

Birbal Sahni Institute of Palaeosciences

Monthly Summary of Research Activities

(May 2024)

1. Areas of Focus:

The institute carries out research on fundamental as well as applied aspects of Palaeosciences that includes Evolutionary history of biota, Paleoclimate, studies of past civilization, Human history and contemporary Climate Change issues, following an integrated and multi-disciplinary approach.

2. Important Highlights of Major Research Activity

a. Key Scientific Findings of the Month (May 2024)

The Ahom dynasty, also known as Tai-Ahom, which was believed to have migrated to India from Thailand in the 12th century (800 years ago), has long been a historical interest. They established a dynasty that ruled present-day Assam for nearly 600 years, from AD 1228 to AD 1826. Ahom kingdom in the Brahmaputra Valley (present-day Assam) that retained its independence for nearly 600 years despite encountering several Mughal expansions in Northeast India. Despite their bravery, literary evidence of the Ahom dynasty is very limited in the history text books. Scientists from the BSIP, Lucknow for the first time attempted a major genetic based study on the Ahom population of Assam to validate the historical narratives. We generated whole genome data of the Modern Ahom population residing in Assam and ancient DNA data from the skeletal remains of the royal Maidam (unique burial complex). Genetic analyses on the modern day Ahoms suggest a substantial admixture of the Ahom population with the local Tibeto-Burman groups. However, genetic data of the human skeletal remains excavated from the Royal Maidam are different compared to the modern day Ahoms. Our analysis linked that modern day Ahom individuals have more genetic closeness with the Kusunda (a language isolated from Nepal) and Khasi (an Austroasiatic population of Meghalaya) (Figure 1). Such unexpected presence of widespread population affinities suggests that modern Ahom mixed and assimilated a wide variety of Trans-Himalayan populations inhabiting this region after migrating from the Thailand but this is not the case with the ancient Royal samples who are comparatively closer to the present-day Thailand population. In summary, we observed a significant deviation of Ahom from their ancestral homeland (Thailand) and extensive admixture and assimilation with the local South Asian populations. (Kumar et al. 2024).

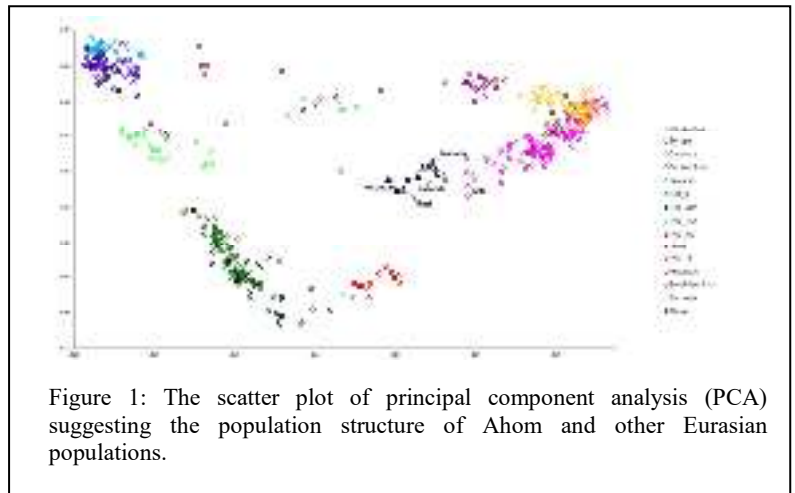


Figure 1: The scatter plot of principal component analysis (PCA) suggesting the population structure of Ahom and other Eurasian populations.

b. Earth Day Celebrations (22nd April 2024): Theme “Plant vs Plastics”

c. Swachhta Pakhwada (01st - 15th May 2024)

d. Scientific Outreach Program at BSIP (15 May 2024): Around 50 students from Prathmik Vidyalaya, Muslim Nagar, Bakshi ka Talab, Lucknow visited BSIP for Outreach and Awareness visit on importance of cleanliness and plastic free India to schools in Lucknow

e. Man Power Trained (Internship/Dissertation): around 7 trainees did their internship during this period

Fifteen (15) Research Papers were published in different high impact factor journals during May 2024

Photographs showing important highlights of major programs/research activities organized during May2024:

