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

18th September, Tuesday

Duration: 14:00 – 16:00

Abst. ID	Author(s)	Title
02.11	Aldridge A, Ćmiel A, Lipińska A, Lopes-Lima M, Sousa R, Teixera A, Zając K, Zając T (GBR)	Remarkable reproductive spurting behaviour of the endangered thick shelled river mussel, *Unio crassus*
02.12	Soler J, Boisneau C, Jugé P, Richard N, Guerez Y, Morisseau L, Wantzen KM, Araujo R (ESP)	*Margaritifera auricularia* (Spengler, 1793) and its relationship with fish communities in French rivers: the discovery of new hosts and a potentially harmful guest
02.13	Teixeira A, Benaissa H, Lopes-Lima M, Sousa R, Varandas S, Rassam H, Ghamizi M (PRT)	Fish hosts of the critically endangered *Unio foucauldianus* Pallary, 1936 (Mollusca: Unionidae)
02.14	Moore T, Clearwater SJ, Collier KJ, Duggan IC (NZL)	Glochidial development of the New Zealand freshwater mussel (*Echyridella menziesii*) on non-indigenous fish
02.15	Wagner A, Schiller T, Schneider J, Grunicke F, Kuhr A, Lange M, Berendonk T (DEU)	Identification of suitable habitats for captive-bred freshwater pearl mussels by empirical studies in Vogtland rivers (Germany)
02.16	Chowdhury M Motiur R, Roy A, Suonia H, Pulkkinen K, Marjomäki TJ, Taskinen J (FIN)	Growth and disease susceptibility of brown trout affected by *Margaritifera margaritifera* infestation

Duration: 16:30 – 18:10

Abst. ID	Author(s)	Title
02.17	Bertucci A, Pierron F, Thébault J, Klopp C, Bellec J, Gonzalez P, Baudrimont M (FRA)	Transcriptomic responses of the endangered freshwater mussel Margaritifera margaritifera to trace metal contamination in the Dronne River, France
02.18	Dury P, Vincent B, Bourré N (FRA)	Breeding freshwater pearl mussel *Margaritifera margaritifera* in Britany
02.19	Clearwater S (NZL)	Development of freshwater mussel restoration protocols in New Zealand

REMARKABLE REPRODUCTIVE SPURTING BEHAVIOUR OF THE ENDANGERED THICK SHELLED RIVER MUSSEL, *UNIO CRASSUS*

David C. Aldridge [1], Adam Ćmiel [2], Anna Lipińska [2], Manuel Lopes-Lima [3], Ronaldo Sousa [3], Amilcar Teixeira [4], Katarzyna Zając [2], Tadeusz Zając [2]

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Freshwater mussels (Unionida) dominate the biomass and are important keystone organisms in many rivers, yet they are declining precipitously worldwide. Their dispersal is facilitated by possession of parasitic larvae (glochidia) which typically encyst and metamorphose on the gills and fins of host fishes. Long co-evolutionary histories in some North American mussels has resulted in specificity towards single host fish species that share the same microhabitat as the mussel and has led to the development of lures and behaviours that dramatically increase the likelihood of attachment and successful transmission. Elsewhere in the world, mussels are typically more generalist in host use and thought to release glochidia freely into the water column without using specific lures and attractants. Here we show that the endangered European thick shelled river mussel, *Unio crassus*, displays a remarkable spurting behaviour where females migrate to river margins and project jets of water up to 1m back into the channel. Spurted material carries glochidia and attracts larval host fishes thus increasing the likelihood of successful transmission. Mature glochidia remain viable for up to 48 hours and carry long larval threads, which can wrap around fixed and floating debris thus keeping the glochidia within the water column. This unique spurting behaviour may explain the disappearance of *U. crassus* from regulated rivers, where margins have been lost through impoundment, or where increased sporadic discharges displace gravid females from shallow water. The reproductive behaviour of many endangered freshwater mussels is largely unknown but may be central to explaining the dramatic decline in these important ecosystem engineers.