

## **Variation in basic roots across dialects in nDrapa: Geolinguistic analysis in the Qiangic context**

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**Abstract:** This paper examines the geographical distribution of three vocabulary items in the Qiangic area that have with divergent roots among nDrapa dialects: ‘sand’, ‘leaf’, and ‘knee’. The local diversity of word forms in the nDrapa dialects is considered in the broader perspective, including the Qiangic languages. Linguistic maps of the three items illustrate three different histories. Non-Qiangic word forms for ‘sand’ and ‘leaf’ are distributed in Central nDrapa, whereas loanwords have diffused from the northern and southern peripheries. As for ‘knee’, two types of word forms have cognates in Qiangic languages. This paper demonstrates the need for caution in conducting comparative linguistic research on the nDrapa language.

**Key words:** basic word, dialectology, geolinguistics, language contact, nDrapa, Qiangic

### **1. Introduction**

The Qiangic languages are spoken in a multilingual area called the Western Sichuan Ethnic corridor or the Tibet-Qiang-Yi corridor in Southwest China. The languages of this area, share many typological features, although their systematic relationship has not been identified using the methods of comparative linguistics. nDrapa (ISO 639-3: zhb) is one of the languages spoken here.

This study was conducted to clarify the relationship between nDrapa and nearby Qiangic languages. In a previous study of nDrapa dialects (Shirai and Huang forthcoming), it was found that some items of basic vocabulary exhibit diverse word forms that could be traced back to different roots. This paper seeks to find corresponding roots in Qiangic languages and examines their distribution to identify their historical formation. Then, using this distribution as a cue, we discuss the relationship between nDrapa and Qiangic languages.

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### 1.1. nDrapa and the Qiangic linguistic area

nDrapa belongs to the Sino-Tibetan language family, and it has about 10,000 speakers, living in Southwestern China. Figure 1 presents a map of nDrapa villages surveyed by Shirai and Huang (forthcoming). We can divide nDrapa dialects into three main groups: Southern, Central, and Northern, but there is general intelligibility across all dialects. nDrapa has no orthography. It has experienced relatively heavy language contact with Tibetan, and Kham Tibetan has been the traditional lingua franca of this area. In the modern age, Southwest Mandarin is the superstratum.

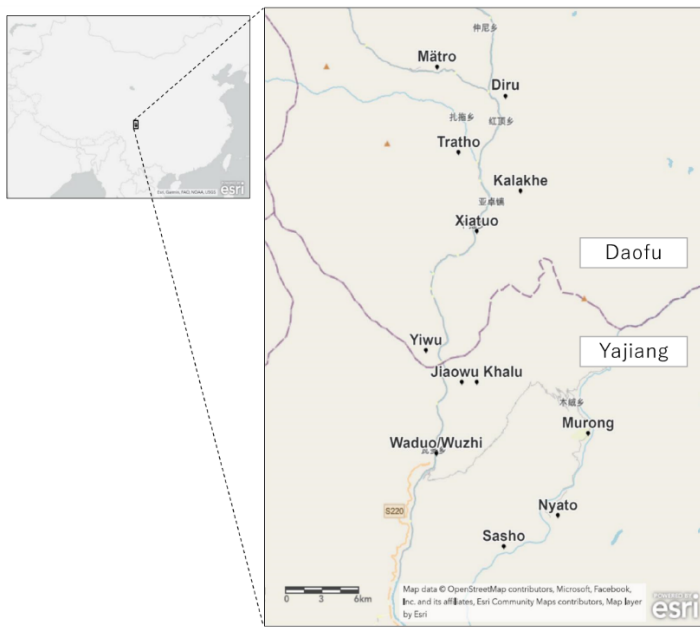


Figure 1: nDrapa dialects (Shirai and Huang forthcoming)

Figure 2 (taken from Shirai 2020) illustrates the distribution of the Qiangic languages and nearby languages. The nDrapa language is spoken in the areas marked with red square outlines. In their proposal of a genetic tree for Qiangic, Jacques and Michaud (2011: Appendix) excluded the southern subgroup of languages, which were included in Qiangic by Sun (2001), and they divided the language group into the rGyalrongic subbranch and other languages. In Figure 2, the languages of the rGyalrongic subbranch are marked with blue triangles, while the languages that were not included in their Qiangic group are marked with brown seals. More recent studies divided rGyalrongic into rGyalrong proper and Western rGyalrongic, to which Tangut,

an extinct language with Qiangic features, belongs (Lai, Gong, Gates, and Jacques 2020). However, the attribution of nDrapa remained unclear.

