

The Sambalic Languages of Central Luzon*

Roger Stone, SIL International

Roger_Stone@sil.org

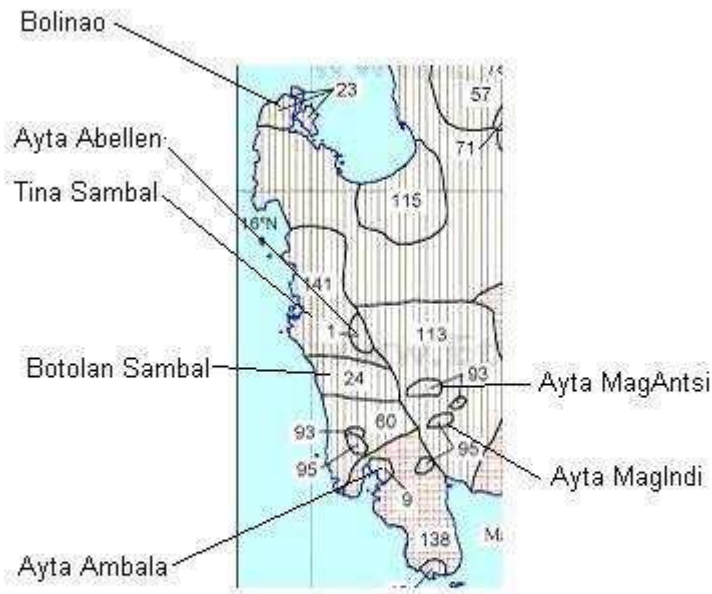
Since little published data exists on the Sambalic languages and virtually no published data exists on the Ayta languages, it has been hard to determine what languages belong in the same subgrouping as the Sambalic languages. Many have included the Bashiic languages (Rubino 2005, Rubrico 2005, SIL Ethnologue, Zorc, etc.) with Sambal under the Northern Philippines branch although Blust (1991) says that 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, SIL Ethnologue, etc.), while others (Llamzon and Martin 1976) have rejected this hypothesis. Because of these questions, Kapampangan and Ivatan (Bashiic) are included in this comparative study of the Sambal languages. In addition to comparing Sambalic languages with neighboring languages like Kapampangan, Tagalog, and Ilokano, this study also aims to show possible subgroupings within the Sambal language family based on lexical similarity. 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 (adjectives, conjunctions, interrogatives, nouns, particles, pronouns, and verbs). Cognate percentages are then determined separately for each grammatical category. While no attempt is made to reconstruct the past history of 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

The purpose of this paper is to examine current lexical data from the Sambalic languages and to ascertain lexical similarity with Kapampangan and Ivatan as well as to LWCs (Languages of Wider Communication) Ilokano and Tagalog. This will give a clearer picture of how similar Sambal languages are to neighboring languages as well as to one member of the Bashiic family (Ivatan). A second purpose of this paper is to compare the Sambal languages with each other to hypothesize subgroupings within the Sambalic language family.

2. The Sambalic Language Family

Figure 1. Sambal 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 Sambales even on the western side of the Sambales 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 2004).

2.3 Ayta MagAntsi

Ayta MagAntsi is spoken by approximately 4,200 Ayta in a number of sitios of Bamban and Capas, Tarlac; Mabalacat and Sapangbato, Pampanga; and Zambales (Storck 2005).

2.4 Ayta MagIndi

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

2.5 Bolinao

The Bolinao language is spoken by approximately 50,000 (SIL Ethnologue 1990) people located in the municipalities of Bolinao and Anda, Pangasinan (Persons 1998).

2.6 Botolan Sambal

Botolan Sambal is spoken by 32,867 (SIL Ethnologue 2000) people located around the municipality of Botolan in Zambales province. A closely related dialect called Ayta (Aeta) is spoken by Negritos living in the nearby Zambales Mountains (Antworth 1979, ix).

2.7 Tina Sambal

Tina Sambal is spoken by 70,000 (SIL Ethnologue 2000) people located in the Northern half of Zambales and in two barangays across the border in Pangasinan (Goschnick 2005).

