



**KOPAČKI  
RIT**  
Park prirode  
Nature Park



Sveučilište Josipa Jurja Strossmayera u Osijeku  
**Fakultet agrobiotehničkih  
znanosti Osijek**



Sveučilište Josipa Jurja Strossmayera u Osijeku  
**Fakultet za odgojne  
i obrazovne znanosti**  
OBRAZUJEMO (Z)A BUDUĆNOST

**Odjel za biologiju**  
Sveučilište Josipa Jurja Strossmayera u Osijeku



**ODJEL ZA  
KEMIJU**

Sveučilište Josipa Jurja Strossmayera

**DANUBEPARKS**  
network of protected areas



**ini**  
Institut za medicinska  
istraživanja i medicinu rada

# ARE ORGAIZING SYMPOSIUM KOPAČKI RIT

# 10

## PAST, PRESENT, FUTURE 2021.

with international participation

Faculty of Agrobiotechnical Sciences Osijek

30 September and 01 October 2021.

### SPONSORS



## Organising Committee

doc. dr. sc. Tomislav Bogdanović / assistant professor Tomislav Bogdanović, PhD

prof. dr. sc. Damir Matanović / full professor Damir Matanović, PhD

prof. dr. sc. Krunoslav Zmaić / full professor Krunoslav Zmaić, PhD

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Tomislav Meštrović, dipl. ing. / Tomislav Meštrović, mag. phys.

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doc. dr. sc. Milić Ćurović (Crna Gora) / assistant professor Milić Ćurović, PhD (Montenegro)

## PROGRAMME OF THE SYMPOSIUM 30 September and 1 October 2021

**30 September 2021, Thursday**

**(Faculty of Agrobiotechnical Sciences Osijek, Aula Magna, Vladimira Preloga 1, Osijek)**

08:30 -  
09:00 **GATHERING OF PARTICIPANTS AND REGISTRATION**

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09:00 **OPENING CEREMONY**

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### SECTION 1

09:30 **Nature Park Kopački rit as Ramsar Site, wetland of international importance**  
**MARIJANA KAPA**

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09:50 Conservation of freshwater ecosystems through water management and nature protection sector cooperation and effective conservation measures implementation  
MARIJA SABOLIĆ, TAMARA PREININGER, DANIELA SCHNEIDER

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10:05 The importance of climate change mitigation for tourism in protected areas  
MIRA ZOVKO

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10:20 LIFE WILDIsland: The Danube Wild Island Habitat Corridor  
GEORG FRANK

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10:35 Water resources of nature protected areas – condition, pressures and responses to them  
IVANA ŠARIĆ, JOSIP RUBINIĆ, MAJA ČUŽE DENONA, MAJA RADIŠIĆ

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10:50 Protected areas management in Serbia in climate change: regulatory and institutional framework and stakeholders cooperation and connection  
IVANA VASIĆ, JELENA NEDELJKOVIĆ, DRAGAN NONIĆ

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11:05 **POSTER SECTION AND BREAK**

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### SECTION 2

11:30 The influence of seasons on the oligochaete community composition (Oligochaeta) in Nature Park Kopački rit  
NATALIJA VUČKOVIĆ, VIKTORIJA ERGOVIĆ, MARIO RUMIŠEK, MIRAN KOH, DUBRAVKA ČERBA, ZLATKO MIHALJEVIĆ

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11:45 Roadkilled Fire Salamander (*Salamandra salamandra*) in National Park Plitvice Lakes  
KATICA POLJAK, ZRINKA MESIĆ, NINA POPOVIĆ

