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CAMILLA ROSE CHRISTIE

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Lexical variation in Namaqualand: Some evidence from ethnobotany

Camilla Rose Christie
Rhodes University

Summary

Although endangered, the Khoekhoe-branch languages Nama and Damara (standardised together as Namibian Khoekhoe) are well-documented. By contrast, the dialect of Nama spoken in the Namaqualand region of South Africa is understudied, and the extent to which it diverges from standardised Namibian Khoekhoe is not fully understood. In an effort to assess potential lexical variation, this article reviews a number of botanical and ethnobotanical surveys carried out in the Namaqualand region over the last forty years. The majority of these surveys did not make use of standardised Namibian Khoekhoe orthography when recording Nama plant names, instead employing idiosyncratic spelling conventions when recording click consonants. Nevertheless, they offer preliminary evidence that a regionalised Namaqualand botanical lexis did historically exist. A total of twenty-six regionalised plant names, unaccounted for in the standardised Namibian Khoekhoe reference materials, are retrieved from the ethnobotanical record, suggesting that further undocumented lexical variation may be present in Nama as spoken within South Africa. Immediate and comprehensive language documentation projects within Namaqualand are recommended in order to forestall the loss of a regional variety.

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1. Nama in Namaqualand: an understudied language variety

Although previously treated as a single 'Khoesan' phylum, the modern consensus acknowledges at least three distinct lineages of non-Bantu languages historically spoken in the southern African region, namely KHOE, TUU, and KX'A (Güldemann 2014). This paper discusses primarily the Nama and Kora languages, both in the Khoekhoe branch of the KHOE language family. It also makes reference to the related Naro language in the Kalahari branch of the KHOE family (see Figure 1), as well as to the |Xam language in the !Ui branch of the TUU family (see Güldemann 2005).

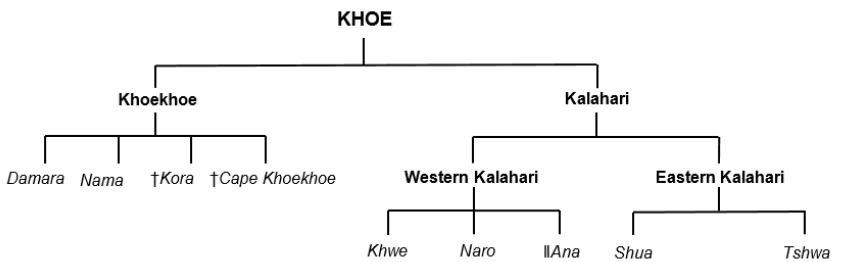

Figure 1: Classification of Khoe languages

Figure 2: Klein Namaland and Groot Namaland

Formerly occupied by Nama-speaking pastoralist communities, the west coast of southern Africa bounded by the Olifants River in the south and the Gariep River in the north (Figure 2) was historically referred to as Klein Namaland, or 'Little Namaland'. By contrast, regions occupied by Nama-speaking communities north of the Gariep River, in present-day Namibia, were historically referred to as Groot Namaland, or 'Great Namaland'. Following the annexation of Klein Namaland by the Cape Colony in 1847, the term 'Namaqualand' became generally preferred.[1] For the purposes of this paper, Namaqualand in its present-day sense as a winter-rainfall region of the Northern Cape province of South Africa is defined as the arid coastal strip that stretches from Vanrhynsdorp in the south to Kuboes in the north, extending eastward roughly 100km inland (see further Desmet, 2007: 572–573). This places it within the broader Succulent Karoo biome (Mucina *et al.*: 222).

All Khoe communities have undergone language shift, a term used here to describe a language contact scenario in which a speech community abandons one or more languages in favour of another; this does not always result in the endangerment of the dispreferred language (see further discussion in Sands 2017: 12–13; Grenoble 2011: 27; O'Shannessy 2011: 82–83; Brenziger 2007: ix–x). Language shift away from a number of languages in the Khoekhoe branch of the KHOE family towards Cape Dutch, and later Afrikaans, is generally held to have occurred within South Africa as a result initially of Dutch settler colonialism, and later of related British imperialist expansion (Kandybowicz & Torrence 2017: 2; Berzborn 2003: 334; Traill 1995: 31). However, a detailed timeline of the particular shift events away from Nama towards Afrikaans that occurred within the Namaqualand region is not yet available, and the sociolinguistic factors conditioning shift were likely complex and manifold.

Independent Dutch farmers who settled in the interior of South Africa (called *trekboers*), are recorded to have established farms in the southerly Kamiesberg region of Namaqualand at least as early as 1750 (Penn 1995: 285). Authorities on Northern Cape history have previously attributed the loss of the Nama language to the spread of European missionary education throughout the region (Carstens 1966: 240) between 1816–1846. More recent research has focused on interactions between Nama-speakers and socioeconomically influential groups of mixed Dutch and Khoekhoe descent, historically referred to as 'Basters', who primarily spoke Dutch (Kienetz 1977: 563). They drove the association of the European way of life with prestige, literacy, and access to material goods (Kienetz 1977: 563; Emmett 1987: 36; Sharp & Boonzaier 1994: 408). Increasing colonial restrictions on grazing rights and access to land saw the replacement of historical Nama

[1] Maps were generated and annotated in QGIS using open-source datasets.

subsistence methods with European-style wage labour (Sharp & West 1984: 5; Emmett 1987: 34–35; Rohde & Hoffman 2008: 195). Migrant labour associated with copper mining during 1852–1918 and diamond mining from 1927 onward, likely contributed to the further fragmentation of Nama speech communities, and hence of the isolation of individual speakers within Afrikaans-dominated communities. The forced resettlement of 'Baster' communities into the Richtersveld during the 1930s, in particular, saw the suppression of the use of Nama in local schools at Kuboes (Berzborn 2003: 345), and the development of overt prejudice against the use of Nama in the workplace (Sharp & Boonzaier 1994: 408). Afrikaans had supplanted Nama as the dominant language of commerce and education within Namaqualand by the mid-20th century (Carstens 1966: 3; Berzborn 2003: 343; MacDermott 2006: 161).

Standardised Namibian Khoekhoe (SNK), a harmonisation of the northerly Damara dialect continuum and the southerly Nama dialect continuum, is still used productively by an estimated 200,000 first-language (L1) speakers within Namibia, and is well-equipped with resources including dictionaries, reference grammars, and teaching materials (Fredericks 2013: 8). However, virtually nothing is known of the dialect of Nama used across the border in South Africa (NSA); even the number of speakers is unclear. The South African speakers of Nama who still remain live primarily in the Richtersveld, the arid and inhospitable northernmost region of Namaqualand, and are particularly associated with the isolated rural town Kuboes, as described in Berzborn (2003: 345) and Witzlack-Makarevich (2006: 8–12). Both sources describe an ongoing and apparently rapid decline in the number of fluent L1 NSA-speakers in this region during the early years of the 21st century. Given that no follow-up research has been conducted in recent years, it is likely that the current size of the speech community is even smaller, and that the use of NSA will continue to deteriorate without formal intervention by government. Alarmingly, recent grassroots efforts to reintroduce Nama into Richtersveld schools have been led by SNK speakers who make use of standardised Namibian Khoekhoe materials (Berzborn 2004: 353; Jones 2019: 10). It is reported that Kuboes parents complain that their children are not being taught 'correct' Nama in school (Berzborn 2004: 354). This suggests, firstly, that South African dialects of Nama do diverge noticeably from the Namibian standard, and, secondly, that an already endangered local variety is at serious and immediate risk of being overwritten by an international standard.

Despite speaker references to regional variation, however, the available linguistic data is scant. Preliminary lexicostastical comparisons of SNK varieties indicate a high degree of lexical overlap between Central Nama, as spoken in the Khomas, Hardap, and northerly ǁKaras administrative regions of Namibia, and Bondelswarts Nama, as spoken in the southernmost areas of the ǁKaras region, leading Haacke, Eiseb & Namaseb (1997: 148–149) to conclude that only minimal lexical variation is present within the Nama

continuum. However, Bondelswarts Nama was the southernmost variety sampled, and no South African Nama data from within Namaqualand proper was included (see Figure 3), leaving open the question of whether or not significant lexical and phonological variation may exist (or may once have existed) in Namaqualand.

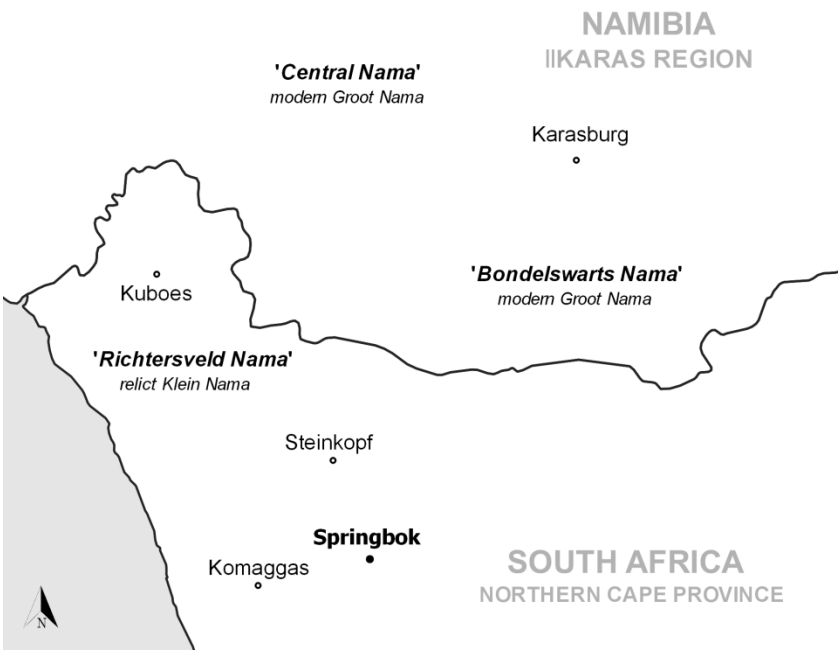

Figure 3: Map of putative dialects of Nama (adapted from Haacke, Eiseb & Namaseb 1997: 129)

With regard to morphosyntax, three primary distinctions between NSA and SNK have been observed: (1) greater flexibility in the word order of tense-mood-aspect (TMA) particles; (2) use of a TMA marker **a** in the present tense; and (3) double-marking of person-gender-number (PGN) suffixes on both demonstrative adjectives and the nouns they modify (Witzlack-Makarevich 2006: 21–23). Further information on TMA word order and the marker **a** is available in Güldemann et al. (2019: 59–60) and Hahn (2013: 52); no additional discussion exists. For phonology, variant pronunciations in regional forms of Nama are discussed in Brugman (2009: 30), but no research has focused specifically on comparing SNK with NSA.