3. Survey Revisited

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. But that survey data was never published and a review of it made this researcher realize that it would be better to base a current analysis on data from resident linguists (including the Storck's outstanding work on MagAntsi) 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. It is still acknowledged that there may be inaccuracies in the data, but a serious attempt has been made to make the data as accurate as possible.

Since many of the language groupings and lexical similarity percentages for languages listed in the SIL Ethnologue are based off older survey data, this newer data is offered to help modify the conclusions and data presented in the SIL Ethnologue.

4. Criteria for Determining Cognates

For determining which lexical forms are cognate with each other, syllolexicostatistics is used. Syllolexicostatistics is a hybrid of syllostatistics and lexicostatistics and is currently being developed by Noel Mann.

The process is as follows:

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

“Category 1

Probable match of cognate syllables

Onset and rhyme elements match (map in predictable or recurrent manner)

Category 2

Possible match of cognate syllables

Either onset or rhyme elements match (either maps in predictable or recurrent manner)

Category 3

Unlikely match of cognate syllables

Onset and rhyme do not match (do not match in predictable or recurrent manner)” (Mann 2005)

- 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

5. Results by Grammatical Category

The computer program WordSurv was used to organize, group, and compute cognate percentages for each language. The following are observations and results for each grammatical category.

5.1 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. But the vowel 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 with the 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 6 forms that are repeated among Sambal languages which are not cognate with LWC.

Table 2. 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%

5.2 Nouns

One hundred and thirty common nouns were selected for this study. This is the largest set of words gathered and analyzed for any of the grammatical categories.

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 with Sambal languages average 41-52% whereas Sambal languages with each other are between 66-88% cognate. Ivatan nouns are less than 30% cognate with Sambal languages.

Table 3. Noun Cognate Percentages

	Bol	T.S.	Abel	B.S.	Ants	Indi	Amba	Kap	Iva	Ilo	Tag
Bolinao	100%	79%	67%	72%	64%	65%	66%	48%	26%	43%	43%
Tina Sambal	79%	100%	68%	76%	65%	65%	66%	48%	28%	42%	43%
Ayta Abellen	67%	68%	100%	81%	74%	72%	69%	44%	26%	44%	41%
Botolan Sambal	72%	76%	81%	100%	78%	80%	77%	47%	28%	44%	43%
Ayta MagAntsi	64%	65%	74%	78%	100%	88%	70%	48%	25%	38%	41%
Ayta MagIndi	65%	65%	72%	80%	88%	100%	75%	52%	25%	37%	42%
Ayta Ambala	66%	66%	69%	77%	70%	75%	100%	45%	27%	41%	44%
Kapampangan	48%	48%	44%	47%	48%	52%	45%	100%	18%	30%	45%
Ivatan	26%	28%	26%	28%	25%	25%	27%	18%	100%	30%	26%
Ilokano	43%	42%	44%	44%	38%	37%	41%	30%	30%	100%	38%
Tagalog	43%	43%	41%	43%	41%	42%	44%	45%	26%	38%	100%

5.3 Verbs

In researching verbs, only root forms were considered in order to avoid differences due to affixation. Forty-eight lexical entries were analyzed. For these verbs, 38% of the majority verbal forms currently being used by Sambal languages do not have a cognate form in the regional LWCs.

For verbs, high cognate percentages for Ayta languages with each other (73-85%) can be seen as well as for Bolinao and Tina Sambal with each other. But here Botolan Sambal verbs group naturally with the Ayta languages since it scores much higher with the other Ayta languages (73-83%) than with its coastal lowland counterparts of Tina Sambal (52%) and Bolinao (52%).

Kapampangan verbs are 38-44% cognate with Sambal language verbs. Ivatan verbs are not more than 27% cognate with any of the Sambal languages.

