

The Sambalic Languages of Central Luzon

Roger Stone
SIL International

This paper examines the Sambalic languages of Central Luzon in order to ascertain the degree to which the languages are lexically similar to each other, to Ivatan, and to the languages of wider communication (LWCs); specifically, Kapampangan, Ilokano and Tagalog. The study compares 268 lexemes from eleven languages, and computes cognate percentages within seven grammatical categories. The data presented in the paper is used to hypothesize subgroupings within the Sambalic language family. While no attempt is made to reconstruct the past history of the Ayta and Sambalic languages, it is hoped that this paper will help lay a foundation for other linguists to do such a study.

1. Introduction

Little published data exists on the Sambalic languages and virtually no published data exists on the Ayta languages. This study aims to suggest possible subgroupings within the Sambal language family based on lexical similarity. It has also been hard to determine what languages belong in the same subgrouping with the Sambalic languages. Many have included the Bashiic languages with Sambal under the Northern Philippines branch (Rubino 2005, Rubrico 2005, Gordon 2005, Zorc 1977), although Blust (1991) suggests there is no convincing evidence to make this claim. Many have included Kapampangan directly with Sambal in the Central Luzon languages (Rubino 2005, Rubrico 2005, Gordon 2005), while others (Llamzon 1978) have rejected this hypothesis. Because of these questions, Kapampangan and Ivatan (Bashiic) are included in this comparative study of the Sambal languages. The languages of wider communication (LWCs) Tagalog, and Ilokano are also included in the study.

The methodology used to compare these languages has much in common with McFarland's (1974) work on the Bikol languages and Zorc's (1977) work on the Bisayan Dialects in that comparisons are made by grammatical category. Seven grammatical categories are studied, namely nouns, verbs, adjectives, pronouns, particles conjunctions and interrogatives. Cognate percentages are determined separately for each grammatical category.

2. The Sambalic Language Family

The following languages are generally accepted to form the Sambalic language family, although Ayta Magbukun, which has not been included in this study, is likely to also belong to the group. Note also that there are a few alternate spellings for some of the languages. (See, for example, Gordon, 2005).

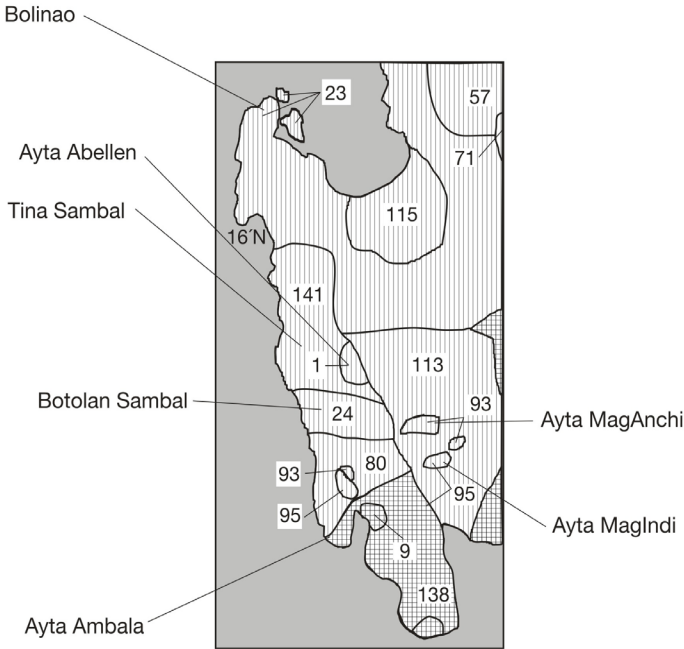


Figure 1. Sambalic Languages of Central Luzon

2.1 Ayta Abellen

The speakers of Ayta Abellen are located in the mountainous western part of the Tarlac province of Luzon with the area reaching into the province of Zambales even on the western side of the Zambales mountains (Nitsch 1998). There are about 3500 speakers of the language (Stone 2005).

2.2 Ayta Ambala

Ayta Ambala is spoken by more than 2,000 Ayta living in the provinces of Bataan and Zambales (Ramos 2005).

2.3 Ayta MagAntsi

Ayta MagAntsi is spoken by approximately 4,200 Ayta in a number of sitios (small villages) in the provinces of, Tarlac, Pampanga and Zambales. (Storck and Storck 2005).

2.4 Ayta MagIndi

The speakers of Ayta MagIndi live in the province of Pampanga in the areas of Nabuklod, Floridablanca, Pasbul, Planas, Kamias, and other areas. The Ayta MagIndi speakers number approximately 5000 (Green 1991).

2.5 Bolinao

The Bolinao language is spoken by approximately 50,000 people (Gordon 2005) located in the municipalities of Bolinao and Anda, Pangasinan (Persons 1998).

2.6 Botolan Sambal

Botolan Sambal is spoken by 32,867 people (Gordon 2005) who live around the municipality of Botolan in the Zambales province. There is also a group of Aytas living in the upland areas of Zambales who speak this language. (Antworth 1979)

2.7 Tina Sambal

Tina Sambal is spoken by 70,000 people (Gordon 2005) located in the Northern half of the Zambales province and in two barangays (villages) across the border in Pangasinan (Goschnick 2005).

3. Data

Initial survey for the Ayta languages was done by Kurt and Margaret Storck in the early 1980s. The data collected by them and others laid the foundation for the delineation of language boundaries for the 5 Ayta languages. However, that survey data was never published and a review of it made this researcher realize that it would be better to base an analysis on more current data, including the Storcks' outstanding work on MagAntsi (2005) rather than the old wordlists collected many years ago. But even having access to the latest lexicography work done for each of these languages was still deemed inadequate, so for most of the language data presented here, the dictionary data was verified with a resident linguist or face to face with a native speaker of the language. (See Appendix 2 for Data Acknowledgements.) It is still acknowledged, however, that despite these efforts, there may be inaccuracies in the data.

The findings of this study, as well as the data collected (which is included here in appendix 1), are intended to help modify the language groupings and lexical similarity percentages presented in the Ethnologue (Gordon 2005) which is based on the older survey data.

4. Method for Determining Cognate percentages

For determining which lexical forms are cognate with each other, syllolexicostatistics was used. Syllolexicostatistics is a hybrid of syllostistics and lexicostatistics and is currently being developed by Noel Mann (Mann 2005). The process involves the following steps:

- 1) Split root words into their constituent syllables.
- 2) Compare syllables for apparent cognicity.
- 3) Categorize syllable pair into one of three categories as follows:

Category 1: Probable match of cognate syllables; onset and rhyme elements match – that is, they map in a predictable or recurrent manner.

Category 2: Possible match of cognate syllables; either onset or rhyme elements match

Category 3: Unlikely match of cognate syllables; onset and rhyme do not match

4) Use the following chart to determine cognicity. The chart shows the minimum requirements for two words to be regarded as cognates.

Table 1. Cognicity Criteria

Syllables	Category 1	Category 2	Category 3
1	1	0	0
2	1	1	0
3	1	1	1
4	2	1	1
5	2	2	1
6	2	2	2

After determining cognicity as per the method outlined above, the data was inputted into the computer program WordSurv, which then organized, grouped, and computed cognate percentages for each language. Below are the results and observations for the seven grammatical categories analyzed.

5. Results by Grammatical Category

Presented here are the cognate percentages for the languages, grouped initially according to grammatical category. Composite cognate percentages are included at the end. Within the results tables, the bold section represents the Sambalic languages.

5.1 Nouns

129 common nouns were selected for analysis. This is the largest set of words gathered and analyzed for any of the grammatical categories included in this study.

Almost one third of all lexical items here have a unique form that is repeated among Sambalic languages but not cognate with the same lexical item in any of the LWCs studied.

The cognate percentages of Tagalog, Kapampangan, and Ilokano nouns with nouns in the Sambal languages range between 38–51%, whereas within the Sambal languages, the nouns are between 63–87% cognate. Ivatan nouns are less than 30% cognate with Sambal language nouns.

