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Extensive borrowing of reindeer terminology in north-eastern Siberia

Peter Sauli Piispanen

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This paper presents borrowings, mostly related to reindeer husbandry in the far north-eastern Siberian area, between several non-genealogically affiliated languages. The semantics, phonology and chronology are discussed. The following are etymologized as Ewenki borrowings: Yukaghiric *moll'e* ‘small wild reindeer’, *oŋul* ‘reindeer’, *šaqała* ‘fox’, *ugur* ‘spine’ and *joŋul* ‘nose’; and (Pre-)Yakut borrowings: Yukaghiric *saa-laayare* ‘south, lit. tree left’, *saayare* ‘left side of a yurt; West’, *šajɣər* ‘aside’. A possible Turkic borrowing is found with (Proto-)Turkic *qan ‘blood’ > Proto-Samoyed *kəm ‘blood’. Lastly, Uralic cognates or borrowings in Yukaghiric consist of *kedie-* ‘obstinate (of a tied reindeer)’, *petčigije* ‘reins’, *a:čə* ‘domestic reindeer’ and *sierdiid-ile* ‘reindeer not selected for slaughter’.

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Introduction

The languages of reindeer herders

Reindeer husbandry is of great economic and cultural importance for many of the populations residing in north-eastern Siberia. The herding groups periodically travel very long distances, at least did so historically, during which they come into contact with populations speaking other genealogically or non-genealogically related languages. As a consequence of such language contacts, many groups speak not only their own native language, and very often Russian, as well as at least one more language, easily making them bi-, tri- or multilingual. Since many of the (encountered) populations also deal with reindeer herding and the reindeer industry, extensive interlingual borrowings related to reindeer terminology are quite expected. Over the centuries several languages have served as *lingua franca* for reindeer herders—an early example being Chukchi (used in Chukotka until the beginning of the 20th century by Russians, Chukchi, Ewen, Yukaghirs, Koryak and Yup'ik; Krupnik (1993))—and the most recent probably being Yakut (used along the trail from

Dudinka to Khatanga);¹ Yakut is still used (in the Sakha Republic) by many Dolgans, Ewenkis, Ewens and Yukaghirs as a *lingua franca*.²

Populations involved in the reindeer economy

To the traditional populations engaged in reindeer husbandry over a very large geographical area belong the Ewen and Ewenki (Northern Tungusic languages), Yakut and Dolgan (Turkic languages), Chukchi and Koryak (Chukotko-Kamchatkan languages), Yukaghir (in particular Kolyma Yukaghir (KY) and Tundra Yukaghir (TY); Uralo-Yukaghiric languages),³ Ket (a Yeniseian language), Yup'ik (Eskimo-Aleut), some Samoyed groups (Uralic languages), etc. Another such group is the Chuvantsi, originating in the easternmost Yukaghir populations, who speak both Koryak and Chukchi (Gurvič 1982); historically they also spoke the now extinct Yukaghir language of the Chuvantsi before being assimilated by the Koryak. The Koryak were very often represented as invading forces by the Yukaghirs (Bogoras 2009); this historical aspect may explain the cultural resistance among Yukaghirs to borrowing Koryak vocabulary, and indeed very few such borrowings are known. Relations with the Yakut were traditionally much better, and there are numerous Yakut as well as Tungusic borrowings in Yukaghiric.

The Yukaghirs

Taking the Yukaghirs as a further example, numerous known borrowings are at least peripherally related to reindeer terminology (summarized and referenced in Nikolaeva, I. 2006) in the Yukaghiric languages, with the donor languages being Yakut

- 1 Yakut also developed into the creole language of the Dolgan a few centuries ago (by mixing Yakut grammar and vocabulary with Ewenki and Russian vocabulary). Even today the Dolgans remain nomadic reindeer herders and hunters in the distant Taymyr Peninsula.
- 2 I am grateful to the anonymous reviewers for their valuable comments during manuscript preparation.
- 3 The question of Yukaghiric genealogic affiliation is a controversial and there are two prevalent schools of thought on the question. The first holds that the relationship between the Uralic and Yukaghiric languages is one of borrowings only, and the second that the two are actually genealogically affiliated language families going back to a common language referred to by different authors as Proto-Uralo-Yukaghiric, Proto-Sibero-Uralic (or Uralo-Siberian), or Pre-Proto-Uralic (Pre-PU), the last of these being my personal preference. I further assume that Pre-PU is phonologically, morphologically and lexically very close to, and immediately precedes the linguistic stage of Early Proto-Yukaghir, aka EY (> Middle Proto-Yukaghir, aka MY > Late Proto-Yukaghir, aka PY > Kolyma and Tundra Yukaghir, etc.). The question of genealogic affiliation, the background of Yukaghir studies, and previous research in the field were most recently summarized and discussed by Piispanen (2013b; 2015, 2016) and Aikio (2015), who are proponents of the two different schools of thought.

(2),⁴ Ewen/Ewenki < Tungusic (19),⁵ Chukchi (1),⁶ Koryak (1),⁷ etc. The importance of reindeer terminology among the Yukaghirs is also evident in a related suffixation system: KD *-c-*, *-rej-* ‘suffix to get a reindeer-related verb’ and TY *-aa* ‘suffix to get a reindeer-related noun’.

This paper focuses in particular on borrowings into Yukaghiric. Many Ewen ~ Ewenki (=Tungusic) and Yakut borrowings into Yukaghiric were summarized in the *Comparative Dictionary of the Tungus-Manchu Languages* (TMS 1 & 2), and are

