

Language Contact in the Andes and Beyond: Revisiting the Case of ‘Sweet Potato’

Contacto lingüístico en los Andes y más allá: el caso del camote

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Abstract: It has long been proposed that the term for ‘sweet potato’ in Eastern Polynesian languages, *kumala*, is a loanword from Quechuan *kumar* ‘sweet potato.’ In this paper, it is hypothesized that a related form also exists in the Tupi-Guarani family of the eastern lowlands of South America: *kumana* ‘bean.’ In some languages of South America, further examples can be found for the unexpected link between terms for ‘sweet potato’ and ‘bean,’ that is, between terms referring to tuberous and seed-like crops, respectively. These cases suggest that it is justifiable to compare Quechuan *kumar* ‘sweet potato’ and related forms with Tupi-Guarani *kumana* ‘bean’ and related forms. In addition, Tupi-Guarani *kumana* ‘bean,’ or a form derived from it, has been borrowed into many other lowland South American languages. Accordingly, the form %kumar(a) has reflexes in the languages of Polynesia, the Andes, and the South American lowlands, and is one of the most widespread *Wanderwörter* of the Southern Hemisphere.¹

Keywords: crop terms; sweet potato; bean; Quechuan; Eastern Polynesian languages; Tupi-Guarani languages; linguistic prehistory; language contact; *Wanderwörter*.

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Resumen: Desde hace tiempo se ha propuesto que el término para ‘camote’ en las lenguas de la Polinesia Oriental, *kumala*, es un préstamo que tiene su origen en el quechua *kumar*. En este artículo, se propone la hipótesis de que también existe una forma relacionada en la familia tupí-guaraní de las tierras bajas orientales: *kumana* ‘haba’. En ciertas lenguas de América del Sur, se pueden encontrar otros ejemplos de una conexión entre los términos ‘camote’ y ‘haba’, es decir, entre términos que se refieren a cultivos tuberosos y cultivos que se asemejan a las semillas. Estos casos sugieren que es legítimo comparar el quechua *kumar* ‘camote’ y formas relacionadas, por un lado, con tupí-guaraní *kumana* ‘haba’ y formas relacionadas, por otro lado. Además, el término tupí-guaraní *kumana* ‘haba’, o una forma derivada, se ha tomado prestada en muchos otros idiomas de las tierras bajas sudamericanas. Por consiguiente, la forma %*kumar(a)* tiene reflejos en las lenguas de la Polinesia, los Andes y las tierras bajas de América del Sur y es uno de los *Wanderwörter* más extendidos del hemisferio sur.

Palabras clave: términos de cultivo; camote; haba; quechua; lenguas polinesias orientales; lenguas tupí-guaraní; prehistoria lingüística; contacto lingüístico; *Wanderwörter*.

Introduction

Terms for crops and food are often borrowed among languages across great distances. This is illustrated by cases such as ‘potato,’ ‘tomato,’ and ‘tea’ which have their origins, respectively, in the non-Indo-European languages Taino, Nahuatl, and Min Chinese. A much-discussed example from South America and Polynesia is the term for sweet potato (*Ipomoea batatas*). The term for ‘sweet potato’ is *kumar(a)* in certain varieties of Quechuan, the major language family of the central Andes.² Similar terms for the sweet potato, such as Easter Island and Maori *kuumara*, are widespread in Polynesia. The connection between the Quechuan and Polynesian ‘sweet potato’ terms was first proposed by Seemann (1865, 170) and has been discussed in several subsequent contributions (e.g., Rivet 1943; 1956). The current consensus seems to be that both the crop and the ‘sweet potato’ term reached Polynesia from western South America (e.g., Adelaar 1998; Adelaar with Muysken 2004, 41; Clarke 2009; Harburg 2013). However, the story of this *Wanderwort* has not yet been told in full.

This paper proposes that Quechuan *kumar* ‘sweet potato’ is not only related to ‘sweet potato’ terms in Polynesia, but also to Tupi-Guarani *kumana* ‘bean.’ According to this hypothesis, the crop term in question would thus not only have spread some 10,000 kilometers westwards from South America to Polynesia and New Zealand, but also east of the central Andes, in the Tupi-Guarani language family which extends from the Andean foothills of Bolivia to the Atlantic coast of Brazil, and, subsequently, also into other lowland South American languages.

2 Slashes indicate phonemic transcriptions, pointed brackets indicate the use of original orthography. Outside slashes or brackets, data from American Indigenous languages are presented in Americanist orthography, except for stress, which is indicated by a high vertical line ‘ before the stressed syllable, and nasalization, which is indicated by a tilde. Data from Polynesian languages are presented in IPA transcription. A preposed asterisk marks a reconstructed form, a preposed symbol % indicates a *Wanderwort* status of the respective form.

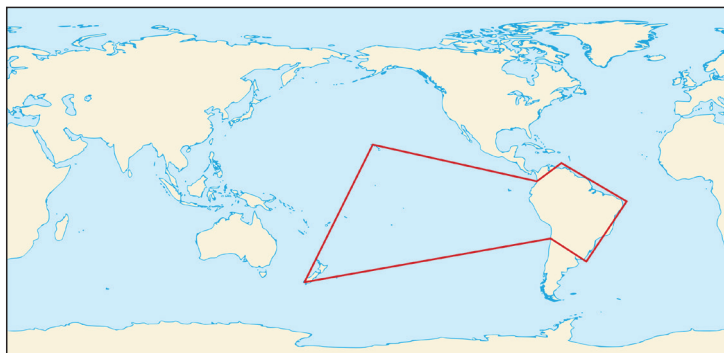


Figure 1. Approximate distribution of crop terms related to Quechuan *kumar*.

The central Andes: *k(‘)umar(a)* ‘sweet potato’

Several different ‘sweet potato’ terms are found in the languages of the central Andes and the adjacent Pacific coast. In Mochica, an extinct language isolate of northwestern Peru, the term is <ōp> (Middendorf 1892, 61), in Sechura, likewise extinct and from northern Peru, and probably related to the neighboring Tallán languages, it is <chapru> ‘sweet potato’ (Urban 2015). In Quechuan and Aymaran, the two major families of the central Andean area, we find the following forms: There is a widespread term <apichu> ‘sweet potato’ in Quechuan and in Aymara (see González Holguín 1989 [1608], 23; Bertonio 2006 [1612], 134; de Lucca 1983, 579; Rosat Pontacti 2004, 42). The Nahuatl/Spanish borrowing *kamuti* (from *camote*) is found in Jaqaru, the sister language of Aymara (Belleza Castro 1995). Most important, for this paper, are Quechuan *kumar/kumal* ‘sweet potato’ (e.g., Taylor 2006, 49) and Aymara *k’umara* ‘sweet potato’ (Layme Pairumani 2004, 104). The Quechuan terms may originally have referred to different varieties of the sweet potato (for a discussion, see Adelaar 1998, 405). At present, *kumar/kumal* and related forms are attested in the Quechua II subgroup of the Quechuan family, which comprises the southern and northern varieties (spoken in Ecuador, northern and southern Peru, Bolivia, northern Chile and Argentina), but not the central Peruvian Quechuan varieties. Quechuan *kumar/kumal* and Aymara *k’umara* are clearly related, even though correspondences of consonant laryngalization in southern Quechuan varieties and Aymara are not always regular (Adelaar 1998, 408). It appears that the borrowing direction of this ‘sweet potato’ term was from Quechuan into Aymaran. The reason for this scenario is that in Aymaran languages, but not in Quechuan, syntactically free lexical items must end in a vowel, accounting for a change from *kumar* to *k’umara* (Adelaar 1998, 407-408). Table 1 shows some ‘sweet potato’ terms which are found in various Quechua II varieties. Final *a* in some southern Quechuan varieties may reflect influence from neighboring Aymara.

