

# ANTHROPOLOGICAL RESEARCH OF ROMANY (GYPSY) SCHOOL-CHILDREN IN SOUTH BOHEMIA

HELENA MALÁ, JAROSLAV SUCHÝ

To estimate how many Gypsies lived the during historic times in Europe and thus also in the Czech Lands and in Slovakia is a practically impossible task and inasmuch data exist it is necessary to take them with great reserve. A survey of the number of Gypsies at the turning-point of the 18th and 19th centuries given in the Encyclopaedia Britannica (1910) yields only approximate and very inaccurate information on their actual representation. The estimate here runs for Europe into about 900 thousand, for Asia into about 220 thousand, while for the other continents into roughly 150 thousand. Another survey had not been made until the period about 1960 (Gypsies — etc., 1967), when the estimate for Europe (including the entire Soviet Union, without data on Spain) made over 1 million Gypsies, the estimate for the United States being 50 to 100 thousand Gypsies.

## CZECHOSLOVAK ROMS-(GYPSIES)

A whole number of specialists studied the Anthropology of Gypsies in Czechoslovakia before the Second World War. The results of their work are of great importance today, for they are a document on the physical characters of the then Czechoslovak Gypsy population, living both a nomadic and a settled life. The works in question are those by F. Štampach (1929, 1933), J. Malý (1937, 1939), R. Váňa and Pinkas (1938), and M. Nováková (1946, 1969). The anthropological research of Gypsies after the Second World War is done on the one hand, by J. A. Valšík (1958, 1966, 1969), treating, mostly, the problem of pigmentation in Gypsies and the biologic-social aspect of their characteristics, on the other hand by W. Krebs (1964) dealing with the anthropology of Gypsy school-children. J. Beneš's comprehensive study (1965, 1968 etc.) deal with anthropological structure of adult young Gypsy men and the analysis of their dermatoglyphic patterns. The systematic research of Gypsy children and youth in Czechoslovakia started by J. Suchý in 1960 was included in 1967 into the research projects of the International Biological Programme. The aim of this research is to determine developmental an-

thropological norms for Gypsy children and youth, to characterize their differences from the norms for Czech and Slovak children, and to specify their basic anthropological characters. This research activity focuses on the study of two socially different groups, i.e. on the group of children and youth living in special childrens Homes (children separated from the native Gypsy environment) and on the group of children and youth living in the native Gypsy environment. The studies of the children are performed partly longitudinally (school and homes for children), partly in a single manner. The hitherto obtained results of these research activities are published in the papers by J. Suchý (1964, 1965, 1967, 1968, 1970) and by H. Malá and J. Suchý (1968, 1969, 1970).

## ANTHROPOLOGICAL CHARACTERISTICS

### MATERIAL AND METHODS

Research was carried out in places of elementary nine — year schools and special schools in the districts of České Budějovice, Prachatic, Český Krumlov, and Pelhřimov in the spring and the autumn of 1968 and in the spring of 1970. Investigated were Gypsy children at those schools where it was found that their number exceeded 10 children. The investigations were performed either by written inquiries to the Departments of Education of the competent District National Committees or right to the individual headmasters of the schools. Such a selection of children was chosen for the reason to examine in time of school instruction the possibly greatest number of children at the individual schools. It was given by the circumstance that despite the relatively great numbers of Gypsy children entered in schools, their absence would be high, which actually was confirmed by our experience. Research included both village and town children. Intentionally, children from homes, i.e. children separated from their native family environment, were not studied in this research activity. A survey of the studied places, schools, and numbers of children, together with the dates of performed investigations is presented in Tab. 2. All in all, 109 boys and 107 girls

TAB. 1

Number of Gypsies in the South Bohemian Region in 1968

DISTRICT	n	DISTRICT	n
České Budějovice	660	Písek	329
Český Krumlov	526	Prachatice	338
Jindřichův Hradec	394	Strakonice	191
Pelhřimov	80	Tábor	95

aged 6 to 15 years were investigated. The relatively small number of 216 children studied (approximately 8% Gypsy children out of 2,613 Gypsies in the South Bohemian Region) is given by the very difficulty to obtain numerous material for the high absence from school, manifesting itself especially in the higher age groups (Tab. 1). The numerical representation in the individual age groups for boys and girls is given in Tab. 3. A list of the 29 characters studied is presented in Tab. 4., ten characters evaluated and compared in this paper are, on the one hand, marked in this Table with an asterisk, on the other hand, they are listed in the individual Tables expressing the evaluations in a complex manner.

The establishment of the individual metric, index, descriptive, and physiological characters was

TAB. 2

Places, schools, and number of investigated Gypsy children in the South Bohemian Region

Locality	Elementary 9-year schools	Special schools	Boys n	Girls n	Date
1 České Budějovice	2	1	29	19	May 13, 1968 May 14, 1968
District of Český Krumlov					
2 Český Krumlov	3	1	24	29	May 5, 1970 May 7, 1970
3 Hořice na Šumavě	1	—	13	9	May 4, 1970
4 Chvalšiny	1	—	6	10	May 6, 1970
5 Větrní	1	—	14	15	May 6, 1970
District of Prachatice:					
6 Prachatice	1	—	1	3	Nov. 20, 1968
7 Volary	1	—	10	12	Nov. 21, 1968 Nov. 22, 1968
8 Borová Lada	1	—	2	0	Nov. 22, 1968
9 Křišťanov	1	—	3	2	Nov. 21, 1968
10 Strážný	1	—	1	2	Nov. 22, 1968
11 Žichovec	1	—	3	0	Nov. 20, 1968
District of Pelhřimov:					
12 Humpolec	1	—	0	2	May 12, 1970
13 Žírovnice	1	—	3	4	May 12, 1970
Totalling 13 places	16	2	109	107	

performed according to the method of R. Martin-K. Saller (1957). For the evaluation of the studied characters, use was made of the basic statistical characteristics given by V. Fetter et al. (1967). For certain characteristics the method of standardized characters published by V. Fetter et al. (1967), modified and applied on concrete material by J. Suchý (1964, 1967), was employed.

TAB. 3

Number of investigated children according to age

Age in years	6	7	8	9	10	11	12	13	14	15	Total
Boys	2	11	16	11	16	11	22	11	6	3	109
Girls	—	11	12	10	16	13	14	7	11	13	107
Total	2	22	28	21	32	24	36	18	17	16	216

This method was used for the very reason that the individual age groups of the studied Gypsy set were not represented in a sufficient number. The value of the standardized character ( $i$ ) shows how far from the average the examined set is and determines its position as regards the set compared. The advantage of this method lies in the fact that with the aid of the value  $i$  the individual characters can be compared with one another, or the values of one character during evolution. Negative  $i$  values mean that the averages of the individual characters in the particular age groups and summarily for all individuals aged 7 to 15 years are below mean, while the positive  $i$  values tell us that they are above average. If  $i$  equals one, the set under study is one standard deviation away from the average in a certain character. For the body height, body weight, and girth of the chest, the nationwide research results of 1961, published by V. Fetter et al. and by J. Suchý (1963, 1967), were taken as reference set, while for the cephalic index, the facial index, and the nasal index the research results, obtained by J. Suchý from Prague school children in the years 1957, 1958 (J. Suchý, 1964), were taken as reference set. With the aid of the reference set of Gypsies, the investigations of Gypsy schoolchildren from North and West Bohemia were performed in the years 1960 to 1963 by J. Suchý (1968, 1964), where the values of standardized characters ( $i$ ) were calculated also for the body height, the body weight, the girth of the chest according to the nationwide research of 1961, while for the cephalic index, the facial index, and the nasal index according to the research of Prague school children of the years 1957 to 1958.