- 4 These are: 1. Yakut *sanajaq* ‘fur coat’, borrowed as: KY *šaja:q* ‘coat with fur outside made of a large reindeer skin’, and 2. Yakut *u:čaq* ‘saddle-reindeer’, borrowed as: KY *u:čaŋ*, *u:čaq* ‘saddle-reindeer’. Clearly, the Yukaghirs regarded the Yakut mainly as reindeer herders; there is an old Kolyma Yukaghir word, KD *ilbed’i* ‘Yakut’, which was derived directly from KD *ilbe* ‘domestic reindeer’.
- 5 These are: 1. Ewen *amarka:n* ‘four- or five-year-old male reindeer’, borrowed as: TY *amarkanel* ‘five-year-old male reindeer’; 2. Ewen *a:w-a:w* ‘imitation of the noise made by a reindeer calf’, borrowed as: TY *awñe-* ‘to make noise (of a reindeer calf)’; 3. TU **čur-*, **čir-* ‘three-year-old wild deer’, borrowed as: PY **čurqə* > TY *čurɣa* ‘two-year-old female reindeer’, *čurɣan-purewre* ‘three-year-old female reindeer, lit. over two-year-old female reindeer’; 4. Ewen *e:ni* ‘one-year-old female reindeer with a calf’, borrowed as: TY *eenil* ‘one-year-old female reindeer’; 5. Ewen *i:te:nken* ‘three-year-old wild bull reindeer’, borrowed as: TY *iiteenken*, KD *itenken* ‘three-year-old wild bull reindeer’, TY *iiteelnel* ‘three-year-old male reindeer’; 6. Ewen *ketem* ‘barren (of a female reindeer)’, borrowed as: TY *ketemel* ‘barren reindeer heifer’; 7. TU **lökü-* ‘elk, deer’, borrowed as: PY **lög-* > TY *lögur* ‘call of reindeer male’ > MC *logu* ‘reindeer’; 8. Ewenki *melele*, *me:lan* ‘elk calf, small tundra reindeer’, borrowed as: PY **mejl’inč’ə*; J > KY *mejl’id’ə* ‘one-year-old reindeer or elk’; 9. Ewen *mo:mina* ‘reindeer intestine filled with lard’, borrowed as: PY **mo:mina* > KY *mo:mina*: ‘large intestine’, TY *momneñ* ‘part of a reindeer intestine’; 10. Ewenki *na:ra:*, *nara* ‘castrated reindeer’, borrowed as: TY *naareŋol-* ‘half-castrated’; 11. TU **nar-gu-* ‘new, fresh’, borrowed as: PY **narqə* > TY *narqa-jewlid’e* ‘new-born reindeer’; 12. Ewen *no:rkan*, borrowed as: TY *nuorkanal* ‘four- or five-year-old male reindeer’; 13. ?NT **awa-la* ‘reindeer’, borrowed as: ?PY **o:wə* > MU *endschsche-ówa* ‘elk’; 14. TU **kula* ‘light brown with black mane and tail (of a horse)’, borrowed as: PY **qulu-* > TY *quluruo-* ‘to have hair that has white tips with a dark tinge (of a reindeer)’, TK *quluruod’ed-ile* ‘white reindeer with a grayish hue’; 15. Ewen *ke:nde* ‘draught reindeer of the Chukchi or Koryak breed’, borrowed as: PY **qunde*: > TY *qundietege* ‘draught reindeer more than six years-old’; 16. Ewen *kuña:-* ‘to gallop (of a reindeer or a horse)’, borrowed as: PY **quñe* > TY *quñe* ‘two-year-old male reindeer’; 17. Ewen *tambaka*, borrowed as: TY *tambakaa* ‘Chukchi child’s overall made of reindeer skin’; 18. NT **ire* ‘male elk, wild reindeer, smoked reindeer skin’, borrowed as: PY **yra-* > TY *iraŋal* ‘light brown reindeer’, *irul* ‘biggest wild reindeer’, and 19. Ewen *no:lima* ‘sledge’, borrowed as: PY **lolimə* > TY *lalime* ‘sledge’, *lalimed’aa* ‘people with sledges’, etc. (unless borrowed into Ewen from Yukaghir).
- 6 This is: 1. Chukchi *sawsi*, *čawču* ‘reindeer breeder’, borrowed as: PY **ča:ča:* > TY *čaa-čaa* ‘a reindeer-breeding Yukaghir tribe’.
- 7 This is: 1. Koryak *ineŋ*, borrowed as TY *iniŋie* ‘sledge for transporting lumber and the poles of a yurt’.

referenced in Nikolaeva's *A Historical Dictionary of Yukaghir* (2006). Old and new borrowings into Yukaghiric from (Pre-)Yakut⁸ have recently been discussed elsewhere (Piispanen 2013a: 115–139). Borrowings between languages must of course be precisely described in lexical, phonological and semantic terms, and attempts at a chronology should be made.

In the case of borrowings into Yukaghiric, it is known that Tungusic *-u- and *-o- of *early* borrowings (dated to ca. 1500 BP) are both found as Late Proto-Yukaghir (PY) *-o-, while the Tungusic *-u- and *-o- of *late* borrowings (dated to ca. 1000 BP) are both found as PY *-u- (Nikolaeva 2006: 58).⁹ It can be assumed that Turkic borrowings into Yukaghiric follow similar vocalic change patterns and chronology (Piispanen 2013a; reading suggested for a brief background to Yukaghir vowels, prosody and Yakut and Tungusic borrowings and their chronology). Below, a number of new borrowings and a few new suggested Uralic–Yukaghiric cognates directly related to reindeer economy are presented.

New borrowings between Tungusic and Yukaghiric

New borrowing

Ewenki *mullikan* 'reindeer which cannot be trained' (Nedjalkov 1997: 333), *mulliikaan* 'wild reindeer; reindeer strayed from the flock' (Vasilevitch 1958: 261), borrowed as: PY ***moll'ə** > TY *moll'e*, KJ *molle*, *mole*, KD *molle* 'small wild reindeer'.

This constitutes another borrowing related to reindeer economy between Yukaghir and Ewenki. The direction of borrowing is from Ewenki to Yukaghir, even though the end suffix is missing in Yukaghir, since there are also other known reindeer-related borrowings in this direction (as shown in footnote 5 earlier). Furthermore, there are Ewen *mūlqan* 'deer', and Negidal (a dialect of Eastern Ewenki) *molkān* 'deer' (TMS 1 534, 555), clearly making this a fully Tungusic word, but neither of the two can be the source of borrowing due to phonological reasons. While Yukaghir usually borrows only roots, this could possibly be a Pre-Ewenki borrowing before the suffix *-kan* was added, although the presence of the same suffix in the Ewen and Negidal words as well shows that the suffix was already in place by the time of borrowing; the Yukaghirs thus only borrowed the root, obviously knowing

8 With the term *Pre-Yakut* I indicate an earlier form of the modern Yakut language, which had not yet undergone certain sound changes, and appears to have been spoken some 1000–1500 years ago; example: Pre-Yakut ***ytymaq**~***ytymeq** 'fishing pole' > Yakut *ytymex* 'fishing pole' (Piispanen 2013a).

9 Furthermore, recent population genetic studies actually prove—to a surprisingly accurate degree—the suggested ancient tribal contacts between the populations who borrowed lexical items from each other during these *early* and *late* periods of time, suggesting that the numbers are relatively accurate. (I intend to present a paper on such details in the future.)

that the suffix was indeed a suffix. Indeed, the vowel correspondence PY *-o-* ~ Ewenki *-u-* would suggest that it is an *old* borrowing, placing it perhaps around 1500 BP (Piispanen 2013a: 120). Further, the geminate in Yukaghir, which would have been lost far earlier with universal degemination (Piispanen 2013b) also suggests that the Yukaghir words are (Pre-)Ewenki borrowings post-dating degemination (in EY or MY). The palatalization of *-l-* is of course related to the easily palatalized cluster *-li-*. Semantically, there is a clear connection between ‘wild animal’ and ‘animal that cannot be trained’, as many trained animals have been raised as domesticated animals; an *untrainable animal*, i.e. *untamable animal*, is a *wild animal*. Curiously, there is also Finnish *mulli* ‘young oxen’, although this must be only a chance similarity.

