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Pronouns and the (Preliminary) Classification of Papuan languages*

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Abstract

A series of articles by Ross (1995, 2001, 2005) use pronoun similarities to gauge relatedness between various Papuan microgroups, arguing that the similarities could not be the result of chance or borrowing. I argue that a more appropriate manner of calculating chance gives a significantly different result: when cross-comparing a pool of languages the prospects for chance matches of first and second person pronouns are very good. Using pronoun form data from over 3000 languages and over 300 language families inside and outside New Guinea, I show that there is, nevertheless, a tendency for Papuan pronouns to use certain consonants more often in 1P and 2P SG forms than in the rest of the world. This could reflect an underlying family. An alternative explanation is the established Papuan areal feature of having a small consonant inventory, which results in a higher functional load on the remaining consonants, which is, in turn, reflected in the enhanced popularity of certain consonants in pronouns of those languages. A test of surface forms (i.e., non-reconstructed forms) favours the latter explanation.

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KEYWORDS

Pronouns, Papuan Languages, Trans New Guinea, Historical Linguistics, Quantitative Linguistics, Language Classification

1 Introduction

A legitimate idea is to use resemblances in the roots for personal pronouns for the genealogical classification of languages (cf. Babaev 2009a,b). Most, if not all, languages have pronouns[1]. Pronouns are thought to be stable generally, after the observation that they are stable in the most studied language family, Indo-European (Nichols 2012). Pronouns form a paradigm, providing a stronger signal than disparate single forms would (Cysouw 2003). Finally, pronouns are rarely, if at all, borrowed (Ross 2005:53-58, Babaev 2009b:37)

Consequently, there have been many far-reaching attempts to rely on pronoun similarities to reduce the genealogical diversity found in the Americas (see Nichols and Peterson 1996 for a summary), Eurasia (Greenberg 1997), Africa (Babaev 2009b), Australia (Blake 1991, Harvey 2003), and not least New Guinea, beginning with Wurm (1971) and ambitiously continued in Wurm (1975) and Voorhoeve (1987) inter alia.

In the present paper I will focus on the culmination of the pronoun-based classification for New Guinea, namely, a series of articles by Ross (1995, 2001, 2005). Ross advocates the use of *pronoun resemblances* to establish a *preliminary grouping* of Papuan languages into genealogical units. The qualification *preliminary* means that the groupings achieved are only later to be subject to the more time-consuming *comparative method*. The value of such preliminary groupings is to save time, since trying the comparative method on a preliminary grouping is more likely yield a bona-fide reconstruction than trying it on a random grouping or on every possible grouping. The preliminary groupings are meant to have a scientific value and therefore deserve to be evaluated. In addition to preliminary and tentative groupings of Papuan languages, Ross offers an explicit justification –iterated at least three times (Ross 1995:143, Ross 2001:306, Ross 2005:49-53) –of his manner of using pronoun resemblances for probing genealogical relatedness. I will

[1]Also, languages that have pronouns typically put a high functional load on them, leaving little freedom for conscious manipulation (Bhat 2004).

argue that this methodology needs to be revised on a crucial point, namely, by taking into account the total number of comparisons made.

2 Using Pronouns for Genealogical Grouping

2.1 The Theory of Pronoun-Based Groupings

The validity of a genealogical grouping of languages based on pronoun similarities (even if only for preliminary purposes) hinges on whether:

a) the pronoun resemblances exceed chance

b) there are other more plausible explanations for pronoun resemblances than genealogical inheritance

Ross (2005) claims that a) is met with respect to the groupings listed by him, and, as to b), other explanations exist but inheritance is still the most plausible one. In particular, with respect to b), direct pronoun borrowing is argued to be –if at all unambiguously attested –very uncommon. For the purposes of this paper, I will assume that this conclusion is essentially correct: of the two, inheritance is a far more plausible explanation for cognate pronouns than direct borrowing. The remainder of the paper, therefore, will be concerned with the remainder of the argument, namely chance resemblances.

2.2 Ross-Nichols's Pronouns and Chance

Ross (1995:143) assesses the probability of a chance match in pronouns between two languages L_1 and L_2 as follows[2]:

- The onset consonant of a pronoun root is counted as significant
- There are k possibilities for the consonant slot (the number of different consonants relevant for the languages plus the possibility of there being no consonant)
- The probability that the language match in both 1P SG and 2P SG is $(\frac{1}{k})^2$, and consequently, $(\frac{1}{k})^3$ if also 3P SG matches

[2]The reasoning is parallel to the more explicit description by Nichols (1996:48-56), who also applies it similarly (Nichols 2010), wherefore I choose to label the subsection using both names.

Ross (2005) is not explicit about the value of other personal pronoun forms (plurals, duals and inclusive/exclusives). However, as I argue in Section 4.2, matches in other forms cannot be easily factored into the probability calculation, as their forms are often not independent of the singular ones.

As a concrete example, there are 13 consonants (plus the possibility of there being no consonant) relevant for the Trans New Guinea languages considered by Ross. Thus:

> "The probability of them having corresponding onsets in both the 1 and 2P SG, however, is $1/14^2$, or 0.0051, and in all three persons singular $1/14^3$, or 0.00036 .. the risk of falsely attributing genetic relationship drops dramatically when I have two corresponding forms and effectively disappears with three forms." (Ross 1995:143)[3].

In the later paper, Ross (2005:50-52) revises the uniform-per-consonant probability of 1/14 to about 1/5 (based on empirical data from Nichols and Peterson 1996). This is because a match in pronouns is actually often counted if the consonants of two compared pronouns are not identical, but simply of the same class, e.g., *k* matches with *g* and also because some consonants, e.g., nasals, seem to appear more often than randomly in pronouns (Rhodes 1997). Thus, the claim is updated to:

> If two languages have initial *n-* in the 1P SG and *k-* in the 2P, the probability of this arising by chance is 0.21 x 0.21 = 0.0441. That is, 265 of the world's 6000 languages might be expected to have such a pattern by chance, but I would expect to find them distributed randomly around the world, not located in a block of New Guinea (Ross 2005:52). ... Explanation (4), chance, is such a poor explanation that it can be ignored (Ross 2005:54).

The argument is summarized in Table 1. Regarding the probability for a one-consonant match, as we shall see in Section 4, 0.21 is a more realistic number than 0.07 (= 1/14), cf. also Gordon (1995), but this is not the crucial problem with the argument.

The probability calculation just described is appropriate for the case of observed similarities after comparing exactly two languages, and the calcu-

[3]The original has a typo, printing 0.00026 for $1/14^3$. The quote reproduced here has the correct figure of 0.00036.

Table 1: The argument for pronoun similarities in New Guinea not being due to chance (Ross 1995, 2005).

Pronoun	Form	Ross (1995:143)	Ross (2005:52)
1P SG	*n-*	$1/14 \approx 0.071$	0.21
2P SG	*k-*	$1/14 \approx 0.071$	0.21
	...		
Probability of matching *n-* and *k-*		0.00036	0.0441
Expected # languages *n-* and *k-*		1.6	264.6
	...		

→ The concentration of *n-* and *k-* languages in New Guinea is too high to be due to chance.

lated expected number of matching languages is appropriate for estimating the number of languages in the world which have *one specific* pattern.

However, for many situations in comparative linguistics, this case is not the relevant one. For many large-scale comparative enterprises –as we shall see, including Ross's –pronoun similarities are extracted from a cross-comparison of a large pool of languages. That is, a large pool of languages $L_1, L_2, \ldots, L_n$ are compared freely, i.e., L_1 is compared with $L_2, L_3, \ldots, L_n$, as well as L_2 to $L_3, L_4, \ldots, L_n$ etc., and a number of similarities between language pairs are extracted. The probability of getting (at least one) spurious match from such a procedure is very different from the probability of getting a spurious match when comparing only two languages. Although the two probabilities might not seem significantly different at first glance, they are in fact quite different.

2.3 Two Very Different Probabilities

The difference between the probability of a spurious pronoun match extracted from the comparison of two languages and the probability of a spurious pronoun match extracted from cross-comparison out of a pool of languages is akin to the probabilities in the so-called Birthday Paradox (Huck 2012:103-108) –a famous case where human intuition about the probability is often off the mark. Consider 100 people and the question of whether any of them have the same birthday.

Specific day: The probability[4] that someone out of 100 people has his/her birthday on a specific day, e.g., Christmas Eve (the 24th of December), is $1-(364/365)^{100} \approx 0.24$, i.e., similar to the ratio $100/365 \approx 0.274$, or about 1/4.

Any day: The probability[5] that out of 100 people two of them have the same birthday (whichever that day may be) is $1-\frac{365\cdot364\cdot363\cdot362\cdot\ldots\cdot266}{365^{100}} \approx 0.99999969278$, i.e., almost certainly there will be two people with the same birthday. In fact, with 23 people there is already a 50% probability that there are two persons with the same birthday, and 99% probability is reached with only 57 people, despite there being 365 days in the year!

The intuition why the any-day probability is so different is that if no pair can have the same birthday then, as one goes through the list of people, many days of the year start to fill up, and the next person considered must have his/her birthday within the diminishing number of free days. Another intuitive basis for why the any-day probability is so different is to consider every pair of two people out of the hundred. Out of 100 people there are $100 \cdot 99/2 = 4950$ pairs. Within a pair, the first person has some birthday, and the second one has the same one with probability 1/365. To ensure no pair has the same birthday is like doing 4950 (not 100) trials of the 1/365 test without getting any hit at all. (The exact any-day probability, is, however, not $1-(364/365)^{4950}$ because pairs are not independent, but the manner of thinking using pairs exposes the difference intuitively.)

The analogy with pronoun comparisons is that having a match in 1P SG and 2P SG pronouns corresponds to having the same birthday, and the number of people corresponds to the number of languages cross-compared.

The implications for pronoun-based genealogical grouping are that, if some observed set of similarities is the result of cross-comparison of a pool of languages, the probability calculation appealed to by Ross is not the appropriate one, and that the appropriate calculation yields a far higher ex-

[4]The derivation is as follows. The probability that 100 people all have a different birthday than Christmas Eve is $(364/365)^{100}$. The opposite, i.e., the probability that at least one person does have his/her birthday on Christmas Eve, is thus $1-(364/365)^{100}$.

[5]The derivation is as follows. The probability that 100 people all have different birthdays is $\frac{365}{365} \cdot \frac{364}{365} \cdot \ldots \cdot \frac{266}{365}$ because there are 365 choices for the first person, 364 for the next, and so on. The opposite, i.e., the probability that at least two people have the same birthday is thus 1 minus this number.

pectation of chance resemblances to occur, perhaps obviating the need for a genealogical explanation of the pronoun matches.

3 Ross's Pronoun-Based Groups

Using the pronoun-similarity heuristic as just described, regarding Trans New Guinea and most of the remaining Papuan languages, Ross (2005:23-35) arrives at the grouping of Papuan languages shown in Tables 2-3. The criterion for inclusion in Trans New Guinea is said to be the presence of two or more reflections of projected Trans New Guinea pronoun proto-forms. The Madang, Chimbu-Wahgi, Engan, Eleman, Kiwai, Pawaian, West Kutubu, East Kutubu, Binanderean, Kaure, Pauwasi, Teberan and Goilalan microgroups are admitted to not quite fulfil this criterion, but are included anyway on consideration of other circumstances (Ross 2005:36-38). Furthermore, at least the Manubaran, Yareban, Kwalean, East Strickland, Suki-Gogodala, Tirio, Asmat-Kamoro, Mombum, Kayagar, Pauwasi, Mor, South Bird's Head and Timor-Alor-Pantar microgroups plausibly reflect the 1P SG proto-form and one more form but, importantly, not the 2P SG proto-form. This is much weaker grounds than with the 2P SG form, because of the non-independence of plural forms (see Section 4.2) and thin substance of the 3P SG form. Ross (2005:29) reconstructs two 3P SG alternative forms **[y]a/*[u]a* which lose most predictive power when faced with the typical variety of 3P SG forms in a microgroup. In other words, almost every microgroup whatsoever will have one language exhibiting *[y]a/[u]a* or a form that can be explained as weakening to *[y]a* or *[u]a*. Finally, in at least the Turama-Kikori, Angan, Koiari, Inland Gulf, Bosavi, Mek and Uhunduni microgroups the internal variation presents two different choices for pronoun reconstruction, equally plausible on purely internal grounds, but with one set sufficiently matching the Trans New Guinea forms. For languages which are already known to be related, the projection of the deepest proto-forms (in this case the Trans New Guinea forms) to the proto-language of a more recent subgroup (e.g., Mek) is legitimate, but to do so before the relatedness is established, increases the risk of chance attribution.

