

Abstract

Changeover between glacial and interglacial period significantly affects species distribution for hundreds thousands years. Along with the traditional conception species distribution was restricted to refugia in southern Europe during glacial, Mediterranean, from where they recolonized northern parts of ranges after deglaciation. However, according to new findings many species could have had refugia to the north from this classical refugia, in central Europe. Northern refugia were often located in proximity of mountain systems or in rock massifs. Some species are, however, so adaptable that their dispersal was continuous even during ice ages to the north from southern refugia and they were able to live in cold regions. Even cold-adapted species contract to refugia, but instead of glacial their distribution is restricted during interglacial periods. Their ranges either contract to the north of Europe or undergo altitudinal shifts. Species can have refugia also in accordance with the gradient of oceanic-continental climate. In above mentioned types of refugia, complicated demographic processes connected with decreasing population size could take place, often resulting in speciation process.