The PY root in itself means ‘small wild reindeer’. In this case, the Ewenki item was suffixed with *-kan*, which has a specifically diminutive meaning (Nedjalkov 1997: 298). The same suffix is found with other reindeer terms in Ewenki as well, and probably constitutes an early productive suffix in several Tungusic languages. Examples (Ewenki vocabulary taken from Nedjalkov 1997: 333–334) include *avla-kan* ‘one-year-old reindeer’, *ñogarkan-ñovarkan* ‘four-year-old reindeer’, *amarkan* ‘five-year-old reindeer’, and *bagdakatkan* ‘wild calf-reindeer’, and I conjecture that the suffix may have been present earlier in other reindeer terms such as *bagdaka*: (I suggest: < **bagdakan*) ‘wild reindeer’, *engneken* (I suggest: < **engnekan*) ‘young calf-reindeer’ and *kumaka* (I suggest: < **kumakan*) ‘red deer’.¹⁰ However, terms such as *songgačan* ‘new-born calf-reindeer’ and *epkača:n* ‘less than one-year-old female reindeer’ are likely instead to bear the suffix *-čan*, with a pejorative meaning, which semantically can be traced to the fact that very young reindeer may appear not only small, but also fragile and weak. Given this, it is noteworthy that the meaning ‘small’ is still found in Yukaghiric, suggesting that the (Pre-)Ewenki word was already suffixed and carried this exact meaning.

New borrowing

Ewenki *aŋa* ‘wild game; beast’ (Vasilevitch 1958: 30), *aŋa-* ‘to graze (of deer)’, *aŋan* ‘enclosure for deer’, dial. *anaŋ* ‘mountain ram’, also: *ongkovor*, *ongoskocho* ‘reindeer with a skewbald patch, spot on a muzzle’, borrowed as: PY ***oŋ-**, SU *oŋyl*, B *onye*, ME *ongei* ‘reindeer’.

This is a likely borrowing from Ewenki into Yukaghiric. The Tungusic forms appear to originate in the root **aŋ-*, which generally relates to (rein)deer. This has been raised phonologically with *ong-* in compounds meaning ‘reindeer with skewbald patch’. The same *ong-* (orthographically more properly *oŋ-*)—meaning ‘reindeer’—

¹⁰ Actually, the words for many animals in Ewenki—big or small—also surprisingly have the suffix *-kan*, including *kulikan*, *amika:n* ‘bear’, *čipkan* ‘sable’ and *munjukan* ‘hare’. The very same suffix seems to be present also in *kungakan* ‘child’, suggesting affective uses for it.

is a borrowing into Yukaghiric found only within a very limited geographic area, i.e. in dialects only (where different suffixation patterns have been applied). This root is suffixed in Yukaghiric (*-l is a nominal derivational suffix in Yukaghir (Nikolaeva 2006: 81)).

Assuming that the change *aŋ- > *oŋ- predates the borrowing, the vocalism of Tungusic *-o- > Yukaghiric *-o- suggests that this is an *early* borrowing, i.e. from around 1500 BP (Piispanen 2013a: 120).

The semantics do suggest '(rein)deer' for all words relating to both the Ewenki and Yukaghiric sets. In dialectal Ewenki the semantically shifted meaning 'mountain ram' is also found, while 'wild game' is a quite natural referent for 'reindeer' for populations mainly involved in reindeer husbandry. The meaning of 'reindeer with a skewbald patch' is semantically specified in Ewenki, constructed either through a complex, non-identified suffixation pattern (less likely) or through some sort of lexical compounding (more likely) to the ancient root *aŋ- (> *oŋ-).

New borrowing

Ewenki *sulaki* 'fox' (Nedjalkov 1997: 334) *sulakii* 'fox' (Boldyrev 1994: 182), borrowed as: PY ***saqoli** (*saqa- in Nikolaeva, I. 2006:396) > KY *šaqala* 'fox', *šaqalən-* 'yellow', *šaqal'əlbo:-* 'yellowish', *šaqalədaj-* 'to become yellow', *šaqal'ənilbo:-* 'pitted' > *šaqan* 'foxy, fox', *šaqad- abut* (< *saqa/on-t-aw-ut) 'a place in the upper Jasačnaja, lit. den of the fox', TY *saaqid'eñ--saaqičēñ-* 'yellowish-grey', *saaqiñ* 'a man in a story, lit. foxy, sly', *saaqid'aa* 'a man in a story; yellowish-grey dog with a black tinge', RS *šakoli* 'fox', *šoxolonei* 'yellow', SU *čoxóla*, *čoxolod-* 'fox', KD *caxalə-cexel'e* 'fox', *čaxaladail'el-caxaladailel* 'isterus', *caxaluo* 'one-year old elk', KL *čoqolojent* 'fox', B *tshakala* 'fox', *tshakolonni* 'yellow', ME *tschokola* 'fox', *tschakolonni* 'yellow', MK *tschochála-* 'fox', *tschochólani* 'green', etc.

The direction of this borrowing which interestingly exhibits metathesis, is Ewenki > Yukaghir. First, the KY form appears to be homogenized into all-identical vowels, a form that would not have yielded the heterogeneous vowels of the Ewenki word. Second, on the Tungusic side, we also find Ewen *hulää* 'fox' and Negidal *solaxij* 'fox', clearly showing that the borrowing is from Ewenki to Yukaghiric.

The presence of the word-initial sibilant must be carefully accounted for. Early *s- in Yukaghir—in both inherited and borrowed vocabulary—would be subject to either retention (producing š- in KY (Nikolaeva 2006: 66–68)), deletion (producing ø-) or lateralization (producing l-), depending on the exact phonological surroundings (Piispanen 2015); the structure *sul- would have deleted the sibilant altogether, which has not occurred here, while *saq- would have retained the sibilant (in contrast to *sak-). Therefore, we must assume that this word was metathesized during

borrowing, and that the *-k-* changed into *-q-* due to the Yukaghir rules of synharmonism.¹¹

The different Yukaghir languages display a large number of vowel variations. The previously suggested **saqa-* takes into account neither the high-voweled forms nor the **-l-* that is present in practically all of the words, and it should therefore be reconstructed as **saqo-* or even **saqoli* (as perhaps directly shown by the archaic RS form!). In other borrowings listed in *A Historical Dictionary of Yukaghir*, we find TU **-a-* > PY **-a-* or, rarely, **-o-* or **-y-*, which explains the various Yukaghir forms. Further, the shift from Ewenki *-u-* to Yukaghir *-o-* suggests that this is an *early* borrowing from ca. 1500 BP (Piispanen 2013a), which also accounts for its presence in practically all Yukaghir languages and dialects. Yukaghirs have also borrowed other names of fauna from surrounding populations, an example being Chukchi *milúte* ‘hare’, borrowed as PY **milúte* > KY *melate* ‘hare’ (noted in Nikolaeva 2006, entry 269), a vocalism that would also be consistent with an *early* borrowing. Furthermore, ‘fox’ is also borrowed into certain other Yukaghiric dialects such as MC *jajdel* ‘fox’, borrowed from Chukchi *jájcol-játjol* ‘fox’ (noted in Nikolaeva 2006, entry 626).

