

# A Study of the Distribution of Mid-Digital Hair among Newars of Nepal\*

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## Introduction

Danforth (1921) was a pioneer in calling attention to this trait, demonstrating that complete absence of hair on the middle segment of the fingers is a simple recessive trait in man, and there can be no doubt that the condition is inherited. An exception to this rule was, however, found by Matsunaga (1956), and Beckman and Böök (1959). Thus, the mode of inheritance of this trait may be regarded as still somewhat obscure. Bernstein and Burks (1942) and Bernstein (1949) extended Danforth's study, but concluded that more than a simple mendelian pair of genes were involved. They offered the hypothesis of five multiple alleles  $D_0, D_1, D_2, D_3, D_4$  (listed in order of increasing dominance), where the subscripts correspond to the number of fingers having mid-digital hair. Individuals of the genotype  $D_0, D_0$  would have no mid-digital hair.

This genetic trait has recently aroused much interest in view of its value in population studies. It has been shown by many investigators (Boyd and Boyd, 1937 and 1941a; Sewall, 1939; Bernstein and Böök, 1942; Bernstein, 1949; Boyd, 1950; Garn, 1951; Saldanha and Guinsburg, 1961; Dutta, 1964) that there exist striking variations with regard to the middle-phalangeal pilosity among different ethnic groups of mankind.

The trait had also been used in linkage studies with other common genetic traits (Boyd and Boyd, 1941b; Klopfer, 1946; Saldhana, 1962), but no position correlation could be established.

## Material and method

A genetic study was conducted by the Author on the Newars of Nepal Valley. The Author visited Nepal, in December 1964, and stayed there for seven months up to June 1965. The data were collected in Khatmandu, Patan and Bhadgaon.

Newars is one of the most ancient ethnic groups of Nepal Valley. Their principal settlement areas are Khatmandu, Patan, Bhadgaon, but they are dispersed also in

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other regions of the country. The Newars were the ruling group in Nepal, until the Gurkha conquest, in 1768.

The Newars belong either to the group called Shiva Margi (Hindu Section) or Budha Margi (Buddhist Section), each of which consists of several sections arranged in hierarchical order. Buddhiot and Hindu Newars live side by side in the crowded towns of Khatmandu, Patan and Bhadgaon, and also in several other localities which, though smaller in size, yet retain the urban character typical of Newar settlement.

The Newars have almond-shaped eyes, are small in build, their features are well cut, their complexion slightly yellowish, the nose small.

Sylvain Levy (1905) puts forward the hypothesis that Newars had migrated to Nepal from regions North of Himalayas, a view contradicting an indigenous belief that Newars have moved to the Himalayas from an earlier homeland in Southern India. But there is no concrete evidence to support these theories.

Von Furer-Haimendorf (1956) states that "the racial type represented among the Newars range from a Mongoloid type to one indistinguishable from the Mediterranean type prevalent among North Indian populations. The diversity of physical features tallies with the tradition that, at various periods in the history of Nepal Valley, immigrants from India were welcomed at the courts of the Newar Kings and subsequently merged with the local population".

To Regmi (1960), Newar meant anyone who lived in the valley, irrespective of his racial origin and features. It is true that in the most ancient days the word Newar conveyed the sense of an ethnic group, but afterwards this group was subject to multiple racial adjustments having adopted different types of emigrants, Australoids, Dravidians, Mongols and Aryans.

Toni Hagen (1960) classed this group as ancient Nepalese (Palaeo-Mongolian) race.

The two groups of Shiva Margi and Buddha Margi are further divided into many castes; these so called 'Castes' are nothing but occupational and non-endogamous segments of larger caste-groups. Though the Buddhist religion does not give support to the caste structure, yet the different castes are present. The caste structure of Newar is very complex and it is beyond the scope of this paper to enumerate all the relevant facts.

In this paper, the term group has been referred to caste, since caste would have a different connotation. Each main group is further divided into a large number of sub-groups, the main group is endogamous, but the sub-groups intramarry and also intermarry with other sub-groups. The total sample was divided according to their mating patterns, which gives seventeen endogamous groups.

The groups in the hierarchical order are as follows:

*Group 1 consists of the following sub-groups:*

(i) Shrestha, (ii) Karmacharya, (iii) Malla, (iv) Pradhan, (v) Pradhananga, (vi) Amatya, (vii) Kayastha, (viii) Raj Bhandari, (ix) Vaidya and (x) Joshi.

Group 2 consists of the following sub-groups:

- (i) Bajracharya and (ii) Shakya.

Group 3 consists of the following sub-groups:

- (i) Kansakar, (ii) Tuladhar, (iii) Tamrakar, (iv) Sikarmi, (v) Shilpkar, (vi) Staphit, (vii) Karmikar, (viii) Rajkarmikar and (ix) Udass.

