First person singular markers in Migueleño Chiquitano*

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Abstract: This study focuses on certain morphophonological and morphological properties of the 1SG markers in Migueleño Chiquitano that set this dialect apart from other Chiquitano varieties described to date. I show that Migueleño Chiquitano is unique in having distinct prefixes for 1SG.F and 1SG.M. I argue that this distinction cannot be attributed to the category of referent gender and should rather be interpreted in genderlectal terms. I also propose a diachronic scenario, according to which Migueleño is conservative in having two gender-specific 1SG prefixes, while in all other Chiquitano varieties two historically distinct morphemes would have become allomorphs of one 1SG morpheme. This has consequences for some diachronic hypotheses that had been put forward by other authors.

Keywords: Chiquitano, person-marking morphology, gender speech distinctions, linking consonants, morphophonology, Macro-Jê languages.

1 Introduction

Chiquitano[1] (ISO 639-3: cax) is a language spoken by approximately 5000 people in Chiquitanía, a vast region located in Lowland Bolivia (Santa Cruz department) and in the adjacent areas of Brazil (Mato Grosso state) that constitutes a transition zone between the Amazonia, the Gran Chaco, the Pantanal, and the Andes. Although Chiquitano has been treated as an isolate language until recently, a proposal that links it to the Macro-Jê family has been gaining an increasing acceptance in the scholarly community in recent years (Adelaar 2008; Ribeiro 2011; Santana 2012).

Little has been written until now on the dialectal structure of Chiquitano. At least three major varieties, sufficiently different from each other so as to hinder or even exclude mutual intelligibility, can be securely identified. **Lomeriano Chiquitano** (= Lom), or Bésɨro, is spoken in the region of Lomerío. It is the only vital variety of the language, the only one that has an established orthography, and the one that has received most attention from linguists (Krüsi & Krüsi 1975; Galeote Tormo 1996; Parapaino Castro 2008; Sans 2010, 2011, 2013). **Ignaciano Chiquitano** (= Ign; Fuss & Riester 1986) is spoken in the vicinities of San Ignacio de Velasco; the varieties spoken in San Rafael (= SRaf; Girard 2012, 2014), San Javierito (= SJav; Ciucci & Macoñó Tomichá 2018), and on the Brazilian side of the border (= Br; Santana 2012) are plausibly identifiable as its subdialects. **Migueleño Chiquitano** (= Mig), the focus of the present study, is a moribund underdescribed variety of the language spoken by approximately 30 people scattered over the municipality of San Miguel de Velasco.

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[1] The Migueleño variety of Chiquitano has 17 consonant phonemes (/p, t, ts, tʃ, k, ʔ, s, ʂ, x, β, ɾ, j, ɯ, m, n, ɲ, ŋ/) and 12 vowel phonemes (/a, ã, ɨ, ɨ̃, o, õ, u, ũ, e, ẽ, i, ĩ/). The segments [c], [kʲ], and [ʃ] are palatalized allophones of /t/, /p, k/, and /x/, respectively. Orthographic representation is used in the remainder of this paper for Chiquitano surface forms. The orthography differs from IPA in the following cases: <z> = *ts*, <ch> = *tʃ*, <’> = *ʔ*, <x> = *ʂ*, <j> = *x*, <b> = *β*, <r> = *ɾ*, <y> = *j*, <g> = *ɯ*, <ñ> = *ɲ*, <ng> = *ŋ*, <ty> = *c*, <ky> = *kʲ*, <xh> = *ʃ*. The stress, when its position is known, is indicated with an acute.

The following glossing abbreviations are used throughout this paper: 1 = first person, 3 = third person, ACT = active, EXCL = exclusive, F = feminine, INCL = inclusive, M = masculine, NM = non-masculine, POSS.CL = possessive classifier, PL = plural, SG = singular, ♀ = female speech, ♂ = male speech, SAP = speech act participant.

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In this study, I discuss some properties of Migueleño Chiquitano 1SG prefixes, which set this variety apart from all other Chiquitano varieties described to date. The data used in the study come from four fieldwork trips to the communities of San Juan de Lomerío and San Miguel de Velasco, carried out between July 2017 and February 2019. The data from the only available published source on Migueleño Chiquitano (Parzinger et al. 2016) have not been considered at the present stage of our study due to their heterogeneous origin.

The remainder of this paper is structured as follows. In Section 2, I present the data from previous research on the allomorphy of the 1SG prefix in Lomeriano and Ignaciano Chiquitano, before proceeding to the Migueleño data in Section 3, where I show that this Chiquitano variety has two distinct 1SG prefixes as per the gender of the speaker. In Section 4, I situate this gender-related distinction within a larger system of genderlectal differences operating in Chiquitano. In Section 5, I argue that the situation in Lomeriano and Ignaciano is innovative and put forward a diachronic scenario that accounts for their evolution. I conclude the paper with Section 6, where I offer some final comments and suggest directions for further research.

2 First person singular prefixes in other Chiquitano varieties

All Chiquitano varieties[2] have a set of person prefixes encoding the possessor (in inflectable nouns), the argument A (in transitive verbs), the argument S (in intransitive verbs), or the complement (in adpositions). In all Chiquitano varieties described to date, the first person singular argument (except the argument O and several specific constructions where a person enclitic is required instead) is expressed by a prefix that I represent here as /iX-/, the character *X* standing for a lexically specified consonant that often surfaces when the prefix is attached to a vowel-initial stem. This prefix follows a fairly complex allomorphy pattern. In stems whose initial segments are consonants, it surfaces as *i-*, as shown in (1) below.[3] Note that some consonants are automatically palatalized following an underlying /i/, though the exact environment for this varies from dialect to dialect (Girard 2012: 28).