Table 2. Noun Cognate Percentages

	Bol	T.S.	Abel	B.S.	Ants	Indi	Amba	Kap	Iva	Ilo	Tag
Bolinao	100%	78%	66%	71%	63%	64%	65%	48%	26%	43%	43%
Tina Sambal	78%	100%	67%	75%	64%	64%	66%	48%	28%	42%	43%
Ayta Abellen	66%	67%	100%	80%	73%	70%	69%	45%	26%	44%	41%
Botolan Sambal	71%	75%	80%	100%	78%	78%	77%	47%	28%	44%	43%
Ayta MagAntsi	63%	64%	73%	78%	100%	87%	72%	49%	25%	38%	41%
Ayta MagIndi	64%	64%	70%	78%	87%	100%	76%	51%	25%	38%	41%
Ayta Ambala	65%	66%	69%	77%	72%	76%	100%	45%	27%	42%	45%
Kapampangan	48%	48%	45%	47%	49%	51%	45%	100%	19%	32%	43%
Ivatan	26%	28%	26%	28%	25%	25%	27%	19%	100%	30%	26%
Ilokano	43%	42%	44%	44%	38%	38%	42%	32%	30%	100%	38%
Tagalog	43%	43%	41%	43%	41%	41%	45%	43%	26%	38%	100%

5.2 Verbs

In researching verbs, only root forms were considered, in order to avoid differences due to affixation. 48 lexical entries were analyzed. For these verbs where there is a cognate form common to a majority of the Sambal languages, 38% do not have a corresponding cognate form in the regional LWCs.

Within the verbs, high cognate percentages for Ayta languages with each other can be seen (73–88%) as well as between Bolinao and Tina Sambal (73%). But here, Botolan Sambal groups naturally with the Ayta languages since the cognate percentages are much higher with the other Ayta languages (73–85%) than with the coastal lowland counterparts of Tina Sambal (52%) and Bolinao (52%).

Kapampangan verbs are 44–52% cognate with Sambal language verbs. Ivatan verbs are not more than 27% cognate with any of the Sambal language verbs.

Table 3. Verb Cognate Percentages

	Bol	T.S.	Abel	B.S.	Ants	Indi	Amba	Kap	Iva	Ilo	Tag
Bolinao	100%	73%	56%	52%	54%	58%	54%	48%	25%	42%	40%
Tina Sambal	73%	100%	54%	52%	52%	56%	50%	50%	27%	40%	42%
Ayta Abellen	56%	54%	100%	83%	88%	77%	77%	50%	27%	40%	44%
Botolan Sambal	52%	52%	83%	100%	85%	73%	77%	48%	25%	38%	42%
Ayta MagAntsi	54%	52%	88%	85%	100%	83%	79%	52%	27%	40%	42%
Ayta MagIndi	58%	56%	77%	73%	83%	100%	75%	54%	27%	40%	40%
Ayta Ambala	54%	50%	77%	77%	79%	75%	100%	44%	25%	42%	42%
Kapampangan	48%	50%	50%	48%	52%	54%	44%	100%	25%	25%	40%
Ivatan	25%	27%	27%	25%	27%	27%	25%	25%	100%	23%	17%
Ilokano	42%	40%	40%	38%	40%	40%	42%	25%	23%	100%	33%
Tagalog	40%	42%	44%	42%	42%	40%	42%	40%	17%	33%	100%

5.3 Adjectives

For the 36 adjectives selected, Sambal adjectives exhibit less similarity with each other than for most of the other grammatical categories. Lexical similarity ranges from 44% to 72% within the Sambalic languages.

Ayta MagIndi borrows heavily from Kapampangan (53% cognate) and its adjectives are more cognate with Kapampangan than with two of the other Sambal languages.

Kapampangan adjectives, however, do not have high cognate percentages with other Sambalic languages; its percentages range between 28% and 42%. Ivatan cognate scores with Sambal languages are especially low, ranging from 6% to 17%.

Table 4. Adjective Cognate Percentages

	Bol	T.S.	Abel	B.S.	Ants	Indi	Amba	Kap	Iva	Ilo	Tag
Bolinao	100%	58%	50%	58%	47%	50%	47%	33%	11%	33%	33%
Tina Sambal	58%	100%	56%	64%	50%	44%	56%	31%	6%	19%	28%
Ayta Abellen	50%	56%	100%	64%	50%	44%	53%	28%	11%	17%	31%
Botolan Sambal	58%	64%	64%	100%	67%	53%	72%	36%	11%	19%	42%
Ayta MagAntsi	47%	50%	50%	67%	100%	61%	61%	33%	11%	14%	36%
Ayta MagIndi	50%	44%	44%	53%	61%	100%	53%	53%	17%	19%	39%
Ayta Ambala	47%	56%	53%	72%	61%	53%	100%	42%	11%	17%	47%
Kapampangan	33%	31%	28%	36%	33%	53%	42%	100%	17%	22%	58%
Ivatan	11%	6%	11%	11%	11%	17%	11%	17%	100%	11%	11%
Ilokano	33%	19%	17%	19%	14%	19%	17%	22%	11%	100%	19%
Tagalog	33%	28%	31%	42%	36%	39%	47%	58%	11%	19%	100%

5.4 Pronouns

Sambalic languages have nearly identical pronoun systems. The differences that exist between the Sambalic languages are predominantly due to phonological changes. The differences between Sambalic pronouns and those of neighboring LWCs are greater and cannot be summarized so easily.

Sambal languages have a fronted pronoun paradigm. This paradigm also exists in Ilokano, Kapampangan, and Ivatan, although many of the forms in these latter languages have multiple differences in comparison to the Sambal languages.

For focused 1st person exclusive pronouns, there is a split distribution among Sambal languages. Tina Sambal, Bolinao, and Ayta Ambala use *kami*, whereas all other languages use *kayi*. For focused 2nd person plural pronouns, Tina Sambal and Bolinao use *kamo* whereas the other languages use *kao* or *kawo*.

For possessive 1st person exclusive pronouns, there is a split distribution. Ayta MagAntsi and Botolan Sambal both have a *nawen* form, whereas the rest of the Sambal languages except for MagIndi have *mi*. MagIndi's *yan* form is unique to all languages researched.

For possessive 2nd person plural pronouns, there is also a split distribution. Tina Sambal and Bolinao both have a *moyo* form, whereas all other Sambal languages have *yo*.

For direction/beneficiary focus pronouns, Sambal pronouns have a *kVn-* prefix. The vowel, however, is not uniform. For instance, the languages along the coast (Bolinao, Tina Sambal, and Botolan Sambal) all have the vowel *o* as in *kon-*. But the inland languages (Ayta) all have *kan-*. Since this is a predictable phenomenon, pronouns with both of these prefixes were counted as cognates of each other.

An interesting phonological difference is that some languages have the /s/ phoneme in their pronouns, while others don't. MagIndi and Bolinao have pronoun forms with the phoneme /s/, while all other Sambal languages use /h/ in its place.

In terms of cognate percentages for pronouns, the Sambal languages all have high cognate percentages with each other, ranging from 81–97%. Kapampangan has several forms that at first glance do not seem to be cognate with the Sambal languages, but a further analysis using the syllolexical statistics criteria defined previously yields the minimum requirements for being considered cognate. Kapampangan pronouns are between 69% and 75% cognate with Sambal languages. Ivatan pronouns are only between 31% and 38% cognate with Sambal languages.

Of the 32 pronouns analyzed, there are six forms that are repeated among Sambal languages which are not cognate with the LWCs included in this study.

