



## Conference Program and Abstracts

**Moving Towards the Future**

# SIAL 8

## — Speciation in Ancient Lakes —

Celebrating 25 Years and Moving Towards the Future

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## Conference Program and Abstracts

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Justus Liebig University Giessen, Germany

Mbarara University of Science and Technology, Uganda



# Diversification dynamics in freshwater bivalves (Unionidae) from the East African Rift

Claudia M. Ortiz-Sepulveda<sup>1</sup>, Björn Stelbrink<sup>2</sup>, Céline Poux<sup>1</sup>, Claude Monnet<sup>1</sup>, Christian Albrecht<sup>2,3</sup>, Jonathan A. Todd<sup>4</sup>, Ellinor Michel<sup>5</sup> & Bert Van Bocxlaer<sup>1,6,7</sup>

<sup>1</sup>UMR 8198 – Evolution, Ecologie, Paléontologie, CNRS, Université de Lille, Lille, France

<sup>2</sup>Department of Animal Ecology and Systematics, Justus Liebig University Giessen, Giessen, Germany

<sup>3</sup>Department of Biology, Mbarara University of Science and Technology, Mbarara, Uganda

<sup>4</sup>Department of Earth Sciences, Natural History Museum, London, UK

<sup>5</sup>Department of Life Sciences, Natural History Museum, London, UK

<sup>6</sup>Limnology Research Unit, Department of Biology, Ghent University, Ghent, Belgium

<sup>7</sup>Department of Geology, Ghent University, Ghent, Belgium

Invertebrates are exceptionally diverse, but declining because of anthropogenic changes to their habitat, as exemplified by freshwater bivalves in Europe and North America. Much less information is available for African freshwater bivalves, especially for Unionidae, which comprise 9 genera and ~40 nominal species, many of which are endemic to African ancient lakes. The phylogenetic position of most of these genera and species remains uncertain, and their conservation status unassessed. Here, we present preliminary results of phylogenetic studies on the Unionidae of the East African Rift. We integrate a phylogenetic backbone based on four gene fragments with (1) sampling information to examine geographic patterns of diversity and with (2) geometric morphometrics of shell shape to examine the relation between morphological disparity and molecular diversity. African Unionidae apart from '*Cafferia*' form a monophyletic clade, and the basal splits in this clade occur between the reciprocally monophyletic genera *Pseudospatha* and *Grandidieria*, both of which are currently endemic to Lake Tanganyika. *Mweruella*, *Nyassunio* and *Prisodontopsis* are also monophyletic in the preliminary analyses as is *Nitia*, although this latter taxon is nested within *Coelatura*, which highlights the need of systematic revisions. Biogeographic analyses indicate a statistically significant North-to-South colonization of the East African Rift by *Coelatura sensu lato*. Beyond deep phylogenetic splits among individual clades, limited molecular differentiation is observed within most clades, calling for population genetic studies. Ongoing morphometric analyses suggest strong morphological differentiation among several clades, but substantial disparity in shell shape is observed within many clades, which needs further examination.

# List of Delegates

<b>Ageli, Mariam</b>	Great Lakes Institute for Environmental Research, University of Windsor, Windsor, Canada	ageli@uwindsor.ca
<b>Albrecht, Christian</b>	Department of Animal Ecology and Systematics, Justus Liebig University Giessen, Giessen, Germany	christian.albrecht@allzool.bio.uni-giessen.de
<b>Beingana, Apulnal</b>	Kabale District Local Government, Kabale, Uganda	apulnaljba@gmail.com
<b>Bolotov, Ivan N.</b>	Department of Science, Northern Arctic Federal University, Arkhangelsk, Russian Federation	inepras@yandex.ru
<b>Clewing, Catharina</b>	Department of Animal Ecology and Systematics, Justus Liebig University Giessen, Giessen, Germany	catharina.clewing@allzool.bio.uni-giessen.de
<b>Cocquyt, Christine</b>	Botanic Garden Meise, Meise, Belgium	christine.cocquyt@plantentuinmeise.be
<b>De Keyzer, Els L.R.</b>	Laboratory of Biodiversity and Evolutionary Genomics, Department of Biology, University of Leuven, Leuven, Belgium	els.dekeyzer@kuleuven.be
<b>Decru, Eva</b>	Department of Biology, Royal Museum for Central Africa, Tervuren, Belgium	eva.decru@africamuseum.be
<b>Dusabe, Marie Claire</b>	Rwanda Wildlife Conservation Association, Kigali, Rwanda	dusclaire25@gmail.com
<b>Erpenbeck, Dirk</b>	Department of Earth- & Environmental Sciences, Palaeontology and Geobiology, Ludwig-Maximilians-Universität München & GeoBio-Center LMU, Munich, Germany	erpenbeck@lmu.de
<b>Filippov, Boris Y.</b>	Department of Science, Northern Arctic Federal University, Arkhangelsk, Russian Federation	fby@yandex.ru
<b>Gresham, Sophie</b>	Directorate Taxonomy and Phylogeny, Royal Belgian Institute of Natural Sciences, Brussels, Belgium	sgresham@naturalsciences.be
<b>Gofarov, Mikhail Y.</b>	Department of Science, Northern Arctic Federal University, Arkhangelsk, Russian Federation	zubr3@yandex.ru
<b>Haffner, Douglas</b>	Great Lakes Institute for Environmental Research, University of Windsor, Windsor, Canada	haffner@uwindsor.ca
<b>Hamilton, Paul B.</b>	Phycology Section, Canadian Museum of Nature, Ottawa, Canada	phamilton@nature.ca
<b>Hammoud, Cyril</b>	Department of Biology, Royal Museum for Central Africa, Tervuren, Belgium	cyrilhammoud@gmail.com
<b>Harrison, Zachary H.</b>	Department of Biology, East Carolina University, Greenville, USA	zach.harrison@ncdenr.gov
<b>Hauffe, Torsten</b>	Department of Animal Ecology and Systematics, Justus Liebig University Giessen, Giessen, Germany	torsten.hauffe@gmail.com
<b>Hethke, Manja</b>	Institut für Geologische Wissenschaften, Freie Universität Berlin, Berlin, Germany	manjahethke@zedat.fu-berlin.de
<b>Huuse, Tine</b>	Department of Biology, Royal Museum for Central Africa, Tervuren, Belgium	tine.huuse@kuleuven.be

