
Land-use changes
• Abandonment - below

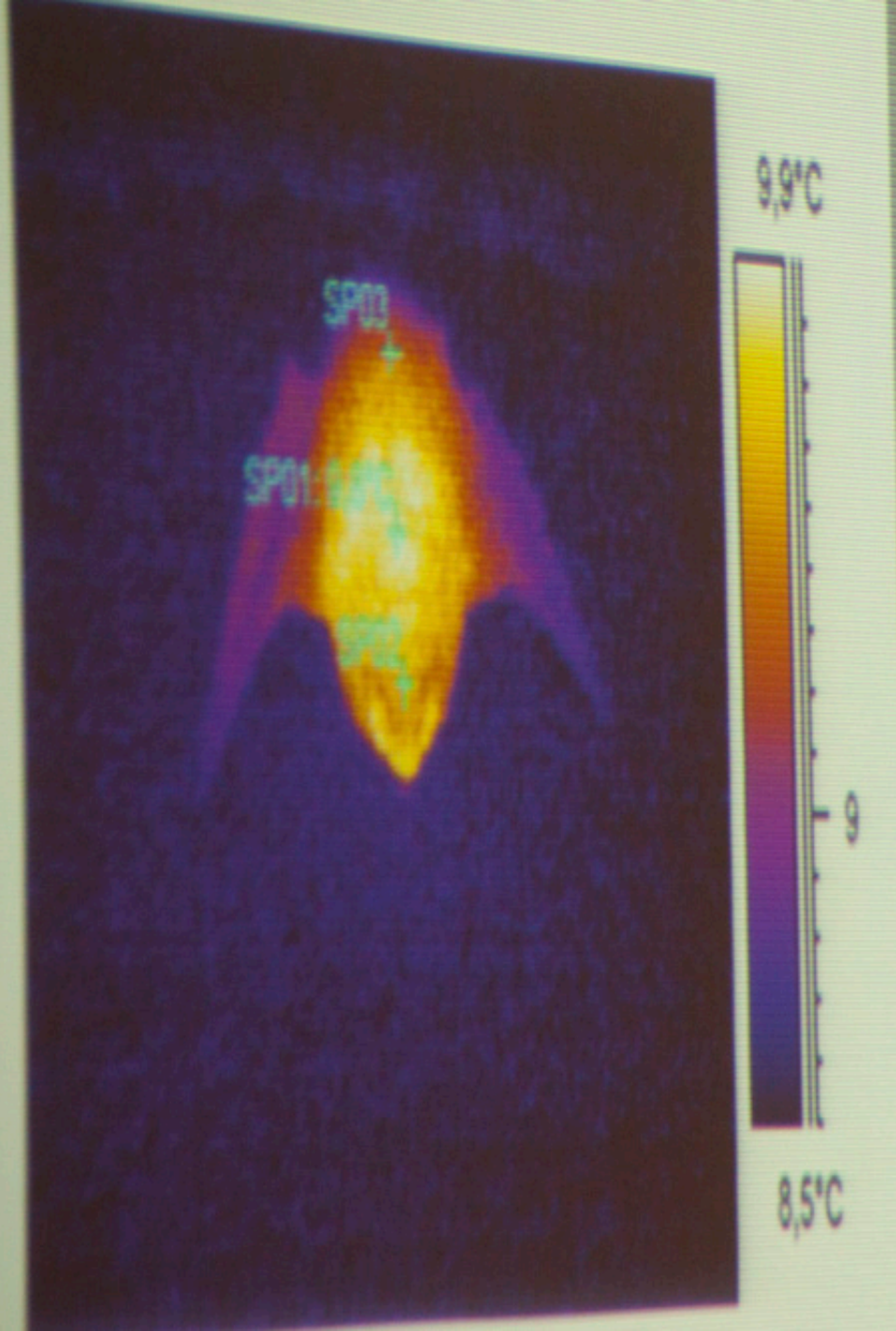

Corncrake Population Changes
• Main causes
– Habitat alteration (33%)
– Infrastructure development (29%)
– Disturbance (17%)
– Abandonment (12%)

