J. Hum. Ecol., 8(3) : 215-216 (1997)
DOI: 10.31901/24566608.1997/08.03.14

Digital Patterns of The Sonowals of Assam

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KEY WORDS Digital Patterns. Indices. Finger Ridge Counts. Tribals. Assam.

ABSTRACT Finger dermatoglyphic features of Sonowals living in the Dibrugarh district of Assam state are reported. The sample shows similarities with population having Caucasoid affinities, despite the fact that Sonowal is a tribe having strong Mongoloid affinities.

The Sonowal, an endogamous branch of Kachari tribe, is a populous (1,98,619 in 1971) plain Scheduled Tribe population of Brahmaputra valley, Assam. Though widely scattered over upper Assam, at present the bulk of the tribe is concentrated in the districts of Dibrugarh and Tinsukia. The present note deals with the finger dermatoglyphics of the Sonowal of Dibrugarh, Assam.

MATERIAL AND METHODS

Finger prints of 123 Sonowals (58 males and 65 females) collected from Ouphulia (Moran) and Mancotta (Dibrugarh) villages of Dibrugarh district, Assam formed the study sample. The methods of analysis were those of Cummins and Midlo (1961). Finger ridge counts were analysed following Holt (1949). Monomorphic hands have been calculated following Volotzkoy (1936).

RESULTS AND DISCUSSION

The digital characteristics were studied through analysis of the pattern types and determination of digital indices (Table 1). The Sonowals are characterised by high percentage of loops balanced by lower percentage of whorls, especially among females. In Sonowals, whorls and loops occur in the ratio of 45:55 in males and 37:63 in females. It has been reported that among the Assamese caste populations, loops are more frequent (40:60) than whorls (Sengupta, 1996).

The frequency of whorls shows dextral dominance in male Sonowals and sinistral dominance in female Sonowals. As a result, the whorl-loop index of the right hand in male is comparatively higher, while it is just reverse in females. The characteristic comparative frequent occurrence of arches in left hand is also reflected in the Dankmeijer's index in the left hand. Due to higher occurrence of arches, the male value of arch-whorl index is comparatively higher than females. Similarly, because of higher incidence of loops in females, the pattern intensity index is relatively lower in them than their male counterparts.

The male Sonowals show slightly higher mean value of total finger ridge counts than

Table 1 : Digital patterns in Sonowals of Assam:

Sex	*Hand*	*Digital Patterns*					*Digital Indices*		
		Whorls	*Loops*			*Arches*	*Dankmeijer's Index*	*Furuhata's Index*	*Pattern Intensity Index*
			Ulnar	*Radial*	*Total*				
Male	Right (R)	22.41	25.00	1.03	26.03	1.55	6.92	86.09	7.08
(n=58)	Left (L)	20.52	25.86	1.38	27.24	2.24	10.92	75.31	6.82
	(R + L)	42.93	50.86	2.41	53.27	3.79	8.83	80.58	13.91
Female	Right (R)	16.77	31.54	0.31	31.85	1.38	8.25	52.65	6.53
(n=65)	Left (L)	19.54	28.00	0.77	28.77	1.69	8.66	67.91	6.78
	(R + L)	36.31	59.54	1.08	60.62	3.08	8.47	59.89	13.32

Table 2 :Mean values of Total Finger Ridge Counts in Sonowals of Assam

Sex	*Hand*	*Mean* ± *S.E*
Male	Right	63.64 ± 3.19
(n=35)	Left	61.79 ± 3.82
	Right + Left	124.93 ± 6.74
Female	Right	58.93 ± 2.77
(n=35)	Left	59.21 ± 3.21
	Right + Left	117.36 ± 5.89

Table 3: Percentage frequencies of monomorphic hands in Sonowals of Assam

Sex	*Hand*	*Monomorphic*	
		Whorl	*Loop*
Male	Right	18.96	17.24
(n=58)	Left	15.52	18.96
	Right + Left	13.79	13.79
Female	Right	10.76	20.00
(n=65)	Left	10.76	16.92
	Right + Left	9.23	13.85

their female counterparts (Table 2), and this difference is found to be non-significant ($t=0.85$, df - ∞, $0.50>p>0.40$). Test of significance also fails to record any bimanual difference as far as digital patterns and finger ridge counts are concerned, but exhibit significant bisexual difference ($\chi^2 = 6.75$, df = 2, $0.05>p>0.02$) for digital pattern distribution.

Monomorphic arch pattern in the present sample (Table 3) is conspicuous by their absence and loops occur more frequently than whorls in forming monomorphism in the female Sonowals. It is also apparent that right hand is more monomorphic than left hand.

The present Sonowal sample distinguishes dermatoglyphically by their Indid (caste) peculiarities such as raised loop incidence as well as comparatively lower number of triradii which sets them apart from other Mongoloid populations inhabiting Brahmaputra valley of Assam.

ACKNOWLEDGEMENT

The authors are thankful to the Indian Council of Social Science Research, New Delhi for financial assistance.

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