

## Dermatoglyphic Characteristics of the ethnographic Group “Balkandzhii”

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The finger and palm prints of 375 boys and 366 girls from the region of Gabrovo, Sevlievo, Dryanovo and Tryavna were analyzed. It was found that the Balkandzhii belong to the Southern Europids. Their Southern-European dermatoglyphic type is close to that of the populations of Former Asia and the Caucasus but with some specific dermatoglyphic combinations, which most probably have a very ancient local origin. Some superstratic elements in their dermatoglyphic characteristic are related to certain Eastern-European local races.

*Key words:* ethnographic group, ethnos, Former-Asia Caucasian complex, Pontic anthropological type.

### Introduction

In ethnology, the ethnographic group is defined as a local (internal) subdivision of the ethnos – a people with specific elements of the culture (cultural ones everyday life peculiarities, a vernacular). The ethnographic group speaks the same language of the main ethnos and is aware of its belonging to it. From a biological viewpoint the ethnographic group represents an interesting genetic unit. It is a bearer of racial features typical of the basic ethnos to which it belongs as well as of regional and local anthropological (dermatoglyphic) peculiarities preserved in an older form. The ethnographic group “Balkandzhii” encompasses the region of the Central Balkan – Gabrovo, Sevlievo, Dryanovo and Tryavna. In physico-geographical aspect the region is characterized by a strongly uneven relief and a great variety of earth shapes. The altitude above the sea level is between 300 and 700 metres. The history of this region provides evidence that the numerous caves typical of the region have been inhabited by the human since deep antiquity. Of particular interest are the results from the archaeological excavations in the “Bacho Kiro” cave.

This cave has been used by the primeval man during the middle and late Paleolithic period ( 50 000-100 000 years BC). The next historical epochs Neolithic, Eneolithic, bronze and iron are registered by a number of found settlements and mound necropolis. Authors have established that on the territory of the ethnographic group “Balkandzhii” three different Thracian tribes have lived. The Roman-Byzantine antiquity and the Middle Ages as well have left their impact on the archaeological map of the region under study. The information concerning the period of Ottoman feudalism pro-

vokes an interest as to the migration mobility of the population from Gabrovo, Sevlievo, Dryanovo and Tryavna region. According to the Ottoman tax registers from the middle of 16<sup>th</sup> c. for Dryanovo and the end of the 17<sup>th</sup> c. and beginning of 18<sup>th</sup> c. for Tryavna the immigrants have constituted a mere 1 per cent. Only as an exception by the end of the 16<sup>th</sup> c. for Dryanovo the migration reaches 9 per cent [4, 7, 10]. It was such for the townships while in the rural areas it has been minimal. This low migration mobility of the population during the ages has contributed to the comparatively closed character of the ethnographic group "Balkandzhii".

The present study is aimed at the specification of the dermatoglyphic type of the "Balkandzhii" from the regions of Gabrovo, Sevlievo, Dryanovo and Tryavna.

## Material and Methods

A total of 375 boys and 366 girls from the regions of Gabrovo, Sevlievo, Dryanovo and Tryavna after the dermatoglyphic programme of Cummins and Midlo, Sharma and Heet were studied. The collection of imprints was processed after the conventional methods [1, 3, 8]. The method of Heet and literature data about 142 ethnic and ethnographic groups from the whole Eurasia as well as own studies of 36 local groups from Bulgaria [2, 9] were applied in the attempt to determine the specificity of the dermatoglyphic type of the Balkandzhii. The six basic features of ethnic dermatoglyphics were used for the analysis – pattern intensity index (PII), main line, or Cummins, index (MLI), proximal palmar triradius (t), true hypothenar patterns (Hy), accessory interdigital triradii (AIT) and thenaric pattern (Th/1). These features display geographic gradients and clearly differentiate the racial stems [8].