Table 5. Pronoun Cognate Percentages

	Bol	T.S.	Abel	B.S.	Ants	Indi	Amba	Kap	Iva	Ilo	Tag
Bolinao	100%	97%	88%	84%	81%	81%	84%	72%	31%	69%	28%
Tina Sambal	97%	100%	91%	88%	84%	84%	88%	72%	34%	69%	31%
Ayta Abellen	88%	91%	100%	91%	94%	94%	91%	75%	34%	66%	31%
Botolan Sambal	84%	88%	91%	100%	97%	91%	84%	69%	38%	63%	34%
Ayta MagAntsi	81%	84%	94%	97%	100%	94%	88%	72%	38%	59%	34%
Ayta MagIndi	81%	84%	94%	91%	94%	100%	91%	72%	34%	59%	31%
Ayta Ambala	84%	88%	91%	84%	88%	91%	100%	75%	34%	66%	31%
Kapampangan	72%	72%	75%	69%	72%	72%	75%	100%	31%	59%	28%
Ivatan	31%	34%	34%	38%	38%	34%	34%	31%	100%	22%	31%
Ilokano	69%	69%	66%	63%	59%	59%	66%	59%	22%	100%	25%
Tagalog	28%	31%	31%	34%	34%	31%	31%	28%	31%	25%	100%

5.5 Particles

The eight Sambalic particles studied are very similar; in general exhibiting only minor pronunciation differences. Once again the Ayta languages have high cognate percentages with each other while Bolinao and Tina Sambal have several mutual particles which are not cognate with the Ayta languages.

The one exception is the particle denoting surprise on account of the speaker (*pala* in Tagalog). Each Sambal language has unique forms for this particle.

Kapampangan has more particle cognates with Tagalog (50%) than with the Sambal languages (< 40%). Ivatan also scores less than 40% cognate with the Sambal languages.

Table 6. Particle Cognate Percentages

	Bol	T.S.	Abel	B.S.	Ants	Indi	Amba	Kap	Iva	Ilo	Tag
Bolinao	100%	63%	50%	50%	38%	38%	63%	25%	38%	13%	25%
Tina Sambal	63%	100%	38%	38%	25%	25%	38%	38%	25%	25%	13%
Ayta Abellen	50%	38%	100%	88%	75%	75%	75%	25%	25%	25%	13%
Botolan Sambal	50%	38%	88%	100%	75%	75%	75%	25%	25%	25%	13%
Ayta MagAntsi	38%	25%	75%	75%	100%	75%	63%	25%	25%	25%	13%
Ayta MagIndi	38%	25%	75%	75%	75%	100%	63%	38%	25%	25%	25%
Ayta Ambala	63%	38%	75%	75%	63%	63%	100%	25%	38%	25%	25%
Kapampangan	25%	38%	25%	25%	25%	38%	25%	100%	38%	25%	50%
Ivatan	38%	25%	25%	25%	25%	25%	38%	38%	100%	25%	38%
Ilokano	13%	25%	25%	25%	25%	25%	25%	25%	25%	100%	25%
Tagalog	25%	13%	13%	13%	13%	25%	25%	50%	38%	25%	100%

5.6 Conjunctions

In analyzing the conjunction systems of these languages, it is easily observed that the most basic conjunctions are virtually uniform among the Ayta languages. Several Ayta languages (Abellen, MagAntsi, and MagIndi) have identical conjunction sets for the seven conjunctions researched. In the three cases where there is a split distribution among Sambal languages, it is accounted for by Tina Sambal and Bolinao having common lexical entries that are different from Botolan Sambal and the Ayta languages.

The LWCs Ilokano, Kapampangan, and Tagalog have had little influence on the current use of connectors in Ayta and the other Sambalic languages. Among the LWCs, Kapampangan conjunctions are 29% or less cognate with Sambal languages. Other than *ta* ‘because’, Ivatan has no conjunctions in common with any of the Sambal languages.

Table 7. Conjunction Cognate Percentages

	Bol	T.S.	Abel	B.S.	Ants	Indi	Amba	Kap	Iva	Ilo	Tag
Bolinao	100%	57%	29%	29%	29%	29%	29%	14%	0%	14%	14%
Tina Sambal	57%	100%	57%	57%	57%	57%	43%	29%	14%	29%	29%
Ayta Abellen	29%	57%	100%	86%	100%	100%	86%	29%	14%	29%	29%
Botolan Sambal	29%	57%	86%	100%	86%	86%	71%	29%	14%	29%	43%
Ayta MagAntsi	29%	57%	100%	86%	100%	100%	86%	29%	14%	29%	29%
Ayta MagIndi	29%	57%	100%	86%	100%	100%	86%	29%	14%	29%	29%
Ayta Ambala	29%	43%	86%	71%	86%	86%	100%	29%	0%	14%	29%
Kapampangan	14%	29%	29%	29%	29%	29%	29%	100%	0%	14%	14%
Ivatan	0%	14%	14%	14%	14%	14%	0%	0%	100%	14%	0%
Ilokano	14%	29%	29%	29%	29%	29%	14%	14%	14%	100%	0%
Tagalog	14%	29%	29%	43%	29%	29%	29%	14%	0%	0%	100%

5.7 Interrogatives

Unlike other grammatical categories, the six interrogatives studied show very little similarity between Sambalic languages. With the exception of Botolan Sambal's similarity with MagAntsi (67%), Bolinao (67%) and Tina Sambal (83%), there are no combinations over 50% cognate. Even Ayta language interrogative systems compared with each other exhibit very limited similarity.

Kapampangan's interrogatives are 50% cognate with Tagalog and Ivatan but not very cognate with Sambal languages (33% or less). Ivatan, on the other hand, is surprisingly 50% cognate with both Botolan Sambal and Ayta MagAntsi in addition to Kapampangan.

Table 8. Interrogative Cognate Percentages

	Bol	T.S.	Abel	B.S.	Ants	Indi	Amba	Kap	Iva	Ilo	Tag
Bolinao	100%	67%	17%	67%	50%	17%	17%	17%	33%	33%	33%
Tina Sambal	67%	100%	33%	83%	50%	17%	17%	17%	33%	50%	33%
Ayta Abellen	17%	33%	100%	33%	17%	17%	17%	0%	0%	33%	0%
Botolan Sambal	67%	83%	33%	100%	67%	33%	33%	33%	50%	50%	33%
Ayta MagAntsi	50%	50%	17%	67%	100%	50%	33%	33%	50%	33%	33%
Ayta MagIndi	17%	17%	17%	33%	50%	100%	33%	17%	17%	17%	0%
Ayta Ambala	17%	17%	17%	33%	33%	33%	100%	17%	17%	17%	17%
Kapampangan	17%	17%	0%	33%	33%	17%	17%	100%	50%	17%	50%
Ivatan	33%	33%	0%	50%	50%	17%	17%	50%	100%	17%	50%
Ilokano	33%	50%	33%	50%	33%	17%	17%	17%	17%	100%	17%
Tagalog	33%	33%	0%	33%	33%	0%	17%	50%	50%	17%	100%

5.8 Composite Cognate Percentages

Below are the total composite cognate percentages for all 266 lexical items. There is a distinct gap between Sambal languages and non Sambal languages. The 7 Sambal languages are all 60% or higher in lexical similarity with each other. The Ayta languages are all 70% or more lexically similar with each other. Botolan Sambal is 75% or more lexically similar with all the Ayta languages.

Kapampangan is the most similar of the 3 LWCs with Sambal languages, ranging between 45% and 52% in lexical similarity with Sambalic languages. Ilokano and Tagalog are between 37% and 43% cognate with Sambalic languages. Ivatan is less than 27% cognate with Sambalic languages.

Table 9. Composite Cognate Percentages

	Bol	T.S.	Abel	B.S.	Ants	Indi	Amba	Kap	Iva	Ilo	Tag
Bolinao	100%	76%	62%	66%	60%	60%	61%	47%	24%	43%	38%
Tina Sambal	76%	100%	64%	70%	61%	60%	62%	48%	25%	41%	38%
Ayta Abellen	62%	64%	100%	79%	75%	70%	70%	45%	24%	41%	37%
Botolan Sambal	66%	70%	79%	100%	80%	75%	76%	47%	26%	41%	40%
Ayta MagAntsi	60%	61%	75%	80%	100%	83%	73%	49%	25%	37%	38%
Ayta MagIndi	60%	60%	70%	75%	83%	100%	73%	52%	25%	37%	37%
Ayta Ambala	61%	62%	70%	76%	73%	73%	100%	46%	25%	39%	41%
Kapampangan	47%	48%	45%	47%	49%	52%	46%	100%	22%	31%	42%
Ivatan	24%	25%	24%	26%	25%	25%	25%	22%	100%	24%	23%
Ilokano	43%	41%	41%	41%	37%	37%	39%	31%	24%	100%	31%
Tagalog	38%	38%	37%	40%	38%	37%	41%	42%	23%	31%	100%

6. Discussion and conclusions

6.1. Sambalic languages

In trying to postulate lexical similarity subgroupings within the Sambalic language family, several observations are intuitive. Ayta Abellen and Botolan Sambal appear to belong in the same grouping. Abellen has the highest cognate scores with Botolan Sambal (79%) and Botolan Sambal has its 2nd highest score with Abellen. Their geographic proximity make this conclusion almost predictable.

