
**НОРМАЛЬНА І ПАТОЛОГІЧНА АНАТОМІЯ ТА
ФІЗІОЛОГІЯ ЛЮДИНИ І ТВАРИН**

УДК [904.5:572.71](477.52)«652»
DOI 10.31654/2786-8478-2023-BN-2-69-75

Dolzhenko Y. V.

PhD student of Nizhyn Mykola Gogol State University,
junior researcher of Institute of Archaeology,
National Academy of Sciences of Ukraine
yuriy_dolzhenko@ukr.net
orcid.org/0000-0001-9807-2835

**BURIAL GROUND OF CHERNIAKHIV CULTURE BOROMLIA
(ACCORDING TO ETHNIC CRANIOSCOPICAL DATA)**

Anthropological material is generally considered a reliable historical source for the study of ethnogenesis and ethnic history of peoples. This article presents, for the first time, cranioscopical (non-metric) features of skulls from the Roman-period Boromlia burial ground (Chernyakhiv culture) in the Trostianets district of Sumy Oblast, Ukraine. The cranial material from the burial ground is preserved in the collections of the Institute of Archaeology of the National Academy of Sciences of Ukraine. The author personally examined 23 skulls and their fragments from the burials. The aim of the article is to introduce new cranioscopical data into scientific circulation, provide a general characteristic of the sample from the village of Boromlya (Sumy Oblast), and determine the features of the studied group based on the results of ethnic cranioscropy. General scientific (analysis and synthesis), anthropological, and statistical methods were employed. To determine the features of the studied male and female skulls, a cranioscopical program is used, which includes five features first investigated by O. G. Kozintsev. The sixth feature, supraorbital openings, was independently proposed by Y. Dodo and T. V. Tomashevich. According to the presented program, the skulls are examined together, without dividing them into male and female series. Frequencies of cranioscopical features in the cranial series of the Boromlya Chernyakhiv culture are presented for the first time. Based on the data of ethnic cranioscropy, it is established that the skulls from the ground burials of the Boromlya burial ground in Northern Ukraine, which represent the population of the Chernyakhiv culture of the 4th–6th centuries AD, are characterized by a moderate frequency of supraorbital openings. Analogies are observed in the group of skulls from the 3rd–4th centuries AD in Western Ukraine at Chernelyv-Rusky. It is determined that, based on the feature of suborbital pattern type II, the studied sample belongs to southern Europids, similar to the Chernelyv-Rusky sample. The difference between these groups lies mainly in the occipital index, with the western series being more Europid.

Key words: ethnic cranioscropy, Chernyakhiv culture, burial ground, Boromlia, skull, *Homo sapiens*.

Anthropological material is generally considered a reliable historical source while studying the ethnogenesis and ethnic history of nations. As R. Y. Denysova noted [2, c. 5–6], it allows to detect the characteristic morphological features of individual tribes or ethnic units and on this basis to identify their genetic proximity, the territory of settlement and

connection with the ethnic group. In its turn, it allows detecting the relative significance of certain ethnic groups in the overall ethnogenetic process. The comparison of craniological material of different chronological periods from one territory, as well as the involvement of comparative data from adjacent regions and identification of the nature of the correlation between anthropological types and archaeological cultures, make it possible estimate the dynamics of ethnic processes – movement, assimilation and genetics of population groups within the formation of an ethnic community. Comparative analysis of asynchronous craniological material from large areas helps clarify individual tribes and nations' genesis and trace their formation history [2, c. 5–6].

V. Baran [1] noticed that Cherniakhiv culture is one of the most vivid phenomena in the Eastern European history of the 1st millennium A. D. right up to Ancient Rus establishment.

The majority of contemporary archaeologists considers that Cherniakhiv sites can be dated to the period between 230 and 410/430 A. D. [See, for example: 13, p. 169–208; 14, p. 295–351; 15, p. 7–53; 18; 19, p. 321–392].