The available evidence for regional variation is therefore inconclusive at best. However, although NSA is underdocumented, records of varieties of

Afrikaans that have come into contact with it are available. Here we examines a series of Nama-language plant names present in Namaqualand Afrikaans, and find that many refer to endemic Namaqualand plants, and so are not found in SNK resources. This in turn suggests that lexical variation at least was historically present in NSA, and hence that urgent steps to document this endangered variety must be taken in order to preserve linguistic diversity.

2. Standardised Namibian Khoekhoe resources for plant names

This section briefly outlines the standardised orthography used to represent Namibian Khoekhoe click consonants, before reviewing SNK sources for plant names used in Namibia.

2.1. Standardised Namibian Khoekhoe click orthography

The SNK phonemic inventory includes 20 click consonants. The four primary click types are dental ǀ, lateral ǁ, palatal !, and alveolar; there are five kinds of additional modifications, resulting in a glottalised stop, a plain or *tenuis* stop, a prenasalised aspirated stop, a nasalised stop, or an affricate.

Table 1: Click consonant inventory of standardised Namibian Khoekhoe (SNK orthography)

	dental		lateral		alveolar		palatal	
	IPA	SNK	IPA	SNK	IPA	SNK	IPA	SNK
glottalised	ǀˀ	ǀ	ǁˀ	ǁ	!ˀ	!	ǂˀ	ǂ
tenuis	ǀ	ǀg	ǁ	ǁg	!	!g	ǂ	ǂg
prenasalised aspirated	ⁿ̊ǀʰ	ǀh	ⁿ̊ǁʰ	ǁh	ⁿ̊!ʰ	!h	ⁿ̊ǂʰ	ǂh
affricate	ǀ͡χ	ǀkh	ǁ͡χ	ǁkh	!͡χ	!kh	ǂ͡χ	ǂkh
nasalised	ᵑǀ	ǀn	ᵑǁ	ǁn	ᵑ!	!n	ᵑǂ	ǂn

2.2. Standardised Namibian Khoekhoe plant names

Among the primary aims of contemporary ethnobotany is the study of under-documented plant use in socioeconomically vulnerable or oppressed communities (Ford 1978; Martin 1995; Schmidt & Klaser Cheng 2017: 19); as such, ethnobotanical conservation efforts involve advocating for the

environmental rights of indigenous communities in post-colonial contexts, and assisting in the preservation of indigenous botanical knowledge. During the course of documenting botanical knowledge, projects frequently amass considerable amounts of data on highly endangered languages (see methodology, examples, and discussions in Thomas 1992; Zigmond 1998; Si 2011, 2019). Historical records of ethnobotanical practices and terminologies from multiple time periods are thus valuable sources of linguistic information, and can serve as alternative sources in contexts where linguistic documentation proper might be lacking.

Terms for newly-encountered plants, together with associated ethnobotanical locutions, are particularly liable to undergo borrowing and diffusion during language contact; see, for example, McColl Millar (2007: 84–86) on the retention of 'locally-focused' Gaelic archaisms referring to endemic flora in regional dialects of Scots. Similarly, retention of terms for plants and plant-harvesting has been identified in contact between unknown 'Khoesan' languages and southwestern Bantu languages in Namibia (Gunnink, Sands, *et al.*, 2015: 204–205). Loaned or retained botanical terminology can therefore be used to extrapolate sociohistorical linguistic information about otherwise underdocumented contacts. In the colonial context of southern Africa, we should expect that European unfamiliarity with novel biomes, and especially Dutch unfamiliarity with the extreme botanical endemism in Namaqualand (as detailed at Desmet, 2007: 575–576), would have prompted loans. The persistence of Khoekhoe-branch plant names into regional varieties of Namqualand Afrikaans, even following the severe endangerment of varieties of NSA, therefore has the potential not only to shed light on sociohistorical linguistic conditions of contact, but also to preserve fragments of otherwise undocumented Khoekhoe-branch dialects.

The definitive list of SNK names for plants remains Haacke et al. (1991), henceforth referred to as HGE (1991). The list is based on a variety of early linguistic and ethnobotanical works, including the influential dictionary by Kroenlein (1889). However, not all the plant names in the sources were included; comparison of Redlist distribution data[2] suggests that, of the 204 plant species in HGE (1991), only 100 occur south of the Gariep River, in the Nama Karoo biome proper. None of the 204 species treated is endemic to South Africa. The lack of SNK names for endemic or near-endemic South African plant species suggest that another regional botanical lexis, potentially unique to Namaqualand, may have gone undocumented.

Following HGE (1991), a number of plant names were incorporated into the *Khoekhoegowab-English Dictionary* (see Haacke & Eiseb 2002: x–xi).

[2] redlist.sanbi.org, accessed 2021-08-25

Unfortunately, many of these are obscure, with no clear Linnaean identity attached to the lemma, and often without any indication of precisely where they were recorded; geographical data must therefore be extrapolated from the general area in which each researcher is known to have worked. Van den Eynden et al. (1992), for example, surveyed ethnobotanical knowledge among the Topnaar, who live in isolated communities in the northwest of Namibia, and speak a dialect distinct from Central Nama (Haacke et al. 1997: 146–148). It is unlikely that a Topnaar botanical lexis would overlap significantly with a Namaqualand one, and so material originating in this source is unsuitable for comparison with South African records. For an excellent literature review of Namibian ethnobotany up until the turn of the century, see Craven & Sullivan (2002).

An additional 35 plant names that are neither present in Kroenlein (1889) nor incorporated into Haacke & Eiseb (2002) are available from Schils (1894), but again, these are without clear Linnaean identities and have been given only generalised descriptions. For example, **!gûiges** is glossed only as *nom d'un arbrisseau* 'the name of a tree' (Schils 1894: 89), and **|khās** as *arbrisseaux qui croissant en Petit Namaland* 'trees which grow in Klein Namaland' (Schils 1894: 50). Additionally, records seem to have been sampled from a variety of locations, with reference made to plants that grow in 'Klein Namaland', 'Great Namaland', and 'the north of Great Namaland' (Schils 1894: *passim*). Accordingly, these 35 plant names may well represent regionalisms from a number of geographically disjunct dialects.

It is understandable that archaic and obscure items were omitted from HGE (1991) and Haacke & Eiseb (2002) due to lexicographic utility and efficiency. Nevertheless, scrutiny of these older records, particularly those explicitly noted to have been recorded within 'Klein Namaland', may serve as a means of identifying a distinct botanical lexis that existed in Namaqualand, and hence evidence of putative NSA varieties exhibiting (or having exhibited) lexical variance from SNK.

3. Phonological complication: Post-shift attrition of click consonants

As outlined in Section 1, the use of Nama in Namaqualand has declined sharply over the last century, but there is little sociolinguistic information about the nature of this decline. What records are available suggest that some monolingual Afrikaans-speakers do retain a Nama lexis, and do make use of click consonants for it. However, these retained clicks have ostensibly undergone extreme phonological attrition and destabilisation following language shift. Thus, Links (1989) explicitly states that he encountered idiosyncratic variation in click type, and that consultants might, for example, use both [!] and [ǁ] in different tokens of the same word (Links 1989: 62–63).

Such 'destabilised' post-shift clicks have briefly been noted by Traill (1995: 33–34, den Besten (2013: 917) and Mesthrie (2017: 529), but have otherwise not been properly researched so far. Data collection in the Kamiesberg region during April 2019 with eight monolingual speakers of Namaqualand Afrikaans elicited 13 loaned Nama plant names containing click consonants.[3] Note that consultants all produced variable tokens (as per Links 1989), with the type of click varying from token to token of the same lemma, sometimes within the same sentence. The two click types most commonly used were [ǀ] and [ǂ], each with a variety of accompaniments, with some consultants also preferring [!] (Christie 2019: 98–105).

Linguistic observations of lexical recall of the closely-related Khoekhoe-branch language Kora in monolingual Afrikaans communities along the Gariep also include idiosyncratic variation of click consonants, coupled with reduction of the phonemic inventory to a smaller set of undifferentiated click consonants (Killian 2009: 84). Similar data were elicited from monolingual Afrikaans-speakers who had mixed lexical recall of Khoekhoe-branch and !Ui-branch items (Kilian 2020: 71). It is probable that variation and reduction should be considered the normal condition of click inventories retained in the loaned post-shift lexis. Given the absence of adequate demographic and sociolinguistic data, it is not yet fully understood whether: (1) destabilisation of the click inventory occurs only when an individual L1 Khoekhoe-speaker shifts entirely to Afrikaans over the course of their lifetime; (2) destabilisation may also occur when L1 Afrikaans speakers target L1 Khoekhoe-branch click consonants; or (3) both scenarios occur and overlap. Further comparison with language-internal processes of click loss (Traill & Vossen 1997; Fehn 2020a, 2020b) may also prove fruitful.

These findings concerning click inventory phonological attrition complicate the question of whether or not the lexicographical record of Nama-language plant names could be reasonably expanded via renewed documentation efforts in Namaqualand. It may well be that certain regional Nama plant names have never been recorded in fluent L1 Nama speech at all, and are now retained only by monolingual speakers of Namaqualand Afrikaans.

[3] a comprehensive phonetic and phonological review of these is beyond the scope of this paper (but see Christie 2019)

4. A Survey of selected ethnobotanical records of Namaqualand plant names

Underutilised for the purposes of linguistic comparison are a number of botanical and ethnobotanical resources that compile names for Namaqualand plants. This section reviews Laidler (1928), le Roux (1981), Links (1989), Archer (1994), Powrie (2004), Wheat (2013), and Nortje & van Wyk (2015). With the exceptions of Laidler (1928), who worked with L1 Nama-speakers, and Archer (1994), who does not specify the linguistic competence of her consultants, these resources compile Nama plant names as used by monolingual Afrikaans-speakers following language shift. Accordingly, any click consonants recorded are likely to have undergone extreme phonological attrition. None of these resources was compiled by linguists, and so all linguistic data elicited was transcribed according to ad hoc orthographic principles that vary from author to author, especially with respect to the representation of click consonants. The records are therefore informal, unscientific, and subject to error. Nevertheless, in the absence of structured linguistic documentation, they are the best information available for the study of Nama plant names used within Namaqualand over the past century, and are here employed to assist in the detection of regional lexes within the broader Nama continuum.

