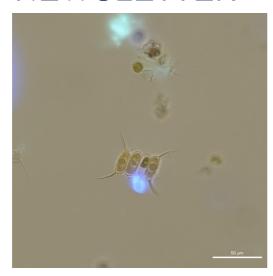
August 2025 - ISSUE #16

NEWSLETTER



Courtesy of Martyna Budziak

In this issue..

ParAqua Recent Events MC-Network Meeting & Culture Regulations Workshop

Release of the ParAquaSeq Video Abstract

New, 12th, episode of ParAqua Podcast is out!

Participation of ParAqua members on international events

STSM of ParAqua members

Recent publications from ParAqua STMS in RIO collection

Recent publications of ParAqua and ParAqua Members

News and Announcements

CA20125- COST ACTION



ABOUT US

The main aim and objective of the Action are to organize and coordinate an innovative and dynamic Network, connecting academia, industries and water management authorities to advance and apply knowledge and expertise on zoosporic parasites (i.e. aquatic fungi and fungi-like microorganisms) and the relation with their hosts in natural ecosystems and industrial algal biotech production.

WEBSITE



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Funded by the European Union

ParAqua Newsletter #16 - 2025 -Redaction: Ana Gavrilović and Laura Garzoli, Supervision: Serena Rasconi Contact: paraqua[@]inrae.fr; communication[@]paraqua-cost.eu

August, 2025 ISSUE #16

MC-Network Meeting & Culture Regulations Workshop

By Serena Rasconi & Laura Garzoli

CA20125 ParAqua Recent Events



The first Management Committee and Network Meeting of ParAqua GP4 took place on 12 of May in Pallanza (Italy) at the historical hydrobiology institute on the shore of Lake Maggiore. The meeting was held as usual in hybrid mode to allow a large participation. The meeting was hosted by Serena Rasconi (Action Chair) and co-hosted by Laura Garzoli (WG1 Co-Leader).

The hosting team welcomed 45 participants from 17 countries. The meeting was organized following a participatory methodology and all Action MC and WG Members were invited to attend and participate to the discussions. Main objectives were to update and inform on Action functioning since the last MC meeting that was held in September 2024 hybrid and hosted in Lyon (FR). The Action Chair presented the new Action participations, the budget status and reported on the GP activities and achievements. WG leaders and Committee Coordinators presented progress of each Working Group.



Meeting materials (participants list and presentations) are approved by MC e-vote and are available to all Action Participants in the Members area (<u>Link</u>)

The workshop entitled 'Regulation of Culture Collections, strain preparation and characterisation' aimed at providing a broad but specific overview of methods dedicated to preserve microorganisms and possibilities offered by the Culture Collections (CCs) existing European networks and European Research Infrastructures. The workshopl offered a multidisciplinary look at the subject, approaching it from different points of view, including scientific and administrative challenges.

The workshop was structured in three days divided into theoretical and practical sections. The days included practical sessions dedicated to culturing techniques of bacteria (Dr. Manuela Coci – CNR IRBIM, Zacarias Fresno Lopez – CNR-IRSA), fungi (Dr. Laura Garzoli, Dr. Pietro Marchese, Dr. Selene Chinaglia – CNR IRSA), diatoms (Dr. Lukasz Peszek – Rzeszów University), cyanobacteria (Dr. Lukasz Wejnerowski – Adam Mickiewicz University), picocyanobacteria (Cristiana Callieri, Raffaella Sabatino – CNR IRSA), Zoosporic Parasites (Dr. Albert Reñe, CSIC), and aquatic hyphomycetes (Bruder Andreas, Isabel Rodrigues Fernandes – SUPSI).

Opportunities provided by international networks of CCs were provided during the theoretical lectures (Prof. Cristina Varese — University of Turin, Microbial Resource Research Infrastructure MIRRI-IT; Prof. Maria Gullo, ECCO, University of University of Modena and Reggio Emilia, Europen Culture Collection Organisation ECCO). Trainees learned about CCs strains valorization with proteomic (Dr. Emanuele Ferrari, CNR-IRSA) and whole genome seq. (Dr. Ester Eckert, CNR-IRSA). Furthermore, during the workshop, participants discussed the legal and regulatory issues such as the Nagoya Protocol (Melania Nelly Munoz-Garcia — Leibniz Institute DSMZ and the German Nagoya Hub).