- Group 4 is of Jyapu.                      Group 5 is of Manandher.  
 Group 6 is of Chitrakar.              Group 7 is of Ranjitkar.  
 Group 8 is of Tandukar.              Group 1 is of Nabit.  
 Group 10 is of Nikarmi.              Group 11 is of Mali.  
 Group 12 is of Dali.                    Group 13 is of Byanjankar.  
 Group 14 is of Kasai.                  Group 15 is of Kusley.  
 Group 16 is of Diwakar.              Group 17 is of Poude.

The Groups 1, 2 and 3 can marry within the sub-groups, avoiding seven generations on the fathers side. Whereas in the rest of the groups the avoidance is practiced only up to three or four generations.

The total strength of the sample is 1176, out of which three subjects have been rejected. Out of 1173 individuals there are 553 males and 620 females.

The data collected from different places are as follows:

Place	♂	♀	Total
(I) Kathmandu	272	125	397
(II) Patan	123	390	513
(III) Bhadgaon	158	105	263
Total	553	620	1173

Out of these individuals, observations as to the occurrence of middle phalangeal hair were performed on 529 males and 552 females, the total sample strength being 1081 individuals.

### Results

Tab. 1 shows the frequency of individuals with and without middle phalangeal hair in different groups of Newars of Nepal Valley, except Group 16, where no sample was observed for the occurrence of mid-phalangeal hair. The data for Groups 1, 2 and 4 are maximum, as compared to the other groups, therefore these groups

have been analysed in detail. Mean ages, with their standard errors, for these groups are the following:

23.91 ± 0.58, S.D ± S.E 9.84 ± 0.41; 20.63 ± 0.82, S.D ± S.E 7.02 ± 0.58; and 28.00 ± 1.04, S.D ± S.E 11.07 ± 0.75 in males, and 14.79 ± 0.37, S.D ± S.E 7.17 ± 0.26; 14.73 ± 0.81, S.D ± S.E 7.11 ± 0.57 and 23.12 ± 3.77, S.D ± S.E 15.57 ± 2.84 in females, respectively.

In Tabs. 2, 3 and 4, the frequency of individuals with middle phalangeal hair in different places (i. e., Kathmandu, Patan and Bhadgaon) has been listed except for

**Tab. 1. Frequency of individuals with and without middle phalangeal hair in different groups of Newars of Nepal Valley**

Group N.	N. examined			Presence of hair		N. hair		%	
	♂	♀	♂♀	♂	♀	♂♀	♂	♀	♂♀
1	289	381	670	26.99	23.36	24.93	73.01	76.64	75.07
2	73	78	151	27.40	25.64	26.49	72.60	74.36	73.51
3	8	32	40	12.50	21.87	20.00	87.50	78.13	80.00
4	114	17	131	19.30	23.53	20.16	80.70	76.47	79.84
5	15	9	24	6.67	22.22	2.50	93.33	77.78	87.50
6	9	13	22	22.22	23.08	22.73	77.78	76.92	77.27
7	5	2	7	40.00	50.00	42.86	60.00	50.00	57.14
8	0	2	2	0.00	0.00	0.00	0.00	100.00	100.00
9	1	4	5	0.00	0.00	0.00	100.00	100.00	100.00
10	3	2	5	0.00	50.00	20.00	100.00	50.00	80.00
11	4	1	5	50.00	100.00	60.00	50.00	0.00	40.00
12	0	2	2	0.00	0.00	0.00	0.00	100.00	100.00
13	1	0	1	0.00	0.00	0.00	100.00	0.00	100.00
14	0	3	3	0.00	33.33	33.33	0.00	66.67	66.67
15	0	2	2	0.00	0.00	0.00	0.00	100.00	100.00
16	—	—	—	—	—	—	—	—	—
17	7	4	11	28.57	25.00	27.27	71.43	75.00	72.73
Total	529	552	1081	24.57	23.37	23.96	75.43	76.63	76.04

**Tab. 2. Frequency of individuals with middle phalangeal hair in different places of the 1st group of Newars of Nepal Valley**

Place	N. examined		Presence of hair				Total	Presence of hair	
	♂	♀	N.		%			♂♀	♂♀
			♂	♀	♂	♀	♂		♀
Kathmandu	181	81	46	19	25.41	23.46	262	65	24.81
Patan	52	266	22	63	42.31	23.68	318	85	26.73
Bhadgaon	56	34	10	7	17.86	20.59	90	17	18.99
Total	289	381	78	89	26.99	23.26	670	167	24.93

**Tab. 3. Frequency of individuals with middle phalangeal hair in different places of Group 2 of Newars of Nepal Valley**

Place	N. examined		Presence of hair				Total	Presence of hair	
			N.		%			N.	%
	♂	♀	♂	♀	♂	♀	♂♀		
Kathmandu	32	9	8	2	25.00	22.22	41	10	24.39
Patan	37	69	9	18	24.32	26.09	106	27	24.47
Bhadgaon	4	0	3	0	75.00	0.00	4	3	75.00
Total	73	78	20	20	27.40	25.64	151	40	26.49