Table 4. Verb Cognate Percentages

	Bol	T.S.	Abel	B.S.	Ants	Indi	Amba	Kap	Iva	Ilo	Tag
Bolinao	100%	69%	54%	52%	52%	56%	54%	42%	25%	44%	40%
Tina Sambal	69%	100%	52%	52%	50%	54%	50%	40%	27%	40%	40%
Ayta Abellen	54%	52%	100%	83%	85%	77%	77%	40%	27%	40%	44%
Botolan Sambal	52%	52%	83%	100%	83%	73%	77%	38%	25%	38%	42%
Ayta MagAntsi	52%	50%	85%	83%	100%	83%	77%	42%	27%	40%	42%
Ayta MagIndi	56%	54%	77%	73%	83%	100%	75%	44%	27%	40%	40%
Ayta Ambala	54%	50%	77%	77%	77%	75%	100%	38%	25%	42%	42%
Kapampangan	42%	40%	40%	38%	42%	44%	38%	100%	19%	23%	40%
Ivatan	25%	27%	27%	25%	27%	27%	25%	19%	100%	23%	17%
Ilokano	44%	40%	40%	38%	40%	40%	42%	23%	23%	100%	33%
Tagalog	40%	40%	44%	42%	42%	40%	42%	40%	17%	33%	100%

5.4 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 7 conjunctions researched. In the 3 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.

Trade languages like 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 43% cognate with Botolan Sambal but only 29% or less with other Sambal languages. Other than *ta* 'because', Ivatan has no conjunctions in common with any of the Sambal languages.

Table 5. 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%	43%	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%	43%	29%	29%	29%	100%	0%	14%	43%
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%	43%	0%	0%	100%

5.5 Particles

The 8 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 (63%) 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%	38%	38%	13%	25%
Tina Sambal	63%	100%	38%	38%	25%	25%	38%	25%	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%	38%	38%	25%	25%
Kapampangan	38%	25%	25%	25%	25%	38%	38%	100%	50%	25%	63%
Ivatan	38%	25%	25%	25%	25%	25%	38%	50%	100%	25%	38%
Ilokano	13%	25%	25%	25%	25%	25%	25%	25%	25%	100%	25%
Tagalog	25%	13%	13%	13%	13%	25%	25%	63%	38%	25%	100%

5.6 Interrogatives

Unlike other grammatical categories, the 6 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 highly cognate with Tagalog (67%) but not very cognate with Sambal languages (<20%). Ivatan, on the other hand, is surprisingly 50% cognate with both Botolan Sambal and Aya MagAntsi but not more than 33% cognate with any other language.

Table 7. 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%	17%	50%	50%	33%
Ayta MagAntsi	50%	50%	17%	67%	100%	50%	33%	17%	50%	33%	33%
Ayta MagIndi	17%	17%	17%	33%	50%	100%	33%	0%	17%	17%	0%
Ayta Ambala	17%	17%	17%	33%	33%	33%	100%	0%	17%	17%	17%
Kapampangan	17%	17%	0%	17%	17%	0%	0%	100%	33%	17%	67%
Ivatan	33%	33%	0%	50%	50%	17%	17%	33%	100%	17%	50%
Ilokano	33%	50%	33%	50%	33%	17%	17%	17%	17%	100%	17%
Tagalog	33%	33%	0%	33%	33%	0%	17%	67%	50%	17%	100%

5.7 Adjectives

For the 36 adjectives selected, Sambal adjectives exhibit less similarity with each other than for most of the other grammatical categories. Lexical similarity for adjectives range from 47% to 69% for Sambalic languages.

Ayta MagIndi borrows heavily from Kapampangan (50% 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 36%. Ivatan cognate scores with Sambal languages are especially low, ranging from 6% to 14%.

