

The homeland of proto-Tungusic languages inferred from contemporary words and ancient genomes

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There are two competing hypotheses concerning the possible homeland of proto-Tungusic languages, namely, the Lake Baikal or the Amur River basin. We here generated genome-wide data from 15 ancient East Asians, including 11 from the Amur River Basin in the Russian Far East dating to around ~5000 BCE (Middle Neolithic hunter-gatherers from the Boisman-2 cemetery), one ~1000 BCE individual (Iron Age from the Yankovsky Culture), two early Medieval individuals dating to ~1000 CE (from the Heishui Mohe culture). We analyzed our data together with published ancient genomes from Devil's gate (7700 years ago) and Baikal (2000-4500 years ago). We found a strong genetic overlap between the ancient samples from Amur River stretching as far as the Baikal region and present-day speakers of Tungusic language. The ancient Amur River samples tended to be in an unadmixed form, while ancient Baikal samples obviously had West Eurasian gene flow. The results give circumstantial genetic evidence for an Amur River Basin homeland for proto-Tungusic languages. The expansion of proto-Tungusic people had shaped the genetic structure of the vast region from Amur River basin to Baikal. We also found the Han expansion left a significant genetic signature in Amur River Basin and there is also evidence for West Eurasian admixture into ancient Baikal and Tungusic populations in later time.

Today the Tungusic languages, i.e. Evenki, Even, Solon, Negidal, Oroch, Udihe, Orok, Olcha, Nanai, Manchu and Sibe are spread all over Siberia, from the Okhotsk Sea in the east to the Yenisei basin in the west, and from the Bohai Sea in the South to the Arctic Ocean in the North. There are several competing hypotheses concerning the possible homeland of proto-Tungusic, their most recent common ancestral language, namely (1) the Baikal region (Vasilevich 1960, Derevjanko 1976 [**Chao, do you know more recent publications in favor of Baikal?**]), (2) the Mid Amur and the lower part of the Upper Amur region (Korovina 2011 and Pevnov 2012), (3) the region around Lake Khanka (Robbeets et al. in press) and (4) the border between present-day Liaodong and Northern Korea (Janhunen 2012). In our presentation we will combine linguistic and archaeogenetic evidence to infer the most plausible homeland of proto-Tungusic. Our linguistic evidence will come from cultural reconstruction, contact linguistics, diversity hotspot principle and Bayesian inference. From the archaeogenetic perspective, we generated genome-wide data from 15 ancient East Asians, including 11 from the Amur River Basin in the Russian Far East dating to around ~5000 BCE (Middle Neolithic hunter-gatherers from the Boisman-2 cemetery), one ~1000 BCE individual (Iron Age from the Yankovsky Culture), two early Medieval individuals dating to ~1000 CE (from the Heishui Mohe culture). We analyzed our data together with published ancient genomes from Devil's gate (7700 years ago) and Baikal (2000-4500 years ago). We found a strong genetic overlap between the ancient samples from Amur River stretching as far as the Baikal region and present-day speakers of Tungusic language. The ancient Amur River

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