**Tab. 4. Frequency of individuals with middle phalangeal hair in different places of Group 4 of Newars of Nepal Valley**

Place	N. examined		Presence of hair				Total	Presence of hair	
			N.		%			N.	%
	♂	♀	♂	♀	♂	♀	♂♀		
Kathmandu	25	5	5	2	20.00	40.00	30	7	23.33
Patan	23	12	5	2	21.74	16.67	35	7	20.00
Bhadgaon	66	0	12	0	18.18	0.00	66	12	18.18
Total	114	17	22	4	19.30	23.53	131	26	20.16

Group 2 in Tab. 3; Bhadgaon shows a very high frequency of individuals with middle phalangeal hair, (75%): this may be due to the very small sample of four individuals from that place. Groups 1, 2 and 4 show almost similar frequencies in three different places; therefore, the data from all the three places have been combined for the present analysis.

Tabs. 5, 6 and 7 exhibit that the mid-digits of the II fingers of both hands are pilous, but to a very small extent. The mid-digits of the III and IV fingers show a relatively high degree of pilosity, and mid-digits of the V finger again moderately pilous. The right/left differentiation in both males and females is lacking, in this sample. No consistent divergence is observed in the two sexes in their distribution of mid-digital hair on the individual digits, though, on the whole, the male sex shows greater pilosity in groups 1 and 2, while Group 4 shows more pilosity in females.

In Tabs. 8, 9 and 10, the various combinations, varying from presence to total absence on all the finger mid-digits have been listed. The tables show the presence of hair on the mid-digits of fingers of both hands in their various combinations, in the two sexes. The most common is 'O' combination, where none of the fingers possess pilous mid-digits. When hair is present, it is most frequent in the III, IV and V combination of fingers in Groups 1 and 4, in both the right and left hands of males and females.

**Tab. 5. Distribution of middle phalangeal hair on the digits II, III, IV and V of Group 1 of Newars of Nepal Valley**

Finger	Sex	Right			Left		
		Absence	Presence	Plenty	Absence	Presence	Plenty
II	♂	96.88	2.77	0.35	96.19	2.12	0.69
		96.86	2.36	0.78	96.53	2.89	0.52
III	♂	80.63	5.88	13.49	79.58	6.23	14.19
		83.67	5.28	11.05	82.42	5.77	11.81
IV	♂	74.74	8.65	16.61	74.39	9.69	15.92
		77.17	8.66	14.17	77.40	9.45	13.15
V	♂	87.55	8.65	3.80	87.89	7.96	4.15
		88.96	7.37	3.67	88.46	8.66	2.88

**Tab. 6. Distribution of middle phalangeal hair on the digits II, III, IV and V of Group 2 of Newars of Nepal Valley**

Finger	Sex	Right			Left		
		Absence	Presence	Plenty	Absence	Presence	Plenty
II	♂	97.26	2.74	0.00	98.63	1.37	0.00
		100.00	0.00	0.00	98.72	1.28	0.00
III	♂	79.45	6.85	13.70	84.93	4.11	10.96
		84.61	5.13	10.26	80.77	7.69	11.54
IV	♂	73.97	6.85	19.18	75.34	8.22	16.44
		74.36	8.97	16.67	74.36	7.69	17.95
V	♂	87.67	5.48	6.85	91.78	2.74	5.48
		93.59	1.28	5.13	91.02	2.56	6.42

**Tab. 7. Distribution of middle phalangeal hair on the digits II, III, IV and V of Group 4 of Newars of Nepal Valley**

Finger	Sex	Right			Left		
		Absence	Presence	Plenty	Absence	Presence	Plenty
II	♂	99.12	0.88	0.00	98.24	0.88	0.88
		100.00	0.00	0.00	100.00	0.00	0.00
III	♂	85.96	3.51	10.53	87.72	2.63	9.65
		76.47	5.88	17.65	76.47	5.88	17.65
IV	♂	80.70	4.39	14.91	80.70	7.02	12.28
		76.47	5.88	17.65	76.47	5.88	17.65
V	♂	88.48	5.26	5.26	88.48	5.26	5.26
		88.24	5.88	5.88	82.35	11.77	5.88

Presence: 1 to 5 hairs      Plenty: 6 or more hairs      Absence: No mid-digital hair

**Tab. 8. Combinations of digits with middle phalangeal hair among Group 1 of Newars of Nepal Valley**

	♂		♀	
	Right	Left	Right	Left
II, III, IV, V	2.42	2.77	2.62	3.17
III, IV, V	9.34	8.65	7.87	8.40
IV, V	0.69	0.35	1.08	0.26
V	0.00	0.35	0.26	0.00
IV	6.23	5.54	5.51	4.99
III	1.08	0.69	0.00	0.26
III, IV	5.88	7.27	5.25	5.51
II, III, IV	0.69	1.08	0.52	0.26
II	0.00	0.00	0.00	0.00
None	73.67	73.30	76.89	77.15

