The aim is to gather pollen sequences and derive from them synthetic information on past species distribution and Holocene vegetation history. Lonicera nigra was selected as a model taxa. The phylogeographic hypothesis that its Alpine and Carpathian populations survived the LGM in separate refugia is supported only by the Late-Glacial record. This shrub migrated rapidly from southern to central Europe during the warm oscilations of the Late Glacial. The synthesis of vegetation history was produced by applying the REVEALS model, which can filter out following factors influencing the relationship between pollen and vegetation: pollen taphonomy, pollen productivity and pollen dispersal. It was necessary to calculate and test those parameters, so the goals were partly methodical.

Pollen productivity estimates are calculated within the Relevant Source Area of Pollen, which is influenced by vegetation structure. Subsequent validation of those values in the area of the REVEALS model 10000 km2 and selection of additional values for lacking taxa created the best set of parameters for the study area. The source fossil dataset for purposes of this synthesis is the newly developed Czech Quaternary Pollen database (PALYCZ). Non-direct multivariate analysis of pollen percentages including all taxa revealed a similarity between the end and the start of the current interglacial stage. Dominance of spruce during the Middle Holocene at medium altitudes contrasts with most previous interpretations, which describe it as a period of mixed oak woodlands. The reconstructed vegetation in the 750 AD time window is the most similar to the Potential Natural Vegetation (PNV); however, quantities of individual taxa differ due to the methodology of PNV. Moreover, continuous presence of an open landscape (Poaceae >9 %) and/or pine (>6 %) in some lowlands highlights the role of possible natural drivers allowing their permanent abundance, be it herbivores, a dry climate or fire activity.