



The Balkan Botanical Congress is an international meeting that has been held nearly every three years, since 1997. It brings together botanists from around the world who perform research on plants in the widest sense, as well as scientists who are engaged in the plant sciences and their applications. We were honored to host such an extraordinary scientific event this year in Serbia.

The 7th Balkan Botanical Congress – 7BBC 2018 took place in Novi Sad from September 10th to 14th 2018. The Congress was organized by the University of Novi Sad, Faculty of Sciences, Department of Biology and Ecology and the “Andreas Wolny” Botanical Society, along with the great help of 7 co-organizers and more than 30 supporters and sponsors. It truly was not possible to happen without exceptional help of our co-organizer - the Institute for Nature Conservation of Vojvodina Province who made this congress not only possible, but totally awesome.

7BBC 2018 placed a special emphasis on plants of the Balkan Peninsula and covered various research fields. The Congress was organized into ten sessions: Plant Anatomy and Physiology, Plant Taxonomy and Systematics, Plant Molecular Biology and Genetics, Floristics, Vegetation and Phytogeography, Conservation Botany and Plant Invasions, Phytochemistry and Plant Resources, Agronomy and Forestry, Botanical Collections and History, Ethnobotany and Cryptogam Biology. These topics were elaborated through five plenary lectures given by eminent scientists, as well as in the form of introductory lectures, oral and poster presentations. With an overall number of 387 abstracts presented on the very latest of botanical science, we shared knowledge, expertise and novel ideas. We welcomed nearly 400 scientists to Novi Sad, and we believe that we succeeded in our joint endeavor to make new networks and new connections among botanists. We hope that we contributed to advancements in the wide and beautiful field of botany, ranging from fundamental botanical research to applied botany.

It is our great pleasure to publish this Abstract Book in Botanica Serbica, in the same year that this international journal, a renamed continuation of the Bulletin of the Institute of Botany and Botanical Garden Belgrade, celebrates its 90 year jubilee. On behalf of the Scientific and Organizing committee of 7BBC 2018 we would like to express our gratitude to all contributors, colleagues and sponsors for taking part in the 7th Balkan Botanical Congress, as well as for their efforts and contributions to it's successful realization.

Goran Anačkov and Lana Zorić,
Co-presidents of the Scientific Committee of the 7 BBC
and guest editors of Botanica Serbica 42 (supplement 1).

Organizers:

University of Novi Sad, Faculty of Sciences, Department of Biology and Ecology, Novi Sad
 Botanical Society „Andreas Wolny“, Novi Sad

Co-organizers:

Institute for Nature Conservation of Vojvodina Province, Novi Sad
 Institute for Nature Conservation of Serbia, Belgrade
 University of Belgrade, Faculty of Biology, Belgrade
 University of Belgrade, Faculty of Forestry, Belgrade
 University of Belgrade, Institute for Biological Research “Siniša Stanković“, Belgrade
 University of Novi Sad, Faculty of Medicine, Center for Medical-Pharmaceutical Research and Quality Control, Novi Sad
 Natural History Museum in Belgrade, Belgrade

Support:

Republic of Serbia, Ministry of Education, Science and Technological Development
 Republic of Serbia, Ministry of Environmental Protection
 Republic of Serbia, Autonomous Province of the Vojvodina, Provincial Secretary for Higher Education and Scientific Research
 Activity
 Republic of Serbia, Autonomous Province of the Vojvodina, Provincial Secretary for Urbanization and Environmental Protection
 City of Novi Sad
 PWMG “Vode Vojvodine“, Novi Sad
 PC “Vojvodinašume“, Petrovaradin
 PCC “Gradsko zelenilo“, Novi Sad
 PCC “Lisje“, Novi Sad
 Matrica srpska, Novi Sad
 Institute of Field and Vegetable Crops, Novi Sad
 University of Novi Sad, Institute of Lowland Forestry and Environment, Novi Sad
 University of Novi Sad, Institute of Food Technology in Novi Sad, Novi Sad
 University of East Sarajevo, Faculty of Technology, Zvornik
 Journal “Plant Systematics and Evolution“
 World Wild Fund For Nature, Belgrade
 IUCN ECARO, Belgrade
 Vojvodina Environmental Movement, Novi Sad
 Biology and Ecology Students’ Scientific Research Society “Josif Pančić“, Novi Sad
 National Park “Fruska gora“
 Nature Park “Rusanda“
 SNR “Deliblati Sand“
 SNR “Obedska bara“
 SNR “Okani bara“
 SNR “Slano Kopovo“
 SNR “Titelski breg“
 SNR “Zasavica“