4.1. Some 20th-century ethnobotanical resources

Laidler (1928) offers a particularly egregious example of non-standard orthography, and serves also to exemplify the difficulties associated with attempting to retrieve regional items from ethnobotanical resources. Laidler (1928) contains 46 lexical items recorded in Nama as spoken in the Northern Cape, of which 33 are plant names. The author failed to familiarise himself with the established scientific orthography that had been used to transcribe all Khoekhoe-branch languages since the late 19th century (as codified, for example, in Kroenlein 1889), and chose instead to devise his own orthography. His notations for each of the four click types are tabulated below.

Table 2: Click orthographies in Laidler (1928)

Laidler	IPA	Example	Standardised
D/	ǀ	**D/kooee** = ‘stone’	**ǀűíb** = ‘stone’
c/	ǁ	**c/gkoup** = ‘tooth’	**ǁgûb** = ‘tooth’
L/	ǃ	**aie L/kwoe** = *Viscum capense*	**hǎí!khùís** = *Viscum capense*
P/	ǂ	**P/thon** = ‘sweet’	**ǂkhòn̋** = ‘sweet’

Alongside **D/**, **L/**, **c/**, and **P/**, Laidler uses 15 different orthographic combinations, presumably to indicate click accompaniment. These are: **d**, **g**, **gh**, **k**, **kh**, **kw**, **n**, **ng**, **ngh**, **nh**, **nk**, **t**, **th**, **tk**, and Ø following /. It appears that Laidler transcribed each lexical item ad hoc; it is not clear whether or not he understood that the accompaniment is phonemic. It may be assumed that **n** would indicate either nasalisation or prenasalistion, and that **h** should signify aspiration, but beyond that, attempting to interpret these transcriptions is a guessing game. Also, transcriptions of Nama-language phrases suggest that Laidler was incapable of correctly perceiving the same click in the same word twice in one sentence (see discussion in Christie 2019: 33–34). Nevertheless, while this work is not phonologically reliable, it is useful in providing early attestation of otherwise undocumented Nama items that would later be recorded as loanwords in Namaqualand Afrikaans.

Although Smith (1966) serves as a vital generalised reference work, little in the way of further ethnobotanical records of NSA plant names entered the written record until the early 1980s, when the botanist Annelise le Roux encountered a number of such plant names still regularly in use by Namaqualand residents (Le Roux 1981). Twenty-three regional plant names transcribed using **t'** to indicate the presence of a click are given in Table 3. Many items are compound nouns comprised of a Nama specifier (in bold) and an Afrikaans head (plain), e,g. **t'gibbie**bos, where *-bos* 'bush' is Afrikaans. Note that the Afrikaans diminutive morpheme -tjie [ci] should not be confused with the orthographic **t'** used to indicate a click consonant.[4]

[4] Wherever possible, the relevant SNK form is given in the righthand column; 'See Table 9a' and 'See Table 9b' point to potential non-cognate materials collated in Tables 9a and 9b below.

Table 3: Plant names containing click consonants in le Roux (1981)

Lexical item	**Speacies**	**Other records**
bont-**o-t'korrie**	*Aloe arenicola*	Namibian Khoekhoe **ǁgores** = *Aloe asperifolia* (HGE 1991), *cf.* also **goree** = *Aloe* sp. (Nienaber 1963), **goree** = *Aloe ferox* (Smith 1966). In the Kalahari branch, compare also Naro **nxo̲rò** (Visser 2001: 235) = *Aloe zebrina* (Barnard 1985: 50).
t'aibie	*Calobota sericea*	*cf.* also **P/abee** = unidentified *fluitjiesbosch* (Laidler 1928). See Table 9b
t'arda	*Dideltia spinosa*	See Table 9b
t'kooi	*Stoeberia* sp.	See Table 9a
rooi-**t'kooi**, **t'arra-t'kooi**	*Stoeberia utilis*	See Table 9a
t'gibbiebos, **t'kaibe**bos	*Selago* sp., *Pteronia incana*	See Table 9b
t'gouboedanna	*Galenia africana*	**D/kooi dabee** = *Galenia africana* (Laidler 1928). See Table 9b
t'iena	*Montinia caryophyllacea*	Namibian Khoekhoe **ǂnǐǐnàb** = *Montinia caryophyllacea* (HGE 1991)
t'kabadda	*Tylecodon paniculatus*	See Table 9b
t'kambos	*Sisyndite spartea*	See Table 9b
t'kobovy	*Carpobrotus edulis*	No SNK record. **gouna**vy, **goena**vy, **ghaukum** = *Carpobrotus edulis (*Smith 1966). Not regional to Namaqualand.
t'koeibee	*Grielum humifusum*	SNK **!khuib** = *Grielum humifusum* HGE (1991)

t'koenoebe	*Diospyros ramulosa*	No SNK on record. **kanobe**, **kalouwep**, **!ganube** = *Diospyros ramulosa* (Smith 1966). Not regional to Namaqualand.
t'naai-opslag	*Dimorphotheca polyptera*	See Table 9a
t'narra	*Searsia undulata*	SNK **|garab** = 'fruit of [*Searsia*] *lancea*' (Schültze 1907: 345); *cf.* **nama**bessie = [*Searsia*] *undulata* (Smith 1966)
t'neitjie	*Pelargonium incrassatum*	See Table 9a
t'noena-doring	*Monsonia salmoniflorum*	SNK **ǁnorab** = *Sarcocaulon* sp. (Schültze 1907: 81; Nienaber 1963: 404); **P/ngoona** = *Sarcocaulon* sp. (Laidler 1928); **noerab**, **norab** = *Monsonia crassicaule* (Smith 1966)
t'nomsganna	*Tylecodon wallichii*	**P/nums ghana** = unidentified species (Laidler 1928); **!komiganna** = *Tylecodon wallichii* (Smith 1966). See Table 9b
t'nouroebos	*Ruschia* spp	See Table 9a
t'noutsiama	*Cheiridopsis denticulata*	**Nautsi amma** = *Mesembryanthemum edule*, *M. acinaciforme* (Laidler 1928). See Table 9a
t'ôrrieboom	*Ozoroa dispar*	See Table 9b
t'oubee	*Dodonaea viscosa*	**D/koubi** = unidentified species of 'sand olivewood' (Laidler 1928). See Table 9b

Of these items, 12 had never previously been recorded, while four are only in Laidler 1928; for these 16 items, there are no reasonable points of comparison in HGE (1991) or Haacke & Eiseb (2002), so they constitute a vital linguistic find, indicating a regional Nama lexis for Namaqualand plants, but never been identified by linguists. The 23 items have been printed in all four editions of le Roux (1981), i.e., 1981, 1988, 2005, 2015; 28 contributors of 'common names and traditional uses' are thanked in le Roux (2015: 4), but there is no indication of when or where these common names were recorded.

We now look at a selection of the more obscure Namibian Khoekhoe sources. For **t'noutsiama** = *Cheiridopsis denticulata*, I suggest Schültze (1907: 83), which describes adaptive succulence in Namaqualand mesembs:

> Extrem ist diese Speicherung bei Verwandten, im Klein-Namaland häufigen Arten ausgebildet. Wo sie hier einheitliche Bestände bilden, erscheinen diese Sukkulenten in greller Mittagsbeleuchtung als hellblaue Rasen. Das Vieh frißt die saftigen Blätter gern; nach reichlicher Mahlzeit klebt die Tieren der Saft um die Schnauze wie Kindern, die sich beim Süßschlecken beschmiert haben (**ǂhaũ**) ein „Musbrat' um den Mund (**ams**). Daher warden dieser saftigen *Mesembrianthemum*-Arten von den H*ttentoten des Klein-Namalandes **ǂhaũtsiama** genannt.
>
> [This [method of water-] storage is extreme in related plants, and has caused speciation especially in Klein Namaland. Here, where they form uniform clumps, these succulents look like bright blue tussocks in the dazzling midday light. Cattle eagerly eat the soft leaves; after a hearty meal, the sap clings to the animals' muzzles, as though they were children who had gotten themselves all sticky (**ǂhaũ**) while eating sweets. This produces a sort of 'sap beard' about the mouth (**ams**). As a result, these succulent *Mesembrianthemum* species are called **ǂhaũtsiama** by the H*ttentots of Klein Namaland.]

The genus termed *Mesembryanthemum* in Schültze's day has undergone significant revisions to reflect extreme species diversity, particularly within the Succulent Karoo biome, and it is difficult to determine precisely which species, or even which genus, Schültze intends here. Nevertheless, the general reference offers sufficient scope for comparison with additional ethnobotanical records of Namaqualand names for a number of clumping succulent mesemb species, including **nautsi amma** = *Mesembryanthemum edule*, *M. acinaciforme* (Laidler 1928); **t'noutsiama** *Cheiridopsis denticulata* (le Roux 1981); **ontsiama =** Links 1989; **t'noutsie-amma** = Powrie 2004, and **xhotsiama** = *Cheiridopsis denticulata* (Wheat 2014). A variant spelling **outsiama** = *Cheiridopsis denticulata* was also observed in the succulent collections at Babylonstoren in the Western Cape in December 2017 (Figure 4). Despite the clear persistence of this item in the general South African botanical lexis, it is not found in HGE (1991) or Haacke & Eiseb (2002).

*Figure 4: The loaned Nama plant name **outsiama** in contemporary Afrikaans usage in the Western Cape, South Africa*

Links (1981), an important investigation into regional Namaqualand Afrikaans, records a substantial number of Nama lexical loans in the speech of monolingual Afrikaans-speakers. Like Laidler (1928) and le Roux (1981), Links (1989) chose to forego the use of standardised orthography, instead using **tg, tg**, and **tn** for click consonants. Of the 62 items recorded, 21 are plants, two animals, four reptiles, five geographical features of the Succulent Karoo, and the remaining 30 are miscellaneous. Of the plant names containing click consonants, only four were previously unrecorded; all others had appeared in Smith (1966) or le Roux (1981). While many of the plant names can be accorded a Linnaean ID through cross-comparison with later sources, several cannot. All plant names containing click consonants in Links (1989) are shown in Table 4, with descriptions translated from Afrikaans.

