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Dermatogliphic distinctness of the Hel Kashubians

Grażyna Liczbińska

Abstract

The study consisted in the qualitative and quantitative analysis of epidermal ridges on fingers of the Kashubians from the Hel Peninsula and those from Pomerania. On the basis of the obtained data similarities and differences between the Kashubians and other Poles with regard to these traits were assessed.

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Introduction

The Kashubia (Kaszuby) Region within its contemporary boundaries comprises of the territories of several historical administrative districts: Puck, Wejherowo, Kartuzy, partly Chojnice, Człuchów, Bytów and Lębork districts – in the north and Eastern Pomerania and, further to the west, Słupsk and Sławno districts [LABUDA 1991] (Fig. 1).

The inhabitants of the Hel Peninsula constitute a specific group within the Kashubian population. The specificity of this group is a result of permanent geographical and biological isolation. The group's integrity was further strengthened by its occupational structure. Fishery – a difficult and dangerous occupation – required team work and cooperation of several families. This resulted in the tightening of inter-family bonds and in the deepening of tradition [SZEWKO-SZWAYKOWSKA 1964].

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Kashubians have been a subject of numerous ethnographic studies. The first anthropological studies were undertaken before World War II by TALKO-HRYNCEWICZ [1925] and by ĆWIRKO-GODYCKI, WRZOSEK [1937]. The research was continued after the war by other scientists, including DZIERŻYKRAY-ROGALSKI, OLEKIEWICZ [1958, 1959], GAŁASIŃSKA-POMYKOŁ [1956, 1964, 1965], SZEWKO-SZWAYKOWSKA [1964] and CHARZEWSKI [1968, 1969].

From the group of traits of the Hel Kashubians analysed up to date dermatoglyphs have not been a subject of scientific elaboration yet.

The subject of this report is the description of epidermal ridges on fingers, including the description of similarities and differences with finger epidermal ridges of other populations of Poland (including the Pomeranian Kashubians).

Material and methods

In this work fingerprints obtained from 501 people of Kashubian origin

were used, including 335 Kashubians from the Hel Peninsula and 166 from Pomerania from the villages of Załakowo, Mojusz, Kamienica Królewska, Łyśniewo, Pałubice, Szopa (the Kartuzy district) (Table 1).

Table 1. Territorial differentiation of the material

	Women	Men
Kuźnica	83	62
Jastarnia	114	76
Kartuzy district	83	83

Fig. 1. Map of Kashubia

The fingerprint patterns were identified using Lestrange's classification system supplemented and elaborated by BOCHEŃSKA [1964] and ROGUCKA [1968].

The characteristics taken into consideration in the identification of patterns were the type of pattern and its orientation. For loop patterns the orientation could be either ulnar or radial and for arches and whorls – ulnar, radial or symmetric. Subsequently the frequencies of occurrence (percentage) of particular types and orientations of male and female fingerprint patterns were calculated, separately for the Kashubians living in Jastarnia, for those inhabiting Kuźnica and those from Pomerania Region. The frequencies of the occurrence of basic categories of A, L, W patterns for each sex were also calculated. The significance of differences in the manifestations of pattern types and orientations between both populations of the Hel Kashubians was tested using the *u*-test [OKTABA 1976].

Lack of significant differences proves the uniformity of this trait among the inhabitants of both settlements. Therefore, the materials obtained in Kuźnica and Jastarnia were merged and the percentage frequencies of occurrence of fingerprint pattern types and orientations on the left and right hand as well as the frequencies of basic categories of A, L, W patterns on both hands jointly were calculated.

The *u-test* was used to compare the obtained results with the previously published reference data concerning the remaining part of the population of Poland (ROGUCKA [1968], BUCHWALD [1981]). Additionally, the similarities and differences between both Kashubian populations with regard to these traits were assessed. Wendt's pattern complexity index (WI) was also calculated (WENDT, after: SZCZOTKOWA [1985]). The research included also the quantitative estimation of epidermal ridges on finger pads through the determination of the ridge count for each fingerprint pattern, the total number of ridges on the right and left hand fingers (Σ_p and Σ_l) and the

total ridge count (TRC) including all the ridges composing a pattern.

