

Dermatoglyphics of Wallachian Gipsies from Bulgaria

L. Kavgazova

Institute of Experimental Morphology and Anthropology, Bulgarian Academy of Sciences, Sofia

The present dermatoglyphic study is the first attempt to characterize anthropologically a Gipsy population by the methods of ethnic dermatoglyphics. 79 boys and 53 girls from the village of Shumata — Gabrovo region have been studied. They identify themselves as Walachs. The racial type characteristic of the Wallachian Gipsy group has been formed basically by the mixing of Mongoloid-Vedoid populations and minimal participation of Southern Europoids (Melanochors).

Key words: Gipsy group, Vedoids, Southern Europoids (Melanochors), Southern Mongoloids of the Pacific ocean region.

Introduction

An increased interest towards the different ethnic communities is being registered in the recent years in our country. Gipsies have been inhabiting Bulgarian lands for centuries which is rather an uninvestigated phenomenon. Scientific interest has been paid to them mainly by folklorists, ethnographers, linguists and sociologists [4, 5]. Anthropological studies devoted to that ethnic group have not been carried out by now.

The present dermatoglyphic study is the first attempt to characterize anthropologically a Gipsy population by the methods of ethnic dermatoglyphics. The implementation of a defined complex of dermatoglyphic features in the study of any ethnic or ethnographic group renders a possibility for the determination of a number of specific traits in their dermatoglyphics. This ethnic or ethnographic specificity is demonstrated by real historical dermatoglyphic complexes. The formation, distribution and the alteration of these complexes are related to the history of the given people to whom these groups are belonging [6].

The Gipsy ethnic community in Bulgaria consists of different groups. Strict endogamy is one of the basic characteristics of the group and not observing it is regarded as an inadmissible violation of the norm. The “purity of blood” law is more strictly kept even to the foreign Gipsy groups than to the surrounding population. Exogamous matrimony is often leading to exclusion of the group of not only the “culprits” but also their posterity. In other words, each Gipsy group is striving to ensure the continuation of the group life and its reproduction. The existing hierarchiarization among the Gipsy groups is built exclusively on the basis of strong conservativeness, encapsulation and above all purity of the group. This limitation to the gene influx

helps preserve the ethnic specificity not only of each group but of the community as a whole. According to Marushiakova those characteristics of the Gipsy group directly correspond to the peculiarities of the ancient Indian jati as well as to the Indian caste system. After their resettlement around the world Gipsies have formed a specific ethnic community of theirs which though akin to the ancient Indian one is unique, typically their own [4].

The problem of the origin of the Gipsy ethnos is attracting researchers attention in our day since India with its huge diversity of groups differing in origin, language, castes, religions and ethnic composition emerges as an important part of the South-Asian subcontinent.

Combined studies of Russian and Indian anthropologists show that three basic racial types are typical of South Asia: 1. Vedoids (aborigine-equatorial) populations spread in the Southern parts of India; 2. South Europoids (Melanochors) concentrated mainly in Northern India amid big IndoAryan peoples as well as amid certain dravidolingual tribes; 3. Southern Mongoloids of the Pacific ocean region mainly concentrated in Hindustan almost exclusively in the extreme North (the Himalayas region) and to the North East amid different Tibeto-Burman peoples and mundolingual communities. These three groups of racial types relate to one another by transitional links. Thus for example, the Vedoids and South Europoids (1st and 2nd groups) are connected by the South Indian or Dravidoid group widely spread in South and West Hindustan. Transitional racial types are also formed between the Vedoids and the South Pacific Mongoloids (1st and 3rd groups), displaying a unique Vedoid complex with well-pronounced Mongoloid traits. After ethnographic localization this complex is called "East-Indian". The East-Indian racial types are represented among certain mundalingual peoples in Eastern and Central India. Anthropological and paleoanthropological studies of Russian and Indian authors date back the emergence of the transitional racial types in South Asia to the epoch of the Neolithic, Eneolithic and Early Bronze (IIIrd - IIInd millennium BC). Tribes speaking Dravidic and Mundas languages have emerged in South Asia during this period. According to the authors the ancient vedoid population has belonged to the Southern Europoids although individuals with clearly expressed equatorial traits (alveolar prognaty, wide based nose) have been quite often encountered among them. The penetration of Southern Europoids (Melanochors) from the North and North-West to the southern parts of Asia and their `mixing with the dravidoids has been enhancing Europoidity among the higher castes. In the lower castes, mainly populating the North-Eastern states of India, the Southern Europoids have mixed not only with Vedoids but partially with South Mongoloids [3].