Table 4: Plant names containing click consonants in Links (1989)

Lexical item	Species	Other records
ntgaikee	'species of edible bulb'	**t'nei**tjie = *Pelargonium incrassatum* (le Roux 1981)
ntgomsganna	'species of [*Tylecodon*]; rough, thick, round shoots like a [*Tylecodon paniculatus*]'	**P/nums ghana** = unidentified species (Laidler 1928); **!komiganna** = *Tylecodon wallichii* (Smith 1966); **t'nomsganna** = *Tylecodon wallichii* (le Roux 1981)
ntorregaang; **tnoroga**	'species of mushroom on some species of plants'; 'flower of the [*Hydnora africana*]'	See Table 9b.
ontsiama	'species of plant that grows flat on the ground, often used as fodder for livestock'	**Nautsi amma** = *Mesembryanthemum edule, M. acinaciforme* (Laidler 1928); **t'noutsiama** = *Cheiridopsis denticulata* (le Roux 1981)
swartbek**dgibbie**bos	'species of shrub with a pleasant scent'	**t'gibbie**bos = *Selago* spp. (le Roux 1981)
tkaboom	'species of bush'	Namibian Khoekhoe **!khàǎs** = *Parkinsonia africana* (HGE 1991)
tko	'a species of reed', 'mat', 'we harvest it'	Namibian Khoekhoe **!gūb** = 'reed mats' (Kroenlein 1889: 144, *cf*. also **!gū** in its verbal sense at Haacke and Eiseb 2002: 324).
tkooi; **tkarratkoei**	'red shrub [in Aizoaceae]'; 'species of shrub [in Aizoaceae]'	**t'kooi**, **t'arra-t'kooi** = *Stoeberia utilis, Stoeberia* sp. (le Roux 1981)
tkebiebos	*fluitjiesbos* (lit., 'little flute bush')	**P/abee** = fluitjiesbosch (Laidler 1928); **t'aibie** = *Calobota sericea* (le Roux 1981)
tkeina	*peperbos* (lit., 'pepper bush')	**t'iena** = *Montinia caryophylla* (le Roux 1981)

tkoena	'species of small bush that burns very easily, even when wet'	**P/ngoona** = *Sarcocaulon* sp. (Laidler 1928); **noerab**, **norab** = *Monsonia crassicaule* (Smith 1966); **t'noena**-doring = *Monsonia salmoniflorum (*le Roux 1981)
tkorroe	'also known as H*ttentot cabbage'	See Table 9a
tkoubie	'slimeroot'	**t'koeibee** = *Grielum humifusum* (le Roux 1981)
tkounebie	'species of small bush, common in this region'	**kanobe**, **kalouwep**, **!ganube** = *Diospyros ramulosa* (Smith 1966); **t'koenoebe** = *Diospyros ramulosa* (le Roux 1981)
tkouroebos	'species of small bush ... usually pasture for livestock'	**t'nouroe**bos = *Ruschia* spp. (le Roux 1981)

Archer (1994), the most comprehensive investigation of ethnobotanical practices in the Richtersveld proper to date, records a number of Namaqualand plant names, shown in Table 5.

Table 5: Plant names containing click consonants in Archer (1994)

Lexical item	Species	Other records
t'namee	*Boscia albitrunca*	**!namee** = *Boscia albitrunca* (Smith 1966), suggesting use not restricted to Namaqualand. No comparable SNK for *Boscia albitrunca* on record; likely irretrievable
!hamibieb	*Albuca canadensis*	**kamiemie** = *Albuca canadensis* (le Roux 1981), also recorded in Manning & Goldblatt 1998, suggesting use not restricted to Namaqualand No SNK for any species in *Albuca* on record; likely irretrievable

!abeb	*Cyphia* sp.	*cf.* **kameka** = *Cyphia* sp. (Smith 1966), suggesting use not restricted to Namaqualand. No SNKany species in *Cyphia* on record; likely irretrievable
!kanobe	*Diospyros ramulosa*	**t'koenoebe** = *Diospyros ramulosa* (le Roux 1981); **tkounebie** = 'species of bush' (Links 1989); **kanobe**, **kalouwep**, **!ganube** = *Diospyros ramulosa* (Smith 1966), suggesting use not restricted to Namaqualand. No SNK for any species in *Diospyros* n record; likely irretrievable.
n|on	*Euphorbia dregeana*	No SNK for any species in *Euphorbia* on record.
!oei	*Ficus cordata*	SNK **ǁluis** = *Ficus ilicina*, **ǁhuis** = *Ficus thonningii* (HGE 1991)
!ari	*Lycium oxycarpum*	SNK **ǁaris** = *Lycium tetrandum* (Schültze 1907); **ǁàrìs** = *Lycium oxycarpum* (HGE 1991)
!orrie	*Ozoroa dispar*	No SNK on record; *cf.* **t'ôrrie**boom = *Ozoroa dispar* (le Roux 1981)
!xha	*Parkinsonia africana*	**tka**boom = 'species of bush' (Links 1989)
!namie	*Pelargonium antidysentericum*	No SNK on record; *cf.* **t'kami**, **t'nami** = *Pelargonium dispar* (Smith 1966)
!abarals	*Pteronia lucilioides*	See Table 9a
t'narra, **t'garra**	*Searsia burchellii*	**nama**bessie = [*Searsia*] sp. (Smith 1966), **t'narra** = *Searsia burchellii* (le Roux 1981)
!gubu!gubu	*Sarcostemma viminale*	No comparable SNK on record. See Table 9a.
!ob	*Scirpus inanis*	**tko** = 'species of reed' (Links 1989)
!khowobes	*Scirpus nodosus*	SNK **!khówóbès** = *Cyperus marginatus* (HGE 1991)

rooi**ktooi**	*Stoeberia beetzii* var. *arborescens*	rooi-**t'kooi** = *Stoeberia utilis* (le Roux 1981); **tkooi**; **tkarratkoei** = shrubs in Aizoaceae (Links 1989)
!oba	*Hoodia alstonii*	SNK **!khòwàb** = *Hoodia gordonii* (HGE 1991); **ghobba** = *Hoodia gordonii* (le Roux 1981)
t'kabadda	*Tylecodon paniculatus*	No SNK on record. **t'kabbada** = *Tylecodon paniculatus* (le Roux 1981)
!kome ganna	*Tylecodon wallichii*	No SNK on record. **P/nums ghana** Laidler 1928; **!komiganna** = *Tylecodon wallichii* (Smith 1966), **t'nomsganna** = *Tylecodon wallichii* (le Roux 1981); **ntgomsganna =** *Tylecodon* sp. (Links 1989)
!ghambos	*Zygophyllum cordifolium*	Compare **t'kam**bos = *Sysindite spartea* (le Roux 1981); see Table 9a

Frustratingly, these data are linguistically deficient on two counts. Firstly, Archer (1994) never specifies whether these items were elicited from fluent L1 speakers of Richtersveld Nama, or whether they occurred as loaned Nama items from monolingual Afrikaans-speakers. Secondly, non-standard orthographic transcription is used. Certain plant names seem to be replications of older records, e.g. **t'kabbada** = *Tylecodon paniculatus* is likely sourced directly from le Roux (1981); others appear to be novel elicitations. The symbol **!** cannot reliably be taken as the alveolar click consonant; there is no discussion of why it was adopted for most transcriptions. The spelling of **n|on** is an anomaly, and it is not clear whether it was elicited or sourced from an older record.

4.2. Some 21st - century ethnobotanical sources

Powrie (2004) offers valuable scope for comparison with certain of the items in le Roux (1981), suggesting that they may possibly enjoy contemporary productivity throughout the Succulent Karoo biome. However, it suffers from many of the same drawbacks previously encountered. Items containing clicks are transcribed using the **t'** convention, there is no indication of where within the Klein Karoo they are used, and no discussion of whether these items were newly elicited and as such remained in productive use up until 2004, or whether they were compiled from older sources and may have fallen into disuse.

Table 6: Plant names containing click consonants in Powrie (2004)

Lexical item	Species	Other records
t'kooi	*Ruschia* sp.	rooi-**t'kooi** = *Stoeberia utilis* (le Roux 1981); **tkooi**; **tkarratkoei** = shrubs in Aizoaceae (Links 1989); rooi**ktooi** = *Stoeberia beetzii* var. *arborescens* (Archer 1994)
t'garrabos	*Searsia* sp.	**nama**bessie = [*Searsia*] *undulata* (Smith 1966); **t'garra**bos = *Searsia undulata* (le Roux 1981); **t'narra**, **t'garra** = *Searsia burchellii* (Archer 1994)
t'ghaboom	*Parkinsonia africana*	**ka**boom = *Vachellia haematoxylon* (Smith 1966); **tka**boom = 'species of bush (Links 1989); **!xha =** *Parkinsonia africana* (Archer 1994)
t'gibbie	*Pteronia* sp.	**t'gibbie** = *Selago* sp. (le Roux 1981), **dgibbie =** 'species of bush with pleasant scent' (Links 1989)
t'koubee	*Dodonaea angustifolia*	**D/koubi** = unidentified 'sand olivewood' (Laidler 1928), **t'koubee =** *Dodonaea viscosa* (le Roux 1981)
tjnoemsganna	*Tylecodon wallichii*	**P/nums ghana** Laidler 1928; **!komiganna** = *Tylecodon wallichii* (Smith 1966), **t'nomsganna** = *Tylecodon wallichii* (le Roux 1981); **ntgomsganna =** *Tylecodon* sp. (Links 1989); **!kome ganna** = *Tylecodon wallichii* (Archer 1994)
t'noenadoring	*Sarcocaulon* sp.	**P/ngoona** = *Sarcocaulon* sp. (Laidler 1928); **noerab**, **norab** = *Monsonia crassicaule* (Smith 1966); **t'noena**-doring **=** *Monsonia salmoniflorum (*le Roux 1981); **tkoena** = 'small bush that burns very easily' (Links 1989)
t'noutsie-amma	*Cheiridopsis denticulata*	**Nautsi amma** = *Mesembryanthemum edule, M. acinaciforme* (Laidler 1928); **t'noutsiama** = *Cheiridopsis denticulata* (le Roux 1981); **ontsiama** = 'plant that grows flat on the ground' (Links 1989)

Wheat (2014: 32–41) recorded five Kamiesberg plantnames containing clicks; all had been previously attested. Wheat indicated the presence of click consonants using the orthography **xh**, without discussing the motivation for doing so, however it may be due to familiarity with the spelling of the aspirated lateral click in the proper noun isi**Xh**osa [isíǁ^{h}òsà], a widely-spoken and well-known South African language in the Bantu family. The terms 'click' and 'click consonant' are not found, and loaned clicks are not noted as a linguistically interesting feature.