Conversely, other studies, including Chirkova (2012) and Shirai (2020), cast doubt on the genetic unification of the Qiangic languages, and they proposed that the languages form a linguistic area. In this study, we tentatively use the term Qiangic languages without intending to answer the question of their relationship.

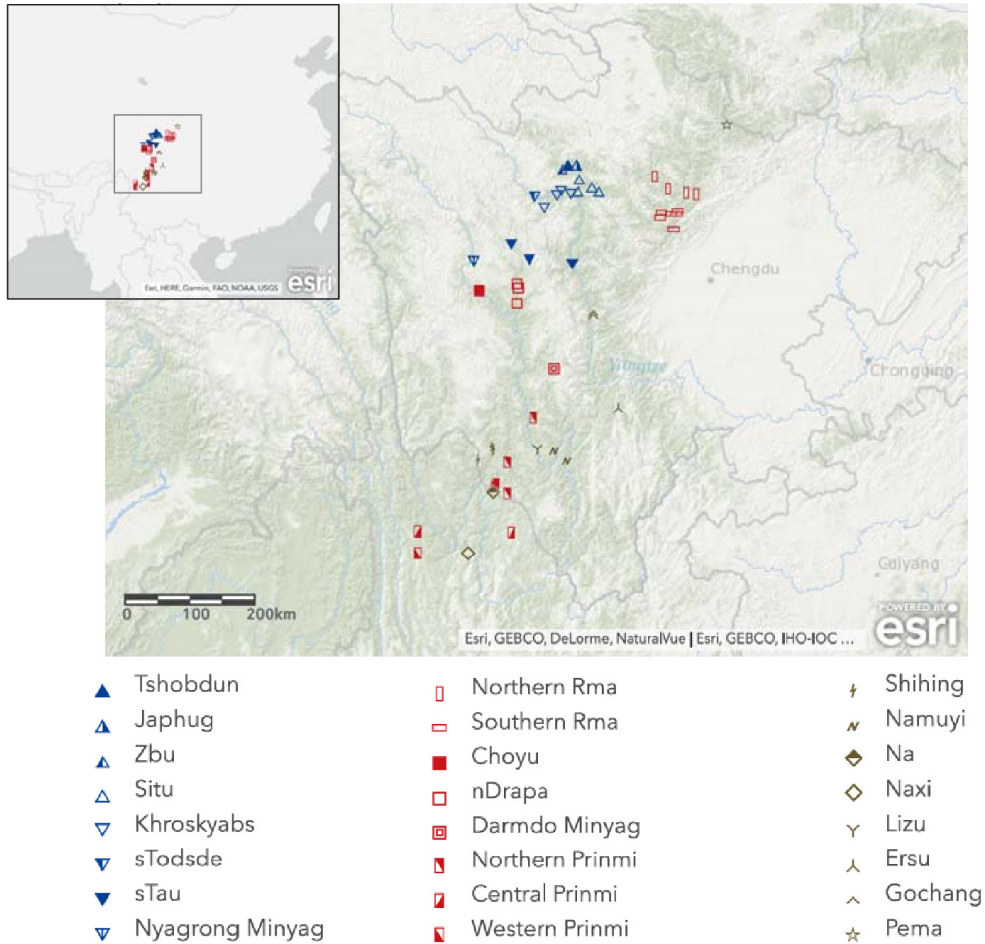


Figure 2: Languages of the Qiangic linguistic area (Shirai 2020: 369)