Language, variety	Form	Source
Bolivian Quechua	<i>kumar(a)</i>	Rosat Pontacti (2004, 454)
Chachapoyas and Lamas Quechua	<i>kumar</i>	Taylor (2006, 49)
Colonial Cuzco Quechua	<cumar>	González Holguín (1989 [1608], 23)
Cuzco Quechua	<i>kumara</i> ‘white sweet potato’	Middendorff (1890, 284)
San Martín Quechua	<i>kumal</i>	Taylor (2006, 49)

Table 1. Terms for ‘sweet potato’ in different Quechuan varieties.

A related term was also recorded among the Uru of Ch’imu on the western shore of Lake Titicaca, who spoke an extinct Uru-Chipayan language: <c’ūmáŕa> ‘sweet potato’ (Cerrón-Palomino with Barrientos Quispe and Cangahuala Castro 2016, 141, 171, 192), probably a borrowing from Aymara. As in Aymara *k’umara* (Layme Pairumani 2004, 104), there is a glottalized initial consonant in the Ch’imu Uru form. Finally, a clearly related term <comal> ‘sweet potato’ is also documented in a late-16th century document from Cañaribamba in southern Ecuador. The area’s Indigenous population, the Cañari, originally spoke a non-Quechuan language but adopted a variety of Quechua by the colonial period (Adelaar 1998, 407). Their Quechuan variety seems to show traces of a Barbacoan substrate (Adelaar with Muysken 2004, 397; Urban 2018; Floyd 2022). They cultivated sweet potatoes and settled in a coastal area extending to the eastern margins of the Ecuadorian Gulf of Guayaquil, which makes them possible candidates for a contact with Polynesian seafarers (Brand 1971, 362-363; Scaglione 2005, 36-38). However, the fact that the Cañari originally spoke a non-Quechuan language and used the term <comal> ‘sweet potato’ does not necessarily mean that the term <comal> is of non-Quechuan origin. For further discussion of this and similar issues with respect to Cañari Quechua, see Adelaar (1998, 406-407) and Howard (2010, 136-137).

Sweet potatoes have been cultivated in Central and South America since at least 2500 BC (see Austin 1988, 42). The origin of *Ipomoea batatas* seems to have been Central America. A secondary center of origin, in South America, is northern Peru/Ecuador (Zhang *et al.* 2000). Sweet potatoes can be grown in coastal/tropical areas, but not in cold climate such as of the Andean highlands where Quechuan, Aymaran and Uru-Chipayan languages are mostly documented. However, these languages have not always been confined to the highlands: the coast of what corresponds to present-day Central Peru has been argued to have hosted a Quechuan-speaking population possibly since the first millenium AD (Torero 1972; Adelaar 1998). Also, in the northeastern part of the Quechuan area, some Quechuan varieties are spoken well into the eastern lowlands (e.g., Chachapoyas, Lamas, and San Martín Quechua). The bearers of the Nazca culture

of the coast of southern Peru have been argued to be speakers of an Aymaran language (Torero 1972; Adelaar 1998). Finally, loan phenomena show that speakers of Quechuan, Aymaran, and Uru-Chipayan languages had previous contacts with languages spoken in the lowlands both east and west of the Andes (e.g., Pache, Wichmann, and Zhivlov 2016; Pache 2018a; 2023a; 2024).

Eastern Polynesia: *kumala* ‘sweet potato’

In Polynesia, the presence of the sweet potato is much more recent than in South America: The oldest remains of sweet potatoes are quite recent, having been found on Mangaia Island (Cook Islands) and dating from ±1000 AD (Hather and Kirch 1991). Archaeological evidence shows that the spread of the sweet potato in Polynesia (e.g., Cook Islands, Easter Island, Hawaii, and New Zealand) predates the arrival of Europeans in the area (Montenegro, Avis, and Weaver 2008). Also, patterns of genetic diversity suggest that the sweet potato reached Polynesia from South America (Peru, Ecuador) (Yen 1974; Roullier *et al.* 2013). Table 2 shows some sweet potato terms of Eastern Polynesian languages; according to Key’s (2023a) reconstructions, they derive from a form **kumala* ‘sweet potato.’

Language, variety	Form	Source
Hawaiian	<i>ʔu(w)ala</i>	Greenhill and Clark (2011)
Mangareva	<i>kuumara</i>	Greenhill and Clark (2011)
Maori	<i>kuumara</i>	Greenhill and Clark (2011)
Marquesan	<i>kuumaʔa</i> (north), <i>ʔuumaʔa</i> (south)	Greenhill and Clark (2011)
Penrhyn	<i>kuumara</i>	Greenhill and Clark (2011)
Rapa	<i>kumara</i>	Greenhill and Clark (2011)
Rapa Nui	<i>kuumara</i>	Greenhill and Clark (2011)
Rarotongan	<i>kuumara</i>	Greenhill and Clark (2011)
Tahitian	<i>ʔumara</i>	Greenhill and Clark (2011)
Tuamotu	<i>kumara</i>	Greenhill and Clark (2011)

Table 2. Terms for ‘sweet potato’ in Eastern Polynesian languages.

Outside the subgroup of Eastern Polynesian languages, related ‘sweet potato’ terms in Polynesian languages may be more recent borrowings (Greenhill and Clark 2011). The connection between Eastern Polynesian *kumala* ‘sweet potato’ and the Quechuan and/or Aymaran sweet potato term seems to be generally acknowledged at present (e.g., Adelaar 1998; for a recent discussion, see also Michael 2023). Adelaar (1998, 408) suggests that the term in question was borrowed originally by Polynesian seafarers from the bearers of

the Nazca culture of coastal southern Peru, who may have been speakers of an Aymaran language (Torero 1972). Nazca culture had its heyday between ± 200 and 800 AD, thus at a time which may have overlapped with the first introduction of the sweet potato in Polynesia (Adelaar 1998, 408). Alternatively, the term may have been borrowed from a Quechuan group further north, on the Central Peruvian coast (e.g., in the areas of Cañete, Chíncha, or Lima) (Adelaar 1998, 408), or from the Cañari of the Gulf of Guayaquil in Ecuador (Scaglione 2005), with the final *a* in *kumala* possibly added in Eastern Polynesian for the ‘sweet potato’ term to fit phonotactic requirements of these languages.