## RESULTS AND DISCUSSION

1. The body height of the investigated Gypsy children from the South Bohemian Region is significantly lower in both the individual age

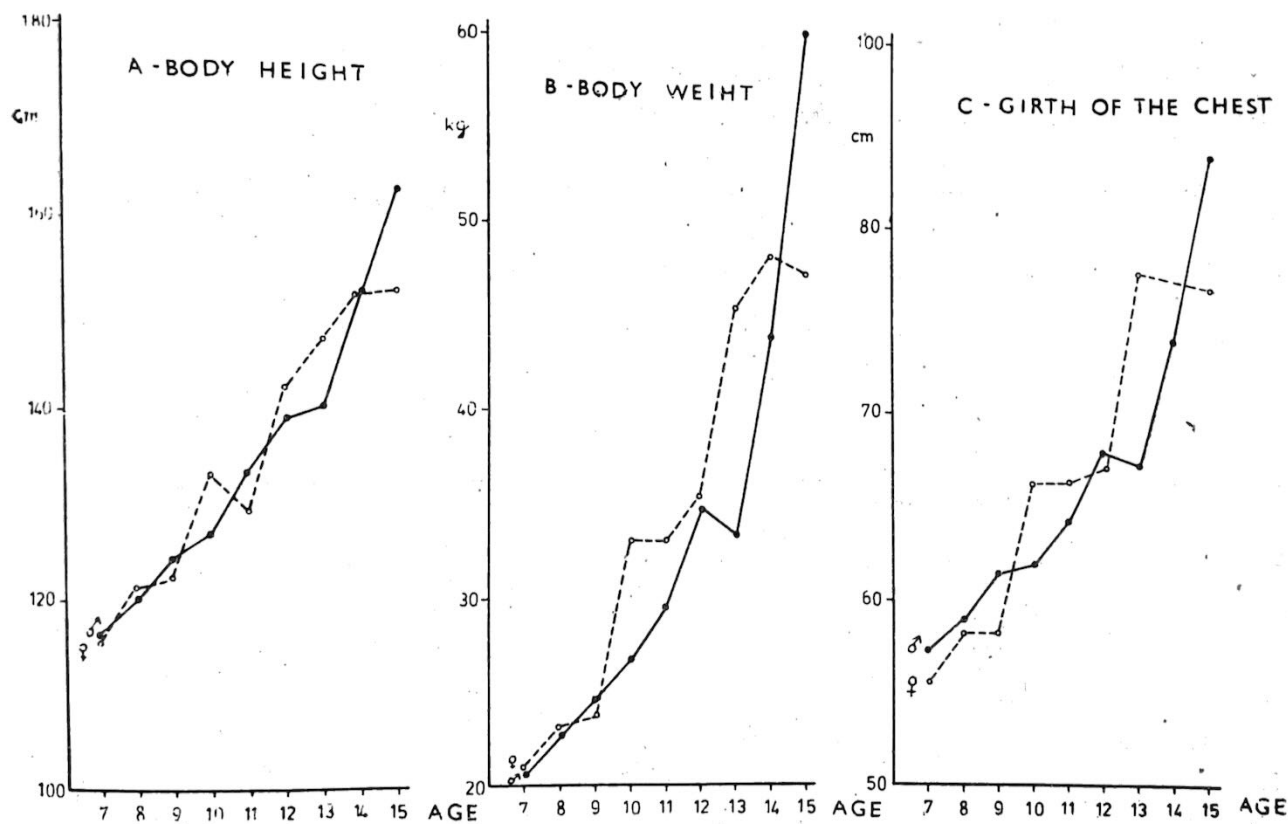
groups and in the entire set of 7 to 15 year old children than it is the case with the Czech children studied in 1961 (V. Fetter et al., 1963; J. Suchý, 1965). The measured height values roughly correspond to the values found in the Gypsy children from the North and the West Bohemian Region, studied in the years 1960 to 1963 (J. Suchý, 1964; H. Malá, J. Suchý, R. Váňa, 1969). The studied set of South Bohemian Gypsy children is roughly more than one standard deviation as regards the Czech mean body height. Gypsy girls aged 7 to 9 years are shorter than the boys, their development curves overlapping roughly at 10 years. From 10 years to 14 years, the girls are again surpass the boys. At the age of 15, the boys results of both this characters and the following in the individual age groups. This circumstance is also borne out by the fact that the course of the interpreted growth curves does not exhibit a smooth character. In the evaluation of the body height by the help of mean standard values (value  $i$ ) no differences between the North, West and South Bohemian Gypsy boys were found as regards the body height. The differences found in South, North and West Bohemian girls, examined 3 to 6 years earlier, are only insignificant (Tab. 5, 8, 13, Graph 1-A).

2. The body weight of the studied Gypsy children from the South Bohemian Region is lower

in the individual age groups and for the entire set of 7 to 15 years old ones than it is the case with Czech children and corresponds roughly to the weight of the Gypsy children from North and West Bohemian studied in the years 1960 to 1963. With regard to the Czech average value of 1961 the body weight of the investigated South Bohemian Gypsy children is roughly one half to one standard deviation lower.

The Gypsy girls in the studied set are roughly equally heavy or slightly lighter than the boys, this being so to roughly 9 years, while from 9 years to 14 and a half years they are markedly heavier. We can find here a similar overlapping of the growth curves as in the evaluation of the body height. At the same time, the advance of the Czech children manifests itself as regards the Gypsy children both in body height and in body weight. For the body weight, a difference between the studied average standard values (value  $i$ ) can be seen in favour of the South Bohemian girls (Tab. 6, 8, 13, Graph 1-B).

3. The girth of the chest is on the average not only smaller in the Gypsy children of the studied set as regards the Czech children, but also the Gypsy children of the North and West Bohemian Regions. This difference with regard to the Czech children is not so marked as that found in the body height and weight. With regard to the Czech average value, the girth of the chest in the



GRAPH 1  
Gypsies, South Bohemian Region  
(boys — full line, girls — dashed line).

TAB. 4

Studied and evaluated\* characters

*Body weight (M 71)**	Breadth of head (M 3)
*Body height (M 1)	Length of head (M 1)
Height of acromiale (M 8)	Physiognom. height of face (M 17)
Height of radiale (M 9)	Morphological height of face (M 18)
Height of radiale (M 9)	Morphological height of face (M 18)
Height of stylium (M 10)	Bizygomatic breadth of face (M 6)
Height of trochanterion (M 14)	Breadth of nose (M 13)
Height of tibiale-fibulare (M 15)	Height of nose (M 21)
Biacromial breadth (M 35)	*Cephalic index $(M \frac{3 \times 100}{1})$
Bitrochanteric breadth (M 42)	*Facial index $(M \frac{18 \times 100}{6})$
*Girth of chest (M 61)	*Nasal index $(M \frac{13 \times 100}{21})$
Girth of abdomen [M 62 (1)]	*Colour of eyes (Martin—Schultz)
Gluteal girth [M 64 (1)]	*Colour of hair (Fischer—Saller)
*Arm span (M 17)	Breadth of hand (M 52)
*Vital capacity of lungs	Length of hand (M 49)
Dynamometry of clasp of the hand	

\* marked characters ave evaluated in the paper

\*\* Numbers (M) correspond to the reference numbers in the description of the method (Martin, Saller)