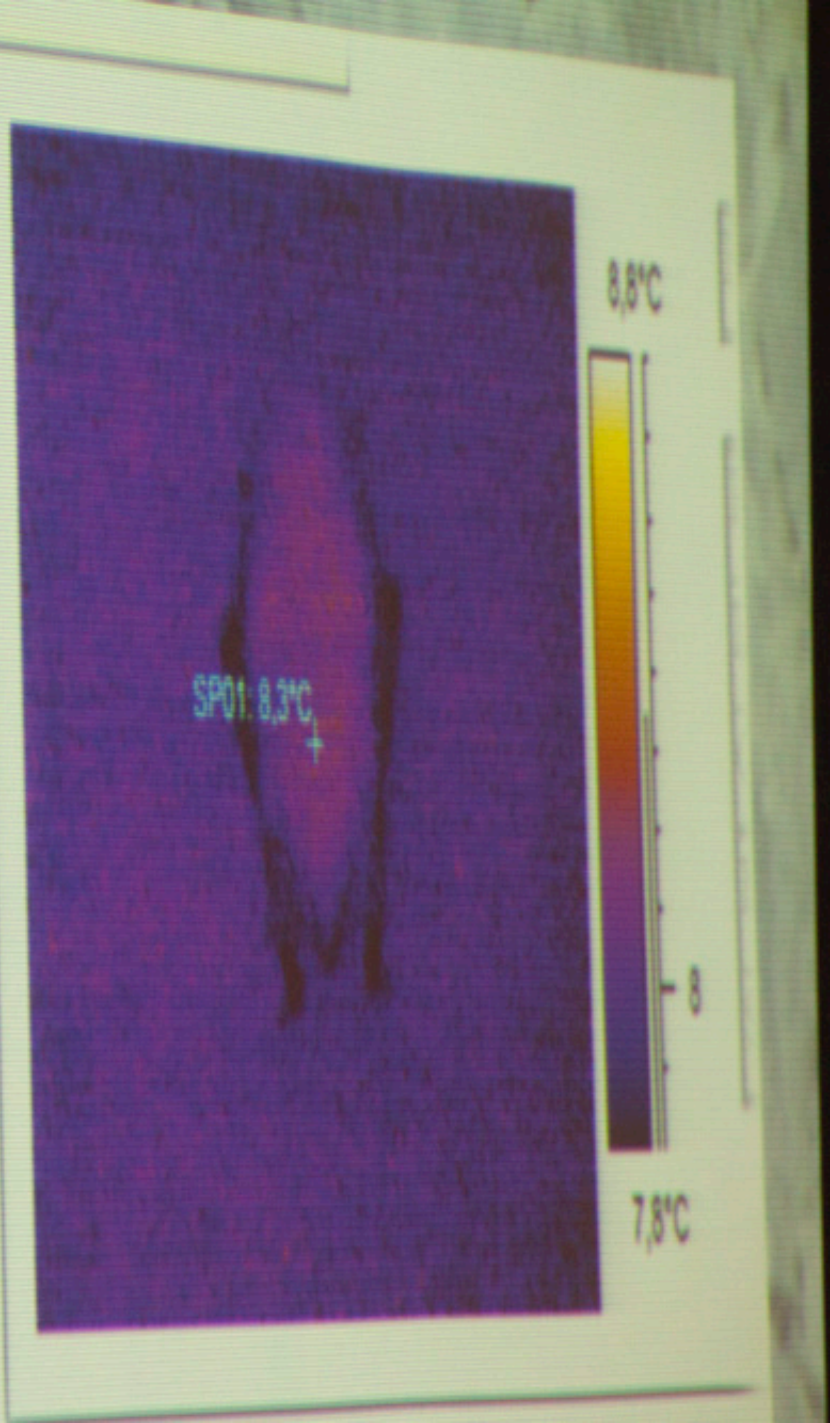

- durata transportului;
- varsta;
- starea de sanatate


15.07.2010-21.07.2010- ChamChan


AIRFLOW AS A CRUCIAL
FACTOR FOR CHOOSING A
PLACE OF HIBERNATION


During hibernation their body temperature is lowered to the temperature of the environment, which causes significant decrease of metabolism.
Obszar
Maks. 8.5
°C
9.4
5.3
FLIR
Myotis myotis
Obszar
Maks. 6.4
°C
8.0
4.0
FLIR
Barbastella barbastellus


