



Hrvatsko biološko društvo
SOCIETAS BIOLOGORUM CROATICA
Croatian Biological Society

13. HRVATSKI BIOLOŠKI KONGRES
s međunarodnim sudjelovanjem

13th CROATIAN BIOLOGICAL CONGRESS
with International Participation

Poreč, 19 - 23. 09. 2018.



ZBORNIK SAŽETAKA

BOOK OF ABSTRACTS



Hrvatsko biološko društvo
SOCIETAS BIOLOGORUM CROATICA
Croatian Biological Society

13. HRVATSKI BIOLOŠKI KONGRES
s međunarodnim sudjelovanjem
19 - 23. rujna 2018.
Poreč, Hrvatska

13th CROATIAN BIOLOGICAL CONGRESS
With International Participation
19th - 23rd September 2018
Poreč, Croatia

ZBORNIK SAŽETAKA

BOOK OF ABSTRACTS

Zagreb, 2018.

Ključne riječi: Lacertidae, digitalna identifikacija, označavanje jedinki, Natura2000 vrsta, Biokovo

WHO IS WHO? INTERACTIVE INDIVIDUAL IDENTIFICATION SYSTEM (I3S SOFTWARE) AS A TOOL FOR NON-INTRUSIVE IDENTIFICATION OF AN ENDEMIC LACERTID SPECIES, MOSOR ROCK LIZARD, *Dinarolacerta mosorensis*

I. Buric¹, D. Lisičić²

¹Association Hyla, Lipovac I br.7, HR – 10000 Zagreb, Croatia (ivona.buric@hhdhyla.hr),

²Departement of Animal Physiology, Faculty of Science, University of Zagreb, Rooseveltov trg 6, HR – 10000 Zagreb, Croatia (duje.lisicic@biol.pmf.hr)

Marking individuals is often needed in field and behaviour studies that required repeated identification of individual animals. With the development of technology, older methods like scale or toe clipping, branding, painting, tagging, banding are slowly being replaced by technology facilitated identifications. In last decade non-intrusive and inexpensive digital identification of individual animals become popular and with these method large sets of individuals can be re-identified. I3S Software is originally developed for identification of sharks but has successfully been already used for identification of Lacertidae lizard species. Mosor rock lizard is an endemic species of western Balkans. It's area of occurrence is approximated to be less than 2000 km². It is also a Natura 2000 species. In 2017, an extensive study of its population parameters and biology has started on Mt. Biokovo, Croatia. To facilitate the correct identification of each individual, we used the program Interactive Individual Identification System. Photographs of first four rows of ventral scales of the lizard body were used for identification and comparison. Preliminary results based on 30 individuals were satisfactory, and all the individuals could be distinguished successfully by the program. With larger datasets, it is possible that the identification could be more time consuming, but in that case, additional parameters like sex or colorations may be used for correct identification.

Keywords: Lacertidae, digital identification, individual marking, Natura2000 species, Biokovo Mt.

O-9

SPATIAL CONSERVATION PRIORITIES FOR THE AMPHIBIANS AND REPTILES IN THE BALKAN PENINSULA: PRELIMINARY RESULTS OF THE BALKAN HERPS PROJECT

E. Mizsei¹, D. Jablonski², D. Cogălniceanu³, R. Iosif³, I. Strachinis⁴, E. Tzoras⁵, T. Sos^{6,7}, J. Speybroeck⁸, Ç. Ilgaz⁹, I. Buric¹⁰, J. Vörös¹¹, S. Lengyel¹, Z. Végvári^{12,13}, M. Bán¹², M. Szabolcs¹

¹Hungarian Academy of Sciences, Centre for Ecological Research, Danube Research Institute, Department of Tisza River Research, Bem tér 18/C, 4026 Debrecen, Hungary (szabolcs.marci@gmail.com, edvardmizsei@gmail.com, szabolcslenyel@yahoo.com),

²Comenius University in Bratislava, Department of Zoology, Mlynská dolina, Ilkovičova 6, 842 15 Bratislava, Slovakia (jablonski.dan@gmail.com), ³University Ovidius Constanta, Faculty of Natural and Agricultural Sciences, 1 Aleea Universitatii, Building B, 900470 Constanta, Romania (dan_cogalniceanu@yahoo.com, ios_ruben@yahoo.com), ⁴Aristotle University of Thessaloniki, Faculty of Sciences, School of Biology, 54124 University Campus, Thessaloniki, Greece (strahos@gmail.com), ⁵Ecological Movement of Patras, Sachtouri 64, 26222 Patra, Greece (eliastzoras@outlook.com), ⁶Milvus Group – Bird and Nature Protection Association, Crinului 22, 540343 Târgu Mureş, Romania (tibor.sos@gmail.com), ⁷Babes-Bolyai University, Hungarian