TAB. 5

Body height — Gypsies

South Bohemian Region

Boys						Girls					
Age	n	$\bar{x}$	min—max	s	m	Age	n	$\bar{x}$	min—max	s	m
6	2	—	106,6—112,2	—	—	6	—	—	—	—	—
7	11	116,42	109,0—135,8	8,28	2,49	7	11	115,69	109,1—123,4	5,28	1,59
8	16	120,58	113,0—129,5	4,77	1,19	8	12	120,94	114,7—127,2	4,35	1,26
9	11	124,22	113,0—135,0	7,29	2,19	9	10	122,67	113,5—130,0	5,01	1,59
10	16	126,95	117,5—138,4	5,52	1,38	10	16	133,34	122,0—150,0	7,23	1,81
11	11	133,48	124,2—144,4	6,36	1,92	11	13	131,42	122,0—146,7	7,23	2,00
12	22	139,14	122,2—147,3	7,32	1,56	12	14	142,37	124,6—157,3	10,86	2,90
13	11	140,04	130,8—154,3	7,77	2,34	13	7	146,90	142,7—157,5	5,76	2,17
14	6	151,32	134,0—160,3	—	—	14	11	151,80	145,1—157,0	4,56	1,37
15	3	162,87	152,1—172,5	—	—	15	13	152,07	145,0—161,0	5,04	1,40

TAB. 6

Body weight — Gypsies

South Bohemian Region

Boys						Girls					
Age	n	$\bar{x}$	min—max	s	m	Age	n	$\bar{x}$	min—max	s	m
6	2	—	17,0—17,5	—	—	6	—	—	—	—	—
7	11	20,59	16,0—26,5	3,34	1,01	7	11	20,82	18,0—24,5	—	—
8	16	22,72	18,0—29,5	2,96	0,74	8	12	23,08	18,5—28,5	3,34	1,01
9	11	24,68	21,5—29,0	3,16	0,95	9	10	23,75	19,5—29,5	3,02	0,87
10	16	26,61	21,0—36,0	3,90	0,97	10	15*	30,78	22,0—48,5	3,68	1,16
11	11	29,50	25,0—37,0	3,90	1,17	11	13	32,77	26,0—41,0	7,56	1,87
12	22	34,91	27,0—45,0	5,58	1,19	12	14	35,46	25,0—59,0	5,44	1,51
13	11	33,18	27,0—40,0	4,56	1,37	13	7	45,50	34,5—58,5	9,58	2,56
14	6	43,75	30,0—60,0	—	—	14	11	48,32	38,0—64,5	9,14	3,44
15	3	60,33	46,5—78,0	—	—	15	13	47,15	36,5—56,0	15,48	2,33
										6,06	1,68

\* One person excluded.



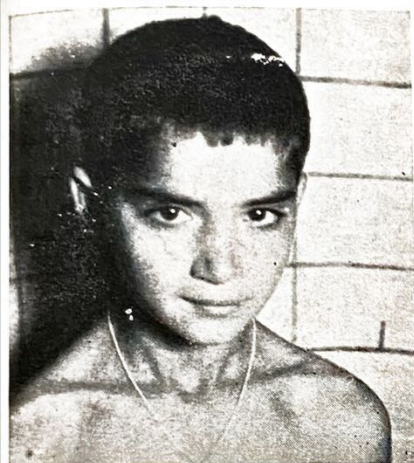
1. M. T., aged 7, Volary  
(District of Prachatice), photo 1968



2. I. O., aged 8, Křišťanov  
(District of Prachatice), photo 1968



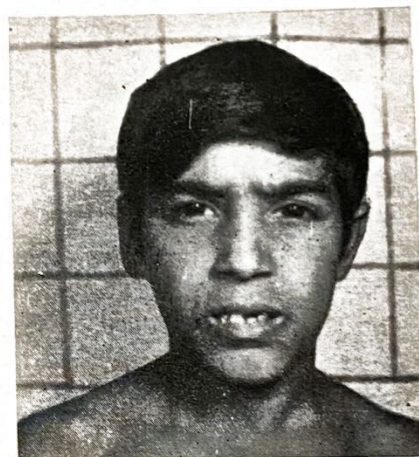
3. F. O., aged 9, Křišťanov  
(District of Prachatice), photo 1968



4. M. S., aged 10, České Budějovice  
(District of České Budějovice),  
photo 1968



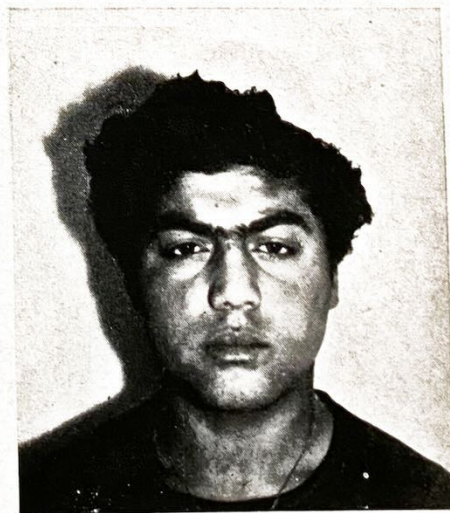
5. M. T., aged 11, Volary  
(District of Prachatice), photo 1968



6. M. Š., aged 12, České Budějovice  
(District of České Budějovice),  
photo 1968



7. E. D., aged 13, České Budějovice  
(District of České Budějovice),  
photo 1968



8. V. B., aged 15, Prachatice  
(District of Prachatice),  
photo 1968



9. J. O., aged 7, Křišťanov  
(District of Prachatice),  
photo 1968



10. B. K., aged 8, České Budějovice  
(District of České Budějovice),  
photo 1968



11. E. V., aged 9, České Budějovice  
(District of České Budějovice),  
photo 1968



12. J. G., aged 10, Strážný  
(District of Prachatice), photo 1968



13. H. O., aged 12, Křišťanov  
(District of Prachatice), photo 1968



14. V. M., aged 13, Volary  
(District of Prachatice), photo 1968



15. J. T., aged 15, Volary  
(District of Prachatice), photo 1968

Boys						Girls					
Age	<i>n</i>	$\bar{x}$	min—max	<i>s</i>	<i>m</i>	Age	<i>n</i>	$\bar{x}$	min—max	<i>s</i>	<i>m</i>
6	2	—	53,0—55,0	—	—	6	—	—	—	—	—
7	11	57,23	53,0—63,0	2,96	0,89	7	11	55,64	54,0—59,0	2,10	0,63
8	16	59,00	54,0—63,0	2,20	0,55	8	12	58,25	54,0—65,0	2,90	0,84
9	11	61,50	58,0—67,0	2,82	0,85	9	10	58,20	55,0—63,0	3,20	1,01
10	16	61,97	54,5—69,0	3,94	0,99	10	16	66,13	57,5—88,0	8,88	2,22
11	11	64,18	61,0—67,0	2,00	0,60	11	13	66,38	60,0—70,5	3,50	0,97
12	22	68,02	62,0—76,0	3,44	0,73	12	14	67,11	54,0—83,0	8,14	2,18
13	11	67,18	61,5—74,0	4,24	1,28	13	7	77,71	69,0—89,0	7,48	2,82
14	6	74,17	63,0—86,0	—	—	14	11	77,27	72,0—87,0	4,56	1,37
15	3	84,00	77,0—92,0	—	—	15	13	76,88	70,0—83,0	3,70	1,02