While the source has not been determined, MK *indéndsche* ‘fox’, RS *kinliž’a* ‘fox’, MO *kille* ‘fox’ (< **kinle*) and RS *ñandimide* ‘black and gray fox’ are also quite likely borrowings.

New borrowing

Ewenki *ikeri* ‘spine, vertebrae’ (Nedjalkov 1997: 329) *iikeerii* ‘spinal cord; bone’ (Vasilevitch 1958: 161; Boldyrev 1994: 302), borrowed as: KY *ugur* ‘spine, ridge’, KJ *ugur* ‘spine’ (? < PY **öyur* in Nikolaeva 2006, entry 1591).

The form has limited spread in Yukaghiric, perhaps suggesting borrowing. The vowelism of this prospective borrowing is irregular—which, however, is extremely common with Tungusic borrowings in Yukaghiric. Perusing *A Historical Dictionary of Yukaghir* one finds the following borrowing correspondences:

TU **-a-* > PY **-a-* or, rarely, **-o-* or **-y-*; TU **-o-* > PY **-o-* or **-u-*, or rarely, **-ö-*;

TU **-ö-* > PY **-ö-*; TU **-u-* > PY **-u-* or **-o-* or, more rarely, **-i-* or **-a-* or **-ö-* or **-y-*;

11 Interestingly, there is also Ewenki *šekalan* ‘lynx’, which has the same consonants in the same order as Yukaghiric **saqoli*. Perhaps the metathesis exhibited by the Yukaghiric borrowing (**sulaki* > **saqoli*) was influenced by the lexical structure of this animal name in Ewenki, even though a *lynx* and a *fox* are rather different in physical shape, color and manner.

TU *-ü- > PY *-u-; TU *-i- > PY *-e- or *-i- or, more rarely *-y-;

TU *-e- > PY *-e- or, more rarely *-y- or *-u- or *-ö-.

As mentioned, changes to *-o- and *-u- in particular show the age of the borrowing for Tungusic and probably also (Pre-)Yakut and other borrowings. However, one may assume that in root-initial positions vowels are changed extra prominently. One can therefore posit the following not entirely satisfactory development: ?*ikeri > *yker (desyllabification with the borrowing) > *ukur (progressive vowel assimilation) > KY *ugur* (voicing of intervocalic plosive). Semantically, of course, all the meanings are practically identical. The direction of borrowing (Ewenki > Yukaghiric) is indicated by the homogenization of vowels that has occurred in Yukaghiric.

New borrowing

Ewenki *oŋokto* ‘nose’ (Nedjalkov 1997: 329; Boldyrev 1994: 232), borrowed as: PY ***joŋq-** > KY *joŋul* ‘nose, cape, promontory’, *joŋud-aŋil* ‘nostril, lit. nose opening’ (< *joŋq-u(l)-nt-aŋ-i-l), *joŋ-ža*: ‘beak, spout’, *joŋulə-qoqšəš-* ‘to snore, lit. to choke the nose’, TY *joŋul* ‘nose’, BO *júŋgol* ‘nose’, MO *niongol* ‘nose’, etc.

Suggestion: *oŋok-to > *oŋk- > *joŋq- > KY *joŋul* ‘nose’.

The common Yukaghir word for ‘nose’ is an Ewenki borrowing. Also found are Negidal (a Western Ewenki dialect) *oŋokto* ‘nose’, Ulchi (southern Tungusic) *xoŋqo* ‘front part of a boat’, and Nanai (southern Tungusic) *qoŋtoro* ‘nose’ (<?Proto-Tungusic *xoŋo-), showing that this is indeed a Tungusic word. The -k- of the Ewenki word, which has a direct correspondence in PY *-q- after assimilation, clearly shows that this is an Ewenki borrowing, long after the Proto-Tungusic stage. Further, the cluster *-ŋkt- is impossible in PY, forcing cluster simplification (> *-ŋk-) after assimilation if the Ewenki third syllable was originally also borrowed. This is an *early* borrowing (likely from around 1500 BP) as shown by the correspondence Tungusic *-o- > Late Proto-Yukaghir (PY) *-o- (Piispanen 2013a). PY *-j- is likely to have developed secondarily for some vowel-initial roots due to the influence of the following cluster *-ŋk- (> KY -ŋ- regularly; again, *-l is a nominal derivational suffix in Yukaghir (Nikolaeva 2006: 81)); note that there are very few PY roots of the type *oŋk-~*oŋq-, all of which could alternatively be reconstructed as *oŋ-.¹² Actually, many if not all PY roots having the cluster *Vŋk/q-, with V being a front vowel like *-e-, *-i-, *-ü-, *-ö-, may have originated from forms that originally had the proto-sibilant *-s- (Piispanen 2016). On the other hand, the numerous PY roots with the back vowel *-o-, like *joŋq-, *joŋč-, *joŋl-, *joŋn- and *joŋt-,

12 The only exception would appear to be PY *oŋkə- > KY *oŋo:-* ‘to stand’.

may suggest that the root-initial *j- is secondary for roots that originally had *o- only; such a secondary phonologic development would also be evident with this borrowing. Furthermore, many *e- initial PY roots have alternatively been constructed as *je-, again perhaps suggesting epenthetic *j- with some vowel-initial roots as a (semi-)regular change in Yukaghiric. Such epenthetic effects could in some cases be Russian influences.

New borrowings between Turkic and Yukaghiric

New borrowing

(Pre-)Yakut *soγuruu~soγuruu* ‘south’ (cf. Old Turkic *yoqarī* ‘up(wards)’; *yoqar* ‘to rise’ (Nadeljaev et al. 1969: 273)), *sayuruuŋu* ‘southern, south’ (a derived adjective), borrowed as: TY *saa-laayare* ‘south, lit. tree left’, TY *sespe-saayare* ‘Southern part of the yurt, left of the entrance, lit. entrance left’, TY *jawun-saayara* ‘southern side of a road, lit. road left’, TY *saayare* ‘left side of a yurt; West’, TK *sayand’a* ‘a little aside from smth’, *sayar* ‘side’, *sayargudeŋ* ‘aside’, and also KY *šajγər* ‘aside’ (< PY *sa:γər).