The beginning of the Gipsy migrations from Ancient India and their resettlement is dated by the greater majority of the scientists to the 5th century AD. In the course of several centuries Gipsies migrated around the lands of present Pakistan, Afghanistan and Iran and towards the end of the 10th century AD and the beginning of the 11th century AD they reached the territories of Northern Mesopotamia. During this period of wandering a branching of the common migration stream broke away and spread in Central Asia (the former Central Asian republics of the USSR) and Sintzyan in China.

The first reliable historical data about the Gipsies have come from Byzantium from the period 9th- 11th century AD. After reaching the East border of the Byzantine empire the Gipsy migration fall into three main streams. The first trend took direction Northwards and settled in the lands of present Armenia and Georgia. There are hypotheses that this stream continues to move further on and by the so-called "northern route" (via the Caucasus and Northern Black Sea Coast) it has reached the

Balkans, Central and Western Europe. The second stream has headed to the South-West and gradually has resettled in territories of Syria and the Palestine and from there on to Egypt and North Africa. A possible transfer of these Gypsies to the Iberian peninsula is also conceived. The third main stream of the Gypsy migrations is directed to the West, Asia Minor and the Balkans and from there to Middle and Western Europe. After their establishment in Europe in the 15th - 16th c. AD Gypsy migrations connected with the acquisition of new territories temporarily stopped. In the course of several centuries the Gypsies permanently settled in the territories of the Byzantine empire. This period as well as the next centuries when the Gypsies live in the Ottoman empire and the Danube Duchies (Wallachia and Moldova) exerts a strong influence on their whole historic fate [4].

Having traced though briefly the complex history of the Gypsies we set ourselves the task of: 1) characterizing the specificities of the skin relief of the fingers and the palms belonging to adolescents from a Gypsy group; 2) to determine its dermatoglyphic complex by calculation of the relative values for each dermatoglyphic feature and 3) by setting this complex against the Eurasian scale to discover the ethnic specificity of the group.

Material and Methods

Seventy nine boys and 53 girls from the village of Shumata - Gabrovo region have been studied. These Gypsies are settlers from the town of Lom and belong to the Wallachian Gypsies. In the region of Lom these Gypsies have settled around 1886 and are most probably connected with the Gypsies in the so-called "Danube Duchies" (Wallachia and Moldova). They identify themselves as Wallachs. The dermatoglyphic imprints of the fingers and palms of both hands were processed after the classical methods [1] with the modification of Heet for the needs of ethnic dermatoglyphics [6]. The situation of the axial triradii was determined after the scheme of Sharma [2]. The calculation of the Eastern (Mongoloid) complex the Southern complex the Australoid complex and the summed up dermatoglyphic distances was carried out after the method of Heet [6,8]. Because of the complicated ethnic history of the Gypsies in the comparative analysis were used the data of Heet and Dolinova for the basic race groups of mankind [7]. In the work was administered also the method of the combination polygons of Debets in which each dermatoglyphic feature is transformed in a relative value. The values obtained demonstrate the situation of the given group on the Eurasian scale. The mean difference between the five dermatoglyphic features expressed as percentage from the Eurasian spreading of the variations was adopted as a measure of the taxonomic distance between the groups. The 6 basic ethnic dermatoglyphic features were analyzed in the paper: pattern intensity index (*PII*), main line, or Cummins, index (*MLI*), proximal palmar triradius (*t*), true hypothenar and thenar patterns (*Hy,Th/1*), and accessory interdigital triradii (*AIT*), [6].