9,9°C
SP03
9
8,5°C


8,6°C
SP01: 8,3°C
8
7,8°C


600 ha of SPA


CONSERVATION PROBLEMATICS
* agricultural abandonment ->
disappearance of traditional farming methods (cereals, extensive grazing and traditional polyculture) ->
loss of open steppe-like habitats ->
decline in biodiversity and a reduction of the abundance of agro-dependent species
*rural and forest fires, poaching and persecution of predators

VARIABILITY IN *CEPAEA HORTENSIS* POPULATIONS AT THE EASTERN LIMITS OF ITS RANGE IN ROMANIA

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INTRODUCTION

Cepaea hortensis, the smallest species of *Cepaea* genus, is widely spread in Western and central Europe, including Great Britain, South Scandinavia, Germany, Austria, Poland, Slovakia and Western Hungary. The only report on the presence of the species in Romania was made by Cziki in 1918 (Grossu, 1984), mentioning *C. hortensis* next to Oradea, at Băile Felix. The presence of this species in this area or in any other part of Romania has not been confirmed yet.

Starting 1999 several populations of *C. hortensis* have been found in the gardens and parks from Sibiu (Gheoca, 2005). The presence of *C. hortensis* in Sibiu is explained probably by introduction on purpose, dating back at the beginning of the XXth century, its evolution in a new location (Dreieichenstrasse 7) being followed by M. von Klimakowicz, as it was proved by the series from his collection.

Similar to other species of *Cepaea*, *C. hortensis* is highly polymorphic (Cain and Shepard, 1954,Harvey, 1971). The variability at the morphological and genetic levels was analyzed in different *C. hortensis* populations from Sibiu.

Fig 1. The shell polymorphism in *Cepaea hortensis*

Fig. 2. Morph frequency in different populations of *Cepaea hortensis* from Sibiu. Morph notation: R -pink; G - yellow; B1-B3 - presence of bands.

MATERIAL AND METHODS

The shell polymorphism was tested in seven populations, considering the colour of the shell and the pattern of bands.

The biologic material from *Cepaea hortensis* individuals belonging to five populations from gardens and parks in Sibiu was used for the genetic variability analysis by DS-PCR.

The utilized DS-PCR technique combines the specificity of the microsatelites with the amplification of the RAPD markers. This technique produces co-dominant markers in Drosophila mercatorum (Rosell and Bortolato, 2001). Six combinations were tested: 4C [(CAG)4 and GAACGGACTC], 5C [(GAG)4 and GAACGGACTC], 6C [(AACG)4 and GAACGGACTC], 7C [(ATCG)4 and GAACGGACTC], 19C [(CGGA)4 and GAACGGACTC], 14C [(TTTG)4 and GAACGGACTC].

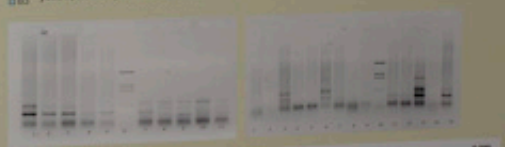

Fig. 3. Genetic variability analysis using DS-PCR 1m combination: 5C[(CAG)4 and GAACGGACTC]; left : P4 Cimitir (1-5) P5 Lazaret (7-11); right: P1 Alba-Iulia (1-5), P2 Cetăţuilor (6-9) P3 Someşului (11-15)
Tree diagramin representing the grouping of analysed populations on genetic variability basis

RESULTS AND DISCUSSIONS

In *Cepaea hortensis* the polymorphism affects the colour of the shell, the banding, as well as the mantle's pigmentation. The populations identified in Sibiu are highly variable with regard to the morph's frequency and none of them presents the whole polymorphism that characterizes this species. Some populations present both banded and non-banded forms; the latter can be either pink or yellow, while other populations present only non-banded morphs, namely always pink (fig.1, 2).

