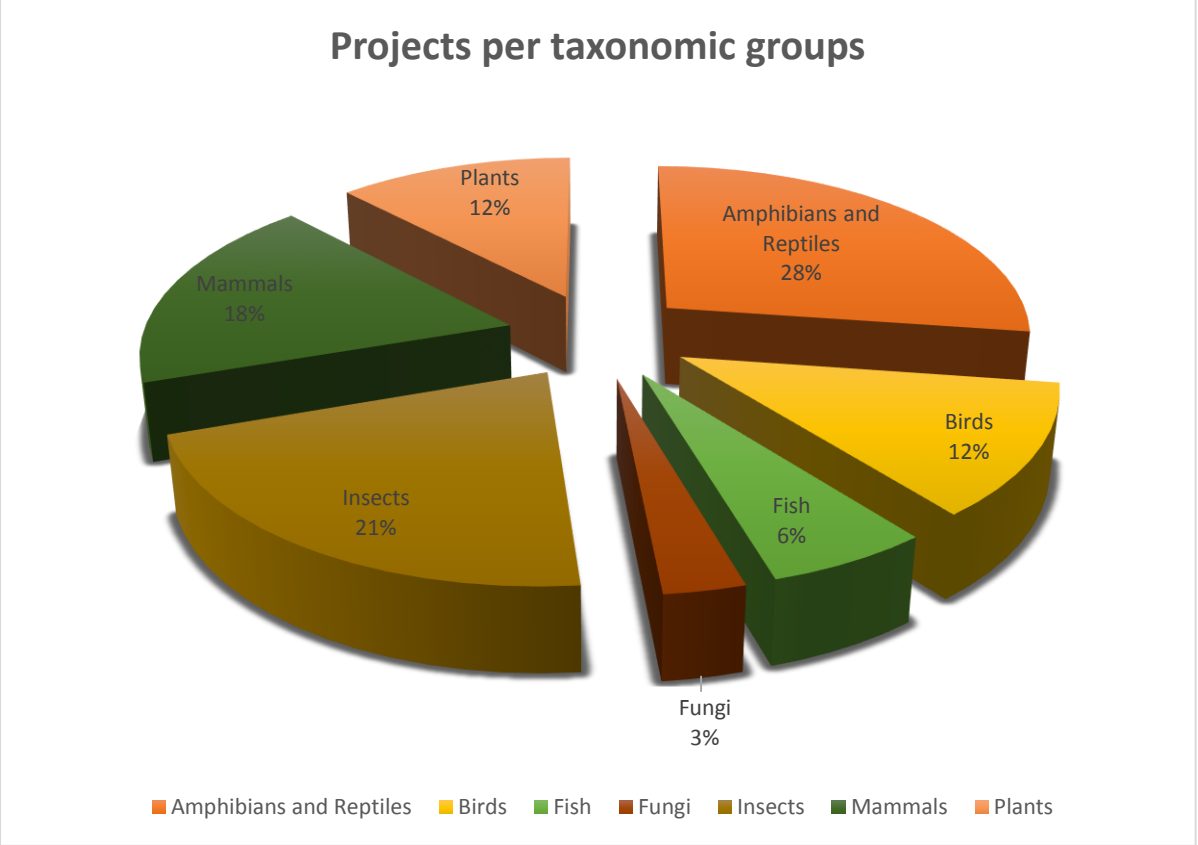


Fig. 3. Percentage of taxonomic groups presented through 33 projects

Main aim of this conference was to gather most of Rufford Small Grant candidates (past and current) working in the Balkan area and Turkey to improve networking amongst candidates and emphasize

importance of networking in scientific world. We also achieved sharing of experience gathered throughout these projects and noted learnt lessons, both positive and negative. Many of the previous RSG beneficiaries have managed to also gather match funding from other sources or even to develop large scale projects on their subjects. During the lectures we all shared this knowledge and gave more perspective to the younger colleagues. Also, during the conference and all presentations, we were discussing:

1) How much has RSG helped to individuals to grow as conservation experts and what are other possibilities to help in their development (could additional training help; are they using principles of scientifically based conservation).
2) What are the important natural subjects that should be supported with future projects (most valuable and endangered species/habitats).

During the conference we held two round tables and discuss two important subjects:

1) Evidence based conservation, and
2) Social networking issues of the Balkan NGOs and all Conservations Groups.

Our main objectives during the conference were:

1) Sharing the results of the projects that were granted by RSGF.
2) Sharing our experiences during the projects, discussing all issues and new ideas, ups and downs during the realizations.
3) Advising new RSG winners.
4) Creating functioning network for successful implementation of many activities in order to preserve unique Balkan nature.
5) Sharing information and promoting all researches through public open lectures.

Examples of where Rufford Funding has enabled disproportionately large and tangible conservation impacts to be delivered.

The endangered butterflies of Serbia, two projects managed by Miloš Popović, which started in 2011, resulted with conducting several scientific researches for targeting the most threatened species of butterflies. They proposed conservation measures to managers of protected areas and to the government of Serbia.

While gorges in Serbia and Balkans represent refugium for numerous plant and animal species, Uroš Pantović with the project of biodiversity values of limestones gorges in Serbia managed to establish cooperation with local communities and environmental NGOs. Unfortunately just small number of gorges are protected under national legislation as nature reserves or are recognized as sites of international importance (IPAs, PBAs, and IBAs) but with data collected and future studies Uroš will influence the increase of protected areas and draw attention to their importance both with all people and with the government.

With two projects led by Emina Šunje for research and conservation of the endangered black salamander from Prenj Mountain in Bosnia and Herzegovina, the team managed to identify the threats

of known localities, species distribution, ecology and biology while the population of Bosnian subspecies differ from species compared in Austria. IUCN status of this subspecies is not recognized and there is no legal status in Bosnia and Herzegovina, but in near countries – Slovenia and Croatia, this species is protected on National level. The next step of conservation is to establish legal status of black salamander in Bosnia and other Balkan countries.

Examples of locally developed approaches to biodiversity management.

The endangered butterflies of Serbia, two projects managed by Miloš Popović, resulted with proposing conservation measures to managers of protected areas and to the government after mapping the distribution of threatened species. Also, they developed a new, growing network and database – Alciphron (alciphron.habiprot.org.rs), which enables everyone to assess nation Red List status for most of Serbian butterflies. Also, NGO HabiProt prepared simple and useful Butterfly field guide.

The projects of conservation of the Wood ants in Bosnia and Herzegovina by Adi Vesnić, has achieved a long-term monitoring of genus *Formica* with standardized protocols for monitoring programs.

English walnut is very important hardwood species in Albania. Gazmend Zeneli conducted project in 2005 and in 10 years they did restauration and conservation of habitats in agreement with FPUA of Martaneshi for an area of cca. 2 ha and Walnut Growers Association with the CFPA for the area of cca. 1 ha (300 seedlings in location named “Rrapsh i Hotit”). This was the beginning for the next steps of planning National Biodiversity Strategy and Action Plan for Albania.

Okan Ürker devoted his time to reviving oriental (Antolonian) sweetgum forest in southwestern Turkey. This tree species is in danger to become extinct and it is listed as Vulnerable category on IUCN Red list and protected by EUFORGEN on the scale of European Continent. During the project realization they tested effectiveness of “aroma therapy” of sweetgum forest and realized that there is a health improvement of people that live in the region and increase of tourism capacity where those forests are present. At the end of 2015 they founded a nature protection association on national scale titled NATURA for conservation of sweetgum forest. Next step of the project team is to establish The Sweetgum Working Group that aims to follow and apply their Sweetgum Action Plan in next period.

Ivan Svetozarević devoted his time for development of sustainable tourism in National Perk Đerdap in Serbia. In 2009 they had meetings with NP employees and local people for planning development strategy for sustainable tourism, promotion of natural values of NP Đerdap, development of CBD methodology for Tourism Management Planning and guidelines of Biodiversity and Tourism Development. These ideas were conducted due to ecological, social and economic objectives such as protection of natural values of PAs, education and capacity building of conservation needs, improvement of life conditions in local community, enabling local community to enjoy in PAs, new business opportunities, empowering local economy.

Examples of how has Rufford support helped early career conservationists achieve their goals.

Jelena Šeat, researching true bugs of halophytic habitats in Vojvodina, Serbia, facilitated in forming the team of young entomologists that started to work on several other projects on true bugs. Information and experience gained during the project also resulted with one master thesis.

Project of Karst Viper in Montenegro by Vernes Zagora helped him to start his early career and succeed in the field of herpetology through the project. Vernes managed to successfully finish his first Rufford project and he also applied and got the second grant in the meantime. He became member of Montenegrin Ecologists Society where he works on his specialisation mainly on the field of herpetofauna.

European common spadefoot toad was unknown for Bosnia and Herzegovina until 2014. With the project of researching common spadefoot toad, Ana Ćurić dedicated her time and love, and today she continued working in field of herpetology. Parallel with RSG project she got a student grant from CHS – Hyla in 2014.

Examples of how Rufford funding has helped support work on species and ecosystems that are traditionally difficult to fundraise for or the funding helped for baseline information.

Ants, like many other insects group, are not recognized and evaluated as species of concern in many countries on Balkan Peninsula. Adi Vesnić, through his project of Wood ants conservation, had an impact where two species of ants (*Formica rufa* and *Formica polyctena*) are, for now, the only recognized as useful by law of Bosnia and Herzegovina. Rufford helped initiating researches of this neglected group.

While sand flies are neglected group of insects, Slavica Vaselek started a pilot project in 2013/2014 mainly to determine species composition and distribution, as well to prevent potential epidemic of leishmaniosis disease in Vojvodina, Serbia. This was the step forward for recognition of the potential problems and collaboration with local veterinarians all across Vojvodina region with whom they continue to exchange useful information regarding mentioned disease which will enable them to continue the researches in the following years.

Many conservation ideas of projects regarding flora and fauna of Bosnia and Herzegovina are neglected by ministry and potential national founds, and common spadefoot toad was not an exception. Thanks to RSGF, this secretive frog got a chance to introduce itself through work and voice of project leader, Ana Ćurić. While the species was unknown for B&H until 2014, project had several main goals which are important for further researches (promotion, defining distribution, education, etc.)

Examples of how Rufford funding has helped train a future generation of conservationists.

Research of sand flies in Serbia was neglected in the past 60 years, mostly due to small number of interested and educated students and scientists. Slavica Vaselek has set main goals at the start of the project: motivating young people (students, researchers) to start their work on sand flies and educate new staff. These goals were achieved and today Serbia has the first sand flies team, which is also the only sand flies team on Balkans.

The first project of combined research with education for cetacean conservation in Turkey by Aylin Akkaya Bas educated many volunteers that helped contribute the realisation of the project.

During the project “Paradox of metamorphosis of European common spadefoot toad in Bosnia and Herzegovina” whole team went through constant mutual learning and training guided with one of the

best mentor in the region. Two students, Ana Ćurić and Adnan Zimić, continue working in the field of herpetology and further education with great ambitions and today, they are active in field of scientific research.

Examples of where Rufford grantees have published important biodiversity information or published of its project findings.

The endangered butterflies of Serbia, two projects managed by Miloš Popović, had a big impact of discovering of new species of butterflies in Serbia and region. Since 2011 they discovered six new species for the country, where *Lycaena helle* ([Denis & Schiffermüller], 1775) was the first finding for Balkan Peninsula. Many data from butterfly conservation projects were published:

Popović M, Milenković M (2012) First record of Anthocharis gruneri for Serbia (Lepidoptera: Pieridae). Phegea 40:37–38.

Popović M, Durić M, Franeta F, et al (2014) First records of Lycaena helle ([Denis & Schiffermüller], 1775) for the Balkan Peninsula (Lepidoptera: Lycaenidae). SHILAP Revta lipid 42:287–294.

Popović M, Radaković M, Đurđević A, et al (2014) Distribution and threats of Phengaris teleius (Lepidoptera: Lycaenidae) in Northern Serbia. Acta zool hung 60:173–183.

Popović M, Šašić M (2016) New findings of the butterfly Phengaris teleius at the border between Hungary and Serbia (Lepidoptera: Lycaenidae). Biodiversity Data Journal 4:e8078. doi: 10.3897/BDJ.4.e8078

Popović M, Radevski Đ, Miljević M, Đurić M (2014) First record of Pyrgus cinarae (Lepidoptera: Hesperiidae) in Serbia. Acta ent serb 19:45–51.