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12:00	Distribution of invasive alien species (IAS) of Bivalvia <i>Corbicula fluminea</i> in the Kupa River JURAJ PETRAVIĆ, MARIN JARNJAK, KREŠIMIR KURI, MARGARITA MARUŠKIĆ KULAŠ, GORAN JAKŠIĆ, DAJANA MAJNARIĆ, MARIJAN MRLJAK, MARTINA PETRAVIĆ
12:15	Length-weight relationship, condition factor and sex ratio of the Largemouth bass ( <i>Micropterus salmoides</i> ) in the lower course of the Neretva River JURAJ PETRAVIĆ, MATIJA KRESONJA, BRANKO GLAMUZINA, MILORAD MRAKOVČIĆ
12:30	Macrozoobentos of diverse freshwater habitats of the Nature Park Kopački rit ZLATKO MIHALJEVIĆ, NATALIJA VUČKOVIĆ, MIRAN KOH, MARIO RUMIŠEK, VIKTORIJA ERGOVIĆ, JASNA LAJTNER, MARINA VILENICA, MARINA ŠUMANOVIĆ, SANJA GOTTSTEIN, DUBRAVKA ČERBA
12:45	Stonefly (Insecta: Plecoptera) biodiversity in Eastern Croatia ALEKSANDAR POPIJAČ, IGNAC SIVEC
13:00	<b>POSTER SECTION AND BREAK</b> <b>SECTION 3</b>
14:00	Occurrence of cyanotoxins in water resources MIRNA HABUDA-STANIĆ, ALMA PFEIFER
14:15	Mediterranean Hackberry ( <i>Celtis australis</i> L.) in National Park „Djerdap“ NENAD RADAKOVIC, SAŠA NESTOROVIĆ
14:30	Protection of globally endangered species in KBA areas – Hutovo blato, Neretva, Trebižat and Mostarsko blato MARLENA ČUKTERAŠ, MARINKO DALMATIN, JOSIP VEKIĆ, NEBOJŠA JERKOVIĆ
14:45	Drilling of exploratory piezometric boreholes in Nature Park Kopački rit as part of Naturavita project IVAN TOT
15:00	Diatoms in the sediment of Lake Sakadaš and Lake Kopačko (Nature Park Kopački rit) NIKOLINA BEK, TANJA ŽUNA PFEIFFER, DUBRAVKA ŠPOLJARIĆ MARONIĆ, ANITA GALIR BALKIĆ, NEDA VDOVIĆ, MATEJ ŠAG, VANDA ZAHIROVIĆ, FILIP STEVIĆ, ANTONIJA KEZERLE
15:15	"Let us learn how to properly separate waste" ecological workshop for preschool children MAJA GRČIĆ, IRELLA BOGUT, LJUBICA NEDIĆ, IRENA KIŠMARTIN, ŽELJKO POPOVIĆ
15:30	<b>POSTER SECTION AND BREAK</b> <b>SECTION 4</b>
16:00	Danube traditional boat - čiki - adaptation to the Directive 2013/53/EU DARKO MRKONJIĆ, BRANKO ANDERSEN (ĆUPURDIJA)
16:15	Traditional boatbuilding as prospect for employment in rural areas DARKO MRKONJIĆ
16:30	History of industry in Baranja (1) – Why it is important to research the history of industry in Baranja MILAN IVANOVIĆ
16:45	History of industry in Baranja (2) – Albrecht's hemp factory in Grabovac MILAN IVANOVIĆ
17:00	Castles and curias of Baranja (methodological repetitory) ZDENKO SAMARŽIJA, TEO SAMARŽIJA, VALENTINA DOMINIĆ
17:15	My Clash with them - Essay on mosquitoes ZDENKO SAMARŽIJA

**1 October 2021, Friday**

**(Faculty of Agrobiotechnical Sciences Osijek, Aula Magna, Vladimira Preloga 1, Osijek)**

08:30 -

09:00

**GATHERING OF PARTICIPANTS AND REGISTRATION**

09:00

Music program for the occasion (Students from Franjo Kuhač Music School, Osijek)  
ADRIAN, GABRIEL and TOMISLAV ŠUBARIĆ, piano six-handed (mentor: SUNČANA TURK)  
GUSTAV KUJUNDŽIĆ, violin; MIHAEL ŠIŠIĆ, violin and PETRA SPAHIJA, PIANO (mentors: JOSIPA ERHARDT and DOMAGOJ MARAS)

