

Conclusions

The main conclusions, specific to each research topic, have been mentioned in appropriate chapter. To summarize, the thesis brings new original data and reinterprets existing pollen assemblages of the last glacial and early Holocene in central Europe. It also deals with analysis of the analogues and with vegetation-pollen relationship when interpreting past vegetation.

The study of analogue environment brought several important conclusions. A considerably tight relationship was found between the composition of pollen spectra and climate characteristics in southern Siberian analogue landscape. This means that past climatic conditions can be reasonably predicted by the fossil pollen spectra. There were found the best pollen predictors (such as *Pinus sylvestris*, *P.cembra*, *Betula alba*, *Artemisia*, *Graminae*) and 300 m distance around the sampling point as the best factors explaining vegetation type.

Vegetation was interpreted for the last glacial and the beginning of the Holocene in the light of new palaeobotanical finds and according to modern approaches. Occurrence of some tree species during various stages of the last glacial were confirmed, however, local discrepancies in vegetation and climate were also highly important. This supports strong gradient in increasing treeless vegetation from the eastern-central Europe towards the west.

Vegetation continued being naturally evolved with the start of the Holocene. However, studies at certain archaeological localities confirmed assumption that humans could in some cases even intentionally contribute to spreading of several plant species.

Finally, the acidification process was recognized as an important turnover leading to evolution of cultural landscape in central Europe. In some cases it happened continuously (several thousands years), in other under very strong anthropogenic pressure. The main characteristics of this process are decline of mixed-oak forests established during early Holocene and immigration of *Fagus sylvatica* and coniferous trees into ecosystems.