

DENTAL ANTHROPOLOGY OF THE EARLY KRASNOYARSK CITY BASED ON MATERIALS FROM THE POKROVSKY NECROPOLIS, 17–18TH CENTURIES AD

This is the first complete presentation of the dental data on the early inhabitants of Krasnoyarsk city on the Yenisei River. One of the most representative cranial collections of Russians in Siberia of the 17th-18th centuries AD was studied following the extended dental anthropological protocol. These are the materials from the Pokrovsky necropolis in the “big city” part of the Krasnoyarsk fortress. The sample consisted of 150 individuals of different sex and age with permanent dentition. The paper focuses on the anthropological composition of the first generations of Krasnoyarsk residents, the racial homogeneity of the urban population, and its genetic origins according to phenetic data. The statistical calculations were done for four samples — men, women, children and in total. Descriptive dental markers were used to reveal the trends of sexual dimorphism and temporal dynamics. The studied sample represents a group of mixed Eurasian origin with a pronounced European dominant. Main observations include the absence of shovel-shaped incisors with an increased frequency of the distal trigonid crest and deflecting wrinkle of metaconid, low frequency of the Carabelli cusp and hypodontia of the third molars, pronounced reduction of the lower molars, low frequency of interroot enamel protrusion, moderate to high frequency of two-rooted upper premolars. For the intergroup comparison the sample of the Pokrovsky necropolis was combined with a sample of Christian burials in the Volga region and the Ob–Irtysh basin. Its taxonomic position is consistent with the published craniometric data.

Keywords: *Russian settlements on Yenisei, Krasnoyarsk fortress in the 17th — 18th centuries, Pokrovsky nekropolis, physical anthropology, dental anthropology, shovel-shaped incisors, Carabelli cusp, molar crown shape, deflecting wrinkle, statistical analysis*

Author Info: Aksyanova Galina A. — Ph.D., Senior Researcher, the Russian Academy of Sciences N. N. Miklouho-Maklay Institute of Ethnology and Anthropology (Russian Federation, Moscow). E-mail: gaksyanova@gmail.com ORCID: <https://orcid.org/0000-0003-4182-4412>

For Citation: Aksyanova, G. A. 2022. Dental anthropology of the early Krasnoyarsk city based on materials from the Pokrovsky necropolis, 17–18th centuries AD. *Herald of Anthropology (Vestnik Antropologii)* 3: 274–305.

Funding: The study was carried out as a part of the research plan of the Russian Academy of Sciences N. N. Miklouho-Maklay Institute of Ethnology and Anthropology “The evolutionary continuum of the genus Homo”, Subtopic “Anthropology of Ancient and Modern Populations”