After century of Cherniakhiv antiquities investigation the researches have received sufficient anthropological material. It is well recognized that solution of the issues of ethnic and cultural development requires the complex approach and the use of various sources [8, c. 133].

In 1986 V. Pryimak discovered a new burial ground on the South-Western outskirts of Boromlia village (Trostanets district of Sumy region). G. Nekrasova and R. Terpylovskiy excavated it in 1987–1991. The site is situated on the high ledge in the form of cape on the right bedrock coast of Boromlia river (Boromlia is a tributary of Vorskla in Dnipro basin). The entombments are mainly without the grave goods and has Western burial orientation. According to data by G. Nekrasova there are no ceremonial pottery (vases with three handles) in complexes of Boromlia unlike neighbouring burial grounds Uspenka, Sumy, Sumy-Sad [6, c. 87–200].

In 1989 P. Pokas and T. Rudych were the pioneers in the study of Cherniakhiv sites of the 4th – 6th Cent. in Sumy region [7, c. 63]. They have investigated two groups of skulls and skeletons from burial grounds Sad (7 male and 2 female) as well as Boromlia (4 male and 5 female). Generally, according to anthropological data, the skulls have moderately massive cranial vault, mesocrania, narrow and moderately high face with well-marked horizontal contour. The orbits are high, the nose is narrow and strongly protruded. The researchers identified two main anthropological variations using statistical analysis.

People from the first variation have wide head and low face with some facial flattening. These features indicate some Mongoloid admixture. The groups of Sarmatians' skulls from the inter-rivers of Volga and Don are similar to the skulls of the first variation. P. Pokas and T. Rudych maintain that artificial deformity of the skull from entombment 4 (burial ground Sad) also indicates the Sarmatians' component as an ethnic feature of Sarmatians.

People from the second variation have dolichocranic massive skulls with high face and are Caucasoids. The mentioned researchers consider this variation to be widespread among late Scythians from Lower and Middle Dnipro basin, probably participants of formation of Cherniakhiv people physical attributes.

The height of buried men is 169,5 cm according to the formulas by L. Manouvrier and is medium according to the world classification. The height of women is higher than average (167,0 cm) [7, c. 63].

S. Segeda carried out odontological studies of 9 Cherniakhiv burial grounds and mentioned that it is possible to identify Dnipro, Left-Bank and Dunaj-Dnister regional complexes of Cherniakhiv culture on the territory of Ukraine and Moldova due to local distinctions [9, c. 168].

S. Segeda also examined Cherniakhiv material from the Left bank of Dnipro according to ethnic odontological data [9, c. 165–175]. He included the entombments of Boromlia (26 skulls), Uspenka village in Buryn district (19 skulls) and Sad village in Sumy district (5 skulls) [9, Табл. 2.1, c. 46; 17] and identified the Left-Bank complex using the series from Boromlia, Uspenka and Sad (50 skulls). This complex has moderately high level of the 1st mandibular molar reduction; very high frequency of tuberculum anomaly; slightly increased concentration of some «Eastern» features in Caucasoid context; overly cranked

crease of metaconidium; adamantine substance wicking between the roots of a tooth equal 4–6 points; very low percent of the variant 2 (II) med. S. Segeda also summarized, that such combination of features is a characteristic of the Eastern branch of the Southern gracile type 9 [9, Табл. 2.1, с. 169].

There are more than 3500 Cherniakhiv sites discovered on the territory of Ukraine, Moldova, Romania and Russian Federation. The excavations had a successful conclusion at 120 burial grounds [5, с. 30]. These entombments were examined mainly using craniometry, osteometry [See more details: 4, с. 7] and odontology [9] as already mentioned.

The most controversial question is related to the Nationality or Nationalities that has(ve) created Cherniakhiv culture and become its core. Therefore, the solving of this problem can amplify the lore about the anthropological compound of Cherniakhiv people from different ethnic regions of Ukraine and its neighbouring countries.