## 1.2. Previous studies

This study uses nDrapa dialect data collected and analyzed in a previous study (Shirai and Huang forthcoming). There, a dialect-geographical study was conducted in 13

villages based on the Swadesh 100 basic word list. From these data, we proposed three dialect groups. However, some items, such as ‘knee’, ‘leaf’, and ‘sand’ showed different roots in a contrast between central and peripheral dialects (Table 1). It is well known that in Japanese dialects, for instance, peripheral regions tend to preserve older forms. However, in the case of nDrapa, this may not be an appropriate assumption because roads to the north and south of the nDrapa region connect Tibetan areas to Han Chinese areas. Therefore, Shirai and Huang (forthcoming) hypothesized that the central dialects are conservative and that the peripheral regions have received influence from other languages. However, here, we only focused on the distributions of nDrapa dialect forms, without regarding other Qiangic languages.

Table 1: Example word forms in nDrapa dialects

	Northern		Central		Southern	
	Mätro	Kalakhe	Yiwu	Jiaowu	Murong	Nyato
‘sand’	tsemá	tʂɿ <sup>55</sup> ma <sup>33</sup>	ŋɛ <sup>55</sup> lu <sup>33</sup>	ɲɛ <sup>55</sup> lɔ <sup>33</sup>	htʂɿ <sup>55</sup> ma <sup>33</sup>	ʈʂɿ <sup>55</sup> ma <sup>33</sup>
‘leaf’	lomá	sɛ <sup>11h</sup> pa <sup>33</sup> la <sup>11</sup>	ŋa <sup>33</sup> ŋa <sup>53</sup>	ɲɔ <sup>55</sup> ɲa <sup>33</sup> pa <sup>33</sup> la <sup>33</sup>	ɲɔ <sup>55</sup> ɲa <sup>33</sup> pa <sup>33</sup> la <sup>33</sup>	lo <sup>55</sup> ma <sup>55</sup>
‘knee’	pǔ	pu <sup>33</sup>	pu <sup>24</sup>	mɛ <sup>33</sup> ŋgi <sup>33</sup>	mɛ <sup>33</sup> ŋgi <sup>33</sup>	pu <sup>35</sup>

In this study, I further develop the relative chronology of these diverse roots from the viewpoint of the geolinguistic study of the Qiangic languages. Table 1 shows examples of nDrapa dialectal word forms of the three vocabulary items that this paper uses up to analyze geographical distribution in the Qiangic linguistic area. Table 2 illustrates the languages and dialects that this study refers to with the classification based on Jacques and Michaud (2011) in the left columns and data sources in the right column.

Table 2: Language classification and data sources

Classification			Languages and dialects	Data sources
Na-Qiangic	Qiangic	rGyalrongic	Yelong Khroskyabs, Guanyinqiao Khroskyabs	B. Huang (2007)
			Daofu Stau	Huang (ed.) (1992)
			Geshitsa	Duoerji (1998)
			Zbu, Tshobdun, Japhug, Situ, sTodsde, Wobzi Khroskyabs, Er kai, Nyagrong Minyag	Nagano & Prins (2013)
			Yoci bTsanlha, Bola Situ	Shirai's fieldnotes
		Other Qiangic	Ronghong N. Rma	LaPolla with Huang (2003)
			Puxi S. Rma	C. Huang (2007)
			Ekou N. Rma, Mawo N. Rma, Longxi S. Rma, Taoping S. Rma, Mianchi S. Rma	Evans (2001)
			Darmdo Minyag, Youlaxi Choyu, Tratho nDrapa	Huang (ed.) (1992)
			Lhagang Choyu	Suzuki & Sonam Wangmo (2018)
			Kara Choyu	Nagano & Prins (2013)
			Diru nDrapa, Kala nDrapa	by courtesy of Hiroyuki Suzuki
			Mätro nDrapa, Kalakhe nDrapa, Nyato nDrapa	Shirai's fieldnotes
			Xiatuo nDrapa, Yiwu nDrapa, Jiaowu nDrapa, Khalu nDrapa, Murong nDrapa, Waduo nDrapa	by courtesy of Yang Huang
			Sasho nDrapa	Y. Huang (forthcoming)
			Waduo-Wuzhi nDrapa	Gong (2007)
			Xinyinpan Central Prinmi	Ding (2014)
			Other Prinmi dialects	Lu (2001)
	Other Na-Qiangic		Maibeng Gochang, Upper Shihing, Lizu, Luobo Namuzi	Huang (ed.) (1992)
			Shihing	Sun et al. (2014)

