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Demographic «portrait» of the Tazovskaya, Gydanskaya and Nakhodkinskaya tundras in the Arctic zone of Western Siberia in the context of the transformation of traditional lifestyle

«Retrato» demográfico de la tundras Tazovskaya, Gydanskaya y Nakhodkinskaya en la zona Ártica de Siberia occidental en el contexto de la transformación del estilo de vida tradicional

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ABSTRACT:

The article presents the demographic "portrait" of the Tazovskaya, Gydanskaya and Nakhodkinskaya tundras in Western Siberia. The study is focused on the analysis of "gender shift" in a nomadic family of the Tazovsky district in the Yamal-Nenets autonomous okrug. We implemented quasi-genetic methods, cluster and gender analysis to explore marriage bonds and the Arctic indigenous peoples' clan structure ("erkars" and "tenzes"). The research was conducted with the support of the Russian Foundation for Basic Research (project No. 18-010-00875).

Keywords: Demography, marriage bounds, Western Siberia

RESUMEN:

El artículo presenta el "retrato" demográfico de las tundras Tazovskaya, Gydanskaya y Nakhodkinskaya en Siberia occidental. El estudio se centra en el análisis del "cambio de género" en una familia nómada del distrito de Tazovsky en el okrug autónomo Yamal-Nenets. Implementamos métodos cuasi-genéticos, análisis de grupos y de género para explorar los lazos matrimoniales y la estructura de clanes de los pueblos indígenas del Ártico ("erkars" y "tenzes"). La investigación se realizó con el apoyo de la Fundación Rusa para la Investigación Básica (proyecto No. 18-010-00875).

Palabras clave: Demografía, límites matrimoniales, Siberia occidental.

1. Introduction

The history of the population in the Polar territories of Western Siberia dates back several thousand years. However, most of the Nenets families migrated to the Arctic and subarctic zone of

the Yamal only in the 17th century. At the same period, Khants and Selkups moved to the North from the Priob'ye (the areas along the Ob river in the Khanty-Mansyisky district of Western Siberia). Later, other people of the Yamal migrated to the High North: Russians – in the 17th century, Zyryans – in the second half of the 19th century. So, most of the indigenous population of the Yamal are not so long-standing migrants. For natural selection and genetic adaptation, a period of 100-500 years is negligible with a small number of population and limited genetic exchange (Lobanov, A.A. et al. 2012).

This complex process of the indigenous population's formation in Western Siberia was highlighted in the works by M.G. Levin, L.P. Potapov (1956), L.V. Khomich (1966, 1995), N.A. Minenko (1975), A.V. Golovnev (1989, 1997, 1999, 2015, 2016), V.I. Vasiliev (1994), S.V. Lezov (2000), J.O. Habeck (2005), F. Ackerman, T. Salminen (2006), B. Donahoe, J.O. Habeck, A. et al. (2008), E.V. Liarskaya (2009), E.A. Volzhanin (2011), T. Heleniak, T. Holzlehner, E. Khlinovskaya (2011), Yu.N. Kvashnin (2012), G.V. Vizgalov, A.V. Kardash, R.A. Kosintsev (2013), G.G. Kornilov, G.E. Kornilov, N.A. Mikhalev, A.G. Orudzhiev (2013), R. Laptander (2014, 2017), Y. Atsusi (2014), A.N. Bagashev, S.M. Slepchenko (2015), D.A. Oparin (2016, 2018) etc. During later periods the Northern population of Western Siberia was formed mainly due to migration from the European part of Russia, southern Siberia and former Soviet republics (Oparin, Dmitriy A. 2016).

Currently, there are the positive demographic trends of the minor indigenous peoples in the Russian High North, including Western Siberia. In 2010 compared to 1989, according to the data of All-Russian census, the population of Nenets (29,772 / 19,639 people) and Khants (9,489 / 6,281 people) increased 1.5 times, the number of Selkups – by 15% (1 988 / 1 561 people). That was the result of the initiating new governmental programs to support the indigenous peoples in the Russian North (The Decree of the Government of the Russian Federation, 04.02.2009, No. 132-r "On the Concept of Sustainable Development of the Indigenous Peoples of the North, Siberia and the Far East of the Russian Federation"). During the last 20 years, three federal targeted programs on the sustainable socio-economic development of the minor Northern indigenous peoples have been implemented in the Russian Federation, as well as several regional targeted programs and subprograms, to support reindeer husbandry and livestock breeding.