The purpose of this work is to find out key features of the skulls from the burial ground near Boromlia village (Sumy district and region) according to ethnic craniology. The skulls are stored in the foundations of the Institute of Archaeology of Ukrainian National Academy of Sciences. The author investigated 23 skulls and their fragments.

Program and methods. Craniological program is used in this article to characterize the ground entombments from Cherniakhiv burial ground Boromlia. This program includes 5 features pioneered by A. Kozintsev (occipital index, sphenoid maxillary suture, posterior temporal suture, infraorbital pattern of the second type, index of transversal palatine suture) [4, 16]. The sixth feature (supraorbital foramens) was offered by J. Dodo [10, p. 161–177] and T. Tomashevich [See more: 4, с. 12] independently of one another. The sex had not been considered during the study of occipital index, posterior temporal suture, infraorbital pattern of the second type, index of transversal palatine suture and supraorbital foramens. The modified means of male and female measures had been identified for sphenoid maxillary suture. Before that, the frequencies have been converted into radians with an author's program by Russian anthropologist A. Gromov in order to stabilize dispersion. B. Kozintsev and A. Kozintsev created computer programs for multivariate analysis in 1991.

The *occipital index (OI)* indicates a balance between Wormian bones of occipitomastoid and lambdoid sutures. It is moderate (15,3 %) in Boromlia series Y (Table 1). This result corresponds with the odontological conclusion by S. Segeda about the certain Eastern admixture in the group [9, с. 169]. With regard to all available Western Ukrainian material, it is possible to trace some percentage difference from the craniological series Cherneliv Rusky with its OI equal to 0 %. The OI is calculated upon the formula: $OI = A/(A+B)$ [16, p. 219], that is why it is not correct to compare the groups only by percentage without calculation of radians (Table 1).

Table 1
Per side frequencies of nonmetric cranial features in craniological series of Cherniakhiv culture Boromlia and comparative data (%)

№	Series	Cent.	OI	Rad.	IPST	Rad.	PTS	Rad.	SMS	Rad.	ITPS	Rad.	SF	Rad.
1.	Boromlia 1986	4 th – 6 th	15,3 (22)	0,857	31,5 (19)	1,208	0,0 (24)	0,247	65,1 (42)	1,868	72,7 (22)	2,026	26,8 (41)	1,098

OI – occipital index, SMS – sphenoid maxillary suture, PTS – posterior temporal suture, IPST – infraorbital pattern of the second type, ITPS – index of transversal palatine suture, SF – supraorbital foramens. The number of observations is indicated within the brackets. Rad. – Radians.