## 2. A geolinguistic analysis of three lexical items

This section provides a geolinguistic analysis of the lexical items ‘sand’, ‘leaf’, and ‘knee’ which are included in Swadesh’s 100 basic words. However, nDrapa dialects show various roots for them. This suggests that they are not stable words (Matisoff 2009) in nDrapa dialects or perhaps in Qiangic languages. A geolinguistic examination of such non-stable basic words may shed light on linguistic history of the area.

Shirai and Huang (forthcoming) discussed the distribution of the word forms for ‘sand’ and ‘leaf’ in nDrapa dialects. However, when these are examined in the broader Qiangic linguistic area, we may draw other conclusions.

The hash mark (#) is used in the following discussion to indicate earlier word forms tentatively extrapolated from dialectal forms in the absence of sufficient clarification of a phonological correspondence.

### 2.1. ‘Sand’

Shirai and Huang (forthcoming) described the distribution of word forms denoting ‘sand’ in nDrapa dialects as follows: the northern and southern areas show similar forms, but the central area has completely different ones (as seen in Table 1 above). The northern and southern forms are based on Tibetan loanwords from Written Tibetan *bye ma*. Therefore, Shirai and Huang (forthcoming) concluded that indigenous vocabulary is retained in the central area, while Tibetan loans are seen in both the south and the north.

Figure 3 presents the geographical distribution of the word forms for ‘sand’ in the Qiangic linguistic area. Red circles indicate word forms with bilabial initials, e.g., Bola Situ *kə-mbjek*, Northern Prinmi *bi<sup>13</sup> pə<sup>13</sup>*, and Shihing *mei<sup>35</sup>*. The green boxes indicate the palatal nasal type, as seen in Central nDrapa. Brown lines indicate the type of Tibetan loan, e.g., Puxi sTodsde *pjə'ma*. Blue triangles in the eastern regions indicate the type of Chinese loan, e.g., Ronghong Northern Rma *šats* (from 沙子 *shāzi*) and Lizu *xuo<sup>33</sup>ša<sup>53</sup>* (from 河沙 *héshā*). In the cases of these loans, both syllables of a disyllabic word correspond to the original Tibetan or Chinese forms. This fact is evidence that the word is not indigenous but a loan, as the Sino-Tibetan languages tend to be strongly monosyllabic, and disyllabic compounds generally do not show a correspondence between Qiangic languages and Tibetan or Chinese.

