

## **Palmar C- Line Variation Among Yerukula, a Nomadic Tribe of South India**

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**Abstract.** The present paper reports the variation in the terminations of palmar C- line among the Yerukula, an Andhra tribal population. It is based on the bilateral palmar prints of 130 men and 130 women. The C-line terminates frequently on ulnar side followed radial side, except right hands of men. Among a small proportion of men and women the C-line is either terminated proximally or totally absent. The difference between males and females is significant and bilateral differences are not significant. The distribution in the present study tribe is similar to several tribal populations of Andhra Pradesh.

**Keywords.** Palmar Dermatoglyphics – C-line – Population variation – Andhra Tribe – India

### **Introduction**

Several studies demonstrated the population differences in the distribution of dermatoglyphic markers (DASH SHARMA, 1984). RIFE (1968) has emphasized the use of palmar C-line termination in population variation studies, as it exhibits both qualitative and quantitative variation. Since the classification of C-line terminations by PLATO (1970), many studies have been reported from different populations of the World. The present paper reports the distribution of C-line terminations among Yerukula tribal population of West Godavari District, Andhra Pradesh.

Yerukula, a gypsy tribe, is bearing an evil reputation as professional criminals. They are presently living as pork sellers and basket inhabiting areas between Krishna, Godavari and Narmada rivers. Yerukula people migrated to all over the state of Andhra Pradesh, but more are

Settled in Prakasam and Krishna districts. Historically, these tribes are criminals, because they have no education, properties and traditional occupations. Now-a-days, men of this tribe engaged in occupations such as basket making, mat making, piggery, pork sellers, day labouring, etc. In West Godavari districts, these people rear pigs and sell the pork. Some people are engaged in are basket and mat makers. Women wander from village to village as sooth-sayers and as tattooers. They speak a mongrel dialect, which appears like a mixture of Tamil, Telugu and Konkani.

### **Materials and Methods**

Inked bilateral palmar prints of 130 men and 130 women belonging to Yerukula tribe residing in rural areas of Palakol mandal of West Godavari district, Andhra Pradesh were obtained (CUMMINS & MIDLO, 1961). The prints were analysed for the termination of main line-C following PLATO (1970). They were classified as ulnar, radial, proximal and absent types.

### **Results and Discussion**

The distribution of C-line terminations among males and females of Yerukula tribe is presented in Table 1. The C-line terminates frequently on ulnar side followed by radial side in both hands of women as well as in left hands of men. However, in right hands of men, C-lines mostly terminated towards radial side, followed by ulnar side. Among a small proportion of men and women, the C-line is either terminated proximally or totally absent. The chi-square values indicate that bilateral differences in the distribution of C-line terminators are not significant ( $p > 0.05$ ). However, the difference between males and females is significant ( $p < 0.01$ ). The literature reveals that among majority of Andhra populations, C-lines terminate towards ulnar side frequently, followed by radial side (BABU & NAIDU, 1992 and KUSUMA et al., 1994). In many populations, occurrence of proximal termination and absence of C-line are observed among small proportions of people than the present study population. Also, significant sex differences are noted among several populations. Thus, as proposed by Plato (PLATO, 1970), C-line termination is one of the best polymorphic traits in human population variation studies.

TABLE 1  
*Distribution of terminations of palmar C-line among Yerukula tribe of Andhra Pradesh*

	Termination of C-line			
	Ulnar	Radial	Proximal	Absent
<b>Male (n=130)</b>				
Right	54 (41.5%)	64 (49.2%)	8 (6.1%)	4 (3.1%)
Left	66 (50.8%)	55 (42.3%)	4 (3.1%)	5 (3.8%)
Both palms	120 (46.1%)	119 (45.8%)	12 (4.6%)	9 (6.9%)
Significance for bilateral difference	$\chi^2=2.31, p=0.31$			
<b>Female (n=130)</b>				
Right	69 (53.1%)	51 (39.2%)	6 (4.6%)	4 (3.1%)
Left	84 (64.6%)	38 (29.2%)	4 (3.1%)	4 (3.1%)
Both palms	153 (58.8%)	89 (34.2%)	10 (3.8%)	8 (3.1%)
Significance for bilateral difference	$\chi^2=3.59, p=0.16$			
Significance for difference between male and female	$\chi^2=8.55, p=0.01$			

**References**

- BABU, B.V. and NAIDU J.M. (1992). "Palmar C-line diversity among some Andhra tribes". *Comparative Physiology and Ecology*. 17: 88-91.
- CUMMINS, H and C. MIDLO (1961). *Finger Prints, Palms and Soles: An Introduction to Dermatoglyphics*. Dover, New York.
- DASH SHARMA, P. (1984). Current status of dermatoglyphic studies in South Asia. In: Lukacs, J.R. (Ed.) *The People of South Asia: the Biological Anthropology of India, Pakistan and Nepal*. Plenum Press, New York.
- KUSUMA, Y.S., B.V. BABU and J.M. NAIDU (1994). "C-line polymorphism and its association with some dermatoglyphic traits". *Journal of Human Ecology*. 5: 139-142.
- PLATO, C.C. (1970). "Polymorphism of palmar dermatoglyphics with a new classification of the C-line terminations". *American Journal of Physical Anthropology*. 33: 413-420.
- RIFE, D.C. (1968). "Finger and palmar dermatoglyphics in Seminole Indian of Florida". *American Journal of Physical Anthropology*. 28: 119-126.