09:30

Living Danube Limes  
IVANA OŽANIĆ ROGULJIĆ, MISLAV FILEŠ

**SECTION 5**

09:50

Papuk Iron Age princes on the European cultural route of the Council of Europe  
MARIJANA LUKAČEVIĆ

10:05

Presence of an invasive mysid shrimp *Limnomysis benedeni* (Crustacea: Mysidae) in Nature Park Kopački rit  
VIKTORIJA ERGOVIĆ, MIRAN KOH, IVANA TURKOVIĆ ČAKALIĆ, BARBARA VLAIČEVIĆ,  
NATALIJA VUČKOVIĆ, MARIO RUMIŠEK, ZLATKO MIHALJEVIĆ, DUBRAVKA ČERBA

10:35

**POSTER SECTION AND BREAK**

11:00-13:15

**PROGRAMME HONOURING PROCLAMATION OF THE FIVE-COUNTRY UNESCO'S BIOSPHERE RESERVE MURA-DRAVA-DANUBE**  
WWF ADRIA  
Dream of UNESCO 5-country Biosphere Reserve Mura-Drava-Danube  
IVANA KORN VARGA

13:15

**POSTER SECTION AND BREAK**

15:00

**Boat Trip (Tourist Dock Sakadaš)**

# Poster section

(Faculty of Agrobiotechnical Sciences Osijek, Vladimira Preloga 1, Osijek)

1. SWOT analysis within the preparation of the Management Plan of the Nature Park Kopački rit and the associated areas of the ecological network  
KRISTINA ROMANJEK, VLATKO ROŽAC, TOMISLAV BOGDANOVIĆ, MARIJA VEREŠ, BORIS BOLŠEC, SONJA KUČERA, ALEKSANDAR POPIJAČ, DORJA BUČEVIĆ, DORA HORVATIĆ, MARIN ŠKORO, RUŽICA MARUŠIĆ, VESNA HRVOJEVIĆ, LJUBICA ŠUNIĆ, HRVOJE DOMAZETOVIĆ, DAMIR OPAČIĆ

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2. Preliminary survey of high and medium power lines in project area as a part of LIFE DANUBE Free Sky project LIFE19 NAT/SK/001023  
MARIJA VEREŠ, MARIN ŠKORO, VLATKO ROŽAC, DORJA BUČEVIĆ, SONJA KUČERA, BORIS BOLŠEC, DORA HORVATIĆ, ANDELKO MARTINČEVIĆ, ŠANDOR KOVAČ, HRVOJE DOMAZETOVIĆ, VATROSLAV ŠKRNJUG, LJUBICA ŠUNIĆ, DAMIR OPAČIĆ, MATEJ MARUŠIĆ, MARTA MALENICA, VLADIMIR JOSIPOVIĆ, NINO VRANDEČIĆ, VLATKO EĆIMOVIĆ, KRISTINA ROMANJEK

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3. The project of construction of the tourist dock Sakadaš in Nature Park Kopački rit  
VESNA HRVOJEVIĆ, DRAŽEN PAŠULD, RUŽICA MARUŠIĆ, SLAVICA PAUNOVIĆ, IVANA JAKOBFI

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4. Tikveš Presentation and Education Center  
VESNA HRVOJEVIĆ, RUŽICA MARUŠIĆ, MIRJANA HERCEG ŠIMUNOVIĆ, IVONA LEKO, IVANČICA JURČEVIĆ AGIĆ

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5. Returning to the Last Danube – new tourist trail and narrative  
MATEJ MARUŠIĆ, ESZTER BUCHERT, VLATKO ROŽAC