TAB. 8  
Mean values of individual characters in South Bohemian Gypsies standardized relative to standards of Czech youth

Boys										
Age	7	8	9	10	11	12	13	14	15	7—15
Body height <i>i</i>	-0,98	-1,12	-1,44	-1,67	-1,40	-1,21	-1,78	-1,08	-0,50	-1,32
Body weight <i>i</i>	-0,74	-0,76	-0,87	-0,95	-0,84	-0,46	-1,34	-0,58	-0,41	-0,78
Girth of chest <i>i</i>	-0,88	-0,84	-0,76	-1,00	-0,98	-0,58	-1,22	-0,50	+0,39	-0,75
Girls										
Body height <i>i</i>	-0,86	-1,00	-1,46	-0,50	-1,68	-0,97	-1,09	-1,05	-1,51	-1,11
Body weight <i>i</i>	-0,60	-0,70	-0,94	+0,08	-0,50	-0,66	-0,13	-0,90	-1,02	-0,58
Girth of chest <i>i</i>	-0,79	-0,82	-1,26	-1,14	-0,67	-1,06	+0,04	-0,70	-1,21	-0,75

TAB. 9

Cephalic index — Gypsies South Bohemian Region

Boys					
Age	<i>n</i>	$\bar{x}$	min—max	<i>s</i>	<i>m</i>
6	2	—	77,8—92,4	—	—
7	11	85,05	80,7—91,8	3,58	1,08
8	16	85,13	81,6—88,8	2,36	0,59
9	11	85,68	79,8—93,4	3,74	1,13
10	16	83,88	78,2—87,4	2,74	0,69
11	11	84,32	80,9—87,5	2,60	0,78
12	22	84,89	80,2—93,1	3,20	0,68
13	11	85,92	83,1—93,5	2,96	0,89
14	6	83,48	81,7—85,1	—	—
15	3	81,77	79,4—84,5	—	—
Girls					
6	—	—	—	—	—
7	11	85,03	81,6—89,2	3,16	0,95
8	12	87,32	82,3—97,0	5,34	1,54
9	10	83,58	79,1—87,9	3,06	0,97
10	16	85,10	79,7—91,1	2,96	0,74
11	13	83,40	78,8—88,6	2,78	0,77
12	14	83,66	77,8—88,3	3,50	0,94
13	7	82,99	81,1—85,5	2,96	0,89
14	11	82,65	74,5—87,6	3,94	1,19
15	13	84,32	81,5—88,7	2,64	0,73

TAB. 10

Facial index — Gypsies South Bohemian Region

Boys					
Age	<i>n</i>	$\bar{x}$	min—max	<i>s</i>	<i>m</i>
6	2	—	78,2—80,7	—	—
7	11	80,49	74,6—89,4	4,86	1,46
8	16	80,65	74,8—87,8	4,86	1,00
9	11	80,09	73,8—84,9	3,84	1,16
10	16	80,92	71,9—92,1	5,44	1,36
11	11	82,97	77,6—91,4	4,52	1,36
12	22	81,85	73,7—95,9	5,68	1,21
13	11	83,64	80,0—90,2	4,10	1,14
14	6	85,50	81,2—88,5	—	—
15	3	86,03	84,7—87,8	—	—
Girls					
6	—	—	—	—	—
7	11	78,93	73,5—83,8	4,04	1,22
8	12	78,94	72,4—90,7	5,78	1,67
9	10	82,03	71,7—89,9	5,54	1,75
10	16	79,46	73,8—84,3	3,10	0,78
11	13	82,05	74,4—90,0	4,70	1,30
12	14	82,91	75,2—88,0	3,60	0,96
13	7	82,64	72,7—90,1	6,88	2,60
14	11	80,86	76,5—86,5	3,90	1,17
15	13	85,73	74,6—94,4	5,56	1,54

TAB. 11  
Nasal index — Gypsies South Bohemian Region

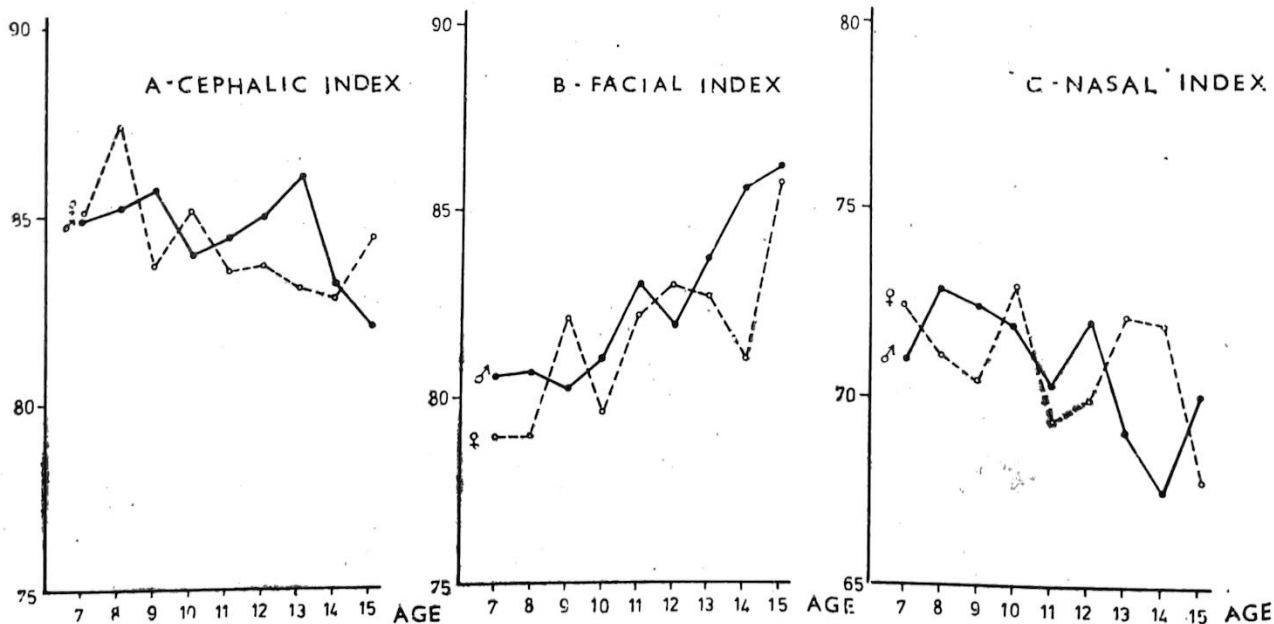
Boys					
Age	n	$\bar{x}$	min—max	s	m
6	2	73.75	73.7—73.8	—	—
7	11	71.02	67.4—76.2	3.78	1.14
8	16	72.84	59.5—80.5	7.05	1.76
9	11	72.43	63.6—80.5	5.19	1.56
10	16	71.91	59.6—89.2	8.64	2.16
11	11	70.34	62.5—76.7	4.65	1.40
12	22	72.00	55.9—88.9	7.83	1.67
13	11	69.13	60.8—76.2	4.56	1.37
14	6	67.52	56.0—80.0	—	—
15	3	70.07	64.2—74.6	—	—
Girls					
Age	n	$\bar{x}$	min—max	s	m
6	—	—	—	—	—
7	11	72.44	65.0—82.9	6.51	1.96
8	12	71.07	63.6—77.5	4.23	1.22
9	10	70.46	63.0—80.0	5.82	1.84
10	16	72.94	59.6—84.6	6.78	1.70
11	13	69.42	60.9—75.6	4.59	1.27
12	14	69.99	58.8—80.0	5.94	1.59
13	7	72.06	63.3—82.2	7.35	2.77
14	11	71.91	66.0—81.2	4.23	1.27
15	13	67.70	57.4—89.7	7.89	2.19

South Bohemian set is almost one standard deviation lower, while with regard to the North and West Bohemian ones only less than one half of the standard deviation. From the comparison of values of this character between boys and girls it is to be seen that girls have a smaller girth of the chest until 10 years. From 10 years to 12 years the girth of the chest is equal between the two sexes, while from 12 to 14 years it is greater in girls, and after

the 14th year of age it is again greater in boys (Tab. 7, 8, 13, Graph 1-C).