Now, the pertinent question is, what search procedure led up to the extracted pronoun similarities that underlie the classification in Tables 2-3?

A: If only the groups eventually united were ever compared using a specific

Table 2: Ross (2005:30)'s tentative revised listing of Papuan families (not including isolates).

1. 'Extended West Papuan' (?)
    a West Papuan languages
    b East Bird's Head, Sentani, Burmeso, Tause
    c Yawa
2. Mairasi languages
3. East Cenderawasih (Geelvink Bay) languages
4. Lakes Plain languages
5. Orya-Mawes-Tor-Kwerba
6. Nimboran
7. Skou
8. Border
9. Left May-Kwomtari
    a Kwomtari
    b Left May
10. Senagi
11. Torricelli
12. Sepik
13. Ramu-Lower Sepik
    a Lower Sepik
    b Ramu
14. Yuat
15. Piawi
16. South-Central Papua
    a Yelmek-Maklew
    b Morehead-Upper Maro
    c Pahoturi
17. Eastern Trans-Fly
18. Trans New Guinea
    ... See Table 3
19. Yele-West New Britain (Yele, Anêm, Ata)
20. East New Britain (Baining, Taulil, Butam)
21. North Bougainville (Konua, Rotokas)
22. South Bougainville (Nagovisi, Nasioi, Motuna, Buin)
23. Central Solomons (Bilua, Banoni-ata, Lavukaleve, Savosavo)

pronoun signature, the probability argument by Ross in Section 2.2 essentially applies, and the basic argument for the groupings is sound.

B: If, on the other hand, a lot of groups/languages were cross-compared taking any matching pronoun signature found, the basic argument is not sound, and is not even sufficient for preliminary purposes.

Although the exact search procedure is not made explicit, we can be certain that the answer is closer to B than to A –the question is only how dramatic a degree of B.

Regarding which pairs of languages must have been compared, we can conclude the following. First, Ross explicitly states that microgroups were cross-compared, and over 100 microgroups are mentioned by name (Ross 2005:25-38). For example, Ross (2001:311) declares that all the East Papuan microgroups were compared to each other, to Trans New Guinea and "other phyla" on the mainland. Second, geographically quite distant groups, e.g., Yele-West New Britain, East Bird's Head-Sentani-Burmeso-Tause and the West Trans New Guinea Linkage are exhibited in Tables 2-3, implying that the match-searching was not restricted to immediately adjacent pairs. As witnessed by the single language Tause, it may even be that individual languages, rather than microgroups, have occasionally been cross-compared. Tause is classified by Clouse (1993:12-16) as a Lakes Plain language in the West Tariku subgroup because it shares sound changes and lexicon (with lexicostatistical figures in the 30-40% range, cf. the data in Clouse 1997) with other Tariku and West Tariku languages. The pronouns of Tause, at least the 1P SG and 2P SG forms, diverge from other Tariku languages (Clouse 1993:19) but match geographically distant non-Lakes Plain languages such as Sentani. Instead of concluding that the Tause and Sentani pronoun forms are historically unrelated (since they cannot be reconstructed for the West Tariku or Tariku node, and since Tause is spoken by a few hundred people in the very remote northwest Lakes Plain region [Munnings and Munnings 1990] far away from its pronoun confreres), Ross takes Tause out of the Lakes Plain family and places it according to its synchronic pronoun similarities. Cross-comparing languages instead of microgroups obviously increases the chances of finding spurious matches.

There are also some indications in the other direction, i.e., that although many pairs of micro-groups were cross-compared, perhaps not every logically possible pair was compared. It is difficult to imagine that an East Papuan

Table 3: Ross (2005:35)'s tentative revised listing of Trans New Guinea subgroups.

1. West Trans New Guinea linkage
   (a) West Timor–Alor–Pantar
   (b) East Timor
   (c) West Bomberai
   (d) Wissel Lakes
   (e) Dani
2. Tanah Merah
3. Mor
4. Dem
5. Uhunduni
6. Mek
7. Kaure (?)
8. Pauwasi (?)
9. Kayagar
10. Kolopom
11. Moraori
12. Kiwai–Porome
13. Marind
14. Asmat
15. Awyu-Dumut
16. Mombum
17. Ok
18. Oksapmin
19. Gogodala–Suki
20. Tirio
21. Eleman
22. Inland Gulf
23. Turama–Kikori
24. Teberan (?)
25. Pawaian
26. Angan
    (a) Angaataha
    (b) Nuclear Angan
27. West Kutubu
28. East Kutubu
29. Duna–Pogaia
30. Awin–Pa
31. East Strickland
32. Bosavi
33. Kamula
34. Engan
35. Wiru
36. Chimbu–Wahgi
37. Kainantu–Goroka
    (a) Gorokan
    (b) Kainantu
38. Madang
    (a) Southern Adelbert Range–Korak–Waskia
    (b) Rai Coast–Kalam–Kobon
    (c) Croisilles
39. Finisterre-Huon
    (a) Finisterre
    (b) Huon
40. Southeast Papuan
    (a) Goilalan
    (b) Koiarian
    (c) Kwalean
    (d) Manubaran
    (e) Yareban
    (f) Mailuan
    (g) Dagan
41. Binanderean

microgroup would have been seriously compared to a microgroup in the far West of Papua, and indeed, there are no reported cases uniting groups that are so dramatically far away in either Ross, Voorhoeve or Wurm's records. Furthermore, Karkar-Yuri is mentioned as an isolate (Ross 2005:30), but, in fact, its 1P SG and 2P SG pronouns match the adjacent East Pauwasi languages very well (data from Lee 2006, 2005, Rigden no date) –perhaps this (and other?) pairs were never actually compared.

Ross makes the argument that chance correspondences in pronouns have no reason to select geographically contiguous groups/languages. With 6000 languages in the world, 265 of them expected to reflect *n-/k-*, why should they appear in a block in New Guinea rather than randomly over the world? This is, in principle, a legitimate argument, but mitigated by the actual numbers. In spite of its small size, New Guinea is home to some 800 Papuan languages, and would thus, using Ross's assumptions, be expected to have $(800/6000) \cdot 264.6 \approx 35$ *n-/k-* languages. As we shall see in the next section, the number of Papuan languages with *n-/k-* is higher than this expected number. In our data (see below), out of 326 languages for which we have complete data, 28 show *n-/k-*, which could be extrapolated to about 69 on 800 languages. They are not more geographically clustered than Papuan languages without *n-/k-* pronouns, neither are Ross's Trans New Guinea microgroups that actually attest *n-/k-*. I will return to the question of what the most plausible explanation for the overrepresentation of Papuan *n-/k-* pronouns is.

As for the actual forms, it is amply clear from the list of non-Trans New Guinea groups found and the discussion that any matching forms have been picked up on (Ross 2001, 2005). Indeed it is difficult to imagine that the search for new families could start with a fixed pattern, or if it did start with a fixed pattern, that a better scoring pattern encountered underway would be disregarded in favour of the initial one. If this had been the case, the researcher would have had to known the fixed pattern beforehand! Typically, a researcher looks for *any* pattern in the data, perhaps forms an initial working hypothesis, but ultimately chooses the most salient pattern(s). This is a sensible way to proceed, but also one that requires care to distinguish real patterns from those planted by the laws of combinatorics. In the case of Trans New Guinea, Ross's search does start from the specific *n-/k-* pattern, but this pattern is inherited from Wurm (1971:587, 598, 630, 647), Wurm (1975) and McElhanon and Voorhoeve (1970:2, 58-67). Of course, the *n-/k-* pattern did not appear to Wurm magically from the sky –had he

found another signature, e.g., *f-/z-* that would have done just as well –so, the search that underlies the extracted *n-/k-* pattern must have been a search over all possible patterns. Likewise, Ross also allows for other forms, such as *g-* or *-ŋ*, to count if that improves the matching, as per the revision of the reconstructed forms (Ross 2005:29).

Thus, the findings in pronoun patterns among Papuan languages emanate from a search that is akin to the any-day birthday problem. Therefore a calculation of the probability of finding spurious pronoun matches using the specific-day birthday problem is not appropriate.

What is then the probability of getting spurious 1P SG & 2P SG pronoun matches in Papuan languages using the appropriate probability calculation?

On the lowest count, let us assume there are 14 different consonant slot possibilities, and 100 microgroups (where each microgroup is represented by one set of forms projected for its proto-language). There are then $14 \cdot 14 = 196$ possible 1P SG & 2P SG pronoun signatures a language can have. With 100 microgroups, the probability of getting at least one spurious match is $1 - \frac{196 \cdot 195 \cdot \ldots \cdot 97}{196^{100}} = 0.9999999999999696$ –near certainty! Not only are we almost guaranteed at least one match, the expected number[6] of microgroups with shared pronoun signatures is $100 \cdot (1 - (195/196)^{99}) \approx 39.7$. The opposite of being ruled out, chance almost guarantees pronoun similarities. With more groups/languages being compared, and a more realistic estimate (see below) on consonant matches, i.e., closer to 1/5 than 1/14, the prospects for chance are enormous.

4 Papuan Pronouns: Quo Vadis?

The search for wider groups of Papuan families started with an underlying intuition about similarities among Papuan pronouns. We have now seen that cross-comparison of 1P SG/2P SG forms does not straightforwardly yield statistically significant patterns. Nevertheless, the intuition may still reflect some other pattern or property of these Papuan pronouns that requires explanation.

[6]The derivation is as follows. The probability that one specific microgroup has a unique pronoun signature is $(195/196)^{99}$. The probability that one specific microgroup does not have a unique pronoun signature is $1-(195/196)^{99}$. So the expected number of microgroups without unique pronoun signatures is $100 \cdot (1 - (195/196)^{99})$.

4.1 Pronoun Consonant Frequencies

Thanks to data made available through the ASJP project (Wichmann et al. 2012) it is now possible to test various hypotheses about pronoun consonant patterns world-wide. The ASJP database contains 40-word lists for languages from all over the world. The sample of languages is well-spread across language families both inside and outside New Guinea. Three pronouns –'I', 'you (sg)' and 'we' –are included among the 40 words. They are transcribed in a uniform transcription system (Brown et al. 2008), which is crude but sufficient for our purposes. ASJP lists (edition 15) with pronouns are available for 4615 lects corresponding to 3446 iso-639-3 languages, of which 697 lects (500 iso-639-3 languages) are Papuan, i.e., non-Austronesian in the New Guinea area. The database is freely downloadable[7]. There has been no systematic check of the quality of the data, but if there are errors there is little reason to suspect that they would bias the statistical tests in any particular direction. We make no specific claims about individual languages (where errors would be significant). The appendix to this paper reproduces the full forms and characteristic consonants for all Papuan lects considered.

Tables 4-6 shows the percentages of characteristic consonants of the 1P SG, 2P SG and 1P PL pronouns in ASJP transcription. The characteristic consonant is defined as the first consonant of the form or V (for vowel) if there is no consonant. I show separate statistics for lects, iso-639-3 languages and D-families[8] to show potential effects of dialects and genealogical relatedness. The characteristic consonant of a language is obtained by taking the consonant of a random member lect. The characteristic consonant of a family is obtained by taking the consonant of a random member language. Because of well-known facts of sampling theory (Cochran 1963:49-70), the aggregate ratios presented here are very stable, despite the fact that there is randomness involved.

[7]See `http://email.eva.mpg.de/~wichmann/ASJPHomePage.htm` accessed 20 Jan 2013.