Lowland South America: *kumana* ‘bean’

The hypothesis put forward in this paper is that *kumar(a)* also has a counterpart in a major language family east of the Andes, in lowland South America: Tupi-Guarani. The Tupi-Guarani lexical item in question is *kumana* ‘bean’ (for cognates and a reconstruction see Mello 2000, 173).

In South America, the domestication of the common bean has been argued to have started in the Andes, and the earliest evidence so far for cultivated beans in South America dates from between 2400 BC (Peruvian Andes) and 2600 BC (coastal valleys of Peru); there are no radiocarbon data available for the earliest bean cultivation in lowland South America (Kaplan and Lynch 1999; Chacón, Pickersgill, and Debouck 2005; Bitocchi *et al.* 2013; Brown *et al.* 2014).

Tupi-Guarani languages are spoken in an area that once extended, on an east-west axis, from the Bolivian Andes (Avá Guaraní or Chiriguano) to the Brazilian Atlantic coast (Tupinambá). They constitute a subgroup within the larger Tupian language family (see, e.g., Rodrigues and Cabral 2012). The crop term */*kumana/* ‘bean’ has only been reconstructed for Proto-Tupi-Guarani (Mello 2000, 173), not for Proto-Tupian as a whole, and no term for ‘bean’ has yet been reconstructed at all for Proto-Tupian (see Rodrigues and Cabral 2012).

The homeland of Proto-Tupi-Guarani is still a matter of debate: eastern (eastern Amazon, Mello and Kneip 2017; lower Xingú basin, O’Hagan, Chousou-Polydouri, and Michael 2019) and western lowland South America (Paraná River basin, Rodrigues 2000) have both been proposed as homelands. If the Proto-Tupi-Guarani homeland is indeed localized in eastern South America, near the lower Xingú basin in Brazil, as suggested by O’Hagan, Chousou-Polydouri, and Michael (2019), the *kumana* : *kumar(a)* parallel is difficult to explain by direct contact of Tupi-Guarani with Quechuan/Aymaran but may involve a different language spoken between both areas. Indeed, besides Quechuan/Aymaran *kumar(a)* ‘sweet potato’ and Tupi-Guarani *kumana* ‘bean,’ there are no further known lexical parallels between central Andean languages and Proto-Tupi-Guarani, although there is some evidence for direct or indirect language contact between Quechuan, Aymaran, and Uru-Chipayan on the one hand and different

languages of lowland Peru and Bolivia on the other hand, such as Arawakan languages, Kwaza (isolate), Movima (isolate), Mosetén (isolate) (e.g., Crevels and Van der Voort 2008, 168; Pache, Wichmann, and Zhivlov 2016; Pache 2018a; 2023a).

Table 3 shows different reflexes of /*kumana/ ‘bean’ (see Mello 2000, 173) in some Tupi-Guarani languages.

Language, variety	Form	Source
Apiaká	/kuma'na/	Padua (2007, 33)
Chiriguano	<i>kuman^da</i>	adapted from Dietrich (2023)
Paraguayan Guaraní	<i>kuman^da</i>	adapted from Guasch (1994, 247)
Tembé	<cumaná>	Hurley (1931, 337)
Wayampi	<i>kumāna</i>	Grenand and Alasuka (2023)

Table 3. Terms for ‘bean’ derived from Proto-Tupi-Guarani *kumana*.

Awetí and Mawé, two Tupian languages of central Brazil that do not belong to the Tupi-Guarani subgroup have *kumanā* and *kumanaʔi* ‘bean,’ respectively, two forms which have probably been borrowed from Tupi-Guarani (Meira and Drude 2015, 292). To explain forms like *kuman^da* in different Tupi-Guarani languages, shielding-motivated oralization has been proposed (Lapierre and Michael 2017; see also Wetzels and Nevins 2018). According to this interpretation, the original form in Tupi-Guarani was /*kumana/.³

Considering the correspondence of Tupi-Guarani *n* in *kumana* : *r* in Quechuan/Aymaran *kumar(a)*, a similar sound correspondence is attested in Proto-Tupi-Guarani **mani*, **mani-ʔok* ‘manioc,’ literally ‘manioc-tuber’ (**ʔok* ‘tuber’) (reconstructed by Mello 2000, 210; from Proto-Tupian **mani* ‘manioc,’ Rodrigues and Cabral 2012, 507) versus Proto-Arawakan **mari*, as seems to be attested in **mariki* ‘maize’ (reconstructed by Payne 1991, 399). The bimorphemic character of Proto-Arawakan **mari-ki* ‘maize’ is suggestive for the reconstruction of *-*ki* as a noun classifier for ‘seed’ (Jolkesky 2016, 390) and of **iki* as ‘seed’ (Ramirez 2020).

An argument for Tupi-Guarani *kumana* ‘bean’ as a loan is that unlike *mani-ʔok* ‘manioc,’ lit. ‘manioc-tuber,’ another trisyllabic crop term in this family, *kumana* ‘bean’ is etymologically opaque in Tupi-Guarani. Together with the probably relatively recent

3 Alternatively, a phonetic input [kumata] lead to Tupi-Guarani [kuman(d)a] (phonologically: /kumana/), which implies that /kumata/ is the older lowland form, which would consequently have to be linked to Quechua /kumar(a)/. A *t* : *r* correspondence as between *kumata* and Quechuan *kumar(a)* resembles the *t* : *r* correspondence attested in the case of Proto-Tupi-Guarani *akuti* ‘agouti’ (Mello 2000, 152) and its counterpart in Proto-Cariban **akuri* (Girard 1971a, 220; for a discussion of these and other ‘agouti’ terms, see Urban 2023).

use of beans in lowland South America, the etymological opacity of this comparatively long root may suggest that *kumana* ‘bean’ is indeed a loan in Tupi-Guarani languages.⁴ Whether or not the donor language was a central Andean language is difficult to determine, however. If this was indeed the case, it is easily conceivable that the liquid of the donor language became a voiced alveolar nasal in the recipient language (for similar developments in other languages, see Mielke 2008).

The Tupi-Guarani term for ‘bean,’ *kumana*, has probably been borrowed, in turn, into several other, genealogically unrelated languages of lowland South America, with the same meaning. The underlying driving forces behind this spread may have been the expansion of Tupi-Guarani-speaking groups and the relatively recent and widespread expansion of *Língua Geral* and *Nheengatu*. Such terms presumably borrowed from Tupi-Guarani languages are shown in Table 4; the languages cover a wide area, from northwestern South America (Puinave, an isolate or Kakua-Nukakan language) to the Guyanas in the northeast (Palikur, an Arawakan language), and to Mato Grosso in the south (Irantxe, also known as M̃ky, an isolate).