4. The cephalic index of the studied Gypsy children is brachycephalic on the average. This brachycephaly, however, is weaker than in the Czech children. If we follow it in the individual age groups, the 9 and 13 years old boys exhibit mean values on the limit between brachycephaly and hyperbrachycephaly, while the 8 years old girls are perbrachycephalic. The average values roughly correspond to the values measured on the North and West Bohemian Gypsy children (J. Suchý, 1964, H. Malá, J. Suchý, 1969). According to the general evaluation of the standardized characters (values *i*) with regard to the cephalic index values for Prague school-children (studied in the years 1957—1958; J. Suchý, 1961), the cephalic index differs both in the Gypsy boys and in the Gypsy girls relatively significantly, i.e. by more than half the standard deviation. The negative values *i* for this character indicate for Gypsies a deviation towards dolichocephaly, i.e. towards a reduction of the index value. A certain trend to elongation of the head in the ontogenetic development, more markedly distinguished in the set of Gypsy girls is demonstrated (Tab. 9, 12, 13, Graph 2-A).

5. The facial index in Gypsy boys to 13 years of age is europsopic, while mesopsopic in the individual higher age groups with a small number of cases. In Gypsy girls it is europsopic to roughly 10 years, mesopsopic from 11 to 14 years, and leptopsopic at 15 years. A similar trend in the elongation of the face in the ontogenetic development as was found in the Gypsy children from North and West Bohemia is demonstrated here. At the same time, the differences in both boys and girls with regard to the Prague children are smaller than half the standard deviation, i.e. smaller



GRAPH 2  
Gypsies, South Bohemian Region  
(boys — full line, girls — dashed line).

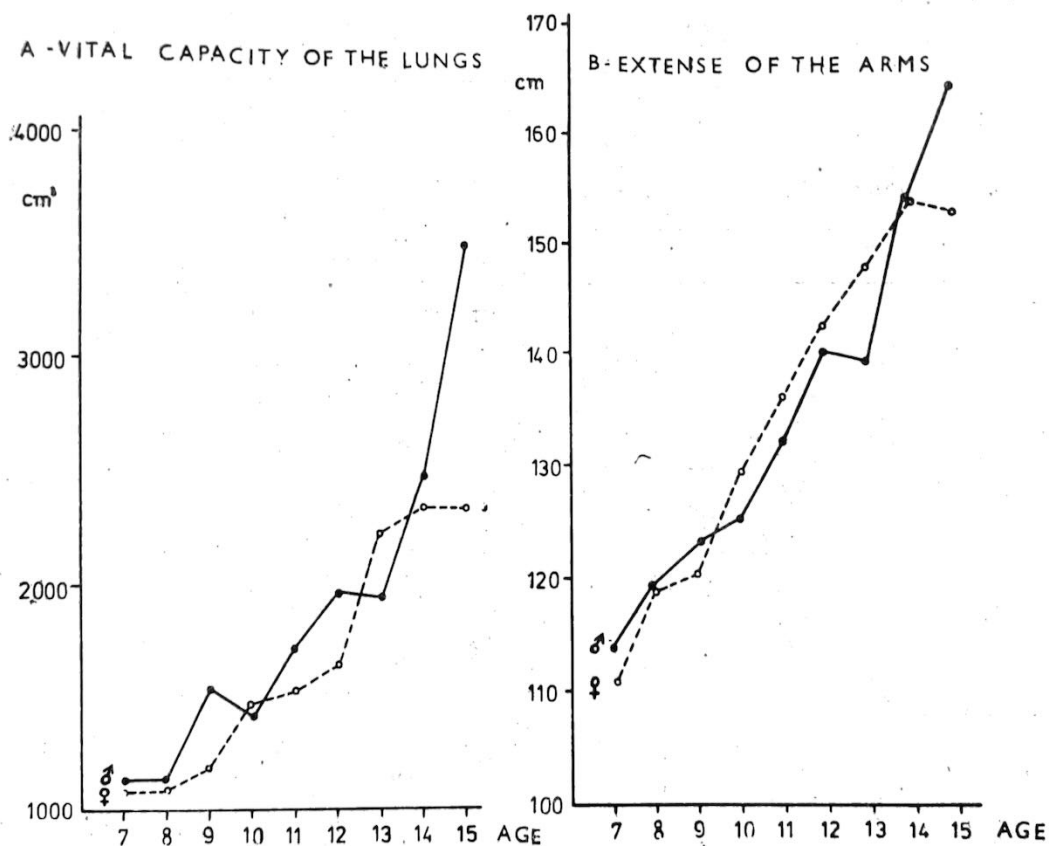


TAB. 12  
Mean values of individual characters in South Bohemian Gypsies standardized relative to the standards of Czech youth

Boys										
Age	7	8	9	10	11	12	13	14	15	7—15
head index <i>i</i>	-0,69	-0,59	-0,46	-0,95	-0,76	-0,76	-0,34	-0,76	-1,01	-0,69
facial index <i>i</i>	+0,40	+0,32	+0,19	+0,36	+0,53	+0,24	+0,42	+0,57	+0,53	+0,36
nasal index <i>i</i>	-0,37	+0,39	+0,37	+0,50	+0,48	+0,48	-0,31	-0,32	0,00	+0,23
Girls										
head index <i>i</i>	-0,53	+0,02	-0,90	-0,42	-0,82	-0,92	-0,98	-1,09	-0,50	-0,66
facial index <i>i</i>	+0,32	+0,19	+0,73	+0,19	+0,54	+0,54	+0,52	+0,19	+0,90	+0,45
nasal index <i>i</i>	-0,11	-0,08	-0,10	+0,68	+0,05	+0,17	+0,47	+0,78	-0,63	+0,13

TAB. 13  
Mean values of standardized characters (value *i*) of the South Bohemian set (aged 7 to 15) and the North and West Bohemian sets (aged 7 to 16)

	REGION	Body height	Body weight	Girth of chest	Ceph. ind.	Facial index	Nasal index
Boys	South Bohemian (1968—1970)	-1,32	-0,78	-0,75	-0,69	+0,36	+0,23
	North and West Bohemian (1960—1963)	-1,39	-0,67	-0,41	-0,73	+0,61	+0,19
Girls	South Bohemian (1968—1970)	-1,11	-0,58	-0,75	-0,66	+0,45	+0,13
	North and West Bohemian (1960—1963)	-1,28	-0,70	-0,43	-0,51	+0,70	-0,003



GRAPH 3  
Gypsies, South Bohemian Region  
(boys — full line, girls — dashed line).

than in the general evaluation of the standard characters (value *i*) compared with the set of Gypsy children from North and West Bohemia and the Prague children. Nevertheless, the positive *i* values show a higher index number, i.e. a deviation towards leptoprosopy (Tabs. 10, 12, 13, Graph 2-B).