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6. Inventory of the protected natural monument Bilje steppe-like grassland using geoinformation technologies  
IVANA PLAŠČAK, MLADEN JURIŠIĆ, IVAN PLAŠČAK, DORIJAN RADOČAJ, IRENA RAPČAN, DARIA GALIĆ SUBAŠIĆ, DAVOR MIKULIĆ

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7. Sustainable use of natural resources on the examples of Municipalities of Bilje and Antunovac  
MATEA LONČAR, LARA BOGOVAC, VIŠNJA ŠTEKO, OLEG ANTONIĆ, MLADEN JURIŠIĆ, IVAN PLAŠČAK

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8. Health and recreational function of forest ecosystem services of peri-urban forests of a protected area - analysis of visitors' knowledge about forest ecosystem services  
MARTINA JURJEVIĆ VARGA, MARINA POPIJAČ, MARTINA BELOVIĆ KELEMEN, SANJA TIŠMA

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9. Knowing animals for hunting in younger school age children  
ŽELJKO POPOVIĆ, MATEA ĐURINIĆ, IRENA KIŠMARTIN, IRELLA BOGUT

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10. The programme of education in the field of environmental protection: "Renewable Energy Sources and Sustainable Waste Management"  
IRELLA BOGUT, ŽELJKO POPOVIĆ, IRENA KIŠMARTIN, ANA POPOVIĆ

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11. Forest kindergartens in Croatia and Denmark  
MATEA ANTUNOVIĆ, IRELLA BOGUT, VESNICA MLINAREVIĆ, ŽELJKO POPOVIĆ

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12. Assessing the radiological load on Nature Park Kopački Rit using the ERICA tool  
BRANKO PETRINEC, MARINA POJE SOVILJ, DINKO BABIĆ, TOMISLAV MEŠTROVIĆ, IGOR MIKLAVČIĆ, VANJA RADOLIĆ, DENIS STANIĆ, BRANKO VUKOVIĆ, MARKO ŠOŠTARIĆ

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13. Monitoring and analysis of ozone, volatile organic compounds and particulate matter data in Eastern Croatia from 2008 to 2019  
BRUNISLAV MATASOVIĆ, ELVIRA KOVAČ-ANDRIĆ

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14. Preliminary analysis of the correlation of physicochemical parameters, pesticides and metals in surface water and groundwater in Kopački rit (Danube canals)  
IVAN DAMJANOVIĆ, ZDENKA ŠUŠIĆ, DANIJELA BEZIK, DARIO KOLARIĆ, MIRTA EBERHARD, LEONTINA TOTH, TANJA MARKOVIĆ, HRVOJE BABIĆ, SILVIJA SITAR, ĐORĐA MEDIĆ, NIKOLA HANŽEK, IVAN TOT

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15. Hydrological and hydraulic analysis for calculating the retention capacity of the Kopački rit area ("Naturavita" project)  
RENATA VIDAKOVIĆ ŠUTIĆ, VEDRANA RIČKOVIĆ, TANJA LUBURA MATKOVIĆ

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16. Hydrological changes and water systems - two examples  
SINIŠA MARIČIĆ