Table 7: Plant names containing click consonants in Wheat (2013)

Loan	Species	Other records
xhou	*Elytropappus rhinocerotis*	**P/nkaou** = *Agathosma betulina* (Laidler 1928)
xhotisama	*Cheiridopsisis denticulata*	**Nautsi amma** = *Mesembryanthemum edule*, *M. acinaciforme* (Laidler 1928); **t'noutsiama** = *Cheiridopsis denticulata* (le Roux 1981); **ontsiama** = 'plant that grows flat on the ground (Links 1989); **t'noutsie-amma** = *Cheiridopsis denticulata* (Powrie 2004)
xhibbie	'there are 7± species that are all called **xhibbie**'	**t'gibbie** = *Selago* sp. (le Roux 1981), **dgibbie** = 'species of bush with pleasant scent' (Links 1989); **t'gibbie** = *Pteronia* sp. (Powrie 2004)
xhoubie, **toubee**	*Dodonaea viscosa* var. *angustifolia*	**D/koubi** = unidentified 'sand olivewood' (Laidler 1928), **t'koubee =** *Dodonaea viscosa* (le Roux 1981); **t'koubee** = *Dodonaea angustifolia* (Powrie 2004)
xhouroe	*Leipoldtia schultzei*, *Ruschia robusta*	**t'nouroe**bos = *Ruschia* spp. (le Roux 1981); **tkouroe**bos = 'small bush used for pasture' (Links 1989)

Finally, in addition to being problematic because of ad hoc orthographies, lexical items recorded by ethnobotanists may also be inappropriately lemmatised. There has been no recent effort to collate Nama plant names collected in Namaqualand Afrikaans into a single glossary, meaning that items must be sourced and compared across multiple authors, each of whom use their own idiosyncratic orthography. This can lead to lumping multiple discrete items into a single entry, or splitting a single lemma into multiple entries. In egregious cases, this leads to substantially inflated or underestimated claims of documentation.

Table 8: Revised 'Nama plant names' in Nortje and van Wyk (2015)

LEXICAL ITEM	SPECIES	NOTES & OTHER RECORDS
t'nôrro	*Anginon difforme*	**tkorroe** = unidentified species of 'H*ttentot cabbage' (Links 1989). See Table 9a.
t'noem t'nôrro	*Anginon difforme*	See Table 9b
hosabie	*Dicoma capensis*	See Table 9b
kuniebos	*Dicoma capensis*	See Table 9b
t'adou, **t'oudaa**	*Diosma acmaeophylla*	**D/ta dou** = unidentified species of *skaaprapuis*, lit., 'sheep resin' (Laidler 1928)
t'nou, **t'kau**, vaal-**t'knou**, berg-**t'knou**	*Elytropappus rhinocerotis*, *Stoebe plumosa*	**P/nkaou** = *Agathosma betulina* (Laidler 1928), **xhou** = *Elytropappus rhinocerotis* (Wheat 2013)
t'gybie, **t'gibbie**, **t'ghybie**	*Eriocephalus punctulatus*	**t'gibbie** = *Selago* sp. (le Roux 1981), **dgibbie =** 'species of bush with pleasant scent' (Links 1989); **t'gibbie** = *Pteronia* sp. (Powrie 2004); **xhibbie** = '7± species' (Wheat 2014). See Table 9b
t'warraa	*Euryops lateriflorus*	**t'arda** = *Dideltia spinosa* (le Roux 1981)
t'gaibos, **t'naai**tand	*Galium capense*	See Table 9a
t'ienie	*Hydnora africana*	See Table 9b
org	*Notobubon pearsonii*	See Table 9b
t'orro(a), **t'gôrrô**boegoe	*Pteronia camphorata*	**d|nhora** = unidentified 'variety of buchu' (Laidler 1928). See Table 9b

A striking recent example of overzealous splitting occurs in Nortje & van Wyk (2015), an ethnobotanical survey of the Kamiesberg municipality in Namaqualand which collected a large number of names for local plants. Twenty-three of these were presented as 'new Nama names' (Nortje & van Wyk 2015: 216), however, iut is immediately apparent that minute distinctions easily attributable to regional or even idiolectal variation have been entered as discrete lemma, and so I revise the list of 'new' names as in Table 8.

None of the items recorded by Nortje & van Wyk (2015) can be reasonably retrieved from HGE (1991) or Haacke & Eiseb (2002), suggesting they are best considered Namaqualand regionalisms. Here again, older resources may offer potential comparators. With reference particularly to the series **P/nkaou** = *Agathosma betulina* (Laidler 1928), **t'nou**, **t'kau**, vaal-**t'knou**, berg-**t'knou** = *Elytropappus rhinocerotis*, *Stoebe plumosa*, and **xhou** = *Elytropappus rhinocerotis* (Wheat 2014), the following entry in Kroenlein (1889: 330) may offer context:

> **!owe** (v): Baumrinde zu Buchu verarbeiten; **!oweb**: der aus dieser Rinde verfertigte Buchu. !**Oweb neba ǁgaraba te re**: siebe mir doch bitte diesen Rinden-buchu!
>
> **[!owe** (v): to prepare buchu from the bark of a tree; **!oweb**: buchu prepared from this bark. !**Oweb neba ǁgaraba te re**: Sift this bark-buchu for me, please!]

The loanword *buchu* is here used in its common South African English and Afrikaans sense of 'medicine prepared from plants', and reciprocally also 'plant species used in the preparation of medicine'; it is particularly associated with several sweet-scented species of *Agathosma* (Rutaceae), but may be applied generally to strong-scented or sweet-scented shrubs. The term **!oweb** is certainly a potential candidate for the Namaqualand item historically recorded as **P/nkaou** = *Agathosma betulina* (Laidler 1928), and hence for the remembered item **t'knou**. Kroenlein's item **!oweb** is included in a generalised discussion of Khoekhoe-branch terms for *buchu* (Nienaber 1963: 223). Also worthy of comparison is the Kora-language item **ǂʔõub** for the bark of an unidentified species of shrub employed in the preparation of buchu (Engelbrecht 1936: 106, not included in Du Plessis 2019).

Nevertheless, it must be noted that **!òwéb** as presented in the standardised lexicographical materials is associated with medicine prepared from bark of the thorntree *Vachellia erioloba* in Mimosoideae (Haacke & Eiseb 2002: 302). If **!òwéb** did serve at the original target of **t'knou**, which in Nortje & van Wyk (2015) is associated with the medicinal bark of small thornless shrubs in

Rutaceae and Asteraceae, then its Namaqualand sense would have involved a considerable degree of lexical extension. Immense sensitivity is required when attempting to determine an origin for lexical items in a post-shift context, and so the association of **t'knou** with **!òwéb** should be treated as a tentative suggestion only.

With reference to the item **t'waraa** = *Euryops lateriflorus*, I again suggest comparison with Schültze (1907: 108).

> Ich habe mich im Strandgebiet des Klein-Namalandes zu flüchtig aufgehalten, als daß ich die Pflanzendecke und die Tierwelt näher schildern könnte. Aber schon eine kurze Wanderung läßt erkennen, wie hier die Daseinsbedingungen sich der Namib gegenüber verbessern. Im Juni blühen halbmannshohe Sträucher einer Komposite, *Othonna floribunda* (**ǂhoras**), so üppig, daß ihre gelben Blütenstände weithin leuchtende Flecken in Landschaft zeichneten.
>
> [I paused fleetingly in the coastal regions of Klein Namaland, that I might describe the plant growth and the animal life more precisely. However, even a short walk made it clear how living conditions were improved from the Namib Desert on the other side. In June a daisy bush half the height of a man comes into flower, *Othonna floribunda* (**ǂhoras**), so lush that their yellow inflorescences, visible from far away, paint shining patches in the landscape.]

Othonna floribunda (Asteraceae) is today treated as *Crassothonna floribunda*, which Redlist data indicate is endemic to the Western Cape and Northern Cape. No reasonably comparable term for any yellow-flowered shrubs in Asteraceae occurs in HGE (1991) or Haacke & Eiseb (2002), and so this item may well have constituted a Namaqualand regionalism. Comparisons should be drawn with **t'arda** = *Dideltia spinosa* (le Roux 1981) and **t'warraa** = *Euryops lateriflorus* (Nortje & van Wyk 2015) as recorded in Namaqualand Afrikaans, as both referents are tall shrubs in Asteraceae with conspicuous yellow flowers.

I would further recommend comparing the specifier **t'noem** with several previous records of a similar specifier **t'noems** for several species of toxic *Tylecodon*. I propose also that **t'gibbie** = *Selago glabrata, S. namaquensis* (le Roux 1981) and **t'gibbie** = *Pteronia* sp. (Powrie 2004) be aligned with the series of items **t'gybie** ~ **t'gibbie** ~ **t'ghybie** for *Eriocephalus punctulatus*, given the overlap in the ethnobotanical use profiles of both genera. Furthermore, given that **t'knou** serves as generic element in the names *vaal*-**t'knou** (lit., 'fallow **t'knou**') and *berg*-**t'knou** (lit., 'mountain **t'knou**'), I suggest that *Elytropappus rhinocerotis* be

construed as the type for a generic lay taxon **t'nou ~ t'kau ~ t'knou**, and that *Stoebe plumosa* then be accepted as a more narrowly specified variant of it.

