

INTERNATIONAL WORKSHOP

Freshwater mussels: Search for resettlement habitats and evaluation of protection measures

Monday 25th March – Wednesday 27th March 2019

Dresden, Germany

4th announcement



Potential habitats of *Margaritifera margaritifera* in Saxony's Vogtland.

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Dear colleagues,

We would like to cordially invite you to our 1st international freshwater mussel workshop about search for resettlement habitats and evaluation of conservation measures.

Freshwater mussels were previously abundant species in the waters of Germany. For several decades mussel stocks decreased dramatically. Some of the current mussel stocks are immediately threatened. The remaining populations are isolated, overaged relict populations with low genetic diversity due to lack of reproduction.

The workshop is organized within the joint project ‚ArKoNaVera‘ (Implementation of regional protective measures and development of a new national conservation program for priority species: Freshwater pearl mussel (*Margaritifera margaritifera*) and Painter`s mussel (*Unio pictorum*) → further information:

<http://www.flussmuscheln.de/en/>) – funded by the Federal Ministry of Education and Research and the Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety.

The workshop aims to present latest techniques and methods for identification and characterization of suitable mussel habitats, identifying indicators for optimal habitats for resettlement of endangered freshwater mussels. To develop a more generalized decision tool it is very important to identify best habitats or analyze efficient and cost effective restoration measures to improve potential habitats. For the prospects of success to establish functional mussel stocks in natural waters suitable methods for evaluation of both, protective and resettlement measures are essential. During the workshop different approaches of a decision tool as well as evaluation methods are to be presented and discussed.

This workshop will hopefully bring scientists from different fields together and give rise to a discussion of strategies for protection and conservation of freshwater mussels.

The local organization team is looking forward to welcome all of you in early spring 2019 in the south east of Germany.

WORKSHOP PROGRAMME

Monday, 25th March 2019

10:00-11:00	Get together with coffee and tea / Workshop registration and formalities at Penck Hotel Dresden, Ostra-Allee 33, 01067 Dresden	
11:00-11:30	Berendonk, Thomas	<i>Institute of Hydrobiology, Technische Universität Dresden, Germany</i> Welcome speech: Conservation of freshwater mussels by a common approach of research and implementation
11:30-12:00	Geist, Jürgen	<i>Aquatic Systems Biology Unit, Technische Universität München, Germany</i> Opening speech: Conservation of European Freshwater Pearl Mussel – current knowledge and future directions
Session: Ecology of freshwater mussels		
12:00-13:00	Araujo, Rafael	<i>Museo Nacional de Ciencias Naturales-C.S.I.C., Spain</i> Keynote speech: Conservation of freshwater mussels: taxonomy, captive breeding and wild restoration
13:00-14:00	LUNCH	
14:00-14:20	Taskinen, Jouni	<i>Department of Biological and Environmental Sciences, University of Jyväskylä, Finland</i> Local spatio-temporal dynamics in <i>Margaritifera margaritifera</i> / <i>Salmo trutta</i> relationship
14:20-14:40	Benaissa, Hassan	<i>Muséum d'Histoire Naturelle de Marrakech, Université Cadi Ayyad, Faculté des Sciences Semlalia; LHEACG, Morocco</i> Fish hosts of the freshwater mussel <i>Unio foucauldianus</i> Pallary, 1936 (Mollusca: Unionidae)
14:40-15:00	Zapitis, Charitos	<i>School of Environmental Sciences, University of Derby, Derby, UK</i> Behavioural responses of the Unionids <i>Unio pictorum</i> and <i>Anodonta anatina</i> to light availability and their ecological importance