[8]D-families is short for demonstrated families. A demonstrated family is defined as a **set of languages** with at least one **sufficiently attested** member language that has been **demonstrated in publication** to **stem from a common ancestor** by **orthodox comparative methodology** (Campbell and Poser 2008) for which there are **no** convincing published attempts to demonstrate **a wider affiliation**. The appendix to this paper lists the Papuan D-families with references that support the actual choices in the list. The appendix to Hammarström (2010) contains a list of the D-families in the rest of the world as well.

Table 4: Characteristic consonants in *'I'*

All		n	m	k	N	y	V	5	h	w	t	s	z
Lects	4615	25.0%	15.3%	10.1%	8.8%	7.7%	5.0%	3.2%	3.0%	2.4%	2.2%	2.1%	2.1%
ISO-lgs	3346	25.6%	14.8%	8.7%	8.8%	8.7%	5.7%	2.7%	3.1%	2.3%	2.4%	2.5%	1.2%
D-families	334	28.1%	8.6%	7.1%	10.0%	5.2%	3.5%	2.9%	4.4%	4.0%	5.0%	2.4%	0.2%
Papuan		n	m	k	N	y	V	5	h	w	t	s	z
Lects	697	44.5%	6.6%	8.6%	4.3%	7.9%	5.6%	0.9%	1.0%	2.4%	2.6%	3.6%	0.1%
ISO-lgs	500	45.7%	5.5%	5.5%	3.3%	9.6%	6.5%	0.7%	1.1%	2.7%	2.6%	5.0%	0.2%
D-families	107	49.8%	7.4%	6.2%	4.5%	2.3%	6.5%	1.7%	0.3%	3.8%	4.0%	1.2%	0.0%
Non-Papuan		n	m	k	N	y	V	5	h	w	t	s	z
Lects	3918	21.5%	16.8%	10.3%	9.6%	7.7%	4.8%	3.6%	3.4%	2.4%	2.2%	1.9%	2.4%
ISO-lgs	2846	22.1%	16.4%	9.3%	9.8%	8.5%	5.6%	3.1%	3.4%	2.3%	2.3%	2.1%	1.3%
D-families	227	17.9%	9.2%	7.6%	12.6%	6.5%	2.1%	3.5%	6.3%	4.1%	5.4%	2.9%	0.2%

Table 5: Characteristic consonants in *'You'*

All		n	k	m	t	w	V	s	y	N	h	g	5
Lects	3963	19.2%	12.9%	10.6%	10.1%	6.1%	5.1%	4.5%	4.2%	3.7%	3.1%	2.7%	1.9%
ISO-lgs	2947	19.6%	12.1%	10.4%	7.7%	6.4%	5.4%	4.0%	4.2%	4.1%	3.4%	3.2%	2.1%
D-families	281	18.7%	9.1%	16.4%	3.5%	4.6%	4.5%	3.8%	3.6%	5.8%	4.3%	3.1%	2.0%
Papuan		n	k	m	t	w	V	s	y	N	h	g	5
Lects	376	41.0%	10.9%	6.4%	1.6%	1.6%	5.6%	1.9%	5.9%	1.3%	2.4%	10.4%	0.8%
ISO-lgs	326	43.8%	10.8%	6.4%	1.4%	1.8%	3.5%	1.8%	5.4%	1.5%	2.4%	10.3%	0.9%
D-families	64	26.7%	8.6%	6.0%	1.7%	4.7%	7.9%	2.8%	8.5%	1.6%	3.6%	10.3%	0.1%
Non-Papuan		n	k	m	t	w	V	s	y	N	h	g	5
Lects	3587	17.0%	13.2%	11.0%	11.0%	6.6%	5.1%	4.7%	4.1%	3.9%	3.2%	1.9%	2.0%
ISO-lgs	2621	16.6%	12.3%	10.9%	8.5%	6.9%	5.7%	4.3%	4.1%	4.4%	3.6%	2.3%	2.3%
D-families	217	16.4%	9.3%	19.5%	4.1%	4.5%	3.5%	4.1%	2.1%	7.0%	4.5%	0.9%	2.5%

Table 6: Characteristic consonants in *'We'*

All		n	k	m	t	N	b	s	y	h	w	g	r
Lects	4424	17.9%	11.2%	10.3%	10.1%	5.8%	4.9%	4.6%	4.0%	3.8%	3.1%	2.5%	2.4%
ISO-lgs	3249	19.0%	10.7%	9.7%	10.3%	5.9%	4.3%	3.6%	4.6%	3.5%	3.5%	3.0%	2.3%
D-families	315	22.0%	9.0%	11.0%	4.2%	5.4%	3.5%	2.6%	8.0%	4.1%	3.5%	3.5%	2.8%
Papuan		n	k	m	t	N	b	s	y	h	w	g	r
Lects	544	41.5%	5.9%	5.5%	3.3%	3.1%	2.9%	6.2%	5.3%	1.8%	0.4%	5.1%	4.2%
ISO-lgs	444	41.4%	5.4%	6.2%	3.4%	2.7%	2.4%	6.5%	5.5%	2.0%	0.5%	6.3%	3.0%
D-families	98	38.2%	3.2%	13.8%	1.7%	1.8%	4.5%	3.5%	9.5%	1.2%	2.0%	4.7%	2.4%
Non-Papuan		n	k	m	t	N	b	s	y	h	w	g	r
Lects	3880	14.6%	12.0%	10.9%	11.0%	6.1%	5.1%	4.3%	3.8%	4.0%	3.4%	2.1%	2.1%
ISO-lgs	2805	15.4%	11.6%	10.3%	11.4%	6.4%	4.6%	3.2%	4.4%	3.8%	3.9%	2.5%	2.2%
D-families	217	14.7%	11.6%	9.8%	5.4%	7.0%	3.0%	2.1%	7.3%	5.4%	4.1%	2.9%	3.0%

Table 7: Consonant frequencies over all 40 words in the ASJP lists.

All	n	k	m	t	r	l	s	b	w	h	y	d	p	N	g
Lects	10.8%	8.9%	8.4%	8.4%	6.5%	6.4%	4.8%	4.6%	4.3%	4.1%	4.0%	4.0%	4.0%	3.5%	3.2%
ISO-lgs	10.8%	9.1%	8.3%	8.3%	6.4%	6.3%	4.9%	4.5%	4.4%	4.0%	4.1%	4.0%	4.1%	3.5%	3.3%
D-Families	10.5%	10.0%	8.2%	7.8%	6.5%	5.4%	4.7%	4.1%	5.1%	4.7%	4.4%	3.7%	4.6%	2.4%	3.2%
Papuan	n	m	k	r	t	b	g	w	p	l	s	y	d	h	N
Lects	13.0%	11.2%	9.7%	8.0%	7.3%	5.5%	5.3%	4.9%	4.8%	4.7%	4.3%	4.0%	4.0%	3.6%	2.6%
ISO-lgs	12.8%	11.9%	10.0%	7.7%	7.3%	5.4%	5.1%	4.9%	4.9%	4.7%	4.5%	4.0%	3.9%	3.4%	2.8%
D-families	13.4%	11.8%	9.0%	8.7%	7.8%	5.8%	3.8%	4.8%	4.7%	4.5%	4.9%	4.1%	4.1%	4.0%	1.8%
Non-Papuan	n	k	t	m	l	r	s	b	w	h	y	d	p	N	g
Lects	10.5%	8.8%	8.5%	7.9%	6.6%	6.3%	4.9%	4.4%	4.2%	4.2%	4.0%	4.0%	3.9%	3.6%	2.9%
ISO-lgs	10.5%	8.9%	8.5%	7.8%	6.5%	6.2%	5.0%	4.3%	4.3%	4.1%	4.1%	4.0%	4.0%	3.6%	3.0%
D-Families	9.9%	10.5%	8.1%	7.1%	5.6%	5.7%	4.4%	3.4%	4.9%	5.0%	4.5%	3.6%	4.5%	2.6%	2.9%

Just like in the world as a whole, the characteristic consonants of pronouns in Papuan languages show a skewed distribution. Nasals are the preferred choice for pronoun consonants. As many as 25% of the languages of the world, and almost 50% of Papuan languages have 1P SG *n-* pronouns. The overwhelming nasal dominance seen in pronouns, is not present in general in all words. Table 7 shows the frequencies of all consonant tokens across all 40 words.

4.2 The Dependence Between 1P SG and 1P PL Forms

As already hinted at, I now present empirical data to show that the forms for 1P SG and 1P PL are not independent. Table 8 shows the frequency of occurrence of the *same* characteristic consonant in 1P SG and 1P PL, on the D-family level for families outside the Papuan area and for *n-* in the Papuan area (because *n-* is the only common consonants in the Papuan area in 1P SG). The Exp column shows the expected number of D-families with a certain 1P SG and PL characteristic consonant if the assignment of 1P SG and 2P SG consonants were independent. The Obs column shows the number actually observed. We are interested in the cases where the observed number exceeds the expected number and to what degree. Obs/Exp gives the ratio, and the Sig column calculates the statistical significance of the observed number exceeding the expected one using a Fisher Exact Test. All but one common consonant shows a statistically significant dependence. Since this holds for many consonants on the D-family level, inside and outside the Papuan area, the most reasonable explanation is that 1P SG and 1P PL tend to be related, presumably either because of analogy or via a plural morpheme.

4.3 The Specialness of Papuan Pronoun Consonants

In Papuan languages, the distribution of characteristic pronoun consonants is even more skewed. This is where there is something special in Papuan languages versus the rest of the world that may require some explanation. Again, when considering words in general (Table 7), there is no dramatic Papuan versus non-Papuan difference. Table 9 shows the Papuan/non-Papuan overrepresentation of the commonest pronoun consonants. Papuan pronouns have a higher rate of *n-* by a factor of roughly 2. This is true for all three pronouns considered here, not only 1P SG. There are also some less common consonants –2P SG *g-* and *y-* –which nevertheless show drastic overrepresentation

Table 8: Frequency of occurrence of the *same* characteristic consonant in 1P SG and 1P PL, on the D-family level for non-Papuan families and for *n-* in Papuan families.

1PSG	1PPL	1PSG Ratio	2PPL Ratio	Joint Ratio	Exp	Obs	Obs/Exp	Sig
Non-Papuan D-Families								
n	n	0.18 (40/227)	0.14 (31/217)	0.03 (0.18*0.14)	5.44	14	**2.57**	0.000
N	N	0.13 (29/227)	0.07 (15/217)	0.01 (0.13*0.07)	1.91	12	**6.29**	0.000
y	y	0.09 (20/227)	0.08 (17/217)	0.01 (0.09*0.08)	1.49	5	**3.35**	0.012
m	m	0.09 (20/227)	0.10 (22/217)	0.01 (0.09*0.10)	1.93	10	**5.18**	0.000
k	k	0.08 (19/227)	0.12 (27/217)	0.01 (0.08*0.12)	2.25	7	**3.11**	0.004
h	h	0.07 (16/227)	0.06 (12/217)	0.00 (0.07*0.06)	0.84	4	**4.75**	0.004
t	t	0.06 (13/227)	0.04 (9/217)	0.00 (0.06*0.04)	0.51	2	**3.90**	0.095
w	w	0.04 (10/227)	0.05 (10/217)	0.00 (0.04*0.05)	0.44	3	**6.84**	0.007
5	5	0.03 (7/227)	0.03 (6/217)	0.00 (0.03*0.03)	0.18	4	**21.72**	0.000
Papuan D-Families								
n	n	0.50 (54/107)	0.37 (36/98)	0.19 (0.50*0.37)	18.17	26	**1.43**	0.001

among Papuan languages.

The simplest way to test for significance is to choose 1000 random subsets of the appropriate size (i.e., the number of Papuan lects/languages/families) from the full world-level set of lects/languages/families and to check how many have a higher percentage of the corresponding consonant than observed in Papuan lects/languages/families. Testing for significance this way on the D-family level, the overrepresentation in Papuan languages is statistically significant at conventional levels for significance for 1P SG *n-* ($p < .001$), 2P SG *n-* ($p < .05$), 1P PL *n-* ($p < .001$), 2P SG *g-* ($p < .001$) and 2P SG *y-* ($p < .05$). However, when we correct for multiple testing (using Bonferroni correction), only 1P SG *n-* ($p < .001$), 1P PL *n-* ($p < .001$) and 2P SG *g-* ($p < .01$) remain significant.

