

A Study of Taste Sensitivity to P.T.C. among Zeliangrong: A Naga Tribe of Manipur

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KEYWORDS Zeliangrong Tribe. Manipur. P.T.C. Tasting Ability. Polymorphism

ABSTRACT To study the taste sensitivity of the Zeliangrong tribe of Manipur 947 individuals from different hills and valley districts of Manipur including 476 males and 471 females, were tested for PTC testing ability. The percentage of tasters and non-tasters were 84.47 and 15.52 respectively with frequency of *T* and *t* allele being 0.6060 and 0.3939, respectively. The results have been compared with other studies of the north-eastern populations of India.

INTRODUCTION

Understanding the genetic structure of any Mendelian human population group is one of the prime concerns of the physical anthropologists, to infer intra and inter genetic variations through certain selected genetic traits. Those traits which are less subjected by the environmental influence are considered as the obvious choice for such population genetic study. Out of such traits, the ability to taste phenylthiocarbamide (PTC) is considered one of important biochemical tool in the study of human diversity which is easy in detect and informative at the same time. In the present study, the ability to taste PTC was screened among the Zeliangrong tribe of Manipur, where very less genetic study is available. Zeliangrong is one the indigenous tribal population of Manipur state distributed in both hilly and valley districts. Intra variations in terms of culture and tradition, food habits, physical activities, religion practices, environment etc. are clearly observed within the same community itself

MATERIAL AND METHOD

The data on PTC sensitivity were collected in May 2004 from biologically unrelated 947 Zeliangrong individuals, comprising of 476 males and 471 females, from both hilly (Tamenglong and Senapati) and valley district (Imphal West) of Manipur. The sorting with serial dilutions by Harris and Kalmus (1949) was used for tasting ability with minor modifications because of its superiority in discerning the threshold of the individual with near perfection. The purpose of the study and techniques to be used were explained to each subject prior sample collection and the data were collected only after the consent of the subject.

RESULTS AND DISCUSSION

Table 1 reveals the allele *t* for males and females found out to be 0.3779 and 0.4095 respectively. Table 2 shows that the D/S index of Penrose was less than 3 in males which gives no effect of bimodality. However, it was found to be

Table 1: Tasters and non-tasters among Zeliangrong

Sex	No. Tested	Taster		Non- taster		Allele frequency	
		No.	%	No.	%	<i>T</i>	<i>t</i>
Males	476	408	85.71	68	14.29	0.6220	0.3779
Females	471	392	52.23	79	16.77	0.4095	0.4095
Total	947	800	84.47	147	15.52	0.6060	0.3939

more than 3 in females and in total sample. This indicates that the distribution of taster and non-taster in this case is statistically bimodal.

Table 2: Mean, standard deviation, D/S index and percentage of tasters and non-taster among Zeliangrong

Sex	Tasters		Non-tasters		D/S Index
	M_1	S_1	M_2	S_2	
Males	6.9166	2.2994	1.000	0.7669	2.0606
Females	7.2219	1.9161	1.8607	1.3846	5.5034
Total	6.8650	2.0219	2.5570	1.5089	5.3373

Detailed genetical findings on PTC sensitivity among various castes and tribal groups of Indian region have been reported by Bhasin et

al. (1994) and reported that the *t* allele frequency is highly variable throughout the Himalayan region. In the present study, *t* allele frequency among Zeliangrong is 39.39 % which falls nearer to 48.19 % Lotha Naga (Murry 2001). The present study reveals that frequency of *t* allele among the studied population is within the reported range of other Naga tribal populations.

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