15:00-15:20	Skujienė, Grita	<i>Vilnius University, Life Sciences Center, Institute of Biosciences, Lithuania</i> Variation of thick shelled river mussel <i>Unio crassus</i> Philipsson, 1788 in Lithuania in respect to habitat characteristics
15:20-15:40	Belamy, Tiare	<i>University of Bordeaux, Équipe Écotoxicologie Aquatique, France</i> Acute toxicity of sodium chloride, nitrates, phosphates, cadmium and arsenic to freshwater pearl mussel juveniles (<i>Margaritifera margaritifera</i>)
15:40-16:10	COFFEE BREAK	
16:10-16:30	Soler, Joaquín	<i>Museo Nacional de Ciencias Naturales-C.S.I.C., Spain</i> New advances toward the conservation of <i>Margaritifera auricularia</i> (Spengler 1793) in France
16:30-16:50	Rassam, Hanane	<i>Muséum d'Histoire Naturelle de Marrakech- Université Cadi Ayyad, Maroc, Morocco</i> Morphological and genetic variation of the genus <i>Pisidium</i> Pfeiffer, 1821 (Bivalvia; Sphaeriidae) of the Sebou Basin, Morocco
Session: Nutritional requirements of freshwater mussels		
16:50-17:20	Brauns, Mario	<i>Department River Ecology, Helmholtz Centre for Environmental Research GmbH – UFZ, Germany</i> Quantifying the diet of the freshwater pear mussel (<i>Margaritifera margaritifera</i>) using stable isotopes ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$)
17:20-17:40	Lavictoire, Louise	<i>Freshwater Biological Association, Cumbria, UK</i> Feeding and filtration rates in juvenile freshwater mussels
From 19:00	Reserved table for people who would like to meet, eat and talk together at Altmarktkeller Dresden (→ wine tavern), Altmarkt 4, 01067 Dresden (just a 15-minutes-walk from the venue) https://www.altmarktkeller.de/	

Tuesday, 26th March 2019

Session: Quantitative characterisation and assessment of mussel habitats		
09:00-10:00	Moorkens, Evelyn	<i>Department of Zoology, Trinity College, Dublin, Ireland</i> Keynote speech: Practical assessment methodologies for the evaluation and monitoring of <i>Margaritifera</i> habitats and their condition
10:00-10:20	Kladivová, Vera	<i>T. G. Masaryk Water Research Institute, Czech Republic</i> Chemical, hydromorphological, and other environmental parameters of optimal habitats for the freshwater pearl mussel: Czech experience
10:20-10:40	Schiller, Thomas	<i>Institute of Hydrobiology, Technische Universität Dresden, Germany</i> Comparison of different bioindication methods to identify reintroduction habitats for captive-bred juvenile freshwater pearl mussels
10:40-11:10	COFFEE BREAK + Poster Session	
11:10-11:30	Killeen, Ian	<i>Malacological Services, Greystones, County Wicklow, Ireland</i> How juvenile habitat mapping can be used to assess the sustainability of a <i>Margaritifera</i> population
11:30-11:50	Simon, Ondrej P.	Faculty of Environmental Sciences, Czech University of Life Sciences Prague, Czech Republic Long-term catchment restoration of the Blanice River Nature Reserve - Is it possible to reverse anthropogenic eutrophication in a freshwater pearl mussel protected area?
11:50-12:10	Höß, Rebecca	<i>Aquatic Systems Biology Unit, Department of Ecology and Ecosystem Management, Technische Universität München, Germany</i> Impact of fish ponds on sediment deposition and habitat quality of freshwater pearl mussels
12:10-12:30	Vandré, Robert	Schmidt & Partner GbR, Germany The Assessment of siltation: from single stream patches to whole catchments
12:30-13:30	Group picture of the workshop participants LUNCH	