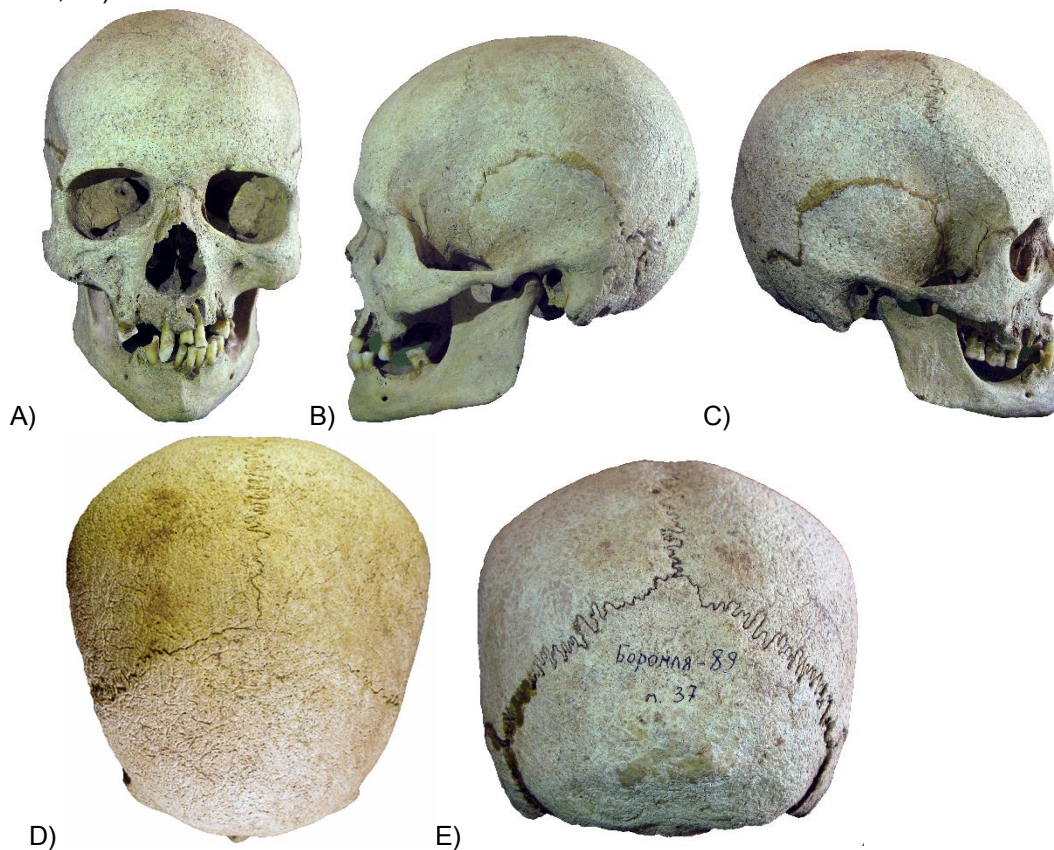
Generally, the frequency of *sphenoid maxillary suture* (SMS) is higher in the Caucasoid groups than in Mongoloid [16]. The Boromlia series has the big rate equal to 65,1%. It is so much more than виявилась набагато вище the SMS of un-weighted average in modern Caucasoid groups (32,9% according to the results by A. Kozintsev) [16]. The percent of SMS is slightly lower than in the Western group of Cherniakhiv culture Cherneliv Rusky, studied by the author and dated to the 3rd – 4th Cent. [4, c. 7–30].

The frequency of *posterior temporal suture* (PTS) on the skulls of Boromlia selection is low (0,0%) as in the Caucasoid groups.

The frequency of *infraorbital pattern of the second type* (IPST) is 31,5%. It is low range [16]. The percentage of individual Ancient Russian groups from Vytachiv, Monastyrok, Lypove, Avtunychi is also lower than 45,0 [3, c. 39–80]. It is possible to trace the same ranges after study of the Western Ukrainian craniological series from Cherneliv Rusky (Table 1). The IPST does not divide Mongoloids and Caucasoids but tend to get less common between the Northern Nationalities [16]. Therefore, the group from Boromlia belongs to Southern Caucasoids. This result also corresponds with the odontological conclusion by S. Segeda [9, c. 169].

The *index of transversal palatine suture* (ITPS) is high and equal to 72,7%. It is the Caucasoid range [16]. The feature indicates the differentiation between Caucasoids and Mongoloids, according to A. Gromov and V. Moiseev [See more: 4, c. 13].

The frequency of *supraorbital foramens* (SF) on the skulls form Boromlia is moderate (26,8%) and also Caucasoid.



III. 1. Female skull from burial 37 of Boromlia burial ground: a) norma facialis; b-c) norma lateralis; d) norma verticalis; e) norma occipitalis

Conclusions. It is established that the skulls from ground entombments from Northern Ukrainian Cherniakhiv burial ground Boromlia (the 4th – 6th Cent.) have moderate frequency of supraorbital foramens and is similar to the skulls from the Western Ukrainian Cherniakhiv group Cherneliv Rusky (the 3rd – 4th Cent.). The probed selection belongs to Southern Caucasoids as well as the selection from Cherneliv Rusky according to the

frequency of infraorbital pattern of the second type. Both groups differ mainly in the occipital index because the Western series is more Caucasoid according to its range.

Therefore, the author sees a prospect in craniological study of all Cherniakhiv series from the territory of Ukraine according to ethnic craniological data and in creation of mentioned three complex series for a better understanding of the Cherniakhiv regional variability.

