



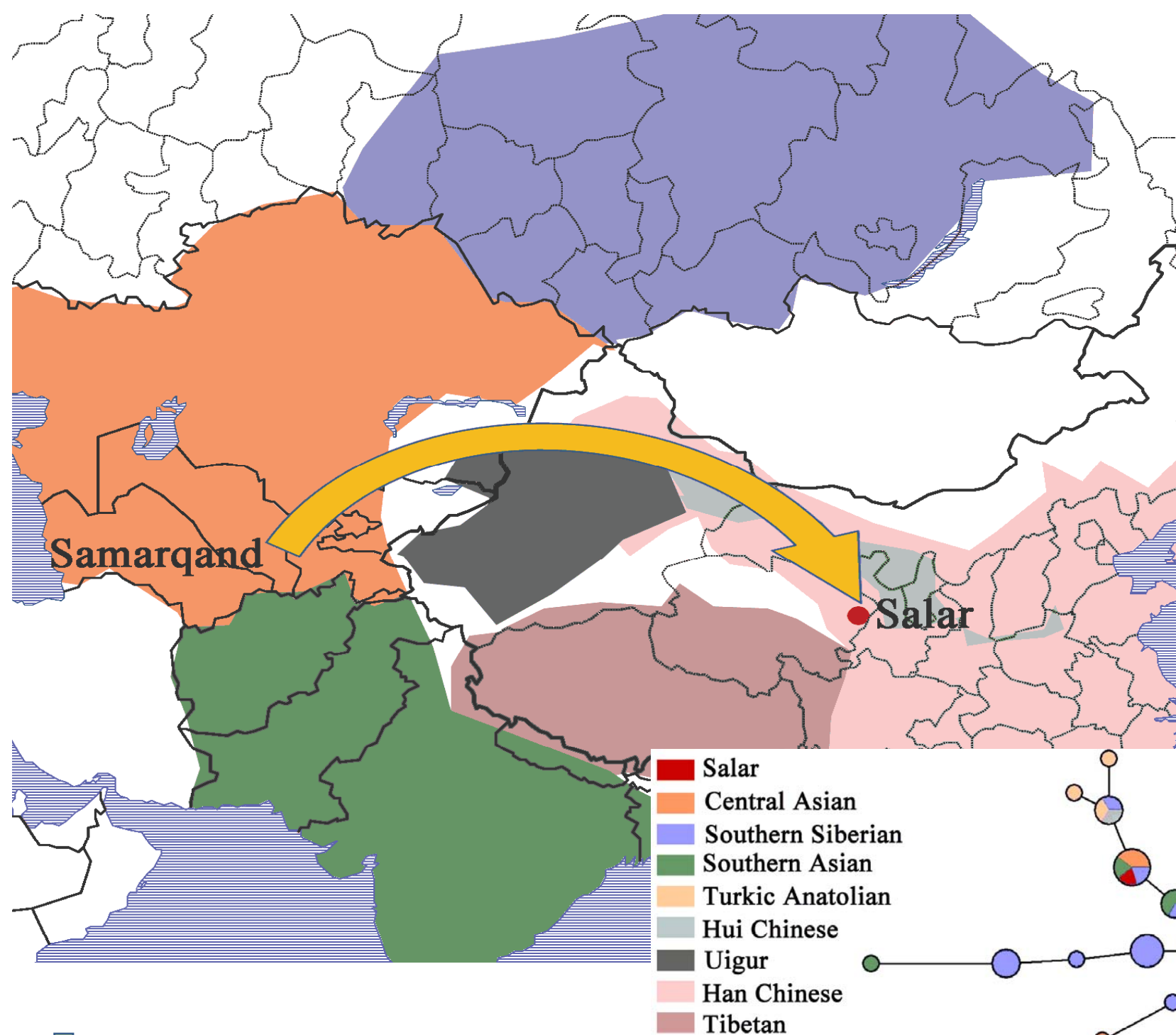
Western Eurasian Y chromosomes found in the Chinese Salar ethnic group

Yan Lu & Hui Li MOE Key Laboratory of Contemporary Anthropology, School of Life Sciences, Fudan University, Shanghai 200433 China