(1)	a.	Lom	*n-í-pope*	/n-iX-pope/[4]	‘my foot’
		SJav	*i-pópe*	/iX-pope/	
		Br	*n-í-piope*	/n-iX-pope/	
	b.	Lom	*n-í-pia*	/n-iX-pa/	‘my arm’
		SJav	*i-piáñɨ*	/iX-pa=ɲɨ/	
		Br	*n-í-pia*	/n-iX-pa/	
	c.	Lom	*i-xhánka*	/iX-ʂã-ka/	‘I want’
		Br	*i-xhiñáka*	/iX-ʂiɲa-ka/	
	d.	Lom	*i-cháka*	/iX-ʧa-ka/	‘I drink’
		Ign	*i-cháka*	/iX-ʧa-ka/	

[2] The data in this section are extracted from the following sources with minor orthographic modifications: Sans (2013), Galeote Tormo (1996), and Parapaino Castro (2008) for Lomeriano; Ciucci & Tomichá Macoñó (2018) for San Javierito Ignaciano; Girard (2014) for San Rafael Ignaciano; Santana (2012) for Brazilian Ignaciano.

[3] In Ignaciano, /i/ is sometimes realized as *e* before *s* and *z*: Br *n-e-súki* /n-iX-suki/ ‘my eyelashes’, *n-e-síchi* /n-iX-siʧe/ ‘my daughter’, *e-sucheka* /iX-suʧe-ka/ ‘I am sad’; SJav *e-sú-ñɨ* /iX-su-ɲɨ/ ‘my face’. This process does not occur on a regular basis in SJav (where forms like *i-seménu* /iX-semenu/ ‘my garbage’ and *i-súto* /iX-suto/ ‘my eye’ have been attested) and does not exist at all in Lomeriano.

[4] The segment *n-* occurs in Lomeriano and Brazilian Ignaciano vowel-initial inflected forms of nouns and is obligatory in most cases. It corresponds to *r-/n-* (per nasality) in other Ignaciano subdialects and in Migueleño, where its occurrence is more restricted.

Stem-initial /t-/ and /k-/ are affected by the 1SG prefix in an idiosyncratic way. Instead of getting palatalized (a regular process after /i/-final morphemes), these consonants undergo another alternation: /t-/ → *ch-*, /k-/ → *z-* (Lomeriano *s-*), as shown below in (2).[5]

(2)	a.	Lom	*n-i-chánu*	/n-iX-tanu/	‘my head’
		SJav	*i-chánɨ*	/iX-tanɨ/	
		Br	*n-i-chɑ̃ɑ̃na* (sic)	/n-iX-tɑ̃ɑ̃nu/	
	b.	Lom	*n-i-sɨse*	/n-iX-kɨse/	‘my knife’
		SJav	*í-zɨse*	/iX-kɨse/	
	c.	Lom	*i-sɨrɨpɨ́ka*	/iX-kɨɾɨpɨ-ka/	‘I am hungry’
		Br	*i-surupɨ́ka*	/iX-kɨrupɨ-ka/	

Before *i*-initial stems, the 1SG prefix surfaces as *Ø-*, as shown in (3).

(3)	a.	Lom	*n-Ø-íncha*	/n-iX-ĩtʃa/	‘my knee’
		SJav	*Ø-í’icha*	/iX-iʔitʃa/	
		Br	*n-Ø-iĩ́tʃa*	/n-iX-iĩtʃa/	
	b.	Lom	*n-Ø-íña*	/n-iX-iɲa/	‘my nose’
		SJav	*Ø-íña*	/iX-iɲa/	
		Br	*n-Ø-íña*	/n-iX-ĩɲa/	

Unlike consonant-initial and *i*-initial stems, where the choice of the allomorph of the 1SG prefix is entirely predictable, other vowel-initial stems behave in a different way. Before vowels different from *i*, a lexically specified consonant (= ‘linking consonant’)[6] is inserted between the 1SG prefix and the stem, the options being *-z-* (Lom *-s-*), *-y-/-ñ-*, *-xh-*. The prefix vowel itself may be deleted in word-initial position (the conditioning factor for the elision of word-initial *i-* in Chiquitano varieties other than Migueleño has not been described so far). Some stems that require the linking consonant *-z-* (Lom *-s-*) are listed in (4) below.[7]

(4)	a.	Lom	*n-is-ɨ́(ɨ)ri*	/n-iX-ɨ(ɨ)ɾi/	‘my name’
		SJav	*z-ɨ́ri*	/iX-ɨɾi/	
		Br	*s-ɨ́ri*	/iX-ɨɾi/	
	b.	Lom	*s-a(a)’íñɨ*	/iX-a(a)ʔi=ɲɨ/	‘in my mouth’
		SJav	*iz-ái*	/iX-ai/	‘my mouth’
		Br	*n-ez-á’i ~ z-á’i*	/(n-)iX-aʔi/	‘my mouth’
	c.	Lom	*is-areóka*	/iX-aɾeo-ka/	‘I cry’
		Br	*s-are’óka ~ s-aregóka*	/iX-aɾeʔo-ka ~ iX-aɾeɰo-ka/	
	d.	Lom	*n-is-ó’o*	/n-iX-oʔo/	‘my tooth’
		SJav	*iz-ó’o*	/iX-oʔo/	
		Br	*n-ez-ó’o*	/n-iX-oʔo/	

[5] Besides the 1SG prefix, the same alternation is caused by the 1EXCL prefix (Lom *sui-*, Ign *zoi-*), not considered here. In Brazilian Ignaciano, both prefixes usually undergo the process mentioned in Footnote 3 before *z* (← /k/), yielding forms like *n-e-stípo* /n-iX-kɨtɨpɨ/ ‘my body’, *n-e-sorasóne* /n-iX-koɾasone/ ‘my heart’ (< Sp. *corazón*), *n-e-samísa* /n-iX-kamisa/ ‘my shirt’ (< Sp. *camisa*).

[6] A linking consonant is also required by the 1INCL prefix /oX-/ (surface *o-* ~ *u-*), not considered here.

[7] In Brazilian Ignaciano, the process described in Footnote 3 consistently applies before the linking consonant *-z-* (which may optionally surface as *-s-* in this variety, see Santana 2012: 140).

Stems that require the linking consonant *-y-* (which is nasalized to *-ñ-* if any nasal segment is present in the stem) are exemplified in (5) below.