**Tab. 9. Combinations of digits with middle phalangeal hair among Group 2 of Newars of Nepal Valley**

	♂		♀	
	Right	Left	Right	Left
II, III, IV, V	2.74	1.37	0.00	1.28
III, IV, V	9.59	5.48	6.41	7.69
IV, V	0.00	0.00	0.00	0.00
V	0.00	1.37	0.00	0.00
IV	6.85	9.59	8.97	6.41
III	1.37	0.00	1.28	0.00
III, IV	6.85	8.22	8.97	10.26
II, III, IV	0.00	0.00	0.00	0.00
II	0.00	0.00	0.00	0.00
None	72.60	73.97	74.37	74.36

**Tab. 10. Combinations of digits with middle phalangeal hair among Group 4 of Newars of Nepal Valley**

	♂		♀	
	Right	Left	Right	Left
II, III, IV, V	0.88	1.75	0.00	0.00
III, IV, V	8.77	7.02	11.77	17.65
IV, V	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00
IV	4.39	6.14	0.00	0.00
III	0.00	0.00	0.00	0.00
III, IV	5.26	4.39	11.77	5.89
II, III, IV	0.00	0.00	0.00	0.00
II	0.00	0.00	0.00	0.00
None	80.70	80.70	76.46	76.46

The mid-digital region III, IV combination, or the IV combination only are, next, the most frequently covered areas, in Groups 1 and 4. In Group 2, the most frequent combinations are III, IV or IV, and then III, IV, V and except for combinations II, III, IV and V fingers which exhibit a low percentage, all other combinations rarely, if at all, exhibit mid-digital hair, in both sexes.

### Discussion and comparison

Tab. 11 shows the Chi-square test on middle phalangeal hair among Newars males and females of Groups 1, 2 and 4. The sexual differences for this trait is statistically non-significant in all three groups. Sexual differences for this trait, though not exhibited in every group, have been detected by Garn (1950, 1951) and Saldhana and Guinsberg (1961).

Tab. 12 shows the Chi-square test on middle phalangeal hair among Groups

**Tab. 11. The Chi-square test on middle phalangeal hair among male and female of Groups 1, 2, and 4 of Newars of Nepal Valley**

Group	$\chi^2$	df	Level of significance	Remarks
Group 1 ♂ × Group 1 ♀	1.1530	1	0.30 > P > 0.20	Non-significant
Group 2 ♂ × Group 2 ♀	0.0596	1	0.50 > P > 0.80	Non-significant
Group 4 ♂ × Group 4 ♀	0.1606	1	0.70 > P > 0.50	Non-significant

**Tab. 12. The Chi-square test on middle phalangeal hair among Groups 1, 2 and 4 (male and female combined) of Newars of Nepal Valley**

Group	$\chi^2$	df	Level of significance	Remarks
Group 1 × Group 2	0.1586	1	0.70 > P > 0.50	Non-significant
Group 1 × Group 4	1.6006	1	0.30 > P > 0.20	Non-significant
Group 2 × Group 4	1.7395	1	0.20 > P > 0.10	Non-significant

1, 2 and 4 (male and female combined) of Newars. In all these, the Chi-square test fails to demonstrate any significant difference suggesting a similarity for this trait among Groups 1, 2 and 4 of Newars of Nepal Valley.

### Variability among different populations

The frequency of individuals without phalangeal hair in the different populations of the World has been listed in Tab. 13, and Figs. 1 and 2 are graphical representation of these populations sex-wise, i. e., Fig. 1 for males, and Fig. 2 for females. The data available are not sufficient for a critical assessment of the variability of this trait.



Tab. 13. Frequency of individuals without phalangeal hair in different populations

