THE ORIGIN OF FRESHWATER ICHTHYOFAUNA OF POLAND

Summary

Pleistocene ice ages have exerted considerable influence on contemporary fish and lamprey composition in Poland. Multiple transgressions and regressions of ice caused that many species had to displace or escape to the ice age refugia. The pattern of drainage systems in the territory of Poland in the Pleistocene changed many times and fishes colonized ice-freed areas southwards or northwards. Phylogeography lets us reconstruct their migration routes using genetic methods, like mtDNA analysis or microsatellites. Being aquatic organisms fish may migrate only along inland waters. We can distinguish several major routes e.g. Dnieper–Neman–Vistula and Dniester–San–Vistula. The main source of postglacial dispersion of most species in Poland was Ponto–Caspian refugium, which was not homogenous. The major route of recolonization of this part of Europe became the Dniester and Dnieper (northern trail); because of the Carpathians Moutain Range many species were not able to use the Danube (southern trail). In this paper, bullhead (*Cottus gobio*), grayling (*Thymallus thymallus*), spined loach (*Cobitis taenia*) and chub (*Leuciscus cephalus*) recolonization patterns were reviewed. There are some assumptions that migration of four goby species (*Neogobius gymnotrachelus, Proterorhinus marmoratus, Neogobius fluviatilis, Neogobius melanostomus* being observed in Poland is an example of a present-day recolonization pattern.