The northern coastal languages of Tina Sambal and Bolinao also form a group, being 76% cognate with each other. Since these languages are lowland, coastal languages and geographically close, this result also is not surprising.

The southern Ayta languages of MagIndi and MagAntsi also form a group, having the highest composite cognate scores of any two languages in this study (83%).

The mystery language in this study is Ayta Ambala. It has the highest cognate percentage with Botolan Sambal (76%) but that is not very remarkable since that is almost the lowest cognate percentage Botolan Sambal has with any Ayta language. So it is hard to know whether Ayta Ambala belongs with Ayta Abellen and Botolan Sambal in the north or with Ayta MagIndi and Ayta MagAntsi to the east. Another possibility is that emerging research on the Ayta Magbukun language will reveal a possible subgrouping with that language.

Botolan Sambal has high cognate percentages with all the Ayta languages and also fairly high similarity with the coastal lowland languages. This makes one wonder if it was either the original parent of all these other languages or maybe that a form of it is currently emerging as a trade language for Sambal speakers talking to someone from another group. Historical reconstruction is needed to answer these types of questions.

6.2. Sambalic Languages compared with others

In terms of the LWCs, Kapampangan is the most lexically similar with Sambalic languages, however it is still at least 10% less similar than the Sambalic languages are

with each other. Kapampangan also scores in the same range of lexical similarity with Tagalog as with Sambalic languages. While the gap in lexical similarity percentages between Kapampangan and Sambalic languages makes it difficult to conclude they belong to the same microgroup, Kapampangan's higher scores with Sambalic languages than other LWCs suggest macrogrouping.

As for Ivatan, while it is certainly premature to say that all Bashiic languages bear no link with the Central Luzon language family, it can be deduced that Ivatan either is fairly far removed from the Central Luzon language family or it has undergone much lexical change to reach the point where not even 30% of its lexicon is recognizable as cognates with any Sambalic language.

References

- Antworth, Evan. 1979. *A grammatical sketch of Botolan Sambal*. Manila: Linguistic Society of the Philippines.
- Blust, Robert. 1991. The Greater Central Philippines hypothesis. *Oceanic Linguistics* 30(2), 73–106.
- Elgincolin, Sotero B. 1998. *English-Tina Sambal-Pilipino dictionary*. Manila: SIL.
- Enriquez, S.R. and M.O. Guzman. 1998. *English-Tagalog vocabulary*. Quezon City: Marran.
- Goschnick, Hella. 2005. Tina Sambal grammar notes. Ms.
- Green, Joanne and Roger Green. 1991. The grammar of Ayta MagIndi. Ms.
- Gordon, Raymond G., Jr. (ed.), 2005. *Ethnologue: Languages of the world*, Fifteenth edition. Dallas, Tex.: SIL International. Online version: <http://www.ethnologue.com/>
- Hidalgo, Cesar A. 1998. *Ivatan-Filipino-English dictionary: A Cultural Dictionary of Batanes*. Manila: Academics Foundation.
- Llamzon, Teodoro A. 1978. *Handbook of Philippine language groups*. UNESCO. Quezon City: Ateneo de Manila University Press.
- Mann, Noel. 2005. Syllostatistics. Ms.
- McFarland, Curtis Daniel. 1974. The dialects of the Bikol area. Ph.D. Dissertation, Yale University.
- Nitsch, Wilhelm. 1998. Some Ayta Abellen Grammar. Ms.
- Persons, Gary and Diane Persons. 1998. *Miirgu-irgu Atamo (Let's Dialogue): A Topical Phrasebook in Bolinao, Ilocano, Filipino, and English*. Manila: SIL Philippines.

- Ramos, Marciana Extra, Melchora Estoque, Meriel Padilla Quitco, and Hennie Lai Yee Chiu. 2005. A preliminary grammar sketch of Ayta Ambala. Ms.
- Rubino, Carl. Philippine language tree. [online] retrieved November 1, 2005, from <http://iloko.tripod.com/philtree.html>
- Rubino, Carl. 2000. *Ilocano dictionary and grammar*. Honolulu: University of Hawai'i Press.
- Rubrico, Jessie Grace U. The languages of the Philippines. [online] retrieved November 1, 2005, from http://www.languagelinks.org/onlinepapers/fil_lang.html
- Stone, Roger. 2005. Ayta Abellen Ethnologue report. Ms.
- Storck, Kurt and Margaret Storck. 2005. *Ayta Mag-Antsi—English dictionary*. Manila: SIL Philippines.
- Turla, Ernesto C. *English to Kapampangan dictionary*. [online] retrieved 2005 from <http://www.maxpages.com/diccionario>
- Zorc, R. David. 1977. The Bisayan dialects of the Philippines: Subgrouping and reconstruction. *Pacific Linguistics*. C.44. 305–320.
- Zorc, R. David. 1982. Micro- and macro-subgrouping: criteria, problems, and procedures. In Carle et al, (eds.), *Gava', Studies in Austronesian Languages and Cultures Dedicated to Hans Kähler*. Veröffentlichungen des Seminars für Indonesische und Südseesprachen der Universität Hamburg, Band 17:305–320. Berlin: Dietrich Reimer Verlag.

Appendix 1 – Wordlist Data

Table 10. Nouns (129 Total)

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
afternoon	mahilim	hapon	ma?apon	yabina	mahilim	mallim	ka?awat	makoyab	ga?panapon	hapon	*apon
all	kagana?an	la?at	naubuh	sarba	kaganawan	amin	kaganawan	atawo	sabla?	lahat	halban
ankle	tikid	haku?an	buklu?u	pa?wa?alwan	bukon?bukon	mukod	buwi	kasindan	bukunbukun	bukon?bukon	balogo?balogo?
ash	tubog	abo	abo	abonsyan	abo	dapo	abu	avo	abu	abo	aboh
back	gulot	bokot	bokot	gorot	bokot	likod	bukut	dichod	gulut	likod	bokot
banana	ha?a	sa?a	ha?a	batag	ha?a	saba	sa?a	vinyeveh	sagin	sagin	batag
belly	bitoka	bitoka?	bitoka	tyan	tyan	tyan	bituka	vodik	atian	ti?an	tyan
bird	manokmanok	manokmanok	manok	manokmanok	manokmanok	billit	manuk	manomanok	ayup	ibon	manok?manok
blanket	owih	owis	uwih	olis	owih	olis	uwis	ayob	ulas	kumot	ili
blood	daya?	daya?	daya	daya?	daya?	dara	daya	raya	daya?	dugo	daya?
body	laman	nawini	lawini	lalaman	nawini	bagi	lawini	karakohan	katawan	katawan	lalaman
bone	bot?o	bot?o	but?o	bot?ol	but?o	tulan	but?u	to?han	butul	buto	botol
brain	utik	otik	utik	otik	itik	utik	utik	otik	utak	utak	otok
breakfast	pamigat	almohal	mamoah	aramosal	almohal	pamigat	almusal	riagin	panaba	almusal	armosal
breast	huho	soso?	hoho	soso?	nuno?	suso	suso	soso	susu	suso	soso
butterfly	gopa?pa?	palo?	palo?palo	kalibanban	palo?palo?	kolibanban	palu	kodibanban	taluban	paruparo	kalibanban
carabao	damwag	damolag	damwag	damolag	damowag	nuag	dulig	pagad	damulag	kalabaw	damolag
cheek	pinihpinih	pinih	pinj	pispis	pinih	pinpin	pinj	pisnyi	pinji	pinji	pinpih
chest	pagaw	dibdib	pagaw	kirip	nibnib	barokon	pagaw	kalayanan	salu	dibdib	kolop
child	anak	anak	anak	anak	anak	ubbi?u	anak	motdih	anak	bata	anak