It is instructive to pause here and reflect on the difference between Ross's procedure and the result of overrepresented consonants just obtained. Papuan consonant overrepresentation is relative to the rest of the world, showing that no purely universal explanation can plausibly account for it. One possible explanation is a large language family on Papuan territory, but if so, it is not necessary that *all* languages that exhibit the characteristic pronoun consonants actually belong to it. For the explanation to work, it is sufficient that many of them do –enough to dampen the overrepresentation –and the numbers presented here would not tell us which ones. Ross's argument was that *every* language or microgroup exhibiting the characteristic pronouns should be united into a family, and makes no reference to the rest of the world. As I have argued, matching pronoun signatures can be expected to be found

Table 9: The ratio Papuan/non-Papuan of characteristic consonant percentages for 1P SG, 2P SG and 1P PL pronouns.

I	n	m	k	N	y	V	h	5	w	t	s	z
Lects	2.07	0.39	0.83	0.45	1.03	1.15	0.30	0.24	1.02	1.19	1.90	0.06
ISO-lgs	2.07	0.33	0.59	0.34	1.12	1.17	0.31	0.24	1.21	1.11	2.37	0.15
Fams	2.78	0.80	0.82	0.36	0.35	3.14	0.05	0.49	0.92	0.73	0.40	0.02
You	n	k	m	t	w	V	s	y	N	h	g	5
Lects	2.42	0.83	0.58	0.15	0.24	1.09	0.39	1.44	0.34	0.76	5.47	0.39
ISO-lgs	2.63	0.88	0.59	0.16	0.27	0.61	0.43	1.31	0.35	0.66	4.45	0.41
Fams	1.63	0.93	0.31	0.41	1.04	2.26	0.68	3.96	0.23	0.79	11.01	0.05
We	n	k	m	t	N	b	s	y	h	w	g	r
Lects	2.84	0.49	0.50	0.30	0.51	0.57	1.44	1.39	0.45	0.11	2.44	2.00
ISO-lgs	2.69	0.47	0.61	0.30	0.42	0.53	2.05	1.23	0.54	0.11	2.56	1.38
Fams	2.61	0.28	1.42	0.32	0.25	1.47	1.65	1.30	0.23	0.50	1.62	0.81

by cross-comparison in any sufficiently large set of languages/microgroups. (Of course, the prospects of finding matches are even greater if there really is a large underlying family, but many matches would be expected even if not.) Therefore, it is not sound to infer that specific subgroups should be included/excluded in a genealogical grouping based on either Ross's argument or based on the numbers on overrepresentation shown in this section.

4.4 The Explanation for Papuan Pronoun Consonants

Let us now returning to the question of what could be the explanation for certain consonants occurring too often in Papuan pronouns. Such an explanation would have to involve a circumstance that spans the Papuan arena geographically. (It is for this reason that we assume that the Papuan area is the special case in need of the explanation, rather than vice versa. It is difficult to imagine a circumstance that would span the entire remaining world but not the Papuan area.) Clearly, a genealogical explanation is one possibility. Without appeal to pronoun borrowing, one may wonder if there are any realistic alternatives at all. But there is a fatal oversight here. An areal explanation does not have to be direct borrowing. One relevant possibility is that there is a feature which can plausibly diffuse areally, that in turn combines with other (universal) principles, and in the end yields an areal distribution. In this case, a relevant areal feature would be a small

phoneme inventory and the universal principle would be to favour certain consonants in pronouns. In other words, a tendency to favour certain consonants in pronouns is present in languages generally, and a small phoneme inventory enhances it. According to Comrie and Cysouw (2012:81-82), using the data in WALS, Papuan languages tend to have a small consonant inventories. The Papuan versus non-Papuan difference exhibits an extremely high significance ($p < 10^{10}$) and Comrie and Cysouw (2012:89) conclude that "The most outstanding feature for all languages in our New Guinean sample is the presence of a small consonant inventory". Gordon (1995) has studied the relation between a small consonant inventory and the skewed distribution of pronoun consonants, and confirms the universal tendency that a small consonants inventory implies more skewing in pronoun consonants.

Fortunately, the two explanations raised make different predictions on the internal distribution of the overrepresented consonants, so their respective strengths can be tested.

Genealogical: If a large family is responsible for the overrepresentation of certain consonants then the overrepresented consonant(s) in 1P SG should "select" the same languages as the overrepresented consonant(s) in 2P SG. For example, if a large family is responsible for the overrepresented 1P SG *n-* and 2P SG *g-*, then the proportion of 2P SG *g-* languages should be higher among the 1P SG *n-* languages than among all languages.

Areal-Universal: If the areal-universal explanation is correct, 1P SG and 2P SG consonants in a language are assigned independently by a random draw from a skewed distribution. In other words, the languages with overrepresented consonant(s) in 1P SG should not overlap more than randomly with the languages with overrepresented consonant(s) in 2P SG.

In other words, if the explanation is genealogical the 1P SG and 2P SG should "co-select", i.e., select the same set of languages. Due to many data gaps for the 2P SG forms only 64 Papuan D-families have both a 1P SG and 2P SG form, which limits our ability to test the two theories fairly. The test should be redone when more complete data is easily accessible. In Table 10 I show the results of the co-selection test for 1P SG and 2P SG characteristic consonants in Papuan D-families. The Exp column shows the expected number of D-families with a certain pronoun signature if the assignment of

Table 10: The ratio Papuan/non-Papuan of characteristic consonant percentages for 1P SG, 2P SG and 1P PL pronouns in D-families.

1PSG	2PSG	1PSG Ratio	2PSG Ratio	Joint Ratio	Exp	Obs	Obs/Exp	Sig
n	n	0.51 (55/107)	0.28 (18/64)	0.14 (0.51*0.28)	9.25	5	0.5	0.981
n	g	0.51 (55/107)	0.11 (7/64)	0.06 (0.51*0.11)	3.60	5	1.4	0.143
n	k	0.51 (55/107)	0.09 (6/64)	0.05 (0.51*0.09)	3.08	5	1.6	0.062
n	V	0.51 (55/107)	0.09 (6/64)	0.05 (0.51*0.09)	3.08	4	1.3	0.250
n	y	0.51 (55/107)	0.08 (5/64)	0.04 (0.51*0.08)	2.57	2	0.8	0.758
V	n	0.07 (7/107)	0.28 (18/64)	0.02 (0.07*0.28)	1.18	3	2.5	0.064
d	n	0.06 (6/107)	0.28 (18/64)	0.02 (0.06*0.28)	1.01	2	2.0	0.435
w	m	0.04 (4/107)	0.05 (3/64)	0.00 (0.04*0.05)	0.11	2	17.8	0.004
t	n	0.04 (4/107)	0.28 (18/64)	0.01 (0.04*0.28)	0.67	3	4.5	0.064
n	*ngkV	0.51 (55/107)	0.58 (37/64)	0.30 (0.51*0.58)	19.02	19	1.00	0.189

1P SG and 2P SG consonants were independent. The Obs column shows the number actually observed. We are interested in the cases where the observed number exceeds the expected number and to what degree. Obs/Exp gives the ratio, and the Sig column calculates the statistical significance of the observed number exceeding the expected one using a Fisher Exact Test. Even before controlling for multiple testing, none of the interesting pronoun signatures are significant at conventional levels[9]. This is predicted by the Areal-Universal explanation but not by the genealogical one. As a further check, we include a hypothetical row where the 2P SG *n-/k-/g-/V-* –suspects from Ross's **nga* reconstruction –are merged as one underlying form symbolised **ngkV*. This underlying form does not significantly co-select with 1P SG *n-* either. In contrast, as shown in corresponding row of Table 8, 1P SG and 1P PL do co-select in Papuan D-families.

[9]There is, however, one signature *w-/m-*, which is of no interest to the question of *n-/g-* overrepresentation, but which exhibits individual significance ($p \approx 0.004$). The rare formatives 1P SG *w-* and 2P SG *m-* co-occur in two D-families, against the expected number (0.11), i.e., almost expected to not occur in any D-family. The two D-families in question are Ndu and Kimki. Ndu is a fairly well-studied D-family on the lower Sepik river whose pronouns indeed reconstruct to 1P SG **wun*, 2P SG masculine **mən(ə)* and 3P SG feminine **ñən(ə)* (Aikhenvald 2008:625). Kimki is an extremely poorly known language from the remote area between the upper Sepik and Sobger rivers. The source for the ASJP list (Whitehouse 1980) has 1P SG *win* and 2P SG *omɛ* ∼ *umɛ*, but the only other source on Kimki (Rumaropen 2004) has a different 2P SG form *pume* (Kimki of Batom) ∼ *ɸume* (Kimki of Sabi) with an initial labial stop or fricative. Although the basic lexicon of Ndu and Kimki do not seem to correspond significantly, it is not impossible that Ndu and Kimki are ultimately related, if so, presumably in the context of family involving more D-families along the Sepik river (Foley 2013), but this remains to be investigated. The pronoun similarity may also be the result of a fluke involving data transcription leeway.

5 Discussion

To sum up, the following points have been made in the paper.

- The probative strength of language pairs with matching pronoun sets *depends on the number of comparisons actually made* to find the matches presented. Intuitively, 10 sixes in a row out of 10 rolls with a dice is quite remarkable, while 10 sixes in a row somewhere in the streak of a million throws is not remarkable. For the same reason, pronoun matches found after comparing only two languages have a very different probative strength than pronoun matches extracted in a large series of comparisons.
- If large arrays of languages/subgroups (such as Papuan languages) are cross-compared, it is difficult to rule out chance resemblances completely, even with many matching forms in a pronoun paradigm.
- 1P SG and 1P PL forms tend to have the same characteristic consonant in families worldwide. They should therefore not be treated as independent.
- Some consonants, such as nasals, are favoured worldwide in 1P SG/2P SG pronouns.
- Much the same consonants are even more favoured in Papuan 1P SG/2P SG pronouns.
- Two explanations for the Papuan overrepresentation are tested
  - A large family on Papuan territory underlies the overrepresented consonants
  - The consonants are drawn randomly from a distribution which depends on the phoneme inventory. The phoneme inventories of Papuan languages tend to be smaller than in the rest of the world, and therefore Papuan languages overrepresent the consonants in question.
- If a large family underlies the consonants then the overrepresented 1P SG and 2P SG forms should occur in the same languages. The data at hand shows no statistically significant overlap, thus favouring the second explanation.

It is also worth underlining that a large Papuan family responsible for perhaps both the small consonant inventories and the consonant overrepresentations is not ruled out. I have merely shown that no data discussed in this paper leave this as the most plausible option. Again, a valid methodology for positing such a family (but without sharply delimiting it) would be to find overrepresented 1P SG and 2P SG consonants in an area, and to find that the *same* 1P SG and 2P SG consonants significantly co-occur in the languages of the area. Both steps are necessary, because it is to be expected that *some* 1P SG and 2P SG consonants co-occur just by random (cf. the birthday paradox) and unless these are specifically the ones that are overrepresented vis-a-vis the rest of the world, there is no reason not to attribute it to chance.

One may ask if any or all of these claims are surprising if the original formulation by Ross was "preliminary" or "tentative". Arguably, for a tentative or preliminary claim to have some value, it should have some meaningful headstart over randomness. It is easy to generate suggestive groupings, e.g., based on a few lexical items, basic typological features or geographical neighbours that, by some small margin might be better than pure randomness, but are not close to ruling out randomness.

6 Conclusions

Searching similarities between a large number of languages using cross-comparison is very likely to uncover striking similarities just by chance, simply because very many language pairs are compared. On closer inspection, the pronoun comparisons adduced by Ross and predecessors in support of various larger Papuan families, fail to rule out chance as a possible explanation. Thanks to data recently made easily accessible in the ASJP project, we can test for surface differences between Papuan pronouns and the rest of the world. This test uncovers that pronouns in a number of Papuan microgroups (not otherwise known to be genealogically related through the lexicon) show a tendency to use 1P SG *n-* and 2P SG *g-* more often than in families in the rest of the world. The set of languages having 1P SG *n-* does not significantly overlap with the set of languages having 2P SG *g-*, which would have been expected if a large family was the explanation. An alternative explanation is the Papuan areal feature of small consonant inventories, which results in a higher functional load on the remaining consonants, which is, in turn, re-

flected in the enhanced popularity of certain consonants in pronouns of those languages.