However, currently, in Russia, there is a problem of statistical monitoring the number of indigenous people. In 1996-2009, governmental statistics bodies of the Russian Federation carried out federal statistical monitoring of the socio-economic situation in the indigenous communities of the North, following the decrees, approved by the Government of the Russian Federation (No. 22, 11 January 1993; No. 99, 7 October 1993; No. 58, 23 January 2000). However, the Decree of the Government of the Russian Federation No. 410 of 8 May 2009 cancelled these documents. Only much later, the Strategy for the Development of the Arctic Zone of the Russian Federation and National Security for the Period up to 2020, approved by the President of the Russian Federation, declared the need for organizing a reliable statistical monitoring of the socio-economic situation and transition processes of the traditional lifestyle and economic activities in the indigenous communities of the North, Siberia and the Far East of the Russian Federation. Strategic initiatives are focused on monitoring a macroeconomic indicator "an increase in the life expectancy of Indigenous peoples of the North, Siberia and Far East of the Russian Federation living on the territory of the Russian Arctic." (Strategy... 2008). It should characterize the level of socio-economic development of this population and the national security of the Arctic zone in the Russian Federation.

The demographic "portrait" of Western Siberia can be "created" by studying the problems of close relatives' marriages among the indigenous peoples of the Yamal and the risk-factors of their traditional lifestyle transformation. This paper aimed to analyze the marriage bonds of the Nenets living in the Tazovsky district of the Yamal-Nenets autonomous okrug (YNAO), which still retains many features of the traditional 'clan' structure and creates unique opportunities for studying their ethnogenesis since it allows to use research methods practically inapplicable in the urban society.

The characteristics of the Nenets was given by L.V. Khomich (1995), who noted the following features of their 'family structure': exogamy (marriages within a clan are strictly prohibited), male's dominance in a family, the existence of a special territory, patrimonial sacrificial places and cemeteries, collective production and distribution methods of running household, the custom of patrimonial mutual help, the importance of patrimonial names, levirate, and the authority of the elderly people. A 'clan' determined the life of a family and its members' religious beliefs and customs: it was a military organization in clashes with neighbours (Khlomich, L.V. 1995).

2. Methodology

The methodology of the article is based on a multidisciplinary approach and the implementation of the methods of Sociology, Economics, and Medicine, including quasigenetic methods. Primary resources of the study were the data collected by interviewing 264 indigenous people (Nenets) during the expeditions to the Tazovskaya, Gydanskaya and Nakhodkinskaya tundras in the Tazovsky district of the Yamal-Nenets autonomous okrug in summer (August) and winter periods (March, November) of 2017-18 (figure 1). The fieldwork was provided by the researchers of the Arctic Scientific Research Center of the YNAO.

Figure 1
The territory of the Tazovsky district of the Yamal-Nenets autonomous okrug, Western Siberia



(Retrieved from: <https://www.google.com/maps/>; edited by Bogdanova, Elena N.)

Semi-structured interviews were based on the interview guide developed and approved by the Arctic Scientific Research Center of the Yamal-Nenets Autonomous Okrug. The data were obtained about 2973 ancestors and descendants of the respondents. So, the information of three generations of the Nenets living in the Tazovskaya, Gydanskaya and Nakhodkinskaya tundras

were summarized (n=3237). The data were included in a database and analyzed using the STATISTICA 6. To assess the significance of differences between the groups, the χ -square criterion was used (for qualitative variables). To process the data on the frequency of marriages and division into groups, cluster analysis was implemented.

The selection criteria for the respondents were: Nenets origin (at least one of the parents had a Nenets origin, Nenets-speaker), traditional lifestyle (mostly nomadic or semi-nomadic), including into the medical examinations provided by the researchers of the Arctic Scientific Research Center of the YNAO. Every participant of the study (over 18 years old) filled in an informed consent form. The personal data of the participants were included in the databases of the project team of the Northern Arctic Federal University, anonymized and numbered.