(5)	a.	Lom	*n-iñ-útu*	/n-iX-otu$_{[+nas]}$/	‘my tongue’
		SJav	*iñ-ótu*	/iX-otu$_{[+nas]}$/	
		Br	*ñ-ĩ-óto* (sic)[8]	/n-iX-otu$_{[+nas]}$/	
	b.	Lom	*n-iy-ésa*	/n-iX-esa/	‘my object:POSS.CL’
	c.	Lom	*n-iy-ábu*	/n-iX-aβ̩u/	‘my animal:POSS.CL’
	d.	Lom	*y-asubái-kia*	/iX-a-suβ̩ai-ka/	‘I extract honey’
	e.	Lom	*y-a(a)chá-ka*	/iX-a-(a)tʃa-ka/	‘I hunt’
	f.	Lom	*ñ-asamú-ka*	/iX-a-samu-ka/	‘I make’
	g.	Lom	*y-ataché-ka*	/iX-a-tatʃe-ka/	‘I am tired’
		Br	*y-ataché-ka*	/iX-a-tatʃe-ka/	

Some stems that require the linking consonant *-xh-* (which is the palatalized allophone of /ʂ/ in Lomeriano and Ignaciano) are listed in (6) below.

(6)	a.	Lom	*xh-anityáka*	/iX-a-nita-ka/	‘I speak’
		SJav	*xh-anityáka*	/iX-a-nita-ka/	
		Br	*xh-ãnityáka*	/iX-a-nita-ka/	
	b.	Lom	*n-ixh-ompakɨ*	/n-iX-õpakɨ/	‘shoulder’
		SJav	*xh-oõpak*	/iX-õõpakɨ/	
	c.	Lom	*xh-apánka*	/iX-a-pã-ka/	‘I deceive’
		SRaf	*xh-apããka*	/iX-a-pãã-ka/	
		Br	*xh-apãngka*	/iX-a-pã-ka/	
	d.	Lom	*xh-atabáikia*	/iX-a-taβ̩ai-ka/	‘I kill’
		Br	*xh-atabáikya*	/iX-a-taβ̩ai-ka/	
	e.	Lom	*ixh-áka*	/iX-a-a-ka/	‘I eat’
		Br	*ixh-áka*	/iX-a-a-ka/	

In a very small number of instances, variation in the choice of the linking consonant has been attested across Chiquitano varieties, as shown in (7).

(7)	a.	Lom	*n-iy-ausasɨ*	/n-iX-ausasɨ/	‘my heart’
		SJav	*z-auzás* ~ *y-auzás*	/iX-autsasɨ/	
	b.	Lom	*n-iñ-é’e*	/n-iX-eʔe$_{[+nas]}$/	‘my hand’
		SJav	*ixh-é’e*	/iX-eʔe$_{[+nas]}$/	
		Br	*n-iñ-ɛ́’ɛ̃*	/n-iX-ɛ̃ʔɛ̃/	

In example (7a) above, forms with two different linking consonants (*-z-* and *-y-*) have been attested for San Javierito Ignaciano with no reported differences in meaning or usage (Ciucci & Macoñó Tomichá 2018: 18). In example (7b), San Javierito Ignaciano diverges from

[8] Probably a mistranscription of *n-iñ-ótu*.

Lomeriano and Brazilian Ignaciano in that the linking consonant *-xh-* is used instead of *-ñ-*. However, such cases are exceptional, and in the overwhelming majority of cases all Lomeriano and Ignaciano varieties agree in the choice of the linking consonant.

The choice of the linking consonant in Chiquitano is commonly thought to have, ultimately, a phonological origin, even though synchronically it is impossible to account for it in phonological terms. Adelaar (2008: 24) and Ribeiro (2011: 113) propose a diachronic scenario for the development of the allomorphy in question. According to these authors, the choice between Lomeriano *-s-* and *-ñ-* would have been conditioned by the nasality of the following vowel at an earlier stage (at least in some instances), as suggested by certain Macro-Jê comparanda, exemplified in (8) below. The Proto-Macro-Jê nasality would have been subsequently lost in Chiquitano.

(8) **Similarities between Lomeriano and Apinajé (Macro-Jê > Jê) linking consonants**
(adapted from Ribeiro 2011: 113; the Proto-Macro-Jê reconstructions are mine)

	a.	b.
Lom	*n-i-ñ-útu*	*i-s-ó'o*
Apinajé	*i-ɲ-ɔ̃ʔtɔ*	*i-tʃ-wa*
Proto-Macro-Jê stem	**-j-õjtək*	**-j-oñ*
	'tongue'	'tooth'

Although Adelaar (2008) and Ribeiro (2011) do not discuss the origins of the linking consonants *-y-* and *-xh-*, their implicit claim seems to be that all Chiquitano linking consonants go back to a single Proto-Macro-Jê segment through a split conditioned by the quality of the initial vowel of the following morpheme. Note, however, that this would imply that the stems whose leftmost morphemes are identical are expected to select for the same linking consonants. This is not the case in the Lomeriano and Ignaciano varieties of Chiquitano. For instance, all the verbs that belong to the class of *active verbs* contain the prefix *-a-* (Sans 2012). Contrary to what would be expected if Adelaar's and Ribeiro's hypotheses were correct, Lomeriano and Ignaciano active verbs are lexically specified to combine either with the linking consonant *-y-/-ñ-*, or with the linking consonant *-xh-*, as I show in (9) below. Note that the linking consonant *-z-* (Lomeriano *-s-*) never occurs in active verbs (Sans 2013).

(9)	a.	Lom	*y-asubái-kia*	/iX-a-suβ̞ai-ka/	'I extract honey'
	b.	Lom	*y-achá-ka*	/iX-a-tʃa-ka/	'I hunt'
	c.	Lom	*ñ-asamú-ka*	/iX-a-samu-ka/	'I make'
	d.	Lom	*y-ataché-ka*	/iX-a-tatʃe-ka/	'I am tired'
		Br	*y-ataché-ka*	/iX-a-tatʃe-ka/	
	e.	Lom	*xh-anityáka*	/iX-a-nita-ka/	'I speak'
		SJav	*xh-anityáka*	/iX-a-nita-ka/	
		Br	*xh-ãnityáka*	/iX-a-nita-ka/	
	f.	Lom	*xh-apánka*	/iX-a-pã-ka/	'I deceive'
		SJav	*xh-apãã́ka*	/iX-a-pãã-ka/	
		Br	*xh-apã́ngka*	/iX-a-pã-ka/	
	g.	Lom	*xh-atabáikia*	/iX-a-taβ̞ai-ka/	'I kill'
		Br	*xh-atabáikya*	/iX-a-taβ̞ai-ka/	

Observe that, although the leftmost morpheme of all the verb stems in (9) is one and the same

(*-a-* ACT), the stems in (9a) to (9d) select for the linking consonant *-y-/-ñ-*, whereas the stems in (9e) to (9g) select for the linking consonant *-xh-*.