Language, variety	Form	Source
Karajá (Macro-Jê)	<i>kobãda</i> , ⁵ <i>õmita</i>	Key (2023b); Ribeiro (2012, 7)
M̃ky (isolate)	<i>kumãta</i>	Monserrat and Amarante (1995, 13)
Palikur (Arawakan)	<i>kumat</i>	Launey (2003, 32)
Puinave (isolate)	<i>kumana</i>	Girón Higuita (2008, 333)
Trumai (isolate)	<i>kuman</i> , <i>kumana?i</i>	Guirardello (1999, 77); Monod-Becquelin (2023)
Wai wai (Cariban)	<i>kumasa</i>	Hawkins (2023)
Wapishana (Arawakan)	<i>komaasa</i> , <i>ḳumaasa</i>	Ati’o <i>et al.</i> (2000, 51); Melville, Tracy, and Williams (2023)
Yavitero (Arawakan)	<i>ku’mana</i>	Key (2023c)

Table 4. Borrowed ‘bean’ terms in some non-Tupi-Guarani languages.

The exact sound changes that occurred in borrowing Tupi-Guarani /*kumana*/ into other languages are beyond the scope of this paper. Reflexes of Tupi-Guarani /*kumana*/ (borrowed via Tupinambá *kuma’na* ‘bean’ or the respective *Língua Geral* term) have also been identified in the following lowland South American languages: Kwaza (isolate)

4 For a similar line of argumentation with respect to Polynesian *kumala* ‘sweet potato,’ see Michael (2023).
5 This form has been argued to be a borrowing from *Língua Geral*/Old Tupi; in the latter language, the term is <comandá> (Ribeiro 2012, 7). The Karajá form was documented as <comota> or <comata> in the second half of the 19th century (Ribeiro 2012, 148).

kuma'da, Aikanā (isolate) *ku'māda*, Kanoê (isolate) *kome'ta*, Latundê (Northern Nambikwaran) *ku'mat*, Moré (Chapakura) *komat*, Paresi (Arawakan) *kumeta*, Tariana (Arawakan) *ku'mada*, Tiriyo (Cariban) *kumata* (Van der Voort 2005, 387). Further related ‘bean’ terms can be found in Epps (2013+) and in Aguilar Panchi *et al.* (2022).

Can terms for ‘sweet potato’ and ‘bean’ be related?

Relating Quechuan/Aymaran *kumar(a)* ‘sweet potato’ to Tupi-Guarani *kumana* ‘bean’ implies a remarkable semantic step which requires further discussion. This section presents several South American cases where terms referring to sweet potatoes or other tuber crops such as manioc are related to terms referring to crops with a seed-like shape such as beans or maize. These instances suggest that in the South American context, it is legitimate to compare the Quechuan/Aymaran ‘sweet potato’ term and the Tupi-Guarani ‘bean’ term.

The first case to be mentioned here is the Arawakan term for ‘sweet potato,’ which was borrowed into Mosestén, a language isolate of the eastern slopes of the Bolivian Andes, where it took on the meaning ‘bean.’ This is illustrated in Table 5.

Language, variety	Form	Meanings	Source
Proto-Arawakan	* <i>k^hali(t^hi)</i>	‘sweet potato’	Payne (1991, 420)
Mosestén (isolate)	<i>ko'riši</i>	‘bean’	Pérez Diez (2023)

Table 5. Proto-Arawakan and Mosestén terms for ‘sweet potato’ and ‘bean.’

The adaptation of **t^hi* as *ši* postulated here for Mosestén *ko'riši* ‘bean’ is reminiscent of Pre-Andine or Campan Arawakan languages in which **t* > *tš* / __ *i* (e.g., in Ashéninka or Pajonal) (see Chen 2019, 19–20). A related form referring to a seed-like crop also exists in Proto-Tacanan: **kanize* ‘peanut’ (Girard 1971b, 87), likewise referring to the seed-like fruit of a leguminous plant. Another, related lexical item referring to a tuber-like crop instead is Candoshi-Shapra (isolate or Arawakan, northern Peru) <*kazinzi*> ‘manioc’ (Tuggy 1966, 231).⁶

Another instance of formally similar terms for a tuber (‘manioc’) and for ‘broad bean’ occurs in two unclassified languages of eastern Brazil, Xukuru-Kariri and Xukuru, illustrated in Table 6.

6 A liquid/sibilant correspondence reminiscent of Proto-Arawakan **k^hali(t^hi)* ‘sweet potato’ versus Candoshi-Shapra <*kazinzi*> ‘manioc’ occurs in Proto-Arawakan **pališi* ‘dust (ash)’ (Payne 1991, 394) versus Candoshi-Shapra <*pozachi*> ‘ash’ (Tuggy 1966, 140).

Language, variety	Form	Meanings	Source
Xukuru-Kariri (isolate)	<g' rīgə>	'manioc'	Meader (1978)
Xukuru (isolate)	<kuřikə>	'broad bean' (Port. <i>fava</i>)	Meader (1978)

Table 6. Xukuru-Kariri 'manioc' and Xukuru 'broad bean.'

The forms in Table 6 may both be related to Proto-Arawakan *k^hali(t^hi) 'sweet potato,' as reconstructed by Payne (1991, 420).

Within a single language, the terms for 'bean' and 'sweet potato' may likewise be etymologically related. This seems to be the case in Fulnio, a language isolate from eastern Brazil. The forms in question are illustrated in Table 7.

Language, variety	Form	Meanings	Source
Fulnio	<dotsakə>	'sweet potato'	Sá (2000, 42)
Fulnio	<natsakə>	'bean' (Port. <i>feijão</i>)	Sá (2000, 208)

Table 7. Xukuru-Kariri terms for 'sweet potato' and 'bean.'

The Fulnio forms for 'sweet potato' and 'bean' have been argued to be borrowed into Xukuru-Kariri, a language isolate of the Alagoas state in eastern Brazil. In this language, the forms in question are <d'ódsákà>, <d'otsakə> 'sweet potato,' and <n'ódsákà>, <n'ótsákà> 'bean' (Port. *feijão*), respectively (Meader 1978), differing in terms of nasality of the onset consonant.

A further example of related terms referring to a tuberous crop in one language (Ika, Chibchan) and to a seed-like crop in the other (Barí, Chibchan) is shown in Table 8.

Language, variety	Form	Meanings	Source
Ika	<i>irokwə</i>	'manioc'	Landaburu (2000, 737)
Barí	<?irokbə>	'maize'	adapted from Huber and Reed (1992, 162)

Table 8. Ika and Barí terms for 'manioc' and 'maize.'

Ika and Barí are two Chibchan languages spoken in northern Colombia. The correspondence between Ika *kw* and Barí <kb> is regular (see Pache 2016, 438; 2018b, 395). Adopting a category called 'seed-like crops' which includes beans and maize allows it to use correspondences of 'sweet potato' terms with 'maize' terms to support the argument about beans. Of course, evidence about maize supports our point about beans only if 'seed-like crop' is indeed a valid category. That such a category is conceivable in at least

some South American languages is suggested by the example of Esmeraldeño (isolate) <muripe> ‘bean’ (Sp. *frijol*) (Seler 1902, 56) which might be related to the ‘maize’ term in Arawakan languages, derived from Proto-Arawakan *mariki ‘maize’ (Payne 1991, 399), or by the use of the same classifying morpheme (‘seed-like’) in terms for ‘bean’ and ‘maize kernel,’ for instance, in Panará (Jè) (see Dourado 2001, 24, 207).