This constitutes a new (Pre-)Yakut borrowing in the Yukaghiric languages, as attested by the presence of Old Turkic *yoqarī*. In Yakut, all word-initial s- disappeared, and the modern s-initial words are therefore believed to be borrowings from other Turkic languages or other sources. Yakut s- regularly developed from Turkic *y- or *č-, or appeared with later Turkic borrowings (Anderson 1998). In this case, the Yakut words go back to Turkic *y-. In Yukaghiric, on the other hand, the proto-sibilant *s- would be retained, lateralized or deleted in the modern languages depending on a number of phonological factors (Piispanen 2016; this also discusses Yakut root-initial sibilants); Pre-PY *sVγ- > *θVγ- > PY *IVγ-, with back vowels, is expected. This lateralization is indeed realized in TY *saa-laayare* ‘south, lit. tree left’, the only form also preceded by a low back vowel. The other (compound) forms all retain the sibilant, the reason for which being that the borrowed PY form was the long-voweled *sa:γər, and not the theoretical *saŋqər—as is still found with some TY forms and with the KY form (demonstrating *-a:γ- > -ajγ-)—as this would likely have blocked the lateralization in most cases (Piispanen 2016) had this been a very early borrowing. In summary, these factors seem to show that the borrowing took place after the change *y- > Yakut s-, and also probably, but not necessarily, after the sibilant alternation sound changes had already occurred in the Yukaghiric languages.

Yakut *sayuruuŋu* and *soγuruu* are clearly related to Old Turkic *yoqarī* (note that *-ayu-* is not typical in modern Yakut, which instead prefers forms like *-ayi* or *-oyu-*). It is known that Tungusic borrowings with *-o- were retained as *-o- in Yukaghiric, but also that they could sporadically change to *-a- in *early* borrowings. Since such vocalism may also be the case here—if the Yakut form with a first-syllable mid

vowel was indeed the original form—then one may assume that the borrowing took place after 1630 BP (as suggested by population genetics data in Piispanen 2013a: 134). If the Yakut form with a low first-syllable vowel—i.e. the derived form *sayuruuŋu*—was the original form, however, it could have occurred a bit later as a late borrowing from 900–1300 BP and undergone a sporadic change *saγ- > soγ- before the borrowing.

The Yakut phonological forms are only slightly odd, and possibly are so due to some unusual clusters. In Yakut *soγuruu* and *sayuruuŋu*, the word-initial *s-* simply goes back to Turkic *y-. Original Turkic *-oγur- and *-aγur- would regularly be found as Yakut *-uor-*, which is not found in this case, suggesting instead a probable original Turkic *-q- for these words. Further, Yakut *-uu-* often goes back to *-uγu- (Anderson 1998: 1–32), but this cannot be the case here, suggesting derivational markings in the Yakut words instead. There is no doubt, therefore, from either a semantic or phonological viewpoint, that Turkic *yoqarī, or something very close to it, is the origin of the Yakut words, which then were borrowed into the Yukaghiric languages.

As for the semantics, Yukaghir appears to be a west-oriented system in its world view, and so turning left from there would lead to the south. In Yakut, the meaning of ‘south’ appears to originate simply from ‘to rise’ and ‘upwards’, which may be related to the position of the sun during midday. The meaning of ‘left (not west)’ would then be ‘south’ in a Yukaghir borrowing. Comparing the orientation systems to those of Kyrgyz, another Turkic language, is interesting but reveals significant differences: in Kyrgyz directions are instead given by specifying ‘side’: Kyrgyz *zhak* ‘side’ > *tyn zhak* ‘north’ (< *tyn* ‘true; firstborn’), *kyn zhak* ‘south’ (< *kyn* ‘sun’), *kybla zhak* ‘west’ (Judaxin 1985: 217) and *kökurök zhak* ‘east’ (< *kökurök* ‘breast, chest’) (Judaxin 1985: 419). Interestingly, some of the Yukaghir words do signify ‘(a)side’. These phonological and semantic factors clearly show this to be a (pre-)Yakut borrowing in the Yukaghiric languages.

New borrowings between Turkic and Uralic

New borrowing

Proto-Turkic ***qan**~***kan** ‘blood’; Old Turkish *qan* ‘blood’, *qanlıy* ‘bloody’ (Nadeljaev et al. (eds.) 1969: 416–417); Turkish *kan* ‘blood’, *kana-* ‘to bleed’; Azerbaijani *qan* ‘blood’; Turkmen *gan* ‘blood’; Tatar *qan* ‘blood’; Bashkir *qan* ‘blood’; Kazakh *qan* ‘blood’; Kyrgyz *kan* ‘blood’ (Judaxin 1985: 338); Uzbek *qon* ‘blood’; Uyghur *qan* ‘blood’; Yakut *qa:n* ‘blood’; Chuvash *jun* ‘blood’, etc., borrowed as: PS ***kem** ‘blood’ (SW 65): Nganasan *ka(a)m* ‘blood’; Enets *kî* (gen.sg. *kio*) ‘blood’; Yurak *xyva* ‘he bleeds’; Tundra Nenets *χ3.m* ‘blood’, *χ3.vas* ‘пойти (о крови)’ (?<*kemã-); Forest Nenets *kj`em* ‘blood’; Selkup *kem* ‘blood’; Kamassian *k^εâ`m* ‘blood’; Koibal *kam* ‘blood’; Mator *kem* ‘blood’, borrowed as: Tofalar *gomdu* ‘he bleeds’.

While this case may have little to do with reindeer husbandry—unless the word for ‘blood’ was borrowed precisely because of reindeer husbandry—it may solve a long-standing etymological problem. The common Samoyed root for ‘blood’ has been reconstructed as PS **kəm* and a noteworthy resemblance to Turkic words meaning ‘blood’ can be noted. This may suggest that the Samoyed root is a Turkic borrowing. The phonology, however, is complicated, and the tentative chronology is uncertain. Old Turkish is attested in the 7th century, while Proto-Turkic (the ancestor of both the Eastern Turkic languages (Siberian, Kyrgyz-Kipchak, Arghu) and the Western Turkic languages (Oghuz, Kipchak, Karluk, Oghur)) must be quite a lot older. Clauson suggests that Proto-Turkic existed long before the Christian era and then broke up at the start of the Christian era into the Shaz-Turkic and Lir-Turkic branches (Clauson 1962). Róna-Tas estimates the beginning of Proto-Turkic at around 4000–4500 BCE (Róna-Tas 1998: 67–80). Proto-Samoyed, however, is dated at perhaps no more than 2000 BCE, which suggests that the borrowing would have to be from a specific Turkic language, and there are many from which to choose. Borrowing could even have taken place from a now extinct Turkic source.