In conclusion, in the Lomeriano and Ignaciano varieties of Chiquitano, the allomorphy of the 1SG prefix is not predictable for stems whose initial segment is a vowel distinct from *i*, and these stems must be lexically specified for selecting for one of the linking consonants *-z-* (Lom *-s-*), *-y-/-ñ-*, or *-xh-* (only the two latter options are available for active verbs).

3 Migueleño Chiquitano data

In this section, I argue that Migueleño Chiquitano, unlike Lomeriano and Ignaciano, has two similar yet distinct 1SG prefixes, namely /ix-/ 1SG.F and /ij-/ 1SG.M. In most stem types, however, these two prefixes are formally identical. For example, before consonants both surface as *i-*, *Ø-*, or *e-*, causing some stem-initial consonants to undergo palatalization (namely, /p/ → *ky*, /β̞/ → *y*, /m/ → *ñ*, /x/ → *xh*), an automatic process in the environment /i_/ in Migueleño Chiquitano.[9] Just like in Lomeriano and Ignaciano, stem-initial /t/ and /k/ are affected by a special morphophonological rule: they are affricated to *ch-* and *z-* after the 1SG and 1EXCL prefixes. The most common allomorph of 1SG.F/M before consonants is *i-*, as illustrated in (10).

(10)	a.	*í-kyope*	/ix-pope/, /ij-pope/	‘my foot’
	b.	*i-yáɨzi*	/ix-β̞aɨtsi/, /ij-β̞aɨtsi/	‘my hammock’
	c.	*i-xhiñáka*	/ix-xiɲaʔa-ka/, /ij-xiɲaʔa-ka/	‘I want’
	d.	*i-chokóka*	/ix-toko-ka/, /ij-toko-ka/	‘I dance’
	e.	*í-chɨ*	/ix-tɨɨ/, /ij-tɨɨ/	‘my neck’
	f.	*i-chɨgoríkya*	/ix-tɨɯɾi-ka/, /ij-tɨɯɾi-ka/	‘I am angry’

The allomorph *e-* occurs before /s/- and /k/-initial stems due to a phonological process that transforms /i/ into *e* before *s* and *z*. Some examples are provided in (11) below.

(11)	a.	*e-súto*	/ix-suto/, /ij-suto/	‘my eye’
	b.	*e-suchéka*	/ix-sutʃe-ka/, /ij-sutʃe-ka/	‘I am sad’
	c.	*é-su*	/ix-su/, /ij-su/	‘my face’
	d.	*e-síche*	/ix-sitʃe/, /ij-sitʃe/	‘my daughter’
	e.	*é-zese*	/ix-kese/, /ij-kese/	‘my knife’
	f.	*e-zoboríkya*	/ix-koβ̞ɾi-ka/, /ij-koβ̞ɾi-ka/	‘I get ready’
	g.	*e-zóng-ka*	/ix-kõ-ka/, /ij-kõ-ka/	‘I dry myself’

If at least one syllable separates the prefix from the stressed syllable, the zero allomorph may occur, reflecting an apocope process that also occurs elsewhere in the language. An example is given in (12). (For reasons still unsufficiently explored, even in this environment the apocope sometimes fails to occur, especially in verbs, cf. 10c, 10d, 10f, 11b, 11f.)

(12)	*Ø-churápa*	/ix-tuɾapa/, /ij-tuɾapa/	‘my friend’

In /i/-initial stems, the allomorph *i’-* is found when the prefix is expected to be stressed,[10] and

[9] For consonants other than /x/, the palatalization is blocked in the environment *i_i*: Mig *i-piíjta* ‘my party’ (not **i-kyiɨjta*). In one word, the affrication is also blocked in this environment: Mig *i-kíkyoru* (**e-zíkyoru*) ‘my belly’. In Migueleño Chiquitano, /t/ and /k/ are also affected by the same process, but in the specific case of the 1SG (and 1EXCL) forms the palatalization is bled by the affrication, as shown in (10d) to (10f) and (11e) to (11g).

[10] As I have argued elsewhere (Nikulin 2018), the stress position is determined by the rightmost morpheme within a phonological word in Migueleño Chiquitano.

a zero allomorph occurs otherwise, as shown in (13).

(13)	a.	*í'-icha*	/ix-itʃa/, /ij-itʃa/	'my knee'
	b.	*í'-iña*	/ix-iɲa/, /ij-iɲa/	'my nose'
	c.	*Ø-íkyaka*	/ix-ipaka/, /ij-ipaka/	'I know'
	d.	*Ø-kyáta*	/ix-i-ka-ta/, /ij-i-ka-ta/	'I bring it'
	e.	*Ø-kyenéta*	/ix-i-pene-ta/, /ij-i-pene-ta/	'I push it'
	f.	*Ø-ñañéta*	/ix-i-aɲe-ta/, /ij-i-aɲe-ta/	'I grab it'
	g.	*Ø-tyasúkɨʔ*	/ix-i-tasu-ka-ɨʔɨ/, /ij-i-tasu-ka-ɨʔɨ/	'I call you'

Note that the zero allomorph occurs even in the cases in which the stem-initial vowel itself is apocopated or consonantized, as in (13d) to (13g).
The last group of stems where the 1SG.F and 1SG.M prefixes are not distinct are vowel-initial stems that lexically select for the linking consonant *-z-*, as illustrated in (14) below.