13:30-13:50	Bayerl, Helmut	<i>Aquatic Systems Biology Unit, Technische Universität München, Germany</i> Habitat assessment as a prerequisite in freshwater mussel conservation: methodologies and implications using the example of the Painter's mussel (<i>Unio pictorum</i>, Linnaeus 1758)
Session: Selection of habitats for resettlement activities		
13:50-14:40	Capoulade, Marie	<i>Bretagne Vivante, Brest Cedex, France</i> Keynote speech: Habitat selection for freshwater pearl mussels resettlement in Brittany (France)
14:40-15:00	Daill, Daniel	<i>Consultants in Aquatic Ecology and Engineering (blatffisch e.U.) – Wels, Austria</i> Selection of habitats for resettlement – the strategy in the Austrian freshwater pearl mussel project
15:00-15:30	COFFEE BREAK + Poster session	
15:30-15:50	Denic, Marco	<i>Landschaftspflegeverband Passau, Germany</i> Freshwater pearl mussel conservation in Lower Bavaria, Germany – stories about breeding and releasing juveniles
15:50-16:10	Ożgo, Małgorzata	<i>Department of Evolutionary Biology, Kazimierz Wielki University, Bydgoszcz, Poland</i> Assessment of mussel relocation as a conservation and management strategy
16:10-16:20	Explanations regarding the social evening	
16:20-17:10	Poster session	
17:30	Guided walk to the levy of the steam boat MS “August der Starke”	
18:00	Boarding and official social evening with dinner on the boat (food and drinks included)	
21:30	Return to the levy	

Wednesday, 27th March 2019

Session: Evaluation of resettlement activities		
09:00-09:50	Österling, Martin	<i>Karlstad University, Sweden</i> Keynote speech: Reintroduction and the importance of mussel-host fish interactions
09:50-10:10	Capoulade, Marie	<i>Bretagne Vivante, Brest Cedex, France</i> Resettlement of young freshwater pearl mussels in Brittany (France)
10:10-10:40	COFEE BREAK + Poster Session	
Session: Significance of global warming for freshwater mussels		
10:40-11:40	Bespalaya, Yulia V.	<i>Institute of Biogeography and Genetic Resources, Federal Center for Integrated Arctic Research, Russian Academy of Sciences, Arkhangelsk, Russia</i> Keynote speech: Climate warming as a possible trigger of freshwater pearl mussel population decline in oligotrophic rivers throughout Europe
11:40-12:00	Reis, Joaquim	<i>MARE - Marine and Environmental Sciences Centre Faculdade de Ciências da Universidade de Lisboa, Portugal</i> Project MUSSEFLOW: Host-dependent evolution, ecology and conservation of freshwater mussels under varying hydrological conditions: consequences of climate change.
12:00-12:20	Wagner, Annekatriin	<i>Institute of Hydrobiology, Technische Universität Dresden, Germany</i> Possible consequences of climate warming on survival and growth of juvenile freshwater pearl mussels in Vogtland (Germany)
12:20-12:30	Berendonk, Thomas	<i>Institute of Hydrobiology, Technische Universität Dresden, Germany</i> Official farewell
12:30-13:30	LUNCH + Official end of the workshop	

Poster Sessions

Tuesday, 26th March 2019 (10:40-11:10, 15:00-15:30 and **16:20-17:10**)

Wednesday, 27th March 2019 (10:10-10:40)

Posters will be on display throughout the meeting.