Література

1. Баран В. Д. Черняхівська культура: За матеріалами Верхнього Дністра і Західного Бугу. Київ: Наукова думка, 1981. 264 с.
2. Денисова Р. Я. Етногенез латишів (за даними краніології). Рига, 1977. 360 с.
3. Долженко Ю. В. Антропологічний склад населення Південноруської землі (за даними етнічної краніоскопії). *Scriptorium nostrum*. 2018. № 2 (11). С. 39–80.
4. Долженко Ю. В. Могильник черняхівської культури Чернелів-Руський (за даними етнічної краніоскопії). *Сторінки історії*. Вип. 48. 2019. С. 7–30.
5. Бокій Н. М., Козир І. А. Пам'ятки черняхівської культури на пограниччі Степу і Лісостепу Дніпровського Правобережжя (за матеріалами Кіровоградщини). *Наукові записки*. Вип. 1. 2005. С. 30–45.
6. Некрасова А. Н. Пам'ятники Черняхівської культури Дніпровського Лівобережжя. Готи та Рим. Київ: Стінос, 2006. С. 87-201.
7. Покас П. М., Рудич Т. А. Населення території Сумщини у V–VI століттях за даними палеоантропології. *Проблеми археології Сумщини*. 1989. С. 63-64.
8. Рудич Т. О. Населення черняхівської культури України, можливості етнічних реконструкцій на матеріалах антропології: збірник наукових праць науково-дослідного інституту українознавства. 2007. № XV. С. 133–148.
9. Сегеда С. П. Антропологічний склад українського народу. Етногенетичний аспект. Київ: Вид-во ім. О. Теліги, 2001. 254 с.
10. Dodo Y., Ishida H. Incidences of Nonmetric Cranial Variants in Several Population Samples from East Asia and North America. *Journal of the Anthropological Society of Nippon*. 1987. Vol. 95. № 2. P. 161–177.
11. Eggers H. Zur absoluten Chronologie der römischen Kaiserzeit im freien Germanien. *Jahrbuch des Romisch-Germanischen Zentralmuseums Mainz*. 1955. № 2. S. 196–244.
12. Godlowski K. The Chronology of the Late Roman and Early Migration Periods in Central Europe. *Krakow: Nakładem Uniwersytetu Jagiellońskiego*, 1970. 126 p.
13. Harhoiu R. Chronologische Fragen der Völkerwanderungszeit in Rumänien, Dacia, 1990. № 34. S. 169–208.
14. Ioniță I. Chronologie der Sântana de Mureș – Černjachov Kultur (I). *Peregrinatio Gothika (Archaeologia Baltica, VII)*, 1986. P. 295–351.
15. Kazanski M., Legoux R. Contribution a l'étude des témoignages archéologiques des Goths en Europe orientale a l'époque des Grandes Migrations: la chronologie de la culture de Černjachov récente. *Archéologie Médiévale*. 1988. № 18. P. 7–53.
16. Kozintsev A. Ethnic Epigenetics: New Approach. *Ethnische Epigenetik. Neue Methoden und Ergebnisse. Homo*. 1992. № 43/3. P. 213–244.
17. Segeđa S. Dental Data as a Source of Ethnogenetic Information Based on Material from the Culture of the Chernyakhivsk. *Variability and Evolution*. 1994. № 4. P. 129–134.
18. Tejral J. Zur Chronologie und Deutung der südöstlichen. Kulturelemente in der fruhen Volkerwanderungszeit. 1987. S. 11–46.
19. Tejral J. Neue Aspekte der fruhvolkerwanderungszeitlichen. Chronologie und Mitteldonauraum. *Neue Beitrage zur Erforschung Spat Antike im mittleren Donauraum*. 1997. S. 321–392.