(14)	a.	*e-z-á'i*	/ix-ts-aʔi/, /ij-ts-aʔi/	'my mouth'
	b.	*e-z-ó'o*	/ix-ts-oʔo/, /ij-ts-oʔo/	'my tooth'
	c.	*e-z-oɨgáka*	/ix-ts-oɨɯa-ka/, /ij-ts-oɨɯa-ka/	'I dry myself'
	d.	*z-ukaniñɨ'ɨtɨ*	/ix-ts-ũkani=ɲɨʔɨ=tɨ/, /ij-ts-ũkani=ɲɨʔɨ=tɨ/	'I say'
	e.	*z-areyóka*	/ix-ts-aɾejo-ka/, /ij-ts-aɾejo-ka/	'I cry'
	f.	*zóbi*	/ix-ts-oβi̯/, /ij-ts-oβi̯/	'by me' (instrumental adposition)

In all other Migueleño Chiquitano stems (that is, in stems whose initial segment is a vowel other than *i* and that are *not* lexically specified to combine with the linking consonant *-z-*) 1SG.F and 1SG.M forms are formally distinguished. This includes all Chiquitano active verbs, as well as some nouns, adpositions, and stative verbs. As shown in (15), female speakers use the prefix *(i)xh-*, whereas male speakers use the prefix *(i)y-*/*(i)ñ-*.

(15)	a.	*ixh-ápa*	/ix-apa$_{[+nas]}$/	'my.♀ louse'
		iñ-ápa	/ij-apa$_{[+nas]}$/	'my.♂ louse'
	b.	*xh-auzásɨ*	/ix-autsasɨ/	'my.♀ heart'
		y-auzásɨ	/ij-autsasɨ/	'my.♂ heart'
	c.	*ixh-ɛ́'ɛ̃*	/ix-ɛ̃ʔɛ̃/	'my.♀ hand'
		iñ-ɛ́'ɛ̃	/ij-ɛ̃ʔɛ̃/	'my.♂ hand'
	d.	*xh-ótu*	/ix-otu$_{[+nas]}$/	'my.♀ tongue'
		ñ-ótu	/ij-otu$_{[+nas]}$/	'my.♂ tongue'
	e.	*xh-akɨgáka*	/ix-a-kɨɯa-ka/	'I.♀ hunt'
		y-akɨgáka	/ij-a-kɨɯa-ka/	'I.♂ hunt'
	f.	*xh-anóka*	/ix-a-no-ka/	'I.♀ sleep'
		ñ-anóka	/ij-a-no-ka/	'I.♂ sleep'
	g.	*xh-aunjokóka*	/ix-a-ũxoko-ka/	'I.♀ am ill'
		ñ-aunjokóka	/ij-a-ũxoko-ka/	'I.♂ am ill'
	h.	*xh-atáka*	/ix-a-ta-ka$_{[+nas]}$/	'I.♀ harvest'
		ñ-atáka	/ij-a-ta-ka$_{[+nas]}$/	'I.♂ harvest'
	i.	*xh-aingkíkya*	/ix-a-ĩki-ka/	'I.♀ ask'
		ñ-aingkíkya	/ij-a-ĩki-ka/	'I.♂ ask'

j.	*xh-apáuka*	/ix-a-pau-ka/	‘I.♀ dig’
	y-apáuka	/ij-a-pau-ka/	‘I.♂ dig’
k.	*xh-anityáka*	/ix-a-nita-ka/	‘I.♀ talk’
	ñ-anityáka	/ij-a-nita-ka/	‘I.♂ talk’
l.	*xh-akompɨráka*	/ix-a-kõpɨɾa-ka/	‘I.♀ buy’
	ñ-akompɨráka	/ij-a-kõpɨɾa-ka/	‘I.♂ buy’
m.	*xh-eméku’*	/ix-emekuʔu/	‘in my.♀ hands’
	ñ-eméku’	/ij-emekuʔu/	‘in my.♂ hands’

As is evident from the examples in (15) above, *-xh-* and *-y-/-ñ-* cannot be analyzed as linking consonants, and should be treated as integral parts of the prefixes instead. That way, deriving *-z-*, *-xh-*, and *-y-/-ñ-* from a uniform underlying representation is not a plausible solution for Migueleño Chiquitano, and it is necessary to distinguish between two types of consonants that may appear on the prefix–stem boundary:

- the linking consonant *-z-* (required by 1SG.F /ix-/, 1SG.M /ij-/, 1INCL /o-/);
- the consonants *-xh-* and *-y-/-ñ-*, that are the surface realizations of the final consonants of certain prefixes (1SG.F /ix-/, 1SG.M /ij-/, 1EXCL /zoij-/).

The only two exceptions to these generalizations in my data are the form *ixh-aka* ‘I.♀/♂ eat’ (**iy-aka* ‘intended: I.♂ eat’ is ill-formed) as well as the dative adposition *iñ-émo* /ij-emo/ ‘to me.♂’, whose feminine correlate is *í-ño* /ix-mo/ ‘to me.♀’ (not **ixh-émo*). Both stems, however, have highly irregular inflectional paradigms.

4 Chiquitano genderlects

Even though the existence of gender-specific forms of the 1SG prefix is restricted to the Migueleño variety of Chiquitano, in all Chiquitano dialects, female speech differs from male speech in a number of important aspects. In this section, I provide an outline of the genderlectal differences that pervade Chiquitano grammar in order to help envisage the place of the gender distinction, discussed in Section 3 above, within this larger system.

First (but least important for our current purposes), there are a few purely lexical, non-systematic differences, such as Mig ♀ *bujíxh*, ♂ *oityɨmɨ́j* ‘jaguar’.

There are also some minor phonological differences concerning stress placement, as in Mig and Ign[11] ♀ *tyóbaka*, ♂ *tyubáka* ‘tomorrow’. In addition, there might be genderlectal differences in the details of the application of the palatalization process in Ignaciano Chiquitano (J. P. Aguilera *apud* Girard 2012: 28, fn. 4).

For the most part, however, the genderlectal differences lie in the domain of morphology. Female speech tends to lack certain morphemes that are systematically and obligatorily used in male speech. These include:

- the prefix /o-/ in nouns denoting animals and trees (the word for ‘honey’ also belongs to this class);
- the prefix /i-/ in nouns denoting male humans;
- the suffix /-tiʔi/ encoding a 3SG.M argument (3SG.NM unmarked in both genderlects);
- the suffix /-ma/ encoding a 3PL.M argument (derived from the 3SG.NM form; a totally different form is used for 3PL.M arguments in female speech, as well as for 3PL.NM arguments in both genderlects).