All the studied quantitative traits were characterized by the basic statistical parameters: arithmetical mean value *m*, standard deviation *sd*, skewness coefficient *a* and kurtosis coefficient *k* (GÓRALSKI [1974], STRZAŁKO, ROŻNOWSKI [1992]). Similarly to the qualitative traits also the quantitative traits picture was compared with the data characterizing the remaining part of the population of Poland (BUCHWALD [1981], ROGUCKA [1968]) and with the Pomeranian Kashubians. For the assessment of differences the *t*-Student test was used [OKTABA 1976]. Using similar statistical procedures the extent of sexual dimorphism was estimated taking into account the ridge counts in both Kashubian populations as well as the frequencies of the occurrence of fingerprint patters on both hands.

Statistical significance level was assumed at $\alpha = 0.05$. Selected results were additionally presented in charts.

Results and discussion

The Hel Kashubians are a population which has been subject to permanent geographical and cultural and, in consequence, biological isolation. Hence the population can be regarded as genetically and, as a result, phenotypically different from the remaining part of the population of Poland (including the Pomeranian Kashubians).

The aim of the present research – as it has already been mentioned – was the qualitative and quantitative characteristics of finger pad epidermal ridges of the Hel Kashubians as well as the assessment of similarities and differences between this population and the Pomeranian Kashubians and other Poles with regard to the above mentioned traits.

The confrontation of the frequency of occurrence of types and orientation of patterns on the fingers of hands of men and women inhabiting the Hel Peninsula shows that the principal trends with regard to the frequency of their occurrence in this population show high similarity to those observed among Pomeranian Kashubians and other Poles. For both sexes the ulnar loop (as in the whole of Poland) and the arch were the types of patterns most frequently occurring on all fingers of both the right and left hand. The atypical whorl, rocket and shell loop and tented and complex patterns were the most seldom; while the gamma loop did not occur at all. Other types of touch figures occurred with variable frequency (Table 2). This confirms observations based on the studies of a large, representative group of Poles [BOCHEŃSKA 1964, ROGUCKA 1968].

On the fingers of the right and left hand of both sexes of Kashubians from Pomerania the most frequent pattern was the ulnar loop. Gamma loops, tented arches, complex patterns and atypical whorls were not observed in this population at all. Rocket and shell loops and polyspiral whorls were extremely rare (Table 3).

In the Hel Kashubians population, similarly to the Pomeranian Kashubians' population and to other Poles (BOCHEŃSKA [1964] AND ROGUCKA [1968]) ulnar orientation patterns generally prevail. The frequency of their occurrence as well as the percentage share of other types and orientation of patterns on finger pads of both Kashubian populations are presented in Tables 2 and 3.

Table 2. Frequencies of the occurrence (in %%) of types and orientation of patterns on the finger pads of the Hel Kashubians' hands