## Results and Discussion

The full dermatoglyphic characteristics of the Balkandzhii is presented in Table 1. The results show that in dermatoglyphic respect they are unconditionally classified as Europoids. The values of their basic dermatoglyphic features are more typical of the Southern Europoids compared to the Middle and Northern European populations. In a clearly pronounced South-Europoid dermatoglyphic complex (SEC=70,1 % in the males and 58,0 % in women), the Balkandzhii display a most specific South-Europoid dermatoglyphic feature expressed in a very low of the proximal palmar triradius and a high and very high incidence of the hypothenar pattern (Hy). This South-Europoid dermatoglyphic combination is invariably repeated in each studied population sample both in men and women and binds the variations of the other dermatoglyphic features in definite dermatoglyphic complexes (Table 1, Fig. 1). In the men, the South-Europoid traits recorded as a complex are maximally expressed in the Sevlievo region (SEC=75,9 %). Only in them an abrupt reduction of the proximal palmar triradius (t) was observed combined with a very high frequency of the hypothenar pattern (Hy) and high values of both basic indices (PII and MLI). In the other male and female samples from Gabrovo, Dryanovo and Tryavna and in the females from Sevlievo the South-Europoid dermatoglyphic combination is associated with medium values of the pattern intensity index and high for the men and medium for the women values of the Cummins index. The accessory interdigital triradii and the thenar pattern are of medium values in the males and low in the females in all four samples. With the variations of these features which are in the bounds of the South-Europoid (Hindu-Mediterranean) small Europoid race are associated also the lower values for the Southern complex in the men from

Table 1. Variations of the dermatoglyphic features in a Central Balkan population (ethnographic group "Balkandzhii")

Groups	Number sex	Features						Complexes	
		PII	MLI	t	Hy	AIT	Th/1	SC	EMC
Gabrovo region	118 boys	13,33	8,71	47,0	36,4	29,2	12,3	69,6	29,6
	95 girls	12,77	8,30	44,7	42,6	12,6	11,0	58,2	40,7
Sevlievo region	104 boys	13,90	8,88	40,9	47,1	18,3	8,6	75,9	27,8
	100 girls	12,73	8,20	40,0	35,5	14,0	9,5	56,5	42,2
Dryanovo region	79 boys	13,62	8,73	52,5	39,2	23,4	7,6	67,6	34,0
	74 girls	13,22	8,08	50,7	41,2	14,9	8,1	56,4	45,3
Tryavna region	74 boys	13,69	8,57	45,3	37,8	15,5	12,1	65,3	36,7
	97 girls	13,01	8,54	43,3	42,8	11,3	5,7	60,7	39,7
Balkandzhii total	375 boys	13,62	8,73	46,1	40,2	22,3	10,2	70,1	31,5
	366 girls	12,91	8,29	44,3	40,4	13,1	8,6	58,0	41,8

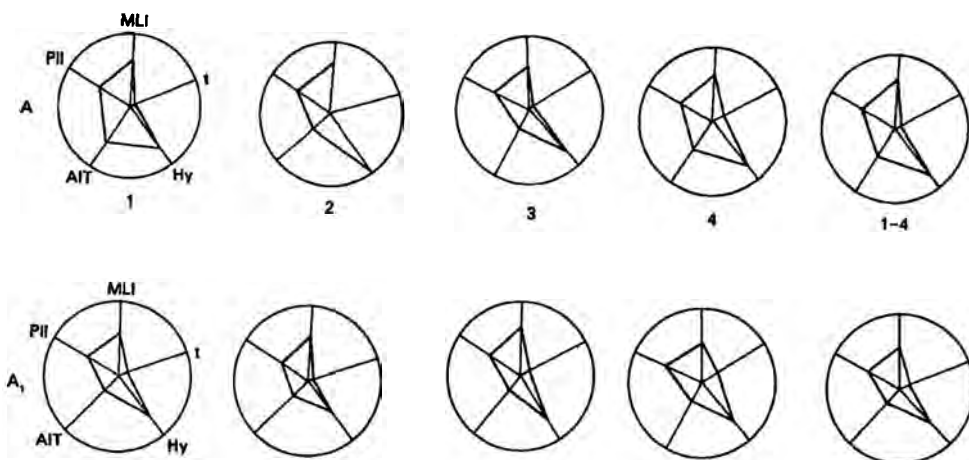


Fig. 1. Polygonic graphs showing the variation of dermatoglyphical features in the Central Balkan region: A – boys, A<sub>1</sub> – girls. 1 – Gabrovo; 2 – Sevlievo; 3 – Tryavna; 4 – Dryanovo; 1-4 – Balkandzhii total