The differences between populations and the low variability is probably due to a genetic drift process.

The intrapopulational profile of the 6 primer combinations reveals a high degree of genetic variability which allows the analysis of the genetic distance between the studied populations. Among the 6 tested combinations, the 1m and 5m combinations that showed in all the cases high intrapopulational variability (fig.3,4,5), most suitable for testing the intra- and interpopulational differences, were considered the

At intrapopulational level, the DS-PCR utilizing the 1m primer combination, reveals a genetic polymorphism reflected in the phenotypic variability characteristic for this species. This variability can be used in order to properly compare populations that live in different ecological conditions.

Fig. 5. Genetic variability analysis using DS-PCR 5m combination 10C [(CGGA)4 and GAACGGACTC]; up: P1 Alba-Iulia (1-5), P2 Cetăţuilor (6-9) P3 Someşului (11-15)
down: P4 Cimitir (1-5) P5 Lazaret (7-11)

Fig. 4. Genetic variability analysis using DS-PCR 1m combination; tree diagram representing the intrapopulational genetic variability (individual notation: individual number; population number P1-P5; morph R- pink, G-yellow, GB-yellow banded.

CONCLUSIONS

The populations identified in Sibiu are highly variable with regard to the morph's frequency and none of them presents the whole polymorphism that characterizes this variable species.

The study of genetic variability in *Cepaea hortensis*, using DS – PCR, proved a high degree of polymorphism sustained by the phenotypic variability. But the two aspects of variability are just partially overlapping.

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P 28.

Sergiu TÖRÖK, Gabriela C
regarding genus *Parnassius*
(Lepidoptera: Papilionidae) in t
Museum Collections from Sibiu

DATA REGARDING GENUS *PARNASSIUS* LATREILLE, 1804 (LEPIDOPTERA: PAPILIONIDAE) IN THE NATURAL HISTORY MUSEUM COLLECTIONS FROM SIBIU

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This study is based on the Lepidoptera Collection from the Natural History Museum from Sibiu.
The following collections were analyzed:
- **Dr. Daniel Czekelius Lepidoptera Collection from Transylvanian;**
- **Dr. Victor Weindel Lepidoptera Collection from Transylvanian;**
- **Dr. Eugen Worell Lepidoptera Collection;**
- **Heinrich Hann von Hannenheim Lepidoptera Collection;**
- **Prof. Rolf Weyrauch Lepidoptera Collection;**
- **Dr. Eckbert Schneider Entomogical Collection.**

The material we analyzed is represented by 244 specimens that belong to 2 species:
– *Parnassius apollo* (Linnaeus, 1758) with 2 subspecies: *Parnassius apollo jaraensis* Kertész, 1922 and *Parnassius apollo transylvanicus* Schweitzer, 1912;
– *Parnassius mnemosyne* (Linnaeus, 1758) with 2 subspecies: *Parnassius mnemosyne distincta* Bryk & Eisner, 1930 and *Parnassius mnemosyne transylvanica* Schmidt, 1930 in the Natural History Museum Collection of Sibiu.

• The *Parnassius apollo* (fig. 1) specimens we analyzed are collected between 1909 and 1976. This butterfly is included in *The Red Book of Romanian Lepidoptera*, with the protection status: critically endangered (RĂKOSY, 2003).

• *P. mnemosyne* (fig. 2) specimens were collected in the period between 1904 and 1982. *P. mnemosyne* is included in *The Red Book of Romanian Butterflies* with the protection status: near threatened (RĂKOSY, 2003).