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
chicken	manok	manok	manok	manok	manok	manok	manok	manok	manok	manok	manok
chin	baba?	baba?	baba?	ba?ba?	baba?	timid	baba	tomid	baba?	baba	ba?ba?
cloud	uwip	olap	ginim	gonim	li?im	ulip	lem	dimdim	biga?	ulap	lolom
coconut	oŋot	oŋot	oŋot	oŋot	oŋot	inyog	uŋut	nyoy	puŋut	niyog	oŋot
crow	owak	owak	uwak	owak	owak	owak	uwak	owak	wak	uwak	owak
day	maŋa?amot	allo	allo	awro	allo	aldaw	ma?amot	araw	aldo	araw	awlo
deaf	ti?i?	tolokoŋ	tikkin	tilik	ti?ik	umil	tikkin	makotiŋ	maklak	biŋi	tolok
debt	utaŋ	otaŋ	utaŋ	otaŋ	otaŋ	utaŋ	utaŋ	gatos	utaŋ	utaŋ	otaŋ
deer	oyha	oyha	oyha	oyha	oyha	ogsa	uwisa	agsah	usa	usa	oyha
dog	aho	aho	aho	aso	aho	aso	asu	tsito	asu	aso	aso
dream	taynip	taynip	taynip	taynip	taynip	tagtagainip	taynip	tayanip	tinap	panaginip	taynap
dust	tu?apok	gabot	tuwapok	ta?pok	alikabok	tapok	alikabok	ahbik	alikabok	alabok	gabok
ear	talina?	tik	ti:k	totolyan	tolih	lapayag	tik	tadinya	balugbug	ta?ina	totolyan
earthquake	lay?on	dayon	layon	rayon	layon	gingimid	layun	nini	ayun	lindol	layon
egg	talay	okoy	poga	salay	okoy	itlog	ukuy	otioy	ebun	itlog	oybon
eggplant	talon	talon	balansenas	tarom	talom	taron	balansenas	vahosa	balansenas	talon	talom
elbow	hiko	hiko	hiko	siko	hiko	siko	siko	sicho	siku	siko	hiko
eye	mata	mata	mata	mata	mata	mata	mata	mata	mata	mata	mata
face	lupa	lupa	lupa	ropa	lupa	rupa	lupa	daŋoy	lupa	mukha	lopa
father	bapa	bapa	tatay	tatay	tatay	tataŋ	bapa	ama	ibpa?	ama	ama?
feather	polokpok	banjiban	habot	sabot	habot	dotdot	sabot	boboh	bulbul	balahibo	habot
feces	taka?	takya?	taka	takli?	taka?	tak?ki	takya	tatsi	takla?	ta?i	taka
finger	galamay	galamay	galamay	garamay	galamay	ramay	galamay	kakamay	taliri?	daliri	galawagaw

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
fire	apoy	apoy	apoy	apoy	apoy	apoy	apuy	apoy	api?	apoy	apoy
fish	ikan	kina?	kina?	kona?	kona	ikan	kina?	amog	asan	isda?	ikan
fly	lanjw	lanjw	lanjw	lano	lanjw	nlaw	lanjw	nanid	lano	lanaw	lano
fruit	dawa	tagiy	tagiy	boja	boja	boja	tagiy	asi	buja	buja	boja
frog	pahina?	palangka?	togak	pasan	pahina?	tukak	pasinga?	palakak	tugak	palaka?	talakba?
hair	labok	labok	habot	sabot	habot	bu?ok	sabut	vo:k	buak	buhok	habot
hand	gamit	gamit	gamit	gamit	gimit	ima	gamit	rapan	gamat	kamay	gamot
head	o:	olo	ulo	olo	olo	ulo	ulu	oho	buntuk	ulo	olo
heart	puho	poho	biki?	poso?	puso?	puso	pusu	tawol	pusu?	puso	poso
heel	bu?ih	bowif?	bo?if?	bu?id	bo?eh	mukod	buwi	tovin	sakuj	sakoj	bo?or
house	baty	bali	bali	bali	bali	balay	bali	vahay	ba?e	bahay	bali?
husband	ahawa	ahawa	ahawa	asawa	ahawa	asawa	asawa	kakovot	asawa	asawa	ka?amba
knee	tu?ol	tagul	to?ol	to?od	to?ol	tumiñ	tu?ul	to:d	tud	tuhod	to?or
leftside	odi	kaliwa?	uki	wiri	oki	kanigid	odi	do ori na	kaili	kaliwa	wili?
lightening	kilat	kimat	kimat	kimat	kimat	kimat	kilat	tsidat	kildap	kidlat	kimat
lip	labi	labi?	labi	labi?	labi?	bibig	labi	vivi	labi?	labi	labi
liver	agtay	agtay	agtay	agtay	agtay	dalim	agtay	atay	ate	atay	agtay
lungs	baya?	baya?	baya	baya?	baga?	bara	baya?	apwaw	baga?	baga?	baya?
man	laki	liyaki?	lalaki?	lalaki	lalaki	lalaki	lilaki	mahakay	lalaki	lalaki	lalaki
mat	amak	amak	amak	apay	amak	ikamin	dasay	apin	dase	banig	apay
monkey	bakf?	bakulaw	baki?	bakf?	baki?	bakis	bakulaw	tsongo	bakis	ungoy	bako?
moon	buwan	boyan	buwan	bulan	bowan	bulan	buwan	vohan	bulan	buwan	bolan
morning	mahanib	mahambak	hanib	boklas	mahambak	bigat	maranun	mavikas	abak	umaga	boklah
mother	indo	indo?	indo	ina	nanay	ina	indu	ina	indu?	ina	indo?

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
mosquito	ilik	yamok	ilik	ilik	ilik	lamok	ilik	tamonin	yamuk	lamok	ilok
mouth	bibiy	bibiy	bibiy	bibiy	bibiy	niwat	bibiy	poso	asbuk	bibig	boboy
mud	pita?	pita?	pita	topa?	pita?	pita?	burak	hotah	burak	putik	dotak
name	nanan	nanan	nanan	nanan	nanan	nagan	lagyu	nanan	lagyu?	nanan	nanan
neck	li?iy	bin	li?iy	li?iy	li?iy	tinid	bin	lagaw	batal	li?ig	lo?oy
needle	kadayim	kadayim	karayim	kadayim	karayim	dagom	karayom	dayim	karayum	karayom	karayom
night	madiylim	yabi	yabi	yabi	yabi	rabi?i	yabi	ahip	beni	gabi	yabi?
noon	ugto	ogto	ugto	ogto	ogto	aldaw	ugtu	payarawnin	ugtu	taphali	kaogitowan
nose	balonoh	balonoh	balunoh	a?ron	balonoh	agon	balunus	momodan	aruñ	ilog	a?loñ
palm	daokap	palad	dalipapa	dalokap	dawokap	dakolap	daiipapa?	rapan	palad	palma	palal
peanut	mani?	mani?	mani	mani?	mani?	mani?	mani	mani	mani?	mani?	mani?
pig	baboy	baboy	baboy	babuy	baboy	baboy	babuy	bago	babu?	baboy	baboy
pillow	onan	ponan	ulunan	alonan	onan	puñan	ulunan	hanan	ulununan	unan	alonan
rain	udan	abagat	uran	rapig	oran	tudo	uran	timoy	uran	ulan	abagat
rainbow	bowakaw	bolalapanaw	buwanjapaw	kabonlalakaw	kabullalapanaw	bala layaw	buwanjapaw	ranyiran	pinanjari	bahaghari	kabonlalapanaw
rat	dagih	baki?	dagih	ibot	baki?	bao	dagis	karam	dagis	daga	bolaki
rib	tagyan	tagyan	tagyan	tagyan	tagyan	paragpag	tagyan	taglan	tadyan	tudyuhin	tagyan
rice ¹	biyah	biyah	biyah	byas	boya	bagas	biyas	paray	abias	bigas	boyah
river	kabatu?an	yawog	ilog	ilog	bala	karayan	ilog	ahson	ilog	ilog	kabatwan
root	yamot	yamot	wakat	yamot	yamot	ramot	uyat	yamot	yamut	ugat	yamot
roof	atip	atip	atip	atip	bubon	atip	bubon	atip	bubunan	bubon	atop

