1st Freshwater Mollusk Conservation Society Meeting in Europe

Bridging the gap between freshwater mollusk research and conservation in the Old and New World

Book of Abstracts

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Overview and Oral Presentations

Abstract ID: {day}.{serial number}

17th September, Monday

Duration: 08:30 – 10:30

Abst. ID	Author(s)	Title
01.01	Invited speaker: Heidi Dunn (USA)	Introduction to the Freshwater Mollusk Conservation Society
01.02	Invited speaker: Mary Seddon (GBR)	Contrasts between global level threats and regional threats to Freshwater Molluscs 2008 to 2018
01.03	Invited speaker: Jürgen Geist (DEU)	Common pitfalls in freshwater mussel conservation and how to avoid them

Duration: 11:00 – 13:00

Abst. ID	Author(s)	Title
01.04	Skujienė G, Skuja J (LTU)	*Unio crassus* in Lithuania: distribution, pecularities of monitoring, conservation
01.05	Feind S, Geist J, Kuehn R (DEU)	Genetic diversity and differentiation of the endangered thick shelled river mussel (*Unio crassus* Philipsson, 1788) – conservation units and lineages from Belgium to Romania
01.06	Wengström N, von Proschwitz T (SWE)	Conservation status of freshwater mussels in Sweden
01.07	Ożgo M, Urbańska M, Marzec M, Geist J (POL)	Discovery of a mussel hotspot in NE Poland: a call for research and conservation focus on multiple species systems
01.08	Vikhrev IV, Bolotov IN, Konopleva ES, Kondakov AV, Aksenova OV, Bespalaya YV, Lunn Z, Chan N,. Gofarov MYu (RUS)	Exploring the lost world: studying freshwater mussel biodiversity hotspot in Myanmar
01.09	Riccardi N, Froufe E, Teixeira A, Varandas S, Moro G, Lopes-Lima M (ITA)	Freshwater mussels in Italy: from no-name species and no-right species to useless regulation

19th September, Wednesday

Duration: 14:00 – 16:00

Abst. ID	Author(s)	Title
03.11	Chmist J, (POL)	Effects of nonsteroidal anti-inflammatory drugs in freshwater bivalve behavioural reaction
03.12	Wang N, Kunz JL, Steevens JA, Barnhart MC, Augspurger T, Dunn SY, Martinez AD, Hammer EJ, Bauer CR, Norberg-King T (USA)	Method development for short-term effluent tests with a freshwater mussel (fatmucket, *Lampsilis siliquoidea*)
03.13	Lepoutre A, Grillot T, Errard B, Bastien F, Geffard A, Lance E (FRA)	Using bivalves to biomonitor cyanotoxins ?
03.14	Sicuro B, Arregui L, Castro P, Mosquera-Corral A (ITA)	Bioremediation with freshwater bivalves: an example of European project
03.15	Kukolich S, Dettman DL, Kendall C (USA)	Stable isotope ratios in freshwater mussel shells as high-resolution recorders of riverine environmental variation.
03.16	Modesto V, Dias E, Lopes-Lima M, Teixeira A, Varandas S, Antunes C, Guilhermino L, Ilarri M, Sousa R (PRT)	Trophic niche overlap between native bivalves and the invasive *Corbicula fluminea*

Duration: 16:30 – 18:10

Abst. ID	Author(s)	Title
03.17	Louis F, Lebreton M, Devin S, Giambérini L, Potet M, Bonnard M, Geffard A, Dedourge-Geffard O, Pain-Devin S, David E (FRA)	Energy metabolism and stress response comparison in two dreissenid species under metal stress
03.18	Sousa R, Meira A, Arenas F, Lopes-Lima M, Varandas S, Teixeira A (PRT)	Invasive crayfishes as a threat to native freshwater bivalves
03.19	Urbańska M, Kirschenstein M, Obolewski K, Ożgo M (POL)	Silent invasion: *Sinanodonta woodiana* outcompetes native mussels in a water body with a natural thermal regime in the north of its invasion range in Europe
03.20	Gomes C, Mendes T, Borges R, Guarneri I, Marchi I, Guilhermino L, Vasconcelos V, Riccardi N, Antunes A (PRT)	Genetic characterization of two invasive sympatric bivalves *Corbicula fluminea* (Müller, 1774) and *Dreissena polymorpha* (Pallas, 1771) in Northern Italy
03.21	Urbańska M, Gierszal H., Hermanowski M, Andrzejewski W (POL)	Methods accepted by the society to manage invasive species populations on the example of *S. woodiana*

INVASIVE CRAYFISHES AS A THREAT TO NATIVE FRESHWATER BIVALVES

Ronaldo Sousa [1], Alexandra Meira [1], Francisco Arenas [2], Manuel Lopes-Lima [3], Simone Varandas [4] and Amílcar Teixeira [5]

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Procambarus clarkii and *Pacifastacus leniusculus* are problematic invasive species and may affect freshwater bivalves. In this study we verified if these crayfish species can predate native (*Anodonta anatina, Potomida littoralis* and *Unio delphinus*) and non-native (*Corbicula fluminea*) bivalves through experiments in laboratory and validation in the field (Sabor basin, North of Portugal). In the laboratory, crayfish feeding preferences and competition between the two crayfish species were also assessed. In the field, abundances and lengths of the specimens of each bivalve species were recorded, crayfish predation marks on bivalves were quantified and crayfish distribution, abundance and sex were determined. All native bivalve species were preyed both in laboratory and in the field; however, *P. clarkii* and *P. leniusculus* were unable to prey the non-native *C. fluminea*. Bivalve predation was not affected neither by the length or sex of the crayfish. The most preyed native species by both crayfishes was *A. anatina*. We also found competition for bivalves as a prey between the crayfishes, being *P. clarkii* dominant and displaying a more aggressive behaviour than *P. leniusculus*. Results of this study support the idea that *P. clarkii* and *P. leniusculus* can affect native bivalves by decreasing the number of effectives by increasing mortality and by reducing their fitness, which may have indirect impacts on freshwater ecosystems. On the other hand, and since crayfishes did not prey *C. fluminea* offers this invasive bivalve another advantage over native species. Finally, we also assessed the predation of *P. leniusculus* on *Margaritifera margaritifera* in the Tua basin (North of Portugal) and our results confirm this invasive crayfish as a threat to pearl mussels. Therefore, future management actions devoted to the conservation of freshwater bivalves should have in account the possible effects of invasive crayfishes on these organisms.