Results and Discussion

The results obtained from the processing of the dermatoglyphic imprints are shown in Tables 1-5 and Fig.1. The Gypsy group under study is characterized with an increased delta numbers on the fingers especially true of men and a high *PII* in the scale of the Europeoid groups (Table.1). The racial gradients of this feature testify to its increase to the East and South as well as to its great value in the differentiation between races. According to Heet's studies a small number of the delta and a low delta index are typical of the Europeoids and Negroids. Australoids are the ones with the highest delta

T a b l e 1. Digital pattern (%) and pattern intensity index (*PII*) in Gipsy population

Group	Number	Sex	<i>A+T</i>	<i>R</i>	<i>U</i>	<i>R+U</i>	<i>W</i>	<i>PII</i>
Gipsy group	79	Men	2.9	2.5	52.3	54.8	42.3	13.94
	53	Women	7.3	2.3	54.9	57.2	35.5	12.81

T a b l e 2. Termination of the main line in a Gipsy population (%)

		Line A							
Group	Sex	1	2	3	4	5'	5''	6	7
Gipsy group	Men	3.4	1.2	58.6	13.5	20.9	2.3	0	0
	Women	1.6	0.5	42.1	20.1	35.7	0	0	0

		Line B										
Group	Sex	3	4	5'	5''	6	7	8	9	10	X	0
Gipsy group	Men	0	0.6	14.6	51.9	0	32.9	0	0	0	0	0
	Women	0	0	10.4	47.2	0	41.5	0	0.9	0	0	0

		Line C										
Group	Sex	5'	5''	6	7	8	9	10	11	X	0	
Gipsy group	Men	0	17.1	0	24.7	0	24.0	0	0	32.3	1.8	
	Women	0	19.8	0.9	15.1	0	16.0	0	0	43.4	4.7	

		Line D							
Group	Sex	7	8	9	10	11	13	0	
Gipsy group	Men	7.9	0	46.3	0	45.7	0	0	
	Women	8.9	0	33.9	0	57.2	0	0	

T a b l e 3. Types of the mainline (%) and Cummins index (*MLI*)

Group	Sex	Types of lines A			Types of lines D			MLI			
Gipsy group	Men	1	3	5	MA1-5	7	9	11	MD7-5		
		12.6	72.8	14.6	3.0	17.1	50.0	32.9	9.3	7.49	
Gipsy group	Women	6.6	67.9	25.5	3.4	19.8	37.7	42.4	9.4	8.02	

T a b l e 4. Proximal palmar triradii in a Gipsy group (%)

Group	Sex	t	t'	t''	tt'	tt''	t't'	0
Gipsy group	Men	69.6	25.3	1.8	1.3	1.3	0.6	0
	Women	62.3	33.0	1.9	0.9	0	0	1.9

T a b l e 5. True palmar pattern and accessory interdigital triradii in a Gipsy population (%)

Group	Sex	Palmar pattern						Accessory interdigital triradii		
		Hy	Th1	II	III	IV	II	III	IV	II-IV
Gipsy group	Men	27.2	11.4	2.5	17.7	45.6	2.5	0	12.7	15.2
	Women	14.2	16.0	0.9	17.9	43.4	0.9	0.9	14.2	16.0