¹ husked

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
rope	lubil	yobil	yubil	robir	yobil	tali	yubil	pinospos	lubid	lubid	yobil
salt	ahin	ahin	ahin	asin	ahin	asin	asin	asin	asin	asin	asin
sand	lanhi?	bohanin	balah	boyajin	kapati'an	darat	balas	anay	balas	buhajin	boyajin
shadow	anino	anino	anino	alina	anino	anniniwan	aninu	anino	alino	anino	anino
shoulder	bantaw	bantaw	bantaw	abaya	abaya	abaga	bantaw	pakoh	pago	balikat	abaya
sibling	katopno	patil	patil	busat	patil	kabsat	patil	kaktih	kapatad	kapatid	talakaka
skin	luti?	balat	balat	katat	katat	kudil	balat	kodit	balat	balat	katat
sky	lanjit	lanjit	lanjit	lanjit	lanjit	lanjit	lanjit	tohos	banua	lanjit	lanjit
smoke	anoh	ahok	ahuk	asok	ahok	asok	asok	ahob	asok	usok	asok
snake	bikat	otan	utan	olay	utan	ulig	utan	boday	ubijan	ahas	ulay
soup	habaw	habi?	habaw	sabaw	habaw	sopas	sabi?	asoy	sabo	sabaw	habaw
spider	giganj	pidaj?	giganj	giganj	giganj	law ^w alaw ^w	giganj	hahawa	babaguar?	gagamba	giganj
spit	luda?	topay	dula	loda?	dula?	topra	tupay	tipa	lura?	lura	lora?
star	bitu?in	bitiwin	bitiwin	bitu?in	bitu?in	bitu?in	bitiwin	vitohin	batuin	bitu?in	bitu?on
stone	dapah	bato	bato	bato	bato	bato	bato	bato	bato	bato	bato
sweat	haynit	haynit	haynit	saynit	haynit	liñit	saynit	inaliñidj	pawas	pawis	haynit
potato ²	kamoti	kamoti	kamotsi	kamoti	kamoti	kamoti	kamuti	wakay	kamuti	kamoti	kamoti
tail	ikoy	ikoy	ikoy	ikoy	ikoy	ipos	ikuy	ipos	iki?	buntot	ikoy
tear ³	lowa?	lowa?	luwa	luwa?	luwa?	luwa	luwa	ho:	lua?	luha	lowa?
teeth	ñipin	ñipin	gogot	ñipin	ñipin	ñipin	lasi	nyipin	ipan	ñipin	ñipon

² sweet

³ from crying

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
termite	anag	anag	anag	anag	anag	anag	anag	anay	ane	anay	anag
thigh	pa?a	pa?a	pa?a	pa?a	pa?a	lup?po	pa?a	pa:	puad	pigi	pa?a
thorn	diwih	dyiwi	diwi	duwi	dowi	si?it	diwi	tolok	suksuk	tinik	dowi
throat	bik?law	biklaw	halo	bokraw	boklaw	karabukob	salu	titihnan	akmulan	lalamunan	boklaw
thunder	kudol	kimat	kilat	kodor	korol	gurrud	kilat	adiy	duldul	kulog	korol
toe	galamay	galamay	galamay	garamay	galamay	ramay	galamay	kakamay	taliri?	daliri	galawagaw
tongue	dila	dila	dila	dila?	dila?	dila	dila	rida	dila?	dila?	dila
tree	kayo	kayo	kayo	kayo	kayo	kayo	kayu	kayo	pun kayu?	kahoy	kayo
trousers	pantalon	halwal	hanwal	botarga	halwal	pantalon	sanwal	salavini	salol	pantalon	pantalon
turtle	pag?onj	pag?onj	pag?onj	pagonj	pag?onj	pag?onj	pag?uj	iranj	pau?	pagonj	pag?onj
urine	duday	dyodyay	duray	omi?	doray	isbo	duray	pitig	imi?	ihi	omi?
vein ⁴	oyat	oyat	iyat	oyat	iyat	urat	uyat	oyat	uyat	ugat	oyat
wall ⁵	liplij	dindij	lolog	riprinj	liplij	didiñ	liplij	gadagada	dalig	pader	padir
water	lanom	lanom	lanim	ranom	lanom	danom	lanim	danom	danum	tubig	lanom
waterfall	haluhog	bihay	bihay	bosay	bihay	burayok	bisay	komayasakas	puntu?	talon	bosay
wife	ahawa	ahawa	ahawa	asawa	ahawa	asawa	asawa	kakovot	asawa	asawa	ka?ambalin
wing	pakpak	palakpak	puwal	pakpak	pakpak	payak	palakpak	panyid	pakpak	pakpak	pakpak
winnow	bilawo	tatap	bitsay	tatap	bilawo	bigao	igo	bila?ut	tatap	bila?o	tatap
woman	babayi	babayi	babayi	babayi	babayi	babai	babayi	mavakis	babai	babafi	babayi

⁴ blood

⁵ of a house

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
worm	ulil	bolati	uwil	bolati	uwil	ig'gigis	uwil	ohid	bulati	uod	olol
year	ta'on	ta'on	ta'on	ta'on	ta'on	tawin	ta'un	awan	banua	ta'on	ta'on

Table 11. Verbs (48 Total)

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
answer	hibat	kitbay	kitab	ubat	tubay	supbat	kitab	atbay	pakibat	sagot	obat
bathe	pali'u	loyo?	palyu	maluyo?	liyo	digos	luyu	ryus	dilu?	ligo	lyo?
bite	kayat	kayat	kayat	kayat	kayat	kagat	kayat	sonyit	ket	kagat	kayat
burn	ulam	olam	ulam	iwik	pu'ol	uram	ulam	susuhan	silaban	sunog	po'ol
bury	ilbinj	ilbinj	ilbinj	ilbinj	tabon	tabon	libinj	vuvun	ikutkut	ba'on	tabon
buy	haliw	haliw	haliw	haliw	gatanj	haliw	haliw	manadiw	salif	pabili	haliw
call	inat	ba'ig	inat	baw'gjin	inat	ayab	big	tawag	aus	tawag	ha'way
choose	pili?	pili?	pili?	pili?	pili?	pili	pili?	pidi	pili?	pili?	pili?
climb	manik	dakry	unik	oli?	moli?	uli	dakey	kayab	ukiat	akyat	oli?
count	bilanj	bilanj	bilanj	bilanj	bilanj	bilanj	bilanj	vida	bilanj	bilanj	bilanj
cough	kuko?	koko?	koko	ko'ko?	kuko?	uyik	kuko	gugu	kuko?	ubo	ko'ko?
cry	tanjeh	tanjeh	tanjeh	akis	tanjeh	sanjit	tanjeh	tomanyis	tanjeh	iyak	tanjeh
defecate	taka?	takya?	taka?	takli?	taka?	tak'ki	takya?	tatsi	takla?	ta'ji	taka?
dig	kali	kalih	kali	kokot	kali	kali	kali	kadi	kukul	hukay	kokot
drink	inom	inim	inim	inom	inom	inom	inum	inum	inum	inom	inom
eat	kan	kan	ikan	kan	kan	manjan	ikan	kan	kan	ka'in	kan
fly	lompad	lompad	lumpad	lompad	lompad	tayab	lumpad	sayap	sulagpo	lipad	lompar