6. The nasal index in Gypsy boys and girls is, for the most part, mesorrhine in boys aged 13 to 15 years, and in girls aged 11 to 12 years; at the age of 15 the average values lie on the boundary of leptorrhina to mesorrhina. Elongation of the nose in the ontogenetic development is demonstrated at least according to the index values. A closer analysis would be deserved by the shape of the nose according to the descriptive characters. The average values of this characters roughly correspond to the values for Gypsy children from North and West Bohemia and do not differ over the mean values for the Prague children in the individual age groups as well as for the overall groups of 7 to 15 years old ones by more than half the standard deviation (Tabs. 11, 12, 13, Graph 2-C).

TAB. 14

Arm span — Gypsies South Bohemian Region

Boys					
Age	<i>n</i>	$\bar{x}$	min—max	<i>s</i>	<i>m</i>
6	2	107,00	100,0—114,0	—	—
7	11	113,38	105,0—131,0	8,76	2,64
8	16	119,38	107,0—130,0	5,25	1,31
9	11	122,91	111,0—135,0	9,06	2,73
10	16	125,25	117,0—137,0	6,75	1,69
11	11	132,00	122,0—144,0	7,11	2,14
12	22	140,00	127,0—157,0	9,24	1,97
13	11	138,73	126,0—157,0	8,76	2,64
14	6	153,67	137,0—167,0	—	—
15	3	163,67	157,0—173,0	—	—
Girls					
Age	<i>n</i>	$\bar{x}$	min—max	<i>s</i>	<i>m</i>
6	—	—	—	—	—
7	11	111,09	105,0—118,0	3,15	0,95
8	12	118,83	112,0—127,0	5,19	1,50
9	10	120,30	112,0—128,0	5,28	1,67
10	16	129,13	120,0—146,0	6,33	1,58
11	13	135,77	121,0—145,0	7,44	2,06
12	14	142,21	124,0—155,0	12,2	3,24
13	7	147,57	143,0—159,0	5,19	1,96
14	11	153,45	144,0—159,0	5,10	1,54
15	13	152,08	138,0—168,0	7,50	2,08

7. The arm span is evaluated only informatively. From Tab. 14 and Graph 3-B it is to be seen that the increase of the values of this character in the ontogenetic development proceeds smoothly both in boys and in girls. As to the arm span the boys lead over the girls up to 9 and a half years, later, roughly to 14 years, the girls display a greater arm span, while from 14 years the boys again exhibit a greater arm span. The same situation hold good here as was established for the body height. The comparison of the average values of

Gypsy children with the Prague children, studied by J. Suchý (1961) in 1956, tells us that the values of this character for Gypsy children in relation to the lower body height are smaller (Tab. 16).

8. The vital capacity of the lungs was evaluated only informatively as well. For this

TAB. 15

Vital capacity of lungs — Gypsies South Bohemian Region

Boys					
Age	<i>n</i>	$\bar{x}$	min—max	<i>s</i>	<i>m</i>
6	2	1150,00	1100,0—1200,0	—	—
7	11	1136,36	800,0—1700,0	276,00	83,13
8	16	1140,63	800,0—1600,0	282,00	70,50
9	11	1540,91	1200,0—2100,0	298,00	89,76
10	16	1425,00	900,0—2100,0	434,00	108,50
11	11	1704,54	1300,0—2000,0	168,00	50,60
12	22	1963,64	1500,0—2600,0	330,00	70,36
13	11	1922,73	1300,0—2700,0	404,00	121,69
14	6	2450,00	1600,0—3000,0	—	—
15	3	3500,00	3100,0—4200,0	—	—
Girls					
Age	<i>n</i>	$\bar{x}$	min—max	<i>s</i>	<i>m</i>
6	—	—	—	—	—
7	11	1090,91	900,0—1400,0	168,00	50,61
8	12	1100,00	700,0—1400,0	218,00	63,01
9	10	1190,00	1100,0—1500,0	134,00	42,41
10	15	1453,33	1000,0—2300,0	374,00	96,64
11	13	1530,77	900,0—2100,0	342,00	94,74
12	14	1628,57	1200,0—2600,0	468,00	125,13
13	7	2207,14	1900,0—2650,0	346,00	130,57
14	11	2309,09	1900,0—3100,0	414,00	124,69
15	13	2300,00	1500,0—2900,0	476,00	131,86

TAB. 16

Mean values of the arm span of South Bohemian Gypsy children and of Prague children according to age

Boys — Prague				Gypsy boys — South Bohemia			
Age	<i>n</i>	$\bar{x}$	<i>s</i>	Age	<i>n</i>	$\bar{x}$	<i>s</i>
7	27	120,0	4,5	7	11	113,95	8,76
8	28	124,3	4,8	8	16	119,38	5,25
9	33	131,5	5,4	9	11	122,91	9,06
10	31	138,7	6,0	10	16	125,25	6,75
11	33	143,4	6,9	11	11	132,00	7,11
12	41	148,1	8,1	12	22	140,00	9,24
13	51	155,8	9,3	13	11	138,73	8,76
14	28	164,2	9,0	14	6	153,67	—
15	3	164,0	6,3	15	3	163,67	—
Girls — Prague				Gypsy girls — South Bohemia			
Age	<i>n</i>	$\bar{x}$	<i>s</i>	Age	<i>n</i>	$\bar{x}$	<i>s</i>
7	32	117,2	5,9	7	11	111,09	3,15
8	36	123,9	5,3	8	12	118,83	5,19
9	40	130,2	8,0	9	10	120,30	5,28
10	40	130,5	5,7	10	16	129,13	6,33
11	31	140,5	7,3	11	13	135,77	7,44
12	27	147,0	9,0	12	14	142,21	12,20
13	32	157,0	6,0	13	7	147,57	5,19
14	34	159,9	6,8	14	11	153,45	5,10
15	—	—	—	15	13	152,08	7,50

character it holds that with regard to the small number of cases the rough mean values rise with the age both in boys and in girls, the mean values for the set of boys being higher than those for the set of girls (with the exception of the 13-years-old

TAB. 17

Mean values of vital capacity of lungs of South Bohemian Gypsy children and of Prostějov children according to age

Gypsy boys — South Bohemia				Boys — Prostějov			
Age	n	$\bar{x}$	s	Age	n	$\bar{x}$	s
7	11	1136,4	276,0	7	41	1523	303,6
8	16	1140,6	282,0	8	45	1797	333,7
9	11	1540,9	298,0	9	41	1984	389,2
10	16	1425,0	434,0	10	39	2181	426,9
11	11	1704,5	168,0	11	49	2472	442,7
12	22	1963,6	330,0	12	66	2605	334,3
13	11	1922,7	404,0	13	52	2858	614,2
14	6	2450,0	—	14	39	3350	578,4
15	3	3500,0	—	15	41	4135	728,8

Gypsy girls — South Bohemia				Girls — Prostějov			
Age	n	$\bar{x}$	s	Age	n	$\bar{x}$	s
7	11	1090,9	168,0	7	38	1450	283,7
8	12	1100,0	218,0	8	51	1562	275,5
9	10	1190,0	134,0	9	43	1803	306,9
10	15	1453,3	374,0	10	42	1950	261,8
11	13	1530,8	342,0	11	39	2142	339,7
12	14	1628,6	468,0	12	69	2333	385,6
13	7	2207,1	346,0	13	49	2644	445,4
14	11	2309,1	414,0	14	49	2846	366,2
15	13	2300,0	476,0	15	53	3183	548,2

ones. Tab. 15, Graph 3-A). The comparison with the values for the Prostějov children, studied in the years 1955 and 1958 by J. Krátoška et al. (1961), tell us that Gypsy children exhibit lower values in the individual age groups (Tab. 17).