- All presented *Parnassius* subspecies are endemic to Romania.

This study is intended to present the *Parnassius* genus preserved at the Lepidoptera Collection from the Natural History Museum from Sibiu (fig. 3 and fig. 4).

Fig. 3 Genus [illegible]

Fig. 4 The number of specimens from the genus *Parnassius* preserved in the Natural History Museum Collections of Sibiu

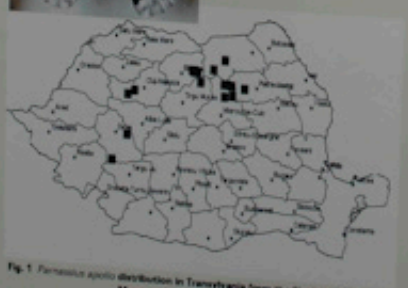

Fig. 1 *Parnassius apollo* distribution in Transylvania from the Natural History Museum Collections of Sibiu

Fig. 2 *Parnassius mnemosyne* distribution in Transylvania from the Natural History Museum Collections of Sibiu

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LONGHORN BEETLES (COLEOPTERA: CERAMBYCIDAE) FROM „DR. KARL PETRI" COLLECTION OF THE NATURAL HISTORY MUSEUM OF SIBIU (ROMANIA). PART II: CERAMBYCINAE, NECYDALINAE & VESPERINAE SUBFAMILIES

Ioan TĂUȘAN[1,2] & Corneliu BUCȘA[3]

Karl Petri (1852-1932)
Originar from Sighișoara, he studied at Jena as asistent of Haeckel and Strausberger. He worked in Leipzig alongside R. Leuckart and Geigenbauer.

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LIST OF SPECIES

Family Cerambycidae Latreille, 1802

Subfamily Necydalinae Latreille, 1825
Necydalis major Linnaeus, 1758

Subfamily Cerambycinae Latreille, 1802
Stenopterus rufus (Linnaeus, 1767)
Stenopterus flavicornis Küster, 1846
Gracilia minuta (Fabricius, 1781)
Nathrius brevipennis (Mulsant, 1839)
Dorcadion fuliginator (Olivier, 1790)
Callimus angulatus (Schrank, 1789)
Cerambyx cerdo Linnaeus, 1758
Obrium cantharum (Fabricius, 1793)
Obrium brunneum (Fabricius, 1793)
Molorchus minor (Linnaeus, 1758)
Glaphyra umbellatarum (Schreber, 1759)
Glaphyra kiesenwetteri (Mulsant et Rey, 1863)
Brachyleptura ottomanum Heyden, 1863
Hesperophanes sericeus (Fabricius, 1787)
Trichoferus griseus (Fabricius, 1787)
Trichoferus holosericeus (Rossi, 1790)
Stromatium unicolor (Olivier, 1795)
Leioderes kollari Redtenbacher
Phymatodes glabratus (Charpentier, 1825)
Phymatodes testaceus (Linnaeus, 1758)
Phymatodes alni (Linnaeus, 1767)
Phymatodes rufipes (Fabricius, 1776)
Phymatodes fasciatus Villers, 1789
Pyrrhidium sanguineum (Linnaeus, 1758)
Callidium violaceum (Linnaeus, 1758)
Palaeocallidium coriaceum (Paykull, 1800)
Purpuricenus desfontainii (Fabricius, 1793)
Purpuricenus ferrugineus Fairmaire, 1851
Purpuricenus kaehleri (Linnaeus, 1758)
Purpuricenus budensis (Götz, 1783)
Aromia moschata (Linnaeus, 1758)
Aphrodisium faldermanni (Saunders, 1850)
Cerambyx cerdo Linnaeus, 1758
Cerambyx miles Bonelli, 1823
Cerambyx scopolii Füssli, 1775
Cerambyx welensii Küster, 1846
Rosalia alpina (Linnaeus, 1758)

Subfamily Vesperinae Mulsant, 1839
Vesperus luridus (Rossi, 1794)
Vesperus strepens (Fabricius, 1793)

INTRODUCTION

The "Dr. Karl Petri" collection consists of more then 46.300 insects. The material, a lifetime work, was collected mainly from Transylvania. Karl Petri exchanges with foreign specialists are to be found in his collections. He donated the collection in 1930, to the Natural History Museum from Sibiu, part of Brukenthal National Museum (Pascu & Schneider, 1998).

