

SYMPOSIUM FOR THE CONSERVATION OF FRESHWATER FISH AND HABITAT REHABILITATION



ABSTRACT BOOK

27 to 29 September 2018
University of Évora



SYMPOSIUM FOR THE CONSERVATION OF FRESHWATER FISH AND HABITAT REHABILITATION



COLÉGIO DO ESPÍRITO SANTO
27 TO 29 SEPTEMBER 2018
UNIVERSITY OF ÉVORA

Programme

Thursday, 27

8h30 Registration

9h00 Opening session
António Candelas, Vice-Reitor para a Investigação e Desenvolvimento, UÉvora
Miguel Geraldes, Liga para a Proteção da Natureza

Session 1

9h30 Plenary talk:
What is going on with riverine biotic communities?
Emili Garcia-Berthou

10h15 Semi-permeable species boundaries in Iberian *Luciobarbus*: a tale of fissions and fusions
Gante, H.F.; Doadrio, I.; Dowling, T.E.; **Alves, M.J.**

10h30 Iberian freshwater anglers and fish introductions: an Iberian survey
Banha, F.; Gago, J.; Margalejo, D.; Casals, F.; Ribeiro, F.; Anastácio, P.

10h45 **Coffee break**

11h15 Dispersal of some native fish species into Norwegian lakes - a serious threat to the freshwater fish fauna and the aquatic biota
Hesthagen, T.; Sandund, O.T.

11h30 "Can you smell it?" A method to assess how cyprinid juveniles respond to predator chemical cues
Lima, C.S.; Sousa-Santos, C.; Faria, A.; Gil, F.; Robalo, J.I.

11h45 Update new fish invaders in Portugal using web sources
Banha, F.; Anastácio, P.; Gago, J.; Veríssimo, A.; Ilhéu, M.; Gkenas, Ribeiro, F.

12h00 At home away from home? Insights into the plastic physiology and behaviour of the invasive chameleon cichlid *Australoheros facetus* in Southern Portugal
Baduy, F.; **Saraiva, J.L.**; Hubbard, P.C.; Canario, A.V.M.; Guerreiro, P.M.

12h15 Spatial modeling of invasive species distribution: The use of different climatic variables and prediction of possible impacts of climate change
Gama, M.; Johovic, I.; Banha, F.; Tricarico, E.; Anastácio, P.

12h30 Subsistence fisheries and conservation of freshwater fishes
Miqueleiz, I.; Miranda, R.; Ariño, A.H.

Lunch

Session 2

- 14h15 Plenary talk:
Habitat conservation and rehabilitation
Rui Cortes
- 15h00 LIFE Saramugo Project: Experimental testing of several barrier types to prevent Bleak from reaching areas with Saramugo populations
Bernardo, J.M.; Matono, P.; Costa, A.M.; da Silva, J.; Ilhéu, M.
- 15h15 Lessons learned in habitat rehabilitation for Saramugo
Fragoso, S.; Lousa, H.; Silva, N.; Alcazar, R.
- 15h30 River rehabilitation for the conservation of Saramugo's populations in the Guadiana and Moura/Barrancos SCIs
Almeida, J.; Oliveira, B.; Pinheiro, P.
- 15h45 Ecological recovery and valorisation project of the Várzea de Loures
Fernandes, J.P.
- 16h00 **Coffee break**
- 16h30 River fragmentation and conservation of endemic Iberian freshwater fish species
Rodeles, A.; Galicia, D.; Miranda, R.
- 16h45 Microhabitat use of endemic cyprinids as a tool to inform restoration practices in Mediterranean rivers
Santos, J.M.; Rivaes, R.; Boavida, I.; Branco, P.
- 17h00 Ecological status assessment of temporary rivers. Proposal of a Methodological Approach
Alves, M.H.; Fialho, A.; Furtado, A.; Gago, C.; Soares, C.; Rasga, M.J.; Noronha, P.; Garcia, P.; Oliveira, R.; José, V.
- 17h15 A multi-scale approach to the management of regulated rivers for the conservation of freshwater fish
Alexandre, C.M.; Almeida, P.R.; Mateus, C.M.; Costa, J.L.; Belo, A.F.; Pereira, E.; Oliveira, I.; Rato, A.; Quintella, B.R.
- 17h30 Monitoring freshwaters using eDNA metabarcoding
Filipe, A.F.; Garcia-Raventós, A.; Martins, F.M.S.; Paupério, J.; Ferreira, S.; Beja, P.; Magalhães, M.F.
- 17h45 Poster session
- 18h00 Yeborath saxophone quartet - Departamento de Música da Escola de Artes, Universidade de Évora

Friday, 28

Session 3

- 9h00 Plenary talk:
Challenges for the conservation of endangered fish species
Jörg Freyhof
- 9h45 Conservation of the Saramugo (*Anaocypris hispanica*) in the Guadiana basin (Portugal)
Alcazar, R.; Lousa, H.; Silva, N.; Fragoso, S.
- 10h00 Patterns of habitat use of the endangered Saramugo, *Anaocypris hispanica*, and the invasive Bleak, *Alburnus alburnus* in Mediterranean temporary rivers: potential negative interactions
Matono, P.; da Silva, J.; Bernardo, J.M.; Costa, A.M.; Ilhéu, M.
- 10h15 Behavioral interactions between the endangered native fish Saramugo, *Anaocypris hispanica*, and the invasive Bleak, *Alburnus alburnus*
da Silva, J.; Matono, P.; Barata, E.N.; Bernardo, J.M.; Costa, A.M.; Ilhéu, M.
- 10h30 **Coffee break**
- 11h15 High levels of genetic diversity are not sufficient to prevent extinction - the case of the critically endangered *Anaocypris hispanica*
Sousa-Santos, C.; Joana I. Robalo, J.I.; Francisco, S.M.; Carrapato, C.; Cardoso, A.C.; Doadrio, I.