The evidence above shows that it is not uncommon, in lowland South American languages, to find etymologically related terms referring to a tuber-like crop in one language (e.g., ‘sweet potato’) and to a seed-like crop in another language (e.g., ‘bean’). This supports the argument that Quechua *kumar* and Aymara *kumara* ‘sweet potato’ can indeed be compared with Tupi-Guarani *kumana* ‘bean.’ Since the forms in question are relatively long, a coincidental match is unlikely. To what extent similar semantic equations, linking terms for tuber-like and seed-like crops, also exist outside South America, remains to be investigated. So far, there seems to be no evidence for this (see, e.g., Rzymiski *et al.* 2019). Indeed, semantic equations can be quite local and restricted to specific (macro-)areas – to mention just two further examples, in the Americas, the colexification of ‘head’/‘hair’ and of ‘hand’/‘leaf’ has been argued to be relatively widespread in the tropical lowlands of South America (Adelaar 2013, 124) but not in the languages of the central Andes.⁷

Finally, the question remains why the terms for ‘sweet potato’ or another tuber-like crop such as manioc are etymologically related to the terms for ‘bean’ or another seed-like crop such as ‘peanut’ or ‘maize’ in various South American languages. One explanation is similarity in the roundish shape of the referents – seeds and many tubers are both roundish entities, even if they have a different size (Willem Adelaar, p.c.). Another explanation is that such terms were used to refer to ‘crop’ or ‘food’ in a more general sense, and took on more specific meanings in each language family later. A similar process may have occurred in the case of Proto-Tupi-Guarani *mani in *mani-ʔok ‘manioc’ (*-ʔok ‘tuber,’ Mello 2000, 210) which appears to be related to Proto-Arawakan *mari in Proto-Arawakan *mari-ki ‘maize’ (*-ki ‘seed,’ see Jolkesky 2016, 390; Ramirez 2020).

Final remarks

Several languages of western South America – Quechua II varieties, Aymara, Ch’imu Uru – share a term for the sweet potato, ultimately derived from *kumar* and of possible Quechuan origin (second section). It has long been proposed that *kumar* or a similar lexical item for ‘sweet potato’ was borrowed into Polynesian languages, where it is attested as *kumala* and related forms (third section). This paper has discussed evidence suggesting that, additionally, Andean *kumar(a)* is related – either by direct or indirect

7 The semantic equation ‘head’/‘hair’ is also found in Mapudungun, a language of the southern Andes (Adelaar and Pache 2022), and in the Chibchan languages of northern South America and Central America (Pache 2018b, 115-116). Both Mapudungun and Chibchan languages have linguistic connections to lowland South America (Adelaar and Pache 2022; Pache 2023b).

language contact – to Tupi-Guarani *kumana* ‘bean’ and related crop terms in lowland South America (fourth section). The reason why related terms may refer to tuber-like crops in one case and to beans in the other case must remain open for the moment. Nevertheless, the fact that similar semantic equations occur in a number of other lowland South American languages (fifth section) supports the hypothesis that central Andean *kumar(a)* ‘sweet potato’ is indeed related to Tupi-Guarani *kumana* ‘bean.’

Potential reflexes of the *Wanderwort* %kumara in languages spoken beyond the central Andes and the eastern lowlands remain to be investigated, for instance, Qawasqar (isolate, southern Chile) *qwena* ‘potato’ (Clairis and Viegas Barros 2023). Another point of discussion is how exactly Andean *kumar(a)* entered Eastern Polynesian languages, and how the corresponding expressions for sweet potato and bean spread among the South American languages discussed here.

In summary, after 150 years of discussion about the borrowing of *kumar(a)* in languages west of the Andes (Polynesia), this article has shown that it may also be worthwhile to explore languages spoken east of the Andes for related crop terms. According to the hypothesis put forward in this paper – that Tupi-Guarani *kumana* ‘bean’ is related to Andean *kumar(a)* ‘sweet potato’ – %kumara is among the most widely distributed *Wanderwörter* of the Southern Hemisphere. The term in question widely spread within three major areas covering large parts of this zone – (1) the Andean realm with a spread from Quechuan into Aymaran and from Aymaran into Ch’imu Uru (Uru-Chipayan), (2) Polynesia, with the ‘sweet potato’ term being borrowed into eastern Polynesian languages, and (3), lowland South America with Tupi-Guarani languages and a further spread into several other languages of the lowlands.

References cited

- Adelaar, Willem F. H.
 1998 “The name of the sweet potato: A case of pre-conquest contact between South America and the Pacific.” In *Productivity and creativity: Studies in general and descriptive linguistics in honor of E. M. Uhlenbeck*, edited by Mark Janse, with the assistance of An Verlinden, 403-411. Berlin/New York: Mouton de Gruyter.
 2013 “Searching for undetected genetic links between the languages of South America.” In *Historical Linguistics 2011: Selected papers from the 20th International Conference on Historical Linguistics, Osaka, 25-30 July 2011*, edited by Ritsuko Kikusawa and Lawrence A. Reid, 115-128. Current Issues in Linguistic Theory, 326. Amsterdam/Philadelphia: John Benjamins.
- Adelaar, Willem F. H., and Matthias Pache
 2022 “Are all language isolates equal? The case of Mapudungun.” In *Language change and linguistic diversity: Studies in honour of Lyle Campbell*, edited by Thiago Chacon, Nala Lee, and Wilson D. L. Silva, 164-186. Edinburgh: Edinburgh University Press.