Hungarian Natural History Museum, Budapest

Tourism Organization of Vojvodina

Tourist Organization of the City of Novi Sad, Novi Sad

PanaComp, Wonderland Travel, Novi Sad

Sponsors:

- Coca-Cola HBC, Belgrade
- Naftachem, Sremski Karlovci
- BioSPIN ltd, Novi Sad
- Mikromik ltd, Belgrade

• Nikon

- Pivnica “Cusaa“, Novi Sad
- Intercatfe ltd, Belgrade

Honorable Committee

Dr. Ana Petrova, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Bulgaria
 Dr. Kit Ian, Department of Biology, Faculty of Science, University of Copenhagen, Denmark
 Dr. Arne Strid, Department of Biology, Faculty of Science, Lund University, Sweden
 Dr. Werner Greuter, Herbarium Mediterraneum, University of Palermo, Italy & Botanischer Garten und Botanisches Museum Berlin-Dahlem, Freie University of Berlin, Germany
 Dr. Branislava Butorac, Institute for Nature Conservation, Serbia
 Dr. Branilca Stevanović, Faculty of Biology, University of Belgrade, Serbia
 Dr. Dušan Nikolić, Rector of University of Novi Sad, Serbia
 Dr. Jelena Blaženčić, Faculty of Biology, University of Belgrade, Serbia
 Dr. Milica Pavkov Hrvojević, Dean of Faculty of Sciences, University of Novi Sad, Serbia
 Miloš Vučković, The Mayor of Novi Sad, Serbia
 Dr. Pal Boža, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr. Rudolf Kastori, Secretary General of the Department of Natural Sciences, Matca srpska, Serbia
 Dr. Vladimir Stevanović, Faculty of Biology, University of Belgrade & Serbian Academy of Sciences and Art, Serbia
 Vladimir Galić, Provincial Secretary for Urban Planning and Environmental Protection, Serbia
 Dr. Zoran Milošević, Provincial Secretary for Higher Education and Scientific Research, Serbia
 Dr. Karol Marhold, Plant Science and Biodiversity Centre, Slovak Academy of Sciences, Charles University, Prague, and Secretary-General of International Association for Plant Taxonomy, Slovak Republic & Czech Republic
 Dr. Tod Stuessy, Museum of Biological Diversity, The Ohio State University, United States of America

Scientific Committee**Presidents:**

Dr. Goran Anađković, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia

Dr. Lana Zorić, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia

Members:

Dr. Alfred Mullaj, Faculty of Natural Sciences, University of Tirana, Albania
 Dr. Lulëzim Shuka, Department of Biology, Faculty of Natural Sciences, University of Tirana, Albania
 Dr. Božo Frajman, Institute of Botany, University of Innsbruck, Austria
 Dr. Peter Schönschwetter, Institute of Botany, University of Innsbruck, Austria
 Dr. Faruk Bogunić, Faculty of Forestry, University of Sarajevo, Bosnia and Herzegovina
 Dr. Senka Barudanović, Faculty of Science, Bosnia and Herzegovina
 Dr. Sinisa Škondrić, Department of Biology, Faculty of Sciences, University of Banja Luka, Bosnia and Herzegovina
 Dr. Rosen Tsonev, Faculty of Biology, Sofia University “St. Kliment Ohridski“, Bulgaria
 Dr. Vladimir Vladimirov, Department of Plant and Fungal Diversity and Resources, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Bulgaria
 Dr. Antun Alegro, Department of Biology, Faculty of Science, University of Zagreb, Croatia
 Dr. Bošijan Surina, Natural History Museum Rijeka, Croatia
 Dr. Sandro Bogdanović, Faculty of Agriculture, University of Zagreb, Croatia
 Dr. Sonja Šiljak Jakovljević, Ecologie Systématique Evolution, CNRS, AgroParisTech, Univ. Paris-Sud, Université Paris-Saclay, France
 Dr. Dimitris Tzanoudakis, Division of Plant Biology, Department of Biology, University of Patras, Greece
 Dr. Panayotis Dimopoulos, Institute of Botany, Division of Plant Biology, Department of Biology, University of Patras, Greece
 Dr. Theophanis Constantiniadis, Department of Ecology and Systematics, Faculty of Biology, National and Kapodistrian University of Athens, Greece
 Dr. Kiriály Gergely, Institute of Silviculture and Forest Protection, University of Sopron, Hungary
 Dr. Zoltan Barina, Department of Botany, Hungarian Natural History Museum, Hungary
 Dr. Vlado Matevski, Institute of Biology, Faculty of Natural Sciences and Mathematics, Ss. Cyril and Methodius University and Macedonian Academy of Sciences and Arts, Macedonia
 Dr. Danka Caković, Faculty of Natural Sciences and Mathematics, University of Montenegro, Montenegro

