

Dermatoglyphics of Karakachani Population of Bulgaria

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Who are the Karakachani? The lack of historical data about them older than 200 years in a combination with very archaic way of life and culture makes this question very actual. For the first time a dermatoglyphic study of a Karakachani sample from Sliven and Samokov regions has been carried out. The results show that: 1) The Karakachani are group with well expressed Europid character without significant Eastern (Mongoloid) admixture (Eastern Complex 36.4 % in males, 30.3% in females); 2) They have specific dermatoglyphic characteristics, including both well expressed Northeuropid and well expressed Southeuropid traits and peculiarities. The analysis if this characteristics argues that the Karakachani are descendants of the Upperpaleolithic and Mesolithic European and Balkan populations, a relict ethnos because of a long lasting, many thousand years long genetic isolation (from about 7000 years BC).

Key words: Karakachani, relict ethnos, Northern Europids, Southern Europids, Upper Paleolith.

Introduction

The Karakachani are one of the most interesting ethnic groups on the Balkans. The historic development of this ethnos is until present in the field of hypotheses because of the lack of written data in the classic and the Middle Ages sources. The Karakachani themselves tell that "their land of origin is the mountain Pindos (today in Northern Greece). Because of the tyranny and the oppression in the time of rule of Ali Pasha of Yanina they have left their homeland and started to wander in the mountains." In the different Balkan countries they are known under two names. The name "Sarakachani" is popular in Greece, and "Karakachani" — in Bulgaria, Serbia, Macedonia and Turkey. The latter in Turkish means "black refugees" [12].

Today the Karakachani in Bulgaria are sedentaries and live in different regions of the country. In 1994 they numbered about 14-15 thousands [12].

The interest of the scientific public about the Karakachani is not the same in the different Balkan countries. The Karakachani in Greece are studied in the major degree [3, 4, 9, 12]. In the scientific literature the materials about this ethnic group have

been connected mostly with its archaic way of life and culture. The most disputable are the questions about the origin and the name of Karakachani. Controversial hypotheses about their origin have been pronounced on the basis of linguistic, ethnocultural, socio-economic and anthropological findings. The more popular of them are: the Greek, the Aromunian, the Thracic, the Turkic, but no one of them has been confirmed clearly by written sources [9, 12].

The "Greek hypothesis" is based on linguistic and anthropologic similarities with the population of Epirus. In the opinion of Poulianos the Karakachani belong to the Epirotic or Continental Europid type. Poulianos writes, that this anthropologic type can be found also in Montenegro, Northwest Bulgaria, Rumania, Ukraine under the name Dinaric. According to him this type is not limited to the Dinaric Alps but is widespread to Switzerland in west at least and is connected to the Upper Paleolithic Europids [3, 4]. The supporters of the "Aromunian hypothesis" argue by the cultural proximity to the nomadic Romano-speaking Wallachs (Aromunians). According to the "Thracic hypothesis" the Karakachani are descendants of the autochthonic population of the Balkans (Thracians, Illyrians, Moesians). The "Turkic hypothesis" is based on slight Mongoloid traits mentioned in only one anthropologic study [11] and on some elements in Karakachani material culture and language [7, 9, 12].

It has to be stressed that the Karakachani are of special interest for the anthropology also because of their strong isolation from all Balkan peoples until the very near past [9]. Because of their endogamy and archaic way of life this ethnic group is a valuable source of information about the genetic relations on the Balkans from the deep antiquity. There is no complex anthropologic study of Karakachani in Bulgaria. There are only some studies concerning their physical and serological type [3, 4, 11, 15, 16]. In the present study for the first time dermatoglyphic data are involved to one aspect of the Karakachani ethnohistory — the anthropologic one. There is no study of Karakachani dermatoglyphics in Bulgaria as well as abroad.