First author	Title
Barak, V.	<i>Faculty of Environmental Sciences, Czech University of Life Sciences Prague, Czech Republic</i> Evaluation of suitable mussel habitats with bioindication mesh cages: Case study from three rivers in the Czech Republic
Dobler, A. H.	<i>Aquatic Systems Biology Unit, Technische Universität München, Germany</i> A spatial conservation prioritization approach for two endangered freshwater mussel species in Bavaria, Germany
Hasenbein, M.	<i>Aquatic Systems Biology Unit, Technische Universität München, Germany</i> The Bavarian mussel coordination office: Bridging the gap between science and applied mussel conservation
Horácková, J.	<i>T. G. Masaryk Water Research Institute, Czech Republic</i> INTERREG (Austria – Czech Republic) project “Malsemuschel”: Support of the natural environment of the freshwater pearl mussel (<i>Margaritifera margaritifera</i>) and its occurrence in the upper Malše River catchment (Austria / Czech Republic)
Horická, Z.	<i>T. G. Masaryk Water Research Institute, Czech Republic</i> EU project strengthening and protection of the freshwater pearl mussel population in the Šumava National Park (Bohemia, Czech Republic)
Lavictoire, L.	<i>Freshwater Biological Association, Cumbria, UK</i> Investigations into feeding structures of juvenile freshwater pearl mussels (<i>Margaritifera margaritifera</i>) through scanning electron microscopy
Schmidt, C.	<i>Schmidt & Partner GbR, Germany</i> The first successful resettlement of <i>Margaritifera m.</i> in Bavaria: Evidence for the need of long-term monitoring data
Selheim, H.	<i>Biologische Station StädteRegion Aachen e.V., Germany</i> 15-year experience of saving the last freshwater pearl mussel (<i>Margaritifera margaritifera</i>) population in North Rhine-Westphalia, Germany

Mussels help our water. We help mussels!

Historical city...



On the bank of river Elbe Dresden`s historical centre is located with well-known buildings from Renaissance, Baroque and the 19th century.

Sightseeing...



The most well-known symbol of rebuilding of the old town is the Frauenkirche, the magnificent domed Baroque church which again dominates the Dresden skyline (left). The Semper Opera House is considered one of the world`s loveliest and is the residence and venue for Dresden`s Saxon State Orchestra (right).

Exhibitions...



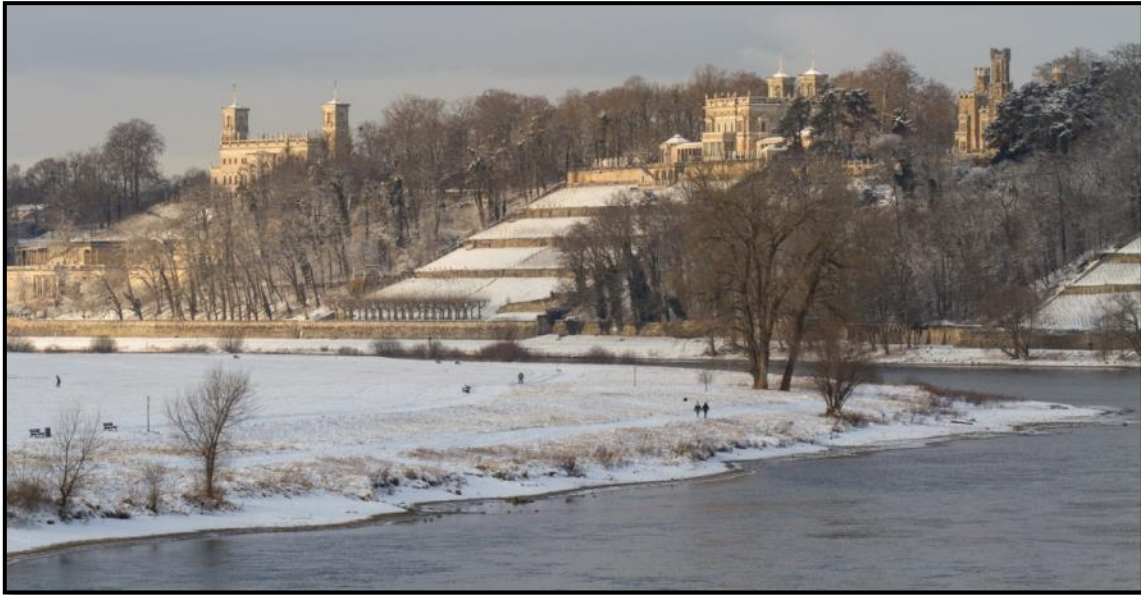
Exhibition: Historic Green Vault with the necklace of electress Maria Amalia (ca. 1805) with 177 pearls of *Margaritifera margaritifera* obtained from streams in the Vogtland area.
(© Grünes Gewölbe, Staatliche Kunstsammlungen Dresden;
photos: Jürgen Karpinski)

Cosy bars...