Pattern type		FINGER I		FINGER II		FINGER III		FINGER IV		FINGER V		FINGER I		FINGER II		FINGER III		FINGER IV		FINGER V	
		R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	P	L	R	L
		WOMEN										MEN									
A	u	4,1	6,8	7,6	8,4	4,7	5,8	5,7	4,8	5,7	2,1	2,2	4,2	6,9	3,9	4,2	4,7	2,9	0,6	1,6	-
	r	-	1,1	2,9	4,8	2,2	1,2	1,1	1,6	1,2	1,7	-	-	4,1	2,8	1,4	-	-	-	-	-
	s	0,6	1,2	8,1	5,3	1,3	2,1	2,2	2,6	1,1	3,1	-	0,8	2,8	0,8	-	2,7	1,4	1,4	-	-
T	u	1,2	-	4,0	5,1	1,5	7,5	1,2	3,4	1,4	5,8	-	0,7	2,9	6,3	5,3	8,8	0,8	6,5	2,5	4,7
	r	-	-	5,6	4,1	-	2,9	-	0,6	0,6	-	-	-	2,9	9,3	3,0	-	1,7	-	-	-
	s	-	-	2,2	0,6	-	0,5	0,5	-	-	-	-	-	0,9	2,6	-	0,8	-	0,8	-	-
L	u	42,2	47,2	26,3	23,9	69,9	60,3	41,3	45,9	72,1	70,6	39,9	54,5	26,7	30,8	64,4	61,0	34,2	42,8	74,5	76,4
	r	1,8	1,2	10,5	14,1	2,4	1,7	1,2	0,5	3,7	0,6	0,7	2,1	16,7	13,3	0,8	1,4	0,8	1,5	-	2,8
L^R	u	-	0,6	1,1	1,2	1,8	1,7	7,7	11,3	3,5	6,6	1,7	1,4	0,9	1,5	0,8	1,4	10,6	16,9	9,7	6,6
	r	-	-	0,5	1,6	-	-	1,2	0,6	0,5	0,5	-	-	0,9	2,8	0,8	-	-	-	-	-
L^M	u	1,3	1,4	2,5	1,5	0,9	0,5	2,2	1,4	1,7	1,4	3,3	1,9	1,3	1,4	1,4	1,9	0,6	1,3	-	2,7
	r	-	0,7	-	0,9	-	-	-	-	-	-	-	-	-	0,6	-	-	-	1,3	-	-
W^1	u	8,1	1,4	3,0	0,5	2,9	0,6	10,7	11,4	4,3	3,6	2,8	1,6	3,6	3,0	1,4	6,3	19,1	10,9	3,4	2,1
	r	1,7	2,9	4,0	5,6	1,9	0,6	0,8	0,9	-	0,5	3,2	2,1	7,4	3,0	3,5	2,1	0,8	-	-	-
	s	1,5	0,5	1,6	1,6	1,6	1,1	2,3	1,0	-	0,5	2,2	0,7	1,6	2,3	-	-	4,7	1,5	-	-
W^W	u	3,8	6,7	0,7	1,1	-	0,6	0,5	-	-	-	5,3	3,5	0,7	0,6	1,4	1,9	3,4	2,4	0,7	1,4
	r	1,1	1,7	1,5	1,5	-	-	0,5	0,5	-	-	1,5	2,1	0,9	0,6	-	0,8	-	-	-	-
	s	1,1	0,5	0,7	0,6	-	0,6	-	0,6	-	-	-	0,8	0,9	1,6	1,5	1,6	-	-	-	-
W^2	u	9,6	4,5	2,9	1,9	2,9	2,1	3,1	2,8	-	1,4	12,0	2,7	1,3	2,3	3,8	-	2,2	4,3	3,1	1,3
	r	2,4	1,4	1,6	2,5	0,4	1,2	0,5	0,8	-	0,5	1,9	3,5	2,2	1,3	1,5	0,6	-	-	-	-
	s	0,5	1,1	1,2	3,1	-	-	-	-	-	-	0,9	-	0,7	0,6	-	-	1,5	0,8	-	0,6
WL^2	u	8,7	10,3	2,7	0,9	2,7	3,4	1,1	2,7	2,1	-	10,9	9,0	2,1	2,3	1,5	1,4	0,6	2,8	0,7	0,7
	r	3,5	3,5	3,1	3,8	-	0,9	-	-	-	-	1,5	3,5	2,3	0,6	0,6	-	-	-	-	-
	s	1,5	1,9	-	0,5	0,6	0,9	0,6	-	-	-	0,7	-	-	-	-	-	-	-	-	-
L/Γ	u	0,5	0,6	-	0,9	0,4	-	-	-	-	0,5	0,7	-	0,9	-	-	-	0,6	-	-	-
	r	0,5	-	-	0,5	-	0,5	0,6	-	0,5	-	0,9	-	0,7	0,6	-	-	-	-	-	-
	s	-	-	0,5	0,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W^{wl}	u	-	0,6	0,5	-	-	-	-	-	-	-	-	-	-	0,6	-	-	-	-	-	-
	r	-	-	-	-	-	-	-	-	-	-	-	-	0,7	-	-	-	-	-	-	-
	s	-	0,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W^{2E}	u	2,9	-	2,2	0,6	1,5	0,5	10,3	4,8	1,1	0,6	3,9	0,7	1,5	2,6	1,5	-	7,3	2,1	3,1	0,7
	r	0,5	1,7	2,5	1,9	-	2,2	2,0	1,0	-	-	3,8	4,2	4,8	1,3	0,6	1,3	-	1,5	0,7	-
	s	0,9	-	-	0,5	0,4	0,6	2,7	0,8	0,5	-	-	-	0,7	0,6	0,6	1,3	6,8	1,5	-	-