Table 8. 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%	53%	31%	6%	19%	28%
Ayta Abellen	50%	56%	100%	64%	53%	44%	53%	28%	11%	17%	31%
Botolan Sambal	58%	64%	64%	100%	67%	53%	69%	36%	11%	19%	42%
Ayta MagAntsi	47%	50%	53%	67%	100%	61%	58%	33%	11%	14%	36%
Ayta MagIndi	50%	44%	44%	53%	61%	100%	50%	50%	14%	19%	39%
Ayta Ambala	47%	53%	53%	69%	58%	50%	100%	33%	11%	17%	42%
Kapampangan	33%	31%	28%	36%	33%	50%	33%	100%	14%	22%	56%
Ivatan	11%	6%	11%	11%	11%	14%	11%	14%	100%	11%	11%
Ilokano	33%	19%	17%	19%	14%	19%	17%	22%	11%	100%	19%
Tagalog	33%	28%	31%	42%	36%	39%	42%	56%	11%	19%	100%

6. Composite Cognate Percentages

Below are the total composite cognate percentages for all 267 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 43% and 51% 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%	75%	62%	66%	60%	61%	61%	46%	24%	43%	38%
Tina Sambal	75%	100%	64%	70%	61%	60%	61%	45%	25%	41%	37%
Ayta Abellen	62%	64%	100%	79%	75%	71%	70%	43%	24%	41%	37%
Botolan Sambal	66%	70%	79%	100%	80%	75%	75%	45%	26%	41%	40%
Ayta MagAntsi	60%	61%	75%	80%	100%	83%	71%	46%	25%	37%	38%
Ayta MagIndi	61%	60%	71%	75%	83%	100%	72%	51%	24%	37%	38%
Ayta Ambala	61%	61%	70%	75%	71%	72%	100%	44%	25%	39%	40%
Kapampangan	46%	45%	43%	45%	46%	51%	44%	100%	20%	30%	44%
Ivatan	24%	25%	24%	26%	25%	24%	25%	20%	100%	24%	23%
Ilokano	43%	41%	41%	41%	37%	37%	39%	30%	24%	100%	31%
Tagalog	38%	37%	37%	40%	38%	38%	40%	44%	23%	31%	100%

7. Conclusions

While Kapampangan is the most lexically similar of the LWCs with Sambal languages it is still 15-35% less similar than the Sambal languages are with each other. Kapampangan also scores in the same range of lexical similarity with Tagalog as with Sambal languages. The lexical similarity data is not strong in favor of Kapampangan being a constituent member with the Sambal languages in the Central Luzon family. There may be evidence for the Kapampangan-Sambal link in other areas of study, but lexical similarity does not yield strong support for the claim.

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.

In trying to postulate lexical similarity subgroupings within the Sambal 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 predictable.

The northern coastal languages of Tina Sambal and Bolinao also form a group, being 75% cognate with each other. Since these languages are lowland, coastal languages and geographically close, this result also is predictable.

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 (75%) but that is not very remarkable since that is the lowest cognate percentage Botolan Sambal has with any Ayta language. So it is hard to know whether 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.

References

- Antworth, Evan. 1979. A Grammatical Sketch of Botolan Sambal. Manila: Linguistic Society of the Philippines.
- Goschnick, Hella. 2005. Tina Sambal Grammar Notes. Unpublished manuscript.
- Green, Joanne and Roger. 1991. The Grammar of Ayta MagIndi. Unpublished manuscript.
- Nitsch, Wilhelm. 1998. Some Ayta Abellen Grammar. Unpublished manuscript.
- Mann, Noel. 2005. Syllostistics. Unpublished manuscript.
- Persons, Gary and Diane. 1998. Miirgu-irgu Atamo (Let's Dialogue): A Topical Phrasebook in Bolinao, Ilocano, Filipino, and English. Manila: Summer Institute of Linguistics Philippines.
- Ramos, Marciana Extra, Melchora Estoque, Meriel Padilla Quitco, and Hennie Lai Yee Chiu. 2005. A Preliminary Grammar Sketch of Ayta Ambala. Unpublished manuscript.
- Stone, Roger. 2005. Ayta Abellen Ethnologue Report. Unpublished paper.
- Storck, Kurt and Margaret. 2005. Ayta Mag-Antsi-English Dictionary. Manila: Summer Institute of Linguistics, Philippines.

Appendix 1 – Common Sambal forms vs. LWC forms

In the following tables, the first column shows the lexical item being considered. The second column shows the most common form among the Sambal languages. If more than one form was repeated in different languages, both are listed. The last three columns show the corresponding form for the LWCs Tagalog, Kapampangan and Ilokano. Sambal forms that are not cognate with LWC forms have been underlined.