References

- Aksyanova, G. A. 1991. Odontologiya [Odontology]. In *Tiurki taezhnogo Prichulym'ia (populatsiia i etnos)* [Turks of the taiga Chulym region (population and ethnos)], 200–209. Tomsk: Izdatel'stvo Tomskogo universiteta.
- Aksyanova, G. A. 2010. Yuzhnye sel'kupy, chulymskie tiurki i russkie Sibiri: mezhetnicheskie kontakty i antropologicheskie sledstviia k kontsu XX veka [Southern Selkups, Chulym Turks and Russians of Siberia: Interethnic Contacts and Anthropological Consequences by the End of the 20th Century]. In *Chelovek: ego biologicheskaiia i sotsial'naia istoriia* [Man: his biological and social history], 1: 229–235. Moscow–Odintsovo: Odintsovskii gumanitarnii institute.
- Aksyanova, G. A. 2013a. Mezhnatsional'noe smeshenie kak faktor formirovaniia novoi real'nosti (na primere Zakavkaz'ia i Zapadnoi Sibiri) [Interethnic mixing as a factor in the formation of a new reality (on the example of Transcaucasia and Western Siberia)]. In *Mezhdunarodnaia nauchnaia konferenciia "Naselenie iuga Rossii s drevneishikh vremen do nashikh dnei" (Donskie antropologicheskie chteniia). Sbornik statei. (26–30 avgusta 2013 g. Rostov-na-Donu. Rossiia)* [Int. scientific conf. "The population of the south of Russia from ancient times to the present day" (Don Anthropological Readings). Digest of articles. (August 26–30, 2013 Rostov-on-Don, Russia)], 100–102. Rostov-na-Donu: Izdatel'stvo YuNTs RAN.
- Aksyanova, G. A. 2013b. Proiskhozhdenie ketov po dannym antropologii: istoriia voprosa, novye materialy [The origin of the Kets according to anthropology: background, new materials]. *Vestnik antropologii* 1 (23): 20–58.
- Aksyanova, G. A. 2013v. Odontoglificheskoe napravlenie v zubnoi antropologii [Odontoglyphic direction in dental anthropology]. *Vestnik antropologii* 4 (26): 88–106.
- Aksyanova, G. A. 2015. Odontologiya metisnykh populatsii (na primere russkikh starozhilov Iakutii) [Odontology of the mixed population (on the example of the Russian old-timers of Yakutia)]. In *Paleoantropologicheskie i bioarkheologicheskie issledovaniia: traditsii i novye metody: (VI Alekseevskie chteniia). Materialy Vserossiiskoi nauchno-prakticheskoi konferencii 5–10 oktiabria 2015 g. Sankt–Peterburg* [Paleoanthropological and bioarchaeological research: traditions and new methods: (VI Alekseevsky readings). Materials of the all-Russian scientific-practical conf. October 5–10, 2015 St. Petersburg], 3–7. St. Petersburg: MAE RAN.
- Aksyanova, G. A. 2020a. Nekotorye nabliudeniia o sostoianii zubnoi sistemy u zhitelei sela Iziuk v Omskom Priirtysh'e (XVII–XIX vv.) [Some observations on the state of the dental system of the inhabitants of the village of Izyuk in the Omsk Irtysh region (17–19 centuries)]. In *Ekologiya drevnikh i traditsionnykh obshchestv. Materialy VI Mezhd. nauchnoi konf., Tiumen', 2–6 noiabria 2020 g. / Otv. red. N. P. Matveeva, N. E. Riabogina* [Ecology of ancient and traditional societies. Materials VI Int. Scientific Conf., Tyumen, November 2–6, 2020 / Eds. N. P. Matveeva, N. E. Ryabogina]. Vol. 6: 277–282. Tiumen': Izdatel'stvo TiumNTs SO RAN.
- Aksyanova, G. A. 2020b. Pervye pokoleniia russkogo naseleniia v Omskom Priirtysh'e XVII–XIX vv. po dannym odontologii [The first generations of the 17–19th centuries Russian population in the Omsk Irtysh region according to dental anthropology]. *Vestnik Tomskogo gos. universiteta. Istoriiia* 68: 139–144.
- Aleksandrov, V. A. 1964. *Russkoe naselenie Sibiri XVII — nachala XVIII vv. (Eniseiskii krai)* [Russian population of Siberia in the 17th — early 18th centuries (Yenisei Territory)]. TIE. Nov. ser. Vol. 87. Moscow: Nauka.
- Bykonina, G. F., Fedorova, V. I., and L. P. Berdnikov. 1990. *Krasnoiarsk v dorevoliutsionnom proshlom (XVII–XVIII veka)* [Krasnoyarsk in the pre-revolutionary past (XVII–XVIII centuries)]. Krasnoiarsk: Izdatel'stvo KGU.
- Dabernat H., Reis T. M., Tarasov A. Yu., Artyukhov I. P., Nikolaev V. G., Medvedeva N. N., Gavrilyuk O. A., Nikolaev M. V., Crubezy E. 2013. Paleopathology of the population of Krasnoyarsk,