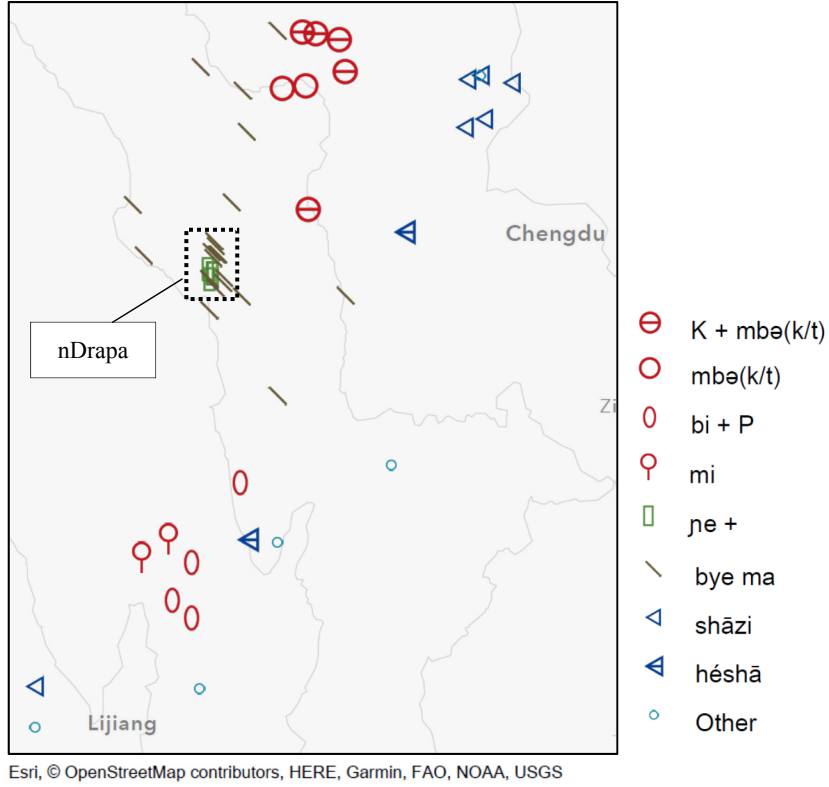


Figure 3: ‘Sand’ in the Qiangic area.

The geographical distribution shown in Figure 3 suggests that the bilabial type is the oldest in Qiangic languages. Alternatively, we cannot identify a palatal nasal type outside of the central nDrapa region; that is, it has no cognates in the Qiangic languages. Therefore, from a geolinguistic viewpoint, the palatal nasal type in Central nDrapa could be later compounds created in the region.

## 2.2. ‘Leaf’

Shirai and Huang (forthcoming) concluded that the <sup>(h)</sup>*pala* type, which is found in Sasho Southern nDrapa and Diru Northern nDrapa, is the oldest dialectal variant. Dialects such as Kalakhe, Jiaowu, and Murong in Table 1 feature a compound involving this form. However, it was lost in the western area, replaced with word forms that might have been derived from the word for ‘green’, e.g.,  $\eta a^{33} \eta a^{53}$  in Yiwu Central nDrapa (Table 1). Moreover, the Tibetan loanword (Written Tibetan *lo ma*) is found in the northernmost and the southernmost parts of the area, showing the same pattern as ‘sand’.

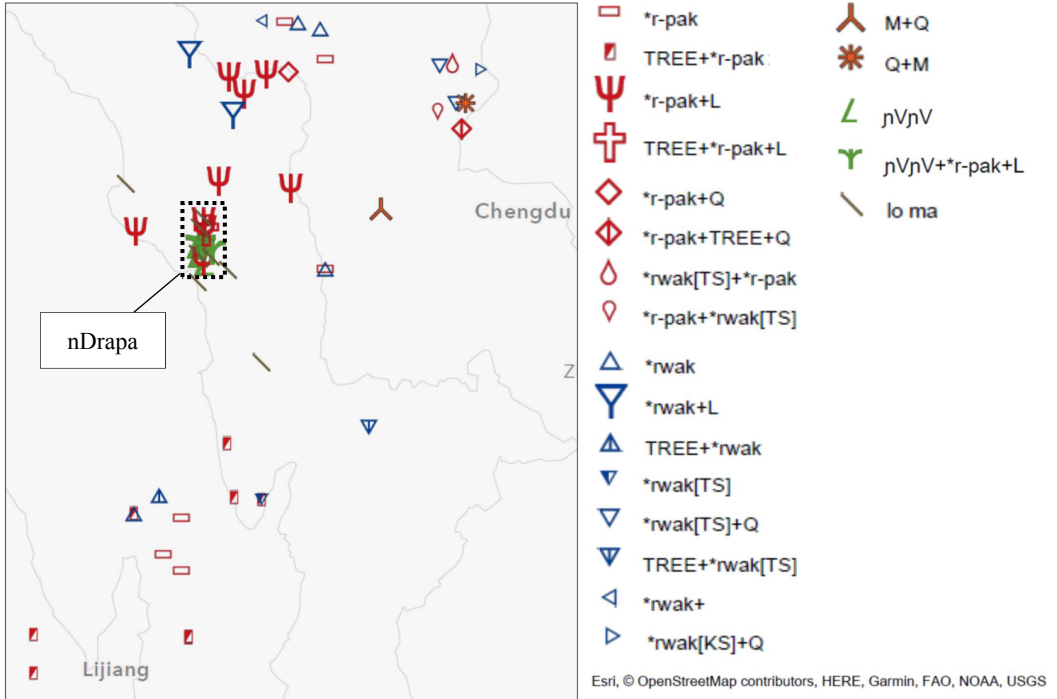


Figure 4: ‘Leaf’ in the Qiangic area.