The project of sandflies diversity in Vojvodina, Serbia, of Slavica Vaselek enabled gathering new and important data for Vojvodina region, which were presented on: 1) 2015 at 2nd Conference organised by European Network for Neglected Vectors and Vector-Borne Diseases (EurNegVec), 2) Hacettepe University in Ankara, Turkey, 3) Superiore de Sanita, Rome, Italy and 4) University of Novi Sad. Data will be published at Special Issue of journal Molecular and Cellular Probes.

Spiders of Deliblato Sands in Serbia, project of Gordana Grbić, resulted with findings of around 90 species from which 11 species are new records for Serbia. The results were presented on 28th European Congress of Arachnology 2014 in Torino and her poster was rewarded for the “Best student poster”.

Mitko Karadelev, the project leader for conservation of Fungi in Macedonia, published preliminary Red List of Fungi for FYR Macedonia with 67 species:

Karadelev, M. 2000: Preliminary Red List of Fungi in the Republic of Macedonia, Newsletter 10, European Council for the Conservation of Fungi.

Rufford has enabled a long term establishment of further researches and, today, Macedonian fungi kingdom counts 280 species of Ascomycota and 1970 species of Basidiomycota.

Katarina Ljubisavljević conducted a research of Dinaric rock lizard in Montenegro, which is endemic and relic species of the Dinaric mountains in the Western Balkans. The new record results were published in Ecologica Montenegrina paper:

Ljubisavljević, K., Polović, L., Vuksanović, S. & Iković, V. (2014) A new record of the Prokletije rock lizard, *Dinarolacerta montenegrina* (Squamata: Lacertidae) in Montenegro. Ecologica Montenegrina, 1, 201–203.

Long Beach has the best preserved psammophytic vegetation in Montenegro. Ksenija Medenica presented the project lead by Danijela Stešević, clearly highlighting anthropogenic issues concerning preservation of this site. Research results were presented on Institute for Plant Sciences in Graz (Austria), January 26th , 2016 and on 6th International Symposium of Ecologists of Montenegro, 15-18 October 2015, Ulcinj:

Stešević, et al.: Notes on synecology of Cutandia martima (L.) Benth, a rare psammophytic species along the Montenegrinian Coast (East Adriatic Coast).

Results of project of researching of European common spadefoot toad in Bosnia and Herzegovina were presented on 1st Balkan Herpetological Symposium within 12th Croatian Biological Congress with international participation, LifeClass Terme Sveti Martin, 18th – 23rd September, 2015:

A. Ćurić, A. Zimić, D. Jelić: New data and distribution of common spadefoot toad *Pelobates fuscus* (Laurenti, 1768) in Western Balkans.

Examples of how the information is translated to the management and conservation government authorities.

The endangered butterflies of Serbia project, managed by Miloš Popović, which started in 2011, resulted with conducting several scientific researches for targeting the most threatened species. They proposed conservation measures to managers of protected areas and to the government of Serbia. Reports were also sent to Institute for Nature Conservation, Ministry of Environment and Manager of protected areas in Serbia.

Through the project of conserving bats and habitats in agricultural environment in Serbia, Jelena Burazerović presented results and ideas to Governmental institutions (National Nature Protection Institute, Provincial Nature Protection Institute, Provincial Secretariat for Environmental Protection) with the main goal of developing agri-environment measures regarding bat conservation in Serbia.

Results of the project of Conservation of Fungi in Macedonia, led by Mitko Karadelev, had a big impact on Macedonian legislations:

- The List of Concerned and Threatened Fungi Species has officially been adopted as well as Rulebook for the proclamation of strictly protected (CR) and protected wild species (EN and VU).
- The Ministry of Environment and Physical Planning produced a Permit on Export of Threatened and Protected Plants, Fungi and Animals and Parts of Them (EXIM).
- Order of Prohibition of Trading Autochthonous Fungi – Morels (*Morchella, Verpa* and *Ptichoverpa*).
- A Draft-Law was submitted on amendment and supplementation to the Law on Nature Conservation, incorporating their recommendations on undertaking measures for protection of rare and threatened fungi species and conservation of their habitats.

- All commercial species are included in the Customs tariff list (D4) for plant and fungal species with special treatment concerning export from the country controlled by the Ministry of Environment and Physical Planning of the Republic of Macedonia.

Project of conservation of Balkan Terrapin in Montenegro by Slađana Gvozdenović showed in results that most natural water habitats are under anthropogenic pressure and polluted. To conserve and protect the species, one of the research objectives were meetings with Environmental Protection Agency and Ministry of Sustainable Development and Tourism for preparation of management plans for freshwater habitats. This plan would serve as a handbook for the heritage protection of the environment in the process of Environmental Impact Assessment. The document will lead Agency for nature protection and the team will provide the necessary data for critical areas.

Projects promotions

Through all projects presented during the conference one of the main goals were to promote the project through educational promo materials, presentations in primary schools, high schools and faculties as well on different conferences and similar events. These promotions were the first step and had a huge impact for the conservation of certain groups. Many projects and main problematics concerning conservation were presented in front of government. Bellow we listed all web pages that were provided during presented projects funded by Rufford Small Grants.

Web pages:

www.dinarolacerta.com
www.macfungi.webs.com
www.alciphron.habiprot.org.rs
www.dmad.org.tr
www.bhhuatra.com
www.berusbosniensis.shdmr.org
www.saltmarshes.bddsp.org.rs
www.pelobates.com
www.orca.rs
www.saltmarshes.bddsp.org.rs/

Facebook pages and groups:

- Sweetgum Returns: https://www.facebook.com/groups/sigla
- Ants of Bosnia and Herzegovina: https://www.facebook.com/groups/1434904570100324/?ref=browser
- Natural History Association of Montenegro: https://www.facebook.com/groups/drustvoprirodnjakacg/
- Great bustard group: https://www.facebook.com/bustardgroup/?fref=ts
- Pelobates BiH: https://www.facebook.com/pelobatesbih/?fref=ts

Summary of conclusions of discussion groups.

Social networking was presented by the lecture and discussion during the first round table. It is the practice of expanding the number of one's scientific, expert and/or social contacts by making connections through other individuals. While social networking has gone on almost as long as societies themselves have existed, the unparalleled potential of the Web to facilitate such connections is only now being fully recognized and exploited, through Web-based groups established for that purpose. Social media sites include Facebook, Twitter, Instagram, LinkedIn, Google+, ResearchGate, Academia.edu etc.
Based on the six degrees of separation concept (the idea that any two people on the planet could make contact through a chain of no more than five intermediaries), social networking establishes interconnected online communities (sometimes known as social graphs) that help people make contacts that would be good for them to know, but that they would be unlikely to have met otherwise. Each conservation expert or scientist should plan his/her social network and develop it according to this plan. One should obey the general rules of seniority and approach each new person with respect. The general rule is that you are as high in the expert network as are your connections. As you meet and work with higher positioned people, your position also grows in the network.

Another discussion during the round table included evidence-based conservation, which is the application of evidence in conservation management actions and policy making. It is defined as systematically assessing scientific information from published, peer-reviewed publications and texts, practitioners' experiences, independent expert assessment, and local and indigenous knowledge on a specific conservation topic. This includes assessing the current effectiveness of different management interventions, threats and emerging problems and economic factors.
Evidence-based conservation was organized based on the observations that decision making in conservation was based on intuition and/ or practitioner experience often disregarding other forms of evidence of successes and failures (e.g. scientific information). This has led to costly and poor outcomes. Evidence-based conservation provides access to information that will support decision making through an evidence-based framework of “what works” in conservation.
During this round table participants discussed about the need to publish data gathered by RSG projects. This highlights the project and has long lasting, open source, free, effect.
Main conclusion was that there is interest (~20 people) to publish a special issue in a scientific journal HYLA that would cover scientific evidence from RSG projects presented on this workshop. This issue is due to come out in July 2016th.

List of participants, conference schedule and abstracts

List of participants and type of grants awarded.

No.	*Name*	*Country*	*Institution*	*RSG1*	*RSG2*	*Booster1*	*Booster2*	*Comp.*
1	Popović Miloš	RS	HabiProt	✓	✓			
2	Golubović Ana	RS	Serbian herpetological society "Milutin Radovanović", Institut for biological research	✓	✓			
3	Vesnić Adi	BA	University of Sarajevo, Faculty of natural sciences	✓	✓			
4	Vaselek Slavica	RS	University of Novi Sad, Faculty of Agriculture, Department of Phytomedicine and Environmental protection, Laboratory for Medical and Veterinary Entomology	✓				
5	Ružić Milan	RS	Bird Protectiona and Study Society of Serbia	✓				
6	Pantović Uroš	RS	Bird Protectiona and Study Society of Serbia	✓	✓			
7	Grbić Gordana	RS	Educons University, Faculty of Environmental science	✓	✓			
8	Zeneli Gazmend	AL	University "Marin Barleti"	✓				
9	Zagora Vernes	ME	Montenegrin Ecologyst Society	✓	✓			
10	Karadelev Mitko	MK	Faculty of Natural Scienses and Mathematics	✓	✓	✓		
11	Ljubisavljević Katarina	ME	Montenegrin Ecologyst Society	✓	✓			
12	Aylin Akkaya Baş	TR	Marine Mammals Research Association	✓				
13	Zimić Adnan	BA	Association in Bosnia and Herzegovina „ATRA“	✓				
14	Šnjegota Dragana	BA	Faculty of Science, University of Banja Luka	✓				
15	Davidov Boris	BA	Society for research and protection of biodiversity	✓				
16	Šeat Jelena	RS	HabiProt	✓				
17	Toholj Dušan	BA	BIO "Southern Blue Sky"	✓				
18	Vujović Ana	ME	Natural History Association of Montenegro	✓				
19	Lukač Milica	BA	Faculty of Science, University of Banja Luka	✓				
20	Šunje Emina	BA	Association in Bosnia and Herzegovina „ATRA“	✓	✓			
21	Ürker Okan	TR	NATURA Society For The Conservation Of Nature&Culture	✓	✓			

No.	*Name*	*Country*	*Institution*	*RSG1*	*RSG2*	*Booster1*	*Booster2*	*Comp.*
22	Burazerović Jelena	RS	Faculty of Biology, University of Belgrade	✓				
23	Gvozdenović Slađana/Vuk Iković	ME	Montenegrin Ecologyst Society	✓	✓			
24	Simović Aleksandar	RS	Serbian herpetological society "Milutin Radovanović", Institut for biological research	✓				
25	Gajić Igor	RS	N.I.D.S.B.E. "Josif Pančić"	✓				
26	Nikolić Tijana/Maja Arok	RS	Bird Protectiona and Study Society of Serbia	✓				
27	Grabovac David	RS	Udruženje za zaštitu velike droplje	✓				
28	Svetozarević Ivan	RS	Center for sustainable future Green Zone	✓	✓			
29	Medenica Ksenija/Danijela Stešević	ME	NGO Green Home	✓				
30	Stamenković Olivera	RS	Faculty of Sciences and Mathematics	✓				
31	Trbojević Igor	BA	Faculty of Sciences, University of Banja Luka	✓				
32	Ćurić Ana	BA	Society for research and protection of biodiversity	✓				
33	Pajtim Kastrati/Qenan Maxhuni	XK	Ecological Association Eko Viciana	✓				