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Online Appendix to

Hammarström, Harald. (2012) Pronouns and the (Preliminary) Classification of Papuan languages.

In Harald Hammarström & Wilco van den Heuvel (eds.), History, contact and classification of Papuan languages (LLM Special Issue 2012), pp. 428-539. Port Moresby: Linguistic Society of Papua New Guinea.

Data on Pronoun Forms

Data on 1P SG, 2P SG and 1P PL pronoun forms in Papuan languages from the ASJP lists (version 15)[1]. They are transcibed in a crude but uniform transcription system (Brown et al. 2008). The characteristic consonant (shown in italics left of the actual form) is defined as the first consonant of the form or V (for vowel) if there is no consonant. ? denotes that the form is not present in the corresponding ASJP list.

Abun		I		you		we	
ABUN	kgr	*j*	ji	*n*	nan	*m*	men

Alor-Pantar		I		you		we	
ABUI_TAKALELANG	abz	*w*	wi	*k*	kupoi / boto tomo	*d*	odi
ADANG_PITUNG	adn	*n*	nari	*r*	ari	*p*	piri
HAMAP	hmu	*n*	nar	*r*	ar	*p*	pir
KABOLA	klz	*n*	nariN	*r*	ariN	*p*	piriN
KAFOA	kpu	*n*	nad	*d*	ad	*p*	pofolupu
KLON	kyo	*n*	non	*n*	an	*p*	pian
KUI_INDONESIA	kvd	-	?	*n*	nai	*T*	Tai
LAMMA	lev	*n*	naN	*h*	haN	*p*	piN
TEIWA	twe	*n*	na7an / na	*h*	ha7an / ha	*p*	pi7in / pi
TIFOL_AFENG_ABUI	abz	*n*	na	*7*	7a	*p*	pi

Amto-Musan		I		you		we	
AMTO	amt	*V*	au	-	?	*m*	mofuna

Anem		I		you		we	
ANEM	anz	*V*	ue	*n*	nin	*m*	miN / mun

Angan		I		you		we	
AMPALE	apz	*n*	nka	*k*	k3ka	*n*	nakwa
ANGAATAHA	agm	*n*	n3n3	*k*	k3ny3	*n*	nya7a
ANKAVE	aak	*n*	nyon3	*y*	yoga	*n*	none
ANKAVE_2	aak	*n*	ni7n3 / nion3	*j*	ji7x3 / jox3	*n*	newane / none
BARUYA	byr	*n*	n3m3	*g*	g3m3	*n*	nem3
BARUYA_2	byr	*n*	n3m3	*g*	g3m3	*n*	nem3
HAMTAI	hmt	*n*	ni	*n*	nti	*n*	noi
IVORI	ago	*t*	to7	*g*	oga	*t*	tomai
KAMASA	klp	*n*	nyi	*s*	si	*n*	na
KAPAU	hmt	*n*	ni	*n*	nti	*n*	nai
KAWACHA	kcb	*n*	nnyi	*s*	si	*n*	ne
LOHIKI	miw	*n*	nna / ndo	*n*	nd3 / og3	*n*	naitone

[1]See `http://email.eva.mpg.de/~wichmann/ASJPHomePage.htm` accessed 20 Jan 2013.

MENYA	mcr	*5*	5i	*s*	si	*n*	ne
MENYA_2	mcr	*n*	nyi	*s*	si	*n*	ne
SIMBARI	smb	*n*	n3v3	*n*	nk3n3	*n*	netona
TAINAE	ago	*t*	to / te	*g*	ogi / ebagi	*t*	tonai / tenai
YAGWOIA	ygw	*n*	nka	*s*	sika	*n*	nenkwa

Ata		I		you		we	
PELE_ATA_WASI	ata	*V*	e / a	-	?	*n*	negiano / teta

Awin-Pa		I		you		we	
PARE	ppt	*n*	no*	*g*	go	*n*	nigi

Baibai-Fas		I		you		we	
BAIBAI	bbf	*t*	Ety E	*n*	angi	*t*	Et3mbE rambo
FAS	fqs	*t*	tE	*h*	hay	*y*	yEr3bh ow

Banaro		I		you		we	
BANARO	byz	*n*	nggu / Ngu	-	?	*v*	avat / abat

Biksi		I		you		we	
BIKSI	yet	*n*	nya	-	?	*n*	nana

Bilua		I		you		we	
BILUA	blb	*n*	ana	*n*	no	*n*	anime
NDOVELE_BILUA	blb	*N*	aNa	-	?	*n*	anime

Bogaya		I		you		we	
BOGAYA	boq	*n*	no	*k*	ko	*n*	enu

Bogia		I		you		we	
LILAU	lll	*k*	iki	-	?	*m*	mbu7tua
MONUMBO	mxk	*k*	ek	*c*	cek	*m*	im

Border		I		you		we	
AMANAB	amn	*k*	ka	*n*	ne	*k*	kager / biger
AWJI	auw	*k*	ko	*k*	kebe	*y*	yebe
IMONDA	imn	*k*	ka	*n*	ne	-	?
MANEM	jet	*g*	ga	*k*	kirsa	*k*	kiN ta
SENGI	snu	*k*	ka	*d*	dura	*d*	duka
TAIKAT	aos	*k*	ka	-	?	-	?
WAINA	sow	*k*	koa	-	?	*k*	koanegelk
WARIS	wrs	*k*	kE	*d*	dieta	*p*	pi

Bosavi		I		you		we	
AIMELE	ail	*n*	ne	*g*	ge	*n*	ni
BEAMI	beo	*n*	ne	-	?	*n*	nini
BEDAMINI	beo	*n*	na	-	?	*n*	nini / ni*ni*
BIAMI	beo	*n*	na	-	?	-	?
EDOLO	etr	*n*	ne	*t*	ti	*n*	nili*
ETORO	etr	*n*	ne	*t*	ti	*n*	nini
KALULI	bco	*n*	ne	*k*	ke	*n*	nio
KALULI_2	bco	*n*	ni	*k*	ki	*n*	niyo*
KASUA	khs	*n*	newa	*k*	kewa	*n*	niwa
KASUA_2	khs	*n*	nE	*k*	kE	*n*	niuwo
ONABASULU	onn	*n*	na	*k*	ka	*n*	nini
SUNIA	siq	*n*	ne	*g*	ge	*n*	niLi

Botin		I		you		we	
KAMBOT	kbx	*5*	5i / ape	-	?	*n*	ne
KAMBOT/KAMBARAMBA	kbx	*p*	ape	-	?	-	?

Bulaka River		I		you		we	
JABSCH	jel	*N*	Nal / nar	*g*	ag	*N*	Naleiman

MAKLEW	mgf	*N*	Nello	-	?	*N*	Nag
MEKLEW	mgf	*N*	Nello	-	?	*N*	Nag
YELMEK	jel	*N*	Nel	-	?	*N*	Nag
YELMEK/JAB	jel	*n*	nar / Nal	-	?	*n*	ngaleimen

Burmeso		I		you		we	
TAURAP/BORUMESSU	bzu	*d*	dawo	-	?	*b*	boro

Busa		I		you		we	
BUSA_PAPUANG	bhf	*m*	mo*	-	?	*m*	mi / timin3n3 tuwin3

Dagan		I		you		we	
DAGA	dgz	*n*	ne	*g*	ge	*n*	nu

Dem		I		you		we	
DEM	dem	*n*	nau / no	-	?	*y*	yu

Dibiyaso		I		you		we	
DIBIYASO	dby	*n*	nanE	*g*	gagE	*n*	nini

Doso-Turumsa		I		you		we	
DOSO	dol	*n*	anei	*n*	na	*V*	ai*

Duna		I		you		we	
DUNA	duc	*n*	no	*k*	ko	*n*	inu

East Bird's Head		I		you		we	
MENINGGO	mtj	*d*	dedef	-	?	-	?
MEYAH	mej	*d*	didif	*w*	iwa	*m*	memef
SOUGB	mnx	*d*	dan	*y*	yeni	*m*	emen

East Kutubu		I		you		we	
FOE	foi	*n*	nano	-	?	-	?

East Strickland		I		you		we	
AGALA	agl	*m*	ame	*n*	name	*l*	eli
GEBUSI	goi	*w*	a*wo	*n*	no	*y*	oyo
HONIBO	goi	*V*	a*	*n*	no	*y*	oye
KUBO	jko	*V*	a*	*n*	na*	*y*	oye
ODOODEE	kkc	*V*	o*	*n*	no*	*b*	ibo
OIBAE	goi	*V*	oi	*k*	kea	*7*	o7i
SAMO	smq	*V*	a*	*n*	no*	*y*	oye

East Timor-Bunaq		I		you		we	
BUNAK	bfn	*n*	n / neto	-	?	-	?
FATALUKU	ddg	*n*	ana	*V*	a	*f*	afa
MAKASAE	mkz	-	?	-	?	*p*	pi
OIRATA	oia	*n*	andr$i	-	?	*b*	abupupur

Eastern Trans-Fly		I		you		we	

Eleman		I		you		we	
AHEAVE	xeu	*r*	ora	*V*	a	*l*	elaveia
KAIPI	oro	*r*	ara	*V*	a	*r*	ereiCa
KARAETA_UARIPI	uar	*r*	oro	*V*	o	*r*	ero
KEURU	xeu	*r*	ora	*7*	e7e	*l*	ele7ila
LULUITERA_UARIPI	uar	*r*	oro	*V*	o	*r*	iro
MEII2_UARIPI	uar	*r*	oro	*V*	o	*r*	iro
MURUA_STMT_UARIPI	uar	*r*	oro	*V*	ou	*r*	iro
OPAO	opo	*r*	ora	*V*	a	*l*	eleiloila
OROKOLO	oro	*r*	ara	-	?	*l*	elavila
OROKOLO_2	oro	*r*	ara	*V*	a	*l*	elavila
PETOE_UARIPI	uar	*r*	oro	*V*	o	*r*	iro

SEPOE	tqo	*r*	arava	*v*	ava	*V*	iauoa
SIVIRI_UARIPI	uar	*r*	oro	*V*	o	*r*	iro
TOARIPI	tqo	*r*	ara	*k*	euka / auka	*l*	ela
TOARIPI_2	tqo	*r*	ara	*V*	a	*r*	ereita
UARIPI	uar	*r*	ara	*V*	a	*r*	ere7ioru
UARIPI_UARIPI	uar	*r*	oro	*V*	o	*r*	ero

Elseng		I		you		we	
SAWA	mrf	*k*	ka	*s*	sEm	*k*	kam

Fasu		I		you		we	
FASU	faa	*n*	ano	*r*	re / ne	*s*	isu
NAMUMI	faa	*n*	anuni	*n*	ni	*s*	su

Geelvink Bay		I		you		we	
BAUZI	bvz	-	?	-	?	*V*	i
TARUNGGAREH	trt	*n*	nima	-	?	-	?
TURUNGGARE_UNKNOWN_DIAL	trt	*n*	nime	-	?	-	?

Goilalan		I		you		we	
AFOA	ttd	*n*	na / nai	-	?	*n*	nane / nanei
MAFULU	fuy	*n*	na	*n*	nu	*d*	di

Greater Kwerba		I		you		we	
KWERBA/KAUWERAWET_I	xau	*b*	b / e	-	?	*m*	mew / paru
KWERBA/KAUWERAWET_II	xau	*m*	em	-	?	*n*	nan3ba / nana
KWERBA/NAIDJBEDJ	kwe	*c*	co	-	?	-	?
SABERI	srl	*V*	ou	-	?	-	?