Material and Methods

In the anthropologic studies of different populations in the last years the use of the dermatoglyphic system of traits, including pattern intensity index (PII), main line index (MLI), the frequencies of the low palmar triradius (t), of the hypothenar patterns (Hy), of accessory interdigital triradii (AIT) and of a thenar pattern (TH/I). These key traits for the ethnic dermatoglyphics, even though not numerous, are of an unusual value for the dermatoglyphic analysis because of their intergroup correlations, historically developed in large territories. That gives a possibility to define the place of every population on the Eurasian dermatoglyphic scale by use of the combinational polygons, cluster analysis etc. According to Heet [13] the above-mentioned traits form real historical complexes in Eastern Europe and Scandinavia, Caucasus, Middle, North and Central Asia clearly define the racial steams and have geographic gradients, confirmed by Sokal and Livshits [5]. The use of large number dermatoglyphic traits in no case is a guaranty of exact intergroup analysis. Thus in front of every explorer doing with a large volume of materials (such as the dermatoglyphic one) stays the problem of use of the most sparing methods without losses of valuable information and complication of the analysis.

In 1996-1998 there were carried out dermatoglyphic investigations of Karakachani population in Sliven and Samokov regions. The present study is based on the skin relief of the hands of 68 boys and 44 girls aged 10 to 18 years from Sliven

and Samokov regions. In the sample are included individuals of Karakachani origin by both mother and father side. The few descendants of mixed marriages have been excluded. The finger and palmar prints, collected by us, have been processed by the commonly accepted methods [1]. The type of the main palmar lines are described after H e t [13]. A comparison has been made with the dermatoglyphic characteristics of 142 ethnic and subethnic samples of whole Eurasia [14] and with 36 local, ethnographic, confessional and linguistic groups from Bulgaria (data of proper investigations) to establish the specificity of in the dermatoglyphics of Karakachani sample. That comparison has been made by the help of the summary dermatoglyphic distances (DD) and their generalization and standardization for the both sexes. In addition a cluster analysis of the standardized in this way distances by the weighed pair-group method (WPGMA) has been made.

Results and Discussion

For the digital pattern of the present Karakachani sample is characteristic the higher frequency of the ulnar loops and the lower one of the whorls. This dermatoglyphic combination defines the low values of the pattern intensity index (PII) in both sexes. The palmar relief is represented by the main palmar lines A and D. In the both sexes line A ends mostly in the field 5' (42.1% in males, 44.4% in females). In most Eurasian populations line A, which participates in the formation of the main line index (MLI), ends in field 3. In some populations, however, as Finns, Swedes, Eastern Latvians, some Belorussian samples the high ending is predominating (in field 5') [13]. The prevaluating type is 3 (3+4) — 50.7% in males, 54.5% in females. Line D in both sexes ends predominately in the field 11 by a characteristic type (11+12+13) — 55.1% in males and 48.9% in females. In both sexes type 7 (7+8) is represented weakly — 8.1% in males and 14.8% in females. The MLI in both sexes is in the rubrication "high". According the two main indices (PII and MLI) the Karakachani are an example of Europidity, combining low values of PII with high of MLI. An interesting specificity in the dermatoglyphic characteristic of the present Karakachani sample is the very low frequency of the proximal palmar triradius (t). For the present sample is typical an average frequency of the hypothenar patterns (Hy). The frequencies of the accessory interdigital triradii (AIT), and of the thenar pattern (Th/I) are low in males and below the average in females. The Eastern (Mongoloid) complex (EC) of the Karakachani in the both sexes is in the rubrication "low" (36.4% in males, 30.3% in females). This values define the Karakachani unconditionally to the Europoid groups without significant Mongoloid admixtures. The Southern complex (Sc) in the Karakachani is average to high in males (59.2%) and high (63.5%) in females (Table 1, Fig. 1).