Table 3. Frequencies of the occurrence (in %%) of types and orientation of patterns on the finger pads of the Pomeranian Kashubian's hands

Pattern type		FINGER I		FINGER II		FINGER III		FINGER IV		FINGER V		FINGER I		FINGER II		FINGER III		FINGER IV		FINGER V	
		R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L
		WOMEN										MEN									
A	u	1,8	6,0	5,8	8,1	8,8	4,8	1,9	3,2	3,8	1,6	-	4,8	19,3	13,9	12,5	1,5	3,7	1,6	3,5	3,0
	r	-	-	7,7	1,6	-	3,2	-	-	-	-	-	-	7,3	6,2	1,6	4,5	1,8	-	-	1,5
	s	-	3,2	3,8	3,2	5,3	4,8	-	1,6	-	1,6	-	-	10,5	6,2	-	2,9	-	3,1	-	1,5
T	u	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	r	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L	u	47,6	59,9	26,9	37,9	50,9	57,0	45,5	58,0	79,1	77,5	44,1	53,0	24,6	27,8	50,8	63,0	41,0	46,8	77,4	77,5
	r	3,6	5,6	13,5	1,6	3,5	-	3,9	1,6	3,8	-	-	1,5	8,8	13,8	-	2,9	1,8	-	-	1,5
L^R	u	1,8	1,6	-	-	1,7	1,6	3,9	9,7	1,9	11,3	-	3,0	1,7	1,5	3,2	1,5	1,8	7,8	1,7	4,5
	r	-	-	1,9	-	-	-	-	-	-	-	-	-	3,5	1,5	-	1,5	-	-	-	-
L^M	u	1,8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	r	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W^1	u	-	-	1,9	1,6	3,5	-	7,8	-	1,9	-	1,7	-	-	1,5	1,6	-	3,7	1,6	1,7	-
	r	1,8	-	5,8	-	1,7	1,6	7,8	3,2	-	-	-	-	1,7	-	1,6	-	-	9,3	-	1,5
	s	1,8	1,6	1,9	-	-	1,6	1,9	-	-	-	-	-	1,7	1,5	1,6	-	-	4,7	-	-
W^W	u	-	-	1,9	-	-	-	-	-	-	-	5,1	-	1,7	1,5	-	2,9	-	-	1,7	-
	r	1,8	-	-	1,6	-	-	-	1,6	-	-	-	3,0	-	1,5	1,6	-	-	-	-	3,0
	s	3,6	-	-	1,6	-	-	-	-	-	-	-	3,0	-	1,5	-	1,5	1,8	1,6	-	-
W^2	u	9,1	6,0	5,8	3,2	7,1	4,8	7,8	3,2	1,9	-	11,9	-	5,3	4,7	4,8	2,9	7,5	1,6	7,0	1,5
	r	5,4	8,1	5,8	6,0	5,3	4,8	3,9	8,1	1,9	1,6	3,4	3,0	3,5	1,5	6,3	2,9	5,5	9,3	-	-
	s	1,8	3,2	3,8	8,1	3,5	6,2	-	3,2	1,9	-	1,7	-	1,7	3,1	1,6	1,5	1,8	-	-	-
WL^2	u	3,6	-	-	9,7	-	1,6	-	-	-	-	11,9	1,5	-	1,5	4,8	-	-	-	3,5	-
	r	7,3	2,4	-	-	-	3,2	-	1,6	-	3,2	6,8	24,2	1,7	3,1	-	7,5	1,8	1,6	-	1,5
	s	-	1,6	-	-	-	-	-	-	-	-	1,7	-	-	-	-	-	-	1,6	-	-
W^{2E}	u	5,4	3,2	7,7	9,8	1,7	-	9,8	1,6	1,9	-	8,4	1,5	-	6,2	1,6	1,5	16,8	3,1	3,5	-
	r	-	3,2	5,8	-	3,5	4,8	1,9	3,2	-	3,2	-	-	5,3	1,5	3,2	1,5	1,8	4,7	-	1,5
	s	1,8	1,6	-	6,0	3,5	-	3,9	3,2	1,9	-	3,4	1,5	1,7	-	3,2	-	7,5	1,6	-	-

