



APRIL 21-23, 2021
Vilnius, Lithuania

9th Conference of the
Scandinavian - Baltic Society
for Parasitology

PARASITES IN A CHANGING WORLD


**ABSTRACT
BOOK**







TABLE OF CONTENT

Welcome	03
Organizers	05
Committees	05
Sponsors	06
Program	07
Keynote presentations	11
Oral presentations	20
Posters	66



Published by the Nature Research Centre
ISBN 978-609-8255-05-8



Capturing boundaries in a group of *Parvatrema* (Digenea:Gymnophallidae) cryptic species

Kirill V. Galaktionov^{1,2}, Semyon Bodrov¹, Anna Gonchar^{2,1}, Darya Postanogova²

1 Zoological Institute RAS, Russia

2 St Petersburg State University, Russia

Within the digenean genus *Parvatrema* (Gymnophallidae) there is a group of species that share a unique feature: parthenogenetic metacercariae in the molluscan second intermediate host (2IH). We found that such species are common at the sea shores in the northern Holarctic, and they use several gastropod species as 2IH. Species of *Parvatrema* differ in their interactions with 2IH: from commensalism in the extrapallial cavity to parasitism in the hepatopancreas and the gonad. Distinguishing between the metacercariae of different species is complicated because morphologically they are almost identical. rDNA-based genetic analysis also did not provide understanding of relationships between the *Parvatrema* isolates from different 2IH. We sequenced and annotated the mitochondrial genome of *Parvatrema* sp. (*Cercaria quadriramis*) from *Littorina saxatilis*, and used it for primer design. We then sequenced the *cox1* gene fragment for all available *Parvatrema* isolates (23). The resulting alignment was analyzed with ABGD (<https://bioinfo.mnhn.fr/abi/public/abgd/>), and distribution of pairwise distances indicated the barcode gap presence and delimitation of five species: *Cercaria quadriramis*, *Parvatrema homoeotecnum forma A*, *Parvatrema margaritense*, *Cercaria falsicingula*, *Parvatrema* sp. 1. Phylogenetic analysis showed strict geographic attribution of these species either to the North Atlantic (NA), or to the North Pacific (NP). Presumably, the expansion of *Parvatrema* spp. proceeded from NP to NA, with two independent transfer events. Morphological similarity of the studied *Parvatrema* spp. suggests that they can be considered cryptic species that diverged as they discovered new 2IH species and new geographic region (NA). The research was funded by the RSF grant #18-14-00170.