Dr Danijela Stešević, Faculty of Natural Sciences and Mathematics, University of Montenegro, Montenegro
 Dr Vesna Mačić, Institute of Marine Biology, University of Montenegro, Montenegro
 Dr Euczia Łukasz, Department of Botany, Institute of Applied Biotechnology and Basic Sciences, University of Rzeszów, Poland
 Dr László Bartha, Institute for Interdisciplinary Research in Bio-Nano Sciences Romania
 Dr Biljana Božin, Department of Pharmacy, Faculty of Medicine, University of Novi Sad, Serbia
 Dr Bojan Konstantinović, Department of Environmental and Plant Protection Faculty of Agriculture, University of Novi Sad, Serbia
 Dr Bojan Zlatković, Department of Biology and Ecology, Faculty of Science and Mathematics, University of Niš, Serbia
 Dr Branislava Lakušić, Faculty of Pharmacy, University of Belgrade, Serbia
 Dr Dmirar Lakušić, Institute of Botany and Botanical Garden "Jevremovac", Faculty of Biology, University of Belgrade, Serbia
 Dr Dragana Mladinović, Institute of Field and Vegetable Crops, Serbia
 Dr Dragana Rančić, Faculty of Agriculture, University of Belgrade, Serbia
 Dr Dragana Vukov, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Gordana Tomović, Institute of Botany and Botanical Garden "Jevremovac", Faculty of Biology, University of Belgrade, Serbia
 Dr Ivana Maksimović, Faculty of Agriculture, University of Novi Sad, Serbia
 Dr Jadranka Luković, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Maja Karaman, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Marjan Niketić, Natural History Museum, Serbia
 Dr Marko Sabovljević, Institute of Botany and Botanical Garden "Jevremovac", Faculty of Biology, University of Belgrade, Serbia
 Dr Mihajla Dan, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Milan Stanković, Department of Biology and Ecology, Faculty of Sciences, University of Kragujevac, Serbia
 Dr Milan Veljić, Institute of Botany and Botanical Garden "Jevremovac", Faculty of Biology, University of Belgrade, Serbia
 Dr Mirjana Šijačić Nikolin, Faculty of Forestry, University of Belgrade, Serbia
 Dr Miroslava Mitrović, Institute for Biological Research "Siniša Stanković", University of Belgrade, Serbia
 Dr Nataša Nikolić, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Neda Mimica Đukić, Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Pavle Pavlović, Institute for Biological Research "Siniša Stanković", University of Belgrade, Serbia
 Dr Peđa Janačković, Institute of Botany and Botanical Garden "Jevremovac", Faculty of Biology, University of Belgrade, Serbia
 Dr Petar Marin, Institute of Botany and Botanical Garden "Jevremovac", Faculty of Biology, University of Belgrade, Serbia
 Dr Saša Orlović, Institute of Lowland Forestry and Environment, University of Novi Sad, Serbia
 Dr Slobodan Jovanović, Institute of Botany and Botanical Garden "Jevremovac", Faculty of Biology, University of Belgrade, Serbia
 Dr Slobodanka Pajević, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Snežana Radulović, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Srdan Stojmić, Institute of Lowland Forestry and Environment and Faculty of Agriculture, University of Novi Sad, Serbia
 Dr Vladimir Randelović, Department of Biology and Ecology, Faculty of Science and Mathematics, University of Niš, Serbia
 Dr Andraž Čarni, "Jovan Hadži" Institute of Biology, Slovenia
 Dr Nejc Logan, Biotechnical Faculty, University of Ljubljana, Slovenia
 Dr Neriman Özhatay, Department Of Pharmaceutical Botany, Faculty of Pharmacy, Istanbul University, Turkey