Table 10. Pronouns (6 unique; 32 total)

	Most Common Sambal form	Tagalog	Kapampangan	Ilokano
F1S	<u>hiko</u>		yaku	siak
F1D	hikita/hita		ikata	sita
F1E	hikayi/hikami		ikami	sikami
F1I	hikitamo		ikatamu	sitayo
F2S	hika	ikaw	ika	sika
F2P	hikawo		ikayo	sikayo
F3S	hiya		iya	isuna
F3P	hila		ila	isuda
Foc1S	ako	ako	ku	-ak
Foc1D	kita		kata	ta
Foc1E	kayi/kami	kami	kami	kami
Foc1I	tamo/kitamo	tayo	katamu	tayo
Foc2S	ka	ka	ka	ka
Foc2P	kawo/kamo	kayo	kayu	kayo
Foc3S	ya	siya	ya	na
Foc3P	hila	sila	la	da
Pos1S	ko	ko	ku	ko
Pos1D	ta		ta	ta
Pos1E	mi/nawen	namin	mi	mi
Pos1I	tamo	natin	tamu	tayo
Pos2S	mo	mo	mu	mo
Pos2P	yo/moyo	ninyo	yu	yo
Pos3S	na	niya	na	na
Pos3P	la	nila	da	da
Dir1S	<u>kangko</u>	akin	kanaku	kaniak
Dir1D	<u>kanta</u>		kekata	kaniata
Dir1E	kammi/konnawen	amin	kekami	kaniami
Dir1I	kantamo	atin	kekatamu	kaniatayo
Dir2S	<u>kamo</u>	iyo	keka	kaniam
Dir2P	<u>kamoyo</u>	inyo	kekayu	kaniayo
Dir3S	<u>kana</u>	kaniya	kaya	kaniana
Dir3P	kanla/kalla	kanila	karela	kaniada

Table 11. Nouns (42 unique; 130 total)

	Most Common Sambal Form	Tagalog	Kapampangan	Ilokano
afternoon	apon/mahilem	hapon	gatpanapon	malle
all	kaganawan	lahat	eganagana	amin
ash	abu	abo	abu	dapo
back	bukot	likod	gulut	likod
banana	haa/saa	saging	sagin	saba
belly	bitoka	tian	atian	tiyan
bird	manokmanok	ibon	ayup	billet
blanket	oleh/oweh	kumot	ulas	oles
blood	daya	dugo	dara	daya
body	laman/lawini	katawan	katawan	bagi
bone	bot-o	buto	butul	tulang
brain	utek	utak	utak	utek
breakfast	almusal	almusal	almusal	pamigat
breast	suso	suso	susu	suso
butterfly	kolibangbang/palo-palo	paruparo	mariposa	kolibangbang
carabao	damulag	kalabaw	damulag	nuang
cheek	pingih	pisngi	pisngi	pingping
chest	pagaw	dibdib	salu	barokong
chicken	manok	manok	manuk	manok
child	anak	bata	anak	ubbing
chin	baba	baba	baba	timid
cloud	ginem	ulap	ulap	ulep
coconut	ongot	niyog	ungut	inyog
crow	owak	uwak	awak	owak
day	allo	araw	aldo	aldaw
deaf	teek	bingi	maklak	umel
debt	otang	utang	utang	utang
deer	oysa	usa	usa	ogsa
dog	aso/aho	aso	asu	aso
dream	taynep	panaginip	tinap	tagtagainep
dust	gabok/tuapok	alabok	alikabuk	tapok
ear	tek	tainga	balugbug	lapayag
earthquake	layon	lindol	ayun	gingined
eggplant	talom/talong	talong	balasenas	tarong
elbow	hiko/siko	siko	siku	siko
eye	mata	mata	mata	mata
face	lopa	mukha	lupa	rupa
feather	habot	balahibo	bulbul	dotdot