- Adelaar, Willem F. H., with the collaboration of Pieter C. Muysken
2004 *The languages of the Andes*. Cambridge: Cambridge University Press.
- Aguilar Panchi, Evelyn Michelle, Saetbyul Lee, Evgenia Brodetsky, and Matthias Urban, eds.
2022 "CINWA – Database of cultivated plants and their names in the Indigenous languages of South America." Version 1.0. www.cinwa.org (14.02.2025)
- Ati'o, Tominpainao, Wapichan Paradan, Parada-karu Na'iki, and Paradauzo-karu Kaduzu, in cooperation with Wapichan Wadauniinao Ati'o
2000 *Scholar's dictionary and grammar of the Wapishana language*. Porto Velho, Brazil: SIL International.
- Austin, Daniel F.
1988 "The taxonomy, evolution and genetic diversity of sweet potatoes and related wild species." In *Exploration, maintenance and utilization of sweet potato genetic resources: Report of the First Sweet Potato Planning Conference*, edited by Peter Gregory, 27-59. Lima: International Potato Center (CIP).
- Belleza Castro, Nely
1995 *Vocabulario jacaru-castellano, castellano-jacaru (aimara tupino)*. Cuzco: Centro Bartolomé de Las Casas.
- Bertonio, Ludovico
2006 [1612] *Vocabulario de la lengua aymara*. Arequipa: El Lector. [First published: Juli, Chucuito: Francisco del Canto.]
- Bitocchi, Elena *et al.*
2013 "Molecular analysis of the parallel domestication of the common bean (*Phaseolus vulgaris*) in Mesoamerica and the Andes." *New Phytologist* 197, no. 1: 300-313. <https://doi.org/10.1111/j.1469-8137.2012.04377.x>
- Brand, Donald D.
1971 "The sweet potato: An exercise in methodology." In *Man across the sea: Problems of pre-Columbian contacts*, edited by Carroll L. Riley, J. Charles Kelley, Campbell W. Pennington, and Robert L. Rands, 343-365. Austin: University of Texas Press. <https://doi.org/10.7560/701175-021>
- Brown, Cecil H., Charles R. Clement, Patience Epps, Eike Luedeling, and Søren Wichmann
2014 "The paleobiolinguistics of the common bean (*Phaseolus vulgaris* L.)." *Ethnobiology Letters* 5: 104-115. <https://doi.org/10.14237/eb1.5.2014.203>
- Cerrón-Palomino, Rodolfo, with the collaboration of Jaime Barrientos Quispe and Sergio Cangahuala Castro
2016 *El uro de la bahía de Puno*. Publicaciones del Instituto Riva-Agüero, 322. Lima: Pontificia Universidad Católica del Perú, Instituto Riva-Agüero.
- Chacón Sánchez, María Isabel, Barbara Pickersgill, and Daniel G. Debouck
2005 "Domestication patterns in common bean (*Phaseolus vulgaris* L.) and the origin of the Mesoamerican and Andean cultivated races." *Theoretical and Applied Genetics* 110: 432-444. <https://doi.org/10.1007/s00122-004-1842-2>
- Chen, Eric
2019 "Phonological reconstruction of Proto-Kampa consonants." *Berkeley Papers in Formal Linguistics* 2, no. 1: 1-56. <https://escholarship.org/uc/item/49w7r2wd> (14.02.2025)

- Clairis, Christos, and José Pedro Viegas Barros
2023 "Qawasqar dictionary." In *The intercontinental dictionary series*, edited by Mary Ritchie Key and Bernard Comrie. Leipzig: Max Planck Institute for Evolutionary Anthropology. <http://ids.cld.org/contributions/313> (14.02.2025)
- Clarke, Andrew Christopher
2009 "Origins and dispersal of the sweet potato and bottle gourd in Oceania: Implications for prehistoric human mobility." PhD dissertation, Massey University, Palmerston North, New Zealand. <https://mro.massey.ac.nz/handle/10179/1727> (14.02.2025)
- Crevels, Mily, and Hein van der Voort
2008 "The Guaporé-Mamoré region as a linguistic area." In *From linguistic areas to areal linguistics*, edited by Pieter Muysken, 151-180. Amsterdam: John Benjamins.
- De Lucca, Manuel
1983 *Diccionario aymara-castellano, castellano-aymara*. La Paz: Comisión de Alfabetización y Literatura en Aymara (CALA).
- Dietrich, Wolf
2023 "Chiriguano dictionary." In *The intercontinental dictionary series*, edited by Mary Ritchie Key and Bernard Comrie. Leipzig: Max Planck Institute for Evolutionary Anthropology. <http://ids.cld.org/contributions/289> (14.02.2025)
- Dourado, Luciana
2001 "Aspectos morfosintáticos da língua Panará (Jê)." PhD dissertation, Universidade Estadual de Campinas, Brazil. <https://doi.org/10.47749/T/UNICAMP.2001.206356>
- Epps, Patience
2013+ "South American languages." In *Languages of hunter-gatherers and their neighbors: Database*, by Claire Bowern, Patience Epps, Jane Hill, and Patrick McConvell. <https://huntergatherer.la.utexas.edu> (14.02.2025)
- Floyd, Simeon
2022 "Ecuadorian Highland Quichua and the lost languages of the northern Andes." *International Journal of American Linguistics* 88, no. 1: 1-52. <https://doi.org/10.1086/717056>
- Girard, Victor
1971a "Proto-Carib phonology." PhD dissertation, University of California, Berkeley.
1971b *Proto-Takanan phonology*. University of California Publications in Linguistics, 70. Berkeley/Los Angeles: University of California Press.
- Girón Higueta, Jesús Mario
2008 "Una gramática del Wánsöjöt (Puinave)." PhD dissertation, Vrije Universiteit Amsterdam. LOT, 104. Utrecht: Netherlands Graduate School of Linguistics (LOT). <https://www.lotpublications.nl/una-gramatica-del-wansohot-puinave-una-gramatica-del-wansohot-puinave> (14.02.2024)
- González Holguín, Diego
1989 [1608] *Vocabulario de la lengua general de todo el Peru llamada Qquichua o del Inca*. Lima: Universidad Nacional Mayor de San Marcos. [First published: Lima: Francisco del Canto.]
- Greenhill Simon J., and Ross Clark
2011 "POLLEX-online: The Polynesian lexicon project online." *Oceanic Linguistics* 50, no. 2: 551-559. <https://pollex.eva.mpg.de> (14.02.2025)

- Grenand, Françoise, and Raymond Alasuka
 2023 "Wayampi dictionary." In *The intercontinental dictionary series*, edited by Mary Ritchie Key and Bernard Comrie. Leipzig: Max Planck Institute for Evolutionary Anthropology. <http://ids.cld.org/contributions/292> (14.02.2025)
- Guasch, Antonio, and Diego Ortiz
 1994 *Diccionario castellano-guaraní, guaraní-castellano*. Asunción: Centro de Estudios Paraguayos "Antonio Guasch" (CEPAG).
- Guirardello, Raquel
 1999 "A reference grammar of Trumai." PhD dissertation, Rice University.
- Harburg, Jenna
 2013 "Cumal to kūmara: The voyage of the sweet potato across the Pacific." *Hohonu* 12: 6-11. <https://hilo.hawaii.edu/campuscenter/hohonu/volumes/documents/CumaltoKumara-TheVoyageoftheSweetPotatoAcrossThePacificJennaHarburg.pdf> (14.02.2025)
- Hather, Jon, and Patrick V. Kirch
 1991 "Prehistoric sweet potato (*Ipomoea batatas*) from Mangaia Island, Central Polynesia." *Antiquity* 65, no. 249: 887-893. <https://doi.org/10.1017/S0003598X00080613>
- Hawkins, Robert E.
 2023 "Wai Wai dictionary." In *The intercontinental dictionary series*, edited by Mary Ritchie Key and Bernard Comrie. Leipzig: Max Planck Institute for Evolutionary Anthropology. <http://ids.cld.org/contributions/175> (14.02.2025)
- Howard, Rosaleen
 2010 "'Why do they steal our phonemes?' Inventing the survival of the Cañari language (Ecuador)." In *Linguistics and archaeology in the Americas: The historization of language and society*, edited by Eithne B. Carlin and Simon van de Kerke, 123-145. Leiden/Boston: Brill.
- Huber, Randall Q., and Robert B. Reed
 1992 *Comparative vocabulary: Selected words in Indigenous languages of Colombia*. Santafé de Bogotá: Asociación Instituto Lingüístico de Verano (ILV).
- Hurley, Jorge
 1931 "Vocabulário tupy-português, falado pelos Tembés dos rios Gurupy e Guamá, do Pará." *Revista do Museu Paulista* 17: 323-351.
- Jolkesky, Marcelo Pinho de Valhery
 2016 "Estudo arqueo-ecolinguístico das terras tropicais sul-americanas." PhD dissertation, Universidade de Brasília. <https://doi.org/10.26512/2016.02.T.21671>
- Kaplan, Lawrence, and Thomas F. Lynch
 1999 "*Phaseolus* (Fabaceae) in archaeology: AMS radiocarbon dates and their significance for pre-Colombian agriculture." *Economic Botany* 53, no. 3: 261-272. <https://www.jstor.org/stable/4256198> (14.02.2025)
- Key, Mary Ritchie
 2023a "Proto Polynesian dictionary." In *The intercontinental dictionary series*, edited by Mary Ritchie Key and Bernard Comrie. Leipzig: Max Planck Institute for Evolutionary Anthropology. <http://ids.cld.org/contributions/234> (14.02.2025)