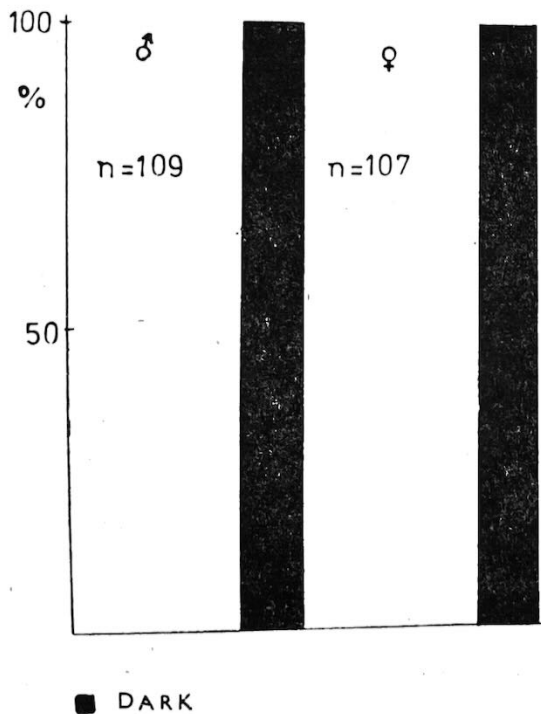
TAB. 18

Pigmentation of hair — Gypsies South Bohemian Region

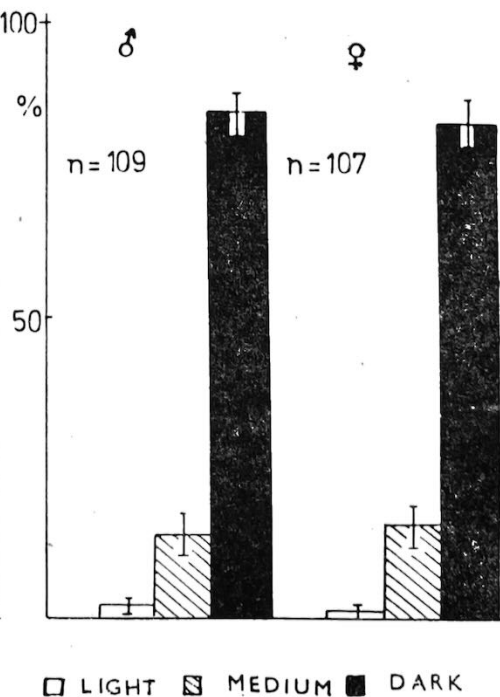
Boys				Girls			
	n	%	s		n	%	s
light	—	—	—	light	—	—	—
medium	—	—	—	medium	—	—	—
dark	109	100.0	—	dark	107	100.0	—
total	109	100.0		total	107	100.0	

9. The hair colour was found to be dark in all boys and girls. The most frequent colour shades occurring in this set went to the hair groups X, X-Y, and Y. Rutile shades were not found (Tabs. 18, 19, Graph 4). The change in the hair colour in the ontogenetic development in the sense of darkening, proved by a number of authors in the Czech population (M. Dokládál, 1954; V. Fetter, 1958; M. Hrubcová, 1957; J. Matiegka, 1927; J. Suchý, 1961; S. Titlbachová, 1950), was not studied for low number of cases and for the preponderance of the darkest shades. Table 19 tells us that more than 80 per

PIGMENTATION OF HAIR



PIGMENTATION OF IRIS



GRAPH 4  
Gypsies, South Bohemian Region.

TAB. 19  
Pigmentation of hair — Gypsies South Bohemian Region

Boys			Girls		
	n	%		n	%
R—WX	15	13.8	R—WX	18	16.8
X—Y	94	86.2	X—Y	89	83.2
total	109	100.0	total	107	100.0

cent of Gypsy children (boys and girls) show the darkest shades, i.e. X, X-Y, and Y.

10. The iris colour is mostly dark in both Gypsy girls and boys. Yet, a certain share of medium shades, seldom light shades occurs as well. Of the dark shades, degrees 12 to 16 occur most frequently (Tab. 20, Graph 4). The presence of me-

TAB. 20  
Pigmentation of eyes — Gypsies South Bohemian Region

Boys				Girls			
	n	%	s		n	%	s
light	2	1.8	1.27	light	1	0.9	0.91
medium	15	13.8	3.31	medium	17	15.9	3.54
dark	92	84.4	3.47	dark	89	83.2	3.61
total	109	100.0		total	107	100.0	

dium and light shades is certain evidence of the mixing of the Gypsy population with other populations in the past and in the present. The found dark pigmentation of the hair and the iris are an expression of the ethnic character of this group; moreover, it is a typical feature by which the Gypsies differ from the Czech population.

#### SUMMARY

Anthropological research of Gypsy school-children has been realized since 1960; since 1967 it has been included in the International Biological Programme. The task of this research activity is to determine developmental anthropological norms for Gypsy children and youth and to lay down their main anthropological characteristics. In this research, attention is paid to the difference of the physical development of children living in the native environment from children living for a longer time in homes and to the difference between town and country children.

The results of anthropological research presented in this paper were obtained through an analysis of the anthropological characteristics of the South Bohemian Gypsy school-children from schools in the districts of České Budějovice, Český Krumlov, and Prachatic. Investigated were 216 children aged

6 to 15 years, 109 being boys and 107 girls (Tabs. 2, 3). The comparative criteria were:

a) the results of research of Czech children performed in 1961 (body height, body weight, girth of the chest);

b) the results of research of Prague children performed in the years 1957 to 1958 (cephalic index, facial index, nasal index);

c) the results of research of North and West Bohemian Gypsy school-children performed in the years 1960 to 1963 (body height, body weight, girth of the chest, cephalic index, facial index, nasal index).

The results are presented in Tabs. 5, 6, 7, 8, 9, 10, 11, 12, and 13. The evaluation of the arm span and the vital capacity of the lungs was performed only informatively (Tab. 14, 15, 16, and 17). Of the descriptive characteristics, the pigmentation of the hair and of the iris was studied (Tabs. 18, 19, and 20).

From the anthropological analysis of this South Bohemian Gypsy youth the following conclusions can be drawn:

1. The investigated children are shorter, lighter, and have a smaller girth of the chest than the Czech children. Gypsy girls are shorter to roughly 10 years of age, to 9 years equally heavy or somewhat lighter, and to 10 years their girth of the chest is smaller than of the Gypsy boys. From 10 years onward, the body height, from 9 years onward, the body weight exceeds that of the boys roughly to 14 years of age. The smaller girth of the chest of the girls is to 10 years of age, equals from 10 to 12 years, from 12 to 14 years it is greater in girls. At the age of 15 the boys surpass the girls in body height, weight, and girth of the chest. In the body height and weight no differences were found between the group under study and the Gypsy children from North and West Bohemia.

2. The investigated Gypsy children have a less brachycephalic head and the face, in the sense of the facial index, is narrower than that of the Prague children. The values of this index display in the ontogenetic development a change towards elongation, which is particularly marked in girls. The same can be said of the nasal index which, however, does not differ very much from the values of the Prague children. From the comparison with the Gypsy children of North and West Bohemia result similarities both in the cephalic and facial indices and in the nasal index.