In short, the '23 new Nama names' presented at Nortje & van Wyk (2015: 216) in fact constitute only 12 lemma, and, at best, only six are newly recorded as loans in Namaqualand Afrikaans. By way of a final examination of the contributions of ethnobotany to Khoekhoe-branch linguistics, I note that van Wyk later used the items **t'orro(a)** and **t'gôrrô** in an ethnobotanical discussion of *Pteronia camphorata* (Hulley et al. 2016). This article explores at length the item **d|nhora** recorded by Laidler (1928), and it is great pity that similarly robust scrutiny was not applied to all of the items collected by Nortje & van Wyk (2015). Accepting that Laidler regularly used the orthography **D|** to transcribe the dental click, and that **nh** indicated that it ought to be prenasalised and aspirated, Hulley et al. (2016) ultimately transcribe the item **d|nhora** rather clumsily as **|nhora**. However, the SNK orthography for a prenasalised aspirated dental click would yield ***|hora-**, but this reconstruction is missing both lexical tone and an inflectional suffix. Furthermore, as discussed above, Laidler's perception of click type was fallible to the point of transcribing the same word using two different clicks in a single sentence, and his efforts to transcribe click accompaniments are haphazard at best. Contra Hulley et al. (2016), I argue that ***|hora-** cannot be accepted as a certain reconstruction. I note also that, given that *Pteronia camphorata* is a South African endemic and does not occur further north than the Kamiesberg mountains, it is almost certain that this item is a Namaqualand regionalism, and so would never have been present in the more central dialects of Nama incorporated into Namibian Khoekhoe. Hulley et al. (2016) represents perhaps the most responsible recent effort by ethnobotanists to trace contemporary Namaqualand Afrikaans plant names to their regional Nama origins, but it remains insufficient.

4.3. Conclusions of the ethnobotanical survey

All ethnobotanical records surveyed should be considered broadly phonologically suspect because of their non-standard orthographies recording a lexis that has undergone post-shift phonological attrition. Nevertheless, in the absence of more rigorous studies of language use in Namaqualand, they present tentative evidence that a regional Nama lexis for endemic or near-endemic South African plants did historically exist. That several of the items recorded in le Roux (1981) and Nortje & van Wyk (2015) were previously attested only in Laidler (1928), whose ad hoc orthography and fallible perception of click consonants renders retrieval of the historical phonological form impossible, is deeply unfortunate, and speaks again to the

underdocumentation of regional lexes that has resulted from a lack of trained linguistic activity in Namaqualand.

Given also the underdocumentation of the majority of Khoekhoe-branch and !Ui-branch languages historically spoken within South Africa, it is entirely possible that the unsourced items might themselves have constituted loans into Nama. Bilingual speakers of the !Ui-branch language |Xam and the Khoekhoe-branch language Kora, for example, are known to have lived in and moved throughout the Karoo region, and could feasibly have come into contact with Nama-speakers (examples of Kora-|Xam vocabulary provided by the bilingual speaker Klaas Katkops are available in Bleek Notebook XXV: 2365–2413 as hosted by the Digital Bleek & Lloyd; comments on lexical borrowing between the Khoekhoe branch and the !Ui branch are available in Güldemann 2006: 113–115). Any of the !Ui-branch languages might potentially have donated names for regional plants into Nama, and further comparison is eagerly encouraged. A regional Nama lexis for Namaqualand plants would, in this scenario, constitute contact-induced differentiation from Namibian Khoekhoe.

5. Towards a Namaqualand botanical lexis

This section collates all Nama plant names known only from the sources surveyed above; that is, items known to have been recorded only within the Namaqualand region. Table 9a consolidates six items recorded only within Namaqualand which have no direct correspondences in the SNK lexicographical materials, but which do bear comparison with more generic Namibian Khoekhoe terms. This suggests the historical existence of regional lexical extensions.

Table 9a: Six items in lexical extension

Records	Notes
rooi-**t'kooi** = *Stoeberia utilis* (le Roux 1981), **t'arra-t'kooi** = *Stoeberia* sp. (le Roux 1981); **tkooi**; **tkarratkoei** = shrubs in Aizoaceae (Links 1989); rooi**ktooi** = *Stoeberia beetzii* var. *arborescens* (Archer 1994); **tkooi** = *Ruschia* sp. (Powrie 2004)	*Stoeberia* is a genus of tall arborescent shrubs in Aizoaceae. Mannheimer (2012) offers **ǂkhoes** for two species of *Tetragona*, also a tall arborescent shrub in Aizoaceae. However, it should be noted that **ǂkhőés** = *Caroxylon aphyllum* in HGE (1991), a morphologically dissimilar and genetically unrelated plant, and so any association with **t'kooi** should be considered tentative. The Afrikaans specifying element *rooi* = 'red', suggests that **t'arra** targets SNK **|àpấ** = 'red'.
t'kambos = *Sisyndite spartea* (le Roux 1981); **!gham**bos = *Zygophyllum cordifolium* (Archer 1994)	Both plants are in the family Zygophyllaceae. Possibly *cf*. the specifying element in SNK **ǁgamhairos** = *Zygophyllum simplex* (HGE 1991) but uncertain
tkorroe = unidentified species of 'H*ttentot cabbage' (Links 1989); **t'nôrro** = *Anginon difforme* (Nortje & van Wyk 2015), **t'noem** t'nôrro = *Anginon difforme* (Nortje & van Wyk 2015)	Specifier is unclear in reference and therefore likely irretrievable. Possibly should be compared with specifier of **t'noms**ganna below, but uncertain. Tentatively compare SNK **|hòrőb** = *Amaranthus thunbergii* (HGE 1991), used as edible wild greens. Comparison with Kora **|'orob** = 'creeper with edible leaves' has also been drawn (Du Plessis, 2019: 369), suggesting this item may have been a general term for plants with large edible leaves. In the Kalahari branch, compare also Naro **chòro** = *Corallocarpus triangularis* (Visser 2001: 234), which is also a source of edible leaves (Barnard 1985: 52).
t'neitjie = *Pelargonium incrassatum* (le Roux 1981); **ntgaikee** = 'a species of edible bulb' (Links 1989)	Possibly connected with Namibian Khoekhoe **ǁnaib** = noID species of plant that grows near Keetmanshoop (Schültze 1907: 166); **ǁhaib** 'unidentified edible root' (Haacke & Eiseb 2002: 263). Compare also Kora **ǁnẽib** = edible plant 'resembling the sweet potato, with tendrils with roundish leaves and red flowers' (Engelbrecht 1936: 117).

t'nouroebos = *Ruschia* spp. (le Roux 1981); **tkouroe**bos = 'small bush used for pasture' (Links 1989); **xhouroe** = *Leipoldtia schultzei*, *Ruschia robusta* (Wheat 2013)	All referents on record are small compact shrubs in the mesemb family Aizoaceae. Accordingly, compare **|harus** = *Mesembryanthemum* sp., (Schültze 1907: 167), |nēra**|harus =** *Mesembryanthemum ebracteatum* (Schültze 1907: 83), but uncertain. Tonemic data is unavailable, but this item **|harus** = 'succulent in Aizoaceae' should probably be considered distinct from SNK **|hàrúb** = 'rush', 'mat made of rushes' (Haacke & Eiseb 2002: 201), as lexical extension from a mesemb to a rush is unlikely. Certainly in a separate record of **|harus** = species of rush in the genus *Cyperus*, Schültze notes that this item carries a rising lexical tone of a third (Schültze 1907: 145), which aligns with the modern orthography **|hàrúb**. The items **|harus** = *Cyperus* sp. and **|harus** = 'succulent in Aizoaceae' are further used as an example of a minimal pair distinguished only by tone melody in Schültze (1907: 352), suggesting again that they are lexically distinct.
P/nkaou = *Agathosma betulina* (Laidler 1928); **xhou** = *Elytropappus rhinocerotis* (Wheat 2013); **t'nou**, **t'kau**, vaal-**t'knou**, berg-**t'knou** = *Elytropappus rhinocerotis*, *Stoebe plumosa* (Nortje & van Wyk 2015).	No SNK for *Agathosma*, *Elytropappus*, or *Stoebe* is on record, as these genera are endemic to South Africa. Compare Nama **!oweb** = *buchu* prepared from bark of unspecified plants (Kroen 1889: 33), SNK **!òwéb** = *buchu* prepared from bark of *Vachellia erioloba*; also Kora ǂ**ʔõub** = unidentified species of shrub used to prepare *buchu*.

Table 9b consolidates 20 items nowhere else on record with no direct correspondences in the SNK lexicographical materials. Where points of comparison are drawn, they are to regional lexical items explicitly noted to have been collected within Klein Namaland. For the most part, no points of comparison are available, suggesting that these items may historically have constituted a regional botanical lexis.

Table 9b: Twenty regional Namaqualand items

hosabie = *Dicoma capensis*	SNK *Dicoma capensis* = **gùú !ùrùs, sórés** (HGE 1991), not immediately comparable. Referent of specifier unclear and, if of Khoekhoe-branch origin, likely irretrievable. Head is likely Afrikaans *salie* 'sage', used in a number of plant names for medicinal shrubs, e.g. *bruinsalie* 'brown sage' = *Salvia lutea africana* (Smith 1966).
kuniebos = *Dicoma capensis* (Nortje & van Wyk 2015)	SNK *Dicoma capensis* = **gùú !ùrùs, sórés** (HGE 1991), not immediately comparable. Specifier possibly bears connection with a series of items **kuni** = [*Searsia*] *mucronata* (Marloth 1917: 53), **n'guni, kuni** = [*Searsia*] *dregeana* (Wilman 1946: 370), **kuni**bos, **t'koenie**bos, **!kuni** = [*Searsia*] *undulata* (Smith 1966: 582), **koenie**bos, **kuni**bos = [*Searsia*] *burchellii* (Powrie 2004: 101), all associated with the more easterly Karoo region and so likely of Kora origin, all irretrievable. However, *Dicoma* and *Searsia* are morphologically dissimilar and are not closely genetically related. The items **kunie** = *Dicoma capensis* and **koenie** = *Searsia* spp. likely target two completely separate words from two completely separate languages.
n|on = *Euphorbia hottentota*	No immediately comparable SNK lemma for any species of *Euphorbia* on record. Orthography irregular for Archer 1994; prior source suspected but not indicated.
ntorregaang; tnoroga = [*Hydnora africana*] (Links 1989)	Hapax. SNK for *Hydnora africana* = **kànís**, **kìnís** (HGE 1991). Irretrievable.
!abarals = *Pteronia lucilioides* (Archer 1994)	No SNK for any species of *Pteronia* on record. Specifier unclear and likely irretrievable. Head likely Afrikaans *als* = 'alder', also used for several species of medicinal shrub, *e.g. wilde als = Artemesia afra* (Smith 1966).
!gubu!gubu = *Sarcostemma viminale* (Archer 1994)	Possibly compare SNK **|gùùtámá‖óób** = *Sarcostemma viminale* (HGE 1991) but this would require extreme phonological alteration even in a post-shift context. Target uncertain.