Conference schedule

20.03.2016.	**Attendee arrival to Banja Luka, Palace Hotel**
21:00	Welcome dinner
21.03.2016.	**DAY 1**
07:00-09:00	Breakfast
09:00-09:15	Welcome and opening of the workshop
09:15-09:30	Short presentation of the aims of the conference and agenda
09:30-11:45	**Presentation of the projects I**
09:30-09:45	1. **Popović Miloš** "Rufford helps Endangered Serbian Butterflies"
09:45-10:00	2. **Golubović Ana** "Shell is not enough anymore - Rufford finance gathering of crucial data for conservation of Chelonians on Serbia"
10:00-10:15	3. **Vesnić Adi** "Conservation of the Wood Ants (*Formica* spp.) in Bosnia and Herzegovina"
10:15-10:30	4. **Vaselek Slavica** "Diversity of sandflies in Vojvodina province (Serbia)"
10:30-10:45	5. **Ružić Milan** "Numbers and distribution of the Long-eared Owl winter roosts in Vojvodina Province"
10:45-11:00	6. **Pantović Uroš** "Biodiversity values of limestone gorges in Serbia"
11:00-11:15	7. **Grbić Gordana** "Spiders of Deliblato Sands"
11:15-11:30	8. **Zeneli Gazmend** "Connecting Traditional knowledge and Genetic resources: reflection of Nagoya Protocol in the National Biodiversity Strategy"
11:30-11:45	9. **Toholj Dušan** "Researching of Grey wolves (Canis lupus) in Herzegovina"
11:45-12:10	Coffee break & snack
12:15-14:00	**Presentation of the projects II**
12:15-12:30	10. **Karadelev Mitko** "Conservation of Fungi in Macedonia"
12:30-12:45	11. **Ljubisavljević Katarina** "Conservation issues for Dinaric rock lizards (*Dinarolacerta* spp.) in Montenegro"
12:45-13:00	12. **Aylin Akkaya Baş** "Sightings of cetaceans and Mediterranean monk seals in the Turkish Mediterranean Sea and advantages of active involvement of locals"
13:00-13:15	13. **Zimić Adnan** "Why is Triturus dobrogicus a high-priority species of amphibian for conservation actions in Bosnia and Herzegovina?"
13:15-13:30	14. **Šnjegota Dragana** "Gray wolf in Bosnia and Herzegovina"
13:30-13:45	15. **Davidov Boris** "Assessment on the current state of population of Hucho hucho L. (Salmoniformes : Salmonidae), in the midstream and lower reaches of the Una River, with reference to the degree of vulnerability of the species"
13:45-14:00	16. **Šeat Jelena** "True Bugs (Heteroptera) of Halophytic Habitats in Vojvodina"
14:00-14:45	Lunch break
14:45-17:30	**Presentation of the projects III**
14:45-15:00	17. **Zagora Vernes** "Defining distribution of Karst Viper (Vipera ursinii macrops) on mountain transversal Orjen, Lovćen, Rumunija and determiniting possible threats"
15:00-15:15	18. **Vujović Ana** "Distribution and Treats to European pond turtle at Montenegro"
15:15-15:30	19. **Lukač Milica** "Vulnerability and conservation importance of the endemic fish species *Telestes metohiensis* in Bosnia and Herzegovina"
15:30-15:45	20. **Šunje Emina** "Results, achievments and impact of the „Prenjensis“ project in Bosnia and Herzegovina"
15:45-16:00	21. **Ürker Okan** "Reviving Oriental (Anatolian) Sweetgum Forest in Southwestern Turkey"

16:00-16:15	22. **Burazerović Jelena** "Conserving bats and important habitats in agricultural lansdscapes in Serbia"
16:15-16:30	23. **Gvozdenović Slađana** "Balkan Terrapin - *Mauremys rivulata* (Valenciennes, 1833) in Montenegro"
16:30-16:45	24. **Simović Aleksandar** "Preliminary data on the distribution and conservation status of the Balkan adder (*Vipera berus bosniensis*) in the Vojvodina province, Serbia"
16:45-17:00	25. **Gajić Igor** "Spiders of Vršac Mountains"
17:00-17:15	26. **Nikolić Tijana** "Future perspectives for EGS conservation in Serbia"
17:15-17:30	27. **Trbojević Igor** "Distribution of brown bear on mountains Manjača, Čemernica and Uzlomac, north of Bosnia and Herzegovina"
17:30-17:45	Coffee break & snack
17:45-19:00	Round table
19:00	Cultural exchange and presentation of each country
21:00	Free time
22.03.2016.	**DAY 2**
07:00-09:00	Breakfast
9:00-10:45	**Presentation of the projects IV**
9:00-9:15	28. **Grabovac David** "The Great Bustard in Serbia: Is a border population of a dozen individuals sustainable?"
9:15-9:30	29. **Svetozarević Ivan** "Ecotourism state of the art in NP Djerdap, Serbia and its biodiversity concern"
9:30-9:45	30. **Medenica Ksenija** "The Long Beach in Ulcinj a unique psammphytic habitat along Montenegrinian Coast"
9:45-10:00	31. **Stamenković Olivera** "The achieved results of the first phase of the project"
10:00-10:15	32. **Ćurić Ana** "The PARADOX of metamorphosis in European Common spadefoot toad (*Pelobates fuscus*) in Bosnia and Herzegovina"
10:15-10:30	33. **Kastrati Pajtim** "Preliminary birds inventory in Kosovo"
10:45-11:00	Coffee break
11:00-12:30	Round table
12:30-13:15	Lunch break
13:30	Field trip to Jajce city
19:00	Dinner at Jajce
22:00	Return to Banja Luka
23.03.2016.	**Travel home (Check out 12:00)**

Abstracts of presentations

Starting in the distant past and pointing toward the future: increasing the public awareness on species and ecosystem conservation needs

GAZMEND ZENELI[1]

[1] *University "Marin Barleti", Rr. "Sami Frashëri", No. 41, 1019 Tirana, Albania,* gzeneli2000@gmail.com

English walnut (*Juglans regia* L.) (Juglandaceae) is a very important hardwood species in Albania. However, due to its high value, the species has been aggressively harvested, creating a limited supply of quality walnut trees. The RSG project aimed on (1) increasing of the public awareness about walnut resources in area of Martanesh through educational and promotional activities and (2) restoration of habitats and conservation of walnut through community participation. The activities undertaken were diverse and linked to specific issues such as evaluation of the type and degree of human use, conservation and restoration through community participation, exchange of experience and know-how, education and awareness rising, all of them aiming to the realization of overall goals. The publicity given to the progress of the Project implementation has attracted considerable public attention. Media campaign and press releases have stirred the public interest and dispelled many of the misconceptions about growing and conserving walnuts in natural habitats and in similar condition. The restored area might represent a very successful model of *in-situ* conservation, and showcase of how responsible farmers and cooperative local communities are crucial for the success. Moreover, *the Project* helped many locals being enthusiasts about walnut to deepen their contacts and have tapped into a genuine pool of goodwill.

Key words: Albania, community, in situ, restoration, walnut.

Reviving Oriental (Anatolian) Sweetgum Forest in Southwestern Turkey

OKAN ÜRKER [1]

[1] *NATURA Society For The Conservation Of Nature&Culture, Koza 1 Caddesi No:142/7-B Gaziosmanpaşa, Çankaya-ANKARA,* okan.urker@gmail.com

Among its restricted distributional range in the Rhodes Island and Southwestern Anatolia, the Oriental (or Anatolian) Sweetgum (*Liquidambar orientalis* Mill. 1768), a tree species in danger of becoming extinct, constitute forest only in some coastal districts of Muğla Province, southwestern Turkey. Locals have benefited from this charismatic and holy species in many different ways for ages.

Although the area of the forest was 6.312 hectares in 1949, now it is only approximately between 1.500 and 2.000 hectares due to the changing urbanization and local agriculture policies (incentives for citrus plantation) paving the way for transformation of the living spaces by the locals and the emergence of the mass tourism, the forest are broken and now on the brink of extinction. This species has Vulnerable (VU A1cd Ver-2.3) category on IUCN Red List and EUFORGEN has listed to this species as protected tree on the scale of European Continent. First of all, we were planning to ensure the ecological integrity of the forest by identifying suitable corridors between dispersed forest fragments and by replanting these areas by sweetgum trees, making the fragmented forest the whole again. Due to the project's conservation methodologies, this forestation project was the first of its kind in Turkey because it takes into consideration landscape ecology. Secondly, we also aimed to look into what kind of ethical consensus lies behind the legitimacy for the Sweetgum deforestation as a social value and unfold the stages set for the incentives concerning the Sweetgum deforestation. In this study, we will present the different methodology approaches, results, success and future projections of our last 5 years conservation efforts regarding to the Oriental (Anatolian) Sweetgum Forests. Briefly, we planted 10000 sweetgum saplings until today by using our corridor methodology with local youths. Our wild life research indicated the importance of corridor methodology on wild life mobility and integration to the planted sweetgum forests. As well as we analyzed the past-current-future distribution models of the oriental sweetgum forests, we've checked out some literature mistakes related to those forests. Also our aroma therapy forest experiments induced the health tourism capacity of the region where those forests live. Finally, at the end of 2015 we founded a nature protection association on national scale titled as NATURA. NATURA aims to creating proprietary in sweetgum forest conservation and sustain our conservation efforts. Also our project team pioneered the establishment of The Sweetgum Working Group that aims to follow and apply our Sweetgum Action Plan during next years.

Key words: *Liquidambar orientalis* Mill., Forest Conservation, Sensitive Forests, Environmental Ethics.

Ecotuourism state of the art in NP Djerdap, Serbia and its biodiveristy concern

IVAN SVETOZAREVIC [1]

[1] *Center for sustainable future - Green Zone, Knjaza Miloša 15, 19350 Knjazevac, Serbia,* svetozarevic@gmail.com

Ecotourism is a growing tourism trend with particular demands on natural, cultural, and human resources. In the area of National park Derdap in Serbia this trend is being introduced since year 2009, when project on biodiversity conservation and ecotourism development was initiated. This

biodiversity rich area is laying on Carpathian Mountains where Danube River is passing through. National Park Djedap posses great natural and cultural setting for ecoutourism development. This research is elaborating secondary data from published and unpublished sources on ecotourism in National Park Djerdap area. Primary data are collected through informal inteviews with main local and regional stekeholders form public, private and civil sector in order to update secondary data. This research provides current information on ecoutourism state of the art in National park Djerdap and how is it interlinked with local biodiversity. These findings lead to updated steps for joint further work on biodiversity conservsation in National park Djerdap area with integration to on-going ecotourism development initiatives.

***Key words**:* National park Djerdap, Ecotourism.

Conservation of psammophytic vegetation of Long Beach in Ulcinj, Montenegro

DANIJELA STEŠEVIĆ [1]

[1] Biology Department, Faculty of Natural Sciences and Mathematics, University of Montenegro, Džordža Vašingtona bb, 81 000 Podgroica, Montenegro, danijela.denist@gmail.com

At approximately 12 km, Velika Plaža (eng. Long Beach in Ulcinj) is the longest beach and the best preserved psammophytic vegetation on the south-eastern Adriatic coast. Due to its valuable biodiversity of species and habitats the beach is included in the list of Important Plant Areas in Montenegro. Up to now, 11 habitats from Annex II. of the EU Habitats Directive are reported for the area: Annual vegetation of drift lines (1210), Embryonic shifting dunes (2110), Shifting dunes along the shoreline with *Ammophila* (white dunes 2120), Fixed coastal dunes with herbaceous vegetation (grey dunes, 2130*), Humid dune slacks (2190), Dunes with *Euphorbia terracina* (2220), Mediterranean salt meadows (Juncetalia maritimae, 1410), and Brachypodietalia dune grasslands with annuals (2240), Wooded dunes with Pinus pinaster (2270), Mediterranean temporary ponds (3170), and *Salix alba* and *Populus alba* galleries (92A0). Since 2007 the most representative 500 ha of psammophytic vegetation has been protected by law. Due to still moderate human pressure the area is in good conservation status. But, in some areas the vegetation already drastically changed and need effort for conservation or even restoration measures. The goals of the project were to fill existing knowledge about psammophytic ecosystems on the Long Beach in Ulcinj, to point out the importance of its conservation and to promote its biological values. For analysis of floristic composition and zonation of plant communities 20 transects were set perpendicular to the coast. Transects were laid regularly every 500 m. Contiguous quadrats (2 x 2 m) were laid out next to each other in form of belt

transect starting from the area with first colonizing plants towards the end of sand dune system with forest vegetation. In each quadrat the cover of plant species was visually estimated by Braun-Blanquet (1964) scale. All gathered relevés were entered into the TURBOVEG database. Analysis of dune landscape is performed by comparing of archive aerial photos of the area (from 1950) and field mapping in 2015. The most interesting landscape change is complete absence of maritime Pine forests in 1950es. This forest type is typical for the recent aspect of the western part of the Beach. During the field survey one new and alien species for the flora of Montenegro is recorded. Considering the fact that species has invasive potential, eradication measures are proposed. Considering promotion of the biological values of the Long Beach in Ulcinj we organized following activities:

- exhibition about the Long Beach in Ulcinj (the Days of Sciences, September 2015)
- lecture and field trip with the students of biology and volunteers (June and September 2015)
- workshops with the pupils of secondary and primary schools (October-December 2015)
- lecture at the Institute for Plant Sciences in Graz (Austria)

Key words: Velika plaza, psammophytic vegetation, NATURA 2000 habitats.