Hatam-Mansim		I		you		we	
HATAM	had	*d*	dani	*j*	jeni	*n*	ny eni

Inanwatan		I		you		we	
INANWATAN	szp	*n*	naite / naiti	-	?	-	?
INANWATAN/BIRA	szp	*n*	naiti	-	?	-	?
INANWATAN/ITIGO	szp	*n*	naiti	-	?	-	?
INANWATAN/SOLOWAT	szp	*n*	naiti	-	?	-	?

Inland Gulf of Papua		I		you		we	
IPIKO	ipo	*w*	wo / bo	-	?	-	?
MINANIBAI	mcv	*n*	no	-	?	-	?
TAO_SUAMATO	tsx	*n*	no	-	?	-	?

Kaki Ae		I		you		we	
KAKI_AE	tbd	*n*	nao	*V*	ao	*n*	nu7u

Kamula		I		you		we	
KAMULA	xla	*n*	nE*	*w*	wE*	*d*	diE

Kapauri		I		you		we	
KAPAURI	khp	*k*	kaku	*V*	u	*r*	aru7 / aina

Kaure-Narau		I		you		we	
KAURE	bpp	*w*	weN	-	?	*h*	hati

Kayagaric		I		you		we	
KAJGIR	kyt	*n*	nax	*x*	ax	*n*	nep
KAUGAT	aqm	*n*	naxa	*x*	axa	*n*	nipi
TAMAGARIO	tcg	*n*	nak	*k*	ak	*n*	nep

Kimki		I		you		we	
KIMKI	sbt	*w*	win	*m*	omE / umE	*n*	namE

Kiwaian		I		you		we	
ANIGIBI	kiw	*m*	mo	-	?	-	?
BAMU	bcf	*m*	mo	*r*	oro	*n*	nimo
BAMU_2	bcf	*m*	mo	*r*	oro	*n*	neio
DOMORI	kjd	*m*	mo	-	?	*n*	nimo
GIBAIO	kiw	*m*	mo	-	?	-	?
GOPE	kiw	*m*	mo	-	?	-	?
KEREWO	kxz	*m*	mo	-	?	-	?
KIWAI	kjd	*m*	mo / mou	-	?	*n*	nimo
MORIGI	mdb	*m*	mo	-	?	-	?
S_KIWAI/SC/MAWATA	kjd	*m*	mo	-	?	*n*	nimo
S_KIWAI/SC/TURETURE	kjd	*m*	mo	-	?	-	?
TURETURE	kjd	*m*	mo	-	?	-	?
URAMA	kiw	*m*	mo	-	?	-	?
WABUDA	kmx	*m*	mo	-	?	-	?

Koiarian		I		you		we	
AOMIE	aom	*n*	na	*j*	ja	*n*	no
BARAI	bbb	*n*	na	-	?	*n*	no
ESE_MANAGALASI	mcq	*n*	na	*j*	ja	*n*	nu
KOIARI	kbk	*d*	da	-	?	*n*	no
KOIARI_2	kbk	*d*	da / daik	*y*	yane / a / aik	*n*	no / noik
KOITA	kqi	*d*	da	-	?	*n*	no
MOUNTAIN_KOIARI	kpx	*d*	di	-	?	*n*	no

Kolopom		I		you		we	
KALADDARSCH	kig	*n*	narom	*c*	cyinam	*c*	cyinow
KIMAGHAMA	kig	*n*	no	-	?	*n*	ni
NDOM	nqm	*n*	ne	-	?	*n*	ni
RIANTANA	ran	*n*	na	-	?	*n*	ni

Konda-Yahadian		I		you		we	
KONDA	knd	*n*	neNgi	-	?	-	?

Kosare		I		you		we	
KOSARE	kiq	*n*	na / no*	-	?	*w*	wana

Kuot		I		you		we	
KUOT	kto	*t*	turuo	*n*	nunuo	*b*	bubuo

Kwalean		I		you		we	
HUMENE	huf	*m*	ama	-	?	*m*	amona
HUMENE/MANUGORO	huf	*m*	eme	-	?	-	?
KWALE	ksj	*x*	axa	-	?	*m*	amaxa
MULAHA	mfw	*n*	nai / yokana	-	?	*n*	nai
MULAHA/IAIBU	mfw	*n*	nai / yokaba	-	?	-	?

Kwomtari-Nai		I		you		we	
KWOMTARI	kwo	*m*	m3n3	*n*	une	*m*	m3na
NAI	bio	*n*	nombw irE	*w*	wono	*m*	mon3

Lakes Plain		I		you		we	
AIKWAKAI/SIKARITAI	tty	*b*	ibi / ba	-	?	*b*	abi / ba
AWERA	awr	*y*	yai	-	?	*V*	e
BIRITAI	bqq	*V*	e	-	?	-	?
DEIRATE	tad	*d*	di bedo	-	?	-	?
DOUTAI	tds	-	?	*d*	di	-	?
DUVLE	duv	*V*	3 / e	-	?	-	?
EDOPI	dbf	*V*	a	-	?	-	?
FAIA	kiy	*V*	a	-	?	-	?
FAYU	fau	*V*	a	-	?	-	?
FOAU	flh	*d*	adu	*n*	nd uwo	-	?
IAU	tmu	*V*	a	-	?	-	?

KIRIKIRI	kiy	*V*	a	-	?	-	?
KIRIKIRI/FAIA	kiy	*V*	e	-	?	-	?
OBOKUITAI	afz	*V*	i	-	?	-	?
OBUKUITAI	afz	*V*	i	-	?	-	?
PAPASENA	pas	-	?	*d*	di	-	?
RASAWA	rac	*b*	ebe	-	?	-	?
SAPONI	spi	*m*	mamira	-	?	-	?
TAUSE	tad	*d*	di	-	?	-	?
TAUSE/DEIRATE	tad	*d*	di bedo	-	?	-	?
TAUSE/WEIRATE	tad	*d*	di	-	?	-	?
WARITAI	wbe	*V*	i	-	?	*V*	a
WEIRATE	tad	*d*	di	-	?	-	?

Lavukaleve		I		you		we	
LAVUKALEVE	lvk	*N*	Nai	-	?	*m*	me

Left May		I		you		we	
AMA	amm	*y*	yo / ya	*n*	nono / na	*k*	koi
BO	bpw	*w*	awa / na	-	?	*k*	k3n3 / mom3na
NAKWI	nax	*y*	ye	-	?	-	?
NIMO	niw	*V*	e	-	?	*r*	ore sire
NIMO/NAKWI	nax	*y*	ye	-	?	*q*	qnowafu
ROCKY_PEAK	itr	*s*	asia	-	?	*y*	oye

Lepki-Murkim		I		you		we	
LEPKI	lpe	*r*	aro	*y*	yoyo	*y*	yiris

Lower Sepik-Ramu		I		you		we	
ABU	ado	*7*	ie7 / iye7	*h*	iha7	-	?
ANGORAM	aog	*m*	ame / ama	-	?	*p*	paNgeyambramnda / pangg3r
ANGORAM/KAMBRINDO	aog	*m*	mitep e	-	?	*p*	panggeyambramnda
ANOR	anj	*N*	Ngu	-	?	*5*	a53
CHAMBRI	can	*m*	am / ami	-	?	*y*	yiph i / yipi
CHAMBRI/KILIMBIT	can	*m*	ami	-	?	*y*	yipi
GAMEI	gai	*k*	aku	-	?	*V*	ai
GIRI_KIRE	geb	*g*	gu / na / nan	-	?	*z*	za / zan
KAIAN	kct	-	?	-	?	*V*	ai
KIRE	geb	*g*	gu / na	-	?	*z*	za
KOPAR	xop	*m*	ma	-	?	*p*	paNg3
KOPAR/SINGARIN	xop	*m*	ma	-	?	*p*	panggi
MIKAREW_MAKARUB	msy	*k*	ko / na	-	?	*V*	e / ai
MURIK	mtf	*m*	ma	-	?	*V*	e
MURIK/KARAU	mtf	*m*	ma	-	?	-	?
RAO	rao	*g*	gu / Ngu	-	?	*n*	ni / nyi
YIMAS	yee	*m*	ama	-	?	*p*	ipa / yiv3

Mailuan		I		you		we	
DOMU	dof	*V*	ia	-	?	*g*	ge
LAUA	luf	*y*	ya7a	-	?	*g*	gea
MAILU	mgu	*V*	ia	*g*	ga	-	?

Mairasi		I		you		we	
MAIRASI	zrs	*m*	omo	-	?	-	?
MAIRASI/FARANJAO	zrs	*m*	omo	-	?	-	?
SEMIMI_ETNA_BAY	etz	*m*	omo	-	?	-	?

Manubaran		I		you		we	
DOROMU	kqc	*n*	na	-	?	*n*	ona / una
DOROMU/ARAMAIKA	kqc	*n*	na	-	?	-	?
DOROMU/BAREIKA	kqc	*n*	na	-	?	-	?
DOROMU/LOFAIKA	kqc	*n*	na	-	?	-	?
MARIA	mds	*n*	na	-	?	*n*	ona / una
MARIA/MARANOMU_1	mds	*n*	na	-	?	-	?

Marindic		I		you		we	
BEGUA	zik	*n*	noqo	-	?	*n*	niki
BOAZI	kvg	*n*	no	-	?	*n*	ni
BOAZI/BOAZI	kvg	*n*	no	-	?	*n*	ni
BOAZI/KUINI	kvg	*n*	no	-	?	-	?
BOAZI/SOUTH	kvg	*n*	no	-	?	*n*	ni
JAKAJ	jaq	*n*	anok	*x*	ox	*n*	indok
KUINI	kvg	*n*	no	-	?	-	?
MARINDINEESCH	mrz	*n*	nok	*h*	oh	*k*	kake nok
SOUTH_BOAZI	kvg	*n*	no	-	?	*n*	ni
WARKAJ	bgv	*n*	no	-	?	-	?
ZIMAKANI	zik	*n*	noqo	-	?	*n*	niki

Mawes		I		you		we	
MAWES/DAI	mgk	*k*	kidam	-	?	*n*	inem / mia
MAWES/WARES	mgk	*k*	kidam	-	?	*n*	inim

Maybrat		I		you		we	
MAI_BRAT	ayz	*t*	tuo / tuwo	*n*	nuo / n	*m*	amu / p

Molof		I		you		we	
MOLOF	msl	*m*	mai	-	?	*n*	intekule

Mombum		I		you		we	
KOMELOMSCH	mso	*m*	mo	*y*	yo	*n*	nom
KONERAWSCH	kdw	*n*	no	*y*	yu	*n*	ni
MOMBUN	mso	*n*	nu	-	?	*n*	num

Mor		I		you		we	
MOR_2	moq	*n*	na	*g*	aga	*g*	ogyasa

Moraori		I		you		we	
MORAORI	mok	*n*	na / nega	-	?	*n*	nie

Morehead-Wasur		I		you		we	
DUNGERWAB_TSI	ncm	*y*	yond	-	?	-	?
IAUGA/DUNGERWAB	ncm	*y*	yond	-	?	*r*	argobemilbamudi / teba
IAUGA/PARB	ncm	*y*	yond	-	?	*y*	yond
JEISCH	jei	*n*	niwon	*b*	bonen	*b*	binen
L_MOREHEAD/PEREMKA	pep	*t*	tea	-	?	-	?
PARB	ncm	*y*	yond	-	?	*y*	yond
PEREMKA	pep	*t*	tea	-	?	-	?
YEY	jei	*n*	niwon / nyi	-	?	*b*	bi / binen

Mpur		I		you		we	
MPUR	akc	*n*	in	*n*	nen	*y*	yek

Namla-Tofanma		I		you		we	
TOFAMNA	tlg	*n*	niawi	-	?	*w*	wone

Ndu		I		you		we	
BOIKIN	bzf	*n*	nwo / wn3	-	?	*n*	nan3 / nan3
KWUSAUN	bzf	*n*	nw o	*m*	m3n3	*n*	non3 / nan3
MANAMBU	mle	*w*	wn	*m*	m3n	*n*	an / 5an
MAPRIK	abt	*w*	wn3	*m*	m3n3	*n*	an3 / nan3
NGALA	nud	*w*	wn	*m*	m3n	*y*	oyn / nan
NYAURA	ian	*w*	wn	*m*	m3n	*n*	an / n3n
WOSERA	abt	*w*	wn3	*m*	m3n3	*n*	an3 / non3
YELOGU	ylg	*w*	wny	*m*	m3ny	*n*	any / 5any
YENGORU	bzf	*w*	wn3	*m*	m3n3	*n*	non3 / nan3