References

1. Baran, V.D. (1981). Chernyakhivska kul'tura: za materialamy Verkhnoho Dnistra i Zakhidnoho Buhu [Chernyakhiv Culture: Based on Materials from the Upper Dnister and Western Buh]. Kyiv: Naukova dumka [in Ukrainian].
2. Denisova, R.Ya. (1977). Etnohenez latyshy (po dannym kraniolohii) [Ethnogenesis of the Latvians (Based on Craniology Data)]. Riga [in Russian].
3. Dolzhenko, Yu.V. (2018). Antropolohichniy sklad naseleण्या Pivdennorus'koyi zemli (za danymy etnichnoyi kranioskopiyyi) [Anthropological Composition of the Population of the Southern Russian Land (Based on Data from Ethnic Craniology)]. *Scriptorium nostrum – Scriptorium nostrum*. Issue 2 (11). P. 39–80 [in Ukrainian].

4. Dolzhenko, Yu.V. (2019). Sil's'ke naselennya Chernihovo-Sivershchyny X–XIII st. za danymy kranioometriyi [Rural Population of Chernihiv-Siverian Region of 10th – 13th Cent. According to Craniometric Data]. *Storinky istoriyi – History Pages*. Issue 47. P. 7–30 [in Ukrainian].
5. Bokiy, N.M. & Kozir, I.A. (2005). Pamyatky Cherniakhivs'koyi kup'itury na pohranchchi Stepu i Lisostepu Dniprovskogo Pravoberezhzhya (za materialamy Kirovohradshchyny) [Monuments of Cherniakhiv Culture on the Border of Steppe and Forest-Steppe of the Dnipro Right Bank (Based on Materials from Kirovohrad Region)]. *Naukovi zapysky – Scientific Notes*. Issue 1. P. 30–45 [in Ukrainian].
6. Nekrasova, A.N. (2006). Pam'yatniki Chernyakhovskoy kul'tury Dneprovskoho Levoberezh'ya [Chernyakhov Culture Sites of the Left Bank of the Dnipro]. *Goty i Rim – Goths and Rome*. Kyiv: Stilos [in Ukrainian].
7. Pokas, P.M. & Rudich, T.A. (1989). Naseleniye territorii Sumshchyny v V–VI vekakh po dannym paleoantropologii [Population of the Sumy Region in the 5th – 6th Centuries Based on Paleoanthropology Data]. *Problemy arkheologii Sumshchyny – Problems of Archaeology of the Sumy Region* [in Ukrainian].
8. Rudych, T.O. (2007). Naselennya chernyakhivskoyi kul'tury Ukrayiny, mozhyvosti etnichnykh rekonstruktsiy na materialakh antropologii [Population of the Chernyakhov Culture in Ukraine, Possibilities of Ethnic Reconstruction Based on Anthropology Materials]. *Zbirnyk naukovykh prats' naukovo-doslidnoho instytutu ukrayinoznavstva – Collection of Scientific Works of the Research Institute of Ukrainian Studies*. Vol. XV. P. 133–148 [in Ukrainian].
9. Sehedá, S.P. (2001). Antropologichnyi sklad ukrayins'koho narodu. Etnohenetychnyy aspekt [Anthropological Composition of the Ukrainian People. Ethnogenetic Aspect]. Kyiv: Vidvo im. O. Telihy [in Ukrainian].
10. Dodo, Y. & Ishida, H. (1987). Incidences of Nonmetric Cranial Variants in Several Population Samples from East Asia and North America. *Journal of the Anthropological Society of Nippon*, 95 (2), P. 161–177 [in English].
11. Eggers, H. (1955). Zur absoluten Chronologie der römischen Kaiserzeit im freien Germanien. *Jahrbuch des Romisch-Germanischen Zentralmuseums Mainz*, 2, 196–244 [in German].
12. Godlowski, K. (1970). The Chronology of the Late Roman and Early Migration Periods in Central Europe. Krakow: Nakładem Uniwersytetu Jagiellońskiego [in English].
13. Harhoiu, R. (1990). Chronologische Fragen der Völkerwanderungszeit in Rumänien, Dacia, 34, 169–208 [in German].
14. Ioniță, I. (1986). Chronologie der Sântana de Mureș – Černjachov Kultur (I). *Peregrinatio Gothica (Archaeologia Baltica, VII)*, 295–351 [in German].
15. Kazanski, M. & Legoux, R. (1988). Contribution a L'étude des témoignages archéologiques des Goths en Europe orientale a l'époque des Grandes Migrations: la chronologie de la culture de Černjachov récente. *Archéologie Médiévale*, 18, 7–53 [in French].
16. Kozintsev, A. (1992). Ethnic Epigenetics: New Approach. *Ethnische Epigenetik. Neue Methoden und Ergebnisse. Homo*, 43/3, 213–244 [in English].
17. Segeda, S. (1994). Dental Data as a Source of Ethnogenetic Information Based on Material from the Culture of the Chernyakhivsk. *Variability and Evolution*, 4, 129–134 [in English].
18. Tejral, J. (1987). Zur Chronologie und Deutung der südöstlichen. Kulturelemente in der frühen Völkerwanderungszeit, 11–46 [in German].
19. Tejral, J. (1997). Neue Aspekte der fruhvolkerwanderungszeitlichen. *Chronologie und Mitteldonauraum. Neue Beiträge zur Erforschung Spät Antike im mittleren Donauraum*, 321–392 [in German].