Conservation of Fungi in Macedonia

MITKO KARADELEV [1]

[1] *Faculty of Natural Sciences and Mathematics, Arhimedova 5, 1000 Skopje, Macedonia*

e-mail:mitkok@pmf.ukim.mk

From a mycological perspective, Macedonia is studied relatively well (2200 spec.) but it does not have an official IUCN Red List of Fungi. The main aim of the project was to establish a National Red List of Fungi and Important Fungal Areas in Macedonia. As a result of the project activities a National Red List of Fungi was compilled for the first time, following IUCN categories and criteria. A total of 213 species have been included in the List as follows: 21 are Critically Endangered (CR), 30 are Endangered (EN), 71 are Vulnerable (VU), 40 are Near Threatened (NT), 9 are Least Concern (LC), and 42 are Data Deficient (DD). The Red List, submitted to the Ministry of Environment and Physical Planning, has been a base for preparation of the Rulebook on strictly protected and protected wild fungal species, whose officialising is pending in 2016. Also, the Important Fungal Areas (IFAs) in Macedonia have been established for the first time. IFA criteria have been developed based on presence of rare and threatened species, richness, and mycological significance of the habitat. Twenty areas (Pelister, Osogovo, Prespa, Kozuf, Nidze, Jasen, etc.) have been found to meet the criteria for nomination of Important Fungal Areas. Promotion refers to raise public awareness among the local population and

the stakeholders via media campaign, and wide-range distribution of promotional material – a brochure of protected and strictly protected fungi from the Red List, and a country map of IFAs. The workshop with stakeholders - Ministry of Environment and Physical Planning, local government, nature conservation NGOs – generated conclusions on initiating the formal procedure for officialising the Fungi Red List of Macedonia. In addition, the auxiliary documents like "National Catalog (Checklist) of Macedonian Fungi" and "Mapping of Macromycetes of Macedonia" have been published. The results from the RSG project have significant impact on legislation to the fungi conservation in Macedonia. Different documents have been officially adopted and published in the Official Gazette of the RM, such as the List of Concerned and Threatened Fungi Species; the Permit on Export of Threatened and Protected Plants, Fungi and Animals; the Order on Prohibition of Trading Autochthonous Fungi – Morels (Morchella, Verpa and Ptichoverpa) and the Ordinance on the Customs Authorities' Procedure in Trading Concerned and Protected Wild Species of Plants, Fungi and Animals. Also, the results yielded with our RSG project have been entirely encompassed in the new Biodiversity Strategy an Action Plan of the Republic of Macedonia.

Key words: Fungi, Protection, IUCN Red List, Important Fungal Areas, Macedonia.

Rufford helps Endangered Serbian Butterflies

POPOVIĆ MILOŠ[1]

[1]*HabiProt, Bulevar Oslobođenja 106/34, 11040 Belgrade, Serbia, gpopac@gmail.com*

Serbian fauna is generally understudied, and this is especially true for insects. We tried to overcome this problem by 1) conducting several scientific researches to target the most threatened species and 2) promoting the studies of butterfly fauna. A lot of effort was made in mapping the distribution of threatened species, such as *Boloria eunomia* (Esper 1799), *Lycaena helle* (Denis & Schiffermüller, 1775), *Phengaris teleius* (Bergsträsser, 1779), etc. and proposing conservation measures to managers of protected areas and to the government. *P. teleius* was studied in more details using mark-recapture technique (using MARK software and CJS model) in the only known population in Serbia close to Subotica. Population size from Serbia is estimated to 15000 adults and helped us to understand causes for declining of this species at the border of its distribution range. It is interesting to note that since 2011 we discovered six new species of butterflies for the country, thus rising the list of butterflies of Serbia to 201. Countless promotion activities expanded the network of both amateurs and biologists. The most obvious result is that 6500 butterfly observations in 2011 has

grown to 11500 in 2015! A new, growing network of contributors required new tools. For this purpose we created on-line Alciphron database (alciphron.habiprot.org.rs) giving a simple 1) input form for insect observations, 2) a validation framework and 3) user friendly web site showing maps, photos and various diagrams of insect records. The database enables us to assess national Red List status for most of Serbian butterflies, create distribution atlas, rank biodiversity of the studied areas, plan conservation and much more.

***Key words**:* butterfly conservation, database, public awareness, new species, Serbia.

Conservation of the Wood Ants (*Formica* spp.) in Bosnia and Herzegovina

ADI VESNIĆ[1]

[1] University of Sarajevo, Faculty of natural sciences, Zmaja od Bosne 33-35, Sarajevo 71000, Bosnia and Herzegovina, vesnic.adi@gmail.com

Assessing data from surrounding area is essential for understanding spatial relationships between *Formica rufa*, *Formica polyctena* and general diversity of other species in the subgenus *Formica*. Determining areas with significant populations of wood ant species is necessary for preparing proposals to the local government for protection of wood habitats on Mt. Ozren and Trebević. We analyzed colony structure and dispersal strategy and noted that they differr according to dynamics and landscape structure of boreal forests. Habitat analysis evaluated the impact of legal and illegal deforestation, impact of tourism and its accompanying infrastructure on habitat destruction. Morphometrical and ethological intermediary indicate different *Formica rufa* phenotypes or hybrid *Formica rufa* x *polyctena* in the investigated area. Polydomous colonies of *Formica polyctena* and *F. rufa* were detected. On the mountain Perun 30 colonies of *Formica rufa* in transect one kilometer length were found, this represents the highest known density in Bosnia and Herzegovina. Habitat loss due deforestation and conifer woodland drying were identified as main risk factors for wood ants.

Key words: *Formica*, wood ants, protection, wood habitats, deforestation.

Diversity of sandflies (Diptera, Phlebotominae) in Vojvodina province (Serbia)

SLAVICA VASELEK[1]

[1] *University of Novi Sad, Faculty of Agriculture, Department of Phytomedicine and Environmental protection, Laboratory for Medical and Veterinary Entomology, Trg Dositeja Obradovića 8, 21000 Novi Sad, Serbia, slavica.vaselek@gmail.com*

Sandflies (Diptera, Phlebotominae) are small, delicate and hairy flies that feed on the blood of animals. They are principally found in tropics and sub-tropics parts of the World, and on Balkan Peninsula they are common in Mediterranean basin. Due to the climate changes, these insect expanded their geographical distribution inhabiting previously unsuitable locations and changed composition of already present sandfly fauna. First records of sandflies in Serbia date from 1945, and they suggested that sandfly fauna diverse depending of the country region. As the most northern part of the country, Vojvodina region wasn't very rich with sandfly species. After short research conducted in period of 1948-1951, and detection of only three species all research in Vojvodina were abandoned. Since sandflies are blood sucking insects, and they transmit disease - leishmaniasis, new interest for their research in Vojvodina raised few years ago with sudden increase in number of disease cases. After being neglected for more than 60 years, sandfly research was resumed in scope of Rufford Small Grant pilot project organized during 2013/2014. Main goal of this project was to determine species composition and distribution of sandflies, along with the goal to prevent potential epidemic of leishmaniasis in Vojvodina. Project was designed as 12 months research with main focused on field work. During this period laboratory testing was performed as well as intense training and education of all interested parties – in order to assemble first team which will be fully able to continue sandfly research in future. After gathering all data, results showed that sandfly fauna of Vojvodina is richer by one more species. With this finding we updated old inventory list of sandfly species, and created first preliminary map of their distribution in Vojvodina. We also recorded for the first time presence of *Leishmania* parasite in sandflies derived from Vojvodina. As addition, contacts with numerous veterinarians that we established during the course of this project provided us with the good basis for very fruitful collaboration that lasts to this day. Even dough we made big progress in raising awareness of researchers and people about these neglected insect, fact stands that in Serbia they are still unexplored and that more extensive and comprehensive research is necessary.

Key words: sandfly, Vojvodina, Serbia.

Spiders (Arachnida, Araneae) of Deliblato Sands, Serbia

GRBIĆ GORDANA[1]

[1] *Educons University, Faculty of Environmental science, Vojvode Putnika 87, Sremska Kamenica, Serbia, gordana_grbicns@yahoo.com*

The Special Nature Reserve "Deliblato Sands" is the largest European continental sand area. It represents an important – but blank – spot on the European spider map. At a national level, it represents a natural asset of special importance; on the international level it has been a European IBA since 1989. In some European countries spiders have been extensively used as ecological indicators in nature conservation and management to evaluate the nature conservation value and the biodiversity of particular sites. In Serbia, by contrast, spiders are a less well-known, even neglected group of animals. Very few intensive arachnological studies have been carried out and no monitoring system has been established. Recent faunistic reports indicate high levels of spider biodiversity in this region, but unfortunately for the majority of species the only data derives from historical surveys in 1907, 1929 and 1936. To change that, the project "Spiders of Deliblato Sands", was organized over a 12 month period and had three stages: fieldwork, laboratory work and outreach. First two stages were based on intensive collecting of material by pitfall traps, and contribute the two most important outcomes: a comprehensive inventory list of species and a future monitoring plan. Several students were involved in that entire process, so this was a sort of training of new young researchers; one more key outcome. The third stage included promotions in media, lectures in school and of course presentation of the results to arachnological community. The general idea of this stage was to underline the importance of spiders, raise public awareness of the significance to protect biodiversity, scientific conformation of the result and hopefully attraction some new enthusiasts. The achievements of the project's original objectives were different. We fully achieved the most important task we had: we created the first inventory list of spider species and propose a future monitoring plan. We didn't fully achieve to introduce spiders as bioindicators. The Management team of the protected area was not very excited with new future legal obligation. Sharing knowledge with schoolchildren was much better than with students. Children were very cooperative, and active. But students showed more interest in the field activities then afterwards. Only one student stayed till the end of the project. Sharing knowledge with the general public was also difficult. 2014 was unexpected election year in Serbia, so the biodiversity was not in the focus. But promotion and publication of the results were excellent. The results were presented at the 28th European Congress of Arachnology in Torino (August 2014) and we got the best compliments for our work and we won the first prize for the student poster presentation.

Key words: ecological indicators, inventory list, biodiversity.

True Bugs (Heteroptera) of Halophytic Habitats in Vojvodina

JELENA ŠEAT

NGO HabiProt, Bulevar Oslobođenja 106/34, 11040 Beograd, e-mail: jelena@habiprot.org.rs

Halophytic habitats of the Pannonian region are recognized as conservation priorities by the EU Habitat Directive, and can be found only in the Carpathian Basin. Specific plant communities adapted to high salt concentrations in soils are their main feature. However, flora of these habitats is just one valuable element of their biodiversity, since many water bird species inhabit saline wetlands and most of these sites in Serbia are IPA-s and IBA-s. Unlike plants and birds, insect fauna of halophytic habitats, including true bugs is poorly known. Latest findings of true bugs from halophytic habitats in northern Serbia are more than a century old and these specimens are collected during expeditions of the renowned Hungarian entomologist dr Géza Horváth. Our research on the true bug fauna on halophytic habitats is the first systematic research of this kind realized through project supported by the Rufford Foundation. Preliminary results of our research provide valuable data on ecology and distribution of true bugs, new species for Serbian fauna and recommendations on the use of true bugs in conservation management of halophytic grasslands. During field work we noticed that true bugs are among the most numerous and diverse insect groups of halophytic habitats, and also that a few species are highly associated with specific plant species or vegetation type found only on salty soils. Considering that the collecting method of true bugs by sweep netting is very simple and that they quickly respond to changes in environments such as grasslands, makes these insects a good indicator group in projects of biological monitoring of habitats where other insects, such as butterflies and beetles, are scarce. Although saline habitats are not suitable for intensive agriculture, they are still threatened in northern Serbia by draining, overgrazing, inadequate mowing and burning, or conversion into dumpsites. Artificial fertilizers and pesticides from surrounding arable land are changing the chemical characteristics of salty soils and vegetation composition, which affects the true bug communities and determines their existence. These problems are the most prominent in halophytic habitats that are not within the boundaries of the protected areas. Apart from the important entomological data gained by our activities, this project facilitated the forming of a team of young entomologists that started to work on several other projects on true bugs. We hope this collaboration will be continued.

Key words: Hemiptera, salt steppes, salt marshes, Serbia, Pannonian region.

