

Co-Inheritance Of Y-Chromosome Haplogroups And Lineages In 'Parayi Petta Panthirukulam': An Evaluation Of Human Motifs In A Popular Folktale In Kerala, India.

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Abstract

'Parayi petta panthirukulam' is a popular folktale in Kerala, India. People with the family names and caste affiliations accounted in the folktale, who are believed to be the descendants of Vararuchi, live in Shoranur, Pattambi and Thrithala of Palakkad district of Kerala state. Despite the huge difference in their caste and social ranks, these families are traditionally bound together by rituals and religious customs. Six male individuals each were identified from six lineages of Vararuchi and their blood samples were collected from the selected individuals on FTA cards (Whatman) after obtaining their informed consent. The blood stain on FTA cards was used for PCR reactions following manufacture's protocol. Haplotypes were determined at 17 Y-chromosome loci using a AMPFISTR Yfiler Kit (Applied Biosystems) following the instructions of the manufacturer. Haplogroup affinity of each individual was predicted based on the haplotype data using the online software WhitAtthey's Haplogroup Predictor . Based on the results we concluded that true descendants of Vararuchi's sons may have been either extinct through time due to different genetical or social reasons or severely declined in relation to the descendants of the own men of a family lineage.

INTRODUCTION

'Parayi petta panthirukulam' is a popular folktale in Kerala. According to this folktale, Vararuchi, one of the nine wise men of Emperor Chandragupta Vikramaditya's (375 – 415 AD) court married a girl belonging to Paraya, a lower caste. The couple set out a long pilgrimage. On the way, they were blessed with 12 children. Upon each delivery, Vararuchi enquired whether the baby had a mouth. If the wife said "yes", he would say, "God will appease the one with mouth" and would ask the wife to abandon the baby then and there and proceed. Eleven children were deserted, since they had a mouth. However, these children were adopted and brought up by 11 different families, varying from the aristocratic upper caste to very low caste. Following are the name of the families who are believed to have adopted the children, with their caste affiliation in parenthesis: Mezathol Agnihothri (Brahmin), Pakkanar (Parayan, a lower caste), Rajakan (Dhobi), Naranathu Bhuranthan (Elayathu, a lower class Brahmin), Karakkal Matha (high caste Nair, only girl born to the couple), Akavoor Chathan (Vaishya, farmer), Vaduthala Nair (Nair Soldier), Vallon (Pulaya, dalits, lower caste), Uppukottan (Muslim), Pananar (Panan, country musician) and Perumthachan (Carpenter). However, the 12th child was

born without a mouth. Vararuchi consecrated this child on a hill. This hill, which is near Kadampazhipuram in Palakkad district of Kerala, is now known as "Vaayillaakkunnilappan" (Hill Lord without mouth).

People with the family names and caste affiliations accounted in the folktale, who are believed to be the descendants of Vararuchi, live in Shoranur, Pattambi and Thrithala of Palakkad district of Kerala state. Despite the huge difference in their caste and social ranks, these families are traditionally bound together by rituals and religious customs. For example, an elder member of Pakkanar family should perform certain ceremonies connected with the death and marriage in Mezathol Agnihothri family. Similarly, participation from all of the 11 lineages is essential to begin 'Pakkanar thottam', a ritual celebrated by Pakkanar family once in every 12 years. An eldest of Mezathol Agnihothri family will be the high priest to perform the most sacred observances of 'Pakkanar thottam'.

Folktales are universal; every culture in the world has folktales (Dundes, 1965). What purpose a myth or a folktale serves or served in a culture, or how a folktale originates/d are all debatable, because such issues have not been or

cannot be empirically verified. However, the involvement of human motifs in ‘parayi petta panthirukulam’ prompted us to subject this folktale into a scientific sorting. Microsatellite assisted Y-chromosome haplotyping is a very powerful tool to verify human lineages (Karafet et al., 2008; Rozhanskii & Klyosov, 2011; Zh, 2011; Martinez-Gonzalez et al., 2012). Of the 11 families (lineages), 10 lineages, believed to be founded by Vararuchi’s sons, are traditionally patrilineal. The men belonging to these 10 lineages are therefore expected to share a common Y-chromosome haplogroup, if they are the descendants of Vararuchi.