Figure 4 presents the distribution of word forms denoting ‘leaf’ in the Qiangic area. In this map, the red marks indicate word forms featuring Proto-Tibeto-Burman (PTB) \*r-pak.<sup>1</sup> The *ʰpala* type in nDrapa can be classified as this type, although the etymology of the second syllable remains unclear. The blue marks indicate word forms derived from another PTB root, \*rwak. Orange marks indicate other types. Green marks indicate a palatal nasal type, while brown lines indicate a Tibetan loan. The geographical distribution of these suggests that the \*r-pak type is the oldest form in the Qiangic languages. Conversely, the palatal nasal initial type is only found in nDrapa. We conclude that this type was formed later.

Moreover, we find disyllabic or polysyllabic word forms with second *l*-initial morphemes in a relatively broad area across the northwest. Many rGyalrongic languages have a similar morpheme to nDrapa, e.g., Puxi sTodsde *ʳbala*, Wobzi Khroskyabs *rpʰálá*, and Daofu Stau *lba lə*. Among the non-rGyalrongic languages, Youlaxi Choyu, which is spoken in the area adjacent to nDrapa also has a correspondent form, *ba<sup>l3</sup>la<sup>55</sup>*. A possible etymon for this morpheme is PTB \*s-la / \*s-lap ‘LEAF/TEA/FLAT THING’. Qiangic languages in other regions, such as Prinmi, do

<sup>1</sup> The PTB forms in this paper are cited from the STEDT database (see Matisoff 2015).



not have the second *l*-initial morpheme, but they do have a root derived from PTB \*r-pak. Therefore, in this case, \*r-pak + L type is a regionally diffused word form.

### 2.3. ‘Knee’

Now we move to a vocabulary item that has not been discussed in detail previously: ‘knee’. We can classify word forms denoting ‘knee’ into two types across in nDrapa dialects: Type A, which involves an unaspirated bilabial plosive initial and rounded closed back vowel: #pu, and Type B, which consists of two syllables, of which the first has a bilabial nasal initial and a mid-front vowel, while the second has a prenasalized velar plosive and a high-front vowel: #mengi. Among the examples in Table 1, Mätro, Kalake, Yiwu, and Nyato have Type A, while Jiaowu and Murong have Type B. There are also subtypes of Type A that have a second syllable with lateral initial: the P+L type, e.g., *pu*<sup>33</sup>*lo*<sup>55</sup> in Tratho, and the P+L+ type, e.g., *’pu lo wu ŋa* in Diru. In Figure 5, Type A (P, P+L, P+L+) is marked with red boxes whereas Type B (#mengi) is marked with blue triangles.

