

Sequence analyses of Malaysian Indigenous communities reveal historical admixture between Hoabinhian hunter-gatherers and Neolithic farmers

ABSTRACT

Southeast Asia comprises 11 countries that span mainland Asia across to numerous islands that stretch from the Andaman Sea to the South China Sea and Indian Ocean. This region harbors an impressive diversity of history, culture, religion and biology. Indigenous people of Malaysia display substantial phenotypic, linguistic, and anthropological diversity. Despite this remarkable diversity which has been documented for centuries, the genetic history and structure of indigenous Malaysians remain under-studied. To have a better understanding about the genetic history of these people, especially Malaysian Negritos, we sequenced whole genomes of 15 individuals belonging to five indigenous groups from Peninsular Malaysia and one from North Borneo to high coverage (30X). Our results demonstrate that indigenous populations of Malaysia are genetically close to East Asian populations. We show that present-day Malaysian Negritos can be modeled as an admixture of ancient Hoabinhian hunter-gatherers and Neolithic farmers. We observe gene flow from South Asian populations into the Malaysian indigenous groups, but not into Dusun of North Borneo. Our study proposes that Malaysian indigenous people originated from at least three distinct ancestral populations related to the Hoabinhian hunter-gatherers, Neolithic farmers and Austronesian speakers.