17.	The observation network for measuring the sedimentation rate in the area of Nature Park Kopački rit as part of the „Naturavita“ project IVICA PAVIČIĆ, ŽELJKO DUIĆ, SAŠA ŠIPEK, IVAN TOT, SILVIJA SITAR, DAVOR PAVELIĆ
18.	Analysis of selected physicochemical parameters of surface water quality on the example of small water body Trnava INES PINTARIĆ, ANA AMIĆ
19.	Monitoring of selected physicochemical water quality parameters of Karašica and Vučica surface water PETRA PENIĆ, ANA AMIĆ
20.	ReWild Kopački rit - Are we ready? MATKO BIŠČAN, IVAN DAMJANOVIĆ
21.	The initial status of the mammalian fauna of the Nature Park Kopački rit IVAN DAMJANOVIĆ, VLATKO ROŽAC
22.	Mammal monitoring in Nature Park Kopački rit by installing cameras with motion sensor - "Photo-traps" VLATKO ROŽAC, MARIJA VEREŠ, DORA HORVATIĆ, BORIS BOLŠEC, TOMISLAV BOGDANOVIĆ, ALEKSANDAR POPIJAČ, MARIN ŠKORO, SONJA KUČERA, IVANČICA JURČEVIĆ AGIĆ, DORJA BUČEVIĆ, MATEJ MARUŠIĆ, KRISTINA ROMANJEK
23.	Protocol for monitoring the Eurasian beaver ( <i>Castor fiber</i> L.) in Nature Park Kopački rit IVAN DAMJANOVIĆ, VLATKO ROŽAC
24.	Protocol for monitoring the Eurasian otter ( <i>Lutra lutra</i> L.) in the Nature Park Kopački rit IVAN DAMJANOVIĆ, VLATKO ROŽAC
25.	Monitoring of the Eurasian otter ( <i>Lutra lutra</i> L.) and the Eurasian beaver ( <i>Castor fiber</i> L.) in Nature Park Kopački rit within the "Naturavita" project DORA HORVATIĆ, MONIKA PETKOVIĆ, VLATKO ROŽAC, MARKO AUGUSTINOVIĆ, VEDRAN SLIJEPČEVIĆ, DUŠKO ĆIROVIĆ, ALEKSANDAR POPIJAČ, TOMISLAV BOGDANOVIĆ, MARIJA VEREŠ, BORIS BOLŠEC, SONJA KUČERA, DORJA BUČEVIĆ, KRISTINA ROMANJEK, IVANČICA JURČEVIĆ AGIĆ, MARIN ŠKORO, MATEJ MARUŠIĆ
26.	Ornithofauna of Biljski and Zmajevački rit ALMA MIKUŠKA, TIBOR MIKUŠKA
27.	Biomarkers of effect in plasma of White Stork ( <i>Ciconia ciconia</i> ) nestlings show spatial variation from Croatia DORA BJEDOV, MIRNA VELKI, TIBOR MIKUŠKA, LUKA JURINOVIĆ, ALMA MIKUŠKA
28.	Diet and wintering of Long-eared Owl ( <i>Asio otus</i> L.) in the City of Osijek during the winter 2020/2021 MIRTA ILIĆ, STELLA GLAVIĆ, EMANUEL ŽIVKOVIĆ, ALMA MIKUŠKA
29.	Valorizacija novootkrivene populacije ivanjskog rovaša ( <i>Ablepharus kitaibelii</i> ) na lokaciji Stinice KREŠIMIR MANDIĆ, FRANO BARIŠIĆ, OLGA JOVANOVIĆ GLAVAŠ
30.	Effects of pesticides on European Green toad tadpoles ( <i>Bufo viridis</i> L.) BRUNO BEKIĆ, OLGA JOVANOVIĆ GLAVAŠ
31.	Diversity of freshwater ichthyofauna in Nature Park Kopački rit DAVOR ZANELLA, PERICA MUSTAFIĆ, ZORAN MARČIĆ, MARKO ČALETA, IVANA BUJ, SVEN HORVATIĆ, ROMAN KARLOVIĆ, LUCIJA IVIĆ, LUCIJA ONORATO
32.	Condition, density and threats of the Large Copper ( <i>Lycaena dispar</i> ) in Nature Park Kopački rit from 2017 to 2021 SONJA KUČERA, VLATKO ROŽAC, ALEKSANDAR POPIJAČ, BORIS BOLŠEC, DORJA BUČEVIĆ, MARIJA VEREŠ, DORA HORVATIĆ, KRISTINA ROMANJEK, TOMISLAV BOGDANOVIĆ, INGRID GUTTERT, IVONA RIMAC, ADRIJANA BAKOVIĆ, IVAN DAMJANOVIĆ, MATEJ MARUŠIĆ, MARIN ŠKORO, ELENA PERIĆ
33.	Presence of <i>Sarcophaga (Liopygia) argyrostoma</i> (Robineau-Desvoidy, 1830) (Diptera: Sarcophagidae) in Croatian part of Baranja STJEPAN KRČMAR
34.	Zooplankton functional groups in two different aquatic ecosystems KARLA ČMELAR, ANITA GALIR BALKIĆ, TANJA ŽUNA PFEIFFER, ANA MARTINOVIĆ, FILIP STEVIĆ, DUBRAVKA ŠPOLJARIĆ MARONIĆ, ANTONIJA KEZERLE