[11] Ignaciano data are from B. Hause (p. c.).

All of these characteristics are shared by Migueleño, Lomeriano (P. Sans *apud* Rose 2015), Ignaciano (Ciucci & Macoñó Tomichá 2018; Fuss & Riester 1986: 85, 98–99) and Colonial Chiquitano (Falkinger 2002).[12]

Some examples of Migueleño Chiquitano nouns denoting animals and trees, where /o-/ occurs in male speech,[13] are provided in (16) below.

(16)

	♀	♂	
a.	*xhoúj* /ixou-xɨ/	*oixhoúj* /o-ixou-xɨ/	‘snake’
b.	*pajpakíxh* /paxupaki-xɨ/	*upajpakíxh* /o-paxupaki-xɨ/	‘vulture’
c.	*ɨgój* /ɨɯo-xɨ/	*oɨgój* /o-ɨɯo-xɨ/	‘deer’
d.	*kɨpɨ́j* /kɨpɨ-xɨ/	*okɨpɨ́j* /o-kɨpɨ-xɨ/	‘fly’
e.	*tyɨɨ́ka* /itɨɨ-ka/	*oityɨɨ́ka* /o-itɨɨ-ka/	‘mosquitos’
f.	*tángma’* /taɯ-maʔa/	*utángma’* /o-taɯ-maʔa/	‘bird’
g.	*payarés* /pajaɾe-xɨ/	*upayarés* /o-pajaɾe-xɨ/	‘greater rhea’
h.	*tananakáj* /tananaka-xɨ/	*utananakáj* /o-tananaka-xɨ/	‘Argentine cedar’
i.	*biyozɨ́j* /βʲijotsɨ-xɨ/	*obiyozɨ́j* /o-βʲijotsɨ-xɨ/	‘*bibosi* fig’

Note that in this case it is only the gender of the speaker, not the sex of the animal, that triggers the occurrence of the prefix /o-/. However, all remaining morphological devices characteristic of male speech require both the speaker and the referent to be male. For instance, the prefix /i-/ occurs only when men speak of other men or masculine beings, as shown in (17) below (once again, the examples are from Migueleño Chiquitano).

(17)

	♀.NM; ♀.M; ♂.NM	♂.M	
a.	*axkáte* /aʂkate/	*yaxkáte* /i-aʂkate/	‘mayor’
b.	*kasíki* /kasiki/	*kyasíki* /i-kasiki/	‘chief’
c.	*jaráj* /xaɾa-xɨ/	*xharáj* /i-xaɾa-xɨ/	‘Cruceño’

[12] There is apparently one exception to this generalization: in Lomeriano, the prefix /o-/ in nouns that denote animals and trees occurs systematically in both genderlects.

[13] In Migueleño and Ignaciano, /o-/ surfaces as *u-* if the next syllable contains the vowel /a/. In Lomeriano, this happens if the next syllable contains any of /a, i, u/.

d.	*maíxhturu* /maixtuɾu/	*ñaíxhturu* /i-maixtuɾu/	‘teacher’
e.	*pɨzíj* /pɨtsɨ-xɨ/	*kyɨzíj* /i-pɨtsɨ-xɨ/	‘Black person’
f.	*Kosées* /kosee-xɨ/	*Kyosées* /i-kosee-xɨ/	‘José’
g.	*Manuéere* /manueeɾe/	*Ñanuéere* /i-manueeɾe/	‘Manuel’
h.	*Urubíixh* /uɾuβ̞ii-xɨ/	*Yurubíixh* /i-uɾuβ̞ii-xɨ/	‘Luis’
i.	*oñɨ’íj* /oɲɨʔɨ-xɨ/	*ñoñɨ’íj* /i-oɲɨʔɨ-xɨ/	‘man’
j.	*Tupáj* /tupa-xɨ/	*Tyupaj* /i-tupa-xɨ/	‘(Christian) God’

Similar restrictions apply to the suffixes /-tiʔi/ 3SG.M and /-ma/ 3PL.M, which are used only in male speech and only when the referents are also masculine. Some examples, this time from Lomeriano Chiquitano, are provided in (18).

(18)

	♀.NM; ♀.M; ♂.NM	♂.M	
a.	*nipopése* /n-i-pope-ʂɨ/	*nipopex-tí’i* /n-i-pope-ʂɨ-tiʔi/	‘her/his foot’
b.	*numasúxɨ* /n-i-umasu-ʂɨ/	*numasux-tí’i* /n-i-umasu-ʂɨ-tiʔi/	‘her/his ear’
c.	*nityíxɨ* /n-i-tɨ-ʂɨ/	*nityɨx-tí’i* /n-i-tɨ-ʂɨ-tiʔi/	‘her/his neck’
d.	*niyopopése* /n-ioβ̞-pope-ʂɨ/	*nipopexɨ-ma* /n-i-pope-ʂɨ-ma/	‘their feet’
e.	*numumasúxɨ* /n-ioβ̞-umasu-ʂɨ/	*numasuxɨ́-ma* /n-i-umasu-ʂɨ-ma/	‘their ears’
f.	*niyotɨxɨ* /n-ioβ̞-tɨ-ʂɨ/	*nityɨxɨ́-ma* /n-i-tɨ-ʂɨ-ma/	‘their necks’

Two generalizations can be made from the above: (i) masculine is the marked gender in Chiquitano, and (ii) the gender of the referent can be marked with overt grammatical means in Chiquitano *only if* the gender of the speaker is also marked (cf. also the analysis in Fleming 2015).

Since, in the case of the 1SG, the gender of the referent is always identical to the gender of the speaker, theoretically, it would appear to be equally possible to attribute the distinction between Migueleño Chiquitano 1SG.F and 1SG.M markers to the genderlectal domain or to consider that it corresponds to the category of referent gender. However, given that elsewhere in Chiquitano grammar the referent gender cannot be overtly marked if the gender of the speaker is unmarked, the only plausible solution is to analyze the distinction between the 1SG.F and 1SG.M prefixes as an additional genderlectal difference.

