

INCIDENCE OF CRANIAL NON-METRIC TRAITS IN THE BRONZE AGE SAMPLE OF TÁPÉ-SZÉNTÉGLAÉGETŐ

HORVÁTH, G. and OLÁH, S.

Department of Anthropology, József Attila University, H-6701 Szeged, P.O.B. 660, Hungary

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Abstract

Occurrences of cranial non-metric traits in a bronze age sample from Tápé-Széntégláégető were examined by the authors. The problem of side and sex differences were also examined. In the pooled sample the most frequent traits are Lambdoid ossicles, Postcondylar foramen patent and Mastoid foramen exsutural. The most rare are Condylar facet double, Maxillary torus and Accessoric mental foramen. It can be concluded, that with the exception of Condylar canal divided, there are no significant side and sex differences in this sample.

Key words: Bronze age, Non-metric trait, Side difference, Sex difference

Introduction

A large cemetery at Tápé-Széntégláégető was excavated by OTTÓ TROGMAYER (1975) from 1960-66. The anthropological description of the bone material was given by FARKAS and LIPTÁK (1975). From 686 graves 579 are dated from the bronze age by the archeologist.

The aim of this article is to publish data on the occurrence of non-metric traits so much the more because non-metric data from such a large bronze age cemetery in Hungary have not been published yet. Besides, the difference in the occurrence of non-metric traits between the sexes and sides also were examined.

Material and methods

This examination is restricted to some of the non-metric traits occurrence in cranium. The scoring technique is mainly based on the suggestions of BERRY and BERRY (1967), FINNEGAN and FAUST (1974). Traits which were uncertain during the scoring procedure were avoided. For the investigation only 454 crania could be used. Altogether 6 traits with unilateral and 32 with bilateral occurrence (Table 1.) were scored. In

case of bilateral traits for the calculation of frequencies, traits were sampled in the total number of sides. It is the most commonly employed method and also having the advantage of maximizing information from fragmentary skeletons (GREEN et al., 1979; OSSENBERG, 1981). Detailed data on frequencies are given for both sides and sexes. The differences in the frequencies between sexes and sides also were examined. In showing the side and sex differences the chi-squared statistics was used. The χ^2 was considered to be significant at the 5% level. If any expected value was less than five the correction of Yates (cit.: SVÁB, 1973) has been applied.

Table 1. Non-metric traits scored in the sample of Tápé

No.	Traits	No.	Traits
1	Ossicle at bregma	20	Mylohyoid bridge
2	Ossicle at lambda	21	Jugular bridge
3	Sagittal ossicle	22	Accessory zygomatico-facial foramen
4	Incaic bone	23	Accessory mental foramen
5	Metopic suture	24	Foramen of Huschke
6	Palatine torus	25	Medial supraorbital foramen
7	Ossicle at asterion	26	Lateral supraorbital foramen
8	Parietal notch bone present	27	Accessory infraorbital foramen
9	Epipteric bone	28	Spinous foramen open
10	Coronal ossicle	29	Oval foramen open
11	Lambdoid ossicles	30	Oval foramen divided
12	Occipito-mastoid ossicle	31	Ovale-spinosum commons
13	Bipartite parietal bone	32	Parietal foramen absent
14	Bipartite zygomatic bone	33	Postcondylar foramen patent
15	Sutura mendosa	34	Carotic canal open
16	Squamomastoid suture	35	Condylar canal divided
17	Mastoid foramen exsutural	36	Condylar facet double
18	Fronto-temporal articulation	37	Maxillary torus
19	Pterygospinosus bridge	38	Mandibular torus

Discussion

The trait frequencies in male and female samples are given in Tables 2-4.

The chi-squared values of side and sex differences are shown in Table 5. By this method there is not any significant difference (Table 5.) between the sides neither in male nor in female samples.

Sex difference (Table 5.) is found to be significant only in the case of Condylar canal divided (male predominance).

The frequency data of the pooled sample (males, females and non-adults) are given in Tables 4 and 6. In the pooled sample the most frequent traits are Lambdoid ossicles (94.18%), Postcondylar foramen patent (80.00%) and Mastoid foramen exsutural (71.09%). The rarest are Condylar facet double (0.45%), Maxillary torus (0.47%) and Accessory mental foramen (0.71%). Traits such as Bipartite parietal bone, Bipartite zygomatic bone, Pterygospinosus bridge, Jugular bridge, Carotic canal open and Mandibular torus do not occur at all.