The results of the dermatoglyphic analysis of the key ethnodermatoglyphic traits show that for the Karakachani is typical a very specific combination of Northeuropid traits (low values PII, low frequency of the Hy, and low frequency of the AIT, high

Table 1. Dermatoglyphic traits and complexes in the Karakachani

No	Sex	Traits							
		PII	MLI	t	Hy	AIT	ThI	EC	SC
68	Man	12.86	8.89	45.6	28.7	15.4	10.3	36.4	59.2
44	Woman	11.90	8.53	30.6	37.5	20.4	11.4	30.3	63.5

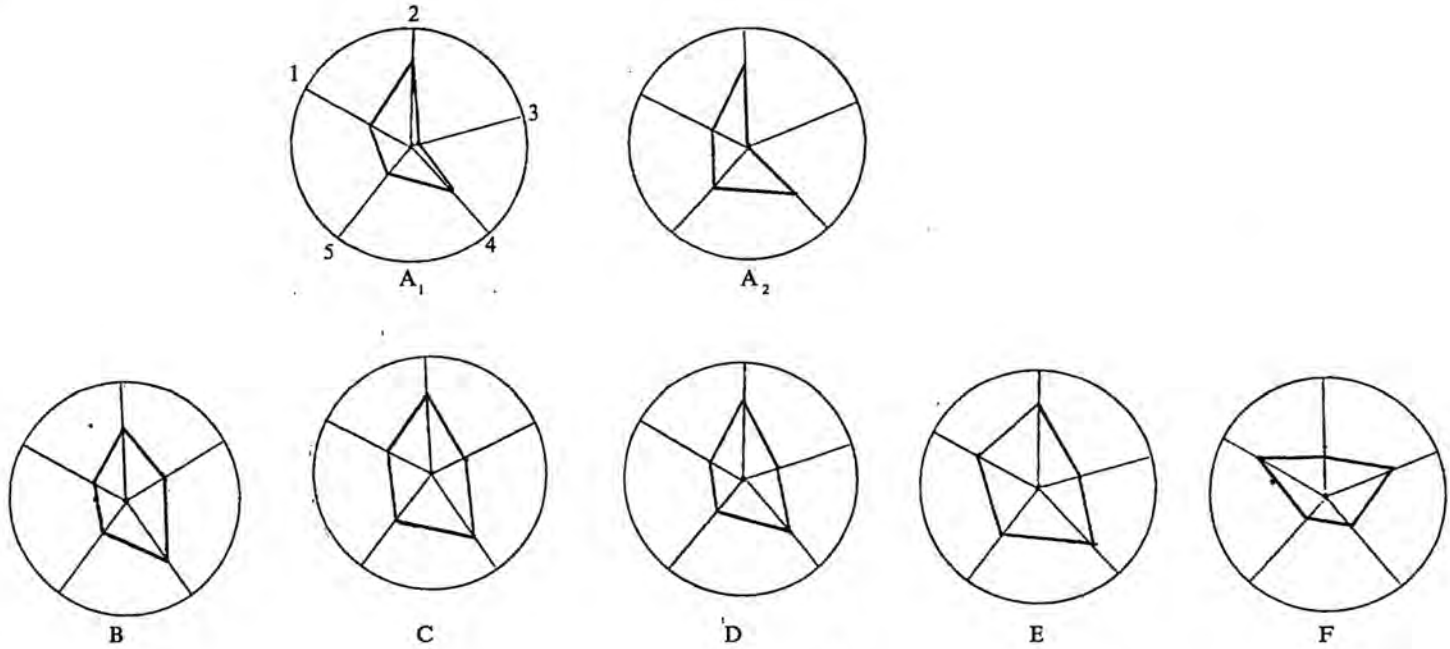


Fig. 1. Polygonic graphs showing the variation of dermatoglyphical traits

Circle radii correspond to the Eurasian ranges. Traits: 1 — PII; 2 — MLI; 3 — t; 4 — Hy; 5 — AIT; Karakachani; A₁ — men; A₂ — women; B — Europoids of Europe (Western and Eastern); C — Europoids of Caucasus; D — Central Eastern European anthropological type; E — Europoids of Former Asia; F — Mongoloids

