



FMCS 2018 International Meeting
EUROPE

1st Freshwater Mollusk Conservation Society Meeting in Europe

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

Verbania, Italy, 16th-20th September 2018

Book of Abstracts

Edited by

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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)	<i>Unio crassus</i> in Lithuania: distribution peculiarities of monitoring, conservation
01.05	Feind S, Geist J, Kuehn R (DEU)	Genetic diversity and differentiation of the endangered thick shelled river mussel (<i>Unio crassus</i> 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	Ozgo 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, Bepalaya 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, <i>Lampsilis siliquoidea</i>)
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 <i>Corbicula fluminea</i>

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: <i>Sinanodonta woodiana</i> 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 <i>Corbicula fluminea</i> (Müller, 1774) and <i>Dreissena polymorpha</i> (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 <i>S. woodiana</i>



TROPHIC NICHE OVERLAP BETWEEN NATIVE BIVALVES AND THE INVASIVE *CORBICULA FLUMINEA*

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Freshwater native bivalves have declined in recent decades and are considered one of the most threatened faunistic groups worldwide. Many mechanisms can be responsible for this declining trend, being competition for resources with invasive bivalve species one example. When in sympatry with native species, invasive bivalves may be superior competitors regarding food acquisition due to more flexible diets, higher ability to find food resources or use it with higher efficiency. However, their potential for food competition is poorly known. In this study, we aimed to evaluate the potential overlap in resource use by bivalve species (native and invasive) living in sympatry in the Tua basin (NW-Iberian Peninsula), by identifying and quantifying the contribution of different organic matter (OM) sources to their biomass. To accomplish this objective, the C ($\delta^{13}\text{C}$: $^{13}\text{C}/^{12}\text{C}$) and N ($\delta^{15}\text{N}$: $^{15}\text{N}/^{14}\text{N}$) stable isotope ratios of bivalves and its potential OM sources were analyzed. Special attention was given to the possible overlap between native bivalve species *Anodonta anatina*, *Unio delphinus* and *Potomida littoralis*, and one of the most pervasive invasive species in European aquatic ecosystems, the Asian clam *Corbicula fluminea*. The stable isotope analysis suggests that *C. fluminea* and *P. littoralis* rely on ^{13}C - and ^{15}N - enriched sources such as microphytobenthos or other microbial enriched material and that the potential for resource competition is high because their trophic niche overlaps. Contrarily, the potential for competition with *A. anatina* and *U. delphinus* is likely lower because both native species were in general more ^{13}C - and ^{15}N - depleted than *C. fluminea* indicating the consumption of more ^{13}C - and ^{15}N - depleted food sources such as pelagic OM.