The use of surnames ('generic names') as a quasigenetic marker is relevant in solving genetic 'puzzles'. In most cases, surnames, transmitted along the male line, are an analogue of the Y-chromosome, according to the transmission method. Surnames are an available resource, that makes them attractive for quasigenetic studies, provides higher coverage of a study population; it provides the representativeness of the sample and increases the reliability of the results (Balanovskaya, E.V. et al. 2005; Sorokina, I.N. et al., Part II, 2007); finally, it allows to assess the differentiation of a gene pool (Sorokina, I.N. et al., Part I, 2007).

Equal representation of men and women with the same surname was assumed; to avoid mistakes caused by the lack of this equality (change of surname after marriage), the analysis of marriage bonds was conducted. Marriages of close relatives were considered to be extremely rare. However, in the indigenous communities and small remote settlements they were not so rare, that could result in genetic mutations (Inherited diseases... 2002; Sorokina, I.N. et al. 2010).

Many authors highlighted a "clan structure" of the Nenets' traditional society, which experienced an important impact of the migration processes: from the 17th up to the middle of the 20th centuries, a Nenets' family and tribal 'composition' was formed from the representatives of the Nenets, Khants and Komi clans. However, Nenets mostly use the words of "an erkar" (a family) or "a tenz" (a phratry (Vasiliev, V.I. 1994; Vershinin, E.V. 2000; Martynova, E.P. 1998)) to define a clan. In our paper, we used this terminology to be clear in terms and address correctly the specifics of the traditional Nenets culture.

3. Results

The implementation of a cluster analysis allowed us to divide a study population into three groups (tenzes). There were no gender and age differences between the identified groups (HK-W = 1.8; p = 0.4). The tenz 'Yar-Salinder' included 73 families, 'Yadne-Yaptunay' – 82, 'Vengo-Lapsui' – 63 (table 1).

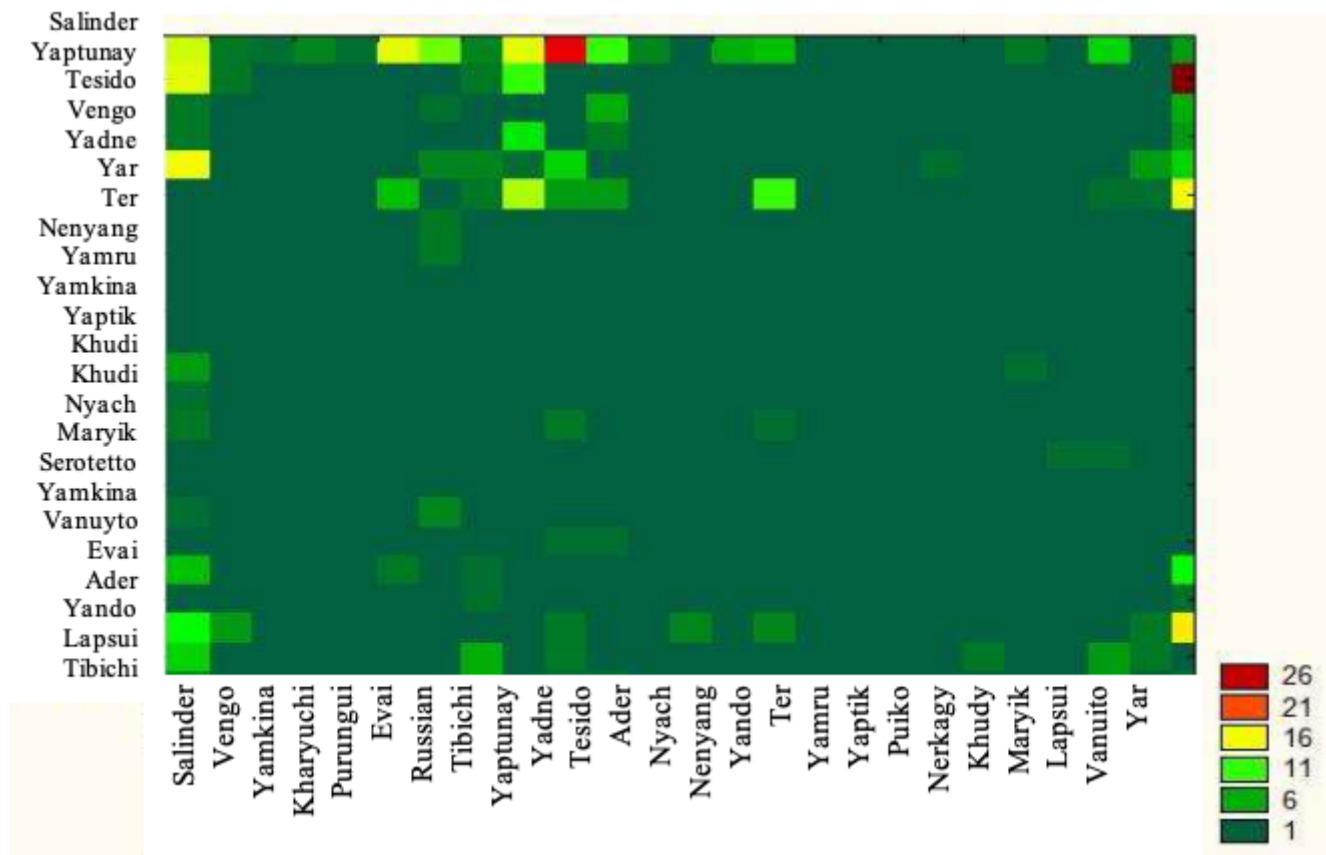
Table 1
The study population of the Tazovskaya, Gydanskaya and Nakhodkinskaya tundras of the Yamal-Nenets autonomous okrug divided into three tenzes