org = *Notobubon pearsonii* (Nortje & van Wyk 2015)	Hapax. No SNK for any genus of *Notobubon* on record; *Notobubon pearsonii* is endemic to the Northern Cape.
D/ta dou = unidentified species of *skaaprapuis*, lit. 'sheep resin'; (Laidler 1928); **t'adou**, **t'oudaa** = *Diosma acmaeophylla* (Nortje & van Wyk 2015).	No SNK for *Diosma acmaeophylla* on record.
t'arda = *Dideltia spinosa* (le Roux 1981); **t'waraa** = *Euryops lateriflorus* (Nortje & van Wyk 2015)	As both referents are tall yellow-flowered shrubs in Asteraceae, compare the hapax item **ǂhoras** = for the morphologically similar and genetically related [*Crassothonna*] *floribunda*, collected in Klein Namaland (Schültze 1907: 108).
t'ienie = *Hydnora africana* (Nortje & van Wyk 2015)	Hapax. SNK for *Hydnora africana* = **kànĩ́s**, **kinĩ́s** (HGE 1991). Possibility of click insertion into **kìnĩ́s**, but uncertain.
t'gaibos, **t'naai**tand = *Galium capense* (Nortje & van Wyk 2015)	No SNK term for genus *Galium* is on record. During elicitation in the Kamiesberg in April 2019, monolingual Afrikaans Consultant C used the phrase *dan* [ǂai] *hy jou aan* ('then it will [ǂai] to you') in order to describe how *Galium capense* clings to passersby. Here [ǂai] is a loan of SNK **ǂàè** /ǂ**ʔàè**/ 'to cling firmly to *x*'. This suggests that the item **t'gai**bos should gloss as **kleefbos* = *'clingbush' (see further Christie, 2019: 89). Nevertheless, this association may constitute a lay etymology produced via a process of lexical conflation, especially in a post-shift context, and so this suggestion should not be taken as certain.
t'gibbie = *Selago* sp., **t'kaibebos** = *Pteronia incana* (le Roux 1981); **dgibbie** = 'species of bush with pleasant scent' (Links 1989); **t'gibbie** = *Pteronia* sp. (Powrie 2004); **xhibbie** = '7± species' (Wheat 2014); **t'gybie**, **t'gibbie**, **t'ghybie** = *Eriocephalus punctulatus* (Nortje & van Wyk 2015).	No SNK for any species in *Selago*, *Pteronia*, or *Eriocephalus* on record. Target was likely a regional generic term for medicinal sweet-smelling shrubs in Asteraceae and Scrophulariaceae; irretrievable.

D/kooi dabee = *Galenia africana* (Laidler 1928); **t'gouboedanna** = *Galenia africana* (le Roux 1981).	No SNK for any species in *Galenia* on record. Target irretrievable.
t'kabbada = *Tylecodon paniculatus* (le Roux 1981); **t'kabbada** = *Tylecodon paniculatus* (Archer 1994)	No SNK for any species in *Tylecodon* on record. Target irretrievable.
cf. also **P/abee** = unidentified 'fluitjiesbosch' (Laidler 1928); **t'aibie** = *Calobota sericea*.	*Calobota sericea* is regularly a *fluitjiesbos* (Smith 1966), suggesting that these items should be sunk into a single lemma. No SNK for any species in *Calobota* is on record. Target irretrievable.
t'naai-opslag = *Dimorphotheca polyptera* (le Roux 1981)	Hapax. No SNK for any species in *Dimorphotheca* on record. Specifier is unclear in reference and therefore likely irretrievable. Generic Afrikaans element *opslag* 'new growth', 'new shoots' here references the appearance of annual plants after seasonal rain.
P/nums ghana Laidler 1928; **!komiganna** = *Tylecodon wallichii* (Smith 1966), **t'nomsganna** = *Tylecodon wallichii* (le Roux 1981); **ntgomsganna** = *Tylecodon* sp. (Links 1989); **!kome ganna** = *Tylecodon wallichii* (Archer 1994); **tjnoemsganna** = *Tylecodon wallichii* (Powrie 2004).	Specifier is unclear in reference and therefore likely irretrievable. Possibly should be compared with specifier of **t'noem t'nôrro** above, but uncertain. Head irretrievable; no SNK for any species of *Tylecodon* is on record, and *T. wallichii* is a South African endemic. As the two species are morphologically dissimilar and genetically unrelated, the head **-ganna** is likely unconnected with ubiquitous Afrikaans plant name **ganna** = *Caroxylon aphyllum* (Marloth 1917, Smith 1966), itself likely of Cape Khoekhoe or Kora origin but irretrievable.

Nautsi amma = *Mesembryanthemum edule, M. acinaciforme* (Laidler 1928); **t'noutsiama** = *Cheiridopsis denticulata* (le Roux 1981); **ontsiama** = 'plant that grows flat on the ground (Links 1989); **t'noutsie-amma** = *Cheiridopsis denticulata* (Powrie 2004); **xhotsiama** = *Cheiridopsis denticulata* (Wheat 2014)	Compare the regional item **ǂhaũtsiama** = *Mesembryanthemum* sp. collected in Klein Namaland (Schültze 1907: 83).
d/nhora = unidentified 'variety of buchu' (Laidler 1928); **t'orro(a)**, **t'gôrrô**boegoe = *Pteronia camphorata*	No SNK for any species in *Pteronia* on record.
t'ôrrieboom = *Ozoroa dispar* (le Roux 1981); **!orrie** = *Ozoroa dispar* (Archer 1994).	No SNK for any species in *Ozoroa* on record.
D/koubi = unidentified 'sand olivewood' (Laidler 1928), **t'koubee** = *Dodonaea viscosa* (le Roux 1981); **t'koubee** = *Dodonaea angustifolia* (Powrie 2004); **xhoubie**, **toubee** = *Dodonaea viscosa* (Wheat 2014)	No SNK for any species in *Dodonaea* on record.

6. Conclusions and recommendations

A review of the older lexicographical and more recent ethnobotanical record suggests that there may historically have existed a regional lexis for plants endemic to the Namaqualand region. Rapid language shift away from Nama to Afrikaans, coupled with a general lack of academic linguistic interest in the Namaqualand region, places this lexis at immanent risk of extinction prior to comprehensive documentation. This lexis would appear to have been recorded primarily in the form of Nama loanwords into Namaqualand Afrikaans in a post-shift scenario in which the click inventory has undergone extreme destabilisation, a phonological phenomenon about which very little is known.

I recommend that extensive documentation of South African Nama urgently and immediately be carried out, coupled with documentation of loaned Nama plant names in Namaqualand Afrikaans by trained linguists capable of providing accurate transcriptions. In addition to enriching linguistic records of an understudied and possibly regional variety of an endangered language, documentation of Namaqualand plant names as used by fluent L1 Nama-speakers would further offer the opportunity to compare L1 pronunciations with L2 pronunciations in loans. This in turn could potentially improve linguistic understanding of how click consonants behave during post-shift lexical retention.

References and sources

Archer, Fiona. 1994. Ethnobotany of the Richtersveld, Namaqualand. MA thesis, University of Cape Town.

Barnard, Alan. 1985. *A Nharo Wordlist with Notes on Grammar*. Pietermaritzburg: Department of African Studies, University of KwaZulu-Natal.

Bennett, William G. 2020. Click phonology. In Bonny Sands (ed.) *Click consonants*, 74–128. Leiden: Brill.

Berzborn, Susan. 2003. Ek is 'n Nama, want ek praat die taal [I am a Nama, because I speak the language]: The Richtersveld and the national language policy in South Africa. In Thekla Hohmann (ed.) *San and the state: contesting land, development, identity and representation*, 325-364. Köln: Rüdiger Köppe Verlag.

Bleek, William. 1873. *Notebook XXV*. Available from lloydbleekcollection.cs.uct.ac.za/books/BC_151_A1_4_025/index.html accessed 2021-03-21.

Boshoff, Stephanus Petrus Erasmus & Gabriel Stefanus Nienaber. 1967. *Afrikaanse etimologieë*. Johannesburg: Die Suid-Afrikaanse Akademie vir Wetenskap en Kuns.

Bregman, Joel. 2010. Land and Society in the Komaggas region of Namaqualand. MA thesis, University of Cape Town.

Brenziger, Matthias. 2007. Language endangerment throughout the world. In Matthias Brenziger (ed.) *Language diversity endangered*, ix–xvii. Berlin: Mouton de Gruyter.

Brugman, Johanna. (2009). Segments, Tones and Distribution in Khoekhoe Prosody. PhD Dissertation, Cornell University.

Carstens, Peter. 1966. *The social structure of a Cape Coloured reserve*. Cape Town: Oxford University Press.

Christie, Camilla Rose. 2019. *Khoekhoe Lexical Borrowing in Namaqualand Afrikaans*. MA thesis, Rhodes University.

Craven, Patricia & Sullivan, Sian. 2002. *Inventory and review of ethnobotanical research in Namibia: First steps towards a central 'register' of indigenous plant knowledge.* Windhoek: National Botanical Research Institute.

Den Besten, Hans. 2013. South African Khoekhoe in contact with Dutch/Afrikaans. In Rainer Voßen (ed.) *The Khoesan languages*, 449–456. New York: Routledge.

Dench, Alan. 1995. Comparative reconstitution. *Historical Linguistics* 1(1), 57–73.

Desmet, P. G. 2007. Namaqualand: A brief overview of the physical and floristic environment. *Journal of Arid Environments* 70, 570–587.

Du Plessis, Menán. 2019. *Kora: A lost Khoisan language of the early Cape and the Gariep*. Pretoria: University of South Africa Press.

Emmett, R. A. 1987. *Steinkopf: A Study of a Community in Decline.* Pretoria: Human Sciences Research Council.

Engelbrecht, Jan A. 1936. *The Korana: an account of their customs and their history*. Cape Town: Maskew Miller.

Fehn, Anne-Maria. 2020a. Click Loss in Khoe-Kwadi. In Bonny Sands (ed.) *Click Consonants*, 291–335. Leiden: Brill.

Fehn, Anne-Maria. 2020b. Click Replacement and Loss in Ju. In Bonny Sands (ed.) *Click Consonants*, 336–355. Leiden: Brill.

Ford, R. I. (ed.) 1978. *The Nature and Status of Ethnobotany.* Michigan: University of Michigan Anthropological Papers.

