

All Indians genetically related

Aryan-Dravidian divide a myth



The great Indian divide along north-south lines now stands blurred. A path-breaking study by Harvard and indigenous researchers on ancestral Indian populations says there is a genetic relationship between all Indians and more importantly, the hitherto believed "fact" that Aryans and Dravidians signify the ancestry of north and south Indians might after all, be a myth. "This paper rewrites history... there is no north-south divide," Lalji Singh, former director of the Centre for Cellular and Molecular Biology (CCMB) and a co-author of the study, said.

Senior CCMB scientist Kumarasamy Thangarajan said there was no truth to the Aryan-Dravidian theory as they came hundreds or thousands of years after the ancestral north and south Indians had settled in India. The study analysed 500,000 genetic markers across the genomes of 132 individuals from 25 diverse groups from 13 states. All the individuals were from six-language families and traditionally "upper" and "lower" castes and tribal groups. "The genetics proves that castes grew directly out of tribe-like organizations during the formation of the Indian society," the study said. Thangarajan noted that it was impossible to distinguish between castes and tribes since their genetics proved they were not systematically different.

The study was conducted by CCMB scientists in collaboration with researchers at Harvard Medical School, Harvard School of Public Health and the Broad Institute of Harvard and MIT. It reveals that the present-day Indian population is a mix of ancient

north and south bearing the genomic contributions from two distinct ancestral populations - the Ancestral North Indian (ANI) and the Ancestral South Indian (ASI).

“The initial settlement took place 65,000 years ago in the Andamans and in ancient south India around the same time, which led to population growth in this part,” said Thangarajan. He added, “At a later stage, 40,000 years ago, the ancient north Indians emerged which in turn led to rise in numbers here. But at some point of time, the ancient north and the ancient south mixed, giving birth to a different set of population. And that is the population which exists now and there is a genetic relationship between the population within India.”



The study also helps understand why the incidence of genetic diseases among Indians is different from the rest of the world. Singh said that 70% of Indians were burdened with genetic disorders and the study could help answer why certain conditions restricted themselves to one population. For instance, breast cancer among Parsi women, motor neuron diseases among residents of Tirupati and Chittoor, or sickle cell anaemia among certain tribes in central India and the North-East can now be understood better, said researchers.

The researchers, who are now keen on exploring whether Eurasians descended from ANI, find in their study that ANIs are related to western Eurasians, while the ASIs do not share any similarity with any other population across the world. However,

researchers said there was no scientific proof of whether Indians went to Europe first or the other way round.

Between 135,000 and 75,000 years ago, the East-African droughts shrunk the water volume of the lake Malawi by at least 95%, causing migration out of Africa. Which route did they take? Researchers say their study of the tribes of Andaman and Nicobar islands using complete mitochondrial DNA sequences and its comparison those of world populations has led to the theory of a "southern coastal route" of migration from East Africa through India. This finding is against the prevailing view of a northern route of migration via Middle East, Europe, south-east Asia, Australia and then to India. (TNN 25 September 2009).