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
forget	liwa	liwan	liwa	lipwan	liwa	lipat	liwa	wayak	kalinuan	limot	lipwan
give	biay	am?i?	bi	bi	mam?ih	itid	bi	turuh	bie	bigay	bi
hear	lijif?	lijif?	lijif?	ijar	lingif?	dijing	lijif?	adjiy	damdam	kinig	lonof
hide	tayo	tago?	tago	adi	tago?	limming	tagu?	tayu	salikut	tago	ari?
kill	patiy	pati	patsi	pati	pati	patay	pati	diman	pate	patay	pati
laugh	kili?	kayli?	kaili?	ka?lis	ka?li	katawa	kayli?	ayak	kaili	tawa	omlih
lie ⁶	bojkok	bojkok	bojkok	bula?	bojkok	ulbod	lawig	dada?ay	laram	kasinunajinan	kalotoy
pay	bayad	bayad	bayad	bayad	bayad	bayad	bayad	paga	bayad	bayad	bayar
plant	tanim	tanim	tanim	tanim	tanim	mula	tanim	muha	tanam	tanim	mola
pull	goloy	goloy	guloy	goroy	goloy	guyod	binunay	palan	igut	batak	bira
play	dagaw	daragaw	dagaw	ikap	dagaw	ay?ayam	kapal	yayam	alu	laro?	ikap
push	tudon	doron	dulin	toror	tulak	duron	turon	pasosoy	tulak	tulak	tolak
repeat	oman	oman	oman	uman	uman	ulit	uman	pirwah	uman	ulit	olot
run	mayiw	lokho?	uwayu	palayo	powayo	taray	uwayu	yayu	pulayi	takbo	olayo?
see	kit	akit	ikit	kit	kit	kita	akit	vuya	akit	kita	kit
sew	tahi?	tayi?	taynib	tayi?	tayi?	da?it	tayi?	kapanhinib	tayi?	tahi?	tayi?
sit	ikno?	ikno?	ikno?	tikri?	ikno?	tugaw	iknu?	disna	lukluk	upo	toklo?
sleep	toly	toly	tuly	ilik	tuly	turog	bilw	itsh	tudtud	tulog	ma?lok
smell	da?tp	da?tp	da?tp	agot	da?tp	agut	dip	agot	bau	amoy	agot
squeeze	pihphih	pispiis	pihphih	pispiis	pihphih	pispiis	pispiis	pitos	paslan	siksik	poloh
stand	iditij	iditij	iritij	iditij	iritij	takder	iritij	atnik	tikdo	tayo	odon

⁶ false

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
steal	takaw	takaw	takaw	takaw	takaw	takaw	takaw	takaw	tako	takaw	takaw
suck	hiphip	sipsip	hiphip	sipsip	hiphip	susop	sipsip	somosoh	sipsip	sipsip	hophop
swim	tanoy	lanjy	kaway	tanoy	tanoy	lanoy	kaway	yawat	kawε	lanoy	tanoy
throw	tapon	halo?	tapon	bantak	tapon	bato	tapun	pagsid	ugse	tapon	bantak
vomit	hoka?	hoka	huka	soka	hoka	sarwa	suka	mutawta	suka	suka	hoka
walk	kodanj	alyako?	bita	lalako	owako	magna	bita	mayam	lakad	lakad	lalako?
wait	agad	injan	ingan	ta?gan	anti?	uray	itiŋ	nanaya	aya	hintay	ta?gan
wash	oyah	laba	uyah	uyas	oyah	buggo	huyas	uyas	uas	hugas	oyah
winnow	tatap	tatap	tatap	tatap	tatap	ta?ip	tatap	wakwak	tatap	tahip	tatap
work	obda	trabaho	trabaho	obra	trabaho	trabaho	obra	trabahu	obra	trabaho	trabaho

Table 12. Adjectives (38 Total)

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
big	laki	hmak	hilay	?alaki	hilay	dak?il	ragul	rakoh	dagul	laki	hi?ban
bitter	pa?it	pa?it	pa?it	pa?it	pa?it	pa?it	pa?it	akpad	payit	pa?it	pa?it
black	ŋitit	wliŋ	ŋitsit	ŋisit	ŋitit	ŋisit	uyay	vahiŋ	tuliŋ	itim	ŋitit
cold	lay?ip	layip	lay?ip	ray?ip	lay?ip	lami?is	lip?it	hantbnib	dimla	lamiŋ	layop
deep	lali?	lali?	lali?	?ararim	lali?	unig	lali?	rahim	lalam	lalam	lalo
difficult	?idap	?idap	?irap	?idap	?irap	rigat	sakit	sadit	sakit	hirap	?irap
dirty	dinat	yanjat	rimik	nikasama?	yanjat	rugit	dinat	rudit	dinat	rumi	yanjat
dull	mo?mo	purul	porol	kamil	purul	mudil	purul	ngarih	purul	purul	porol
far	ta?an	dayo?	rayu?	?adayo?	rayo?	adayo	dayu	rayi	dayu?	layo	rayo?
fat	taba?	taba?	taba?	taba?	taba?	lukmiŋ	taba?	tava	taba?	taba?	taba?

fragrant	banoh	banoh	banoh	banlu	banoh	banlo	banj?	asdip	banlu	baño	banloh
good	ñid	hampat	hampat	bista	imbag	ñid	ñid	pia	?ap	buti	labah
heavy	biyat	biyat	biyat	biyat	dagsin	biyat	biyat	rarahmit	biyat	bigat	byat
hot	?amot	?omot	?amot	?mot	putot	?umut	?umut	kuhat	pali?	?init	a?mot
hunger	bitil	lonoh	bitil	bitil	bisin	layan	layan	aptin	danup	gutom	bitil
long	kadañ	karañ	kara?	?andro	atid?og	karañ	karañ	anaru	kaba?	haba	anloh
many	laboñ	l?at	laki?	?abaw	adu	laki	laki	aru	dakal	rami	lako?
narrow	hapÿ	kayik	kapit	?akipot	akikid	kapit	kapit	idid	kiput	kipot	kipot
near	haliy	dani?	rani	?adani	asidig	dani	dani	asñin	lapit	lapit	rani?
new	bayo	bayo	bayo	ba?yu	baro	bayu	bayu	vayu	bayu	bago	bayo
red	tibya	odit	orit	o?dit	labaga	udit	udit	vaya	lutu?	pula	tibya?
sharp	tadim	tadim	tarim	tadim	tadim	tarim	tarim	tarim	taram	talim	talas
skinny	biñ	toklod	ibiñ	biñ	kuttoñ	ibiñ	ibiñ	golañ	payat	payat	a?boñ
small	kandi	nanawa	yamo?	da?iklin	bassit	biñ	biñ	didikiy	lati?	li?it	kalog
smooth	lino?	kinis	kinis	dalonot	lamuyot	siliñ	siliñ	whas	kinis	kinis	yamo?
sour	ahim	asim	ahim	alsim	alsim	aslam	aslam	napa	aslam	?asim	?alhom
straight	toynoñ	toynoñ	toynoñ	to?rir	lintig	tinek	tinek	napa	aslam	tuwid	toynoñ
strong	hikaw	hikaw	hikaw	ksaw	piğa	lakas	lakas	mayit	sikan	lakas	kohaw
sweet	lam?ih	tam?ih	tam?ih	sam?it	sam?it	tam?is	tam?is	unawnas	yumu	tamis	hamit
thick	kugpa	kodpa	kodpaw	kobpal	puskol	kudpa	kudpa	tukpuh	kapal	kapal	korpak
thin	inpih	nipis	nipih	impis	impis	impis	impis	taripis	impis	nipis	impih
weak	kapÿ	ayna	kapÿ	kapoy	kapoy	ina	ina	kaha	ina?	hina	kapoy
wet	baha?	baha?	baha?	albit	basa	basa?	basa?	vasa	basa?	basa	to?pakon
white	puti?	putsi	puti?	poti?	puraw	puti	puti	idak	puti?	puti?	poti?
wide	way	lawag	lawag	lawag	lawag	kuwal	kuwal	wvuñ	lapad	lapad	lawañ
yellow	holyaw	hilyaw	hilyaw	silyaw	ki?aw	?ilyaw	?ilyaw	yuhama	dilo	dilaw	holyaw

Table 13. Pronouns (32 Total)

