

# A Note on the Frequency of Hairy Ear Rims Tragus Hair and Hairs on the Ear Lobe in Some South Indian Populations Residing at Delhi \*

**P. K. Chattopadhyay**

## Introduction

Dronamraju (1960-1961), Dronamraju and Haldane (1962), Gates and Bhaduri (1961) and Gates in a lecture (*memorial papers I*, 1963) have stressed the anthropological importance of hairy ear rims in the study of diverse human populations. In 1961, Dronamraju reported its frequency in Andhra (6.1%). The other South Indian populations, namely, the people of Madras, Kerala and Mysore have not been studied so far for this trait. Hence, it was thought desirable to undertake the present investigation.

## Material and methods

The data for the present study were collected from March to May, 1964, from the South Indian populations residing mainly in the Karol Bagh area, New Delhi. In all, 300 adult males, 119 adult females, 70 boys and 97 girls were observed for the presence or absence of hairy ear rims, tragus hair and hairs on the ear lobe. Care was taken to include in the survey unrelated subjects only. In the case of the adult females, name, age, caste, sub-caste etc. were not taken into account.

## Results

The frequency of hairy ear rims, tragus hair and hairs on the ear lobe among the males of the different states are given in Tab. 1. The highest frequency of hairy ear rim is in Madras (29.5%). Kerala and Andhra Pradesh come next with 23.9% and 12.5% respectively; Mysore is having the lowest frequency (9.1%). Tragus hair is highest in Mysore (36.1%). The people of the other three South Indian

\* Part of this paper was presented before the Section of Anthropology and Archaeology at the combined (51st and 52nd) Session of the Indian Science Congress Association held at Calcutta from December 31, 1964 to January 6, 1965.

Tab. 1. Frequency of hairy ear rims, tragus hair and hairs on the ear lobe in the South Indian males of different States

	Madras			Kerala			Andhra Pradesh			Mysore		
	Observed number	Affected n.	%	Observed number	Affected n.	%	Observed number	Affected n.	%	Observed number	Affected n.	%
Hairy ear rims	132	39	29.5	117	28	23.9	40	5	12.5	11	1	9.1
Tragus hair	132	18	13.6	117	12	10.25	40	6	15.0	11	4	36.4
Hairs on the ear lobe	132	24	18.1	117	20	17.1	40	4	10.0	11	-	-

Tab. 2. Frequency of hairy ear rims, tragus hair and hairs on the ear lobe among the males of the different castes in Madras, Kerala and Andhra Pradesh <sup>1</sup>

Caste	Madras				Kerala				Andhra Pradesh			
	Observed number	Hairy ear rims	Tragus hair	Hairs on the ear lobe	Observed number	Hairy ear rims	Tragus hair	Hairs on the ear lobe	Observed number	Hairy ear rims	Tragus hair	Hairs on the ear lobe
Brahmins	117	36 (30.8)	17 (14.53)	22 (18.8)	36	6 (16.7)	3 (8.3)	4 (11.1)	3 <sup>1</sup>	5 (16.1)	6 (19.35)	4 (13.0)
Non-Brahmins	13	2 (15.4)	-	1 (7.7)	10	4 (40.0)	1 (10.0)	-	8	-	-	-
Christians	2	1 (50.0)	1 (50.0)	1 (50.0)	14	4 (28.57)	2 (14.3)	4 (28.5)	1	-	-	-
Nairs	-	-	-	-	57	14 (24.6)	6 (10.52)	12 (21.05)	-	-	-	-

<sup>1</sup> The figures in brackets indicate the percentage.

States show quite similar frequencies. Hairs on the ear lobe is absent in Mysore, while in Andhra it is only 10.0%, the people of Madras and Kerala resemble each other for this trait. It is to be noted that the sample for Mysore is too small, only 11 individuals could be observed.

Tab. 2 shows the castewise frequency in the different States. Among the Brahmins of the different States, hairy ear rim is highest in Madras (30.3%), while those of Kerala and Andhra are very close to each other for this trait. The Nairs of Kerala show a frequency of 24.6%. Tragus hair is highest among the Brahmins of Andhra while it is 14.53% in Madras and 8.3% in Kerala Brahmins; the Nairs (10.52%) resemble the Brahmins of Kerala. The frequency of hairs on the ear lobe is highest among the Nairs of Kerala (21.05). The Brahmins of Andhra (13.0%) resemble those of Kerala (11.1%) while the Brahmins of Madras show a figure (18.8%) which is close to the Nairs. The sample for the other castes are, however, negligible.