Spiders (Arachnida, Araneae) of Vršac Mountains, Serbia

GAJIĆ IGOR[1]

[1] *N.I.D.S.B.E. "Josif Pančić", Trg Dositeja Obradovića 2, Novi Sad, Serbia, igyargiope@yahoo.com*

The landscape of outstanding features, Vršac Mountains, are the lowland mountains in the north region of Serbia. Specific flora and fauna are present in rich forest, steppe and woodland environments. This protected area is also the richest Important Bird and Biodiversity Area (IBA) in Serbia. Spiders of the Vršac Mountains had never been explored, making it a blank spot on the European spider map. In order to change that, in 2014 we started a project "Spiders of Vršac Mountains", and preliminary fieldwork was carried out. It was designed to provide the first inventory list of species as necessary basis for future research. Project lasted for 12 months and it was organised in three stages: fieldwork, laboratory work and promotion. We organised a comprehensive fieldwork in the protected area. Fieldwork was based on collecting material using pitfall traps, beating and sweep netting techniques. As a result, we made a first inventory list of spider species for this area and proposed a future monitoring plan. We gave our propositions and initial list of species to the management authority of the protected area. Laboratory work, especially determination demands spending much time so college students were partially interested in it. But, some of them completed whole training and they are now well prepared to continue the research and start their own project. We had excellent experience with high school students too. They were very interested in lectures about spiders, their biodiversity, venom and collecting techniques. They presented what they have learned during student contest on World Environment day at Politehnica University of Timișoara and won a first prize. Getting a positive feedback from the media was difficult. Spiders are not so popular group of animals and biodiversity is hardly in main media focus. This kind of promotion is delayed for some time and we hope that this will change and could be possible in future projects. Posters and brochures were printed for promotion purpose. Preliminary results of this research were presented at the 29th European Congress of Arachnology in Brno, Czech Republic in August 2015. During poster presentation many arachnologists were interested in our research and we got many compliments about our work.

Key words: initial list, biodiversity, monitoring plan, student training.

Establishing conservation management of salt marshes in Serbia based on macroinvertabrate community

OLIVERA STAMENKOVIĆ [1]

[1] *University of Niš, Faculty of science and mathematisc, Department of Biology and Ecology, Višegradska 33, 18000 Niš, Serbia, olivera.stamenkovic89@gmail.com*

The aim of this project is to investigate communities of benthic macroinvertebrates at selected salt marshes in Vojvodina province and Southeast Serbia, as well as to promote salt marshes and to draw public attention and raise human awareness about their significance. It is planned to sample macroinvertebrates every month during the year in order to properly comprehend their population dynamics. As a result of this research we will obtain list of species of macrozoobenthos. Rare and endangered species will be detected and base on them some localities could obtain a certain degree of protection. In addition, the emphasis is on promotion of these ecosystems through contact with the local population and managers of protected areas and by involving volunteers and the inclusion of lectures and media appearances. In realization of this project we are supported by Biological Society Dr. Sava Petrović from Niš whose volunteers assist us in research activities. So far we have engaged 11 volunteers in field research and to help us in laboratory work. Also we opened a website for the promotion of our project and salt marshes in Serbia. In this presentation are presented objectives we achieved in initial phase of this project.

Key words: salt marshes, macro invertebrates, conservation, promotion, education.

Assessment on the current state of population of *Hucho hucho* L. (Salmoniformes : Salmonidae), in the midstream and lower reaches of the Una River, with reference to the degree of vulnerability of the species

DAVIDOV BORIS [1]

[1] *Society for research and protection of biodiversity, Brace Potkonjaka, no. 16, 78 000, Banja Luka, Bosnia and Herzegovina, boris_davidov1988@yahoo.com*

The Danube Salmon, *Hucho hucho* (Linnaeus, 1758), is the largest salmonid and a widespread species in the river Una. Distribution of the population in the said river ranges in the west from the city of Bihać to the river mouth where Una flows into Sava. The largest specimen of Danube Salmon recorded in Una weighed 28 kg and was caught by a local fisherman Hikmet Harbas in Bosanska Krupa few years after the civil war in Bosnia, but even larger specimens were noted in other

parts of its range. It is indicated in available literature that the maturation size for males is 1 kg and for females 2-3 kg, while data on specimens caught in Una river suggests that maturity occurs in males that weigh between 2,5 kg and 3 kg and in females between 3 kg and 3,5 kg. Spawning occurs from February to May. Danube Salmon is a known top predator, and diet analysis on caught specimens by local fishermen showed a wide range of prey that these fish consume. Subadults and adults primarily feed on bony fish, particularly the species in the orders Cypriniformes, Salmoniformes and Perciformes. Occasionally even small mammals and small water birds fall as prey to the Danube Salmon. As a part of the project, 20 field expeditions were carried out from November, 2015 to February, 2016 in areas located upstream (up to village of Blatna) and downstream of the city of Novi Grad all the way to the city of Kostajnica. Another 28 expeditions will be conducted in the following months. The sites where the research was conducted are characterized by medium and fast water flow, with high levels of oxygen and temperatures (measured in the surface lawyer of the water column) that vary from 15 to 23 °C in the summer and 9 to 13 °C in the winter. Sediment and bottom morphology differ between sites but we can conclude that the most prevalent type is a mixture of gravel and sand with tuff. The research is based both on basic hydrographic characteristics and population research of the Danube salmon with estimations of anthropogenic pressure on the said species. The results are compared with available, very poor data from the past decades mostly regarding specimens caught by local fishermen. According to them, a significant drop in the number of individuals became evident as they started catching less specimens each season in the last few years. This may well indicate an increased anthropogenic pressure on the species and illustrates the urgency of the current situation. Uncontrolled and illegal fishing as well as the use of live lures which are prohibited by law, urbanization, and low level of environmental awareness seem to have brought down the number of specimens in the population throughout the middle and lower reaches of the river. It is therefore necessary to expand scientific knowledge on the species and develop a legally - based strategy for conservation, protection, and sustainable management of *H. hucho* populations in the Una river.

Key words: *Hucho hucho,* assessment, population, field research, Una River.

Vulnerability and conservation importance of the endemic fish species *Telestes metohiensis* in Bosnia and Herzegovina

MILICA LUKAČ[1], MAJA MANDIĆ[1], BRANKA BILBIJA[1]

[1]*Faculty of Science, University of Banja Luka, Mladena Stojanovića 2, 78 000 Banja Luka*

Heterogeneous karst landscape in Bosnia and Herzegovina (BiH) creates a diverse of unique habitats that are a home a number of endemic, relict and endangered species. One such species is a vulnerable, endemic fish species *Telestes metohiensis* (striped pijor). It inhabits temporal karstic streams, subterranean cavaties and springs in a restricted area in eastern Herzegovina. Data on population size, biology and ecology, habitat status and conservation measures of striped pijor are missing. Therefore, the primary goal is to determine species distribution, fluctuation of the population size during season, the population structure (based on morphological variation) and vulnerability. The data obtained would provide necessary information for monitoring the impact of various factors on the chosen localities and the species in order to identify appropriate management actions and to measure their effectiveness in our future work. Finally, we attend to provide DNA samples for genetic analyses (genetic structure) for the future work. Methods that we will use are non-invasive, which is most important from the conservation aspect. Trough different activities like workshops, lectures, field trips, publishing educational brochures and design website we will work on raising the public awareness regarding the protection and restoration sensitive and unique karst habitats and their endemic species. This information will help to enhance conservation efforts of the species through education and awareness campaigns.

Key words: *Telestes metohiensis,* karst landscape, vulnerability, enedemism, conservation.

Shell is not enough anymore – Rufford finance gathering of crucial data for conservation of Chelonians in Serbia

ANA GOLUBOVIĆ[1]

[1] *Serbian herpetological society "Milutin Radovanović", Bulevar Despota Stefana 142, 11000 Belgrade, Serbia, lunja975@yahoo.com*

Chelonians in Serbia, and generally at Balkan Peninsula, suffer great deal of anthropogenic pressure. Among others, major threats are illegal collecting and international trade. Although *Testudo hermanni* Gmelin, 1789 and *Emys orbicularis* (Linnaeus, 1758) are protected both at national and international levels, our knowledge about their distribution and population trends in Serbia are very limited. Lack of these crucial information disables efficient protection of the species. For example, in Red Book of

reptiles of Serbia (2015), European pond turtle is assessed as Data Deficient! Main aims of my Rufford projects were gathering of urgently needed data on distribution, threatening factors and gathering of DNA samples of Hermann's tortoises and European pond turtles. During 2013 and 2015 many novel and useful data were collected, among which 45 new UTM (10 x 10 km) squares for distribution of Hermann's tortoise and 36 new UTM (10 x 10 km) squares for distribution of European pond turtle. These data vastly changed our knowledge on distribution of these species in Serbia. Also, at some apparently healthy and numerous populations, long-term Capture-Mark-Recapture studies have been started, aiming to determine population trends. With collected DNA samples, basis for genetic data pool is made. These samples are available for genetic matching of Chelonians seized at national borders, in order to find their populations of origin and enable their fast return into the wild.

Key words: turtle, Serbia, distribution, conservation.

Defining the distribution of the Karst Viper (*Vipera ursinii macrops*) on mountain transversals of Orjen, Lovcen and Rumija and determining its possible threats

VERNES ZAGORA[1]

[1] *Montenegrin Ecologist Society, Bulevar Sv. Petra Crnjanskog 73, 81000 Podgorica, Montenegro, vzagora92@gmail.com*

The aim of this study was to determine the distribution of the Karst Viper (*Vipera ursinii macrops,* Méhely, 1911) in southern Montenegro. This species lives exclusively on high-mountain grasslands and barren land. It is a relict species, while the subspecies *macrops* is endemic to the Balkan Peninsula. The precise distribution of this vulnerable European viper is still not defined in Montenegro, although throughout the region scientists have been researching and protecting this species for over a decade. Due to the impact of the economic expansion and the increase in tourism in Montenegro, especially in the species' habitat (the mountains of Orjen, Lovcen and Rumija), we realized that it was imperative to locate and to protect all populations of this species. Furthermore, due to the lack of information, the Montenegrin law doesn`t recognize the Karst Viper as an endangered species. By protecting this species we are simultaneously protecting this mountainous region, in particular its remarkably beautiful high-mountain meadows. These meadows are also one of the most endangered parts of our ecosystem. Using common research methods (i.e. defining potential habitats by software, performing detailed research of all habitats, describing habitat`s characteristics, marking found samples, taking morphometric and meristic measures, and gathering DNA samples), we found two new locations of the Karst Viper on Mt. Lovcen and one potential location on Mt. Orjen having high possibilities of the Karst Viper`s presence. On Mt. Lovcen, the first location is intersected by a road with a high impacting

human traffic. The second location is completely preserved. In our opinion, this location contains a vast population of the Karst Viper. In the previously mentioned location on Mt. Orjen, the biggest threat it face is gaining vehicle access to this area due to the rough terrain and dense forests.

Key words: *Vipera ursinii macrops*, Montenegro, distribution, conservation.

Conservation issues for Dinaric rock lizards (*Dinarolacerta* spp.) in Montenegro

KATARINA LJUBISAVLJEVIĆ[1*], LIDIJA POLOVIĆ[2], VUK IKOVIĆ[1], SNEŽANA VUKSANOVIĆ[2]

[1]*Montenegrin Ecologists Society, Bulevar Sv. Petra Cetinjskog 73, 81000 Podgorica, Montenegro, ljubisavljevic.k@gmail.com*

[2]*The Natural History Museum of Montenegro, Trg Vojvode Bećir-Bega Osmanagića 16, 81000 Podgorica, Montenegro*

The Mosor rock lizard (*Dinarolacerta mosorensis*) and the Prokletije rock lizard (*D. montenegrina*) are endemic and relic species of the Dinaric mountains in the Western Balkans. As highly–habitat specialized species, with restricted and fragmented distribution, Dinaric rock lizards are particularly sensitive to anthropogenic influences. In this project we promote and address conservation issues for *Dinarolacerta* lizards in Montenegro, identified from research of their population parameters, habitat requirements and threatening factors. We recorded spatial variation in microhabitat preferences and abundance of Dinaric rock lizards in Montenegro. Proximity of the rocks to naturally vegetated areas appeared to be important factor determining abundance of *Dinarolacerta* lizards, indicating that these species are sensitive to destruction or alteration of original vegetation in their habitats. Several anthropogenic influences that may affect the habitats of Dinaric rock lizards were recorded in the study area of oro-mediterranean mountains. These were: fires, forest cutting, grazing and removal of stones and rocks for agricultural purposes. Through our educational and promotional campaign we raised public awareness on existence and importance for protection of *Dinarolacerta* lizards and their habitats.

Key words: *Dinarolacerta mosorensis*, *Dinarolacerta montenegrina*, Balkan Peninsula, habitat, threat factors.

Why is *Triturus dobrogicus* a high-priority species of amphibian for conservation actions in Bosnia and Herzegovina?

