

Estimating population divergence time of Sakhalin taimen *Parahucho perryi*
(Brevoort, 1856)

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Sakhalin taimen is one of the largest semi-anadromous species of the family Salmonidae and the most evolutionarily ancient fish of the Northwestern Pacific. Living at sustained increasing anthropogenic impact, Sakhalin taimen is endemic, seriously endangered and close to extinction fish of the Russian Far East. The area of this species includes continental coastal rivers of the Sea of Japan, Sakhalin Island, South Kuril Islands and Hokkaido Island.

Over the past few years, numerous researches highlight intra- and interspecific phylogenetic relationships of Sakhalin taimen as well as estimate location of the ancestral refugia and regional patterns using molecular genetic data. However, population divergence times of Sakhalin taimen, paleoclimatic conditions of distribution and isolation of intraspecific groups are still unknown. Reconstructing history of a population may allow us to gain useful insights into various evolutionary and population-genetic processes, for example testing correlations between demographic and paleoclimatic events, examine the factors driving past population dynamics.

Using mtDNA sequence fragments and coalescent genealogy samplers, we demonstrated two genealogical lineages of Sakhalin taimen, which had diverged probably within the 800-900 kyr ago. Divergence time estimates suggest that most split between populations occurred in the Middle Pleistocene. Population dynamics during the Pleistocene had a large influence on evolutionary history. Species avoided extinction expanded as a result of Pleistocene environmental changes. This changes influence on their current distribution and genetic structure throughout their area.