Book of Abstracts

38th Ichthyoparasitological Symposium 21.-22.06. 2023

Oer-Erkenschwick, Germany

Program 38th Ichthyoparasitological Symposium in Oer-Erkenschwick, 21.-22.06.2023

Wednesday, 21.06.23

Lunch	12:30		
Welcome	13:00	*Bernd Sures (UDE)*	
Session 1	13:15	*Björn Schäffner (Univ. Iceland)*	Greenland sharks and their parasites: 'Canaries in the oceanic coal mine'
Marine Parasitology Chair: *David Thieltges*	13:30	*Lotte Striewe (TiHo Hannover)*	Cestode prevalence in harbour seals (*Phoca vitulina*) and grey seals (*Halichoerus grypus*) in the North and Baltic Sea
	13:45	*Rosa Jolma (NIOZ)*	The impact of temperature on the development of two parasitic copepods
	14:00	*Harry Palm (Uni Rostock)*	Bothridial pits and tegumental grooves: Organ morphology differentiates the Paranybeliniidae Dollfus, 1969 from the Otobothriidae
	14:15	*Max Willems (Naturalis Biodiversity Center, Leiden)*	Shell-boring worm infestation in Pacific oysters: impact on condition and shell strength
Coffee break	14:30		
Session 2	15:00	*Michelle Musiol (UDE)*	Accumulation of trace elements by intestinal parasites in different marine vertebrates
Environmental Parasitology Chair: *Bernd Sures*	15:15	*Franz Jirsa (Uni Wien)*	Micro digestion and consequent Total Reflection X-Ray Fluorescence Spectrometry (TXRF) for small parasite samples
	15:30	*Gyrhaiss Kasembele (University Hasselt)*	Assessment of anthropogenic impacts on the aquatic environment and biodiversity in the Katangese Copperbelt Area (DR Congo): a parasitological approach
	15:45	*Tiziana Gobbin (University Hasselt)*	How flatworm parasite communities of cichlid fishes changed in response to human-induced ecosystem perturbations in Lake Victoria
	16:00	*Britta Bock (UDE)*	Establishment of *Ligula intestinalis* in an abandoned gravel pit
Poster Session	16:15		
Session 3	16:30	*Klaus Knopf (IGB)*	Combining morphological and molecular characteristics for the identification of

			muscle metacercariae in tench (*Tinca tinca*)
Digenean parasites Chair: *Maarten Vanhove*	16:45	*Annabell Hüsken (UDE)*	At a snail's pace - Establishment of trematode communities after stream restoration in an urbanized watershed
	17:00	*Sylvester Watzlawczyk (UDE)*	Eifel Nation Park - a remarkable case of low trematode diversity
	17:15	*Simona Georgieva (National University Korea)*	Trematode diversity in *Pirenella cingulata* (Gmelinn, 1791) (Cerithioidea: Potamididae) along the hottest marine coastline
Poster Session	17:30		
Dinner	18:30		
	19:00	*Walk in the forest and get-together in Pub*	

Thursday, 22.06.23

Session 4	9:00	*Nico Smit (NWU)*	Working towards a conservation plan for fish parasites: cyprinid parasites from the South African Cape Fold freshwater ecoregion as a case study
Evolution, ecology and biodiversity of parasites Chair: *Chris Selbach*	9:15	*Maarten Vanhove (University Hasselt)*	A deep dive into the eco-evolutionary processes of host selection: the cichlid-*Cichlidogyrus* system
	9:30	*Miriam Shigoley (University Hasselt)*	Parasitology of one of the world's foremost aquaculture fish species lacks a One Health Approach
	9:45	*Michiel Jorissen (Belgian Defense Laboratories)*	High risk pathways of cholera outbreaks through the ecosystem and fisheries of Lake Tanganyika: present and future
	10:00	*Ana Born-Torrijos (NIOZ)*	Feeding experiments and stable isotope analyses to unravel parasitic interactions
	10:15	*Patrick Unger (Uni Rostock)*	Reaching the steady state: over 30 years of *Anguillicola crassus* Kuwahara, Niimi & Hagaki, 1974 infection of European eel, *Anguilla anguilla* L., in Northern Germany
Coffee break	10:30		
Session 5	11:00	*Sebastian Prati (UDE)*	Seasonal and diurnal modulation of *Gammarus pulex* (Crustacea, Amphipoda) drift by microsporidian parasites

Microsporidian Parasites Chair: *Nico Smit*	11:15	*Annemie Doliwa (UDE)*	Parasites from above? Investigating the possible role of birds in the dispersal of freshwater Microsporidia
	11:30	*Angelina Kiesewetter (UDE)*	Freshwater isopods: A study of microsporidian and acanthocephalan infections in a stream in Germany
Final Discussion	11:45		
Lunch	12:30		
End of meeting		*Please note that only presenting authors are shown. For full author list see book of abstracts*	

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Parasitology of one of the world's foremost aquaculture fish species lacks a One Health Approach

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With the growing global demand for Nile tilapia (Oreochromis niloticus) as an affordable source of animal protein, the adoption of semi-intensive and intensive farming systems has increased. However, this has also led to a higher risk of parasites, diseases, and mortality among Nile tilapia, as well as environmental impacts. To address these challenges, it is crucial to understand the biology and ecology of these parasites in an ever-changing environment and tackle their pathogenicity. Currently, *Oreochromis niloticus* is known to harbor approximately 276 species of parasites, making it the African fish with the highest number of reported protists and metazoans. However, the available knowledge on these parasites is fragmented, with only around 340 peer-reviewed articles published on the topic to date. This lack of comprehensive information highlights the need for a One Health approach, which is currently lacking in the study of Nile tilapia parasites and necessitates the need for an appropriate account on the interconnectedness of human, animal and environmental health. A review was conducted to identify protists, metazoans, fungi, bacteria and viruses that have proven impacts on Nile tilapia health and production, as well as those that pose a zoonotic risk and have the potential to serve as environmental indicators. From the synthesis, only 94 peer-reviewed papers met the inclusion criteria. These studies were carried out in only 24 out of more than 140 countries where Nile tilapia is produced, showing the relatively low number of research on the effects and environmental correlates of these parasites. When comparing the number of formally described parasite species to the few number of studies documenting their effects, there is a significant knowledge gap. The current information on these parasites is not yet ready for practical use by stakeholders involved in Nile tilapia production and management. Therefore, there is a need for descriptive and experimental studies to bridge this knowledge gap between farmers, fisheries policy makers, veterinarians, researchers and consumers. By adopting a One Health approach and conducting further research, stakeholders can gain valuable insights into the effective management of Nile tilapia fish health and diseases in today's world. This approach will provide information that is essential for sustainable Nile tilapia production, addressing both the environmental integrity, the health and well-being of the fish, and the people who consume them.