Organizing Committee

Presidents:

Dr Ružica Igić, President of Botanical Society "Andreas Wolny", Novi Sad
 Dr Biljana Panjković, Head of Institute for Nature Conservation of the AP Vojvodina, Novi Sad

Secretaries:

Bojana Bokić, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Milica Rat, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad

Members:

Dr Biljana Božin, Department of Pharmacy, Faculty of Medicine, University of Novi Sad
 Dr Dragana Vukov, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Dušanka Cvijanović, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Goran Anačković, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Jadranka Luković, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Lana Zorić, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Ljiljana Nikolić, Faculty of Agriculture, University of Novi Sad

Dr Milan Borisev, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Milan Zupunski, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Nebojša Kladar, Department of Pharmacy, Faculty of Medicine, University of Novi Sad
 Dr Slobodanka Pajević, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Ana Vestek, Botanical Society "Andreas Wolny" Novi Sad
 Danijela Atasenov, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Boris Radak, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dragun Obradov, Botanical Society "Andreas Wolny" Novi Sad
 Drujica Karanović, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Đurđica Simin, Botanical Society "Andreas Wolny" Novi Sad
 Goran Trnusić, Botanical Society "Andreas Wolny" Novi Sad
 Jelena Jocković, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Jelena Knežević, Botanical Society "Andreas Wolny" Novi Sad
 Marko Ručando, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Miloš Ilić, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Mirjana Čuk, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Ranko Perić, Institute for Nature Conservation of the AP Vojvodina
 Sara Pavkov, Institute for Nature Conservation of the AP Vojvodina
 Slobodan Bojčić, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad

Sessions:

The 7th Balkan Botanical Congress consists of plenary lectures, introductory lectures of each session, as well as oral and poster presentations on the following topics:

Sessions 1.

Plant Anatomy and Physiology

Sessions 2.

Plant Taxonomy and Systematics

Sessions 3.

Plant Molecular Biology and Genetics

Sessions 4.

Floristics, Vegetation and Phytogeography

Sessions 5.

Conservation Botany and Plant Invasion

Sessions 6.

Phytochemistry and Plant Resources

Sessions 7.

Agronomy and Forestry

Sessions 8.

Botanical Collections and History

Sessions 9.

Ethnobotany

Sessions 10.

Cryptogam Biology

Oral presentation 23 04 31

THE ROLE OF HYDROLOGICAL REGIME IN STRUCTURING MACROPHYTE ASSEMBLAGES IN GRAVEL PIT LAKES ALONG THE DRINA RIVER FLOODPLAIN (SERBIA)

Dušanika Cvijanović^{1*}, Bojan Damjanović², Maja Novković³, Aleksandra Veselić³, Milica Živković³, Ana Adenkić⁴, Dragana Vukov & Snežana Radulović⁵

¹Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 2, 11000 Novi Sad, Republic of Serbia, ²Higher Medical and Business-Technological School of Applied Studies Sabac, Hajduk Veljkova 10, 15000 Sabac, Republic of Serbia, ³Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Njegoševa 12, 11001 Belgrade, Republic of Serbia, ⁴Institute for Plant Protection and Environment, Teodora Dražnera 9, 11040 Belgrade, Republic of Serbia

*Corresponding author: dusanka.cvijanovic@dbe.uns.ac.rs

Hydrological regime plays an important role in structuring macrophyte vegetation in highly connected floodplain lakes, such as gravel pit lakes connected to the main river channel. If the dominant hydrological drivers are known, an optimal selection of gravel excavation location, relative to the main river channel, may create favorable hydrological conditions for aquatic biota. The aim of this study was to determine the most significant and relevant hydrological variables for structuring macrophyte assemblages in newly formed gravel pit lakes along the lower course of the Drina River. Field research was carried out on 49 survey sectors (14 gravel pit lakes), during the summer months of 2015 and 2016. Vegetation data was collected in accordance with the Pan-European standard for the sampling of macrophyte vegetation in lakes, using the UKTAG LEAPPACS (Lake Assessment Methods, Macrophyte and Phytobenthos). Hydrological variables (frequency, duration and amplitude of the flooding events) during the 4-year period prior to the vegetation survey) for each lake were extracted from the Republic Hydrometeorological Services according to the relative shore height to the Badovinci water-level station on the Drina River. The role of hydrological variables in structuring macrophyte assemblages was tested using partial Canonical Correspondence Analysis, while Generalized Linear Model was performed to test the ability of selected hydrological attributes to predict the macrophyte quantitative metrics (Shannon diversity index, species richness, total macrophyte cover, number of macrophyte functional groups, number of charophyte taxa and relative charophyte cover). The analyses showed that species richness, Shannon diversity index, total macrophyte cover and number of macrophyte functional groups were negatively predicted by the frequency of flooding events during the summer seasons in the past 4-year period. However, these macrophyte indicators, including the number of charophyte taxa and the relative charophyte cover, were positively correlated with the frequency of flooding events during the spring periods. These results suggest that the frequency of flooding periods during