ADNAN ZIMIĆ [1]

[1] *Hereptological Association in Bosnia and Herzegovina „ATRA“,Alipašina 207, 71000 Sarajevo, Bosnia and Herzegovina, adnan.zimic@gmail.com*

Pannonian territory of Bosnia and Herzegovina (Posavina region) is represented by a very narrow stretch of lowlands next to the Sava River, in the northern part of the country (less than 5% of the country). This area represents the only place in B&H where *Triturus dobrogicus* can be found as well as southwestern frontier of global species distribution. Given fact is a result of insufficient investigation with only a few literature data. Last revision of amphibians suggest that *T. dobrogicus* is the one of the rarest amphibian in B&H with only a five findings (and one questionable). Other biological characteristics of the species from this part of the territory, are not well known. Its wetland habitat is one of the most severely threatened in Europe, mainly due to anthropogenic pressures (changes in agriculture, deforestation, habitat destruction and water pollution). The situation is more severe in B&H due to (1) destruction during war period, (2) mine field pollution, (3) no legal protection of species and habitats and (4) no protected areas in Posavina (except one very small protected area: nature reserve Gromiželj – 8 km^2). Globally species is listed as Near Threatened (NT), but close to qualifying for Vulnerable (VU) (according to the IUCN) for two reasons: (1) species is in significant decline probably at a rate of less than 30% over last ten years and (2) due to the widespread habitat loss through much of its range. In B&H (at this moment) species in considered to be Data Deficient (DD). According to the DELH (distribution, ecology and life-history traits) criteria *Triturus dobrogicus* in B&H has the status of Endangered species (EN).

Key words: pannonian, wetlands, conservation, Bosnia and Hezegovina, *Triturus dobrogicus.*

Distribution and Treats to European pond turtle in Montenegro

ANA VUJOVIĆ[1], ANA GOLUBOVIĆ[2], VUK IKOVIĆ[3], NATAŠA JOVANOVIĆ[4], JELENA VUKČEVIĆ[5], NATAŠA POPOVIĆ[6], VLADIMIR PEŠIĆ[7], LJILJANA TOMOVIĆ[2]

[1,4,5] *Natural History Association of Montenegro, Pažići, 81410 Danilovgrad, Montenegro. E-mail address: hermanna85@gmail.com, natasajovanovic89@yahoo.com, jelenavukcevic21@gmail.com*

[2]*University of Belgrade, Faculty of Biology, Institute of Zoology, 16 Studentski trg Square, 11000 Belgrade, Serbia. E-mail addresses: golubovic.ana@bio.bg.ac.rs, lili@bio.bg.ac.rs*

[3]*Montenegrin Ecologists' Society. 73 Sv. Petra Cetinjskog Blvd., 81000 Podgorica, Montenegro. E-mail address: vukikovic@gmail.com.*

[6]*National Park Skadar Lake, Vranjina bb, 81000 Podgorica, Montenegro. E-mail address: popovicnatasa23@yahoo.com*

[7]*University of Montenegro, Faculty of Natural Sciences and Mathematics, Department of Biology, Džordža Vašingtona bb, Podgorica, Montenegro; E-mail address: vladopesic@gmail.com*
*Corresponding author: Ana Vujović, hermanna85@gmail.com

Our aim is to study European Pond Turtle at the territory of Montenegro, in order to get a valid picture about their distribution and problems they are faceing. The main goal of the project. Distribution and Treats to European pond turtle (*Emys orbicularis*) at Zeta and Bjelopavlici was to evaluate the potential habitats and threats to the European Pond Turtle, Emys orbicularis (Linnaeus, 1758). After literature search we managed to find only data about the European pond turtle in some part of region of Skadar Lake and some localities at Bjelopavlici plane. That gave us good bases for field research. We have checked a potential habitat suitable for this species at Zeta and Bjelopavlici Plain and collected valuable data: information about threats, DNA samples and morphological measurements. The populations of the European Pond Turtle (*E. orbicularis*) are threatened due to many factors, like as loss and destruction of habitat, water pollution and land and habitat fragmentation. Electrofishing devices are one of major threat for fish fond and directly and indirectly European pond turtle and piscivor birds. We checked 13 localities along the Zeta River (including surrounding swamps and ponds). In nine localities we detected individuals, but not at other four sites. We visited 17 potential locations ideal for European pond turtle at Podgorica, but we registered just at seven locations. We got information about the risks they face in their natural habitats, so we can base our next steps for species and habitat conservation, hopefully through another projects. At Zeta and Bjelopavlici plain a lot of people do fishing, and some of them use illegal means, like electrofishing devices and nets. Although we have not found any electrofishing devices, by talking with local people we have found out that this devices are used and that they kill a lot of animal in our waters.

Further research of this species in Montenegro are urgently necessary, because it is obvious that this species faced with many problems.

Key words: *Emys orbicularis*,distribution, threats, Montenegro.

Research and conservation of the Endangered Black Salamander from mountain Prenj – *Salamandra atra prenjensis*

EMINA ŠUNJE

Faculty of Natural Science, University of Sarajevo;

Herpetological Association in Bosnia and Herzegovina: ATRA

The research on the balck Salamander from mountain Prenj has intensively started in 2013 in Bosnia and Herzegovina (B&H) through the support of the Rufford Small Grant Foundation (RSG). The field work performed during the last three years has enabeled the collection of huge amount of biological data relevant for the research and mandatory for conservation of this endagered resource. In the last year (2015), again thanks to RSG, the project has reached a regional level were we started with first field analyzes and research of Croatian populations. Typical for the Dinaric mountains, *Salamandra atra prenjensis* shares similar but different environmental needs compared to its Alpine realtives (*Salamandra atra atra*) - It s uniquness is identified through several comparative studies of the two, conducted through this project: (a) large variation in morphological characters, despite the limited genetic variation, shows the plascity of this endagered subpecies and reflects directions of evolutionary adaptation; (b) the analyzes of skin toxins suggest higher toxicity of Dinaric individuals; (c) analyzes of chytridyomycosis showed absence of the mortal fungus, but continued annual mortality has been registered, which is possibly corelated with post hybernation sensitivity acting as a (stable) mechanism of natural selection. New discoveries were made in defining new potential areas of distribution in the whole region of its occurence. Currently, the focus of the study is the creation of distribution models for *prenjensis* occurence using environmental niche modelling (ENM) to asses its definite and potential areal which is currently unclear but severely fragmented. The model could be used to asses the populations under the highest risk of global climate change. Transects data and body temperature data are currently in phase of analyzes at the University of Antwerp (Belgium). Collecting data for feeding preferences study is still in procedure. Educational activities and promotion of this resource have been made in several cities in Bosnia and Herzegovina, Zagreb (Croatia) and Podgorica (Montenegro). Big progress has been made in establishing and reinforcing regional collaboration and

cooperation through defining new possible studies that are currently beeing developed. In a few years we expect to have a defined regional conservation action plan for this uniqe subspecies.

Key words: sky island populations, comparative ecology, functional morphology, Dinarides .

Distribution and vulnerability of Balkan Terrapin (*Mauremys rivulata*) in Montenegro

SLAĐANA GVOZDENOVIĆ[1], VUK IKOVIĆ [1]

[1]*Montenegrin Ecologist Society, Bulevar Sv. Petra Cetinjskog 73, 81000 Podgorica, Montenegro, sladjana87gvozdenovic@yahoo.com*

Most of Balkan Terrapin habitats are under different negative anthrpogenic factors, and the biggest one is planned and unplanned urbanisation. Second negative factor is channeling (editing) of waterways to prevent flooding and to obtain a larger surface area that could be urbanized. Third factor is construction waste, which in some localities unloading occupies the coastal part of the river flow, thus reducing the feeding space and space for laying eggs. Climate changes also had a negative impact on this species, because increasing the length of the dry season comes to a more frequent draining of water surfaces and reduces the length of the optimal period for reproduction and incubation of eggs. Other negative factors are the expansion of transport networks which are blended its habitats and hinders communication between remote parts of a metapopulation, development of tourism disrespectful – application of environmental standards, fish catch due to illegal tools which also can kill turtles. These is ecological investigation with aim to order quality of freshwater habitats trought state of Balkan Terrapin populations. We was performing Capture-Mark-Recapture (CMR) method in order to determine population size, dinamics and structure. During field works we also mentioned all negative factors which were present on localities, determine type of habitats and supstrat were individuals were catched. We cached 161 individuals, took morphometric measures, determined the age category and took samples for DNA analysis. 79 of total catched were females, 70 males, and 12 individuals not determined. Only 2 of them were juveniles, 19 subadults and 140 adults. Mean values of SCL for adult females was 155.6 mm, and for adult males 136.4 mm. Mean values of MCW for adult females was 111.1 mm, and for adult males 110.2 mm. Mean values of MPL for adult females was 137.5 mm, and for adult males 120.05 mm. Mean values of TW for adult females was 536.3 g, and for adult males 393.2 g. On all investigated localities negative antropogenic factors were recorded: habitats drying, urbanisation, illegal waste and waste waters. Presence of the Balkan Terrapin is confirmed at one new site – Ada Bojana, Ulcinj. Lectures about Balkan Terrapin biology, ecology, distribution, vulnerability and protection have been held in several primary schools in Herceg Novi and

Kotor. Workshop and meeting with local fishermen society have been done, as well as meetings with the decision makers on local level, Environmental Protection Agency and Ministry of Sustainable Development and Tourism where we presented the results of the project and initiated on common work. This common work means to initiate preparation of management plans for freshwater habitats. This plan would serve as the handbook of the heritage protection of the environment in the process of Environmental Impact Assessment. Making such a document would lead Agency for nature protection, and our team would provide the necessary data for critical areas.

Key words: freshwaters, habitats, population size, negative factors.

Preliminary data on the distribution and conservation status of the Balkan adder (*Vipera berus bosniensis*) in the Vojvodina province, Serbia

ALEKSANDAR SIMOVIĆ[1] & MILIVOJ KRSTIĆ[1] & SONJA ĐORĐEVIĆ[1,2]

[1] Serbian Herpetological Society "Milutin Radovanović". Bulevar despota Stefana 142, 11000 Belgrade, Serbia
[2] University of Belgrade, Faculty of Biology, Institute of Zoology. Studentski trg 16, 11000 Belgrade, Serbia

Vipera berus is a viper with extremely large distribution range and it is also widely present in Europe. However, its distribution in the Balkan Peninsula is limited to high mountains and preserved remains of lowland natural habitats along large Sava and Danube rivers. Balkan populations of *Vipera berus* are recognized as a distinct subspecies, *V.b.bosniensis*. Its populations in the lowland region of Serbia, i.e. in the Vojvodina province, also belong to this subspecies, although, in geographic terms, Vojvodina does not belong to the Balkan Peninsula. The knowledge concerning the distribution and conservation status of *V. b. bosniensis* in Vojvodina is very limited, because this taxon has never been specifically investigated. Also, it was only recorded in few localities. During 2015 we made numerous field trips throughout the Vojvodina province, especially in lowlands along the Sava and Danube rivers. We surveyed the few remaining confirmed or potentially suitable habitats of this species in the target area. Search localities were selected according to GIS modelling, personal observations, and limited published data regarding this species in Serbia. We entered our findings onto the 10×10 km UTM grid overlying the map. The adders were sometimes only visually recorded. Usually, we caught the animals, took their measurements, DNA samples, and photographs. Afterwards, individuals were released at exact places of capture. We found adders in 10 previously unreported UTM squares. Some of these data were included in the Red Book of Fauna of Serbia II – Reptiles. In addition to distributional data, we recorded information on threat factors, among which the most strongly pronounced are the

following: deforestation, urbanization, intentional fires, and other land use changes, but also killing of individuals in the areas frequented by tourists.