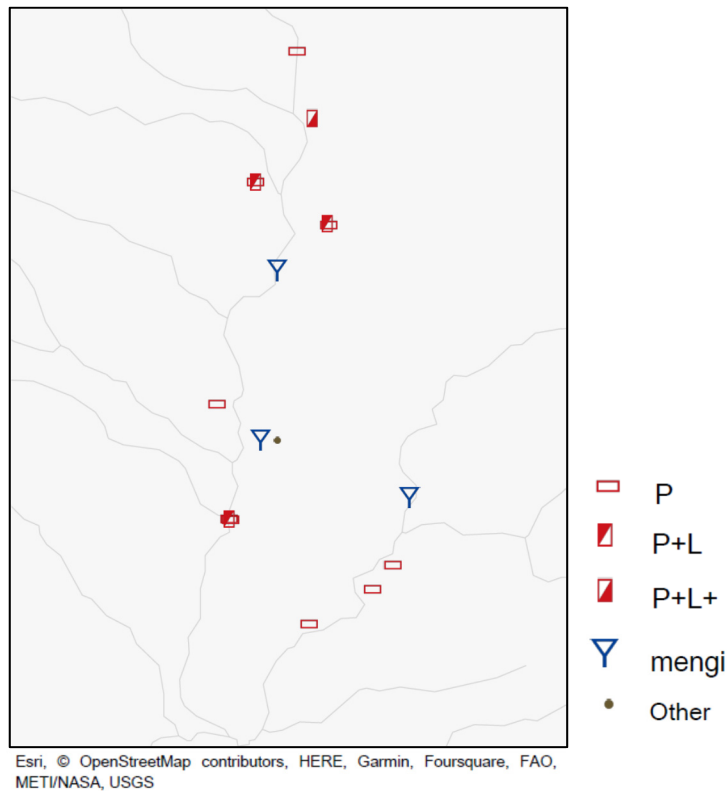


Figure 5: ‘Knee’ in nDrapa dialects.

For the geographical distribution, we find the monosyllabic Type A in the peripheral regions, Type B in the central area, and the compounded subtypes of Type A occurring between these two types. If we adopt the previous hypothesis that is, conservative central and interfered peripheral (Shirai and Huang forthcoming), we can conclude that Type B is the oldest. Moreover, the root #pu for Type A is like the root for the Written Tibetan form, *pus-mo*. However, the second morpheme, *lo* in nDrapa and *mo* in Tibetan, does not correspond. Therefore, it is difficult to identify it as a borrowing, and consequently, the relative chronology of Type A and B is unclear.

Let us examine the Qiangic word forms. Figure 6 presents the geographical distribution of word forms for ‘knee’ across the Qiangic linguistic area. The red marks indicate the distribution of Type A, the *p*-initial type, while the blue triangles show the distribution of Type B, with velar or uvular initial roots. While only Central nDrapa has the disyllabic #mengi type, its second syllable has a characteristic in common with Type B in Qiangic. Both types are widespread in the Qiangic area. For example, Type A: *tə'xpom* in Zbu, *py<sup>55</sup>mu<sup>55</sup>* in Southern Prinmi; Type B: *zguəq* in Yadu Northern Rma, *gɲi<sup>55</sup>* in Youlaxi Choyu. Moreover, Type A is not found in the area adjacent to the distribution of Type A in the nDrapa dialects. In this case, therefore, we must interpret the distribution in a way other than through language contact.

I tentatively assume that there were two earlier forms in nDrapa: #me-ŋgi and #pu(-lo). Some Qiangic languages feature different words for ‘knee hollow’ and ‘kneecap’: for example, Qinghua Southern Prinmi *ka<sup>55</sup>pu<sup>55</sup>* ‘knee hollow’ vs. *py<sup>55</sup>mu<sup>55</sup>* ‘kneecap.’ Therefore, we can assume that at an earlier stage, the two words, #me-ŋgi and #pu(-lo), referred to two different notions but were closely related. Then, nDrapa dialects lost the distinction and adopted one of the two forms to denote ‘knee’ as a whole. This can only be a tentative conclusion for nDrapa words for ‘knee.’

We can find a possible cognate of the second morpheme of the first type, #-ŋgi, in Tangut, an extinct Western rGyalrongic language of the 11<sup>th</sup> to 13<sup>th</sup> centuries: *nge<sup>2</sup>~rnge<sup>2</sup>* ‘knee’ (Sofronov 1978 via STEDT) or *ɲɲɛ* ‘knee’ (Nishida 1964 via STEDT). Moreover, some other Qiangic languages show possible cognate forms: Yelong Khroskyabs from Western rGyalrongic *rɲe<sup>55</sup>* and Taoping Southern Rma *χɲu<sup>55</sup>*. However, the origin of #me- is unknown.

For the second type, #pu(-lo), we can find possible etyma, such as PTB \*pu KNEE; \*put-s ⋈ \*pit-s KNEE, and PLB \*put ‘knee.’ These also correspond to the Written Tibetan *pus-mo* ‘knee.’ However, the origin of #-lo is unknown.

