

PTC Taste Sensitivity and Colour Blindness in Banai of Goro Hills, Meghalaya

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ABSTRACT Data are presented on the PTC taste sensitivity and colour blindness in Banai a small endogamous population of Meghalaya. The results indicate significant variation in the distribution of these genetic markers when compared with the neighbouring population groups.

INTRODUCTION

The Banai, a numerically small endogamous group reside in South Goro Hills, Meghalaya. The origin as well as migrational history of the Banai is still shrouded in obscurity due to absence of any historical records. They believe that their ancestors were the original inhabitants of Hajo's small township in Kamrup District of Assam. However, they were forced to leave their ancestral home and migrated to the plains on southern border of South Goro Hills in the mid nineteenth century. At present majority of the Banai are confined to villages namely Jatrakona and Batabari, through some of them are scattered in William Nagar, Harigaon and Konapara of the West Goro Hills. They speak a language which is a mixture of both Assamese and Bengali. The Banai are divided into a number of matrilineal exogamous clans known as 'Nikini'. They are mostly agriculturist.

In the present note an attempt has been made to describe two genetic makers namely PTC taste sensitivity and colour blindness in the Banai.

MATERIAL AND METHODS

A sample of 167 unrelated Banai individuals (79 males and 88 females), living in South Goro Hills of Meghalaya, were examined for PTC taste sensitivity during April-May 1996. In course of

the investigation, 82 unrelated Banai males were also tested for colour vision defects using Ishihara's (1980). Isochromatic plates in Normal dry light. The threshold status for PTC was determined by the serial dilution method of Harris and Kalmus (1949).

RESULTS AND DISCUSSION

Table 1 shows that 65.9% Banai were PTC tasters and 34.1% non-tasters. The corresponding alleles frequencies for *T* and *t* alleles were 0.4158 and 0.5842, respectively.

Among the Banai 8.54% of all males were found colour blind, the frequencies of protan and deutan were 4.88% and 3.66% respectively.

Table 1: Genetic markers among Banai of Meghalaya

Genetic markers	No.	Per cent
1. PTC Taste Sensitivity		
Tasters	110	65.9
Non tasters	57	34.1
Allele frequencies		
$T = 0.4158 \pm 0.0314$		
$t = 0.5842 \pm 0.0314$		
2. Colour Blindness		
Normal	75	91.46
Protan	4	4.88
Deutan	3	3.66

It is observed that when compared with other tribal populations of Meghalaya (Khyngrem Khasi, Panar or Jaintia Bhoi, War, Khyngriam reported by Jaswal, 1981, Mukherjee, 1963) the Banai show the highest frequency for non-tasters and colour blindness.

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REFERENCES

- Barua, S.: Red green colour blindness and earlobe attachment among the Hajongs of Meghalaya. *Hum. Sci.*, **38** : 118-123 (1985).
- Das, B. M. : Taste sensitivity to phenylthiourea among the Khasi of North East India. pp 193-203, *Proc. Int. Symp. Hum. Genet.* M. R. Chakravarti (Ed), Andhra University, Waltair (1976).
- Harris, H. and Kalmus, H. : The measurement of taste sensitivity to PTC. *Ann. Eugen.*, **15** : 21-31 (1949).
- Ishihara, S. : *Tests for Colour Blindness*. 38 plate Edition. Tokyo, Kanehara Shuppan (1980).
- Jaswal, I.J.S. : Taste sensitivity to phenylthiourea among Khyntiam Khasi of Meghalaya. *Indian Anthropologist*, **11** : 125-130 (1981).
- Mukherjee, D. P. Variation in defective colour vision among some tribes of Assam. *Bull. Anthropol. Surv. India*, **12** : 39-42 (1963).