Table 2. Incidence of non-metric traits in the male sample

Trait	Pooled		Right side		Left side	
	Incidence	Frequency (%)	Incidence	Frequency (%)	Incidence	Frequency (%)
7	5/77	6.49	3/38	7.89	2/39	5.13
8	10/46	21.74	3/22	13.64	7/24	29.17
9	1/11	9.09	1/5	20.00	0/6	0.00
10	13/38	34.21	9/20	45.00	4/18	22.22
11	101/105	96.19	50/53	94.34	51/52	98.08
12	2/47	4.26	2/23	8.70	0/24	0.00
13	0/195	0.00	0/94	0.00	0/101	0.00
14	0/124	0.00	0/63	0.00	0/61	0.00
15	0/156	0.00	0/76	0.00	0/80	0.00
16	11/154	7.14	4/78	5.13	7/76	9.21
17	92/128	71.88	43/63	68.25	49/65	75.38
18	2/19	10.53	1/9	11.11	1/10	10.00
19	0/83	0.00	0/43	0.00	0/40	0.00
20	5/109	4.59	2/52	3.85	3/57	5.26
21	0/7	0.00	0/2	0.00	0/5	0.00
22	26/119	21.85	14/60	23.33	12/59	20.34
23	2/154	1.30	2/80	2.50	0/74	0.00
24	9/149	6.04	3/74	4.05	6/75	8.00
25	36/175	20.57	16/85	18.82	20/90	22.22
26	6/166	3.61	2/80	2.50	4/86	4.65
27	0/26	0.00	0/13	0.00	0/13	0.00
28	16/87	18.39	8/45	17.78	8/42	19.05
29	2/93	2.15	0/46	0.00	2/47	4.26
30	3/93	3.23	0/46	0.00	3/47	6.38
31	1/97	1.03	1/49	2.04	0/48	0.00
32	84/148	56.76	37/72	51.39	47/76	61.84
33	43/51	84.31	22/26	84.62	21/25	84.00
34	0/120	0.00	0/58	0.00	0/62	0.00
35	28/95	29.47	16/50	32.00	12/45	26.67
36	1/71	1.41	1/39	2.56	0/32	0.00
37	1/96	1.04	1/49	2.04	0/47	0.00
38	0/147	0.00	0/72	0.00	0/75	0.00

Table 3. Incidence of non-metric traits in the female sample

Trait	Pooled		Right side		Left side	
	Incidence	Frequency (%)	Incidence	Frequency (%)	Incidence	Frequency (%)
7	6/63	9.52	3/30	10.00	3/33	9.09
8	6/46	13.04	3/21	14.29	3/25	12.00
9	5/11	45.45	4/6	66.67	1/5	20.00
10	17/36	47.22	6/15	40.00	11/21	52.38
11	93/97	95.88	49/52	94.23	44/45	97.78
12	1/44	2.27	0/21	0.00	1/23	4.35
13	0/174	0.00	0/87	0.00	0/87	0.00
14	0/121	0.00	0/58	0.00	0/63	0.00
15	1/133	0.75	1/67	1.49	0/66	0.00
16	15/137	10.95	9/64	14.06	6/73	8.22
17	77/102	75.49	37/50	74.00	40/52	76.92
18	1/16	6.25	0/8	0.00	1/8	12.50
19	0/56	0.00	0/27	0.00	0/29	0.00
20	9/107	8.41	4/49	8.16	5/58	8.62
21	0/13	0.00	0/7	0.00	0/6	0.00
22	17/113	15.04	11/56	19.64	6/57	10.53
23	0/149	0.00	0/74	0.00	0/75	0.00
24	9/113	7.96	5/58	8.62	4/55	7.27
25	32/149	21.48	19/74	25.69	13/75	17.33
26	9/154	5.84	3/78	3.85	6/76	7.89
27	1/28	3.57	0/11	0.00	1/17	5.88
28	15/60	25.00	7/30	23.33	8/30	26.67
29	1/71	1.41	1/34	2.94	0/37	0.00
30	0/71	0.00	0/34	0.00	0/37	0.00
31	0/72	0.00	0/34	0.00	0/38	0.00
32	103/158	65.19	50/79	63.29	53/79	67.09
33	37/54	68.52	16/24	66.67	21/30	70.00
34	0/96	0.00	0/49	0.00	0/47	0.00
35	15/109	13.76	6/51	11.76	9/58	15.52
36	0/94	0.00	0/43	0.00	0/51	0.00
37	0/63	0.00	0/29	0.00	0/34	0.00
38	0/134	0.00	0/67	0.00	0/67	0.00

