

AdriBioPro2019 7-10 April

International Conference: Adriatic Biodiversity Protection | Montenegro

Kotor

Book of Abstracts







ISBN 978-9940-9613-2-9 COBISS.CG-ID 3330896 DOI 10.5281/zenodo.2614428

International Conference Adriatic Biodiversity Protection AdriBioPro2019

7–10 April 2019, Kotor, Montenegro

Book of Abstracts

Institute of Marine Biology, University of Montenegro Kotor, Montenegro 2019

TABLE OF CONTENTS

T1: Marine biodiversity conservation	13
T2: Conservation of coastal and marine areas	30
T3: Preventing marine pollution	42
T4: Rare and endangered species in the Adriatic Sea [PinnaSpot event]	52
T5: Marine invasive and alien species	74
T6: Roles of aquaria	82
T7: Sustainable use of marine resources	89
T8: Marine biotechnology	98
T9: Freshwater biodiversity conservation	105

THE CONFERENCE

The 2019 International Conference: Adriatic Biodiversity Protection – AdriBioPro2019 provided updated scientific, decision-making and policy-relevant information across a broad array of different Adriatic issues, marine biology and related scientific disciplines. Emphasis will be on how state-of- the-art research on Adriatic biodiversity protection, conservation of coastal and marine areas and sustainable use of marine resources can contribute to policy- and decision-making. Particular focus was put on the development opportunities which marine biotechnology can offer in the Adriatic. Organized to include plenary and breakout sessions covering both disciplinary and interdisciplinary perspectives, Conference results will be used in shaping future marine science priorities and policy in Montenegro and other Adriatic countries.

Background

The Institute of Marine Biology of the University of Montenegro is granted by the Norwegian Ministry of Foreign Affairs to implement a project "Marine Biodiversity Conservation Center "Boka Aquarium" (MonteAqua)" in cooperation with the Center for Fisheries and Biodiversity Conservation of Inland Waters, Institute of Biology and Ecology, Faculty of Science, University of Kragujevac. The International conference "Adriatic Biodiversity Protection" is final project event, dedicated to gather all relevant national and regional stakeholders and to secure closer regional cooperation in the Adriatic Sea region.

According the UNEP, the Mediterranean Sea is subject to tremendous pressure from multiple human uses and climate change. Recent research results indicate the cumulative impacts of human activities in the Mediterranean, ranking it as a hotspot of marine biodiversity, and one of the most heavily impacted marine regions worldwide. One of the most intensely used and severely degraded regions of the Mediterranean is the Adriatic Sea. It implies a necessity of developing appropriate and effective policy-responses including adaptation actions, enhancement of resilience and implementation of mitigation activities. The Conference will address alterations of Mediterranean ecosystems, with particular focus on the Adriatic Sea and its biodiversity and analyse widespread conflict among marine users. By presenting the latest science, the Conference will facilitate, synthesize and summarize the science-policy dialogue.

AdriBioPro2019 5

COMMITTEES

Scientific Committee

- Dr Aleksandar Joksimović, University of Montenegro, Institute of Marine Biology, Kotor, Montenegro, Chair
- Dr Aleksandra Milošković, University of Kragujevac, Faculty of Science, Institute of Biology, Kragujevac, Serbia
- Prof. Dr, Alexander V. Semenov, S. Yu. Witte Moscow University, Moscow, Russia
- Prof. Dr Andrey Kostianoy, P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences, Moscow, Russia
- Prof. Dr Bajram Ozturk, İstanbul Üniversitesi Akademik Veri Yönetim Sistemi, Istanbul, Turkey
- Prof. Dr Bojan Lazar, University Priomorska Slovenia, Koper, Slovenia
- Prof. Dr Branko Glamuzina, University of Dubrovnik, Institute for Marine and Coastal Research, Dubrovnik, Croatia
- Prof. Dr Corrado Piccinetti, University of Bologna, Laboratory for marine Biology, Fano, Italy
- Dr Danilo Mrdak, University of Montenegro, Faculty of Science, Podgorica, Montenegro
- Prof. Dr Davor Lučić, University of Dubrovnik, Institute for Marine and Coastal Research, Dubrovnik, Croatia
- Dr Draško Holcer, Croatian natural History Museum, Mali Lošinj, Croatia
- Dr Enrico Arneri, FAO Adriamed project, Rome, Italy
- Prof. Dr Hermann Ehrlich, Institute of Experimental Physics, TU Bergakademie Freiberg, Freiberg, Germany
- Academician, Igor Zoon, Engineering Research Production Center For Water Management, Land Reclamation and Ecology "Soyuzvodproject", Moscow, Russia
- Prof. Dr Ivica Radović, University of Belgrade, Faculty of Security Studies, Beograd, Serbia
- Dr Jakov Dulčić, Institute of Oceanography and Fisheries, Split, Croatia
- Prof. Dr Jasmina Krpo Ćetković, University of Belgrade, Faculty of Biology, Belgrade, Serbia
- Dr Jose Rafael Garcia March, Universidad Católica de Valencia SVM, Institute of Environment and Marine Science Research, Valencia, Spain
- Dr Maria Teresa Spedicato, COISPA, Bari, Italy
- Dr Michael Chatziefstathiou, Pan Helenic Society of Technology and Ichtiology, Athens, Greece
- Dr Mirko Đurović, University of Montenegro, Institute of Marine Biology, Kotor, Montenegro
- Dr Momir Paunović, Institute for Biological Research "Siniša Stanković", Belgrade, Serbia
- Prof. Dr Nardo Vicente, Institut Oceanograpohique Paul Ricard, Marseille, France