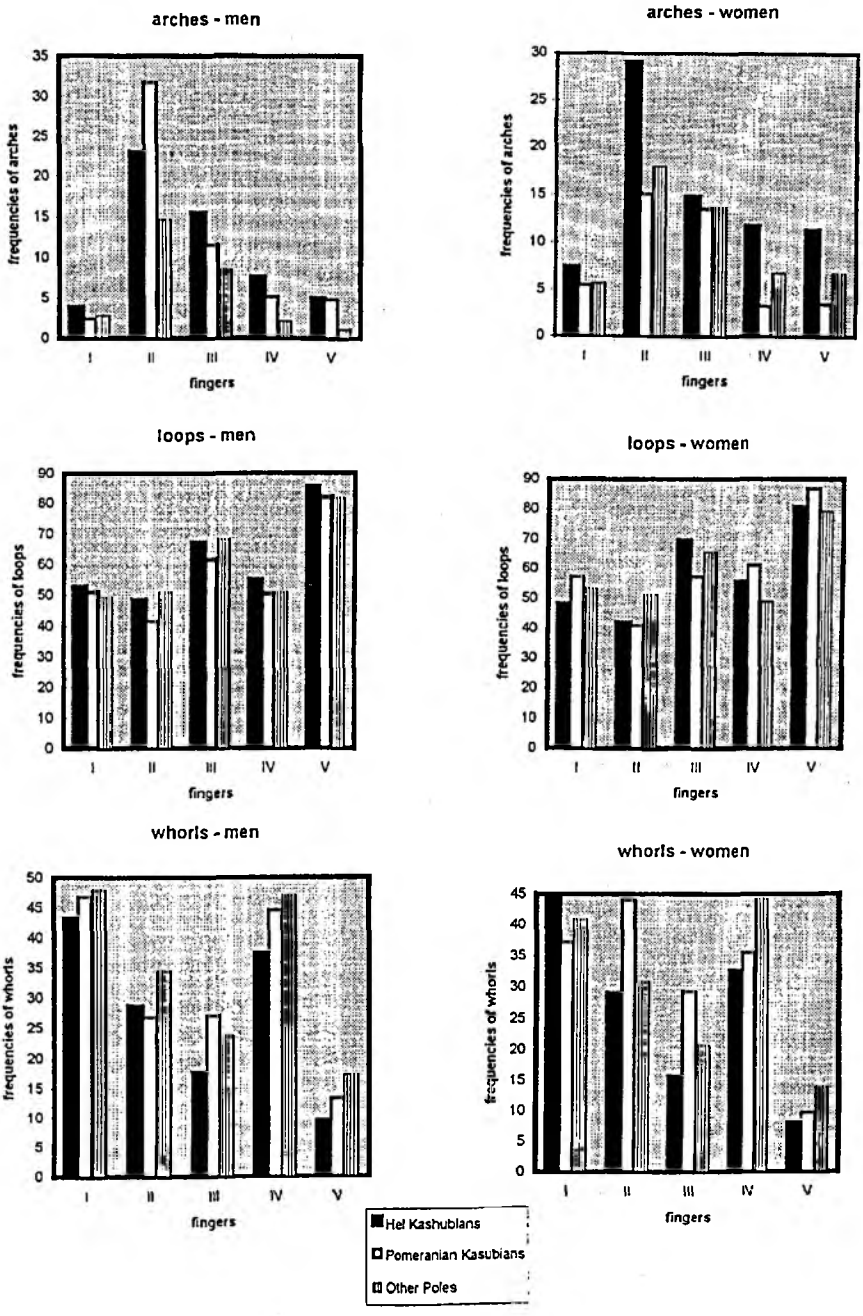

Fig. 2. Comparison of frequencies of basic categories A, L, W in women and men of populations Hel Kashubians, Pomeranian Kashubians and other Poles

To increase the clarity of results Table 4 and Figure 2 show percentages of basic categories of A, L, W patterns in the populations under study. A higher percentage of the occurrence of patterns of lower complexity on the fingers is noted among Hel Kashubians than among Pomeranian Kashubians and the rest of the population of Poland – for touch figures a higher percentage of arches is evident (Table 4). Table 4 shows the frequencies of basic pattern categories for the Pomeranian Kashubians taking into account statistically significant differences between this population and other Poles (ROGUCKA [1968]). As we can see, the differences are most evident for whorls which are less numerous in this Kashubian population.

Table 4. Frequencies of the occurrence (in %%) of the basic categories of A, L, W patterns on the finger pads of the right and left hand for both groups of Kashubians jointly

Pattern type	FINGERS				
	I	II	III	IV	V
men – Hel					