feces	taka	tai	takla	takki
finger	galamay	daliri	taliri	ramay
fire	apoy	apoy	api	apoy
fish	ikan/kena	isda	asan	ikan
fly	langew	langaw	lango	ngilaw
frog	pahinga/tugak	palaka	tugak	tukak
fruit	bonga/tagey	bunga	bunga	bonga
hair	habot	buhok	buak	buok
hand	gamet/takyay	kamay	gamat	ima
head	olo	ulo	buntuk	ulo
heart	poho/poso	puso	pusu	puso
heel	boeh	sakong	sakung	mukod
house	bali	bahay	bale	balay
husband	asawa/ahawa	asawa	asawa	asawa
knee	tool/tood	tuhod	tud	tuming
leftside	oki	kaliwa	kaili	kanigid
lightning	kimat/kilat	kidlat	keldap	kimat
lip	labi	labi	labi	bibig
liver	agtay	atay	ate	dalem
lungs	baya	baga	baga	bara
man	lalaki	lalaki	lalaki	lalaki
mat	amak/apay	banig	dase	ikamen
monkey	bake/bakulaw	unggoy	matsin	bakes
moon	buwan/bolan	buwan	bulan	bulan
mosquito	ilek	lamok	yamuk	lamok
mother	indo	ina	ima	ina
mouth	bebev	bibig	asbuk	ngiwat
mud	pita	putik	burak	pitak
name	ngalan	ngalan	lagui	nagan
neck	leey	liig	batal	tenged
needle	kadayem	karayom	karayum	dagom
night	yabi	gabi	bengi	rabii
nose	balongoh/a-long	ilong	arung	agong
palm	daokap/palal/dalipapa	palad	palad	dakolap
peanut	mani	mani	mani	mani
pig	baboy	baboy	babi	baboy
pillow	ulunan/alunan/pongan	unan	ulununan	pungan
rain	uran/abagat	ulan	uran	todo
rainbow	bowangaw/kabonlalangaw	bahaghari	pinanari	balalayaw
rat	dagis/baki	daga	dagis	bao
rib	tagyang	tudyuhin	tadyang	paragpag
rice(husked)	bevah	bigas	abias	bagas
river	ilog/kabatwan	ilog	ilug	karayan
roof	atep	bubong	bubungan	atep
root	yamot/wakat	ugat	yamut	ramot

rope	yobil	lubid	lubid	tali
salt	asin/ahin	asin	asin	asin
sand	balas/boyangin	buhangin	balas	darat
shadow	anino	anino	animo	anniniwan
shoulder	bantaw/abaya	balikat	pago	abaga
sibling	patel	kapatid	kapatad	kabsat
skin	katat/balat	balat	balat	kudil
sky	langit	langit	banua	langit
smoke	asok/ahok	usok	asuk	asok
snake	utan/ulay	ahas	ubingan	uleg
soup	habaw	sabaw	sabo	sopas
space under	hilong	silong	lalam	sirok
spider	gigang	gagamba	babagua	lawwalawwa
spit	luda	lura	lura	topra
star	bitoen/betewen	bituin	batuin	bitoen
stone	bato	bato	batu	bato
sweat	havnget	pawis	pawas	linget
sweet potato	kamoti	kamoti	kamuti	kamoti
tail	ikoy	buntot	iki	ipos
tear (cry)	lowa	luha	lua	luwa
teeth	ngipen/gogot	ngipin	ipan	ngipen
termite	anag	anay	ane	anay
thigh	paa	pigi	puad	luppo
thorn	duwi/diwi	tinik	suksuk	siit
throat	beklaw/boklaw	lalamanan	gulunggulu ngan	karabukob
thunder	kudol/kilat	kulog	duldul	gurrud
toe	galamay	daliri	taliri	ramay
tongue	dila	dila	dila	dila
tree	kayo	kahoy	tanaman	kayo
trousers	hanwal/halwal	pantalon	salol	pantalon
turtle	pagong	pagong	pau	pagong
urine	duday/omi	ihi	imi	isbo
vein	uyat	ugat	uyat	urat
wall	lingling	pader	pader	diding
water	lanom/lanem	tubig	danum	danom
waterfall	behay	talon	agos	burayok
wife	asawa/ahawa	asawa	asawa	asawa
wing	pakpak/puwal	pakpak	pakpak	payak
winnow	tatap	bilao	balusbus	bigao
woman	babayi	babai	babai	babai
worm	uwel/bolati	uod	bulati	igges
year	taon	taon	banua	tawen