Nimboran	I	you	we

MEKWEI/KENDATE	msf	*k*	ka	-	?	*m*	met
MEKWEI/MARIBU	msf	*k*	kat	-	?	*k*	kame
MEKWEI/WABRON	msf	*k*	ka / kat	-	?	*k*	kame / miet
NIMBORAN	nir	*N*	Na / No	-	?	*N*	Na / No
NIMBORAN/BESUM	nir	*n*	ngo	-	?	*n*	ngo
North Bougainville		I		you		we	
RAPOISI	kyx	*g*	ag / aru	*b*	bira	*b*	bioga / biru
ROTOKAS	roo	*d*	dEgEi / dEgoE	*b*	bi	*b*	bigoE
North Halmahera		I		you		we	
GALELA	gbi	*N*	Nohi / ti	-	?	-	?
LODA	loa	*N*	NoZi	-	?	-	?
LOLODA	loa	*n*	ngodi	-	?	-	?
MADOLE	mqo	*N*	Noi	-	?	-	?
MODOLE	mqo	*n*	ngoi	-	?	-	?
PAGU	pgu	*N*	Noi	-	?	-	?
SAHU	saj	*n*	ngoi	-	?	-	?
TABARU	tby	*n*	ngoi	-	?	-	?
TIDORE	tvo	*f*	faNare / faZaro	-	?	-	?
TOBELO	tlb	*N*	Nohi	-	?	-	?
TOBELO_2	tlb	*N*	Nohi	*N*	Nona	*N*	None
WEST_MAKIAN	mqs	*d*	de	*N*	Noni / ni	*n*	ene / imi
Nuclear Torricelli		I		you		we	
`Arapesh`							
ARAPESH	aon	*k*	aik	*5*	5ak	*p*	apak
ARAPESH2	ape	*k*	eik	-	?	*p*	apak
BUKIYIP	ape	*y*	yek	*5*	5ak	*p*	apak
`Kombio-Yambes`							
ARO	tei	*V*	E	*k*	ik	*p*	aput
KOMBIO	xbi	*p*	apm	*y*	yikn	*n*	ant
WAM	wmo	*n*	ine	-	?	-	?
YAMBES	ymb	*p*	ap	-	?	*n*	an
YAMPES	ymb	*p*	ap	-	?	-	?
`Marienberg`							
BUNA	bvn	*k*	k / na	-	?	*b*	b / nambu
BUNGAIN	but	*k*	k / na	-	?	*n*	nayip / p
KAKARA_BUNA	bvn	*N*	Na	-	?	-	?
KAMASAU	kms	*N*	Ne	*n*	nu	*b*	bexi
KAMASAU_2	kms	*N*	Ne	*n*	nu	*b*	begi
KENYARI	kms	*N*	Nebi	*n*	nu	*b*	bewi
MANDI_PAPUANG	tua	*n*	nak / Nek	-	?	*n*	nam
MUNIWARA	mwb	*n*	nak / Nek	-	?	*n*	nam / p
SAMAP	ele	*N*	Na	*n*	ninde	*N*	NanuNgu
TRING	kms	*N*	Ne	*n*	nu	*b*	begi
URIMO	urx	*V*	i / k	-	?	*b*	ibem
WANDOMI	kms	*N*	Ne	*n*	nu	*N*	Nebegi
WAU	kms	*N*	Ne	*n*	nu	*b*	begi
YIBAB	kms	*N*	Ne	*n*	nu	*N*	Nebewu
`Nuclear Maimai`							
SELEPUT	mkc	*y*	oy	*y*	yik	*y*	iyEp
`Wapei-Palei`							
AGI_AGEI	aif	*h*	h3w3 / h3	*y*	yi	*h*	handia
AGI_YOLPA	aif	*h*	h3m3	*y*	yi / y3h3	*h*	handia
AIKU	ymo	*m*	um	*y*	yin	*m*	mian
AU	avt	*h*	hi / x	-	?	*h*	haiu / m
BRAGAT	aof	*w*	aw	*V*	i	*n*	and

EITIEP	eit	*k*	ak	*y*	yik	*p*	apEt
GALU	siu	*k*	ki3	*y*	yi	*k*	ku3
KUKWO	uri	*k*	kupm	*k*	kitn	*m*	ment o
NABI	mty	*V*	ei	-	?	*p*	Ep
NINGIL	niz	*g*	gh / k	-	?	*m*	m / you
OLO_ERETEI	ong	*k*	ki	*y*	ye	*k*	ku
OLO_LUMI	ong	*k*	ki	*y*	ye	*k*	ku
OLO_YEBIL	ong	*k*	ki	*y*	ye	*k*	ku
SRENGE	lsr	*m*	am	*V*	i	*m*	mendi
WALMAN	van	*k*	kum	*C*	Ci	*k*	kipin
WALMAN_CHINAPELI	van	*k*	kum	*c*	chi	*k*	kipin
YERI	yev	*h*	hem	*y*	ye	*h*	hembi
West Wapei							
MOLMO_ONE	aun	*V*	i	*y*	yinE	*m*	minE / mo

Nuclear Trans New Guinea		I		you		we	
Asmat-Awyu-Ok							
Asmat-Kamoro							
ASMATH_NORTH	nks	*n*	nder	*w*	wer	*n*	ndar
ASMAT_CENTRAL	cns	*n*	nor	*r*	or	*n*	nar
ASMAT_YAOSAKOR	asy	*n*	no / nor	*V*	o / or / ur	*n*	na / nar
CASUARINA_COAST_ASMAT	asc	*n*	nor / ner	*r*	oro / woro	*n*	nar / naro
CITAK	txt	*d*	der	*w*	wor	*d*	dar
IRIA	irx	*n*	noa	-	?	*n*	na / naya
IRIA/ASIENARA	asi	*n*	noa	-	?	*n*	na
KAMORO	kgq	*n*	noro	-	?	*n*	nare
SEMPAN	xse	*n*	noro	-	?	*n*	naro
Greater Awyu							
AGHU	ahh	-	?	-	?	*n*	n3gu
KAETI	bwp	*n*	n3p / no	-	?	*n*	nog3p / noNgep
KAETI_DUMUT	aax	*n*	nop	*N*	Ng op	*n*	noNg up
KOMBAI	tyn	*n*	nu	*N*	Ng u	*N*	aNg u
KOROWAI	khe	*n*	n3 / nup	*g*	gup / g3	*n*	noxup / noxu
PISA	psa	*n*	nu	-	?	*n*	nugu
SAWUJ	saw	*n*	nogo	*g*	go / gop	*n*	nigip
SIAGHA	aws	*n*	no	-	?	*n*	noxo
SJIAGHA	awy	*n*	no	*g*	go	*n*	noxo
WAMBON	wms	*n*	nup	*N*	Ng up	*n*	naNg up
Ok-Oksapmin							
ANGIYAKMIN_FAIWOL	fai	*n*	na	*k*	kab	*n*	nu
BIMIN	bhl	*n*	ne	*k*	ku	*n*	nu
DIGOELEESCH	kts	*n*	ne	*k*	ko	*n*	nup
DIGUL_MUYU	kts	*n*	ne	*k*	ko	*n*	nub
METOMKA_MUYU	kts	*n*	ne	*b*	eb	*n*	nub
MIAN	mpt	*n*	na	*k*	kh obo / obo	*n*	nibo
NINATIE_MUYU	kti	*n*	ne	*t*	tep	*n*	nup
NINGGIRUM_KAWOMA	nxr	*n*	nE	*k*	kEp / kup	*n*	nup
NORTH_KATI	yon	*n*	ne	-	?	*n*	nup
OKSAPMIN	opm	*n*	noxa	*g*	go / gur	*n*	nuxura / dita
SOUTH_KATI	yon	*n*	ne	-	?	*n*	nub / nup
TELEFOL	tlf	*n*	niyo / nita	*k*	kubo / kupta	*n*	nuyo / nuta
TIFAL	tif	*n*	na	*k*	kab	*n*	nu
WAGARABAI	sug	*n*	nete	*k*	kapote	*t*	ataNk epo
Chimbu-Wahgi							
BOUMAI	doa	*n*	na	-	?	*n*	nere
DOM	doa	*n*	na	*n*	en	*n*	no
GOLIN	gvf	*n*	no	-	?	*n*	inin

KANDAWO	gam	*n*	na	*n*	ni	*n*	nono
KUMAN	kue	*n*	na	*n*	ene	*n*	no
MELPA	med	*n*	na	*n*	nim	*t*	ten
MIDDLE_WAHGI	wgi	*n*	na	*n*	nim	*k*	kinim
NARAK	nac	*n*	na	*4*	4i	*n*	nak / no
SINASINA	sst	*n*	na	-	?	*n*	nono
Dani							
ANGGURUK_YALI	yli	*n*	an	*k*	kat	*n*	nit
HITIGIMA_DANI	dni	*n*	an	*h*	hat	*n*	nit
KINIAGEIMA	wul	*n*	an	*k*	kat	*n*	nisat
LANI	dnw	*n*	an	*k*	kat	*n*	nit
MID_GRAND_VALLEY_DANI	dnt	*n*	an	*h*	hat	*n*	nit
PYRAMID_WODO	wlw	*n*	an	*k*	kat	*n*	nit
TANGMA_DANI	dni	*n*	an	*h*	hat	*n*	nit
UPPER_PYRAMID_DANI	dni	*n*	an	*k*	kat	*n*	nit
WANO	wno	*n*	an	*k*	kat	*n*	nit
Enga-Kewa-Huli							
BISORIO	bir	*l*	lamba	-	?	-	?
ENGA	enq	*n*	na / namb a	*m*	emba / nimba	*n*	naima / nanima
HULI	hui	*V*	i / i*	-	?	*n*	ina
HULI_HOLE	hui	*n*	inh	-	?	-	?
INIAI	net	*n*	namba	-	?	-	?
KEWA	kew	*n*	ni	*n*	ne / nimi	*n*	nia / sa
KEWA/S/POLE	kjy	*n*	ni	-	?	-	?
KEWA_EAST	kjs	*n*	ni	*n*	ne	-	?
KYAKA_ENGA	kyc	*n*	namba	*m*	emba	*n*	namwua / naima
LEMBENA	leq	*n*	namba	-	?	-	?
MAIBI	leq	*5*	5imbara	-	?	-	?
POLE	kjy	*n*	ni	-	?	*n*	na
SAU	ssx	*V*	i*	-	?	-	?
YARIBA	leq	*n*	nambaruna	-	?	-	?
Finisterre-Huon							
AWARA	awx	*n*	n3	*g*	g3	*n*	nin
BORONG	ksr	*n*	ni	*g*	gi	*n*	nono
BURUM	bmu	*n*	ni	*g*	gi	*n*	nini
BURUM_MINDIK	bmu	*n*	ni / n3N3n	*g*	gi / iNini	*n*	nini / neN3n
DEDUA	ded	*n*	ni	*g*	ge	*n*	nini
HUBE	kgf	*n*	ni	*g*	gi	*n*	nini
KATE	kmg	*n*	no	*g*	go	*n*	noNo7
KOMBA	kpf	*n*	no	*g*	go	*n*	nen
KOSORONG	ksr	*n*	ni	*g*	gi	*n*	nono
MAPE	mlh	*n*	noN	*t*	to	*n*	niNo
MAPE_2	mlh	*n*	no	*g*	go	*n*	noNu
MIGABAC	mpp	*n*	na	*g*	ga	*n*	noNe
MINDIK	bmu	*n*	ni	*g*	gi	*n*	nini
MOMOLILI	mci	*n*	na	*g*	ga	*n*	ni
NABAK	naf	*n*	n3N	*g*	g3N	*n*	nin
NANKINA	nnk	*n*	no	*g*	go	*n*	nin
NEK	nif	*n*	nak	*d*	d3k	*n*	n3n
NUKNA	klt	*n*	n3k	*k*	k3k	*n*	n3nd 3
ONO	ons	*n*	na	*g*	ge	*N*	Nedo
SELEPET	spl	*n*	no	*g*	go	*n*	nen
TIMBE	tim	*n*	no	*g*	go	*n*	nen
TOBO	tbv	*n*	ni	*g*	gi	*n*	nini
WANTOAT	wnc	*n*	nE / nEtE	*g*	gEtE	*n*	ninu
YOPNO	yut	*n*	nak	*g*	gak	*n*	nin
Greater Binanderean							
BINANDERE	bhg	*n*	na	-	?	-	?
KORAFE_YEGHA	kpr	*n*	na	*n*	ni	*n*	namo*de