S. N.	Population	Residence	♂		♀		Author
			N.	%	N.	%	
1.	Chowrite	Nicobars	133	22.6	64	28.1	Ganguli & Pal, 1963
2.	Terressan	Nicobars	98	23.5	100	31.0	Ganguli & Pal, 1963
	<i>Syrians</i>						
3.	(Moslems)	Boarj	68	22.1	61	44.3	Kayssi
4.	(Christians)	Meshghara	90	31.1	16	50.0	Boyd & Boyd, 1931
5.	(Moslems)	Meshghara	129	41.9	66	45.5	Boyd & Boyd, 1931
6.	German	Münster	253	28.5	244	32.5	Cit. by Boyd, 1950
7.	White-Soldiers	U.S.A.	442	29.6	—	—	Danforth, 1921
8.	Jews	Baghdad	69	29.0	136	40.4	Boyd & Boyd, 1941
	<i>Arabs</i>						
9.	(Moslems)	Baghdad	233	32.6	132	49.3	Boyd & Boyd, 1941
10.	(Christians)	Baghdad	48	35.4	14	49.3	Boyd & Boyd, 1941
11.	Teli	Madhya Pradesh	27	29.6	—	—	Dutta, 1964
12.	Chamar	Madhya Pradesh	53	33.9	—	—	Dutta, 1964
13.	Russians	N. Moscow	116	33.4	115	54.7	Cit. by Boyd, 1950
14.	Georgians (West)	Tiflis	119	60.4	124	56.5	Cit. by Boyd, 1950
15.	Georgians (East)	Tiflis	62	43.6	71	66.2	Cit. by Boyd, 1950
16.	Russians	Kharkov	58	43.1	112	49.1	Cit. by Boyd, 1950
17.	Basques	San Sabastian	25	36.0	53	26.4	Cit. by Boyd, 1950
18.	Armenians	Beyrouth & Ghazir	165	37.6	172	38.4	Cit. by Boyd, 1950
	<i>Egyptians</i>						
19.	(Copts)	Cairo	55	34.5	52	53.8	Cit. by Boyd, 1950
20.	(Moslems)	Cairo	228	54.4	203	63.6	Cit. by Boyd, 1950
21.	(Copts)	Assuit	202	47.5	215	47.0	Cit. by Boyd, 1950
22.	(Moslems)	Assuit	50	32.0	53	71.7	Cit. by Boyd, 1950
23.	Riang	Tripura	198	35.9	—	—	Kumar & Sastry, 1961
24.	Parsi	Bombay & Lucknow	430	31.2	338	30.6	Mavalwala, 1957
25.	Ahir	Madhya Pradesh	26	38.5	—	—	Dutta, 1964
26.	Bengali	W. Bengal	1535	43.2	—	—	Buchi & Dutta, 1955
27.	Rarhi Brahmin	W. Bengal	191	41.9	71	47.9	Bhattacharjee, 1956
28.	Bengali	W. Bengal	427	46.4	—	—	Buchi, 1954
29.	Muslim	W. Bengal	203	49.3	12	75.0	Bhattacharjee, 1956
30.	Kol	Madhya Pradesh	25	48.0	—	—	Dutta, 1964
31.	Gandhabanik	W. Bengal	100	49.0	—	—	Dutta, 1965
32.	Muslim	Madhya Pradesh	101	49.5	—	—	Dutta, 1964
33.	Eastern Muria	Madhya Pradesh	143	51.0	—	—	Negi <i>et al.</i> , 1963
34.	Bade Bhatra	Madhya Pradesh	106	48.1	44	63.6	Negi <i>et al.</i> , 1963
35.	Rajput	Madhya Pradesh	49	53.1	—	—	Dutta, 1964
36.	Dorla	Madhya Pradesh	123	52.8	71	54.9	Negi <i>et al.</i> , 1963
37.	Mahra	Madhya Pradesh	78	48.7	45	62.2	Negi <i>et al.</i> , 1963
38.	Nokote Naga	Assam	111	54.1	—	—	Kumar, 1955
39.	Brahmin	Madhya Pradesh	96	54.2	—	—	Dutta, 1964
40.	Gond	Madhya Pradesh	27	55.5	—	—	Dutta, 1964
41.	Dhurwa	Madhya Pradesh	167	54.5	27	66.7	Negi <i>et al.</i> , 1963
42.	Rajbhansi	W. Bengal	284	56.7	—	—	Roy Choudhury, 1961
43.	Indian	Assam	250	52.8	50	88.0	Pakrasi & Das, 1956
44.	Manjhole Bhatra	Madhya Pradesh	59	40.7	5	60.0	Negi <i>et al.</i> , 1963
45.	Duley	W. Bengal	143	53.8	69	58.0	Kumar, 1957
46.	Mohiyal Brahmin	Uttar Pradesh	71	56.3	77	59.7	Singh & Dutta, 1955
47.	Western Muria	Madhya Pradesh	148	57.4	21	76.2	Negi <i>et al.</i> , 1963
48.	San Bhatra	Madhya Pradesh	69	57.8	18	66.7	Negi <i>et al.</i> , 1963
49.	Northern Dhruva	Madhya Pradesh	52	65.4	9	100.0	Negi <i>et al.</i> , 1963
50.	Khasi	Assam	301	59.5	301	71.1	Mukerjee, 1963
51.	Lushai	Assam	125	64.0	125	78.4	Mukerjee, 1963
52.	Indian	?	—	—	—	—	Chopra, 1953
53.	Tentulia Bagdi	W. Bengal	121	66.1	63	63.5	Kumar, 1957
54.	Japanese	Sapporo etc.	503	55.67	494	61.14	Cit. by Boyd, 1950
55.	Japanese	U.S.A.	25	68.0	—	—	Danforth, 1921
56.	1st group Newars	Nepal Valley	289	73.01	381	76.64	Present study
57.	2nd group Newars	Nepal Valley	73	72.60	78	74.36	Present study
58.	4th group Newars	Nepal Valley	114	80.70	17	76.47	Present study
59.	Newar Group (Total)	Nepal Valley	529	75.43	552	76.63	Present study
60.	Mikir	Assam	150	74.0	150	86.0	Mukerjee, 1963
61.	'Coloured'	U.S.A.	74	83.7	103	90.3	Danforth, 1921
62.	Ongé	Little Andeman	35	100.0	31	100.00	Buchi & Roy, 1955