A	3,9	23,0*•	15,4*	7,6*	5,0
L	52,8•	48,4	67,1•	55,0•	85,6•
W	43,3•	28,6	17,5*•	37,4*•	9,4*
women – Hel					
A	7,4	29,1*•	14,8	11,8*•	11,4*•
L	48,3*•	41,9*	69,7*•	55,7*•	80,6•
W	44,3*•	29,0•	15,5*	32,5*•	8,0
men – Pomerania					
A	2,4	31,7*•	11,5*	5,1	4,8
L	50,8•	41,6*	61,5•	50,4•	82,0•
W	46,8•	26,7*	27,0*•	44,5*•	13,2*
women – Pomerania					
A	5,5	15,1*•	13,5	3,3•	3,5•
L	57,3•	40,9*	57,3*•	61,3*•	86,8•
W	37,2*•	44,0*•	29,2*•	35,4*•	9,7*

* statistically significant differences between the Hel Kashubians and other Poles

• statistically significant differences between the Hel Kashubians and the Pomeranian Kashubians

Also Wendt's pattern complexity indices (WI) for the discussed Kashubian populations were compared. Let us repeat after SZCZOTKOWA [1985] that the indices are calculated by allocating given numerical values to particular types of patterns. Thus, a qualitative trait representing types of touch figures is turned into a quantitative trait with continuous variability. Table 5 shows WI values for the Hel and Pomeranian Kashubians; for the sake of comparison also WI mean values for other Poles obtained by ROGUCKA [1968] are quoted.