I suggest the following scenario. The Samoyed root is a Turkic borrowing from a form like **kan* or, more likely, **qan*, which had the root-final sonorant altered from **-n* to **-m*, possibly during the borrowing itself, or under the influence of an original final vowel.¹³ Such alternations between **-m* and **-n* are both known and are not uncommon in other Uralic languages; cf. Fin. *minä olen* ‘I am’ < PU **mon wolem* ‘I am’.

Actually, it cannot be completely excluded that the Proto-Turkic form did not have **-m* in the first place. Often, Chuvash has *-m* where Common Turkic has *-n*, a previous matter of controversy between Doerfer and Hovdhaugen, where the former suggested (Dorfer 1973) that only Chuvash retains an original *-m* from Proto-Turkic *-m* whereas it would have been changed in Common Turkic to *-n*. However, in this case, Chuvash actually has a *-n*, and not a *-m* so here that argument seems moot. Still, the history of this Turkic word may have to be rethought considering this possible Samoyed counterpart.

Here I must also mention that the Turkic-speaking Chuvash are genetically a Turkicized Uralic population (Graf et al. 2012) that had earlier spoken a Finno-Volgaic language. I therefore conjecture that some of the peculiarities of Oghur Turkic may be explained by the phonology of the early Mari or Mordvinic languages or something quite close to them (all of which still today partake in a *Sprachbund*). From both a geographic and historic point of view it seems that the most likely conquering group was either the Khazar Khanate (618–1048 AD) or Volga Bulgaria (7th century–1240 AD), which is why the language change to what

13 Most PS roots are shortened forms of PU roots; disyllabic roots have often become monosyllabic roots, which may also apply to PS **kəm*, and thus they may originally have been borrowed as **kani* or **kanə* (?> **kam*) from a Turkic source.

is today Chuvash may occurred as early as the 7th or 8th centuries or as late as the 12th or 13th centuries.

Since Proto-Samoyed had no *q it would have been borrowed as PS *k. The Proto-Samoyed vowel, then, has been reconstructed as *-e̯-, although some of the languages do have an -a- (Nganasan and Koibal), and -e-, -o-, -î-, -â and -3.(!) are even encountered. In this context, the possible change of *-a- > *e̯ is interesting, as it is also encountered, for example, with: PU ***apte** ‘hair’ (UEW 14-15) > PS ***ęptâ** ‘(head) hair’; PU ***ajtV** ‘to get loose; to free oneself’ > Kamassian *el’ëm* ‘I let loose’, as well as the similar: PU ***jäsne~jäsen** ‘joint, limb’ > PS ***esen~ęsøn** ‘joint, limb’ (in detail also: EM *ezhe* ‘knee, joint’, KB M Mari *ježan* ‘Gelenk; Knötchen einer Pflanze’, VO KZ *jez* ‘Gelenk’, *jez- vij* ‘Gliedgelenk’, P KZ *jezna* ‘muscle; joint’, Tundra Nenets *neso’(n)* ‘joint; section, segment’). Hence, an argument can be made for Turkic ***qan** ‘blood’, borrowed as: PS ***kęm** ‘blood’.

The vowel change may actually be motivated by avoidance of homonymy with PU ***kama** ‘peel, crust’ (UEW 121–122) > PS ***kamə** ‘Schuppe’ (PS ***kämğ-** ‘Schuppe’ in SW 63; PS ***ä** should rather be reconstructed as PS ***a** according to Helimski, E. 2005) > O. Nenets *sāw*, J. Nenets *šem* ‘scale, flake’; Nganasan *kamu* ‘peel, crust’; Selkup *qā m* ‘fish scale’; Kamassian *kām* ‘scale’; Mator *kamengapty*. While the full details of this borrowing scenario remain to be worked out, it is at least a worthwhile and rather reasonable proposal.

Further, an alternative thesis could be entertained: Proto-Turkic ***kem** ‘river; Yenisei’ (> Old Turkic ***kem** (***kām**) ‘river; Yenisei’) > Tuvan *xem* ‘river’, Khakas *kim* ‘Yenisei’ (Janhunen 2012: 70–73) borrowed as PS ***kęm** ‘blood’. The phonology is closer than with the main suggestion, and semantically it is possible to see *blood* as the *river inside the body*. This seems to be paralleled semantically by PIE ***bhlo-to-** ‘to swell, to gush, to spurt; that which bursts out’ > Old Eng. *blod* ‘blood’ > Eng. *blood* (Etymon). However, the identical semantics in the main suggestion above seems much more convincing, and so the phonological similarities of this second suggestion must be ascribed to a chance occurrence only.

Likely borrowings or cognates between Uralic and Yukaghiric

New borrowing or cognate

PY ***kentə**, TY *kedie-* ‘obstinate (of a tied reindeer that does not want to follow a sledge)’ is either a Ugric borrowing or cognate with: Khanty *kěnt* ‘wrath, anger, malice’, *kānt* ‘anger’, Mansi *kānt*, *kant*, *kantaŋ* ‘angry’, Hung. *kedv* ‘(to be in a) mood, emotional, desire’, Pug ***kVntV-** ‘whim, mood, caprice’ (UEW 861–862).

In Yukaghir, a valid disyllabic noun root must have a prosodic structure of (C)VCCə-. Therefore, the final vowel could have been anything else in MY (if inherited) or in an original donor language (if borrowed). Semantically, the meanings

of the TY item—‘stubborn, obstinate, scornful’—are mirrored by the meanings found in PUg ‘mood, caprice’, as well as in Hungarian ‘to be in a mood’ and Khanty/Mansi ‘angry’. The Hungarian form suggests an original first-syllable front vowel. The correspondences may thus suggest that an earlier, prospective Pre-PU *kentV- ‘whim, mood, caprice’—as a cognate—had a front-voweled first syllable (likely *-e-), or that a Uralic donor language, such as *early* Khanty, was of the form *kent(V).

New borrowing or cognate

PY ***pet-**, TY *petčigije* ‘reins’ (> *petčigije-moojnijaa* ‘skilled reindeer driver’), *petče* ‘light sledge for carrying people’, *pettes-* ‘to drive reindeer (TR)’, *petčigijes-* ‘to put the front part of the harness on a reindeer’ < Nenets *pod’ern* ‘collar for horse, dog’, Enets *fören, foden* ‘pull strap’, ?*pođida-poder* ‘reindeer harness’, Nganasan *fudar* ‘yoke, pull strap’, *hutura-* ‘to harness’, ?Selkup *paater* ‘garter’, PS ***potV** ‘harness, gear for the sleigh’ (UED 794).