Table 4. Incidence of unilateral non-metric traits

Trait	Pooled		Male		Female	
	Incidence	Frequency (%)	Incidence	Frequency (%)	Incidence	Frequency (%)
1	1/225	0.44	0/82	0.00	1/83	1.20
2	23/202	11.39	8/77	10.39	10/75	13.33
3	73/98	74.49	26/38	68.42	32/40	80.00
4	0/249	0.00	0/93	0.00	0/86	0.00
5	18/290	6.21	8/105	7.62	5/93	5.38
6	1/95	1.05	0/45	0.00	1/25	4.00

Table 5. Results of the χ^2 statistics

Trait	Between sexes both sides are pooled		Between sides					
			Pooled		Male		Female	
	χ^2	Yates	χ^2	Yates	χ^2	Yates	χ^2	Yates
1	0.99							
2	0.32							
3	1.37							
4	-							
5	0.40							
6	1.83							
7	0.44		0.54			0.00		0.09
8	1.21		0.26			2.67		0.04
9		2.06		2.42		0.86		0.88
10	1.30		0.03			1.29	0.54	
11	0.01		0.25		1.00		0.77	
12		1.25		0.00		1.52		0.43
13	-		-		-		-	
14	-		-		-		-	
15		0.68		0.00		-		0.49
16	1.29		0.05			1.68	1.19	
17	0.38		0.82		0.81		0.12	
18		1.12		0.07		0.45		0.57
19	-		-		-		-	
20	1.30		0.06			0.66		0.19
21	-		-		-		-	
22	1.78		3.25		0.16		1.84	
23		1.28		0.00		1.21	-	
24	0.37		0.17			1.84		0.01
25	0.04		0.00		0.31		1.54	
26	0.89		1.77			1.34		2.00
27		0.45		1.01		-		0.18
28	0.93		0.05		0.02		0.09	
29		0.88		0.03		1.33		0.61
30		1.58		2.70		2.28	-	
31		0.26		0.41		0.49	-	
32	2.29		1.52		1.65		0.25	
33	3.61		0.01		0.04		0.07	
34	-		-		-		-	
35	7.53*		0.02		0.32		0.32	
36		0.84		0.55		0.33	-	
37		0.18		0.54		0.47	-	
38	-		-		-		-	

* - significant difference at the 5% level

Table 6. Incidence of non-metric traits in the pooled sample

Trait	Pooled		Right side		Left side	
	Incidence	Frequency (%)	Incidence	Frequency (%)	Incidence	Frequency (%)
7	12/167	7.19	7/80	8.75	5/87	5.75
8	17/111	15.32	7/52	13.46	10/59	16.95
9	6/30	20.00	5/14	35.71	1/16	6.25
10	37/89	41.57	17/40	42.50	20/49	40.82
11	259/275	94.18	129/138	93.48	130/137	94.89
12	3/112	2.68	2/55	3.64	1/57	1.75
13	0/502	0.00	0/246	0.00	0/256	0.00
14	0/314	0.00	0/153	0.00	0/161	0.00
15	3/369	0.81	2/183	1.09	1/186	0.54
16	28/396	7.07	14/190	7.37	14/206	6.80
17	209/294	71.09	96/140	68.57	113/154	73.38
18	4/48	8.33	2/21	9.52	2/27	7.41
19	0/185	0.00	0/89	0.00	0/96	0.00
20	16/282	5.67	8/133	6.02	8/149	5.37
21	0/33	0.00	0/15	0.00	0/18	0.00
22	59/297	19.87	35/145	24.14	24/152	15.79
23	3/420	0.71	2/210	0.95	1/210	0.48
24	26/374	6.95	12/187	6.42	14/187	7.49
25	88/440	20.00	43/215	20.00	45/225	20.00
26	20/444	4.50	7/220	3.18	13/224	5.80
27	3/91	3.30	1/41	2.44	2/50	4.00
28	40/188	21.28	20/91	21.98	20/97	20.62
29	5/225	2.22	3/104	2.88	2/121	1.65
30	4/225	1.78	0/104	0.00	4/121	3.31
31	4/234	1.71	3/109	2.75	1/125	0.80
32	240/392	61.22	111/191	58.12	129/201	64.18
33	128/160	80.00	63/79	79.75	65/81	80.25
34	0/312	0.00	0/153	0.00	0/159	0.00
35	51/285	17.89	25/139	17.99	26/146	17.81
36	1/221	0.45	1/108	0.93	0/113	0.00
37	1/212	0.47	1/104	0.96	0/108	0.00
38	0/369	0.00	0/181	0.00	0/188	0.00

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