Oral presentation 24 04 64

A PREDICTION FRAMEWORK FOR AQUATIC VEGETATION USING ARTIFICIAL NEURAL NETWORKS

Aleksandar Radosević^{1*}, Aleksandar Kovačević², Dušanika Cvijanović³, Igor Jovinić⁴, Jelena Janković⁵, Nikola Vučkasinović⁶, Bojan Damjanović⁷, Maja Novković⁸, Milica Živković⁹ & Snežana Radulović⁹

¹Faculty of Technical Sciences, University of Novi Sad, Trg Dositeja Obradovića 6, 21000 Novi Sad, Serbia, ²Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 2, 11000 Novi Sad, Serbia, ³Higher Medical and Business-Technological School of Applied Studies Sabac, Hajduk Veljkova 10, 15000 Sabac, Serbia

*Corresponding author: aleksandarradosevic1994@gmail.com

The ability to predict aquatic vegetation patterns, such as species composition, species richness and diversity based on various environmental variables may be useful to environmental resource managers and stakeholders. The aim of this study was to develop and validate predictive models for the macrophyte vegetation patterns using Artificial Neural Networks (ANN). The dataset included 56 macrophyte survey sectors collected from 14 gravel pit lakes along the lower course of the Drina River, during the summer months of 2015 and 2016. Predictive models were designed using macrophyte variables (species composition, Shannon diversity index, species richness, total macrophyte cover, number of macrophyte functional groups, number of charophyte taxa and relative charophyte cover) as outputs and physico-chemical and hydro-morphological parameters as inputs. Dataset was later reduced using Principal Component Analysis and Canonical Correspondence Analysis to select only significant variables. Models were made using Python programming language and Keras open source library for Artificial Neural Network support. Over 50 different ANN models were tested. The final model was performed on standardized data using Soft-Max activation function for outputs and included four layers. The highest prediction rate was obtained for vegetation composition which was presented with data matrix consisting of 27 species and 56 samples. Derived model could be used as a starting point toward exploring environmental sorting mechanisms of macrophyte assemblages.

KEYWORDS: Artificial Neural Network, gravel pit, vegetation, macrophytes

Oral presentation 25 04 40

POLLEN AND CHARCOAL AS KEYS FOR UNDERSTANDING VEGETATION DYNAMICS DURING THE PAST - CASE STUDY FROM CENTRAL CROATIA

Dario Hrušević^{1*}, Koriljka Bakrač², Slobodan Miško³, Nikolina Ilijanić⁴, Ozren Hasan⁵ & Božena Mitić⁶

¹University of Zagreb, Faculty of Science, Department of Biology; Rooseveltov trg 6a, HR- 10000 Zagreb, Croatia, ²Croatian Geological Survey, Sachsova 2, HR- 10000 Zagreb, Croatia