The age of the youngest affected person is 21 years in Kerala and 22 years in Madras and Andhra for hairy ear rims. For tragus hair it is 24 years in Kerala, 21 years in Madras and 22 years in Andhra; while for hairs on the ear lobe it is 20 years in Kerala, 21 years in Madras and 24 years in Andhra. The regional variation in the age of onset is not very striking.

The frequency in different age groups are given in Tab. 3. It is evident that with the exception of one or two age groups, hairy ear rims, tragus hair and hairs on the ear lobe tend to increase with the increase in age as has been shown by Slatis and Apelbaum (1963) and Dronamraju (1963*a, b*) for hairy ear rims. However, in the different States, this trend of increase in frequency with increase in age do not correspond very clearly. This discrepancy may be due to the smallness of the sample.

Of all the males observed 7.7% were found to have both hairy ear rims and tragus hair, 10.3% hairy ear rims and hairy ear lobes and 8.3% had both tragus hair and hairy ear lobes, while in 6% all the three were found together. Whether or not they are due to the same gene, or genes, cannot be answered until extensive family studies are made for them.

During the investigation it was observed that the amount of hair varies from one individual to another.

None of the adult females and the boys and girls were found to have any of the conditions.

### Discussion

Tab. 4 shows the frequency of hairy ear rims in the different populations so far studied. It is highest in Ceylon. The Sinhalese (Dronamraju, 1961) and the people of Vellore (Stern *et al.*, 1964) resemble the people of Madras (*Present study*). The people of Kerala (*Present study*) are close to the Pahiras (Basu: *unpubl.*) for this trait.

Chakravarti (1964-65) reported two individuals having hairy ear rims from his observations on the Totos, a Mongoloid tribe living in the Jalpaiguri district of

Tab. 4. Frequency in the different populations

Population	Total number observed	Number found to be affected	Percentage	Investigator
Sinhalese	414	153	36.96* (32.1-43.3)	Dronamraju, 1961
People of Vellore	891	305	34.23*	Stern <i>et al.</i> (1964)
Madras	132	39	29.5	Present study
Southern Pahira	194	49	25.26	Basu ( <i>unpubl.</i> )
Kerala	117	28	23.9	Present study
Northern Bahira	74	16	21.62	Basu ( <i>unpubl.</i> )
Bengalees	103	26	25.2	Gates <i>et al.</i> 1962
Bengalees (Delhi)	251	45	17.9	Chattopadhyay, 1962
Bengalees	226	24	10.6	Sarkar <i>et al.</i> 1961
Orissa	871	126	14.5	Dronamraju, 1963.
Andhra	40	5	12.5	Present study
—do—	345	21	6.1	Dronamraju, 1961
Punjabis	100	10	10.0	Chattopadhyay, 1962
Mysore	11	1	9.1	Present study
Jats	104	6	5.77	Chattopadhyay, 1962
Israeli Jews	868	88	10.1	Slatis and Apelbaum, 1963

\* Calculated by the present author from the absolute numbers given.

West Bengal. Gates *et al.* (1962) did not find any affected person among the Lepahas, Bhutias, Tibetan refugees, Totos and the Khasis. The present author also observed 115 male (adult) Tibetan refugees at Dalhousi in June, 1964, and none was found to have the trait.

As far as the author knows, no studies on the Negroes have been done so far (Chattopadhyay, 1962, observed only 15 individuals and none was found to be affected). Slatis and Apelbaum have found this in 10.1% in their observation of 868 Israeli Jews. Gates and Vella (1962) reported it in 25 adult Maltese males. However, the studies so far made are too patchy. Detailed study of diverse populations in different parts of the world with larger samples, having good representation in each age group is necessary for population comparisons.

### Summary

The South Indian populations differ from one another for the frequency of hairy ear rims, tragus hair and hairs on the ear lobe. The difference in the age of onset is not very striking. Whether they are due to the same gene, or genes, or to independent genes, cannot be answered until detailed pedigree studies are made.