A rare reindeer-husbandry related borrowing between Proto-Samoyed and Yukaghir can be presented to show that borrowings are indeed possible between the geographically closest modern Uralic languages and Yukaghir. The semantics have good correlations which have been further expanded after PY through suffixation, which can be expected in a culture deeply involved in reindeer husbandry. No other earlier correspondences have shown the specific vowel correspondence as seen with PS *pot(V)- < PY *pet- (i.e. back *contra* front vocalism), which makes this something of a special case; it could suggest palatalization in the PS branch only, which would be unusual. While one could imagine labialization in Proto-Samoyed, this could possibly constitute a rare borrowing between Samoyed and Yukaghir, both populations being far-traveling precisely because of their dependence on reindeer husbandry. If it is a borrowing, it may go back perhaps to ~1500 BP, but the direction of borrowing is not at all clear from the phonological correspondences alone.

This root pertains to reindeer technology and it seems implausible that it could constitute a common Pre-PU root going back several millennia; reindeer husbandry may simply not be old enough to have been present as common terminology that reaches back thousands of years. Still, if it were a cognate, it would accord well in accordance with the fact that PU *-o- is often found as PY *-e- with other cognate suggestions; examples include PFU ***kolV** ‘rift, cleft, interval’ (UEW 174-175) < PY ***ke:-** > KY *ke:l* ‘slot’, etc. (noted in Nikolaeva 2006, entry 768); PFU ***wolka** ‘shoulder’ (UEW 581) < PY ***wele-** > KY *ejeji:-* ‘to carry’, etc. (noted in Nikolaeva 2006, entry 2603); PU ***ńole~*ńo:le-** ‘to lick’ (UEW 321) < PY ***nel-** > KY *ńel’i:-* ‘to lick’ (noted in Nikolaeva 2006, entry 1401), etc.

The Samoyed words have not spread to other Uralic languages either, not even the Ugric languages. For these reasons this set may best be described as a rarely

borrowed technological term instead of a cognate set. Enets *poðida~poðer* is my own prospective addition to this set.

New borrowing or cognate

PY ***a:čə~*wa:čə**, KY *a:čə* ‘domestic reindeer’ > KY *a:ča* ‘domestic reindeer’, B *aaitsha* ‘domestic reindeer’, ? *ishakaloo* ‘young reindeer’, M *áča*, *áčapul*, *aača*, *aače* ‘domestic reindeer’, ?ME *tschakalloa* ‘young reindeer’, etc. <> PFV ***wača~*waća** ‘young animal, female reindeer, foal’ (UEW 808–809), ?Fin. *vaadin*, dial. *vaame*, *vaami*, *vaatimo*, *vain*, *vaija* ‘reindeer cow’ (possibly < N. Saami *vājā-ččâm-* ‘full-grown female reindeer (which already has or has had a calf)’, L. Saami *vājav* (L) ‘reindeer cow’, T. Saami *vāj* ‘young reindeer cow’, Kld. Saami *vā^{Di}Zi*, *valij(a)* ‘reindeer cow’ (> Russ. *важенка* > KZ & Udm. *važenka?*), Kar. *voajin* ‘reindeer cow’, ?EM *vašo*, ?MM *vaša* ‘foal’. Also possibly: PFU ***wasa** ‘calf, deer calf’ (UEW 814–815), Fin. *vasa* ‘Kalb, einjähriges Renkalb’, *vasikka* ‘Kalb’, Est. *vasik*, *vasikas*, I. Saami *vyesi*, T. Saami *viisse*, Kld. *vūiss* ‘kleines Rentierkalb, bis es um den Peterstag neues Haar bekommt’, EM & MM *vaz*, EM *vaznie*, MM *vazniä* ‘calf’, ?Mansi *wēsəj*, *wēsəγ*, *wāsiγ* ‘elk calf’.

In the UEW, Rédei considered PFU ***wasa** to be an independent Iranian borrowing. However, while such a hypothesis is certainly possible, if it were an original Uralic item one would be able to trace the proto-form back to at least the Proto-Finno-Ugric stage. It seems to me that the etymons ***wača** & ***wasa** may both be traceable back to some earlier common etymon related to *young elks* or (*rein*)*deer* even though the phonological details are not at all clear, since an earlier ***-č-** may regularly reflect a later ***-t-**, but not really an ***-s-**. Perhaps the two roots were independently borrowed into the two proto-languages, but actually originated from a single foreign etymon that changed over time. The Late Proto-Yukaghir form ***wa:čə** is particularly close to PFV ***wača**, both in phonological and semantic terms, meaning that the two could constitute either true cognates (< Pre-PU ***wača**) or ancient borrowings, with the common semantics appearing mainly to pertain to ‘young reindeer’. The first-syllable long vowel and the second-syllable final vowel of the PY root are explained by Yukaghir prosody, where CV:Cə- is one of the valid disyllabic nominal root structures.

New borrowing or cognate

PY ***se:rti:**, TY *sierdiid-ile* ‘reindeer not selected for slaughter’ (< TY *ile* ‘domestic reindeer’) <> PU ***šarta** ‘young deer, reindeer’ (UEW 464), EM & MM *šarda*, EM *šardo* ‘elk, dial. reindeer’, Mari *šardə*, *šordə*, ‘elk’, Khanty *surti* ‘one-year-old tame reindeer’, *sūrti* ‘one-year-old calf/foal of a cow, horse, elk or tame reindeer’, Mansi *surti* ‘year-old reindeer calf’, Nenets *siraj* ‘one-year-old reindeer cow’ (> Khanty *sirä*, *siräj* ‘1.5-year-old reindeer’ >

Ewenki *siru* ‘male reindeer in the period of pairing’), ?Selkup *sjaera* ‘*Cervus tarandus*’.

This is an interesting set showing both Uralic and Yukaghiric cognancy (or borrowing) and further borrowing into the Tungusic language of the Ewenki (the latter being noted in the UEW). The UEW entry also compares the Uralic words with the Turkic Shor *sartak* ‘reindeer’ and sagaisch-koibalisch *sardak* ‘einjähriges Maral’, and with Mongol *sarluy* and Khalkha Mongolian *sarlay* ‘yak’. As such, this may be an ancient *Wanderwort*, and the borrowing sequence would therefore be extremely difficult to trace. The second part of the TY compound *-ile*, is also a likely borrowing: cf. Ewenki *elkēn* ‘wild deer’; Ewen *iēlken–elken* ‘domestic deer’; Yakut *elik* ‘чубарый олень’ (cf. Old Turkic *ālik* ‘roe-buck’); Middle Mongolian *ele’ut* ‘a kind of camel’ (Haenisch 1939), another possible *Wanderwort*.