*Corresponding author: dario.hrusевич@biol.pmf.hr

Sediment from the biggest Croatian mire (Blatusa) was taken in 2015. Physical and geochemical analysis of sediments, qualitative and quantitative analyses of pollen palynomorphs and charcoal particles were performed. The following local zones were identified: *Pinus - Fagus* (Zone 1, depth 210-175 cm), *Fagus - Corylus* (Zone 2a, 175- 150 cm), *Fagus - Alnus* (Zone 2b, 150-85 cm), NAP (non-arboreal pollen) - *Fagus - Quercus* (Zone 3a, 85-45 cm) and NAP - *Carpinus - Quercus - Fagus* (Zone 3b, 45-5 cm). Local palynological species form following subzones: *Cyperaceae - Polygodiales* (210-180 cm), *Polygodiales - Sphagnum* (180-90 cm), *Sphagnum - Polygodiales* (90-40 cm) and *Cyperaceae* (40-5 cm). Zone 1 is characterised by 41 pollen types, the share of arboreal pollen is ~ 85%, the broader area was covered by pine and plants typical for oak forests, and today's area of the mire was a mosaic of wetland vegetation and wet meadows, with partially developed peatland vegetation. Zone 2 is characterised by 45 pollen types, the share of arboreal pollen is ~ 96%, with a domination of beech forest, the high share of hazel (Zone 2a) and alder (Zone 2b), and a local domination of ferns. Zone 3 is characterised by 57 pollen types, the share of arboreal pollen is ~ 72%, with a relative domination of grasses. Beech is the most common tree in Zone 3a and hornbeam and oak in Zone 3b, which is also characterised by the highest palynological richness and numerous anthropogenic indicators (eg. Cerealia pollen). According to the results of ¹⁴C AMS dating, the deepest section of the core belongs to the Preboreal interval (Holocene). The shares of arboreal pollen, anthropogenic indicators, charcoal particles and palynological richness point to variable intensity of anthropogenic pressure, particularly expressed since the developed Middle Ages. Charcoal particles were the most numerous through the Zones 1 and 3, and are evidence of regional and local fires, essential succession factors. The results enable us to apply them for the same post-glacial period for the surrounding biogeographical area in the border zone between Central and Southeast Europe.

KEYWORDS: anthropogenic indicators, Blatusa peatland, fire, Holocene, paleoenvironment, palynology

Poster presentation 26 04 08

NEW RECORDS OF ENDEMIC IRIS ADRIATICA (IRIDACEAE) IN NORTH ADRIATIC (CROATIA)

Nediljko Landeka¹, Slavko Brana², Barbara Sladonja^{3*} & Danijela Poljuha^{4*}

¹Public Health Institute of the Istrian Region, Nazorova 23, p.p.192, HR-52100 Pula, Croatia
²Public institution Natara Histrica, Riva 8, HR-52100 Pula, Croatia
³Institute of Agriculture and Tourism, Karla Huguesa 8, HR-52440 Poreč, Croatia

Corresponding author: *danijela@iptpo.hr

Iris adriatica Trinajstić ex Mitić is the strictly endemic rhizomatous dwarf plant from the *I. pumila* complex, first recorded and described in 2002 in Croatia. Due to its small, late-ly decreased or disappearing populations, *I. adriatica* belongs to the NT (near threatened) IUCN category in the Croatian Red Book of Vascular Plants. Recent metabiological profiling of this species revealed its great pharmacological potential and chemotaxonomic relevance. So far, its recorded presence has been limited to the few locations in central Dalmatia (Croatia). Here we present the new records of *I. adriatica* on the Island Cres in North Adriatic. Two new locations were identified: one in the area of Srem, on the north of the church St. Mihovil (155 MASL) and the other, small population in the area of Jelovica, around the church of St. Juraj (141 MASL), which is the northernmost, so far confirmed record of this species in the Republic of Croatia.

KEYWORDS: *Iris adriatica*, new records, endemic species, Cres, North Adriatic

Poster presentation 27 04 18

NEW SPECIES IN THE FLORA OF KOZARA NATIONAL PARK (BOSNIA AND HERZEGOVINA)

Stanković Mihaljlo¹, Romčević Dragani² & Nataša Pjević²

¹Nature conservation movement Strenska Mitrovića, Serbia, ²Kozara National Park, Bosnia and Herzegovina

*Corresponding author troglotoxen@gmail.com

According to the group of authors Bucalo et al. (2007) the flora of Kozara National Park comprises 737 plant species. During our floristic research conducted in the period 2012 - 2017, 51 new plant species in the flora of Kozara National Park were registered and the total species diversity of flora in this protected area now comprises 787 species. Out of 51 new species, 3 species are Pteridophyta, 36 species are Dicotyledoneae and 11 species are Monocotyledoneae. There are 6 new allochthonous species (*Abutilon theophrasti*, *Euphorbia maculata*, *Reynoutria japonica*, *Lindernia dubia*, *Arum italicum*, *Vallisneria spiralis*) out of which 2 are invasive (*Vallisneria*