index. Mongoloids are in the middle of the variation scale. The ending of the main palmar lines in the studied Gipsy population has the following characterization: in both sexes type 3 of line *A* (field 3+4) is prevalent — 72,8% in the males and 50,0% in females. The low ending of line *A* (field 1+2) is poorly expressed 12,6% in the males and 6,6% in the females. The mean value of line *A* is 3,0 in the men and 3,4 in females. For line *D*, the rarest type is 7 in both sexes. The frequency of types 9 and 11 is almost equal in the men while in women type 11 is predominating. The *MLI* is low (Tables. 2,3). The variations of this index in the big racial groups are as follows: Europoids display a maximally high *MLI*, while in the Mongoloids this feature displays very low values. Low values are also typical of the Negroids and Australoids. The proximal palmar triradius is of medium expressed values in both sexes (Table. 4). The true palmar pattern of the hypothenar is medium expressed frequency in men and a low one - in women. The decreased frequency of the hypothenar pattern brings Mongoloids close to Negroids which are similar on their part to Australoids. The accessory interdigital triradii in both sexes show low frequencies. The mean frequencies of this feature are typical of the Australoids and Europoids, a the low ones — for the Mongoloids. The racial gradients of these features displace the dermatoglyphic type of the studied Gipsy group too far to the East and bring it closer to the dermatoglyphic type of the Mongoloids from North and Central Asia. An interesting specificity of the dermatoglyphic picture of the Gipsy group under study is the high incidence of the thenar pattern in both sexes (Table 5). According to Heet the thenar pattern is of very low values in the Europoids and the Mongoloids and with very high ones in the Australoids. It must be noted that this feature alone cannot be used for the differentiation of Europoids from Mongoloids but its increased incidence is typical of the population of Australia, Oceania and American Indians. Situated in this fashion on the Eurasian scale the dermatoglyphic characteristics of the studied Gipsy group shows a clearly pronounced ethnic specificity. It is expressed in the increased delta numbers of the fingers combined with the low *MLI*, the low Hypothenar pattern, low incidence of the accessory interdigital triradii and the high incidence of the thenar pattern (Fig. 1). The calculated dermatoglyphic complexes showed: a very strongly pronounced Eastern (Mongoloid) complex — 59,6% in men and 60,1% in women and a poorly pronounced Southern one — 44,5% in men and 39,1% in women. The strongly pronounced Eastern component gave us grounds to make a comparative characterization with some basic racial groups such as the Mongoloids of North and Central Asia. A very small and small dermatoglyphic distance (*DD*) is displayed by the men of the studied Gipsy population compared with the Mongoloids of North and South Asia (*DD*=6.3 and 12.6). In women the distances to these racial groups are medium and high (*DD*=13.8 and 19.5). An exceptionally interesting specificity in the dermatoglyphic picture of the Gipsy population under study proved to be the very low Southern complex. The common Russian-Indian anthropological studies showed that Southern Europoids represent one of the three racial types in the Indian population. That is why we carried out a comparative dermatoglyphic characterization with the Southern Europoids from the Caucasus, Former Asia and Middle Asia. The summarized dermatoglyphic distances between the Gipsy sample studied by us and these basic racial groups are classified as “big” for the South Europoids from the Caucasus and Former Asia (*DD*=21.4, 19.2; 20.2, 23.9) and as “medium” for the Europoids from Middle Asia (*DD*=12.6; 16.4). Except for the South Europoid and the Mongoloid racial types the vedoid (Australoid) racial type is also encountered. The analysis of the separate dermatoglyphic features of the Gipsy group studied by us shows certain similarities with the Australoids as well such as: the combination of a high *MLI* with medium frequencies of the hypothenar pattern, low incidence of the Cummins' index

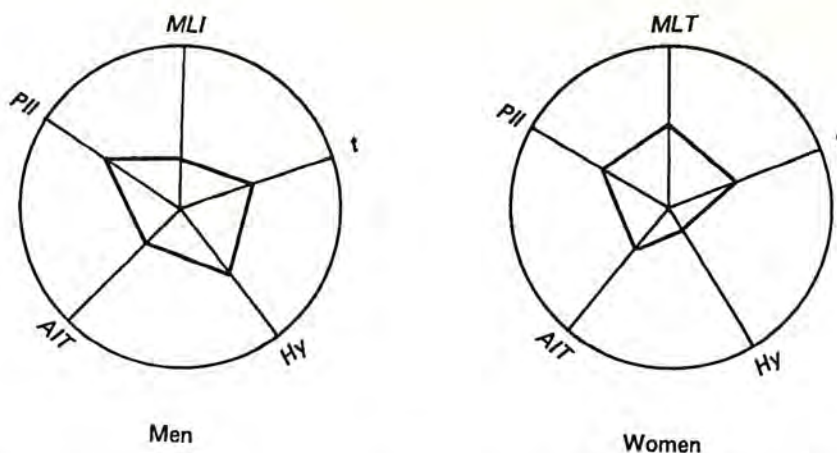


Fig. 1. Polygonic graphs showing the variation of dermatoglyphical traits in Gipsy populations. Circle radii correspond to the Eurasian ranges