Fredericks, Niklaas Johannes. 2013. A study of dialectal and interlinguistic variations of Khoekhoegowab: towards the determination of the standard orthography. PhD thesis, University of the Western Cape.

Grenoble, Lenore A. 2001. Language ecology and endangerment. In Peter K. Austin & Julia Sallabank (eds.) *The Cambridge Handbook of Endangered Languages*, 27–44. Cambridge: Cambridge University Press.

Güldemann, T. 2005. Tuu – A New Name for the Southern Khoisan Language Family. *University of Leipzig Papers on Africa* 23, 1-29.

Güldemann, Tom. 2006. Structural isoglosses between Khoekhoe and Tuu: the Cape as a linguistic area. In Yaron Matras, April McMahon & Nigel Vincent (eds.) *Linguistic areas: convergence in historical and typological perspective*, 99-134. London: Palgrave Macmillan.

Güldemann, Tom. 2014. 'Khoisan' linguistic classification today. In Tom Güldemann & Anne-Maria Fehn (eds.) *Historical relations in the Kalahari Basin*, 1–41. Amsterdam: John Benjamins.

Güldemann, Tom, Lee J. Pratchett & Alena Witzlack-Makaravich. 2019. From pragmatics to sentence type: non-topical S/A arguments and clause-second particles in the Kalahari Basin. *Gengo kenkyu* 154, 53-84.

Gunnink, H., Sands, B., Pakendorf, B., Boestoen, K. 2015. Prehistoric language contact in the Kavango-Zambesi transfrontier area: Khoisan influence on southwestern Bantu languages. *Journal of African Languages and Linguistics* 36(2), 193–232.

Haacke, Wilfrid H. G. 2013. Contact-induced change between Khoekhoe and Afrikaans. In Rainer Voßen (ed.) *The Khoesan languages*, 920–928. New York: Routledge.

Haacke, Wilfred H. G. & Eliphas Eiseb. 2002. *Khoekhoegowab-English dictionary*. Windhoek: Gansberg Macmillan.

Haacke, Wilfred H. G., Eliphas Eiseb & Levi Namaseb. 1997. Internal and external relations of Khoekhoe dialects: a preliminary survey. In Wilfred H. G. Haacke & Edward D. Elderkin (eds.) *Namibian languages: reports and papers*, 125–210. Köln: Rüdiger Köppe Verlag.

Haacke, Wilfred H. G., Johan Wilhelm Heinrich Giess & Eliphas Eiseb. 1991. A preliminary list of Khoekhoe (Nama/Damara) plant names. *Dinteria* 21, 1–29.

Hahn, Michal. 2013. Word order variation in Khoekhoe. In Stefan Muller (ed.) *Proceedings of the 20th international conference on head-driven phrase structure grammar*, 48–68. Stanford: CSLI Publications.

Hulley, Isabel M., Patricia M. Tilney, Sandy F. van Vuuren, Guy P. P. Kamatou, Janneke M. Nortje, Alvaro M. Viljoen & Ben-Erik van Wyk. 2016. San and Nama indigenous knowledge: The case of ǀnhora (*Pteronia camphorata*) and its medicinal use. *The South African Journal of Science* 112(9), 1–9.

Kandybowicz, Jason & Harold Torrence. 2017. Africa's endangered languages: an overview. In Jason Kandybowicz & Harold Torrence (eds.) H. *Africa's endangered languages: documentary and theoretical approaches*, 1–10. Oxford: Oxford University Press.

Kienetz, A. 1977. The Key Role of the Orlam Migrations in the Early Europeanization of South-West Africa (Namibia). *The International Journal of African Historical Studies* 10(4), 553-572.

Jones, K. 2019. Contemporary Khoesan Languages of South Africa. *Critical Arts* 33 (4), 55 – 73.

Kilian, Kelly. 2020. Tumʔi: a phonetic & phonological analysis of a Khoisan variety. MA thesis, University of Calgary.

Kilian-Hatz, Christa. 2003. *Khwe Dictionary*. Namibian African Studies 7. Cologne: Rüdiger Köppe.

Killian, Don. 2009. Khoemana and the Griqua: identity at the heart of phonological attrition. MA thesis, University of Helsinki.

Laidler, P. W. 1928. The magic medicine of the Hottentots. *The South African journal of science* 28, 433–447.

Le Roux, Annelise. 1981. *Wild flowers of Namaqualand: a Botanical Society guide*. 1st Edition. Cape Town: Struik Nature.

Links, Tony. 1989. *So praat ons Namakwalanders* [Us Namaqualanders talk like this]. Cape Town: Tafelberg.

Mannheimer, Colleen. 2012. *Wildflowers of the central highlands of Namibia.* Windhoek: Macmillan Education.

Manning, John C. & Peter Goldblatt. 1998. *South African wild flower guide 9: Nieuwoudtville–Bokkeveld Plateau and Hantam*. Pretoria: Botanical Society of South Africa.

Marloth, Rupert. 1917. *Dictionary of the common names of plants*. Cape Town: The Specialty Press of Africa.

Martin, G. J. 1995. *Ethnobotany: A Methods Manual*. Routledge: New York.

McColl-Millar, Robert. 2007. *Northern and Insular Scots*. Edinburgh: Edinburgh University Press.

McDermott, L. 2006. Contrasting Livelihoods in the Upper and Lower Gariep River Basin: A Study of Livelihood Change and Household Development. MA thesis, Rhodes University.

McMahon, April M. S. 1994. *Understanding Language Change.* Cambridge: Cambridge University Press.

Mesthrie, Rajend. 2017. South Africa and areal linguistics. In Raymond Hickey (ed.) *The Cambridge handbook of areal linguistics*, 527–550. Cambridge: Cambridge University Press.

Mucina, Ladislav, Norbert Lürgens, Annelise le Roux, Michael C. Rutherford, Ute Schmiedel, Karen J. Esler, Leslie W. Powrie, Philip G. Desmet & Susanne J. Milton. 2006. Succulent Karoo biome. In Ladislav Mucina & Michael C. Rutherford. (eds.) *The vegetation of South Africa, Lesotho and Swaziland*, 220–299. Pretoria: South African Botanical National Institute.

Nortje, Janneke. M. & Ben-Erik van Wyk. 2015. Medicinal plants of the Kamiesberg, Namaqualand, South Africa. *Journal of ethnopharmacology* 17(1), 205-222.

O'Shannessy, Carmel. 2011. Language contact and change in endangered languages. In Peter K. Austin & Julia Sallabank (eds.) *The Cambridge Handbook of Endangered Languages*, 78–99. Cambridge: Cambridge University Press.

Penn, N. 1995. *The Northern Cape Frontier Zone, 1700–1815.* Cape Town: University of Cape Town Press.

Powrie, Leslie W. 2004. *Common names of Karoo plants.* Pretoria: National Botanical Institute.

Prinsloo, Anton F. 2008. *Annerlike Afrikaans: woordeboek van Afrikaanse kontreitaal* [Alternative Afrikaans: a dictionary of Afrikaans rural dialect]. Pretoria: Protea Boekhuis.

Rohde, R. F., Hoffman, M. T. 2008. One Hundred Years of Separation: The Historical Ecology of a South African 'Coloured Reserve'. *Journal of the International African Institute* 78(2),189-222.

Sands, Bonny. 2017. The challenges of documenting Africa's least-known languages. In Jason Kandybowicz & Harold Torrence (eds.) *Africa's endangered languages: documentary and theoretical approaches*, 11–39. Oxford: Oxford University Press.

Schils, G. H. 1894. *Dictionnaire etymologique de la langue des Namas*. Leuven: Imprimerie Polleunis & Ceuterick.

Schmidt, B. M., & D. M. Klaser Cheng. 2017. *Ethnobotany: A Phytochemical Perspective*. Hoboken: John Wiley & Sons Ltd..

Schültze, Leonhard. 1907. *Aus Namaland und Kalahari*. Jena: Gustav Fischer.

Sharp, J. & E. Boonzaier. 1994. Ethnic Identity as Performance: Lessons from Namaqualand. *Journal of Southern African Studies* 20(4), 405-415.

Sharp, J. & M. West. 1984. Controls and Constraints: Land, Labour and Mobility in Namaqualand (Conference Proceeding No. 71). *Second Carnegie Inquiry into Poverty and Development in Southern Africa.* Cape Town: University of Cape Town.

Si, Aung. 2011. Biology in language documentation. *Language Documentation & Conservation* 5, 169-186.

Si, Aung. 2019. Flora-fauna loanwords in Arnhem Land and beyond – an ethnobiological approach. *Australian Journal of Linguistics* 39(2), 202-256.

Smith, Christo Albertyn. 1966. *Common names of South African plants*. Pretoria: The Government Printer.

Thomas, Jacqueline M. C. 1992. Questionnaire 11: Ethnobotany. In Luc Bouquiaux & Jacqueline M. C. Thomas (eds.) *Studying and Describing Unwritten Languages*, 513-520. Dallas: Summer Institute of Linguistics.

Traill, Anthony. 1995. The Khoesan languages of South Africa. In Rajend Mesthrie (ed.) *Language in South Africa*, 27–49. Cape Town: Cambridge University Press.

Traill, Anthony & Rainer Vossen. 1997. Sound change in the Khoisan languages: New data on click loss and click replacement. *Journal of African Languages and Linguistics* 18, 21-56.

Visser, Hessel. 2001 *Naro Dictionary: Naro–English/English–Naro.* Gantsi: Naro Language Project.

Vossen, Rainer. 1997. *Die Khoe-Sprachen: Ein Beitrag zur Erforschung der Sprachgeschichte Afrikas*. Quellen zur Khoisan-Forschung / Research in Khoisan Studies 12. Köln: Rüdiger Köppe Verlag.

Wheat, N. A. 2014. An Ethnobotanical, phytochemical and metabolomics investigation of plants from the Paulshoek communal area, Namaqualand. PhD thesis, University of Cape Town.

Wilman, M. 1946. *Preliminary check list of the flowering plants & ferns of Griqualand West*. Kimberly: Alexander McGregor Memorial Museum.

Witzlack-Makaverich, Alena. 2006. Aspects of information structure in Richtersveld Nama. MA thesis, Institut für Linguistik der Universität Leipzig.

Zigmond, Maurice L. 1998. Ethnobotany as a Linguistic Tool. In Leanne Hinton & Pamela Munro (eds.) *American Indian Languages: Description and Theory*, 248-252. Berkeley: University of California Press.