MATERIALS AND METHODS

Six male individuals each were identified from six lineages including Mezhatol Agnihothri, Perunthachan, Akavoor Chathan, Vallon, Naranathu Bhranthan and Pakkanar. Blood samples were collected from the selected individuals on FTA cards (Whatman) after obtaining their informed consent. The blood stain on FTA cards was used for PCR reactions following manufacture’s protocol. Haplotypes were determined at 17 Y-chromosome loci (DYS456, DYS389I, DYS390, DYS389II, DYS458, DYS19, DYS385a, DYS385b, DYS393, DYS391, DYS439, DYS635, DYS392, GATA_H4, DYS437, DYS438, DYS448) using a AMPFISTR Yfiler Kit (Applied Biosystems) following the instructions of the manufacturer. Haplogroup affinity of each individual was predicted based on the haplotype data using the online software Whit Athey’s Haplogroup Predictor (<http://www.hprg.com/hapest5/hapest5b/hapest5.htm>).

RESULTS AND DISCUSSION

Haplogroup affinity of each lineage is given in Table 1. Altogether five haplogroups were predicted from the six lineages. Individuals from the same lineage yielded identical haplogroups. Haplogroups E, H, J, L and R are among the most frequent haplogroups in India (Thanseem et al., 2006; Sharma et al., 2009). The African haplogroup E has been reported from Indian sub-continent, but with a very low frequency (Zerjal et al., 2007). Haplogroups R are the most frequent among Indian upper castes including Brahmins while haplogroups H, which are almost entirely restricted to the Indian subcontinent, are most the frequent Y chromosome lineage in lower castes and tribal populations (Cordaux et al., 2004; Sharma et al., 2009). The J and L haplogroups are distributed among different castes of varying social ranks in India, without any specific affinity to a particular caste (Zerjal et al., 2007), although some authors report relatively higher frequency in upper castes (Sharma et

al., 2009).

Figure 1

Table 1. Y-chromosomal haplogroup of six families believed to be the descendants of Vararuchi. Caste is given in parenthesis

Family name	Haplogroup (n=6)
Mezhathol Agnihothri (Brahmin)	L
Perunthachan (Carpenter)	R1a
Naranathu Bhranthan (Elayathu, lower class Brahmin)	R1a
Akavoor Chathan (Vaishya, farmer)	E1b1b
Vallon (Pulaya, Dalit)	J2b
Pakkanar (Parayan, a lower caste)	H

Thus, our study yielded a cross section of Indian Y-chromosome haplotypes, like other studies incorporating different castes and tribes. The results do not imply a co-ancestry for different lineages of ‘parayi petta panthirukulam’.

Several genetical and social factors affect the co-inheritance between a patrilineal family name and a Y-chromosome haplotype (King & Jobling, 2009). They found 38% deviations from the co-inheritance between Y-chromosome haplotypes and 40 British surnames of approximately 700 years old. Considering that the survival of a lineage from a single founder through 20 generations (approximately 700 years) is only 9.6%, the chance of survival of Vararuchi’s lineage, which is believed to have originated 1600 years ago (45 generations) is meagre. On the other hand, it is also possible that the haplogroups of different families, who adopted Vararuchi’s children, were different and had multiple own men at the time of adoption. The true descendants of Vararuchi’s sons may have been either extinct through time due to different genetical or social reasons (Jobling & Tyler-Smith, 2003) or severely declined in relation to the descendants of the own men of a family lineage.

Alternatively, the Vararuchi episode may be a pure myth. Most of the myths are religiously coded, linked to a divine character, and are orally transmitted down generations with the intention of teaching social values in a culture. The distinctive common ancestry of a lineage could be a socially constructed myth, transmitted down generations, in order to strengthen unity among descendants (Chaix et al, 2004). The time of origin of caste system in India is debatable.

However, Chinese pilgrims who visited India, Fa Hien (400 AD) and Hsuan Tsang (600 AD), have described deep rooted caste system in India (Keay, 2000). Attributing a common ancestry to a society, which is fragmented on caste, could be an attempt of our wise forefathers to foster unity among different castes and to protect the lower castes from the atrocities of casteism and untouchability.

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