Fig. 1 Sampling sites of longhorn beetles, according to "Karl Petri" collection

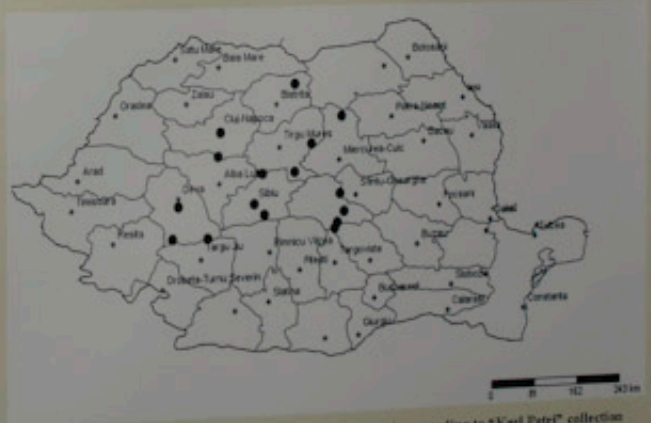

Fig. 2 Sampling sites of longhorn beetles in Romania, according to "Karl Petri" collection

CONCLUSIONS

- 40 species are present in "Karl Petri" collection
- *Aromia moschata ambrosiaca* occurs in South and South-East Europe, Near East, the Caucasus and Iran.
- *Brachyleptura ottomanum* Heyden, 1863, occurs in the Balkan Peninsula, Italy, Sicily and Near East
- *Purpuricenus ferrugineus* Fairmaire, 1851 is an endemic species for Iberian Peninsula

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SPECIES DIVERSITY OF AMPHIBIANS AND REPTILES IN THE SPECIAL PROTECTED AREA "PONOR", NORTHWESTERN BULGARIA

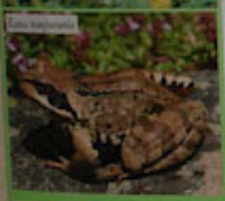
G. Popgeorgiev, N. Tzankov, Y. Kornilev, B. Naumov & A. Stojanov

Adequate management of protected areas is amongst the priorities at the European community level and requires detailed and up-to-date knowledge of the area's species diversity, distribution, and ecology. Therefore, the goals of this study were:

- To map the distribution of the herpetofauna in SPA "Ponor" on a 2×2 km UTM grid.
- To calculate an index of distribution (*A*) for each species.
- To locate Important Herpetological Areas (IHA) with high species diversity and abundance.

Materials and Methods: The SPA is situated in the western Balkan mountains (Fig. 1). It comprises of mostly open highlands, pastures, fragmented beech forests, and limestone outcrops. We collected field observations between 1998–2008 and mapped the distribution on UTM 2×2 km grid. The study site encompasses 55 complete and 65 partial 2×2 km squares. We calculated the index of distribution of the species (*A*) as the percent of squares in which the species was encountered from the total number of squares in the study territory. We defined IHAs using 50% boundary, calculated by the kernel density estimator method.

Results and Discussion: We encountered 24 species of amphibians and reptiles (Table 1). The least common amphibian was *I. alpestris* (A = 0.83%) and the most common were *B. variegata* (A = 29.17%), *S. salamandra* (A = 17.50%), and *L. vulgaris* (A = 13.33%). The least common reptiles were *V. berus* (A = 0.83%), *N. tessellata* (A = 2.50%), and *A. kitaibelii* (A = 3.33%). The most common reptiles were *P. muralis* and *L. viridis* (A = 21.67%), *A. fragilis* (A = 13.33%), and *C. austriaca* (A = 12.50%). We identified 9 IHAs situated throughout the SPA (Fig. 1). Although preliminary, these results can suggest future core areas for the protection of reptiles and amphibians.