Tenz 1		Tenz 2		Tenz 3	
Structure	Distance	Structure	Distance	Structure	Distance
erkar 'Salinder'	2.98	erkar 'Yadne'	2.66	erkar 'Vengo'	0.7
erkar 'Yar'	2.98	erkar 'Evai'	0.97	erkar 'Lapsui'	0.7
		erkar 'Tesida'	1.49	erkar 'Tibichi'	0.7
		erkar 'Yando'	1.95		
		erkar 'Yaptunay'	2.7		
		Russian	1.9		

Table 1. Authors' elaboration

The analysis of the indigenous population' marital composition in the settlements Tazovsky and Gyda (figure 2) revealed that the inter-erkars marriages 'Yar-Yaptunay' and 'Salinder-Yadne' were the most frequent.

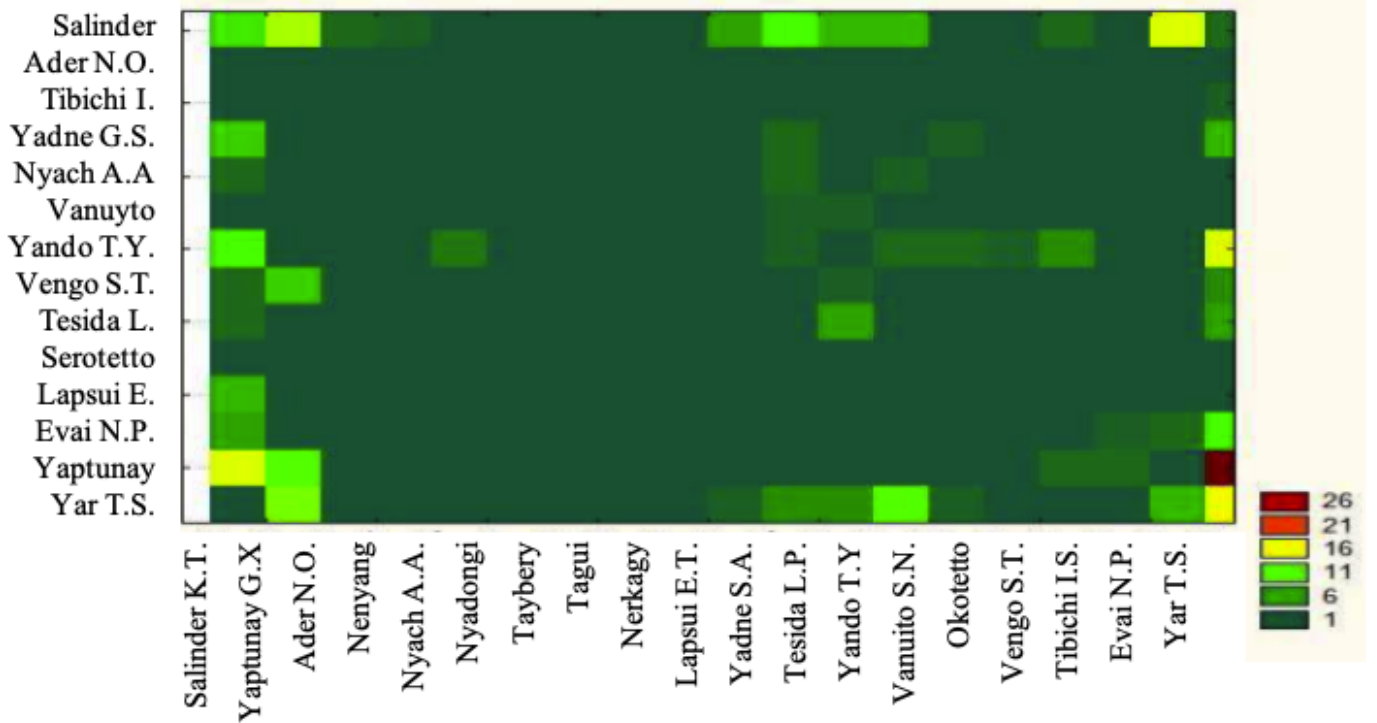
Figure 2
The results of the cluster analysis of the marriage bonds in the settlements Tazovsky and Gyda (n=1121)