A summary of Migueleño Chiquitano gender-related morphology is provided in Table 1.

Table 1: Migueleño Chiquitano gender-related morphological devices

speaker gender	referent gender		
	not applicable (non-human)	feminine	masculine
female	unmarked	unmarked, including: /ix-/ ♀.1SG.F /(j)oβ̞-/ ♀.3PL	unmarked, including: /(j)oβ̞-/ ♀.3PL
male	/o-/ ♂.ANIMALS	unmarked, including: /(j)oβ̞-/ ♂.3PL.F	/i-/ ♂.HUMANS.M /-tiʔi/ ♂.3SG.M /-ma/ ♂.3PL.M /ij-/ ♂.1SG.M

5 Diachronic development

Concerning the situation with the consonants *-z-* (Lom *-s-*), *-xh-*, and *-y-/ñ-* at the prefix–stem boundary, the Migueleño variety of Chiquitano exhibits a slightly more regular picture than Lomeriano and Ignaciano.

In the latter two varieties, the occurrence of each of these three consonants cannot even be argued to be fully determined by the initial morpheme of the stem, as was shown in (9) above. Instead, Lomeriano and Ignaciano roots (including the consonant-initial and *i*-initial verbal roots that can combine with the prefix *a-* ACT) have to be lexically specified for selecting one of the three linking consonants.

In contrast, in Migueleño Chiquitano, it is always possible to predict the occurrence of one of the three aforementioned consonants based on the lexical properties of the leftmost morpheme and on the intended semantics. Two binary features are at play in Migueleño Chiquitano: (i) the gender of the speaker and (ii) whether the morpheme requires the linking consonant *-z-* in the first person forms. Moreover, in this variety, only the morphemes whose initial segment is a vowel other than *i* have to be lexically specified for combining with a linking consonant.

In Table 2, I compare the complexity level of the relevant fragments of Migueleño Chiquitano grammar, on one hand, and of Lomeriano and Ignaciano Chiquitano grammar, on the other hand.

Table 2: Consonants at the prefix–stem boundary across Chiquitano

		Migueleño	Lomeriano, Ignaciano
total number of consonants whose occurrence has to be specified lexically		1	3
morphemes that determine the occurrence of the linking consonant(s)	position	leftmost morpheme within the stem	root
	possible structure	vowel-initial (except *i*-initial)	any

As can be seen from Table 2, the situation in Migueleño is significantly more parsimonious than the Lomeriano/Ignaciano situation: less morphemes have to receive lexical specification, the lexical specification itself is binary (occurrence vs. non-occurrence) and not ternary (*-xh-* vs. *-y-/-ñ-* vs. *-z-* ~ *-s-*), and the specification always targets an adjacent morpheme (as opposed to the situation in Lomeriano and Ignaciano, where verbal roots may determine the occurrence of a specific linking consonant despite an intervening active prefix).

My claim is that the consistent semantic difference between Migueleño Chiquitano /ix-/ 1SG.F and /ij-/ 1SG.M has to be traced back to the Proto-Chiquitano stage. The only significant innovation needed to account for the Lomeriano/Ignaciano situation is the generalization of the occurrence of either 1SG.F or 1SG.M prefix with each specific root. This could also explain the existence of intradialectal variation such as the one seen in (7b), reproduced below as (19).

(19)		Lom	*n-iñ-é'e*	/n-iX-eʔe$_{[+nas]}$/	'my hand'
		SJav	*ixh-é'e*	/iX-eʔe$_{[+nas]}$/	
		Br	*n-iñ-ẽ́'ẽ*	/n-iX-ẽʔẽ/	
	cf.	Mig	*ixh-ẽ́'ẽ*	/ix-ẽʔẽ/	'my.♀ hand'
			iñ-ẽ́'ẽ	/ij-ẽʔẽ/	'my.♂ hand'

San Javierito Ignaciano would have generalized the Proto-Chiquitano 1SG.F form, whereas in Lomeriano and Brazilian Ignaciano the 1SG.M form would have been generalized. Note, however, that in a vast majority of cases all non-Migueleño varieties agree in having *-xh-* or *-y-/-ñ-* as the linking consonant, pointing to a shared innovation in the proto-language of Lomeriano and Ignaciano.

I propose the following diachronic scenario for the Chiquitano varieties.

1. In pre-Proto-Chiquitano, two distinct prefixes, **iʂ-* 1SG.F and **ij-* 1SG.M, must have existed.
2. Vowel-initial (except *i*-initial) morphemes were lexically specified for the occurrence viz. non-occurrence of the only linking consonant **-ts-*.[14]
3. In Proto-Chiquitano, both would have yielded **i-* before consonants (including the linking consonant **-ts-*) and **i*, but **iʂ-t- / *ij-t- > *itʃ-*, **iʂ-k- / *ij-k- > *its-*. Note that this process also targeted the 1EXCL prefix **tsoij-*. The reconstructed coda segments of the 1SG.F, 1SG.M, and 1EXCL prefixes account for the different morphophonological properties of the 1SG(.F/.M) and 3SG prefixes in Chiquitano dialects, cf. pre-Proto-Chiquitano **i-tapa-ʂɨ > *capaʂ* > Mig *tyapáj* 'his thigh' vs. pre-Proto-Chiquitano **ij-tapa / *iʂ-tapa > *itʃapa* > Mig *íchapa* 'my thigh'.
4. Before vowel-initial morphemes that did not trigger the occurrence of the linking consonant **-ts-*, the prefixes **iʃ-* 1SG.F (phonologically **/iʂ-/*) and **ij-/*iɲ-* 1SG.M (phonologically **/ij-/*) were distinguished in Proto-Chiquitano.
5. In the common ancestor of Lomeriano and Ignaciano, the distinction between the 1SG.F and 1SG.M prefixes was lost. For each word, one of these prefixes was randomly selected, creating unpredictable allomorphy and increasing the morphological complexity level.
6. As a result of these changes, the distribution of **-ʃ-* and **-j-/*-ɲ-* became lexical, making it possible to analyze them as linking consonants alongside **-ts-* (even though these consonants still occupy different slots, as suggested by the fact that *-s-* almost never occur in the 1EXCL form in Lomeriano[15]).