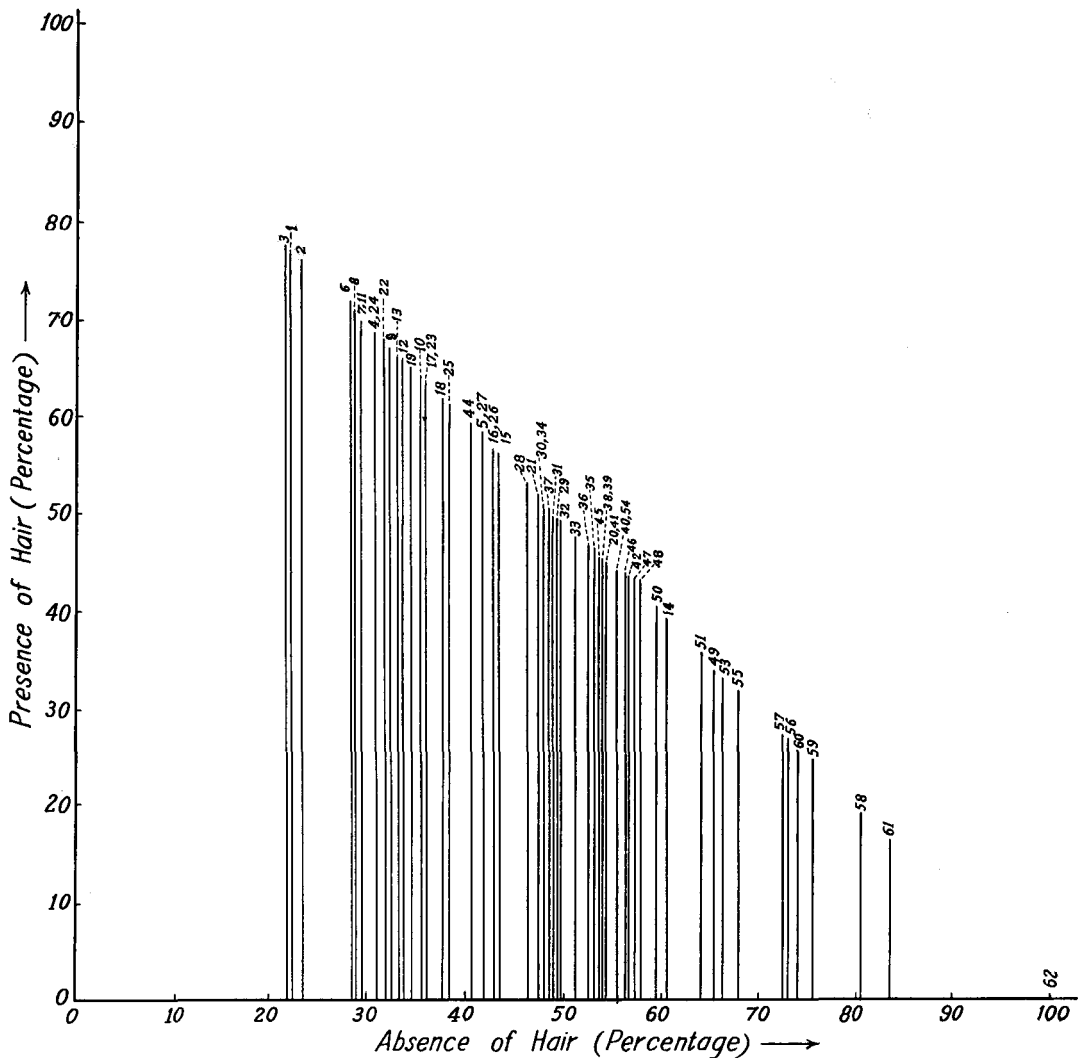


Fig. 1

The variability in the frequencies of the absence of mid-phalangeal hair among various populations range between 22.1 and 100% in males, and 26.4 and 100% in females.