Authors' elaboration

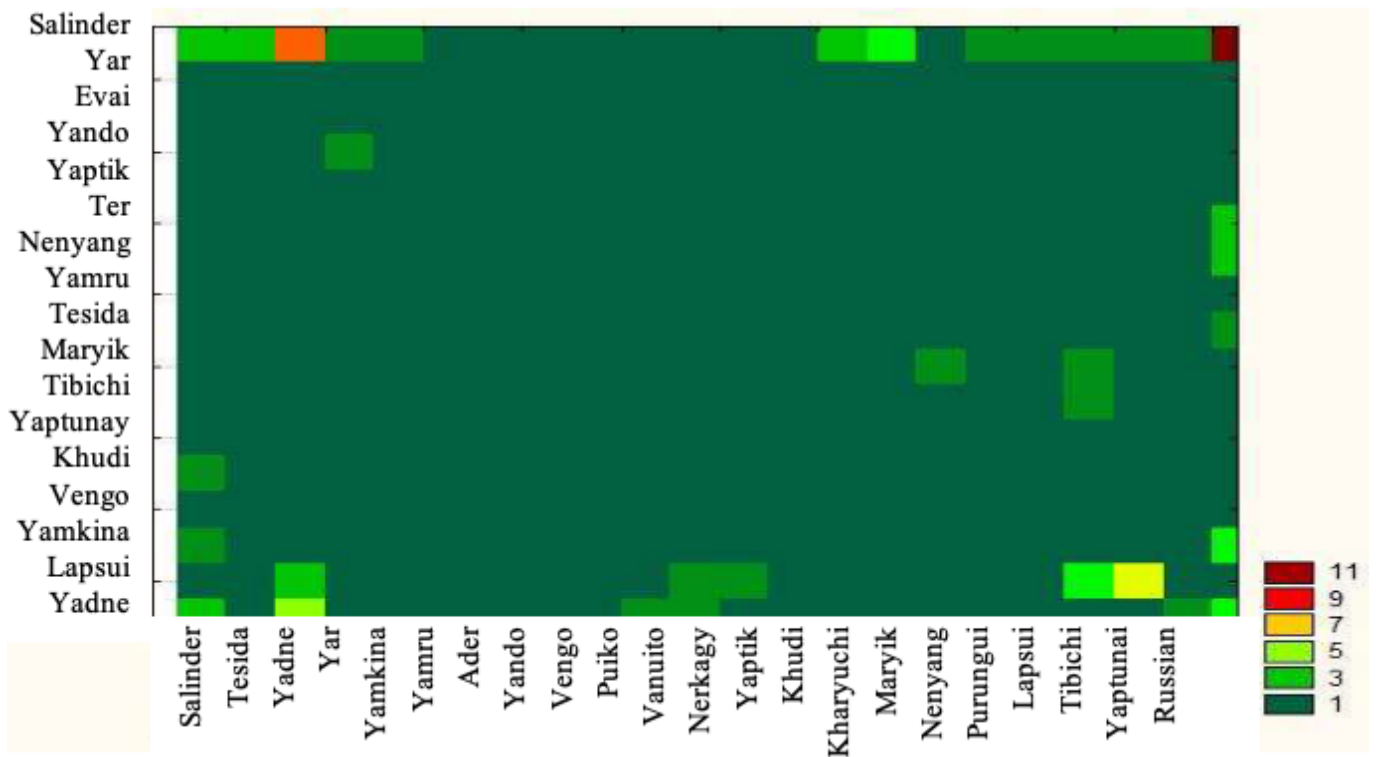
In the settlement Gyda the marriage bonds between the erkars 'Yar' and 'Yaptunay' prevailed (figure 3).