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
F1D	hikita	hakita	hikita	si?ta	hita	sita	sikita		ikata		hita
F1E	hikayi	hakami	hikay	si?kami	hikayi	sikami	sikay	yamin	ikami		hikami
F1I	hikitawo	hakitamau	hikitamo	si?tamo	hitamo	sitayo	sikitamo	yatin	tamu		hitamo
F1S	hiko	haku	hiko	si?ko	hiko	siak	siku	yakin	yaku		hiko
F2P	hikawo	hakawu	hikaw	si?kamo	hikawo	sikayo	sikau	inio	ikayu		hikawo
F2S	hika	haka	hika	si?ka	hika	sika	sika	imo	ika	ikaw	hika
F3P	hila	hila	hila	sira	hila	isuda	sila	sira	ila		hila
F3S	hiya	hiya	hiya	sya	hiya	isuna	siya	sia	iya		hiya
Foc1D	kita	kita	kita	ata	ta	ta	kita		kata		ta
Foc1E	kayi	kami	kay	kami	kayi	kami	kay	kami	kami	kami	kami
Foc1I	kitawo	tamu	kitamo	atamo	tamo	tayo	kitamu	ta	ikatamu	tayo	tamo
Foc1S	ako	aku	ako	ako	ako	ak	aku	ako	ku	ako	ako
Foc2P	kawo	kawu	kaw	kamo	kawo	kayo	kau	kamo	kayu	kayo	kamo
Foc2S	ka	ka	ka	ka	ka	ka	ka	ka	ka	ka	ka
Foc3P	hila	hila	hila	sara	hila	da	sila	sira	la	sila	hila
Foc3S	ya	ya	ya	ya	ya	na	ya	sia	ya	siya	ya
Pos1D	ta	ta	ta	ta	ta	ta	ta		ta		ta
Pos1E	mi	mi	na?in	mi	nawin	mi	yan	namin	mi	namin	mi
Pos1I	tawo	tamu	tamo	tamo	tamo	tayo	tamo	ta	tamu	natin	tamo
Pos1S	ko	ku	ko	ko	ko	ko	ku	ko	ku	ko	ko
Pos2P	yo	yu	yo	moyo	yo	yo	yu	nio	yu	ninyo	moyo
Pos2S	mo	mu	mo	mo	mo	mo	mu	mo	mu	mo	mo
Pos3P	la	la	la	ra	la	da	la	da	da	nila	la

Pos3S	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Dir1D	kanta	kanta	kanta	kanta	kanta	kanta	kaniata	kanta	kanta	kekata	kekata	kekata	kekata	kekata	kekata	kekata	kekata	kekata	kekata	kekata
Dir1E	kammi	kanyan	kanna?in	kanna?in	kanna?in	kanna?in	kaniami	kanyan	kanyan	kekami	kekami	kekami	kekami	kekami	kekami	kekami	kekami	kekami	kekami	kekami
Dir1I	kantawo	kantamu	kantamo	kantamo	kantamo	kantamo	kaniatayo	kantamu	kantamu	kekatumu	kekatumu	kekatumu	kekatumu	kekatumu	kekatumu	kekatumu	kekatumu	kekatumu	kekatumu	kekatumu
Dir1S	kaŋko	kaŋku	kaŋko	kaŋko	kaŋko	kaŋko	kaniak	kaŋku	kaŋku	kanaku	kanaku	kanaku	kanaku	kanaku	kanaku	kanaku	kanaku	kanaku	kanaku	kanaku
Dir2P	kanyo	kayu	kamoyo	komoyo	komoyo	komoyo	kaniayo	kamuyu	kamuyu	kekayu	kekayu	kekayu	kekayu	kekayu	kekayu	kekayu	kekayu	kekayu	kekayu	kekayu
Dir2S	kammo	kamu	kamo	komo	komo	komo	kaniam	kamu	kamu	keka	keka	keka	keka	keka	keka	keka	keka	keka	keka	keka
Dir3P	kanla	kanla	kalla	konla	konla	konla	kaniada	kalla	kalla	karela	karela	karela	karela	karela	karela	karela	karela	karela	karela	karela
Dir3S	kana	kana	kana	kona	kona	kona	kaniana	kana	kana	kaya	kaya	kaya	kaya	kaya	kaya	kaya	kaya	kaya	kaya	kaya

Table 14. Particles (8 Total)

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
surprise	manayti	alud	awod	anamain	awod	gayam	pata	sawon	pala	pala	payti
still/yet	po?	pun	pon	it	pon	pay	pun	pa	pa	pa	ot
now	ana	yna	ana	ana	ana		ana	na	na	na	ana
desire	dayi	hana	dayi	sapa	dayi	koma	dayi	sana	sa?	sana	komon
only	biŋat	dili?	tana	boŋatana	boŋat	la?in	kay	voyvoh	mu?	lang	boŋat
also	met	mit	it	anamaet	it	mit	it	pa	rin	din	anamaot
it is said	kano	kanu	kano?	kano	kano	kano	kanu	kono	kanu	daw	kano
again	oman	uman	oman	uman	uman	manin	uman	mirwa	nanaman	ulit	anaman

Table 15. Conjunctions (7 Total)

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
and	boy	boy	boy	tan	boy	kin	buy	kano	ampon	at	tan
because	ta	kasif?	ta	bana?	ta	ta	ta	ta	ulij	dahil	ta
but	noba	nowa?	no?a	bale?	piro	ijim	nuwa?	amna	oneŋ	pero	kot
if/when	no	nu	no	no	no	no	nu	an	nuŋ	kuŋ	no
or	o	o	o	ono	o	win?no	o	anmana	o	o	o
so that	ta?omon	ta?imin	ta?imin	pigaw	imin	tapno	imin	tapiian	baŋ	upañ	pigaw
therefore	kaya?bay	kaya?	kabay	kaya?	kaya?	narud	kaya	dawa	inia?	kaya	kanya?

Table 16. Interrogatives (6 Total)

	Abel	Amb	Anchi	Bol	BS	Ilo	Indi	Iva	Kap	Tag	TS
when?	makano	makano	makano	ka?no	makano	ka?ano	makano	an?manu	kapilan	ka?ilan	makano
where?	way?ihtiw	ha?anto?	anto	adti	ayri	ayan	antu	dinu	nu	nasa?an	ayti
who?	hinya	hita?	hino	si?no	hino	sinno	sisabit	sino	ninu	sino	hino
what?	aya	hita?	hino	ani	anya	anya	sabet	aŋu	nanu	ano	anya
how?	way?omon	pakapakun	panno	pa?no	panno	kasano	parasa?antu	maypapu	makananu	pa?ano	pa?no
why?	takit	owta?	awta	mayin	inta?	apay	awta	unta	inta?	bakit	anoŋkot

Appendix 2 – Data Acknowledgements

Ayta Abellen	Data files of Wilhelm Nitsch and Roger Stone, interview with Rodante Capiendo and Emilio Laurzano
Ayta Ambala	Data files of Mercy Ramos and Hennie Chiu, SIL survey files
Ayta MagAntsi	<i>Ayta MagAntsi Dictionary</i> (Stork and Stork, 2005), correspondence with Kurt and Margaret Stork
Ayta MagIndi	Data files of Roger and Joanne Green, SIL survey files, interview with numerous Ayta MagIndi in Nabuklod, Pampanga
Botolan Sambal	Data files of Char Houck, <i>Grammatical Sketch of Botolan Sambal</i> (Antworth, 1979), interview with Joelito De La Cruz
Bolinao	Correspondence with Gary Persons
Ilokano	<i>Ilocano Dictionary and Grammar</i> (Rubino, 2000), interview with Evangeline Stone and Mary Jane Mercado
Ivatan	<i>Ivatan-Filipino-English Dictionary</i> (Hidalgo, 1998) and correspondence with Ginny Larson
Kapampangan	Correspondence with Michael Raymon Manaloto Pangilinan, and <i>English to Kapampangan Dictionary</i> , (Turla)
Tagalog	<i>An English-Tagalog Vocabulary</i> (Enriquez and Guzman, 1998)
Tina Sambal	<i>English-Tina Sambal-Pilipino Dictionary</i> (Elgincolin, 1998) and correspondence with Hella Goschnick