Key words: lowland Balkan adder, distribution, ecology, conservation**.**

The PARADOX of metamorphosis in European Common spadefoot toad (*Pelobates fuscus*) in Bosnia and Herzegovina

ĆURIĆ ANA[1]

[1] *Society for Research and Protection of Biodiversity, Brace Potkonjaka 16, BA-78000 Banja Luka, Bosnia and Herzegovina, anna.curic@hotmail.com*

European common spadefoot toad (*Pelobates fuscus* (Laurenti, 1768)) is a wide – ranging European anuran species, which can be found, in Balkan, mostly in lowland areas of northern and eastern lowlands (Pannonia basin). Until 2014th common spadefoot toad was only suspected to inhabit Bosnia and Herzegovina. Its ecology suggested that species could be found in northern parts of B&H, so called Posavina region, so we based our research on lowland areas along the Sava River. Main activities of the project were defining distribution map of *P. fuscus* for B&H, listing all herpetofauna species that share habitat with *P. fuscus,* listing all possible threats, raising awareness of the local people, educating team members and students as well as local people and other interested. Based on known literature data and data collected during this project (2014 and 2015), we made distribution map of common spadefoot toad for Bosnia and Herzegovina. New populations were found near towns of Kozarska Dubica, Srbac, Brod, Modriča and Šamac. Unfortunately, there is a lack of natural habitats and species adapted to anthropogenic sites, where human influence represents one of main threats. Posavina region is rich with amphibian and reptilian species, and we found 25 species on sites along with *Pelobates fuscus*. Tadepoles, including individuals larger than 14 cm, were found on only one locality near Modriča town. Education activities were successfully conducted in elementary schools and organizations in B&H and we are continuing education in elementary schools of Posavina region and universities of Banja Luka and Sarajevo. We also managed to connect organizations and their members from B&H and Croatia through the implementation of the project.

Key words: distribution, spadefoot toad, Posavina, education.

Distribution and numbers of wintering Long-eared Owls (*Asio otus*) in the Vojvodina Province (Northern Serbia) during winters 2007-2008 and 2008-2009

MILAN RUŽIĆ[1], MARKO ŠĆIBAN[1], DIMITRIJE RADIŠIĆ[1], MARKO TUCAKOV[2] & MARKO JANKOVIĆ[2]

[1] *Serbian Owl Conservation Centre, Momčila Tapavice 12/835, 21000 Novi Sad, Serbia,* centarzasove@gmail.com

[2] *Bird Protection and Study Society of Serbia, Radnička 20a, 21000 Novi Sad, Serbia*

[2]sekretar@pticesrbije.rs

The paper shows results of the Long-eared Owl, *Asio otus,* (Linnaeus, 1758) communal roosts survey during two consecutive winters, 2007-2008 and 2008-2009 in the Vojvodina Province (Northern Serbia). Human settlements and large state farms were surveyed using a method of total census. During the first winter, 368 communal roosts were found, with total number of 19.335 Long-eared Owl individuals. Mean number of Long-eared Owls per roost site was 52,54. No significant differences between mean numbers of individuals per roost in different regions of Vojvodina were found, but the density of Long-eared Owls was not evenly distributed in the three different regions (i.e., Bačka, Srem, and Banat). During the second winter, we found 412 roost sites, with 26.537 Long-eared Owls. Mean number of indivuduals per roost site was 64,41 and it was significantly larger than during the previous winter. Also in the second winter, significant differences between mean number of individuals per roost in Srem and in the other two regions were recorded. In both winters, we found a strong correlation between Long-eared Owl numbers and the numbers of occupied trees in roost sites. Mean number of individuals per roost site in Vojvodina for both winters was larger than found in other areas of Europe and elsewhere in the world where large-scale census work has been done. Results show that Vojvodina Province is a suitable area for the wintering of large numbers of Long-eared Owls, but different habitat characteristics within the three regions of Vojvodina influenced roost size, density of roosts, and numbers of individuals. Also, the numbers of wintering Long-eared Owls varied significantly in different years.

Key words: roosts sites, survey, rural and urban habitats**.**

Biodiversity values of limestone gorges in Serbia

UROŠ PANTOVIĆ [1]

[1] *Bird Protectiona and Study Society of Serbia, Radnička 20a, 21000 Novi Sad, Serbia, pantovic_uros@yahoo.co.uk*

Gorges are special forms of geological structure which are formed by vertical erosion, i.e. by influences of water courses on soluble rock mass. The most abundant soluble rocks in nature are carbonate rocks, mainly limestone and to a lesser extent, dolomite.During the shift of ice ages, gorges and many mountainous habitats represented refugia for numerous plant and animal species, which during the drastic climate change, survived precisely because of the existence of these habitats. These ecosystems even today represent ecological entities for which many relict species, such as ***Turdus torquatus*** (Linnaeus, 1758), Ring ouzels; ***Tichodroma muraria*** (Linnaeus, 1766), Walcreepers; ***Ptyonoprogn erupestris*** (Scopoli, 1769), Crag martins; ***Alectoris graeca*** (Meisner, 1804), Rock partridges and many others are associated with. Sanctuaries of beauty, sanctuaries of rare and unusual species, due to inaccessibility often remain hidden and unknown to most people. Small numbers of these sites are protected under national legislation as nature reserves or are recognized as sites of international importance (IPAs-Important Plant areas, PBAs-Prime Butterfly Areas, and IBAs-Important Bird Areas). The majorities of gorges are not explored and stay hidden from scientific community and general public. Therefore, it is of greatest importance to gather quantitative and qualitative data on habitats and species distribution, numbers and trends, as well as possible conservation threats.Several large gorges and river ecosystems in Serbia have been devastated in past by hydropower plant construction. It is well documented that this caused serious changes of sensitive ecosystems, biodiversity loss and uncontrolled infrastructural development. In the ever-growing demand for energy and resources Serbian Government and large companies nowadays target gorges and natural river flows as potential sites for energy production. The numerous planned new hydropower plants would severely impact these intact habitats with very high conservation value.There isn't any conclusive data about biodiversity of these sites. One of the main activities of this project was field research which resulted in gathering data that attests to the significance of limestone gorges. With this knowledge, through data publishing we informed the public of the importance of these ecologically sensitive habitats in hope of raising ecological awareness of the general public and establishing their legal conservation. By informing and working together with the local communities we helped them to realize theimportance of limestone gorges in Serbia and the ecosystem services that they provide. This enabled us to counteract more efficiently the planned construction of hydro-power dams and the ever growing demand for energy and resources in Serbia

that threatens the survival of these sites. Research conducted during this project has pointed out the real wealth of wildlife diversity in the gorges and habitats associated with them. During the course of this project we have registered 78 species of nesting birds, 119 species of diurnal and nocturnal butterflies, as well as over 250 species of plants and 14 species of bats. This project can be used as a positive example of nature conservation in Serbia. Limestone gorges in Serbia are of great importance for species, habitats and landscape diversity both on national and international scale. They also provide us with valuable ecosystem services such as clean drinking water (that local communities depend very much on), medicinal plants, sport fishing, ecotourism potentials etc. The data and knowledge obtained during this project and its availability has also numerous other applications (EBBA-European Breeding Bird Atlas; BiEIII-Birds in Europe III), National Red List of bird species, IBA, IPA, PBA program etc.), which attest to the long-term effects of the project.

Key words: Conservation, limestone gorges, infrastructural development, biodiversity research.

Great Bustard, *Otis tarda* (Chordata: Gruiformes) occurrence sites and numbers in North Banat in particular periods of its yearly cycle

GRABOVAC, D.[1]

[1]*Great Bustard Protection Society,* Dom kulture, Trg 9. januar 66 *Mokrin, Serbia*

The Great Bustard (*Otis tarda* Linnaeus, 1758) in Serbia is on the brink of extinction. As the southernmost satellite population in the Carpathian basin, its numbers are declining, and now there are only 11 - 14 individuals left. A maximum of 15 specimens was observed with three young males suggesting visits from the neighbour population. One of the basics for protection of the Great Bustard is mapping of its habitat and interpretation of the field data using QGIS software. Data was collected by direct observation and counting during the whole year from the observation points which are determined in advance in Great Bustard Pastures Special Nature reserve and areas surrounding village of Mokrin. All records of Great Bustard occurrences from North Banat in the period between 2009 and 2014 (with the exception of 2011) were georeferenced and analysed using QGIS. For the purpose of this study we analysed space used by the species inside and outside the Reserve, as well as numbers of individuals in key periods of its life cycle. In the study more than 500 sightings are presented and divided into 3 key periods of the Great Bustard life cycle. The results show that the Great Bustard uses different habitat during different periods of its life cycle and in some periods prefers parts that are not within the Reserve. Overall, this study pointed threats to conservation of Great Bustard in Serbia and shows that its survival requires application of different active measures of protection.

Key words: database, GIS, space using, breeding, wintering, male display, chick rearing.

Preliminary bird inventory in Kosovo

QENAN MAXHUNI[1], PAJTIM KASTRATI[2]
[1]*Kosovo Institute for Nature Protection, Prishtine, Kosovo, qmaxhuni@yahoo.com*
[2]*Ecological Association "Eko Viciana", Prishtine, Kosovo, fortesap.1990@gmail.com*

Although Kosovo is a small country, distinguished for its rich biological and landscape biodiversity with particular emphasis on fauna, which is worth mentioning the presence of species with special internationally importance. Kosovo`s fauna in general and especially birds fauna has not been studied sufficiently, so in order to have more information about this we made for the first time birds inventory in the country level by providing information about birds species, their habitats, the current state of these species and appropriate measures for their conservation. In order to collect as realistic data we have used several methods such are analysis of existing documents to date, data collection in the field accomplished through observing, counting birds and nests in their natural habitats, etc. The main results from this project are: the final list with 220 Kosovo birds' species, preparing for publication of book entitles "Birds of Kosovo", comparative list of bird species with BERN Convention, IUCN Red List Categories, data processing and preparation of database. Main beneficiaries of the project results was Ministry of Environment and Spatial Planning /Kosovo Environmental Protection Agency /Kosovo Institute for Nature Protection because they have now more data for creating the database for birds species and their habitats and these data are the basis for the preparing The Red List of Species, potential areas for protection at national and international network (Important Birds Area - IBA), potential areas for Ecological Network Natura 2000, etc.

Key words: preliminary, inventory, birds, Kosovo, fauna, Important Birds Area, Natura 2000.

Combining Research with Education for Cetacean Conservation in Fethiye-Göcek SEPA, Turkey

AYLIN AKKAYA BAS[1], ERSIN BAS[1]

[1]*Marine Mammals Research Association, Antalya, 07070, Turkey*

Identifying the critical habitats for cetaceans, assessing the threats on the population and ensuring the active involvement of public to the project activities serve as an important tool for the effective conservation strategies. This is the first cetacean study conducted in the Special Environmental Protection Area of Fethiye-Göcek (SEPA). Cetacean abundance was assessed and public engagement campaigns were carried out from August 2015 to February 2016. Four scientific boat surveys and two educational dolphin watch tours were conducted so far. Pre-determined survey transects, both in the bay and in the international waters, were followed. In total, 38 hours were spent in the search of cetaceans. In addition, the educational tours were taken around 6 hours in each. A group of five individual bottlenose dolphins (*Tursiops truncatus*) have been encountered while they were surface-feeding in November 2015. The sighting was recorded during off-effort where they were sighted outside our transect line. In addition to the order of cetacea, many species that are listed at risk by IUCN were encountered such as green turtles, loggerhead turtles, blue shark, swordfishes, albacores and shearwaters. In regards to the public awareness activities, four fishermen and four captains who are members of different tour agencies operating in the site, joined to the scientific surveys which helped us built a mutual relationship and brought us closer to the stakeholder groups. While questionnaires, conducted with locals and school kids, showed a comparably high level of nature awareness, interviews with trawlers showed that they hold a strong negative opinion on protected areas. However, our interviews with small scale fishermen and swordfish hunters were productive and we come up with an arrangement that the researchers from our team will be in their boat during their hunting season. Moreover a cetacean sighting network was developed and since then offshore sightings of a sperm whale in August 2015 as well as groups of bottlenose dolphins in November 2015 were reported by the fishermen. A close relationship with Fethiye Municipality was also developed which provided us new opportunities to spread our word. Our results suggest that cetacean presence can be seasonal in the bay as there are many fishermen reporting the high rate of cetacean encounter between March and June. Moreover, we need to keep in mind that we are in the half way of our project and field surveyes have only been conducted during autumn season. Year round data should be analysed to have a better picture on cetacean distribution in Fethiye-Göcek. Lastly, despite the area is protected by law, no field office or rangers were present in the site. The pollution level of the bay seemed rather high and unregulated fishery activities in various forms were reported during our

surveys. This study is the first step towards understanding the seasonal abundance and distribution of cetaceans to create effective conservation strategies and to develop a sustainable network between government bodies, fishermen and tour boat crews while encouraging the stakeholders to act responsible on nature in Fethiye-Göcek SEPA.

Key words: Cetacean abundance, protected area, public awareness, conservation.

