

**Integrating the 3 Dimensions of Biodiversity:
New Standards for Documenting
Biodiversity of Ciliates
and
Strategies for Accessing and Sharing Data**



A Workshop Presented by the

**International Research Coordination Network
for Biodiversity of Ciliates**

and the

British Society for Protist Biology

**Royal Holloway University of London, Egham, UK
September 1-3, 2014**

Welcome to a 3-day workshop sponsored by the International Research Coordination Network for Biodiversity of Ciliates!

Keynote speakers and session leaders will be curators of major slide and culture collections, experts in constructing and using databases, and a broad selection of international researchers in biodiversity of ciliates.

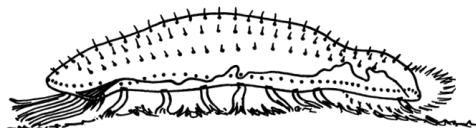
Major objectives of the workshop will be

- defining new standards for description of taxa and deposition of type/voucher material
- developing strategies for consistent archiving of material obtained in diverse types of biodiversity studies
- exploring ways to access data and share it between disciplines in the era of "big data"
- informing participants about studies of biodiversity of ciliates in different parts of the world and forming collaborations to broaden the geographic scope of integrative biodiversity
- Updating participants on activities of the IRCN-BC during its first three years of existence and beginning the process of planning for our long-term existence

Participants are encouraged to contribute submit suggestions for additional topics to be addressed in discussion sessions, in future workshops, or in web forums.

Poster presentations on any aspect of ciliate biodiversity are invited.

All principal sessions will meet in the Executive Seminar Room of the Moore Building Annex. Breakout sessions and poster presentations will be in room MX/034 of the Moore Building Annex.



Schedule of Events

Monday, September 1, 2014

Principal Session 1: New standards for description of taxa, new requirements and standards for deposition of type/voucher material, and strategies for consistent archiving of material obtained in a broad spectrum of biodiversity studies

0845–0900 Welcome and Introduction: John Clamp, Alan Warren & Emily Perrier

0900–0930 Morphological characters and other phenotypic data for species descriptions: Sabine Agatha

0930–0955 Type slides and other traditional collections: Erna Aesch

0955–1020 Conservation of protists — is cryopreservation an option? John Day

1020–1045 Tea/coffee

1045–1110 NHM Molecular Collection Facility: Jackie Mackenzie-Dodds

1110–1135 DNA-barcoding of ciliates: Micah Dunthorn & Zhenzhen Yi

1135–1200 The Pisa (Dini) collection of *Euplotes* strains: an experimental resource for ciliate biodiversity research; Piero Luporini et al.*

1200–1230 Issues in ecological studies of ciliate biodiversity: Jun Gong

1230–1345 Lunch in Founder's Dining Room, Founder's Building

1345–1405 Phylogenetic studies of ciliates at Ocean Univ. China: Feng Gao

1405–1435 *Tetrahymena thermophila*: an excellent model organism for epigenetic research: Shan Gao

1435–1530 Group discussions

1530–1600 Tea/coffee

1600–1630 Reports from group discussions

1630–1700 Comments by representatives of ICZN and journal editors

1700–1745 General discussion and conclusions

1900–2045 Dinner in HUB Dining Hall

Tuesday, September 2, 2014

Principal Session 2: A global survey of studies of ciliate biodiversity

0845–0935 Ciliate biodiversity studies in China: Xiaofeng Lin & Xiaozhong Hu

0935–1000 Ciliate biodiversity studies in India: Komal Kamra.

1000–1025 Ciliate biodiversity studies in the Western Hemisphere: John Clamp

1025–1100 Tea/coffee and posters

1100–1125 Ciliate biodiversity studies in the UK: Genoveva Esteban.

1125–1150 Ciliate biodiversity studies in Spain: Blanca Perez-Uz & Mercedes Martín-Cereceda.

1150–1215 Ciliate biodiversity studies in Austria: Thomas Weisse

1215–1315 Lunch in Founder's Dining Room, Founder's Building

1315–1340 Ciliate biodiversity studies in Italy: Antonietta La Terza

1340–1405 Ciliate biodiversity studies in sub-Saharan Africa: Geoffrey Ongondo

1415–1800 Choice of excursions; participants should indicate in advance on their booking form which excursion they prefer.

CABI. A free tour of key facilities including the national collection of fungus cultures. Maximum 10 people. The CABI site is next to Royal Holloway and so does not require transport.

Savill Garden. A 35-acre ornamental garden. Admission is ca. £10. Savill Garden is ca. 20-30 minutes walking distance from Royal Holloway, or we can ferry persons by car in ca. 5 minutes.

Windsor Castle and town. Admission to the castle is ca. £17. Windsor is ca. 20 minutes by road. We can arrange a round-trip journey by minibus or small coach for ca. £10 per person (to be paid when submitting completed workshop booking form)

1900–2045 Dinner in HUB Dining Hall

Wednesday 3 September 2014

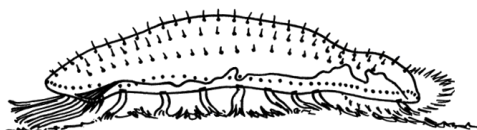
Principal Session 3: Storing, accessing, and sharing biodiversity data

