

Author: Gražyna Gryguc

Doctoral dissertation title: PECULIARITIES OF VEGETATION CHANGES RECORDED IN LATEGLACIAL AND HOLOCENE SEDIMENTS ACCORDING TO PALAEOBOTANICAL DATA. (Physical Sciences, Geology (05P))

Scientific supervisor: dr. Dalia Kisielienė

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Summary

The thesis designed for the reconstruction of natural environment history during the Lateglacial and Holocene according to the results of multiproxy investigations. PhD thesis is based on plant macrofossil records and geochronological data. Interpretation of data, have been performed in comparison with results of pollen, loss-on ignition, isotope ($\delta^{18}\text{O}$, $\delta^{13}\text{C}$). Seven sites were chosen for the investigations: Briauinis, Verpstinis, Pakampis, Pakastuva Lakes, Lavariškės Bog and two outcrops of the Ūla River. Reconstruction of the distribution of vegetation cover in a particular area, immigration of distinct plant species, and identification of a variety of plant species are discussed on the basis of the obtained data. Investigation results helped to characterise the water basins, including sedimentation conditions in palaeolakes and water level changes, and their evolution as well. The stages of vegetation development were distinguished and contemporized with major postglacial climatic events. The plant palaeocommunities outlined in the cross-sections provide basic information on dominating plant types and evolution of palaeocommunities during the distinct Lateglacial and Holocene periods. The Ellenberg system of the evaluation of modern environmental conditions was used and conformed for the evaluation of palaeoenvironmental conditions and the reconstruction of ecological conditions of plant habitats during the Lateglacial and Holocene. The thesis comprises 182 pages, 22 figures, 35 tables and 10 appendices.

Scientific articles published in refereed scientific periodical publications included by the Institute for Scientific information – ISI – in the database Thomson Reuters Web of Science (ISI WOS) and have an index of impact factor in the database of Journal Citation Report

1. Gaidamavičius A., Stančikaitė M., Kisielienė D., Mažeika J., **Gryguc G., 2011.** Post-glacial vegetation and environment of the Labanoras Region, East Lithuania: implications for regional history. *Geological Quarterly* 55 (3), 269–284.

2. **Gryguc G.,** Kisielienė D., Stančikaitė M., Šeirienė V., Skuratovič Ž., Vaitkevičius V., Gaidamavičius A., **2013.** Holocene sediment record from Briauinis palaeolake, Eastern Lithuania: history of sedimentary environment and vegetation dynamics. *Baltica* 26 (2), 121–136.

3. Zernitskaya V., Stančikaitė M., Vlasov B., Šeirienė V., Kisielienė D., **Gryguc G.,** Skipitytė R., **2014.** Vegetation pattern and sedimentation changes in the context of the Lateglacial climatic events: Case study of the Staroje Lake (Eastern Belarus). *Quaternary International* xxx, 1–13. <http://dx.doi.org/10.1016/j.quaint.2014.06.045>

4. Veski S., Seppä H., Stančikaitė M., Zernitskaya V., Reitalu T., **Gryguc G.**, Heinsalu A., Stivrins N., Amon L., Vassiljev J., Heiri O., **2014**. Quantitative summer and winter temperature reconstructions from pollen and chironomid data between 15 and 8 ka BP in the Baltic–Belarus area. *Quaternary International* xxx, 1–8. doi:10.1016/j.quaint.2014.10.059

5. Stančikaitė M., Šeirienė V., Kisielienė D., Martma T., **Gryguc G.**, Zinkutė R., Mažeika J., Šinkūnas P., **2015**. Lateglacial and early Holocene environmental dynamics in northern Lithuania: A multi-proxy record from Ginkūnai Lake. *Quaternary International* 357, 44–57. <http://dx.doi.org/10.1016/j.quaint.2014.08.036>