Table 12. Verbs (18 unique; 48 total)

	Most Common Sambal Form	Tagalog	Kapampangan	Ilokano
answer	pakibat	sagot	pakibat	sungbat
bathe	liyo	ligo	dilu	digos
bite	kayat	kagat	kinis	kagat
burn	ulam	sunog	silaban	uram
bury	ilbeng/tabon	baon	kutkut	tabon
buy	haliw	pabili	sali	gatang
call	tawag/ingat	tawag	aus	ayab
choose	pili	pili	pili	pili
climb	oli/onik	akyat	mukyat	uli
cough	kuko	ubo	kuku	uyek
count	bilang	bilang	bilang	Bilang
cry	tangih	iyak	kiak	sangit
defecate	taka	tayi	takla	takki
dig	kali	hukay	kulkul	kali
drink	inum	inom	inum	inom
eat	ekan/kan	kain	kan	kan
fly	lompad	lipad	sulapo	tayab
forget	liwa	limot	kalingu	lipat
give	bi/di	bigay	bie	ited
hear	lenge	kinig	damdam	dengngeg
hide	tayo/tago	tago	salikut	limmeng
kill	pati	patay	pate	patay
laugh	kaili	tawa	ili	tawa
lie(false)	bongkok	kasinungaling	laram	ulbod
pay	bayad	bayad	bayad	bayad
plant	tanem	tanim	tanam	mula
play	dagaw	laro	alung	ay-ayam
pull	guloy	batak	abit	guyod
push	tudon/tulak	tulak	tulak	duron
repeat	oman	ulit	sibayu	ulit
run	uwayu/olayo	takbo	ulai	taray
see	kit	kita	akit	kita
sew	tayi	tahi	tai	dait
sit	ikno	upo	lukluk	tugaw
sleep	tolov	tulog	tudtud	turog
smell	angot	amoy	ababa	angut
squeeze	pespes	siksik	paslan	pespes
stand	ideng	tayo	tikdo	takder
steal	takaw	takaw	tako	takaw
suck	sepsep	sipsip	sipsip	susop
swim	langoy/tangoy	langoy	kawe	langoy
throw	tapon	tapon	ugse	bato

vomit	suka	suka	uka	sarwa
wait	enggan	hintay	manaya	uray
walk	bita	lakad	lakad	magna
wash	ovah	hugas	pipi	buggo
winnow	tatap	tahip	balusbus	taep
work	trabaho	trabaho	obra	trabaho

Table 13. Conjunctions (3 unique; 7 total)

	Most Common Sambal Form	Tagalog	Kapampangan	Ilokano
and	bov/tan	at	at	ken
because	ta	kasi/dahil	uling	ta
but	nowa	pero	pero	ngem
if/when	no	kung	nung	no
or	o	o	o	wenno
so that	ta emen/pigaw	upang	banta	tapno
therefore	kaya/ kanya	kaya	niapin	ngarud

Table 14. Particles (3 unique; 7 total)

	Most Common Sambal Form	Tagalog	Kapampangan	Ilokano
also	met/et	din	rin	met
desire	davi/sana	sana	sana	koma
it is said	kano	daw	kano	kano
now	ana	na	na	
only	bengat	lang	mu	laeng
still/yet	po/pon	pa	pa	pay
surprise	---	pala	pala	gayam

Table 15. Interrogatives (2 unique; 6 total)

	Most Common Sambal Form	Tagalog	Kapampangan	Ilokano
how	pangno	paano	makananu	kasano
what	anya	ano	nanu	anya
when	makano	kailan	kapilan	kaano
where	ayri/antu	saan	nukarin	ayan
who	hino	sino	ninu	sinno
why	awta	bakit	bauit	apay