In the Indian populations, the range is between 22.6 and 100% in males, and 28.1 and 100% in females. Considerable genetic diversity is certainly to be expected in the Indian sub-continent, where such factors as regional and social barriers have kept

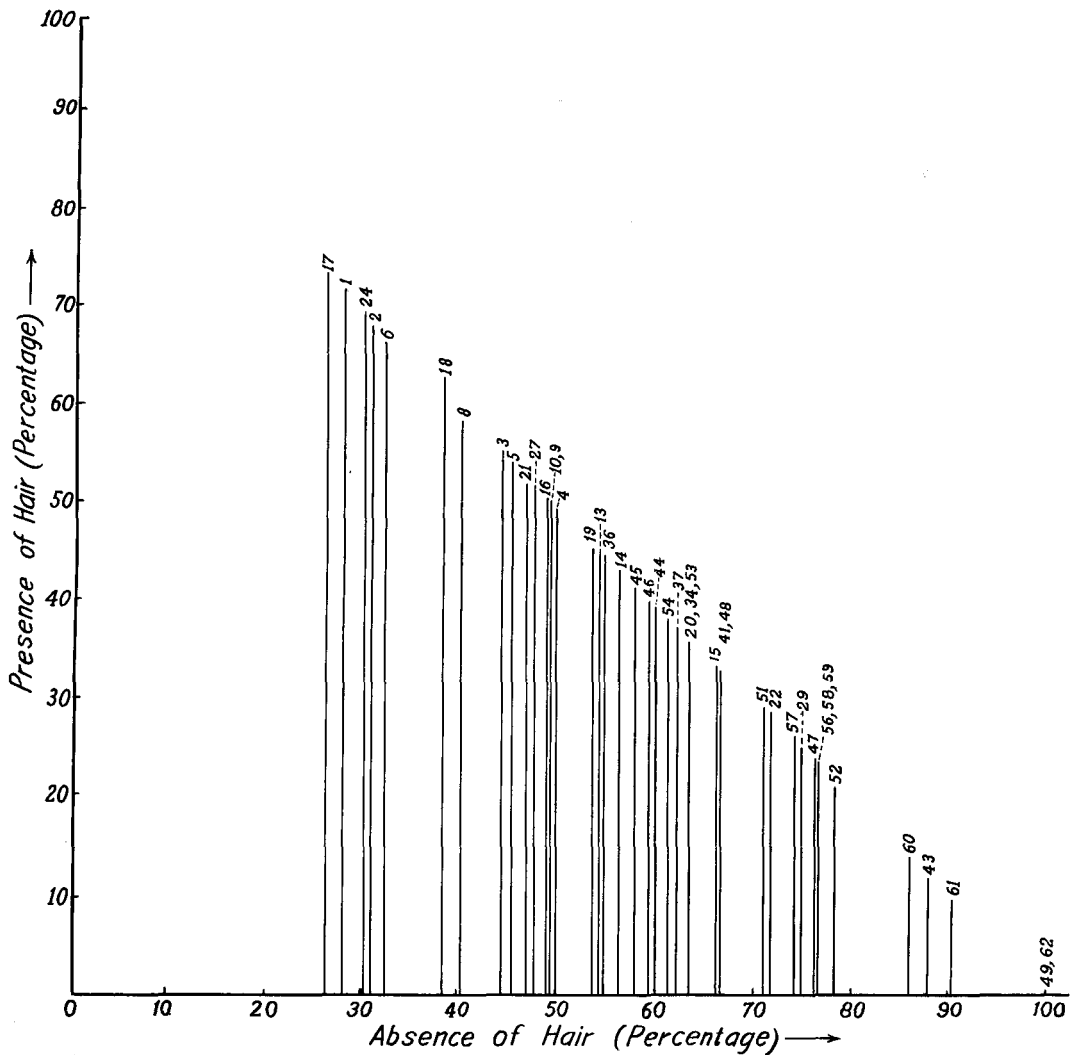


Fig. 2

the population split into numerous, more or less, separate groups. The populations are in each case endogamous and thus have maintained this isolation during a long period.

In Tab. 13, the bulk of material comes from India, particularly from Madhya Pradesh, West Bengal, Assam and Tripura. There is one sample each from Western and Northern India. Three samples from Syria show a range of 21.1 to 41.9% in

males, and of 44.3 to 50.00% in females. There are three samples from Baghdad, showing a range of 29.0 to 35.4% in males, and of 40.4 to 49.3% in females.

In the Russians, the range is of 33.4 to 60.4% in males, and of 54.7 to 66.2% in females. In the Egyptians, the range is of 32.0 to 54.4% in males, and of 47.0 to 71.7% in females.

In Armenians, Basques and White U.S.A. soldiers, the range is of 29.6 to 37.6% in males, and of 26.4 to 38.4% in females (Armenians and Basques, only). The German of Münster show frequencies of 28.5% in males, and 32.5% in females.

It is interesting to observe that, among the Onge of Little Andeman, a Negrioto population, this trait is absent. The 'Coloured' population of U.S.A. (Danforth, 1921) exhibits a frequency 83.7% in the males, and 90.3% in females.

The Newar Group of Nepal Valley shows high frequency of individuals without mid-phalangeal hair. The range in Groups 1, 2 and 4 is of 72.60 to 80.70% in males, and of 74.36 to 76.64% in females. In the total group of Newar, the frequency is 75.43% in males, and 76.63% in females.