- 0845–0930 Placing ciliates in the big data world: Paddy Patterson
- 0930–1000 Linking layers of biodiversity data: Vince Smith
- 1000–1030 The Nagoya Protocol: implications and opportunities: Natasha Ali
- 1030–1115 Tea/coffee and posters
- 1115–1145 Strategies for sharing data and facilitating research in specific areas: John Clamp
- 1145–1215 The ciliate species names list project: Dave Roberts
- 1215–1245 Discussion
- 1245–1400 Lunch in Founder's Dining Room, Founder's Building
- 1400–1500 The future of the IRCN-BC; life after the present cycle of funding: Open discussion led by John Clamp and the Steering Committee to begin forming a strategy for long-term maintenance of the IRCN-BC
- 1500–1530 Tea/coffee
- 1530–1630 Meeting of the IRCN-BC steering committee

*Full author list: F. Dini, G. Di Giuseppe, A. Vallesi, & P. Luporini (Univ. of Pisa and Camerino)

Thursday 4 September 2014

Post-Workshop Tour of Natural History Museum Molecular Collection facility. An optional short, cost-free tour of the NHM Molecular Collection facility (Mcf) will be given by the Mcf manager, Jackie Mackenzie Dodds. The NHM is located in central London, close to South Kensington underground station. If you wish to join this tour please indicate on your booking form. Maximum 25 people.



POSTERS

Effects of nitrogen deposition on the diversity and abundance of ciliate and testate amoebae populations in a biological soil crusts from a semiarid Mediterranean ecosystem.

Maria Virginia Chang Galfione, Mercedes Martín-Cereceda and Blanca Pérez-Uz.
Dept. Microbiología III. Fac. C.C. Biológicas. Universidad Complutense de Madrid, Madrid, Spain.

Preliminary results on the ciliate and amoeba diversity in soil samples from Malawi and Borneo.

Marina Angel-Quiroga, Blanca Pérez-Uz and Mercedes Martín-Cereceda.
Dept. Microbiología III. Fac. C.C. Biológicas. Universidad Complutense de Madrid, Madrid, Spain.

Diverse freshwater Ciliate Fauna from Okhla Bird Sanctuary, Delhi, India.

Seema Makhija¹, Renu Gupta² and Ravi Toteja¹

¹*Acharya Narendra Dev College, University of Delhi, Delhi, India*

²*Maitreyi College, University of Delhi, Delhi, India.*

Soil Ciliate (Protozoa, Ciliophora) diversity in and around Delhi region, India.

Renu Gupta¹, Seema Makhija² and Ravi Toteja²

¹*Maitreyi College, University of Delhi, Delhi, India.*

²*Acharya Narendra Dev College, University of Delhi, Delhi, India*

Ciliate diversity and feeding activity in Mexican Plateau water-monomictic lakes with anoxic hypolimnion.

Miroslav Macek¹, Ximena Sánchez^{1, 2} and Fernando Bautista - Reyes^{1, 2}

¹*Tropical Limnology Research Project, UNAM FES Iztacala, Tlalnepantla, Estado de México, Mexico*

²*Posgrado en Ciencias del Mar y Limnología (PCMyL), UNAM FES Iztacala, Tlalnepantla, Estado de México, Mexico*

Isolating genomic DNA from *Lagenophrys tattersalli* Willis, 1942: A new insight into loricated peritrich taxonomy.

Robert I. Mansergh, Simon M. Cragg and Alex T. Ford.

Institute of Marine Sciences, School of Biological Sciences, University of Portsmouth, Ferry Road, Portsmouth, PO4 9LY, United Kingdom.

Estimation of ribosomal RNA copy number in ciliates using quantitative real-time PCR (qPCR).

*Isabelle Trautmann, Micah Dunthorn and Frédéric Mahé,
University of Kaiserslautern, Germany.*

Long-term *Ex situ* conservation of ciliates in CCAP.

Undine Achilles-Day and John G Day.

*Scottish Association for Marine Science, Scottish Marine Institute, Oban, Argyll,
UK*

A new soil ciliate species (Ciliophora, Colpodea) from the Atacama Desert (Chile).

Pablo Quintela-Alonso, Frank Nitsche, Glen Bornhoft and Hartmut Arndt.

*Department of General Ecology, Cologne Biocenter, University of Cologne,
Zùlpicher Strasse 47b, D-50674 Cologne, Germany*

Cooperative studies on marine ciliates biodiversity in China by the OUC and SCNU since 2006.

*Weibo Song, Xiaofeng Lin, Xiaozhong Hu, Alan Warren, Khaled A. S. Al-Rasheid and
John Clamp.*

China, Saudi Arabia, USA and UK

Effect of lowered pH on marine ciliates.

Zhuo Shen and Hongbin Liu.

*Coastal Marine Lab, The Hong Kong University of Science and Technology, Clear
Water Bay, Kowloon, Hong Kong, China*

The International Research Coordination Network for Biodiversity of Ciliates (IRCN-BC) is a joint project between U.S. and Chinese researchers that promotes multidisciplinary, integrative research on biodiversity of ciliated protists and fosters international collaborations.

The IRCN-BC gratefully acknowledges funding by the U.S. National Science Foundation (Dimensions of Biodiversity) and the Natural Science Foundation of China.

It welcomes participation by ANY researcher investigating ANY facet of biodiversity of ciliates or other protists as well as prokaryotes or multicellular eukaryotes that interact with ciliates in some way.

Our goal is to attract a broad input of expertise, outlooks, and technical skills into collaborative research projects. The IRCN-BC sponsors one major workshop or symposium each year and funds travel by researchers for specialized training or research collaborations, to workshops, or to professional meetings.