The video lectures are available on the YouTube channel at this <u>link</u> and at our website

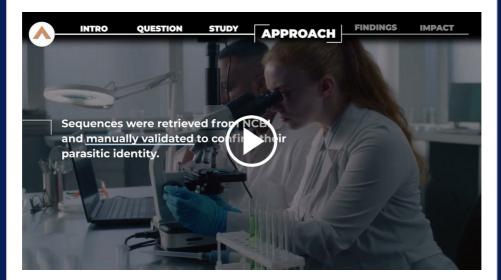
A part of the atmosphere from the meeting and workshop can be seen in the videos Elena Panariello produced during her ParAqua Virtual Mobility Grant (above and at this <u>link)</u>

August, 2025 ISSUE #16

Release of the ParAquaSeq Video Abstract

By Albert Reñé

We are pleased to announce the release of the video abstract for ParAquaSeq, created to boost the visibility and outreach of the database.



Thanks to the dedicated work of Dr. Lepère, Dr. Van den Wyngaert, Dr. Rasconi, and Dr. Reñé—members of ParAqua WG1—the 4-minute video outlines the motivations behind the creation of the database, the methodology used to collect and curate molecular sequences, and the core contents of the resource.

The video highlights key features of the available sequences, including the taxonomic diversity of parasites and hosts, as well as the range of aquatic environments represented. It also addresses the potential impact of ParAquaSeq and discusses the biases identified during its development.

August, 2025 ISSUE #16



Click here to listen our ParAqua channel!

New, 12th, episode of ParAqua Podcast is out!

By Joe Money



In this episode Joe discuss with Dr Kevin Lafferty about how parasites influence food webs and trophic dynamics as well as the challenges of treating outbreaks. Click <u>here</u> and choose your favourite media to listen



August, 2025 ISSUE #16

ITC Victoria Prins among the winners of the best oral presentation award 14th Symposium for European Freshwater Sciences

By Victoria Prins

Participation of ParAqua members on international events

Victoria Prins from ParAqua WG1 attended the 14th Symposium for European Freshwater Sciences (SEFS14), held in Bolu, Türkiye from 20–25 July 2025. The conference featured a diverse assortment of presentations and discussions on freshwater ecology, covering topics such as freshwater restoration efforts, ecotoxicology, and freshwater microbiology. Victoria's participation at the conference was funded by the EU COST Action ParAqua's (CA20125) Inclusiveness Target Country (ITC) Conference Grant.



Top: Conference welcome banner. Author: Victoria Prins Bottom: Award ceremony from the closing session. Author: Jennifer Anderson.



Presenters from the "Aquatic fungi / microorganisms in a changing world" session. Top left: Nabil Majdi (University of Toulouse, France). Bottom left: Victoria Prins (University of Tartu, Estonia). Right: Pratiksha Acharya (University of Vienna, Austria). Author: Jennifer Anderson.



Together with Jennifer Anderson (Swedish University of Agricultural Sciences), Victoria co-chaired the session titled "Aquatic fungi / microorganisms in a changing world". Victoria's presentation gave an overview of the FunAqua project, introducing the project's global eukaryotic metabarcode database developed by The University of Tartu and The Estonian University of Life Sciences to support aquatic fungal biodiversity research. The session was well-received, with both the best and third-best oral presentation awards going to talks within it. Victoria received the award for the third best oral presentation, and Pratiksha Acharya (University of Vienna, Austria) was awarded first place for her presentation on freshwater invertebrate gut microbiomes. The session also featured Jennifer Anderson's overview of the FUNACTION and MoSTFun projects, explaining the importance of protecting and monitoring aquatic fungi, and Nabil Majdi's (University of Toulouse, France) rundown of the fungal and chemical landscapes associated with leaf decomposition in the Massane River.