Abstract

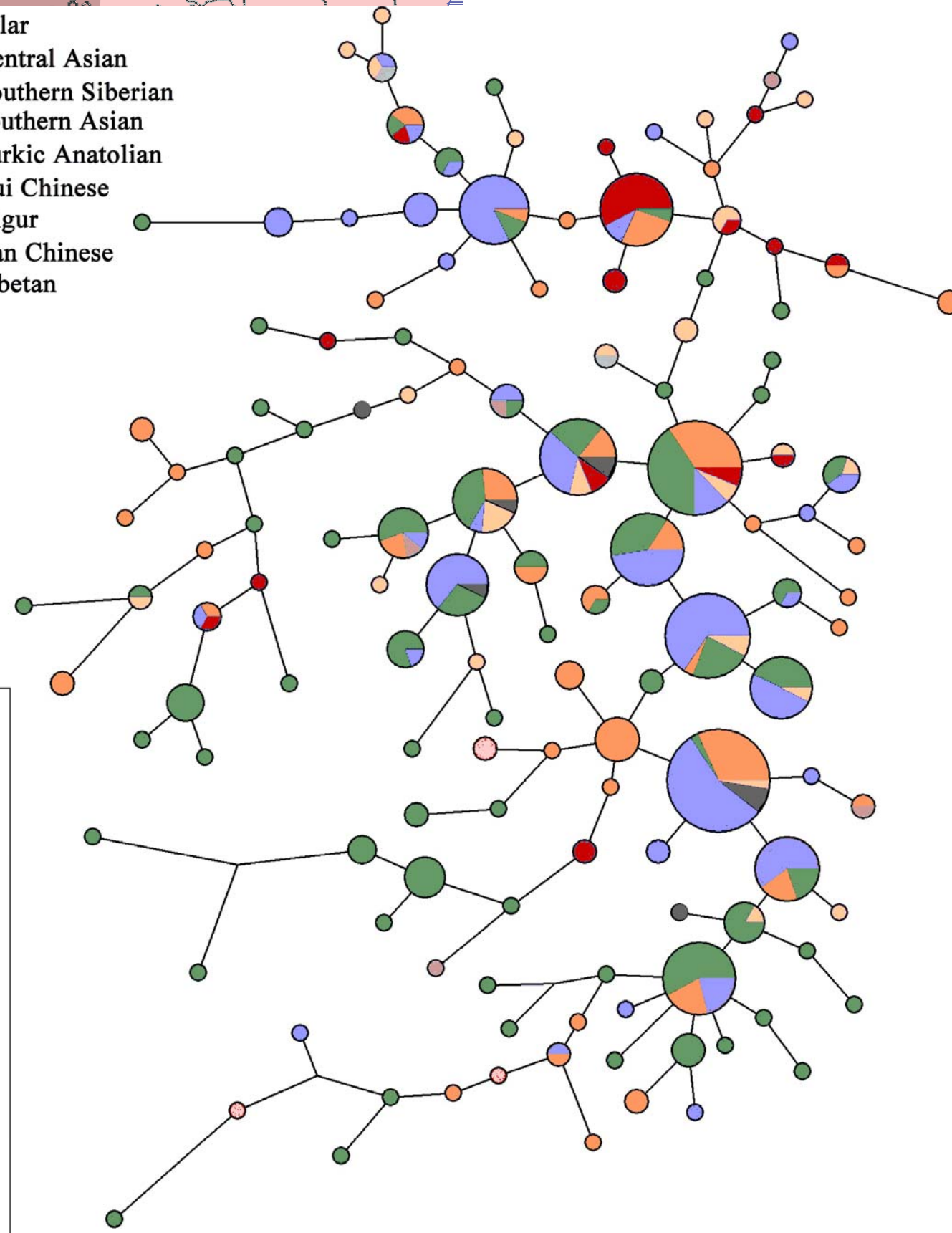
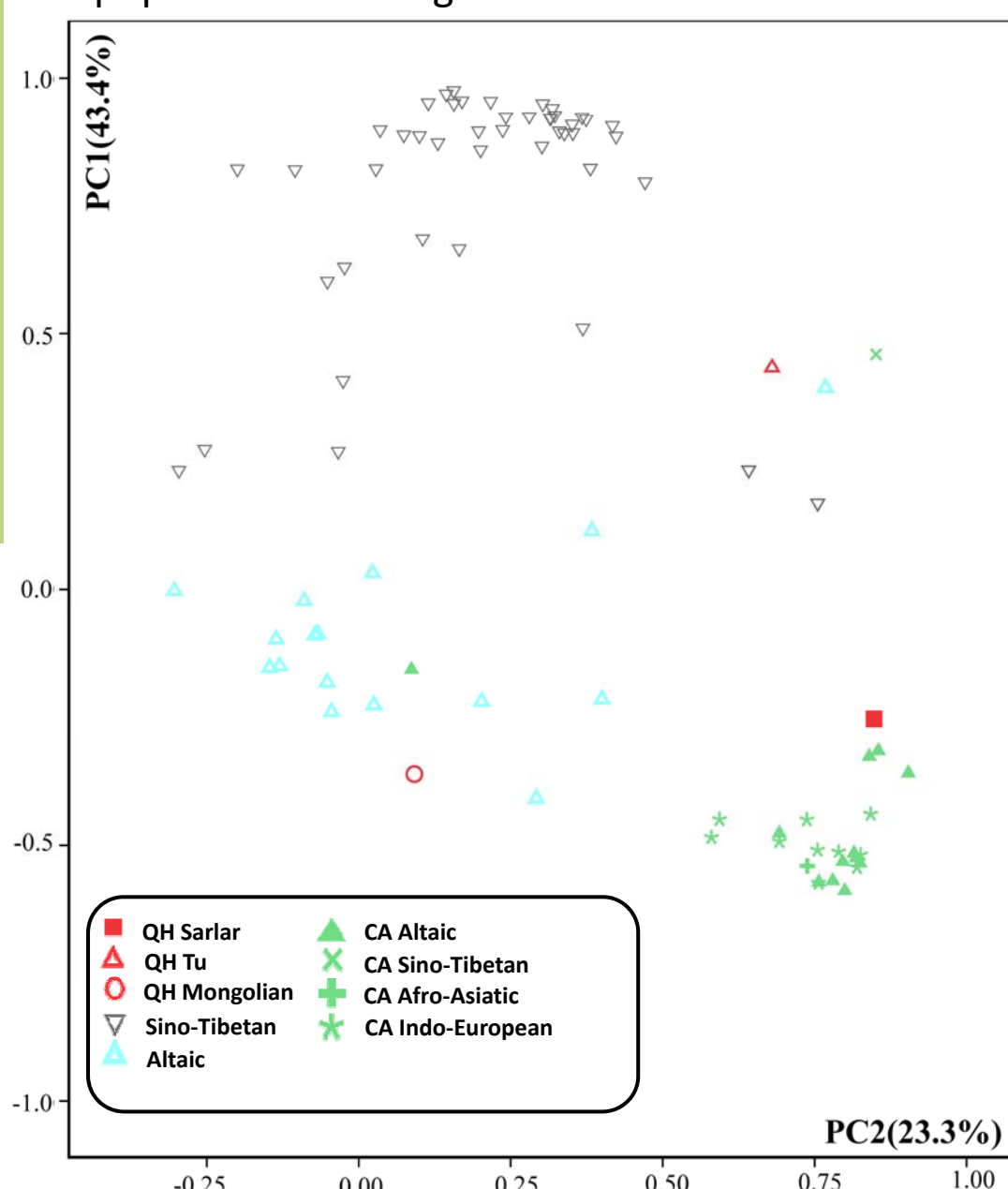
Salar is a small Western-Turkish-speaking population living mostly in Qinghai province of China. The most similar languages to Salar are all far in Turkmenistan. Historical records suggested that they may be descendants of the Turkic nomadic tribes in Central Asia. In this study, 141 Salar Y chromosomes were analyzed for 39 SNP and 14 STR markers to investigate the potential imprints of their western ancestors. The most frequent haplogroup (hg) in this population sample is Hg R, comprising 40% of all Y chromosomes. Most of these Hg R samples belong to R1a1 (M17), which distributes in a wide geographic region including South Asia, East Europe, Central Asia, and South Siberia. Other four Western Eurasian haplogroups (G-2%, H-5%, I-3%, J-3%) were also found in Salar Y chromosome gene pool. These paternal lineages of Salar are absent in their East Asian neighbors but frequent in Central Asia. Y-STR-based analyses also grouped Salar to Central Asians. On the other side, Salar also has low frequencies of the East Asian specific Hg D and Hg O, suggesting possible gene flow from their neighboring populations. This Y chromosome study demonstrated that Salar well keeps the Western Eurasian paternal lineages of their Central Asian ancestors although they may have migrated to Central China for about 800 years.



Salar, located in the center of China and surrounded by the East Asians, is most similar to the Central Asian populations in Y chromosomes, indicating their origin in the west.

Principal Component Analysis of Salar group.

Salar group clustered with the Central Asia groups, especially with the Central Asia Altaic populations. The red square is Salar ethnic group. The Central Asia populations are in green.



Networks of the major Y chromosome haplogroup R1a1(M17) of salar group compared with Central Asia, South Siberia, South Asia and East Asia populations.

The salar samples share many more haplotypes with the Central Asia populations than with others, indicating that most of the salar people with the R1a1 haplogroup are derived from the Central Asia.



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