Figure 3
The results of the cluster analysis of the marriage bonds in the settlement Gyda (n=418)



In the settlement Tazovsky two prevailing combinations of marriage bonds were identified: 'Yar-Salinder' and 'Yar-Russian' (figure 4). Authors' elaboration

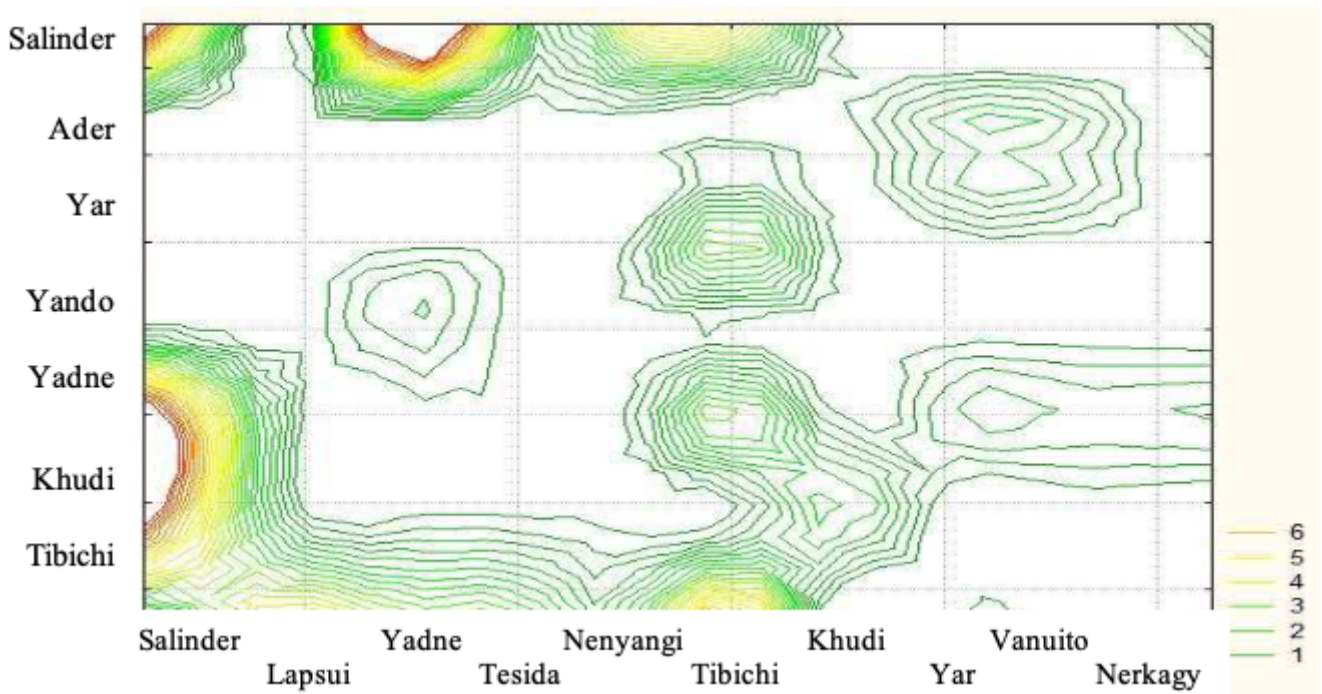
Figure 4
The results of the cluster analysis of the marriage bonds in the settlement Tazovsky (n=452)



Authors' elaboration

The part of the population in Tazovsky district lives in the tundra. So, the residents of the Gydanskaya and Nakhodkinskaya tundras were also included in the study. Inter-erkar marriage bonds of 'Salinder-Khudi' and 'Salinder-Yadne' were identified as the most frequent (figure 5).

