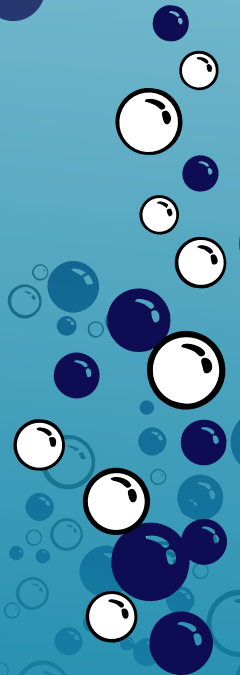
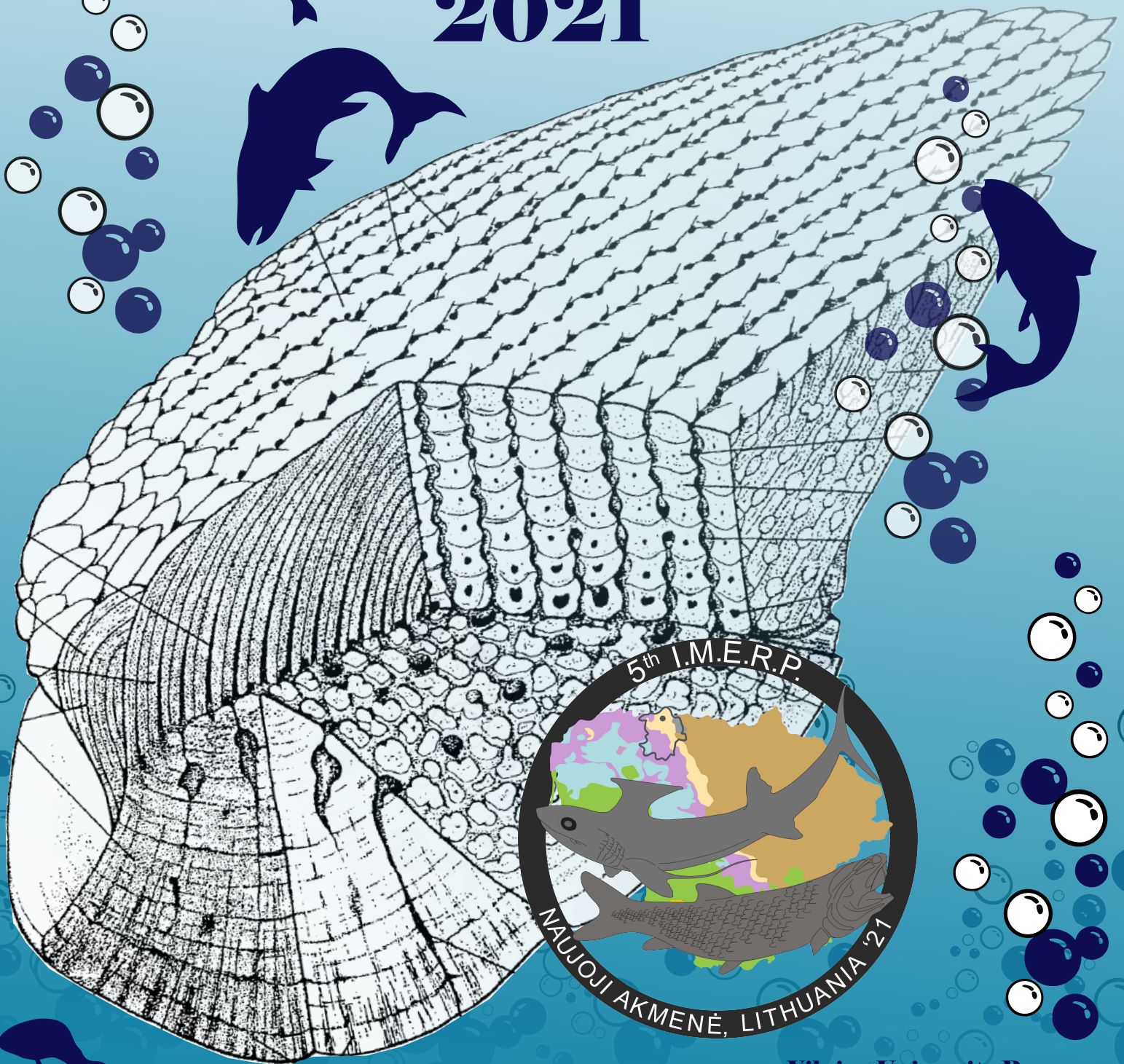
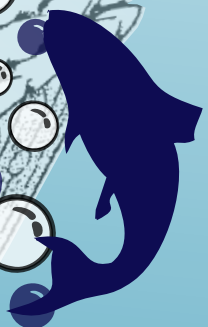
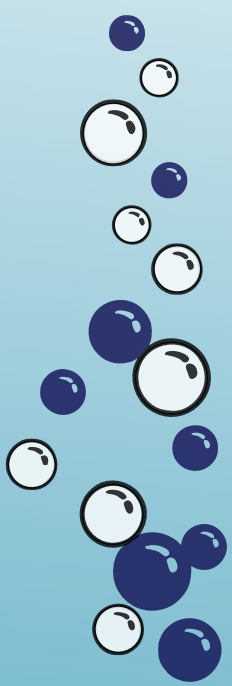
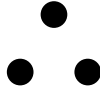