- 2023b "Karajá dictionary." In *The intercontinental dictionary series*, edited by Mary Ritchie Key and Bernard Comrie. Leipzig: Max Planck Institute for Evolutionary Anthropology. <http://ids.clld.org/contributions/295> (14.02.2025)
 - 2023c "Yavitero dictionary." In *The intercontinental dictionary series*, edited by Mary Ritchie Key and Bernard Comrie. Leipzig: Max Planck Institute for Evolutionary Anthropology. <http://ids.clld.org/contributions/268> (14.02.2025)
- Landaburu, Jon
- 2000 "La lengua ika." In *Lenguas indígenas de Colombia: una visión descriptiva*, edited by María Stella González de Pérez and María Luisa Rodríguez de Montes, 733-748. Santafé de Bogotá: Instituto Caro y Cuervo.
- Lapierre, Myriam, and Lev Michael
- 2017 "Nasal segments in Tupí-Guaraní: A comparative synthesis." Paper presented at CILLA VIII, October 26, 2017, University of Texas at Austin.
- Launey, Michel
- 2003 *Awna parikwaki: introduction à la langue palikur de Guyane et de l'Amapá*. Paris: Institut de Recherche pour le Développement. https://horizon.documentation.ird.fr/exl-doc/pleins_textes/divers10-04/010033210.pdf (14.02.2025)
- Layme Pairumani, Félix
- 2004 *Diccionario bilingüe aymara-castellano, castellano-aymara*. La Paz: Consejo Educativo Aymara (CEA).
- Meador, Robert E.
- 1978 *Índios do Nordeste: levantamento sobre os remanescentes tribais do nordeste brasileiro*. Série Lingüística, 8. Brasília: Summer Institute of Linguistics (SIL).
- Meira, Sérgio, and Sebastian Drude
- 2015 "A summary reconstruction of Proto-Maweti-Guarani segmental phonology." *Boletim do Museu Paraense Emílio Goeldi, Ciências Humanas* 10, no. 2: 275-296. <https://doi.org/10.1590/1981-81222015000200005>
- Mello, Antônio Augusto Souza
- 2000 "Estudo histórico da família linguística Tupí-Guaraní: aspectos fonológicos e lexicais." PhD dissertation, Universidade Federal de Santa Catarina. <https://repositorio.ufsc.br/xmlui/handle/123456789/78560> (14.02.2025)
- Mello, Antônio Augusto Souza, and Andreas Kneip
- 2017 "Novas evidências linguísticas (e algumas arqueológicas) que apontam para a origem dos povos Tupi-Guarani no leste amazônico." *Literatura y Lingüística* 36: 299-312. <https://doi.org/10.4067/S0716-58112017000200299>
- Melville, Colette, Frances V. Tracy, and Olive Williams
- 2023 "Wapishana dictionary." In *The intercontinental dictionary series*, edited by Mary Ritchie Key and Bernard Comrie. Leipzig: Max Planck Institute for Evolutionary Anthropology. <http://ids.clld.org/contributions/266> (14.02.2025)
- Michael, Lev
- 2023 "On the possible South American origins of Polynesian *kumara* 'sweet potato'." *Amazonian Linguistics: Thoughts on language, culture, and society in greater Amazonia*. <https://anthroling.wordpress.com/2023/01/21/558/> (14.02.2025)

- Middendorff, Ernst W.
 1890 *Die einheimischen Sprachen Perus*, vol. 2: *Wörterbuch des Runa Simi oder der Keshua-Sprache*. Leipzig: F. A. Brockhaus.
 1892 *Die einheimischen Sprachen Perus*, vol. 6: *Das Muchik oder die Chimu-Sprache; mit einer Einleitung über die Culturvölker, die gleichzeitig mit den Inkas und Aimaräs in Südamerika lebten, und einem Anhang über die Chibcha-Sprache*. Leipzig: F. A. Brockhaus.
- Mielke, Jeff
 2008 “The emergence of distinctive features.” Database. Oxford: Oxford University Press. <https://pbase.phon.chass.ncsu.edu/query> (14.02.2025)
- Monod-Becquelin, Aurore
 2023 “Trumai dictionary.” In *The intercontinental dictionary series*, edited by Mary Ritchie Key and Bernard Comrie. Leipzig: Max Planck Institute for Evolutionary Anthropology. <http://ids.clld.org/contributions/296> (14.02.2025)
- Monserrat, Ruth Maria Fonini, and Elizabeth Rondon Amarante
 1995 *Dicionário M'ky-Português*. Rio de Janeiro: Editora Sepee/SR-5/Universidade Federal do Rio de Janeiro (UFRJ).
- Montenegro, Álvaro, Chris Avis, and Andrew Weaver
 2008 “Modeling the prehistoric arrival of the sweet potato in Polynesia.” *Journal of Archaeological Science* 35, no. 2: 355–367. <https://doi.org/10.1016/j.jas.2007.04.004>
- O’Hagan, Zachary, Natalia Chousou-Polydouri, and Lev Michael
 2019 “Phylogenetic classification supports a northeastern Amazonian Proto-Tupí-Guaraní homeland.” *LLAMES* 19: 1–29. <https://doi.org/10.20396/liames.v19i0.8655791>
- Pache, Matthias
 2016 “The grammaticalization of plant-part terms in Chibchan languages.” *International Journal of American Linguistics* 82, no. 4: 425–452. <https://doi.org/10.1086/688391>
 2018a “Lengua X: An Andean puzzle.” *International Journal of American Linguistics* 84, no. 2: 265–284. <https://doi.org/10.1086/696199>
 2018b “Contributions to Chibchan historical linguistics.” PhD dissertation, Universiteit Leiden. <https://hdl.handle.net/1887/67094> (14.02.2025)
 2023a “Traces of contact in western South America: Arawakan and Andean languages.” *Indiana* 40, no. 1: 97–130. <https://doi.org/10.18441/ind.v40i1.97-130>
 2023b “Evidence for a Chibcha-Jê connection.” *International Journal of American Linguistics* 89, no. 2: 219–253. <https://doi.org/10.1086/723641>
 2024 “The grammar of the verb in the languages of the central Andes.” In *The Oxford Guide to the languages of the central Andes*, edited by Matthias Urban, 551–596. Oxford: Oxford University Press. <https://doi.org/10.1093/oso/9780198849926.003.0019>
- Pache, Matthias, Søren Wichmann, and Mikhail Zhivlov
 2016 “Words for ‘dog’ as a diagnostic of language contact in the Americas.” In *Language contact and change in the Americas: Studies in honor of Marianne Mithun*, edited by Andrea Berez-Kroeker, Diane Hintz, and Carmen Jany, 385–409. Amsterdam/Philadelphia: John Benjamins. <https://doi.org/10.1075/slcs.173.17pac>
- Padua, Alexandre Jorge
 2007 “Contribuição para a fonologia da língua Apiaká (Tupí-Guaraní).” MA thesis, Universidade de Brasília. <http://icts.unb.br/jspui/handle/10482/2311> (14.02.2025)

Payne, David L.