The rustic bars often offer own beer, German cuisine and regularly host live music.

Nice river and beautiful castles...




Close to the heart of city center three Elbe castles throne over the former vineyards on the Elbe valley slopes.

...and last but not least: freshwater mussels...




Unio pictorum in a lake near Dresden (left). *Margaritifera margaritifera* in the Vogtland area (right).

Important workshop information

Date	Monday 25th March – Wednesday 27th March 2019	
Venue	<p>Penck Hotel Dresden Ostra-Allee 33 01067 Dresden Germany</p> <p>https://penckhoteldresden.de/</p>	
How to get there?	https://penckhoteldresden.de/en/location-directions-parking/	
Registration	<p>Registration is open until March 10th, 2019. The registration form is available here: mussel workshop registration</p>	
Registration fee	<p>140 € (including social evening, sightseeing and dinner) In case you have to cancel your registration less than 8 weeks in advance of the event, a cancellation fee up to 140 € has to be paid. For further details, please contact Barbara Heidrich: Barbara.heidrich@lanu.sachsen.de</p>	
Accommodation	<p>We recommend the venue of the workshop - Penck Hotel Dresden - for your accommodation.</p> <p>You can book a reasonably priced room together with your workshop registration!</p> <p>75 € single room 85 € double room</p> <p>Attention! The room contingent will be closed after the January 18th. Unfortunately the favourable price for the accommodation at conference venue is no longer available then.</p> <p>Alternative options:</p> <p>https://www.hotel-elbflorenz.de/default.aspx?lang=en https://www.pullman-hotel-dresden.de/en/ https://hotel-dresden.dorint.com/en/ https://www.intercityhotel.com/en/hotels/all-hotels/germany/dresden/intercityhotel-dresden/rooms https://www.motel-one.com/de/hotels/dresden/hotel-dresden-palaisplatz/</p>	

<p>Abstract Submission</p>	<p>Abstracts for posters are still welcome until March 10th, 2019.</p> <p>They should comprise 500 words maximum and may include one figure or chart (maximum file size: 2 GB).</p> <p>Abstracts should be sent to Jana Schneider.</p> <p>jana.schneider2@tu-dresden.de</p>
<p>Oral Communication and Posters</p>	<p>Posters will be presented during the whole workshop. Poster dimension: A0 84.1 x 118.9 cm.</p>

<p>Social Evening (sightseeing and dinner)</p>	<p>A magnificent steam boat trip on the Elbe, past the three Elbe castles as well as a joint dinner on the boat.</p> 
<p>Local Organization Team</p>	<p>Jana Schneider (Technische Universität Dresden, Germany) Franziska Jecke (Sächsische Landesstiftung Natur und Umwelt / Naturschutzfonds) Thomas Schiller (Technische Universität Dresden, Germany)</p>
<p>Scientific Committee</p>	<p>Thomas Berendonk (Technische Universität Dresden, Germany) Jürgen Geist (Technische Universität München, Germany) Marco Denic (Landkreis Passau, Germany) Frankie Thielen (natur & ãmwelt / Fondation Hãllef fir d'Natur, Luxembourg) Clemens Gumpinger (Consultants in aquatic ecology and engineering (blattfisch), Austria) Annekatriin Wagner (Technische Universität Dresden, Germany)</p>



Contact	Technische Universität Dresden Institut für Hydrobiologie Zellescher Weg 40 01127 Dresden GERMANY E-Mail: jana.schneider2@tu-dresden.de Tel. +49 351 463 32329 Fax. +49 351 463 37108
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Please feel free to forward this document to anyone who could be interested in this workshop. Thank you!

Dresden, March 2019, see you!