

Relative Lengths of the First and Second Toes Among the Mishing and Boro Kachari of Assam

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ABSTRACT Frequency distribution of the relative lengths of first and second toes as well as homo and hetero types of foot among the Mishing and the Boro Kachari tribes of Brahmaputra valley, Assam is reported.

INTRODUCTION

In most of the people, the first toe is longer than the second. Occasionally, in some people the second toe is the longest. In few cases, the first and second toes are equal in length. The morphological characters of foot in various populations of north east India has been studied by Das and Uzir (1959, 1960, 1961), Das and Das (1967, 1968), Das and Devi (1967), Das (1968), Devi and Das (1969), Das (1970), Das (1974), Nath and Das (1985) and Dutta and Bhowmik (1991). However, information regarding the frequency of such traits from tribal populations of Assam is scanty. The present note is to extend and add some fresh materials on relative lengths of toes, as well as homo and hetero types of foot among the Mishing and Boro Kachari tribes of Assam and also to explore the utility of the traits in studying variation in human groups.

The Boro Kachari are the largest of the plains tribal populations, while the Mishing, which is synonymous with Miri is another populous tribe in the plains of Brahmaputra valley, Assam.

SUBJECTS AND METHODS

The material for the present study were collected from Kachutoli, Mohori Camp Chapori, Ukhamati and Bijoypur villages of Lakhimpur district, Assam. The sample consists of 158 bilateral tracing of feet, comprising 86 Mish-

ing (male 60, female 26) and 72 (Boro Kachari (male 34, female 38) individuals. Foot contour tracings were drawn and analysed after the method suggested by Sarkar (1958). Metric distances of the tips of the first and second toes (acropodion) of each foot from pterion were measured. The qualitative categories of digital formulae have been derived from the metric data. The threefold classification of foot on the basis of relative lengths of first and second toes that established by Minami (1952) was followed.

RESULTS AND DISCUSSION

It has been noticed (Table 1) that both the Mishing and Boro Kachari population characteristically show a prevalence of type T (1>2) as compared to other two types. The females show their dominance in type T and type O (1=2) over the males. In both the sexes of each populations, sinistral dominance of type T and dextral dominance of type F (2>1) has been noted. Statistical non-significant bilateral differences at d.f. 2 are observed among Mishing (chi-square value for 3.326, female = 2.354) and Boro Kachari (Chi-square value for male = 0, female = 1.814) Bisexual variation and (Chi-square value for Mishing = 0.763, Boro Kachari = 4.601) also statistically non-significant among them.

Available data on relative lengths of first and second toes pattern among the Mishing and the Boro Kachari along with some other population groups from north east India are summarized in table 2. It is apparent from the table that the people of north east India are overwhelmingly characterised by type T feet and the order of sequence of the types of foot is T>F>O in almost all the populations under consideration. Exception to it is offered by the

Table 1: Percentage frequencies of relative lengths of first and second toes among the Mishing and Boro Kachari of Assam

Population	Sex	n	Side	T	F	O
Mishing	Male	60	Right	81.67	13.33	5.00
			Left	85.00	10.00	5.00
			R + L	83.33	11.67	5.00
	Female	26	Right	88.46	3.85	7.69
			Left	92.31	7.69	0.00
			R + L	90.38	5.77	3.85
	M + F	86	Right	83.72	10.47	5.81
			Left	87.21	9.30	3.49
			R + L	85.47	9.88	4.65
Boro Kachari	Male	34	Right	88.24	5.88	5.88
			Left	88.24	5.88	5.88
			R + L	88.24	5.88	5.88
	Female	38	Right	89.47	0	10.53
			Left	97.37	0	2.63
			R + L	93.42	0	6.58
	M + F	72	Right	88.89	2.78	8.33
			Left	93.06	2.78	4.17
			R + L	90.97	2.78	6.25

Mikir (Karbi) male and Khasi female (Das and Uzir, 1961), who present the order T>O>F. Chi-square values reveal that there are considerable statistical differences among the populations under consideration. Statistically the Mishing and the Boro Kachari population sex-wise stand significantly apart from the Turung and the Rabha sample. Complete absence of type F in Boro Kachari females is a marked feature. For such reason, they are quite distinct than males when compared with the rest of the populations.

The frequency of homo and hetero types of feet reveals that homo type TT is more frequent (Mishing male = 73.33%, female = 88.46%; Boro Kachari male = 83.35%, female = 92.11%), which is followed by type FF (in Mishing male = 6.67%, Boro Kachari male = 2.92% only) and type OO (in Boro Kachari male = 2.94%, female = 2.63%) in succession. The incidence of hetero types of feet among the Nishi (Male = 34.0%, Female = 42.0%) studied

Table 2: Percentage frequencies of relative lengths of first and second toes in some Mongoloid populations of North East India

Population	n	T	F	O	Chi-square values		Source
					compared with		
					Mishing	Boro Kachari	
Male							
Mishing	60	83.33	11.67	5.00	—	—	Present Study
Boro Kachari	34	88.24	5.88	5.88	1.70	—	Present Study
Ahom	50	88.00	8.00	4.00	0.63	0.55	Nath, 1976*
Khamiyang	46	79.30	15.15	5.35	0.62	3.41	Dutta, 1974*
Turung	52	62.50	26.90	10.50	6.32 ¹	14.53 ¹	Dutta, 1974*
Kachari	50	82.00	15.00	3.00	1.01	3.97	Nath, 1976*
Mikir	120	80.41	8.75	10.83	3.85	2.26	Das & Das, 1968
Rabha	300	69.60	16.50	13.80	10.40 ¹	10.38 ¹	Das & Uzir, 1959
Khasi	56	87.50	7.10	5.40	1.38	0.12	Das & Uzir, 1960
Khasi	134	88.88	7.45	3.73	2.32	0.79	Das, 1970
Nishi	50	72.00	20.00	8.00	4.13	7.32	Dutta & Bhowmick, 1991
Female							
Mishing	26	88.46	7.69	3.85	—	—	Present Study
Boro Kachari	38	93.42	—	6.58	6.32 ¹	—	Present Study
Ahom	50	76.00	17.00	7.00	3.38	14.51 ¹	Nath, 1976*
Khamiyang	49	76.50	15.30	8.10	3.11	13.23 ¹	Dutta, 1974*
Turung	45	68.85	17.75	13.13	7.05 ¹	18.45 ¹	Dutta, 1974*
Kachari	50	87.00	7.00	6.00	0.34	6.31 ¹	Nath, 1976*
Mikir	100	82.50	13.50	3.96	1.31	11.80 ¹	Das & Das, 1968
Rabha	300	72.66	18.33	9.00	6.19 ¹	18.26 ¹	Das & Uzir, 1956
Khasi	62	76.60	8.06	15.31	4.69	10.74 ¹	Das & Uzir, 1956
Khasi	100	79.50	13.00	7.50	2.20	11.23 ¹	Das, 1970
Nishi	50	73.00	17.00	10.00	4.83	15.71 ¹	Dutta & Bhowmick, 1991

* Indicate unpublished data

1. Statistically significant at 5.0 level

by Bhowmik (1990) and the Turung (Male = 32.66%, Female = 26.65%) studied by Dutta (1974) are much higher than the corresponding figures among other groups studied in north east India. The frequency of hetero type FO (ranges between 1.61% to 7.69%) and type OF (ranges between 1.0% to 4.0%) is less in occurrence in most of the population groups of the region. The Mishng and the Boro Kachari tribe however shows close similarity to majority of the population groups in this regard.

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