- 1991 "A classification of Maipuran (Arawakan) languages based on shared lexical retentions." In *Handbook of Amazonian languages*, edited by Desmond C. Derbyshire and Geoffrey K. Pullum, vol. 3, 355-499. Berlin/New York: Mouton de Gruyter. <https://doi.org/10.1515/9783110854374>

Pérez Diez, Andrés A.

- 2023 "Mosetén dictionary." In *The intercontinental dictionary series*, edited by Mary Ritchie Key and Bernard Comrie. Leipzig: Max Planck Institute for Evolutionary Anthropology. <http://ids.clld.org/contributions/271> (14.02.2025)

Ramirez, Henri

- 2020 *Enciclopédia das línguas Arawak: acrescida de seis novas línguas e dois bancos de dados*. Curitiba: CRV.

Ribeiro, Eduardo Rivail

- 2012 "A grammar of Karajá." PhD dissertation, University of Chicago.

Rivet, Paul

- 1943 *Les origines de l'homme américain*. Montréal: Les Éditions de l'Arbre.
1956 "Early contacts between Polynesia and America." *Diogenes* 4, no. 16: 78-92. <https://doi.org/10.1177/039219215600401605>

Rodrigues, Aryon Dall'Igna

- 2000 "Hipótese sobre as migrações dos três subconjuntos meridionais da família Tupí-Guaraní." *Atas do II Congresso Nacional da ABRALIN e XIV Instituto Linguístico*, 1596-1605. CD-ROM. Florianópolis: Associação Brasileira de Linguística.

Rodrigues, Aryon Dall'Igna, and Ana Suely Arruda Câmara Cabral

- 2012 "Tupian." In *The Indigenous languages of South America: A comprehensive guide*, edited by Lyle Campbell and Verónica Grondona, 495-574. Berlin/Boston: De Gruyter Mouton. <https://doi.org/10.1515/9783110258035.495>

Rosat Pontacti, Adalberto A.

- 2004 *Diccionario enciclopédico quechua-castellano del mundo andino*. Cochabamba: Verbo Divino.

Roullier, Caroline, Laure Benoit, Doyle B. McKey, and Vincent Lebot

- 2013 "Historical collections reveal patterns of diffusion of sweet potato in Oceania obscured by modern plant movements and recombination." *Proceedings of the National Academy of Sciences* 110, no. 6: 2205-2210. <https://doi.org/10.1073/pnas.1211049110>

Rzyski, Christoph, Tiago Tresoldi, Johann-Mattis List, Simon Greenhill, and Robert Forkel

- 2019 "The database of cross-linguistic colexifications, reproducible analysis of cross-linguistic polysemies." <https://doi.org/10.1038/s41597-019-0341-x>

Sá, Aluizio Caetano de

- 2000 *Dicionário Iatê-Português*. Águas Belas: Published by the author.

Scaglione, Richard

- 2005 "Kumara in the Ecuadorian Gulf of Guayaquil?" In *The sweet potato in Oceania: A reappraisal*, edited by Chris Ballard, Paula Brown, R. Michael Bourke, and Tracy Harwood, 35-41. Ethnology Monographs, 19/Oceania Monograph, 56. Pittsburgh/Sydney: University of Pittsburgh/University of Sydney.

- Seemann, Berthold
1865 *Flora vitiensis: A description of the plants of the Viti or Fiji Islands, with an account on their history, uses, and properties*. London: L. Reeve and Co.
- Seler, Eduard
1902 “Nachtrag B: Die Sprache der Indianer von Esmeraldas.” In *Gesammelte Abhandlungen zur Amerikanischen Sprach- und Alterthumskunde*, vol. 1: *Sprachliches-Bilderschriften-Kalender und Hieroglyphenentzifferung*, sec. 1: *Sprachliches*, 49-64. Berlin: A. Asher & Co.
- Taylor, Gerald
2006 *Diccionario quechua chachapoyas-lamas*. Lima: Instituto Francés de Estudios Andinos (IFEA).
- Torero, Alfredo
1972 “Lingüística e historia de la sociedad andina.” In *El reto del multilingüismo en el Perú*, edited by Alberto Escobar, 51-106. Problema, 9. Lima: Instituto de Estudios Peruanos (IEP).
- Tuggy, Juan
1966 *Vocabulario candoshi de Loreto*. Serie Lingüística Peruana, 2. Yarinacocha: Instituto Lingüístico de Verano (ILV). <https://www.sil.org/resources/archives/30116> (14.02.2025)
- Urban, Matthias
2015 “El vocabulario sechurano de Richard Spruce.” *Lexis* 39, no. 2: 395-413. <https://doi.org/10.18800/lexis.201502.005>
2018 “The lexical legacy of substrate languages: A test case from the southern Ecuadorian highlands.” *Transactions of the Philological Society* 116, no. 3: 435-459. <https://doi.org/10.1111/1467-968X.12129>
2023 “Agouti historiography: The problem of widespread lexical forms and deep linguistic history in Central and South America.” *Faits de Langues* 53, no. 1: 83-109. <https://doi.org/10.1163/19589514-05301005>
- Voort, Hein van der
2005 “Kwaza in a comparative perspective.” *International Journal of American Linguistics* 71, no. 4: 365-412. <https://doi.org/10.1086/501245>
- Wetzels, W. Leo, and Andrew Nevins
2018 “Prenasalized and postoralized consonants: The diverse functions of enhancement.” *Language* 94, no. 4: 834-866. <https://doi.org/10.1353/lan.2018.0055>
- Yen, Douglas E.
1974 *The sweet potato in Oceania: An essay in ethnobotany*. Bernice P. Bishop Museum Bulletin, 236. Honolulu: Bishop Museum Press.
- Zhang, Dapeng, Jim Cervantes, Zosimo Huamán, Edward Carey, and Marc Ghislain
2000 “Assessing genetic diversity of sweet potato (*Ipomoea batatas* (L.) Lam.) cultivars from tropical America using AFLP.” *Genetic Resources and Crop Evolution* 47, no. 6: 659-665. <https://doi.org/10.1023/A:1026520507223>