- Central Siberia (Pokrovskiy and Voskresensko-Preobrazhenskiy cemeteries of the 17th — early 20th centuries). *Archaeology, Ethnology & Anthropology of Eurasia*. 41 (3): 140–150.
- Gravere, R. U. 1987. *Etnicheskaiia odontologiia latyshei* [Ethnic odontology of Latvians]. Riga: Zinatne.
- Kabbani T., Fischer-Brandies H., Rshadat Y., Orthuber W. 2021. Skeletal and dentofacial features in patients with isolated maxillary lateral incisor agenesis (MLIA). *Int. J. Dentistry & Oral Health*. 7 (Is. 8): 74–85.
- Kharlamova, N. V. 2007. Odontologicheskii material XVI–XVIII vv. iz khristianskikh pogrebenii Kazanskogo Kremliia [Odontological material of the 16th–18th centuries from Christian burials of the Kazan Kremlin]. *Vestnik antropologii* 15 (Pt. II): 419–425.
- Kharlamova, N. V. 2009. Odontologicheskaiia kharakteristika naseleniia Nizhnego Novgoroda XVII v. [Odontological characteristics of the population of Nizhny Novgorod in the 17th century]. In *Materialy konferentsii “Rol’ estestvennonauchnykh metodov v arkheologicheskikh issledovaniakh”* [Proceedings of the conference “The role of natural science methods in archaeological research”], 250–252. Barnaul.
- Kharlamova, N. V. 2010a. Srednevekovoe naselenie Povolzh’ia po dannym odontologii [Medieval population of the Volga region according to odontology]. *Etnograficheskoe obozrenie* 5: 79–88.
- Kharlamova, N. V. 2010b. Odontologiia tverskogo naseleniia XVI–XVIII vekov [Odontology of the Tver population of the 16th–18th centuries]. *Vestnik Moskovskogo universiteta. Seriiia XXIII Antropologiia* 1: 91–94.
- Kharlamova, N. V., Leibova N. A. (Suvorova), Berdnikov I. M. and N. E. Berdnikova. 2015. Odontologicheskaiia i osteologicheskaiia kharakteristiki naseleniia Irkutsk XVIII — nachala XIX vv. (po materialam nekropolei) [Odontological and osteological characteristics of the population of Irkutsk in the 18th — early 19th centuries (based on materials from necropolises)]. In *Izvestiia Irkutskogo gos. universiteta. Seriiia “Geoarkheologiia. Etнологиia. Antropologiia”*. Vol. 12: 110–131.
- Leibova N. A., Pezhemskii D. V. 2019. Naselenie Albazinskogo ostroga po dannym antropologicheskikh issledovaniia [The population of the Albazinsky prison according to anthropological research]. In *Albazinskii ostrog: Istoriia, arkheologiia, antropologiia narodov Priamur’ia* [Albazinsky prison: History, archeology, anthropology of the peoples of the Amur region]. Chapter 2.6: 193–224. Novosibirsk: Izdatel’stvo IAET SO RAN.
- Moss M. L. 1969. The primary role of functional matrices in facial growth. In *Am. J. Orthodontics*. 55: 556–565.
- Nikolaev, V. G. (Ed.). 2015. *Ocherki integrativnoi antropologii: monografiia* / Otv. red. V. G. Nikolaev. [Essays on integrative anthropology: monograph / Ed. V. G. Nikolaev. 2015], 235–248. Krasnoyarsk: KrasGMU.
- Pavlov, N. P. 1974. *Promyslovaia kolonizatsiia Sibiri v XVII veke* [Commercial colonization of Siberia in the 17th century]. Krasnoyarsk: Izdatel’stvo KGPI.
- Reis, T. M., and L. B. Mikhailova. 2003. Istoricheskie i ekstremal’nye faktory v formirovaniia pervogo naseleniia g. Krasnoiarska (po antropologicheskim materialam Pokrovskogo nekropolia, XVII–XVIII vv.) [Historical and extreme factors in the formation the first population of the city of Krasnoyarsk (based on anthropological materials of the Pokrovsky necropolis, XVII–XVIII centuries)]. In *V Kongress etnografov i antropologov Rossii, Omsk, 9–12 iunია 2003 g.* [V Congress of Ethnographers and Anthropologists of Russia, Omsk, June 9–12, 2003], 256. Moscow: Assotsiatsiia etnografov i antropologov Rossii.
- Reis, T. M., and S. Yu. Smushko. 2004. Antropologicheskaiia kharakteristika pervoposelentsev Krasnoiarskogo ostroga XVII–XVIII vv. po materialam nekropolia Pokrovskoi tserkvi [Anthropological characteristics of the first settlers of the Krasnoyarsk prison of the XVII–XVIII centuries based on the materials of the necropolis of the Pokrovsky Church]. In *Ekologiia i demografiia cheloveka v proshlom i nastoiashchem: tez. tret’ikh antropologicheskikh chtenii k*