6 AdriBioPro2019

- Dr Nedo Vrgoč, Institute of Oceanography and Fisheries, Split, Croatia
- Prof. Dr Pavle Andus, University of Belgrade, Faculty of Biology, Belgrade, Serbia
- Dr Radoje Laušević, University of Montenegro, Institute of Marine Biology, Kotor, Montenegro, Secretary
- Prof. Dr Romina Kraus, Institute Ruder Bošković-Center for Marine Research, Rovinj, Croatia
- Dr Sajmir Beqiraj, University of Tirana, Faculty of Natural Science, Department of Biology, Tirana, Albania
- Dr Samir Muhamedagić, University of Sarajevo Faculty of Agriculture and Food Science, Sarajevo, BiH
- Dr Slobodan Regner, Institute for Multidisciplinary Research, Belgrade, Serbia
- Prof. Dr Snežana Simić, University of Kragujevac, Faculty of Science, Institute of Biology, Kragujevac, Serbia
- Dr Sreten Mandić, University of Montenegro, Institute of Marine Biology, Kotor, Montenegro
- Dr Stylianos Somarakis, Hellenic Centre for Marine Research, Institute of Marine Biological Resources & Inland Waters Thalassocosmos, Gournes, Heraklion, Greece
- Dr Valter Kožul, University of Dubrovnik, Institute for Marine and Coastal Research, Dubrovnik, Croatia
- Prof. Dr Vladica Simić, University of Kragujevac, Faculty of Science, Institute of Biology, Kragujevac, Serbia
- Prof. Dr Zoran Marković, University of Belgrade, Faculty of Agriculture, Belgrade, Serbia

AdriBioPro2019 7

International Conference Adriatic Biodiversity Protection – AdriBioPro2019 7-10 April 2019, Kotor, Montenegro, Book of Abstracts

Organizing Committee

- Aleksandra Huter
- Ana Castelli
- Ana Pešić
- Branka Pestorić
- Danijela Joksimović
- Dragana Drakulović
- Milica Mandić
- Olivera Marković
- Radoje Laušević, Chair
- Rajko Martinović
- Slavica Petović
- Vesna Mačić
- Zdravko Ikica

Secretariat

- Emilija Nikčević
- Ines Peraš
- Marija Simić Savić
- Vladan Vuković

8 AdriBioPro2019

ORGANIZED BY







SUPPORTED BY

























This project is financially supported by The Royal Norwegian Embassy in Belgrade www.norveska.org.rs Realizaciju projekta finansijski je podržala ambasada Kraljevine Norveške u Beogradu www.norveska.org.rs

AdriBioPro2019 9

International Conference Adriatic Biodiversity Protection – AdriBioPro2019 7-10 April 2019, Kotor, Montenegro, Book of Abstracts

Author

Vesna Đikanović, djiki@ibiss.bg.ac.rs, Institute for biological research "Siniša Stanković",Serbia

Co-authors

Stefan Skorić, Institute for Multidisciplinary Research, Serbia Gorčin Cvijanović, Institute for Multidisciplinary Research, Serbia Dušan Nikolić, Institute for Multidisciplinary Research, Serbia Milica Pucar, Institute for Multidisciplinary Research, Serbia Miroslav Nikčević, Institute for Multidisciplinary Research, Serbia Branislav Mićković, Institute for Multidisciplinary Research, Serbia

Presentation title

Biometry and diet of *Perccottus glenii* Dybowski, 1877 found in stagnant water nearby Veliko Gradište (northeastern Serbia)

Abstract

The aim of this study was to describe biometric and feeding characteristics of highly invasive species Perccottus glenii in the investigated locality. A total of 85 fish were electrofished in the drainage channel located at the vicinity of Veliko Gradište (northeastern Serbia) and preserved in the alcohol solution. In the laboratory, fish were measured (TL, ± 0.01 mm; W, ± 0.01 g), otholits and digestive tracts were removed for age determination and dietary analysis (stereomicroscope). Biometric analysis included length-frequency distribution using 10 mm class intervals; determination of average length and weight for each age group; lenght-weigth relationship; Fulton's condition factor. Ingested organisms were identified to the lowest reliable taxonomic level (mainly order) and counted. The respective ranges of TL and W of examined fish were 35-140.7 mm and 0.5-40 g. Length class 70.1-80.0 mm clearly dominated (24%). Four age groups were determined (0+-3+), and their descriptive statistics is presented. The value of allometric coefficient for the length-weight relationship (b= 3.068) indicated isometric growth. Fulton's condition factor did not differ between age groups. Empty digestive tract was found in 2 specimens. A total of 12 prey categories representing Ephemeroptera, Trichoptera, Odonata, Hemiptera, Chironomidae, Coleoptera, Gastropoda, Hirudinea, Oligochaeta, Gammaraidae, unidentified and terrestrial insects were identified in the diet. Generally, the diet is entirely composed of aquatic invertebrates, as only one terrestrial insect was found. Obtained results did not show clear difference in diet composition between age groups. However, analysis have shown that the most diverse diet characterize 2+ age. By frequency, the insect larvae were categories with highest participation regardless of age.

110 AdriBioPro2019