Feedback from attendees confirmed that the session raised awareness about aquatic fungi. Prior to the session, discussions with the delegates revealed that only a handful had previously worked with aquatic fungi and many had not considered them as a relevant research topic. After the session, the chairs received positive reactions from the members of the audience, as many listeners highlighted that the session illuminated this underresearched and often overlooked group of organisms. Overall, the conference had a warm and welcoming atmosphere. It was evident that the organizers from Bolu Abant Izzet Baysal University and other institutions put a lot of effort into carrying out the event and greeted the delegates with generous hospitality. This fostered an environment that enabled meaningful conversations between researchers about their work. Participation at this conference helped elevate the visibility of aquatic fungi through presentations and connecting with fellow researchers across diverse fields. Victoria would like to thank ParAqua for funding the participation, and also the organizers and the participants for making the event

Congratulations Victoria from ParAqua Newsletter Editorial Board!

Outcomes of ParAqua STSM presented at the 42nd International Conference of the Polish Phycological Society

By Martyna Budziak

A ParAqua member and a PhD student at the Institute of Nature Conservation PAS, Martyna Budziak, presented the outcomes of her Short-Term Scientific Mission at the 42nd International Conference of the Polish Phycological Society, held May 27-30, 2025, in Białystok-Tykocin, Poland. The talk, titled "Phytoplankton under Pressure - The Role of Environmental Drivers in Parasitism", coauthored by Doris Ilicic, Hans-Peter Grossart, Wojciech Krztoń, Edward Walusiak, Janusz Fyda and Elżbieta Wilk-Woźniak, focused on the occurrence and dynamics of chytrid infections in freshwater phytoplankton communities, based on a six-year dataset from three shallow lakes. Presentation sparked strong interest and discussion among conference participants. We're proud to announce that the presentation was awarded first prize in the conference's presentation competition, in recognition of the significance and relevance of these findings. To support wider dissemination, the presentation has been shared through the ParAqua RIO Collection (Link). A manuscript based on these results is currently under revision for publication.







Congratulations Martyna from ParAqua Newsletter Editorial Board!



The ParAqua database was presented at the LifeWatch ERIC Biodiversity & Ecosystem eScience (BEes) Conference that was held in Heraklion, Greece, from 30 June to 3 July 2025. In the presentation, Andrea Tarallo showcased ParAqua's role in advancing research on aquatic parasitology and its contribution to biodiversity data integration across ecosystems.

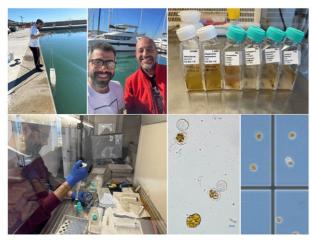
The abstract, co-authored with Davide Raho, will be published soon in the conference abstract book. A video of the presentation will also be made available on the <u>Conference website</u>

August, 2025 ISSUE #16

ParAqua STSM at CSIS Barcelona

By Pietro Marchese

ParAqua STSM



ParAqua STSM at CSIC Barcelona

Thanks to this short-term mobility grant from ParAqua I spent a month at the Littoral Biological Processes group in Barcelona, hosted by Dr. Albert Reñé.

During my stay we sampled phytoplankton communities and infected dinoflagellates with zoosporic parasites to study the drivers of infection.

I ended up learning how to maintain living cultures of zoosporic parasites along with their hosts, and how to manipulate infected cultures to observe the disease development.

I particularly enjoyed the supportive and collaborative environment I found at the Institute, and established bonds I will likely maintain in the years to come.

August, 2025 ISSUE #16

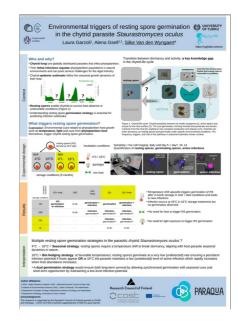
Recent publications from ParAqua STMS in RIO collection

Environmental triggers of resting spore germination in the chytrid parasite
Staurastromyces oculus

By Silke Van den Wyngaert

Poster "Environmental triggers of resting spore germination in the chytrid parasite Staurastromyces oculus" with the results from Laura Garzoli STSM is now published in ParAqua RIO collection

Link



August, 2025 ISSUE #16

Recent publications of ParAqua members

годишник

на Софийския университет «Св. Климент Охридски»

Биологически факултет

Книга 2 – Ботаника

ANNUAL

OF SOFIA UNIVERSITY
«ST. KLIMENT OHRIDSKI»

Faculty of Biology

Book 2 – Botany

ом/Volume 108

COMIN 2024 SOFIA

Aquatic zoosoric parasites and their hosts in Bulgaria

By Maya P. Stoyneva-Gärtner

Maya P. Stoyneva-Gärtner and Blagoy A. Uzunov published a paper "Aquatic zoosoric parasites and their hosts in Bulgaria" in Annual of Sofia University, faculty of Biology, Book 2 – Botany 2024, VOI. 108, pp. 60-82.