<b>Hyangya Lwikitcha, Béni</b>	Département de Biologie-Chimie, Unité d'Enseignement et de Recherche en Hydrobiologie Appliquée (UERHA), Institut Supérieur Pédagogique de Bukavu, Bukavu, Democratic Republic of Congo	beni_hyangya@yahoo.fr
<b>Indermaur, Adrian</b>	Zoological Institute, University of Basel, Basel, Switzerland	a.indermaur@unibas.ch
<b>Jovanovska, Elena</b>	Department of Animal Ecology and Systematics, Justus Liebig University Giessen, Giessen, Germany	jovanovska.eci@gmail.com
<b>Kagoro-Rugunda, Grace</b>	Department of Biology, Mbarara University of Science and Technology, Mbarara, Uganda	kgraceug2002@must.ac.ug
<b>Kulikovskiy, Maxim</b>	Institute of Plant Physiology, Russian Academy of Sciences, Moscow, Russian Federation	max-kulikovskiy@yandex.ru
<b>Kwikiriza, Gerald</b>	National Agricultural Research Organization, Kachwekano Zonal Agricultural Research and Development Institute, Kabale, Uganda	gkwikiriza2@gmail.com
<b>Lattuada, Matteo</b>	Department of Animal Ecology and Systematics, Justus Liebig University Giessen, Giessen, Germany	m.lattuada87@gmail.com
<b>Lawrence, Ted</b>	African Center for Aquatic Research and Education, Ann Arbor, USA	ted@agl-acare.org
<b>Lejju, Julius B.</b>	Dean, Faculty of Science, Mbarara University of Science and Technology, Mbarara, Uganda	lejju2002@yahoo.co.uk
<b>Martens, Koen</b>	Directorate Natural Environment, Royal Belgian Institute of Natural Sciences, Brussels, Belgium	koen.martens@natuurwetenschappen.be
<b>McKinnon, Jeffrey S.</b>	Department of Biology, East Carolina University, Greenville, USA	mckinnonj@ecu.edu
<b>Mugue, Nikolai</b>	Molecular Genetics Lab, Russian Federal Research Institute of Fisheries and Oceanography (VNIRO), Moscow, Russian Federation	mugue@mail.ru
<b>Muvundja, Fabrice A.</b>	Département de Biologie-Chimie, Unité d'Enseignement et de Recherche en Hydrobiologie Appliquée (UERHA), Institut Supérieur Pédagogique de Bukavu, Bukavu, Democratic Republic of Congo	amisimuv@yahoo.fr
<b>Ndeda, Violet</b>	Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, USA	vndeda12@gmail.com
<b>Negash, Esayas A.</b>	Institute of Hydrobiology and Aquatic Ecosystems Management, University of Natural Resources and Life Sciences (BOKU), Vienna, Austria	esayas.negash@students.boku.ac.at
<b>Neubauer, Thomas A.</b>	Department of Animal Ecology and Systematics, Justus Liebig University Giessen, Giessen, Germany	thomas.a.neubauer@allzool.bio.uni-giessen.de