Figure 5
The results of the cluster analysis of the marriage bonds in the Gydanskaya and Nakhodkinskaya tundras (n=110)



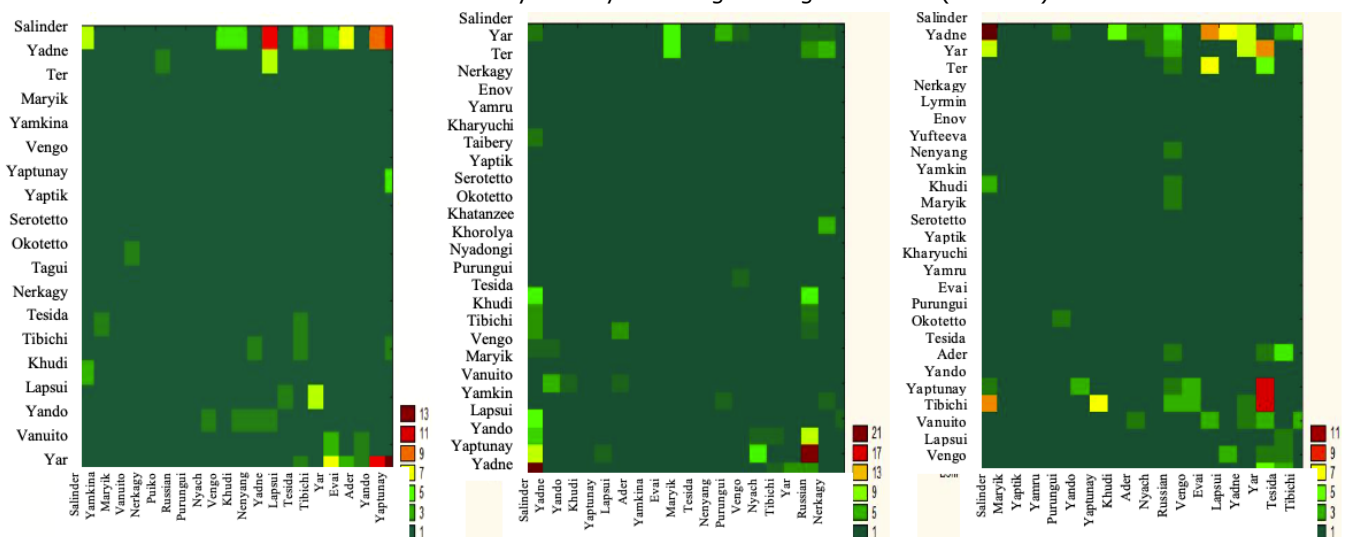
Authors' elaboration

The analysis of Nenets-Russian marriages in the settlements Tazovsky and Gyda (n=1121) revealed that the frequency of marriage bonds 'a Russian husband-a Nenets wife' has increased to the third generation (c2 - 6,7; p=0.009): I generation - 1.3%, II - 2.6%, III - 4.8%. The analysis of marriage bonds during three generations proved the sustainable prevalence of 'Yaptunay-Yar' inter-erkar marriages. So, it allows resuming that a new tenz has formed. The increasing frequency of 'Nenets-Russian' marriages in the third (present) generation is also of great interest (figure 6).

When analyzing the structure of marriages between Nenets and Russians in the settlements Tazovsky and Gyda proved the most frequent type of 'a Russian husband-a Nenets wife' ($\chi^2 - 4.0$; p = 0.05). In total, 33 cases of close relatives' marriages were revealed, including 3.1% of the incidents among the interviewed population in the Gydanskaya tundra (n=25), 4.5% - in the Nakhodkinskaya tundra, 2.9% - in the Tazovskaya tundra.