Table 5. Mean values of the pattern complexity index (WI) on the fingers of both sexes of the Hel Kashubians, Pomeranian Kashubians and other Poles

Population	Women	Men
Hel Kashubians	43,3•#	45,5*#
Pomeranian Kashubians	44,0	46,7♣
Other Poles	44,8	47,9

* statistically significant differences between the Hel Kashubians and other Poles

• statistically significant differences between the Hel Kashubians and the Pomeranian Kashubians

♣ statistically significant differences between the Pomeranian Kashubians and other Poles

dimorphic differences

As we can see, the mean values of the discussed index are always lower for women. The comparison of the three populations taken into account in the table shows that the same index is the lowest (both for women and for men) among the Hel Kashubians. Such a result indicates a higher frequency of the patterns and a lower degree of their complexity in this population.

The occurrence of sexual dimorphism with regard to dermatoglyphic traits was indicated many a time (for instance ROGUCKA [1968]). In the case of the Hel Kashubians the majority of these differ-

Table 6. Parameters of distribution of epidermal ridge counts among the Hel and Pomeranian Kashubians

		FINGERS												
		RIGHT HAND					LEFT HAND							
Sex	Param. distrib.	I	II	III	IV	V	I	II	III	IV	V	Σ_R	Σ_l	TRC
Hel Kashubians														
W	*N*	190	189	189	189	189	190	189	190	189	187	190	190	190
	m	17,4••	10,1••	10,7•	15,2•	11,6•	10,4••	10,3•	10,6	14,3•	11,3•	65,8••	62,8••	128,1••
	sd	9,2	4,0	6,5	8,6	6,7	8,9	8,9	7,5	8,1	6,5	31,0	32,5	61,4
	a	0,27	0,68	0,86	0,25	0,19	0,88	0,87	0,7	0,15	0,19	0,33	0,28	0,26
	k	0,47	0,32	1,61	0,48	0,22	1,11	1,11	1,89	1,13	0,28	0,53	0,87	1,28
M	*N*	133	134	133	132	130	136	135	135	135	135	134	136	136
	m	19,5••	11,1••	11,6•	16,7••	11,9•	16,9•	11,9•	11,0•	15,3•	12,9•	69,3	67,0•	136,3••
	sd	9,3	6,7	8,5	10,2	5,8	9,1	6,7	8,8	7,6	6,1	28,7	33,6	58,5
	a	0,54	0,59	0,62	0,54	0,2	0,64	0,71	0,51	0,2	0,86	0,49	0,1	0,19
	k	0,57	0,28	1,7	0,1	1,0	1,18	1,25	0,08	0,75	1,83	1,45	0,44	0,95
Pomeranian Kashubians														
W	*N*	81	80	82	81	82	80	78	80	80	80	81	82	82
	m	14,3•	11,1•	11,4•	14,9•	11,8•	13,5•	11,3•	11,8•	14,4•	12,9•	68,6•	63,1•	132,8•
	sd	6,41	7,47	6,44	6,38	4,69	5,79	6,79	6,19	6,88	5,33	24,8	24,5	48,3
	a	-0,21	-0,05	0,14	0,15	0,04	-0,49	0,08	-0,29	-0,56	-0,09	-0,06	-0,36	-0,21
	k	0,05	-0,83	-0,23	-0,59	0,1	0,51	-0,52	-0,44	-0,16	-0,37	-0,55	-0,59	-0,46
M	*N*	83	80	81	79	80	81	82	83	82	83	82	83	83
	m	17,1•	12,9•	12,9•	16,9•	12,6	15,1•	11,4•	11,9•	15,5•	13,4•	69,9	67,3•	137,3•
	sd	6,5	8,0	7,0	6,5	5,4	6,7	7,2	7,2	7,2	6,1	25,7	25,6	50,1
	a	-0,27	-0,27	0,05	-0,44	-0,08	-0,25	0,23	-0,01	0,23	0,14	-0,25	-0,17	-0,33
	k	-,013	-1,16	-0,84	0,03	-0,41	0,03	-0,72	-0,6	0,99	0,53	-0,49	-0,35	-0,65

* statistically significant differences between the Hel Kashubians and other Poles

• statistically significant differences between the Hel Kashubians and the Pomeranian Kashubians

ences are statistically significant. A higher percentage of arches was observed among women than among men inhabiting the peninsula. Among men, in turn, whorl patterns prevailed. The Kashubian women from Pomerania had a higher – compared with men – percentage of loops, while men from this population, similarly to the Hel Kashubians, had a higher percentage of whorls.