### Acknowledgement

I have to thank Dr. P. C. Biswas, Professor and Head of the Department of Anthropology, Delhi University, for his helpful suggestions and encouragement in all stages of this work, and Dr. A. K. Mitra and Dr. S. C. Tiwari for their helpful suggestions during the preparation of this paper. I have also to thank my esteemed colleague, Mr. A. N. Murthy and Mr. K. N. Vasudevan, Mr. N. H. Ganapati, Mr. T. K. Venkatraman and Mr. S. Satyanarayana Murthy for their help and cooperation during the collection of the data.

### Literature

- BASU A. *Pers. comm.*
- CHAKRAVARTI M. R. (1964). A physical survey of the Toto tribe of Jalpaiguri District, West Bengal. *Abstract. Proc. Indian Science Congr. Ass.*: 510. Calcutta, 1964-65.
- CHATTOPADHYAY P. K. (1962). Hairy pinnae of the ear in some Indian populations. *The Anthropologist*, **9**: 17-20. Delhi University, 1964.
- DRONAMRAJU K. R. (1961). Frequencies of hairy pinnae among Indian and Sinhalese people. *Nature*, **190**: 653.
- (1963 a.). The age of onset of hypertrichosis pinnae auris among the Oriyan males. *Science and Culture*, **29**: 162.
- (1963 b.). A note on the age of onset of hypertrichosis pinnae auris in Orissa, West Bengal and Ceylon. *J. Genet.*, **58**: 324-327.
- HALDANE J. B. S. (1962). Inheritance of hairy pinnae. *Amer. J. Hum. Genet.* **14**: 102-103.
- GATES R. R., (1963). The R. Ruggles Gates Memorial Papers. The inheritance of human abnormalities. *The Mankind Quarterly*, **1**.
- BHADURI P. N. (1961). The inheritance of hairy ear rims. *Mankind Monographs*, **1**.
- VELLA F. (1962). Hairy pinnae in Malta. *Lancet*, **2**: 357.
- *et al.* (1962). Final pedigrees of Y-chromosome inheritance. *Amer. J. Hum. Genet.*, **14**: 367-376.
- SARKAR S. S. *et al.* (1961). A contribution to the genetics of hypertrichosis of the ear rims. *Amer. J. Hum. Genet.*, **13**: 214-223.
- SLATIS H. M., APELBAUM A. (1963). Hairy pinna of the ear in Israel populations. *Amer. J. Hum. Genet.* **15**: 74-85.
- STERN C. *et al.* (1964). New data on the problem of Y-linkage of hairy pinnae. *Amer. J. Hum. Genet.* **16**: 455-471

RIASSUNTO

Le popolazioni indiane del sud differiscono fra loro per la frequenza del pelo sul padiglione, sul trago e sul lobo dell'orecchio. La diversità di età d'insorgenza non è molto notevole. Non è ancora possibile, finché non vengano compiuti dettagliati studi genealogici, stabilire se si tratti di uno stesso gene, o geni, oppure di geni indipendenti.

RÉSUMÉ

Les populations indiennes du sud diffèrent entre elles pour la fréquence de poils sur le pavillon, sur le tragus et sur le lobe de l'oreille. Il n'y a pas de grandes différences quant à l'âge de début. Des études généalogiques détaillées seront nécessaires avant d'établir s'il s'agit d'un même gène, ou gènes, ou bien de gènes indépendents.

ZUSAMMENFASSUNG

Die südindischen Bevölkerungen unterscheiden sich voneinander im Vorkommen von Behaarung an Ohr läppchen, Tragus und Pinnae auris. Es bestehen keine großen Unterschiede im Alter der Erscheinung. Bevor keine eingehenden Sippenforschungen durchgeführt werden, läßt es sich nicht bestimmen, ob es sich dabei um ein Gen oder um mehrere gleiche oder aber um voneinander unabhängige Gene handelt.

---

Direttore responsabile: Prof. LUIGI GEDDA

Autorizzazione del Tribunale di Roma N. 2481 — 9 gennaio 1952

TIPOGRAFIA POLIGLOTTA VATICANA