Grey Wolf in Bosnia and Herzegovina

DRAGANA ŠNJEGOTA[1]

[1]*University of Banja Luka, Faculty of Science, Mladena Stojanovića 2, 51000 Banja Luka, Bosnia and Herzegovina, snjegotadragana@gmail.com*

Grey wolf from Bosnia and Herzegovina belongs to the Dinaric-Balkan grey wolf population, which represents the borderline population between the Eastern European and the Western European populations. Due to important position of Bosnia and Herzegovina at the Balkan and due to the fact that little is known about its grey wolf population, we have implemented a project of grey wolf monitoring in order to get an insight into real condition of the population, to define conservation management units, and to create a good conservation and sustainable management plan. The fulfillment of the above mentioned is very important as grey wolves from Bosnia and Herzegovina are not protected, except females during a specific period. In the first part of our project, we have covered two locations where we have set up cameras at the target transects, with an aim to take photos of wolves and estimate their abundance and number of a pack/packs. We also followed their paw prints with the same aim. Unfortunately, we constantly receive information on killed wolves, which is devastating because we don't know their real abundance and this legally killing could threaten the observed population. Since the population of grey wolf from Bosnia and Herzegovina is unexplored through its whole territory, our plan is to furthermore expand the area of monitoring. In addition we plan to include as more local land managers, researchers, government and non-government organizations as possible, in order to get data on wolf presence at the entire territory of Bosnia and Herzegovina and to establish a good conservation management plan. The fact that we perform genetic analyses of present population increases the importance of our project since we are the first to perform such analyses for grey wolf population from Bosnia and Herzegovina. Genetic analyses are an important tool for obtaining data of grey wolf variability, population structure and population dynamics. Without this data it is impossible to make an efficient conservation management plan.

***Key words*:** grey wolf, population, Bosnia and Herzegovina, monitoring, conservation management plan.

Researching of Grey wolves (*Canis lupus*) in Herzegovina

DUŠAN TOHOLJ

BIO "Southern Blue Sky", Trebinjskih brigada 2, Trebinje, Bosnia and Herzegovina, sbskyteam@yahoo.com

Biological researching organisation „Southern Blue Sky" from Trebinje started with its work in 2005. Main mission of organisation is studying and protection of wildlife with special accent on studying and protection of large carnivores (*Canis lupus, Ursus arctos, Lynx lynx*). In 2008 and 2009, with the support of Rufford Small Grants Foundation, SBS implemented the project called „Gorski vuk". The main aim of the project was to estimate the number of wolves and to locate wolf packs on the territory of Trebinje. That is important because never before such research has been done and there is no literature data concerning this subject. Only information source was local Hunting Association. Another aim of the project was the education of public about necessity of wild Nature preserving. The presence of wolves was determined based on finding footprints, collection of feces, howling surveys, registration of attacks on livestock. Based on fieldwork results, it was estimated that on the territory of Trebinje there is maximum five wolf packs or 30 wolves. This number is significantly lower than the number presented by Hunting Association. Education of public was conducted through workshops on the subject of misuse of poisons in the fight against wolves and on the subject of biological harms of chase as the way of hunting wolves. These issues were also discussed in local media. The project had specific activities and objectives so it can be said that wildlife researching projects have beginning but not the end.

Key words: grey wolf, *Canis lupus*, wildlife preservation, Herzegovina.

Conserving bats and important habitats in agricultural environment in Serbia

JELENA BURAZEROVIĆ[1]

[1] *University of Belgrade, Faculty of Biology, Chair of Animal Ecology and Geography, Studentski trg 16, 11000 Belgrade, Serbia, jelena.burazerovic@bio.bg.ac.rs*

The project „Conserving bats and important habitats in agricultural environment in Serbia“ aimed to identify suitable habitats and important linear features in agricultural landscapes in Serbia and to initiate first steps for development of framework guidelines for protection of bats in this kind of surrounding. This topic is of special importance as around 66% of country's land is used for agriculture which represents one of the main pillars of country's economy. Despite vast coverage of land used under traditional agricultural practices, there is a large part of the country's agricultural landscape which has been intensively used in the last few decades, placing bats and other wildlife roosting and feeding in agricultural landscapes - in danger from a conservation point of view. Main activity which was the basis of entire project, was field research of habitat associations and importance of different linear features for different bat species presence and level of activity in lowland agricultural landscapes along the Sava and Danube rivers (wider territory of Avala, Fruška Gora, Lower Danube area, Obedska bara, Zasavica). Design and analysis of this research was conducted in cooperation with professor Gareth Jones from University of Bristol (United Kingdom) and dr Paolo Tizzani and Nicole Preacco from University of Torino (Italy). Using bat detectors, bat sound analysis, GIS and statistical analysis softwares effects of different habitats (arable land, grassland and pastures, scrub, deciduous and mixed forest, coniferous forest and water bodies) and linear features (woodland edge, road, hedgerow, water edge) on bat species presence and level of activity were evaluated. The results showed that activity of bats is significantly positively affected by the presence of water and woodland habitats, as well as the edge habitats**.** The total level of bat activity, as well as activity of *Pipistrellus pygmaeus, Pipistrellus kuhlii/nathusii* and *Eptesicus serotinus/Nyctalus noctula* were significantly positively affected by the presence of water edge habitats (canals, streams and rivers found in the landscape), while the level of activity of *Rhinolophus ferrumequinum* was positively affected by the woodland edge. Based on these results and literature data about habitat associations and effects of agri-environment measures on bat species activity from other European countries, a starting point for framework recommendations about important habitats and features for bats in agricultural landscapes in Serbia was developed and presented to nature protection authorities such as the national Nature Protection Institute and the Provincial Secretariat for Environmental Protection who showed interest in development of joint initiatives aimed at biodiversity conservation in agricultural landscapes, particularly bats. Having in mind importance of educated public and especially children

and youth about bat conservation, significant part of project activities was aimed at raising public awareness in cooperation with NGO ORCA (Organisation for Respect and Care of Animals) through workshops with teachers. Together with field work we communicated with local community and farmers about importance of biodiversity conservation in agricultural landscapes, especially bats. Special webpage dedicated to the project and its results has been kindly developed and maintained by ORCA at www.orca.rs

Key words: Bats, habitats, linear features, agricultural landscape.

Future perspectives for European Ground Squirrel, *Spermophilus citellus* (*Rodentia:Sciuridae*) in south-eastern Pannonian plain (Serbia)

TIJANA NIKOLIĆ[1,3*] DIMITRIJE RADIŠIĆ[1,3] NADA ĆOSIĆ[2] AND DUŠKO ĆIROVIĆ[2]

[1]*Serbian Society for Protection and Study of Birds, Radnicka 22A,21000 Novi Sad,*tijana.nikolic@dbe.uns.ac.rs

[2]*Departman of Biology, Faculty of Science, University of Belgrade, Studentski trg 3, 11 000 Beograd, Serbia*

[3]*Department of Biology and Ecology, Faculty of Science, University of Novi Sad, Trg Dositeja Obradovića 2, 21000 Novi Sad, Serbia*

European ground squirrel (*Spermophilus citellus*) is endemic to central and south-eastern Europe. According to IUCN red list species is VU. Declining occurs across range and highlights the importance of species status revision. European ground squirrel population in Serbia is fragmented and mainly distributed in intensive agricultural area on sub-optimal habitats. To understand species status, threats and possible restoration scheme, we investigated species distribution along gradient of potential habitats. Inventory of habitats with species records between 2010 and 2014 was conducted. We listed European ground squirrel occupied and unoccupied habitats and related characteristics. The results reveal 209 recorded habitat patches in total; with 130 occupied and 79 unoccupied. The survey indicated 86,4 % of occupied patches with intensive cattle breeding, 10,6 % cattle breeding and mowing, 18,4 % are abandoned and 1,6 % are artificial habitats. On 30,7 % of occupied patches fluctuation of ground water table is presented. In comparison with data from 1992 decline in number of European ground squirrel populations is confirmed. Future activities for the population of European ground squirrel in Serbia are related to habitat structure measures and genetic mapping activities. Aim

is improving movement, dispersal and connectivity for European ground squirrel in Serbia. In order to do so we will i) calculate a genetic threshold value for purpose of species perspective landscape evaluation and mark areas of conservation potential for maintaining viable population. Also it is highly valued to take conservation management measures in relation to habitat characteristic and different grazing/mowing regimes.

Key words: Ground squirrel, habitat patches, habitat characteristics, distribution, mapping

Distribution of brown bear (*Ursus arctos* L., 1758) on mountains Manjača, Čemernica and Uzlomac, north of Bosnia and Herzegovina

IGOR TRBOJEVIĆ*, MILE JOVIĆ

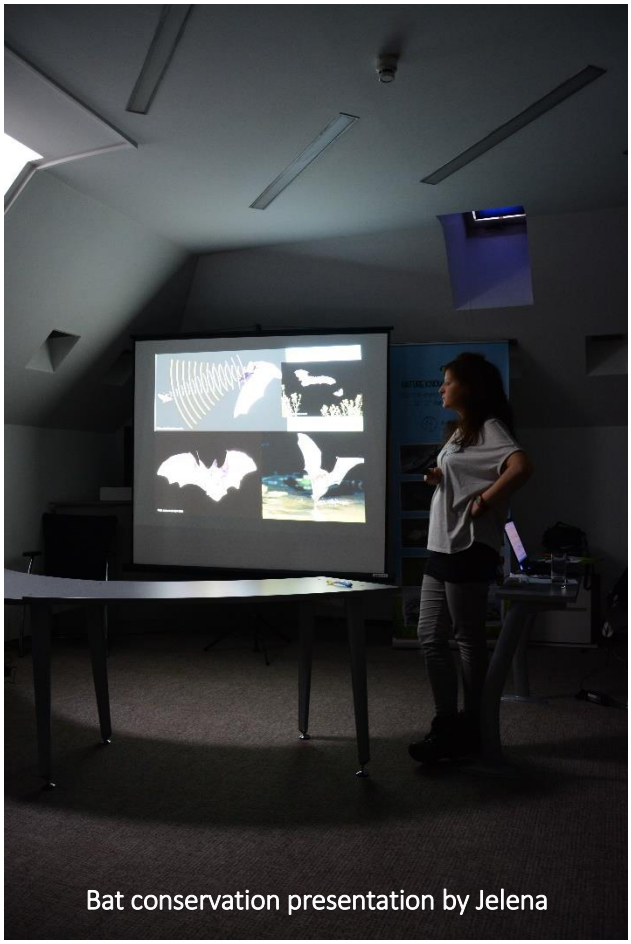
*Faculty of Science, University of Banja Luka, Mladena Stojanovića 2, 78 000 Banja Luka, *igortrbojevic@yahoo.com*

Regarding Bosnia and Herzegovina territory, the brown bear (*Ursus arctos* Linnaeus, 1758) is an autochthonous and widely distributed species. Unfortunately, due to lack of systematic ecological studies, the knowledge of its ecology, spatial distribution, and population density is poor. Bears are omnivorous species. While having strong canine teeth and short digestive system typical for carnivore, brown bear diet consists in 95 % from plants. Due to loss of habitat, and therefore food, they descend closer to urban areas, where causes damage in human settlements. Therefore, as well as for their meat and fur, it is often a victim of poaching activities. As Bosnia and Herzegovina has no "Management plan for brown bear" it will be a priority for this research. The study was planned to last for 5 years. Long-term monitoring and assessment of condition of species would generate an accurate data on the abundance, dynamics of individuals and state of species (determined to be accurate permanent localities, feeding individuals, abundance, caused mortality). These are the essential parameters for quality management of species. In the first year, research would be done in the north of Bosnia and Herzegovina. The study of bears began in the mountains of Manjača, Uzlomac and Čemernica, in June 2015. On established transects are set photo traps, collected faecal samples, and documented traces of a bears. Fecal samples were collected and stored in a freezer at a temperature of -20 ºC for the final analysis of bear diet. Traces found on the field have been measured, photographed and taken their GPS position. Photos, which are taken from cameras, were used in the determination of individuals and made it possible to realize the trend of using habitats (especially in relation to human impact, which is constant in certain locations).

Key words: Distribution, population density, long-term monitoring, photo traps, diet.

Pictures from the RSG Conference in Bosnia and Herzegovina

Uroš presenting limestone gorges project



Bat conservation presentation by Jelena

Okan

Milan giving an interesting lecture about long-eared owls in Serbia


Presentation session 1

First round table led by Dušan

Adnan and Emina with their project t-shirs

Mitko talking about fungi in Macedonia

Lecture and discussion about networking issues

Our youngest participant

Cultural exchange – Okan talking about Turkish national costume

Gazmend presenting 10 years of work in just 15 minutes

Visiting the Jajce city


KNOWS NO BOUNDAR
rence in Bosnia and Herzeg
22nd March 2016, Banja Luka