Долженко Ю. В.

аспірант Ніжинського державного університету імені Миколи Гоголя,
молодший науковий співробітник Інституту археології НАН України
yuriy_dolzhenko@ukr.net
orcid.org/0000-0001-9807-2835

МОГИЛЬНИК ЧЕРНЯХІВСЬКОЇ КУЛЬТУРИ БОРОМЛЯ (ЗА ДАНИМИ ЕТНІЧНОЇ КРАНІОСКОПІЇ)

Антропологічний матеріал, як правило, вважається надійним історичним джерелом у вивченні етногенезу та етнічної історії народів. У статті вперше

подаються краніоскопічні (неметричні) ознаки на черепах із могильника Боромля римського часу (черняхівська культура) (Тростянецький район Сумської обл.). Краніологічний матеріал з могильника зберігається у фондах Інституту археології Національної академії наук України. Автор особисто дослідив 23 черепа та їх фрагменти з поховань. Мета статті – ввести в науковий обіг нові краніоскопічні дані, дати загальну характеристику вибірки з с. Боромля (Сумської обл.). Визначити особливості досліджуваної групи за результатами етнічної краніоскопії. Було використано загальнонаукові (аналіз і синтез), антропологічні та статистичні методи. Для визначення особливостей досліджуваних чоловічих і жіночих черепів використовується краніоскопічна програма, котра включає п'ять ознак, які вперше дослідив О. Г. Козінцев. Шосту ознаку – надорбітні отвори – незалежно один від одного запропонували Й. Додо та Т. В. Томашевич. За наведеною програмою черепи розглядаються спільно, без поділу на чоловічу та жіночу серії. Вперше подаються частоти краніоскопічних ознак у краніологічній серії черняхівської культури Боромля. За даними етнічної краніоскопії встановлено, що черепи з ґрунтових поховань Північної України могильника Боромля, котре залишило населення черняхівської культури IV–VI ст. н. е., характеризується помірною частотою надорбітних отворів. Аналогії спостерігаються в групі черепів III–IV ст. н. е з заходу України – Чернелів-Руський. Визначено, що за ознакою підорбітний візерунок типу II досліджувана вибірка належить до південних європеїдів, як і вибірка Чернелів-Руський. Відмінність цих груп полягає переважно тільки в потиличному індексі, за яким західна серія більш європеїдна.

Ключові слова: етнічна краніоскопія, палеоантропологія, *Homo sapiens*, Черняхівська культура, Боромля, морфологія, біологічний розвиток.

Стаття до редакції надійшла 19.10.2023 року
Рецензія на статтю надійшла 06.11.2023 року