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35. Monitoring of habitats and flora in Nature Park Kopački rit within the activities of „Naturavita“ project  
SINIŠA OZIMEC, DRAGAN PRLIĆ, VLATKO ROŽAC
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36. Control of invasive alien plant species through project activities of the Naturavita project  
ZDENKO TURNIŠKI, IRENA FRANJIĆ, DAVOR RACIĆ
- 
37. Study of forest plant material as acid-base indicator  
VERONIKA CAHA, ANA AMIĆ
- 
38. Phenolic content and antioxidant activity of mistletoe (*Viscum album* L.) from different plant host  
VALERIJA VUJČIĆ BOK, HRVOJE HODAK, IVANA ŠOLA, GORDANA RUSAK
- 
39. Effect of high temperature on the bioaccessibility of phenolic compounds and antioxidant potential of broccoli seedlings (*Brassica oleracea* L. convar. *botrytis*) – Preliminary results  
IVANA ŠOLA, MIHAEL KOLOMAZ, VALERIJA VUJČIĆ BOK, GORDANA RUSAK
- 
40. Concentration of phenolic compounds and antioxidant potential of Brassicaceae seedlings  
IVANA ŠOLA, SANJA GAGIĆ, VALERIJA VUJČIĆ BOK, MAJA MORIĆ, GORDANA RUSAK
- 
41. Green synthesis of silver nanoparticles using leaves of dandelion (*Taraxacum officinale* F. H. Wigg.)  
VLATKA GVOZDIĆ, MILAN PAJIČIĆ, JELENA BRDARIĆ, IVA PUKLEŠ, ANA PETROVIĆ
- 
42. Wild relatives of today's varieties of common bean (*Phaseolus vulgaris*)  
BLANKA KUNDAKČIĆ
- 
43. Application of Lemna test in the assessment of water quality of the fishpond Popovac – a preliminary study  
JANJA HORVATIĆ, VESNA PERŠIĆ, MARTINA VARGA, DORA HORVATIĆ, ALEKSANDRA KOČIĆ, VERA TIKAS
- 
44. Utilization of digestate in biomass production of microalgae and cyanobacteria for biogas production  
DENIS DEŽE, MELITA MIHALJEVIĆ, DAVOR KRALIK
- 
45. Phytoplankton diversity in shallow artificial pond during the late spring  
BRUNA ŽIŽANOVIĆ, PETAR GLAVAŠ, KARLA VUJIČIĆ, LUKRECIJA LUČIĆ, NIKOLINA BEK,  
DUBRAVKA ŠPOLJARIĆ MARONIĆ, ANITA GALIR BALKIĆ, FILIP STEVIĆ, TANJA ŽUNA PFEIFFER
- 
46. Structure and dynamics of phytoplankton during the winter period in Sakadaš Lake (Nature Park Kopački rit)  
MORENA MATANOVIĆ, DUBRAVKA ŠPOLJARIĆ MARONIĆ, TANJA ŽUNA PFEIFFER, ANITA GALIR BALKIĆ,  
NIKOLINA BEK, MATEJ ŠAG, ANTONIJA KEZERLE, GORDANA SUBAKOV SIMIĆ, FILIP STEVIĆ
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47. Beavers (*Castor fiber* L.) in National Park "Plitvice Lakes" - territory density and distribution  
MONIKA PETKOVIĆ, MARKO AUGUSTINOVIĆ