Adjectives (15 unique; 38 total)

	Most Common	Tagalog	Pampanga	Ilokano
--	--------------------	----------------	-----------------	----------------

	Sambal Form			
big	<u>malhay</u>	malaki	maragul	dakkel
bitter	<u>mapait</u>	mapait	mapait	napait
black	<u>mangitit/maoyang</u>	maitim	matuling	nangisit
cold	<u>malayep</u>	malamig	marimla	nalamiis
deep	<u>malale/malalem</u>	malalim	malalam	nauneg
difficult	<u>maidap</u>	mahirap	masakit	narigat
dirty	<u>madinat/mayangat</u>	marumi	marinat	narugit
dull	<u>mapurul</u>	mapurol	mapurul	namudel
far	<u>madayo</u>	malayo	marayu	adayo
fat	<u>mataba</u>	mataba	mataba	nalukmeg
fragrant	<u>bangoh/bangloh</u>	mabango	mabanglu	nabanglo
good	<u>manged</u>	mabuti	mayap	naimbag
heavy	<u>mabyat</u>	mabigat	mabayat	nadagsen
hot	<u>maamot</u>	mainit	mapali	napudot
hungry	<u>mabitol</u>	magutom	danup	nabisin
long	<u>makadang</u>	mahaba	makaba	atiddog
narrow	<u>makipot/makipit</u>	makipot	mauitid	akikid
near	<u>marani</u>	malapit	malapit	asideg
new	<u>bayo</u>	bago	bayu	naro
red	<u>maurit</u>	mapula	malutu	nalabaga
sharp	<u>matadem</u>	matalim	mataram	natadem
skinny	<u>mabeng</u>	mapayat	mapayat	nakuttong
smooth	<u>makinis/madalonot</u>	makinis	makinis	nalamuyot
sour	<u>maalsem</u>	maasim	maslam	naalsem
straight	<u>matovnong</u>	matuwid	matulid	nalinteg
strong	<u>makhaw</u>	malakas	masikan	napigsa
sweet	<u>matamih</u>	matamis	mayumu	nasam-it
thick	<u>makudpa</u>	makapal	makapal	napuskol
thin	<u>manipih/mainpih</u>	manipis	maimpis	nainpis
weak	<u>makapey</u>	mahina	maina	nakapoy
wet	<u>mabaha</u>	mabasa	mabasa	nabasa
white	<u>maputi</u>	maputi	maputi	napuraw
wide	<u>malapad</u>	malapad	malapad	nalawa
yellow	<u>maholvaw</u>	dilaw	dilaw	ki-aw

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	Ayta MagAntsi Dictionary, correspondence with Kurt and Margaret Storck

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, <u>Grammatical Sketch of Botolan Sambal</u> by Evan Antworth, interview with Joelito De La Cruz
Bolinao	Correspondence with Gary Persons
Ilokano	<u>Ilocano Dictionary and Grammar</u> by Carl Rubino, interview with Evangeline Stone and Mary Jane Mercado
Ivatan	<u>Ivatan Dictionary</u> by Cesar Hidalgo and correspondence with Ginny Larson
Kapampangan	<u>English to Kapampangan Dictionary</u> , Ernesto C. Turla. www.maxpages.com/diccionario , interview with Oscar Daguro, correspondence with Nancy Marquez
Tagalog	<u>An English-Tagalog Vocabulary</u> by P. Jacobo Enriquez and Maria Odulio Guzman, B.S.E.
Tina Sambal	<u>Tina Sambal Dictionary</u> and correspondence with Hella Goschnick

The preceding document was presented at the Tenth International Conference on Austronesian Linguistics (10-ICAL). To properly reference this work, please use the following format:

<LastName>, <FirstName>. 2006. <PaperTitle>. Paper presented at Tenth International Conference on Austronesian Linguistics. 17-20 January 2006. Puerto Princesa City, Palawan, Philippines.
<http://www.sil.org/asia/philippines/ical/papers.html>

For other papers that were presented at 10-ICAL, please visit <http://www.sil.org/asia/philippines/ical/papers.html>.