Department of Biology and Ecology, Strada Clinilor 5-7, 400006, Cluj Napoca, Romania,
⁸Research Institute for Nature and Forest, Herman Teirlinckgebouw, Havenlaan 88 bus 73, 1000 Brussels, Belgium (jeroenspeybroek@hotmail.com), ⁹Dokuz Eylül University, Faculty of Science, Department of Biology, 35160 Buca, İzmir, Turkey (cetin.ilgaz@deu.edu.tr), ¹⁰Association Hyla, Lipovac I no. 7, 10000 Zagreb, Croatia (ivona.buric@hhdhyla.hr), ¹¹Hungarian Natural History Museum, Department of Zoology, Baross utca 13, 1088 Budapest, Hungary (voros.judit@nhmus.com), ¹²University of Debrecen, Department of Evolutionary Zoology and Human Biology, MTA-DE Behavioural Ecology Research Group, Egyetem tér 1, 4032 Debrecen, Hungary (banm@vocs.unideb.hu), ¹³University of Debrecen, Department of Conservation Zoology – Hortobágy National Park Directorate, Sumen utca 2, 4024 Debrecen, Hungary (zsolt.vegvari@gmail.com)

The Balkan Peninsula is a historical speciation centre, refugium and currently a hotspot for biological diversity in Europe. It has more than 120 species of amphibians and reptiles with high level of endemism. Therefore, protection of the Balkans is a high priority and requires effective protected area coverage. The aim of the Balkan Herps project is to assess the representation of the regional herpetofauna under the current protected area network and reveal potential shortfalls. We created a database of distribution records (openbiomaps.org / projects / balkanherps) and built 30' resolution species distribution models using Bioclim and Envirem variables. We used the systematic conservation planning tool Zonation to identify spatial conservation priorities. Generally, conservation values were highest in the Adriatic Coast, Peloponnese, Thrace and Danube Delta and lower in the Central Balkans. We identified the top 17% of the region and calculated the extent of coverage by protected areas. We found one-third coverage with important gaps occurring in non-European Union countries, but we also found gaps in the EU, mostly in the southern Balkans. It is promising that many deficiencies can be solved by the designation of new Natura 2000 areas in EU candidate countries. There are still gaps in the Balkan Herps database, we hope that the ongoing collaboration will lead to a cross-border conservation plan in the Balkan Peninsula for an effective protection of herpetological diversity.

Keywords: herpetology, cross-border analysis, climatic variables, prioritisation, gap analysis

O-10

MORFOLOŠKE ZNAČAJKE PUNOGLAVACA SMEĐE KRASTAČE, *Bufo bufo* (LINNAEUS, 1758) I ZELENE KRASTAČE, *Bufo viridis* (LAURENTI, 1768) (ANURA, BUFONIDAE) IZ HRVATSKE

M. Veljković¹, D. Jelić²

¹Gornje Plavnice 56, 43 000 Bjelovar, Hrvatska (mv52874@gmail.com), ²Hrvatski institut za biološku raznolikost, Maksimirka cesta 129/5, 10 000 Zagreb, Hrvatska (jelic.dusan@gmail.com)

Iako su smeđa i zelena krastača česte vrste vodozemaca u Hrvatskoj, malo je podataka o morfološkim značajkama njihovih punoglavaca u Hrvatskoj. Tijekom travnja i svibnja 2015. godine sakupili smo 63 punoglavca vrste *Bufo bufo* na lokalitetu Rajić blizu Bjelovara i 9 punoglavaca vrste *Bufo viridis* na lokaciji Hrvace (Dalmatinska zagora). Odredili smo razvojne stadije punoglavaca (prema Gosner, 1960) i proveli mjerjenje 26 morfometrijskih mjera u svrhu pronalaska morfometrijskih razlika među njima. Rezultati neparnog dvosmjernog t-testa ukazuju na statistički značajne razlike ($p<0.001$) između punoglavaca smeđe i zelene krastače u ukupnoj dužini, dužini tijela (pogled odozgo i bočno), širini tijela, interorbitalnoj udaljenosti,