(*MLI*) and the augmented frequencies of the thenar pattern. Therefore the Australoid complex in the studied Gipsy population was calculated as well. To our surprise it proved to be considerably higher than the Southern complex ($AC=51.4\%$ in men and 55.5% in women). It is known that the most ancient inhabitants of the Indian subcontinent, the vedoids have belonged to the Southern Europoids but with well expressed equatorial features of the so-called Australoid type.

According to the dermatoglyphic studies of Heet and Dolinova [7] modern mankind can be divided into three main stems: Southern (Negroid), Western (Europoid) and Eastern (Mongoloid, Australoid and Americanoid ones). Judging both from the separate features and from the summed-up similarities the Australoids from India prove to be maximally close to the Eastern stem. According to preliminary data Heet and Dolinova differentiate the Australoids from India into a separate stem since they emerge as an intermediary formation in the system of the greatest racial types of humanity combining features characteristic of the three great racial stems - Southern (Negroid), Western (Europoid) and Eastern (Mongoloid, Australoids and Americanoid ones). The greatest proximity of the Australoids from India to the Eastern stem Heet and Dolinova attribute to their genetically common origin.

The comparative analysis with the Southern Europoids from the Caucasus, Former Asia and Middle Asia showed that the studied Gipsy group displays medium dermatoglyphic distances only with the Europoids from Middle Asia ($DD=12.6$ and 16.4). This result corresponds with the very interesting fact established by Heet and Dolinova [7] concerning the maximal typological and statistical proximity of the Australoids from India to the Europoids from Middle Asia ($DD=14.3$). According to her this proximity reflects the genetic bonds of the most ancient native inhabitants of the Indian subcontinent to the population from the Northern areas data on which are reported in the paleoanthropological findings from the Bronze age from the region of Middle Asia.

Conclusion

Summing-up the results from the dermatoglyphic analysis of the studied group of Wallachian Gipsies from the village of Shumata, the Gabrovo region the following conclusions can be drawn:

1. According to its dermatoglyphic characterization the group of Wallachian Gipsies belongs to the intermediary racial types formed by the mixture of the three basic for South Asia racial types - Vedoids, Southern Europoids (Melanochors) and Mongoloids.

2. The racial type characteristic of the studied Wallachian Gipsy group has been formed basically by the mixing of Mongoloids and Vedoids populations.

3. The participation of Southern Europoids (Melanochors) in the formation of the dermatoglyphic type displayed by the studied Gipsy group is minimal.

4. The dermatoglyphic characteristics of the Wallachian Gipsy population carried out by us conforms with the dermatoglyphic results of Heet and Dolinova about the similarities of the Mongoloids with the Eastern Equatorial groups (the Indian vedoids in particular).

5. The increased concentrations of Eastern (Mongoloid) and Vedoid dermatoglyphic features in the studied Wallachian Gipsy group is explained by the presence of a great number of ancient indigenous elements.

References

1. Cummins, H., Ch. Midlo. Finger prints, palms and soles. — In: An introduction to dermatoglyphics. New York, Blackstone, 1961.
2. Sharma, A. Comparative methodology in dermatoglyphics. Delhi, 1964.
3. Этнические процессы в странах Южной Азии. М., Наука, 1976, 294 p.
4. Марушиакова, Е., В. Попов. Циганите в България. С., 1993.
5. Томова, И. Циганите в преходния период. С., 1995.
6. Хить, Г. Л. Дерматоглифика народов СССР. М. 1983.
7. Хить, Г. Л., Н. А. Долينو ва. Расовая дифференциация человечества (Дерматоглифические данные). М., 1990.
8. Хить, Г. Л., Н. А. Долينو ва, О. Исмагулов. Кожные узоры кисти у некоторых групп населения Индии. — В: Новые материалы к антропологии Западной Индии. М. 1982, 175—204.