- 11h30 Distribution and demography of the critically endangered Lisbon arched-mouth nase, *Iberochondrostoma olisiponense* - evidence from model-based field sampling
Gante, H.F.; Lomba, Á.; Veríssimo, A.; Checo, G.; Oliveira, J.M.; Cereja, R.; Santos, C.D.; Capinha, C.; Ribeiro, F.
- 11h45 Recovery plan for Jarabugo (*Anaecypris hispanica*) in Extremadura
Moreno Rendón, P.; González, P.; José, J.; Pascual Toca, M.; López, R.; Carlos, J.; Fallola Sánchez-Herrera, C.
- 12h00 An action plan and four projects for the conservation of *Anaecypris hispanica*
Cardoso, A.C

Lunch

Session 4

- 14h15 Plenary talk:
Conservation and restoration of Mediterranean temporary ponds: experiences from LIFE Charcos project
Carla Pinto-Cruz
- 15h00 LIFE INVASAQUA - Aquatic Invasive Alien Species of Freshwater and Estuarine Systems: Awareness and Prevention in the Iberian Peninsula
Ribeiro, F.; Olivo del Amo, R.; Miranda, R.; Anastácio, P.; Torralva, M.; Casals, F.; Cobo, F.; Perdices, A.; Pou-Rovira, Q.; Correia, M.J.; Ferreira, J.; Alcántara, A.; Lázaro, L.; Numa, C.; Ramírez, J.; Larena, A.; Oliva-Paterna, F.
- 15h15 Unlocking the Severn – The UK's longest river open for fish
Morris, M.; Crundwell, C.; Harrison, R.
- 15h30 Triple Lakes -restoration and preventive actions for freshwater habitats in a climate change perspective
Samuelsson, P.; Bernhardsson, M.
- 15h45 *Coffee break*
- 16h15 Keeping longitudinal and lateral connections open. LIFE and Estonian freshwater habitats
Meelis, T.; Einar, K.; Mart, T.
- 16h30 LIFE AGUEDA Conservation and management actions for migratory fish in the Vouga river basin
Mateus, C.S.; Pedro, S.; Quintella, B.R.; Alexandre, C.M.; Lança, M.J.; Pinheiro Alves, T.; Pereira, E.; Belo, A.F.; Correia, C.; Sousa, L.; Queiroga, A.P.; Pedro, F.; Laranjeira, C.M.; Belchior, I.; Ascensão, M.; Santos, F.; Marques, P.; Almeida, P.R.
- 16:45 The dilemma of the application of the WFD in the conservation of threatened species: Recovery of longitudinal connectivity vs invasive species. The case of the Life Cipriber
Marcos, C.; González, G.
- 17:00 Round table - Discussion session
- 17:45 Closing session
- 20:00 **Symposium dinner**

Saturday, 29

Field Trip to Vascão river

Coordinating beneficiary



Associated beneficiaries



UNIVERSIDADE
DE ÉVORA



Co-financing



Community Funding



Sponsors



Communication

**BEHAVIOURAL INTERACTIONS BETWEEN THE ENDANGERED
NATIVE FISH SARAMUGO, *ANAECYPRIS HISPANICA*, AND THE
INVASIVE BLEAK, *ALBURNUS ALBURNUS***

**Da Silva, J. ¹, Matono, P. ^{1,2}, Barata, E. N. ³, Bernardo J. M. ¹, Costa, A.
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Invasive species have the potential to impact native fish through interference competition, which is especially concerning for the conservation of the valuable endemic ichthyofauna of the Iberian Peninsula.

This study investigated the potential negative effect of the invasive bleak *Alburnus alburnus* on the behaviour of the critically endangered native Iberian saramugo *Anaecypris hispanica*.

The behaviour patterns were analysed under experimental conditions in outdoor tanks through observations on shelter use, shoaling, space use, swimming and direct interactions between individuals.

Saramugo showed a strong social character, being the monospecific shoal a sharp behavioural feature, independently on the presence of the bleak. Sheltering was also an important and consistent behaviour to the species.

The presence of the bleak resulted in the increase of individual space exploration, as well as swimming and especially fast swimming events, and a wider use of the available space, including the water column in addition to the bottom. This points to higher activity levels of saramugo in the presence of the bleak.

Negative direct interactions, particularly through aggression, were not frequent but only occurred when the bleak was present and were always triggered by this species. The future possible coexistence of these two species in the wild is likely to promote an increase of saramugo individual's activity, reducing shelter use and leading to higher metabolic expenses as well as predation risk.