<b>Obiero, Kevin O.</b>	Kenya Marine and Fisheries Research Institute, Sagana, Kenya	kevobiero@gmail.com
<b>Ortiz-Sepulveda, Claudia M.</b>	UMR 8198 – Evolution, Ecologie, Paléontologie, CNRS, Université de Lille, Lille, France	claudiamarcelao@gmail.com
<b>Riedel, Frank</b>	Institut für Geologische Wissenschaften, Freie Universität Berlin, Berlin, Germany	paleobio@zedat.fu-berlin.de
<b>Ronco, Fabrizia</b>	Zoological Institute, University of Basel, Basel, Switzerland	fabrizia.ronco@unibas.ch
<b>Salzburger, Walter</b>	Zoological Institute, University of Basel, Basel, Switzerland	walter.salzburger@unibas.ch
<b>Sands, Arthur F.</b>	Department of Animal Ecology and Systematics, Justus Liebig University Giessen, Giessen, Germany	arthur.f.sands@allzool.bio.uni-giessen.de
<b>Schön, Isa</b>	Directorate Natural Environment, Royal Belgian Institute of Natural Sciences, Brussels, Belgium	isa.schoen@naturalsciences.be
<b>Schmidt-Kloiber, Astrid</b>	Institute of Hydrobiology and Aquatic Ecosystems Management, University of Natural Resources and Life Sciences (BOKU), Vienna, Austria	astrid.schmidt-kloiber@boku.ac.at
<b>Stelbrink, Björn</b>	Department of Animal Ecology and Systematics, Justus Liebig University Giessen, Giessen, Germany	bjoern.stelbrink@allzool.bio.uni-giessen.de
<b>Tibihika, Papius D.</b>	Institute for Integrative Nature Conservation Research, University of Natural Resources and Life Sciences (BOKU), Vienna, Austria	papiust@yahoo.com
<b>Tolo, Casim U.</b>	Department of Biology, Mbarara University of Science and Technology, Mbarara, Uganda	tolocas2000@yahoo.co.uk
<b>Tumusiime, Julius</b>	Department of Biology, Mbarara University of Science and Technology, Mbarara, Uganda	jtumusiime90@gmail.com
<b>Tumwebaze, Immaculate</b>	Department of Animal Ecology and Systematics, Justus Liebig University Giessen, Giessen, Germany	tumwebazeimmaculate@gmail.com
<b>Van Bocxlaer, Bert</b>	UMR 8198 – Evolution, Ecologie, Paléontologie, CNRS, Université de Lille, Lille, France	bert.vanbocxlaer@ugent.be
<b>van de Velde, Sabrina</b>	Naturalis Biodiversity Center, Leiden, The Netherlands	sabrina.vandevelde@naturalis.nl
<b>Van Steenberge, Maarten</b>	Directorate Taxonomy and Phylogeny, Royal Belgian Institute of Natural Sciences, Brussels, Belgium	maarten.vansteenberge@kuleuven.be
<b>Verheyen, Erik</b>	Directorate Taxonomy and Phylogeny, Royal Belgian Institute of Natural Sciences, Brussels, Belgium	everheyen@naturalsciences.be
<b>Vikhrev, Ilia V.</b>	Department of Science, Northern Arctic Federal University, Arkhangelsk, Russian Federation	vikhrevilja@gmail.com

<b>Vinarski, Maxim V.</b>	Laboratory of Macroecology & Biogeography of Invertebrates, Saint-Petersburg State University, Saint Petersburg, Russian Federation	radix.vinarski@gmail.com
<b>Vogel, Hendrik</b>	Institute of Geological Sciences & Oeschger Centre for Climate Change Research, University of Bern, Bern, Switzerland	hendrik.vogel@geo.unibe.ch
<b>Vranken, Nathan</b>	Department of Biology, Royal Museum for Central Africa, Tervuren, Belgium	nathan.vranken@kuleuven.be
<b>Wangalwa, Raphael</b>	Department of Biology, Mbarara University of Science and Technology, Mbarara, Uganda	wangarapho@gmail.com
<b>Wembo Ndeo, Oscar</b>	Department of Hydrobiology, University of Kisangani, Kisangani, Democratic Republic of Congo	wemboscar@googlemail.com
<b>Wiese, Robert</b>	Institut für Geologische Wissenschaften, Freie Universität Berlin, Berlin, Germany	robert.wiese@fu-berlin.de
<b>Wilden, Benjamin</b>	Department of Animal Ecology, University of Bielefeld, Bielefeld, Germany	benjamin.wilden@uni-bielefeld.de
<b>Wilke, Thomas</b>	Department of Animal Ecology and Systematics, Justus Liebig University Giessen, Giessen, Germany	tom.wilke@allzool.bio.uni-giessen.de

## Organizing Committee

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