This scenario contradicts Adelaar's (2008) and Ribeiro's (2011) hypothesis that relates the occurrence of Lomeriano linking consonants *-s-* (< **-ts-*) and *-ñ-* to Proto-Macro-Jê nasality:

[14] Observe that consonants appearing at the left margin of vowel-initial stems in some forms ('thematic consonants') are a common phenomenon in the area, found in families like Macro-Jê, Tupian, Matacoan, Kariri, Bororoan, and Cariban. If the common ancestry of these families is confirmed, this phenomenon should be projected to the proto-language of the macrofamily composed by them (see Nikulin & de Carvalho 2018; Rodrigues 1993, 2009).

[15] According to Ciucci (p. c.), a vanishingly small number of exceptions exist, such as Lom *sui-s-arúki* 'our.EXCL sister (female ego)' and *sui-s-ó'o* 'our.EXCL teeth'. As for the latter form, cf. Mig *tsoe-ts-oʔo* 'our.EXCL teeth', the only attested form where the 1EXCL prefix and the linking consonant *-ts-* co-occur.

the former reflects the only true linking consonant of Proto-Chiquitano, while the latter must have been an integral part of a Proto-Chiquitano person prefixes. Of all Lomeriano linking consonants, only *-s-* is likely to be cognate with Macro-Jê linking consonants. Moreover, no relation can exist between nasality and the choice of linking consonants in any Chiquitano variety (expect for the allophony that targets *-y-* ~ *-ñ-*, an entirely regular phonological phenomenon).

A final note is due on the possible origins of pre-Proto-Chiquitano **iʂ-* 1SG.F and **ij-* 1SG.M. As I argued earlier (Nikulin 2017), the first person (singular or unmarked for number) markers across Macro-Jê languages, some of which are thought to be cognate to Chiquitano *i-* (and its allomorphs), are innovative and result from a grammaticalization of a Proto-Macro-Jê personal pronoun through multiple independent developments. No bound 1SG marker can be reconstructed for Proto-Macro-Jê, even though there certainly were second- and third-person markers (this typologically unusual gap is preserved in one Macro-Jê language, Djeoromitxí). In light of this, pre-Proto-Chiquitano **iʂ-* 1SG.F and **ij-* 1SG.M are best explained as remnants of earlier pronouns ('I.F' and 'I.M'). The exact form of these pronouns is difficult to reconstruct, but it is likely that at least one of them was further morphologically segmentable.

6 Conclusions

Above I have presented some novel data from Migueleño Chiquitano, thus making it the first Chiquitano variety for which distinct prefixes for 1SG.F and 1SG.M have been attested. I argued that it is necessary to envisage this distinction as part of a larger system of genderlectal differences. I also put forward a diachronic scenario, according to which Lomeriano and Ignaciano innovated by eliminating the gender distinction between the morphemes in question and reanalyzing them as allomorphs of one single morpheme. This scenario accounts for the complex and apparently chaotic distribution of the so called linking consonants in Lomeriano and Ignaciano, which are shown to go back to segments occupying different slots. My reconstruction partly invalidates earlier claims by Adelaar (2008) and Ribeiro (2011), who have attempted to relate the occurrence of Lomeriano linking consonants *-s-* and *-ñ-* to Proto-Macro-Jê nasality.

If my hypothesis is correct, Lomeriano and Ignaciano underwent a non-trivial innovation at some point of their history by randomly choosing between *-xh-* and *-y-/-ñ-* for every root whose Migueleño cognates can combine both with *(i)xh-* 1SG.F and *(i)y-/(i)ñ-* 1SG.M. Even though in some instances different subdialects generalized different prefixes in the 1SG meaning, as shown in (19) above, those cases are exceedingly rare, and postulating a shared innovation for Lomeriano and Ignaciano appears to be inevitable. There are other probable innovations in lexicon and grammar shared by Lomeriano and Ignaciano but not by Migueleño. The most notable one is the morphological complexification of the personal pronouns (as well as demonstratives): as I show in Table 3 below, Lomeriano and Ignaciano personal pronouns display an additional morpheme (Lom *ax(ɨ)-*, Br *(j)axh-*) not found in Migueleño, a likely result of grammaticalization of an unidentified Proto-Chiquitano element.

Table 3: Personal pronouns across Chiquitano

	I	thou	we.INCL	we.EXCL	you.PL
Lomeriano	axɨ-ñɨ	axɨ-kɨ	ax-oñɨ	axɨ-somɨ	ax-año
Brazilian Ignaciano	(j)áxh-iñẽ	(j)áxh-ɨ(ɨ)	axh-oné'ẽ	not attested	not attested
Migueleño	íñɨ'	ɨjɨ'	oñɨ'	zomɨ'	áño

The observations listed above suggest that Migueleño was the first dialect to have split off Proto-Chiquitano and that Lomeriano and Ignaciano shared a more recent common ancestor

than Proto-Chiquitano. As the documentation of the Ignaciano and Migueleño varieties progresses, more conclusive evidence may emerge.

Further documentation work on the Ignaciano and Migueleño varieties should also focus on the morphophonology of the 1INCL and 1EXCL forms. At least Migueleño differs significantly from Lomeriano concerning the distribution of the allomorphs of the respective prefixes. For example, in Lomeriano nouns, the 1INCL prefix /o-/ requires the occurrence of the same linking consonant as found in the 1SG form (be it *-s-*, *-xh-*, or *-y-/-ñ-*). In contrast, the consonant *-xh-* never occurs in this environment in Migueleño. Another important difference concerns the allomorphy of the 1EXCL prefix in nouns before vowels other than *i*: it surfaces as *sob-* (*som-*, *sub-*, *sum-*) in Lomeriano, but as *zoiy-* (*zoiñ-*) in Migueleño. However, there are still some significant gaps in the documentation of the allomorphy of the 1INCL and 1EXCL prefixes in Ignaciano and Migueleño that make it impossible to reconstruct the evolution of the forms in question with a high degree of certainty.

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