Several factors also point to the PY root itself being a borrowing: first, it has a long vowel in a closed syllable, the anomalous vocalism (front *contra* back vocalism as compared to Uralic); second, the root is only found with TY and no other dialects and as no other derivatives; third, the disyllabic prosodic structure of *CV:CCV:* appears in this case to result from a contraction of a final short vowel **-i-* with a word-final glide like **-j* (i.e. < **se:rtij*) (Nikolaeva 2006: 76)—just as happens to be found word-finally in the Nenets word (> Khanty > Ewenki)—but **-j* is not a known or fitting suffix. On the other hand, Yukaghir has a nominal derivational marker PY **-i:* (Nikolaeva 2006: 80), which may explain the form of the PY root. If a borrowing, it is likely from around 1500 BP, as was suggested for the case of PS **potV* < PY **pet-* above. The PY form should probably be newly reconstructed as **še:rtij*.

Semantically, the entire set pertains to *young reindeers* (semantically shifted to *yak* in Mongolic). A ‘tame reindeer’ may in some sense be considered a ‘reindeer not selected for slaughter’, since pets are not usually slaughtered. Furthermore, Ewenki *siru* appears to be a direct Khanty borrowing; indeed, a male reindeer becomes independent in early fall after almost one year as a calf (being born around May–June) and can then take part in the period of pairing the following year in October–January, depending on species, at an approximate age of 1.5 years. Likewise, female reindeers can be sexually mature at 16 months of age (~1.5 years), but are more commonly so a year later (i.e. in the following pairing season).

Structured semantic fields

Most of the borrowings presented in this paper pertain to reindeer terminology. Further dividing the borrowings into cultural or technological sub-spheres of semantics (such as those presented in Rédei (1999)) yields the following categories:

- a. body parts of humans and animals—KY *ugur*, TY *joyul*, PS **kēm*
- b. animal kingdom (i.e. fauna)—PY **moll’ə*, PY **oŋ-*, PY **saqoli*, PY **wa:čə*, PY **se:rti:*

- d. nature, natural phenomena and natural places—KY *šajγər*
- e. types of work and tools—PY *pet-
- m. elementary phenomena, actions and perceptions—PY *kentə

Most of the borrowings pertain to fauna, in particular, semantically specified descriptions of reindeer as seen from the point of reindeer husbandry (age, level of domestication, suitability, etc.). Interestingly, a technological term, or rather, a root, also pertaining to reindeers, was found as a borrowing between Yukaghiric and Samoyedic. Perhaps a bit surprisingly, a few body parts were also found as borrowings into Yukaghiric (as well as Samoyedic), as were a geographic direction and an emotion, which is now only used about reindeers in Yukaghir. Practically all the borrowings—except perhaps KY *šajγər*—were found to be chronologically *old* (i.e. of around 1500 BP) in Yukaghiric as evaluated by the vowelism. The Uralic–Yukaghiric correspondences could alternatively be considered cognates.

Summary and conclusions

In this paper, a total of eleven new lexical borrowings (or cognates in the case of Uralic–Yukaghiric) have been presented. These results add to the older research on rather extensive borrowings of reindeer terminology in greater north-eastern Siberia, where several languages, including Yakut (and Dolgan), Chukchi, Koryak, Ewen, Ewenki, Yup'ik, Yukaghir, Russian, etc. are extensively used.

Abbreviations

- Fin. = Finnish
- Hung. = Hungarian
- KY = Kolyma Yukaghir
- KZ = Komi-Zyrian
- MM = Moksha Mordvin
- MY = Middle Proto-Yukaghir
- N. Saami = Northern Saami
- Kld. Saami = Kildin Saami
- S. Saami = South Saami
- I. Saami = Inari Saami
- T. Saami = Ter Saami
- L. Saami = Lule Saami
- NT = Northern Tungusic
- PIE = Proto-Indo-European
- PS = Proto-Samoyed
- PU = Proto-Uralic
- PUg = Proto-Ugric
- PY = Late Proto-Yukaghir
- TU = Proto-Tungusic

TY = Tundra Yukaghir

Udm. = Udmurt

Abbreviations of the linguistic resources

B = Materials of Billings 1787

KD = Kolyma Yukaghir from Jochelson's manuscript dictionary

KJ = Kolyma Yukaghir materials of Jochelson in 1898 and 1900

KL = Materials of Klitschka 1781

KK = Kolyma Yukaghir materials of Krejnovič in 1982

M = materials by Maydell presented by Schiefner in 1871

MC = čhuvan materials of Matjuškin (Wrangel 1841)

ME = Materials of Merk 1787

MK = Kolyma Yukaghir materials of Mueller and Lindenau in 1741

MO = Omok materials of Matjuškin (Wrangel 1841)

RS = materials of Rajskej and Stubendorf presented by Schiefner in 1871

SD = Kolyma Yukaghir materials of Spiridonov in 2003

SU = materials by Suworov presented by Schiefner in 1871

TD = Tundra Yukaghir materials of Jochelson's (1926) manuscript dictionary

TK = Tundra Yukaghir materials of Krejnovič in 1958 and 1982

W = early materials of Witsen in 1692.

All these older materials are described and referenced in Nikolaeva (2006).

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- SW = Janhunen, J. 1977. *Samojedischer Wortschatz—gemeinsamojedische Etymologien*. (Castrenianumin toimitteita 17.) Helsinki.
- TMS 1 = Cincius, V. I. 1975. *Sravnitel'nyj slovar' tunguso-man'čžurskich jazykov* [Comparative dictionary of the Tungus-Manchu languages] 1. Leningrad: Nauka.
- TMS 2 = Cincius, V. I. 1977. *Sravnitel'nyj slovar' tunguso-man'čžurskich jazykov* [Comparative dictionary of the Tungus-Manchu languages] 2. Leningrad: Nauka.
- UED = Uralic etymology database (found online at: <http://starling.rinet.ru/cgi-bin/query.cgi?basename=\data\uralic\uralet&root=config&morpho=0>)
- UEW = Rédei, K. 1988–1991. *Uralisches etymologisches Wörterbuch*. Budapest: Akadémiai Kiadó.
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Yukaghir-related etymological dictionaries and glossaries

The etymological reference works consulted in Nikolaeva, I. (2006), the source of Yukaghir used for this research, were, given with common short-hand:

CED (Fortescue, M. et al., 1994),
DEWOS (Steinitz, W. 1966–1993),
EDAL (Starostin, S. A. et al., 2003),
ESRD (Anikin, A. E. 2000),
ESRZ (Anikin, A. E. 2003),
HUV (Collinder, B. 1965),
JRS (Slepcov, P. A. 1972),
JU (Collinder, B. 1940—notes Yukaghir parallels and arguments),
LR (Fortescue, M. 1998) and
UJN (Collinder, B. 1957).

Further, the following glossaries were consulted and collected therein:

Angere, J. (1957, based on Kurilov, G. N. 1900),
Kurilov, G. N. (2001),
Veenker, W. (1989),
Endo, F. (1997 & 2001),
Nyikolajeva, I. (2000),
Nikolaeva, I. and Shalugin, V. (2003) and
Maslova, E. (2001 & 2003).