Figure 6

The results of the cluster analysis of the marriage bonds in the settlements Tazovsky and Gyda during three generations (n=1121).



Authors' elaboration

In the official documents, generic names are often used as surnames. The representatives of both phratries ('Kharyuchi' and 'Vanuito') live on the Gydansky Peninsula and in the lower reaches of the Taz river [8]. There were several erkars which belong to the phratry 'Kharyuchi': 'Ader', 'Evai', 'Lapsui', 'Nanyang', 'Nyaryu', 'Okotetto', 'Susoy', 'Serotetgo', 'Syugnei', 'Toga', 'Teshida', 'Habdyu', 'Kharyuchi', 'Khudi', 'Hano', 'Yadne', 'Yando' and 'Yaptunay'. The phratry 'Vanuito' is represented

by the following erkars: 'Aseda', 'Vanuito', 'Wengo', 'Veho', 'Lamdo', 'Maryik', 'Nerkagy', 'Nyadongi', 'Okovai', 'Parovy', 'Puiko', 'Purungui', 'Saba', 'Salinder', 'Ter', 'Tibichi', 'Yaptik', 'Yar' and 'Yaungad' (Martynova, E.P. 1998). Currently, the features of the old phratries 'Kharyuchi' and 'Vanuito' are still being preserved. However, the formation of a new phratry 'Yar-Yaptunai-Salinder', based on various "old phratries", has been noticed.

Our study showed that the ethnogenesis of the Nenets has not stopped yet, but it is moving into a new phase. The preservation of the Nenets' generic structure gives a unique opportunity for studying ethnogenesis not only by descriptive methods of ethnology but also using the mathematical apparatus. These studies provide a large amount of information not only to ethnologists, anthropologists, economists and historians but also to doctors, specialists in genetics and epidemiology.

The current trends in family formation in the young generation are largely due to the "gender shift" in the tundra, mentioned by many researchers (Khomich, L.V. 1950, 1989; Liarskaya, E. 2010; Serpivo, S.E. 2016, etc.), that's also the result of the impact of globalization processes (Ravna, Z.V. 2018).

In the youngest generation, there is a significant increase in the frequency of marriages between Russians and Nenets, caused by closer contacts in the settlements during the studying period, getting a close education level, and working together. However, there is an evident disproportion. The marriages of 'a Russian husband-a Nenets wife' prevailed. This is due to the easier adaptation of Nenets women in a settlement.

Nenets women, as a rule, have a higher level of education than men, perform qualified work, prefer easier and more comfortable living conditions in the settlement to the harsh conditions of nomadic life. Therefore, they are more likely to move to urban areas than men (Liarskaya, E.V. 2016). And this correlates with the trend in the Scandinavia (Adolfsson, E. 2016; Dahlström, M. 1996; Leibert, T. 2016). Women often encourage their children to get a higher education and want them to enjoy the benefits of civilization. These factors often contribute to the preference for marriages with Russian men, but not with Nenets living in the tundra. Russian men choose Nenets women because of traditional relationships typical for Nenets families, especially domination and respect for men. In addition, V. Skvirskaja noted that Russian men are ready for romantic relationships in comparison with the Nenets, who are more pragmatic (Skvirskaja, V. 2018).

On the other hand, Nenets men are more difficult to adapt in the settlement, less likely to get an education and low-qualified jobs, more often have problems with alcohol when moving to the settlement. Finally, the status of a reindeer herder is especially important for men. It makes them consider the traditional lifestyle to be more attractive and prefer to stay in the tundra.

4. Conclusions

The analysis of marriage bonds during three generations revealed a prevailing of inter-erkar marriages 'Yaptunay-Yar', which allows declaring the formation of a new tenz. The frequency of close relatives' marriages among the Nenets in different groups was different, but it didn't exceed 5.0%. In the third (youngest) generation, there was a significant increase in the frequency of marriage bonds of the Nenets and Russians. The marriages of 'a Russian husband-a Nenets wife' dominated.

As a result of the current demographic processes in the tundra, there is a situation of "shortage" of brides who are ready to run a traditional lifestyle. Thus, currently, men are its "keepers", while women prefer to follow urban trends.

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