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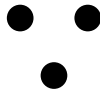




5th International Meeting of Early-stage Researchers in Palaeontology
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BOOK OF ABSTRACTS



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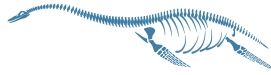
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WELCOME

This is the abstract book of the **5th International Meeting of Early-stage Researchers in Palaeontology (IMERP)**. More information about the IMERP can be found [here](#).

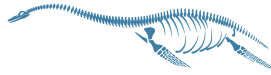
Originally 5th IMERP should have taken place in 2020, yet due to the pandemic covid-19 situation it was postponed to 2021 and for the first time in its early history IMERP will be an online event. This presents new challenges for IMERP attendees and organizers. Nevertheless, we hope that these challenges will teach us all something new and that despite obstacles IMERP will serve its main purposes.

The two main objectives of IMERP are:

To provide a **friendly environment** for early-stage researchers to present their research through oral or poster presentations and follow each other's progress. To **share new methods and ideas** useful in palaeontology, and develop the skills of the attendees with the help of leading experts, invited to give lectures about their fields.

It is also the first time IMERP is organized in Lithuania. Usually, field trips and excursions help to tell the story about the unique geological history and palaeontology of the region where the non-online event takes place. As this event is online, we will try to communicate the same story by all other means possible. For instance, on the title page of this book there is an image of underwater world. It represents the fact that most of its geological history Lithuania was below a sea-level. Also, the central title page object is a 3-dimensional diagram illustrating the internal structure of a scale of *Mongolepis rozmanaе*. This diagram was created and genus was erected by one of the most acknowledged Lithuanian paleoichthyologist – Valentina Karatajūtė-Talimaa.





DYNAMICS OF OSTRACODS ACROSS THE MULDE/LUNDGRENI EVENT: CONTRASTING PATTERNS OF SPECIES RICHNESS AND PALEOCOMMUNITY COMPOSITIONAL CHANGE

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This study presents the first integrated stratigraphical high resolution ostracod paleocommunity analysis of The Mulde/ *lundgreni* event (Wenlock), which was one of the most prominent turnover episodes in the Silurian period in the Géluva-118 core section (South Baltic). This research revealed, that the effects of this event with respect of taxonomic extinctions was negligible - not a single species of ostracods completely disappeared during it. Rather different pattern emerged, the whole transition, beginning from the mid- *lundgreni* graptolite Biozone and up to the end of the Wenlock, was characterized by a steady increase in local species richness. The event itself was of rather short duration (~30-40 Ka), and in the core material is characterized by the sudden decrease and ultimately complete temporary disappearance of all ostracods during the maximum of the event. The maximum stress interval corresponds to approximately 1/3 of the 5th order cycle duration caused by the short eccentricity variations. The application of novel dynamical systems techniques, which are based on the recurrence patterns of ostracod communities, revealed that the only statistically significant decrease in the local recurrence rates occurred during the Mulde event and it was most probably caused by almost perfect matching of lows of both 4th and 5th order sea level cycles (interpreted as caused by long and short eccentricity cycles). This study suggests that the major change points in ostracod community dynamics are correlatable with Milankovitch scale climate and sea level perturbations. Furthermore, current study reveals that the orbital forcing was a major factor not only in the evolution of the pelagic and hemi- pelagic Silurian ecosystems, but also for the evolution of the shelly benthic ecosystems too. In addition the recurrence plot analyses revealed that the Mulde event had an impact on the community assembly dynamics, making the assembly dynamics more predictable in its aftermath. Therefore, the Mulde/*lundgreni* event was the cause of a state shift in benthic ecosystem functioning, which could be explained by so called “sloshing bucket” theory of community dynamics which states that sudden transitions of ecosystems to alternative states happen after certain threshold levels of the external forcing are crossed.

This study was supported by the Research Council of Lithuania grant S-MIP-19-15 “Ecosystem construction and collapse in the Silurian – survival of biodiversity in the extreme climate”, and the project PRG836 ‘Tracing the origins of early Paleozoic stable carbon isotope excursions – global, regional and local drivers’ from the Estonian Science Agency and Estonian Ministry of Education and Research. This is a contribution to the project IGCP 652 “Reading geologic time in Paleozoic sedimentary rocks”.