Similarly to the qualitative traits before, also quantitative traits of both groups of Kashubians were compared with the relevant data for other Poles [BUCHWALD 1981, ROGUCKA 1968].

All the values of the ridge counts for the Hel Kashubians (Table 6) are lower than the values obtained for other Poles. Statistically significant differences were absent only in the case of finger III of the left hand for women and finger V of the right hand for men. Among the Pomeranian Kashubian women significant differences are present for all fingers of both hands, while among men they are absent only in the case of the finger IV of the left hand.

Both Kashubian populations were compared also with regard to the qualitative traits.

In general, the values of the mean epidermal ridge counts among the Kashubians from the Hel Peninsula are lower than similar mean values obtained for the Kashubians from Pomerania (Table 6).

Among male Hel Kashubians the arithmetical mean of the epidermal ridge count on particular fingers of the right and left hand as well as the sums of the ridge counts on the right and left hand are higher than the same arithmetical means among women (Table 6). A similar situation can be observed among the Pomeranian Kashubians. This was also ascertained in Buchwald's study devoted

to the dermatoglyphs of North Poland's population [BUCHWALD 1981].

The statistical significance of dimorphic differences estimated with the *t-Student* test was evident for the fingers I and V of the right hand and for the fingers I, IV and V of the left hand as well as for the sum of the ridge counts of the left hand and the total epidermal ridge count in the case of the Hel Kashubians. Among the Pomeranian Kashubians, however, statistically significant differences in the dimorphism of the quantitative traits concerned the fingers I, II and V of the right hand and the fingers I, II and IV of the left hand.

The analysis of skewness and kurtosis coefficients (Table 6) shows that in both populations the distributions of epidermal ridge counts are standard.

In spite of general similarities between the Hel and the Pomeranian Kashubians and other Poles with regard to the distribution of the counts of epidermal ridges on fingers and with regard to the orientation of intersexual differences, in general the values of the mean ridge counts for the Hel Kashubians turned out to be statistically significantly lower than similar mean values for other Poles. Undoubtedly, this results from the fact that the Kashubians have more simple touch figures on their fingers. This, in turn, could be a result of the genetic distinctness of the Kashubians caused by their long-lasting geographical and cultural isolation

Conclusions

The Hel Kashubians differ from the Pomeranian Kashubians and from other Poles with regard to both their quantitative and qualitative traits:

1. A significantly higher frequency of the occurrence of low degree patterns can be observed.

2. This results in lower mean epidermal ridge counts on the fingers of the right and left hand for both sexes.

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Streszczenie

W pracy dokonano jakościowej i ilościowej oceny listewek skórnych na opuszkach palców rąk Kaszubów z Półwyspu Helskiego i Pomorza oraz oszacowano stopień podobieństw i różnic w zakresie tych cech między Kaszubami i pozostałą częścią populacji polskiej.

W populacji Kaszubów helskich zauważa się istotnie większą niż u Kaszubów pomorskich i innych Polaków frekwencję wzorów o mniejszym stopniu komplikacji. Wśród figur dotykowych wyższy jest udział łuków (tabela 4).

Zasadnicze tendencje w częstości występowania typów i kierunków wzorów na palcach rąk u kobiet i mężczyzn z Półwyspu Helskiego są podobne jak u Kaszubów pomorskich i pozostałych Polaków. U obu płci najczęściej pojawia się pętla ulnarna i łuk (tabela 2 i 3).

Wartości średnich liczb listewek skórnych u Kaszubów z Półwyspu Helskiego są istotnie niższe od podobnych średnich w pozostałych populacjach (tabela 6). Konsekwentnie niższe są też wartości wskaźnika komplikacji wzorów (tabela 5).