3. For the arm span is then same situation as for the body height, i.e. overlapping of the growth curves for boys and girls. From the comparison with the Prague children result lower values of the Gypsy children for all age groups. The vital capacity of the lungs increases continuously with advancing age, both in boys and in girls. From the comparison with the group of Prostějov youth result lower values for the Gypsy children in all the age groups under study.

4. The results obtained from the studied set confirmed that dark pigmentation is a marked anthro-

ological character of Gypsies. The hair colour of both boys and girls was always found to be dark. Most frequently were represented the shades X, X-Y, and Y. The colour of the iris was predominantly dark, yet medium and light shades occurred in smaller numbers now and then.

Anthropological research of South Bohemian Gypsy school-children aged 6 to 15 years has confirmed the lasting character of this ethnic group. Despite the undeniable evidence on partial social and biological integration of this Gypsy population with other populations, the results of these investigations furnish proof of the present permanent existence of Gypsies as a partial socio-biological isolate.

## REFERENCES

- BENEŠ, J., 1965: Palmdermatoglyphik der Slowakischen Zigeuner (Tschechoslowakei). *Anthropologie*, III, 1, pp. 27–35.
- BENEŠ, J., 1965: Tělesné znaky slovenských Cikánů. *Zpravodaj československé společnosti anthropologické*, XVIII, 2, pp. 7–10.
- BENEŠ, J., 1968: Zum physischen Charakter einer erwachsener Zigeunerpopulation (240 Männer) in der Slowakei (Tschechoslowakei). *Anthropologie*, VI, pp. 3–93.
- DOKLÁDAL, M., 1954: Pigmentace a krevní skupiny Hlučičanů. *Spisy přírodovědecké fakulty Masarykovy university*, 353, p.
- ENCYCLOPAEDIA BRITANICA, XII, pp. 37–43, Cambridge, 1910.
- FETTER, V., 1958: Pigmentace očí a vlasů u dospělých obyvatel Českých zemí. *Čas. lékařů českých*, 97, pp. 819–823.
- FETTER, V., PROKOPEC, M., SUCHÝ, J., ŠOBOVÁ, A., 1963: Vývojová akcelerace u mládeže podle anthropologických výzkumů z let 1951 a 1961. *Československá pediatrie*, XVIII, pp. 673–677.
- FETTER, V., PROKOPEC, M., SUCHÝ, J., TITLBACHOVÁ, S., 1967: *Anthropologie, Academia, Praha.*
- GYPSIES AND OTHER TRAVELLERS. Ministry of Housing and Local Government, London, 1967.
- HRUBCOVÁ, M., 1957: Srovnání barvy vlasů a očí slezské školní mládeže s výsledky výzkumu v okrese poděbradském a litvínovském. *Přírod. sborník Ostravského kraje*, 18, pp. 465–481.
- KRÁTOŠKA, J., POHANKA, J., ZRZAVÝ, J., 1961: Anthropometrický průzkum prostějovské školní mládeže. *Acta Univ. Palack., Olomouc*, 25, pp. 77–108.
- KREBS, W., 1964: Růst a vývoj cikánské mládeže od 6 do 15 let. *Treatise, Anthropological Institute, Faculty of Natural Sciences, Charles University, Praha. (Manuscript.)*
- MALÁ, H., SUCHÝ, J., 1968: Physical Features of Gypsy Youth. VIIIth International Congress off Anthropological and Ethnological Sciences, Tokyo and Kyoto, September 3rd – 10th, 1968, Sectional Meetings, A-506, p. 37 (Abstracts).
- MALÁ, H., SUCHÝ, J., VAŇA, R., 1969: Anthropologický výzkum cikánských dětí v Čechách. *Sborník pedagogické fakulty University Karlovy, Bi. I*, pp. 221–233.
- MALÁ, H., SUCHÝ, J., 1970: The Anthropological research of Gypsy children and youth Czechoslovakia. *Glasnik Antropološkog društva Jugoslavije, Beograd*, 7, pp. 39–63.
- MALÝ, J., 1937: Cikáni. *Radiojournal*, 31, p. 13.
- MALÝ, J., 1939: Něco o cikánech. *Naši přírodu*, III, pp. 197–198, pp. 314–315, Praha.
- MARTIN, R., SALLER, K., 1957: Lehrbuch der Anthropologie in systematischer Darstellung. G. Fischer Verlag, Stuttgart.
- MATIEGKA, J., 1927: Somatologie školní mládeže. *Česká akademie věd a umění, Praha.*
- NOVÁKOVÁ, M., 1946: Cikáni v Užhorodě. *Treatise. Anthropologický ústav přírodovědecké fakulty University Karlovy, Praha. (Manuscript.)*
- NOVÁKOVÁ, M., 1969: Les Tziganes d'autrefois de la Tchecoslovaquie. *Anthropologie*, VII, 2, pp. 41–43.
- SUCHÝ, J., 1961: Vývin taxonomických znaků u školní mládeže. *Prace s materialy*, 55, pp. 1–80, Wroclaw.
- SUCHÝ, J., 1961: Příspěvek k anthropologii školní mládeže. *Sborník Pedagogického institutu v Praze, přírodní vědy*, 1, pp. 293–344.
- SUCHÝ, J., 1964: Untersuchungen an Zigeunerkindern in West- und Nordböhmen. *Ärztliche Jugendkunde*, 55, 3–4, pp. 151–158.
- SUCHÝ, J., 1965: Anthropologischen Untersuchungen eigenartiger Populationen Mitteleuropas. *Mitt. d. Sekt. Schulbiol.*, 1, pp. 105–114.
- SUCHÝ, J., 1967: Tělesné vlastnosti české školní mládeže. *Sborník pedagogické fakulty University Karlovy, Praha.*
- SUCHÝ, J., 1968: Die Zigeuner. In: K. Saller: *Rassengeschichte der Menschheit*, 1. Lieferung, pp. 185–221, München–Wien.
- SUCHÝ, J., 1968: Bodily development of Gypsy children in Czechoslovakia. *Anthropologie*, VI, 2, pp. 73–78.
- SUCHÝ, J., 1970: Cikáni — naši spoluobčané. *Země a lidé*, 1, pp. 26–29.
- STAMPACH, F., 1929: Cikáni v Československé republice. *Československá akademie věd a umění, Praha.*
- STAMPACH, F., 1937: Cikáni v Československé republice. *Československá vlastivěda*, II, pp. 287–293, Praha.
- TITLBACHOVÁ, S., 1950: Barva očí a vlasů vzhledem k věku. *Zprávy anthropologické společnosti*, 3, pp. 83 až 86.
- VALŠÍK, J. A., 1958: Několik poznatků o rutilismu slovenských Cikánů. *Sborník I. sjezdu československých anthropologů, Opava*, p. 289.
- VALŠÍK, J. A., 1966: O pigmentech sliznice dutiny ústní našich cikánů. *Zpravodaj Československé společnosti anthropologické*, XIX, 2, pp. 4–5.
- VALŠÍK, J. A., 1969: Les resultats sur l'acculturation des gitans en Tchecoslovaquie. *Acta Facultatis Rerum Naturalium Universitatis Comenianae. Anthropologia*, XVI, pp. 125–132.
- VAŇA, R., PINKAS, O., 1938: Biologie cikánů v republice Československé. *Biologické listy*, 23, pp. 184–198, Praha.

Dr. H. Malá, Prof. Dr. J. Suchý,  
Pedagogical Faculty of the  
Charles University, Prague.