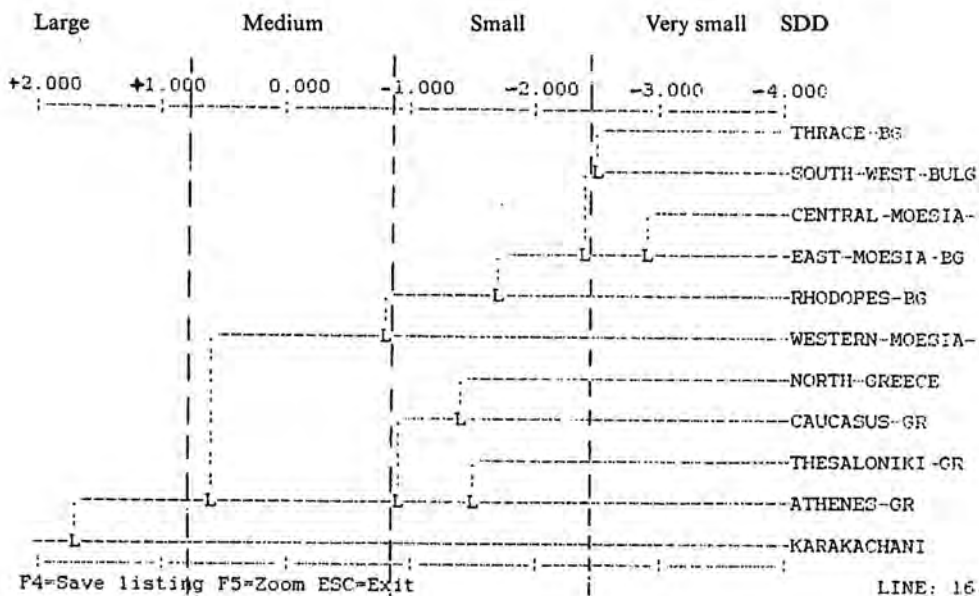


Fig. 2. Cluster analysis of Bulgarian and Greek regional samples and Karakachani (dermatoglyphic distances standardized on local group level)

ending of line A in the field 5' with Southeuropoid ones (unusually low frequency of the t and high values of the MLI). This specificity in the dermatoglyphics of the Karakachani can be demonstrated more clearly in a comparison with the generalized sample of the Europids of Europe, Caucasus and Former Asia [14]. Typologically (according the combination of the traits), and also statistically (according the values of DD) the Karakachani are most close to the Europoids of Europe (DD = 12.8 in males, 13.8 in females, SDD = -0.42). After Heet, the population of Europe differs from the three other Europid groups (Caucasus, Fore and Middle Asia) mainly by the low values of the PII and AIT (both characteristic for the Karakachani), which have to be a very ancient specificity of the European populations [14]. However, low are only the DD with the Central Eastern European group of populations (Russians from Central Russia, Belorussians from Polesye region) — DD = 11.3 in males, 10.7 in females, SDD = -1.23. In the anthropological characteristics of these populations Protoeuropid traits have been found [6]. The SDD of -1.23 to this group of populations is by one standard deviation unit smaller than the distance to next in similarity group of populations.

As concerns the Southeuropid groups, the Karakachani are most closely to the Caucasians (SDD = -0.17). They are similar with some Nonindoeuropean Caucasian populations (with which the contacts in historic times can be excluded). This similarity suggests that the Karakachani may be descendants of the Preindoeuropean population of the Balkans.

From the Balkan peoples the best described in dermatoglyphic studies are the Greeks [14]. The Karakachani sample does not present dermatoglyphic similarity to the Greek samples because the DD to them are large (to the total Greek sample DD =

17.0 in males, 14.7 in females). The Karakachani differ also from almost all Bulgarian subsamples [2, 8, 10]. In fact, the particular regional Bulgarian and Greek samples are closer one to another than to the Karakachani (Fig. 2).

According to us the established ancient European dermatoglyphic combinations of traits in Karakachani (low values of the PII and AIT) defining their similarity with the populations of Central Eastern European group, on the one hand, and the unusually low frequency of the t, defining the predominating Southeuropid complex, on the other hand, confirm the seroanthropologic [15, 16] and the classic anthropology [3, 4] data that the Karakachani are descendants of the European Upperpaleolithic and Mesolithic populations.

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