The State of Assam is represented by four tribal groups of Mongoloid affinity and one sample from Gauhati, where the population identity is absent. The frequency of unaffected individuals among these groups ranges from 52.8 to 74.0% in males, and from 71.7 to 88.0% in females. The Riang — a Mongolian group in Tripura State — show the comparatively low value of 35.9%. Two smaller groups of Mongolian, Chowrite and Terressan of the Nicobar Islands have much lower frequencies, ranging between 22.6 and 23.5% in males, and from 28.1 to 31.0% in females. The variation in other non-Indian Mongoloid populations, with regard to the absence of the trait, is found to be of a wider range, between 44.9 and 98.0%. Japanese of U.S.A., 68.00% (Danforth, 1921); Japanese of Sapporo, 55.67% and 61.14% in males and females, respectively; Aleuts, 44.9% (Garn, 1951); American Indian (Penobscot) 64% (Danforth, 1921); and Eskimos 98% (Sewall, 1939).

In West Bengal, the incidence of unaffected individuals varies from 41.9 to 66.1% in males, and from 47.9 to 75.00% in females. The distribution of unaffected incidence is found to be below 50% in the case of upper caste groups, while it clearly exceeds this figure among the lower castes.

In Madhya Pradesh, the frequency of unaffected individual varies from 38.5 to 65.4% in males and 54.9 to 100% in females. The upper caste populations show comparatively higher values, with regard to the absence of mid-digital hair, the frequency among the Brahmin being 54.2% and among Rajputs 53.1%. The 'Indians' of S. R. K. Chopra (1953) cannot be included in the comparison of ethnic stocks for the author omitted the vital information on whether his data were collected from a homogenous group from some district area in India, and whether he assumes his sample to represent the whole of India. The author also fails to make clear the male/female ratio of his sample.

The Newars come more near to the Japanese; Khassi of Assam; Lushai of Assam and Mikir of Assam, as shown in Figs. 1, for males, and 2, for females.

### Summary

Data on the middle-phalangeal hair among the different groups of Newars of Nepal Valley are presented.

Sexual differences for this trait are non-significant in Groups 1, 2 and 4.

The inter-group differences of Groups 1, 2 and 4 give non-significant results, suggesting a similarity for this trait among these groups in Newars.

The variability ranges between 22.1 to 100% in males, and 26.4 to 100% in females, in the frequencies of mid-phalangeal hair absence, among various populations.

The Mongoloid population is found to be in the range of 44.9 to 98.10%, with regard to the absence of this trait.

The Newars, as a total group, show frequencies of 75.43% in males, 76.63% in females and 76.04% in both sexes, combined, with respect to the absence of this trait.

The Newars fall nearer to the tribal groups of Assam (Khasi, Lushai and Mikir) and Japanese as far as this character is concerned.

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RIASSUNTO

Studio sul carattere del pelo sulle falangi nei diversi gruppi di Newars della vallata del Nepal. Nei gruppi 1, 2 e 4 non vi sono differenze significative per il sesso, né fra i gruppi stessi. Nelle varie popolazioni il carattere risulta assente con una variabilità che va dal 22.1 al 100% nei maschi e dal 26.4 al 100% nelle femmine, mentre per la popolazione mongoloide la variabilità è di 44.9-98.10%. Nei Newars, complessivamente, le frequenze sono di 75.43 nei maschi, 76.63 nelle femmine e 76.04% in ambedue i sessi. I Newars risultano simili ai gruppi tribali Assam e Giapponesi.

RÉSUMÉ

Le caractère du poils sur les doigts a été étudié chez les différents groupes de Newars de la vallée du Nepal. Chez les groupes 1, 2, 4 aucune différence significative n'a été trouvée ni entre les sexes, ni parmi les groupes mêmes. Chez les différentes populations le caractère résulte absent avec une variabilité de 22.1-100% chez les hommes, et de 26.4-100% chez les femmes, tandis que chez la population mongoloïde la variabilité est de 44.9-98.10%. Chez les Newars complexivement les fréquences sont de 75.43% chez les hommes, 76.63% chez les femmes et 76.04% chez les deux sexes. Les Newars ressemblent les groupes tribaux Assam et Japonais.

ZUSAMMENFASSUNG

Untersuchung über das Merkmal: Fingergliedbehaarung bei den verschiedenen Newarsgruppen im Nepaltal. Bei den Gruppen 1, 2 und 4 bestehen keine wesentlichen Unterschiede zwischen den beiden Geschlechtern und auch nicht unter den Gruppen selbst. Bei den verschiedenen Bevölkerungen fehlt das Merkmal mit einer Variabilität, die bei den Männern 22,1 - 100%, bei den Frauen 26,4 - 100% und bei der mongoloiden Bevölkerung 44,9 - 98,10% beträgt. Das Vorkommen beläuft sich bei den Newars insgesamt bei den Männern auf 75,43%, bei den Frauen auf 76,6% und bei beiden Geschlechtern auf 76,04%. Die Newars ähneln somit den Gruppen des Stammes Assam und der Japaner.