- 75-letiiu so dnia rozhdeniia akad. V. P. Alekseeva (Moskva, 15–17 noiabria 2004 g.) [Ecology and demography of man in the past and present: abstract. third anthropological readings on the occasion of the 75th anniversary of the birth of Acad. V. P. Alekseev (Moscow, November 15–17, 2004)], 208–209. Moscow: Entsiklopediia rossiiskikh dereven'.
- Roald K. L., Wisth P. J., Boe O. E. 1982. Changes in craniofacial morphology of individuals with hypodontia between the ages of 9 and 16. *Acta Odontologica Scandinavica*. 40: 65–74.
- Savenkova, T. M., and S. Yu. Smushko. 2017. K voprosu o sostave naseleniia krasnoiarskogo ostroga po kraniometricheskim dannym [On the question of the composition of the population of the Krasnoyarsk prison according to craniometric data]. In *Mezhdistsiplinarnye issledovaniia v arkheologii, etnografii i istorii Sibiri: materialy Mezhdunarodnoi nauchnoi konferentsii, Krasnoyarsk 27–30 sentiabria 2017 g.* [Interdisciplinary research in archeology, ethnography and history of Siberia: Proceedings of the International Scientific Conference, Krasnoyarsk September 27–30, 2017], 199–202. Krasnoyarsk.
- Slavianskie narody evropeiskoi chasti SSSR. Russkie. 1979 [Slavic peoples of the European part of the USSR. Russians. 1979]. In *Etnicheskaia odontologiia SSSR* [Ethnic odontology of the USSR]. Chapter I: 9–31. Moscow: Nauka. (by G. A. Aksyanova, A. A. Zubov, M. Yu. Peskina, S. P. Segeda, N. I. Khaldeeva).
- Stepanov, A. P. 1997. *Eniseiskaia guberniia* [Yenisei province]. Krasnoyarsk: Gornitsa.
- Suvorova, N. A. 2007. Odontologicheskaia kharakteristika srednevekovogo naseleniia g. Dmitrova Moskovskoi oblasti [Odontological characteristics of the medieval population of Dmitrov, Moscow region]. *Vestnik antropologii* 15 (Pt. II): 378–393.
- Tarasov, A. Yu. 2000. Istoricheskie nekropoli Krasnoiarska XVII–XVIII vv. [Historical necropolises of Krasnoyarsk in the 17th–18th centuries]. In *Integratsiia arkheologicheskikh i etnograficheskikh issledovaniy* [Integration of archaeological and ethnographic research], 192–194. Vladivostok–Omsk.
- Vashchaeva, V. F. 1977a. Odontologicheskaia kharakteristika russkikh zapadnykh i severo-zapadnykh oblastei RSFSR [Odontological characteristics of the Russians in the western and north-western regions of the RSFSR]. *Voprosy antropologii* 56: 102–111.
- Vashchaeva, V. F. 1977b. Odontologicheskaia kharakteristika russkikh tsentral'nykh, iuzhnykh i severnykh oblastei evropeiskoi chasti RSFSR [Odontological characteristics of the Russians in the central, southern and northern regions of the European part of the RSFSR]. *Voprosy antropologii* 57: 133–142.
- Voronina, V. G., and V. F. Vashchaeva. 1979. Primor'e [Primorye]. In *Etnicheskaia odontologiia SSSR* [Ethnic odontology of the USSR] VI. Narody Sibiri i Dal'nego Vostoka: 212–228. Moscow: Nauka.
- Yüksel S., Üçem T. 1997. The effect of tooth agenesis on dentofacial structures. In *Eur J. Orthodontics*. 19: 71–78. DOI: 10.1093/ejo/19.1.71.
- Zubov, A. A. 1968. *Odontologiia. Metodika antropologicheskikh issledovaniy* [Odontology. Methodology of Anthropological Research]. Moscow: Nauka.
- Zubov, A. A. 1973. *Etnicheskaia odontologiia* [Ethnic odontology]. Moscow: Nauka.
- Zubov, A. A. 2006. *Metodicheskoe posobie po antropologicheskomu analizu odontologicheskikh materialov (Biblioteka "Vestnika antropologii")* [Toolkit for anthropological analysis of odontological materials (Library of the Bulletin of Anthropology)]. Moscow: IEA RAN.
- Zubov, A. A. and N. I. Khaldeeva. 1974. *Odontologicheskie dannye po neskol'kim finnoiazychnym narodam v sviazi s ikh proiskhozhdeniem* [Odontological data on several Finnish-speaking peoples in connection with their origin]. In *Etnogenez finno-ugorskikh narodov po dannym antropologii* [Ethnogenesis of the Finno-Ugric peoples according to anthropology], 51–54. M.: Nauka.
- Zubov, A. A., and N. I. Khaldeeva. 1989. *Odontologiia v sovremennoi antropologii* [Odontology in modern anthropology]. Moscow: Nauka.

- Zubov, A. A., and N. I. Khaldeeva. 1993. *Odontologiya v antropofenetike* [Odontology in anthropogenetics]. Moscow: Nauka.
- Zubov, A. A., and N. I. Khaldeeva (Ed.). 1979. *Etnicheskaya odontologiya SSSR* [Ethnic odontology of the USSR]. Moscow: Nauka.