DOI: Link

The whole volume and the pdf can be find here

August, 2025 ISSUE #16

News GreenCoLab's IBAB (Industrial Bank for Algae Biotechnology)

By Gabriel Bombo

News from ParAqua members

In May, our ParAqua member, Gabriel Bombo, presented the integration and latest progress of in the Portuguese Blue Biobank (WP9) project, part of the Pact for the Blue Bioeconomy (PBA), at an event held at CIIMAR. IBAB's collaboration in the ParAqua Cost action is focused on identifying and sharing methods and information on the chytrids present as contaminants in industrial microalgae cultures.





August, 2025 ISSUE #16

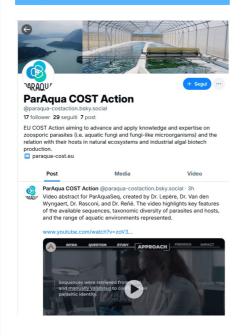
Announcements

ParAqua is now on Bluesky! Follow us, like, share!

Our WG1 collaborative work is online!

"ParAquaSeq, a Database of Ecologically Annotated rRNA Sequences Covering Zoosporic Parasites Infecting Aquatic Primary Producers in Natural and Industrial Systems" - This very nice collaborative



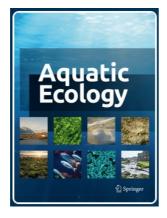




Special Issue in Aquatic Ecology about "Zoosporic Parasites of Primary Producers in Aquatic Systems" is now open for submission

By Serena Rasconi, Maja Berden Zrimec, Manuela Coci & Dedmer Van de Waal

Collection deadline : 31 December 2025 All the information at the Journal webpage <u>here</u>



This special issue aims to focus on the topic of parasites of aquatic primary producers across different sectors (research in aquatic ecology and evolution as well as in algal biomass R&D and production systems). Scientific research on this topic is gaining traction with increasing studies elucidating the functional role of zoosporic parasites in natural ecosystems, while main challenges remain related to the economic impacts of parasitic diseases in algae biotech industry, affecting production of food, feed, biofuels and nutraceuticals. ParAqua aimed to fill this knowledge gap by integrating interdisciplinary efforts to compile information on the occurrence of zoosporic parasites and their relationship with hosts, elucidate drivers of infection and implement new tools for monitoring and prevent infections in natural and artificial production systems.

We would like to invite contributions from the Action's work but also broaden the call to all interested colleagues to increase visibility of the topic and dissemination of results within the scientific community.

Expected contributions will include original articles, conceptual papers and reviews on micro and macro parasites of aquatic primary producers (cyanobacteria, algae, macroalgae and seaweeds) in different systems (including natural ecosystems, experimental tests, industrial algal biotech production plants etc.), investigations into the host-parasite relation and main drivers of infections with a particular focus on the effects of climate change. Contributions on methods for detecting and managing infections, as well descriptions of infection dynamics under different settings, including industrial production facilities will be welcome, and recently we got confirmation that data papers are also accepted for submission.

Topics:

- Host-parasite relation
- Drivers of infections
- Methods for detecting and managing infections
- Descriptions of infection dynamics
- Effects of parasitism on aquatic (eco)system performance
- Zoosporic parasite physiology and virulence

August, 2025 ISSUE #16

ParAqua Management

PARAQUA	Main Contacts and Leadership	
MC Chair	Serena Rasconi (France)	serena.rasconi@inrae.fr
MC Vice Chair	Alena Gsell (The Netherlands)	a.s.gsell@cml.leidenuniv.nl
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WG4 leader	Position open! Interested members are invited to apply!	
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August, 2025 ISSUE #16

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A MESSAGE FROM COST PROGRAMME

#CA20125 #ZoosporicParasites #AlgaBiotech

by Lorna Stokes

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Instagram: @cost_programme

YouTube: COST - European Cooperation in Science and Technology

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