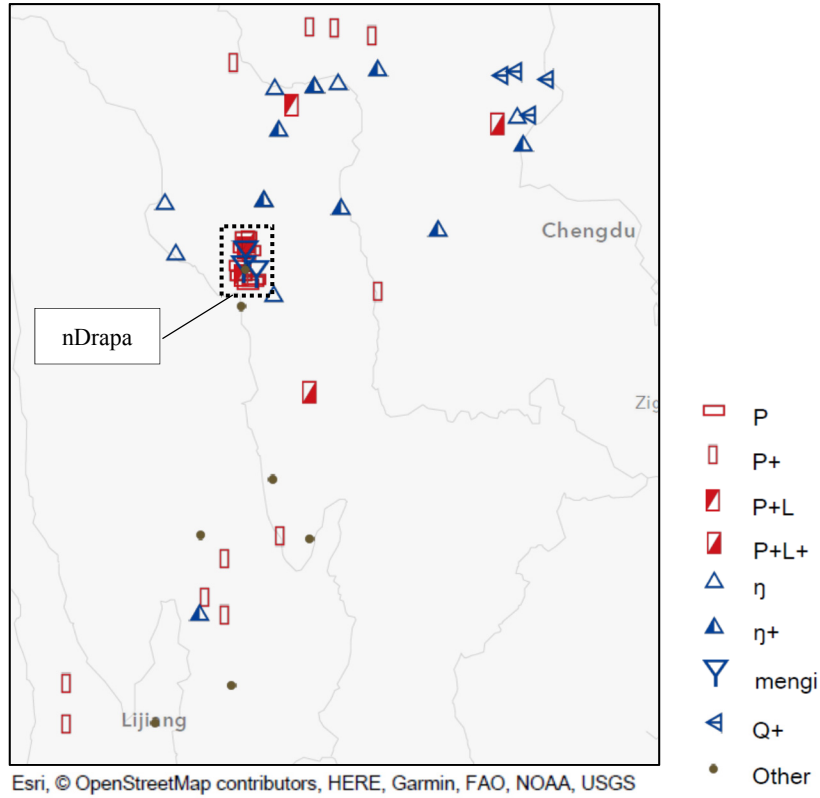


Figure 6: ‘Knee’ in the Qianganic area.

### 3. Conclusion

This paper examined the geographical distribution of three vocabulary items across the Qianganic area that have with different roots among nDrapa dialects. The local diversity of word forms in the nDrapa dialects can be explained using a broader perspective, including Qianganic languages.

The linguistic maps for the three items illustrate three different histories. For ‘sand’, a non-Qianganic form is found in Central nDrapa, whereas Tibetan loans are found in Northern and Southern nDrapa. I tentatively conclude that the Central nDrapa forms such as  $\eta e^{55}lu^{33}$  are relative novelties among Qianganic languages; in other words, the indigenous root for ‘sand’ was lost in nDrapa. However, it might also be that the Central nDrapa forms reflect a substratum.

For ‘leaf’, there are three types of word forms:  $\#^hpala$ , which is shared with nearby languages,  $\#naja$ , which is found in Central nDrapa, and the Tibetan loan  $\#loma$ , which

is distributed in southern, northern, and western areas. The oldest form is possibly #<sup>h</sup>pala, although it might have been diffused from nearby languages if we consider it to be an areal word form.

Two different types of word form are used to denote ‘knee’ in nDrapa dialects. Their relative chronology is difficult to ascertain, as both types have cognates in other Qiangic languages. The two roots might originally have had a distinction, and one of them may have been inherited in each dialect.

The discussion in this paper demonstrates the need for caution in conducting comparative linguistic research on the nDrapa language. Some conclusions of the previous study were supported: loan words diffuse from the northern and southern peripheral areas. Alternatively, it remains a question whether the central word forms are older indigenous forms. Further examination is needed to resolve this issue and to clarify the linguistic history of nDrapa.

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