Gabrovo (SC=69,6 %), Dryanovo (67,6 %) and in the males and females from Tryavna (65,3 % and 60,7 %) compared with the men from Sevlievo. The attenuation of the Southern traits in the women from Sevlievo (SC=56,5 %) and Dryanovo (SC=56,4 %) results from the lower values of the two basic indices and the accessory interdigital triradii. In the women from Dryanovo by comparison with all other samples still another dermatoglyphic feature was established – the significantly reduced value of the Cummins index and the increased incidence of the proximal palmar triradius displace the common Europid type in an Eastern direction and augment the value of the Europoid-Mongoloid complex (EMC=45,3 %). In the men from Dryanovo region the increased incidence of the proximal palmar triradius does not affect the value of the Eastern complex due to the well-pronounced South-Europoid character of the other features (Table 1). These intergroup dermatoglyphic specificities of the Balkandzhii stand out even more markedly upon their comparison with the dermatoglyphic characteristics of summed up Europoid Samples from Europe (Eastern and West), the Caucasus, Former Asia and their main local races [8,9]. To our pity there are found no data about the Serbs, Albanians, Italians, Romanians and Macedonians, which significantly limits the scope of the study. The intergroup dermatoglyphic analysis with the summed Europeoid samples was carried out on the basis of the dermatoglyphic distances (DD), taking into account the dermatoglyphic similarity between the compared groups at different levels great races, local races and ethnic groups. According to the calculations of Heet starting from the North to the South and from Europe through the Caucasus to Former Asia the values of the pattern intensity index, Cummins index, the hypothenar pattern and the accessory interdigital triradius logically grow accompanied by the parallel decrease of the proximal palmar triradius incidence. As a result in the summed Caucasian group the South-Europid traits are significantly more common (SC=60,7 % in the males and 57,0 % in the females) compared with European population (West and Eastern Europe) (SC=51,7 % and 50,2 %). In the Europeoids from Former Asia the Southern Europid complex is most pronounced (SC=63,9 % and 62,9 %) due to the considerable increase of the pattern intensity index and the abrupt reduction of the proximal palmar triradius. The dermatoglyphic type of the Balkandzhii is closer to that of the South Europeoids from the Caucasus and Former Asia but because of the specific South-Europoid combination of the features, “small” dermatoglyphic distances have been established only with the males

from the Caucasus (DD=11,1). In women the dermatoglyphic distances from the Southern Europoid of the Caucasus and Former Asia are classified in the "medium" category. The lack of small distances in them confirms once again the very specific dermatoglyphic type of the Balkandzii. It incorporates elements of the "Former Asian-Caucasian" complex but on a rather specific South-Europoid combination appearing as the substrate of the ethnographic group of the Balkandzii. In the male group this substrate forms a strongly pronounced South-Europid dermatoglyphic complex which is especially well-expressed in the Sevlievo region sample. Their dermatoglyphic type meets no parallel with any South-European groups of the used for comparison summed up samples from the Caucasus and Former Asia. In the women-Balkandzii the South-European type is attenuated due to the connection of the substrate with superstrate elements of the "Eastern-European" complex – medium values of the two main indices and low ones of the accessory interdigital tridarii. The specific South-European basis typical of the ethnographic group "Balkandzii" was also established in the dermatoglyphic type of other local Bulgarian populations – the Smolyan (Central Rhodopes), Sliven (the foothill of the Balkan), Belogradchick (Western Balkan), Trin (Sofia region) [5].

Summing up the results from the racial type analysis of the dermatoglyphic type of the ethnographic group "Balkandzii" we arrive at the conclusion that the Balkandzii from Gabrovo, Sevlievo, Dryanovo and Tryavna belong to the Southern (Mediterranean) branch of the great Europoid race. The comparative analysis of the dermatoglyphic peculiarities of the Balkandzii with a great number of local Eurasian races displays "small" dermatoglyphic distances from the Former Asian local Caucasian race (DD=9,5 for the men and 9,1 for the women). The representatives of this local race are bearers of the most ancient (original) features of the Mediterranean race and the different varieties of the Balkan-Caucasian race [6]. In the women-Balkandzii this type is connected with superstrate elements of some Eastern-European local races – Central-Eastern European (DD=10,0), Valday-Upper Dnieper (DD=10,9), Dnieper (DD=10,0) and Baltic (DD=11,2). Also of interest are the "small" dermatoglyphic distances with the Pontic race (DD=10,8) which is typical of the transition zone between the Southern and Northern Europoids.

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