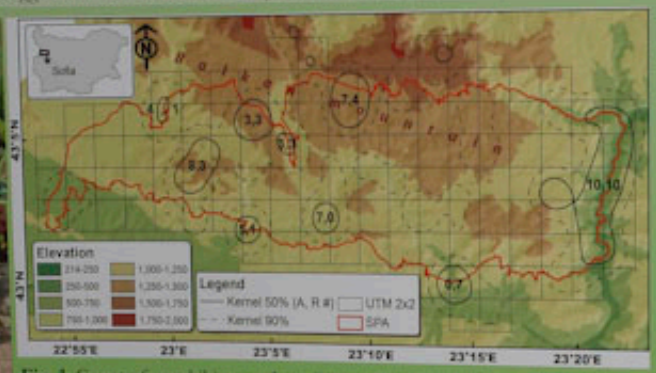


Fig. 1. Count of amphibians and reptiles per Important Herpetological Area.

Table 1. Index of distribution of species found in the SPA (A).

Species (n = 24)	*A*
Class Amphibia (n = 11)	
Order Caudata (n = 4)	
Salamandra salamandra	17.50
Ichthyosaura alpestris	0.83
Lissotriton vulgaris	13.33
Triturus karelinii	5.83
Order Anura (n = 7)	
Bombina variegata	29.17
Bufo bufo	9.17
Epidalea viridis	3.33
Hyla arborea	8.33
Rana dalmatina	8.33
Rana temporaria	11.67
Pelophylax ridibundus	11.67
Class Reptilia (n = 13)	
Suborder Sauria (n = 6)	
Anguis fragilis	13.33
Ablepharus kitaibelii	3.33
Lacerta agilis	9.17
Lacerta viridis	21.67
Podarcis muralis	21.67
Zootoca vivipara	12.50
Suborder Serpentes (n = 7)	
Coronella austriaca	12.50
Dolichophis caspius	8.33
Zamenis longissimus	10.83
Natrix natrix	6.67
Natrix tessellata	2.50
Vipera ammodytes	12.50
Vipera berus	0.83

Correspondent analysis reveals well supported species associations (Fig. 2). Most distinct are those of the species associated with anthropogenic disturbance, and the moisture- and cold tolerant species. The first complex is affiliated with habitats with high human pressure such as complex cultivation pattern, cultivated monoculture coniferous forests, mineral extraction sites and discontinuous urban fabric. The second and third complexes is related to habitats with lower anthropogenic pressure: broad-leaf forests, transitional woodland-shrub, natural grasslands and mixed forests. Those habitats are of prime importance for nature conservation in the study area. The herpetofauna from these habitats is with fragmented distribution all across the Bulgarian mountains, which further define the conservation importance of the protected area SPA "Ponor".

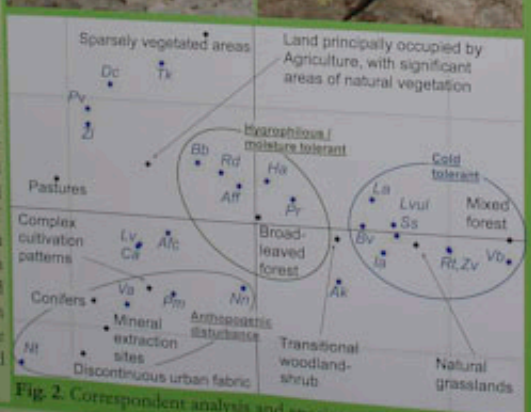


Fig. 2. Correspondent analysis and species associations.

Acknowledgments: Bulgarian Society for the Protection of Birds partially provided financial support through "Conservation of globally important biodiversity in high nature value semi-natural grasslands through support of the traditional local economy". D. Piachiyski and A. Wesserström assisted with field work.