MAMBARE_RIVER	bhg	*n*	na	-	?	*N*	iNe
SUENA	sue	*n*	na	*n*	ni	*n*	nakare (1 Pl excl)
TAFOTA_BARUGA	bjz	*m*	omo	*m*	imo	*n*	nomond a
ZIA	zia	*n*	na	*n*	ni	*n*	nakare
Kainantu-Goroka							
AGARIBI	agd	*t*	tai	-	?	*t*	teti / tetinti
ALEKANO	gah	*n*	neza	*g*	geza	*l*	leza
ASARO	aso	*n*	neni7 / naza	-	?	*l*	leli7 / laza
AUYANA	auy	*k*	kema	*m*	ema	*k*	kesama
AWA	awb	*n*	ne	*r*	are	*t*	ite
AWA_2	awb	*n*	ne / ine	*r*	are	*t*	ite
BENABENA	bef	-	?	*k*	kai	*l*	lali / le7ali
BINUMARIEN	bjr	*n*	ine	-	?	*n*	inei7i
FORE	for	*n*	naewe / nagewe	*k*	kaewe / kagewe	*t*	tasigewe / tasikeye
GADSUP	gaj	*t*	teni	*n*	eni	*y*	yikenama
GADSUP/AGARABI	agd	*V*	i / ti	-	?	*t*	tetinti
GAFUKU	gah	*n*	nenisi	-	?	*r*	rerisi
GAHUKU	gah	*n*	neza / u	-	?	*l*	leza / un
GAHUKU/ASARO	aso	*V*	u	-	?	*n*	un
GENDE	gaf	*n*	n / na	-	?	*t*	t / tari
GIMI	gim	*n*	nege / u	-	?	*r*	rege / un
ISABI	isa	*n*	nana	*k*	kia	*t*	tara
KAMANO_KAFE	kbq	*n*	nagra	*k*	kagra	*t*	tagra
N_TAIRORA	tbg	*t*	tere	*r*	are	*t*	tenabu
SIANE	snp	*n*	namo	-	?	-	?
TAIRORA/BINUMARIEN	bjr	*n*	ine	-	?	*n*	inei7i
WAFFA	waj	*n*	na	-	?	*t*	ta / te
YABIYUFA	yby	*n*	nemo / u	-	?	*l*	lemo / un
YAGARIA	ygr	*d*	da / dagaea	*g*	ga / gagaea	*l*	la / ta
YATE	ino	*n*	nagaya	-	?	*t*	tagaya
Madang							
Croisilles							
Amaimon							
AMAIMON	ali	*N*	ENi	*n*	nENi	*n*	iniNi
Dimir-Malas							
DIMIR	dmc	*y*	yiN	*n*	nEN	*y*	yin
MALAS	mkr	-	?	*n*	nE	*n*	in
Kumilan							
BEPOUR	bie	*y*	iyE	*n*	nE / inE	*h*	ihE
BUNABUN	buq	*5*	i5E	*n*	nEnE	*5*	i5E
MOERE	mvq	*n*	EnE	*n*	nEnE	*k*	ikiE
MUSAR	mmi	*y*	yE	*n*	nE	*y*	yik
ULINGAN	mhl	*y*	yos	*n*	nos	*s*	is
Mabuso							
AMELE	aey	*s*	isa	*n*	ina	*k*	EkE
BAGUPI	bpi	*s*	sEg	*n*	nEg	*g*	ig
BAIMAK	bmx	*s*	sak	*n*	nak	*k*	ik
BAU	bbd	*s*	isa	*n*	ina	*g*	ige
BEMAL	bmh	*s*	is	*n*	na	*g*	ig
GAL	gap	*s*	sa	*n*	na	*g*	ig
GARUH	gaw	*d*	da	*n*	na	*g*	ig
GARUS	gyb	*d*	dE	*n*	nEg	*g*	ig
GIRAWA	bbr	*t*	ita	*n*	n3	*7*	i7E
GUMALU	gmu	*s*	isa	*n*	ina	*g*	igE
ISEBE	igo	*s*	isE	*n*	inE	*g*	igE
KAMBA	fad	*d*	da	*n*	na	*g*	ig

KARE	kmf	*s*	su	*n*	nu	*s*	sa / ya
MATEPI	mqe	*s*	sEg	*n*	nEg	*g*	ig
MAWAN	mcz	*h*	hak	*n*	nak	*k*	ik
MOSIMO	mqv	*s*	s3	*n*	n3g	*z*	zogo
MUNIT	mtc	*s*	isa	*n*	na	*g*	igE
MURUPI	mqw	*s*	sa	*n*	naga	*g*	iga
NAKE	nbk	*s*	s3g	*n*	n3g	*g*	ig
PANIM	pnr	*s*	isE	*n*	inE	*g*	igE
RAPTING	rpt	*d*	da	*n*	nag	*z*	zogo
REMPI	rmp	*d*	d3	*n*	n3k	*t*	it
SAMOSA	swm	*s*	s3gE	*n*	n3gE	*z*	zogo
SARUGA	sra	*s*	saga	*n*	n3ga	*g*	iga
SIHAN	snr	*s*	isa	*n*	ina	*k*	ikE
SILOPI	xsp	*s*	sEg	*n*	nEg	*g*	ig
UTU	utu	*s*	sEk	*n*	nEk	*k*	ik
WAMAS	wmc	*s*	sa	*n*	nagE	*z*	zogo
YOIDIK	ydk	*d*	d37	*n*	n3g	*y*	yit
Mugil-Kaukombaran							
BARGAM	mlp	*y*	ya	*n*	ni / ne	-	?
MUGIL	mlp	*y*	ya	*n*	ni	*y*	iy
PAY	ped	*m*	Emaka	*n*	namaka	*m*	imaka
PILA	sks	*y*	yo	*n*	no	*k*	ik
SAKI	sks	*y*	yo	*n*	no	-	?
TANI	pla	*z*	zo	*n*	no	*z*	zi
Numugenan							
BILAKURA	bql	*y*	yana	*n*	nana	*5*	e5ina
PARAWEN	prw	*y*	yana	*n*	nana	*n*	inana
UKURIGUMA	ukg	*n*	Ena	*n*	nEna	*n*	ino
WANUMA	wnu	*y*	yE / yi	*n*	nE / ni	*n*	in
YABEN	ybm	*y*	yE	*n*	nE	*n*	in
YARAWATA	yrw	*y*	yana	*n*	nana	*n*	inana
Tibor-Omosa							
ABASAKUR	abw	*N*	NaN	*n*	n3N	*g*	gag
HINIHON	hih	*y*	yE	*n*	nE	*k*	ikE
KOGUMAN	kgu	*N*	EN	*n*	noN	*g*	Eg
KOWAKI	xow	*y*	yE	*n*	nE	*7*	i7E
MAWAK	mjj	*y*	yE	*n*	nE	*k*	ikE
WANAMBRE	wnb	*y*	yE	*n*	nE	*y*	yik
Kalamic-South Adelbert							
ANGAUA	anh	*n*	ns3	*m*	am	*r*	ar3
ATEMPLE	ate	*p*	api	*m*	amb 3	*r*	aruxu
EMERUM	ena	*p*	pia	*n*	nama	*r*	araN
FAITA	faj	*y*	ya	*n*	na	*n*	an3
IKUNDUN	imi	*y*	yi	*n*	na	*N*	aN
KALAM	kmh	*y*	yant	*n*	nad	*T*	Tn
KATIATI	kqa	*y*	yi / ya	*n*	na	*r*	ara
KOBON	kpw	*y*	yant	-	?	*h*	hon
MORESADA	msx	*y*	yEx	*n*	nax	*N*	aN3x
MUSAK	mmq	*y*	ya	*n*	na	*r*	ar3 / an3
OSUM	omo	*y*	yig3	*n*	nag3	*N*	aN
PAYNAMAR	pmr	*s*	sa	*m*	ama	*r*	ara
PONDOMA	pda	*y*	yi / ya	*n*	na	*N*	aN
SILEIBI	sbq	*y*	ya	*n*	na	*r*	ara
WADAGINAM	wdg	*y*	yax	*n*	nax	*x*	xaN
Rai Coast							
ARAWUM	awm	*y*	yi	*n*	ne	*s*	sine
ASAS	asd	*V*	i	*n*	nE	*s*	sEnE
BIYOM	bpm	*y*	ya	*n*	na	*s*	sina

BOM	boj	*V*	E	*n*	ni	*g*	ig3 / g3
BONGU	bpu	*j*	aji	*n*	ni	*y*	yig / ga
DANARU	dnr	-	?	*n*	ne	*s*	sEn
DUDUELA	duk	*y*	yE / jE	*n*	nE	*s*	sirE
DUMPU	wtf	*y*	iyi	*n*	ne	*s*	si
ERIMA	eri	*C*	Ci / zi	*n*	nE	*h*	hErE / ErE
GANGLAU	ggl	*n*	na	*m*	ma	*s*	siga
JILIM	jil	*y*	yi	*n*	ni	*s*	sigi
KESAWAI	xes	*V*	i	*n*	nE	*s*	sEnE
KOLOM	klm	*V*	i	*n*	n3	*s*	sine
KWATO	kop	*j*	ji	*n*	ni	*s*	sini
LEMIO	lei	*y*	yi	*n*	nE	*s*	sine
MALE_PAPUANG	mdc	*C*	Ca	*n*	ni	*g*	g3
PULABU	pup	*d*	di	*n*	ne	*g*	ige
RERAU	rea	*y*	yi	*n*	ni	*s*	sini
SAEP	spd	*n*	n3	*n*	n3ma	*s*	siga
SAUSI	ssj	-	?	*n*	nE	*s*	sEnE
SINSAURU	snz	*y*	iyE	*n*	nE	*s*	sEnE
SONGUM	snx	*s*	s3	*5*	5i	*g*	g3
SUMAU	six	*y*	yE / sE	*n*	nE	*s*	sini
SUROI	ssd	*y*	yE	*n*	nE	*s*	sinE
TAUYA	tya	*y*	ya	*n*	na	*s*	sini
URIGINA	urg	*y*	iyE	*n*	nE	*s*	sEno
USINO	urw	*y*	yE / igo	*n*	n3	*s*	sin
USU	usu	*j*	ja / ija	*n*	na	*h*	hin
YABONG	ybo	*n*	n3	*n*	nom	*s*	siN
YANGULAM	ynl	*y*	yEm	*n*	ni	*s*	senE
`Unclassified Madang`							
KORAK	koz	*N*	Nam	*n*	nim	*n*	animataN
WASKIA	wsk	*n*	ani	*n*	ni	*n*	ana
`Mek`							
BIME	xte	*n*	n3	-	?	*n*	nun
EIPOMEK	eip	*n*	na	-	?	*n*	nun
UNA	mtg	*n*	ni	-	?	*n*	nun
YALE_KOSAREK	kkl	*n*	na	*n*	aun / dale	*n*	nun / nu
`Paniai Lakes`							
KAPAUKU	ekg	*n*	ani	*k*	aki / ikai	*n*	inai / ini
MONI	mnz	*V*	a / andi	-	?	*V*	i / indi
WODANI	wod	*n*	ni / nime	-	?	*n*	ini / inime

Pahoturi		I		you		we	
AGOB/BUGI	kit	*n*	ngana	-	?	-	?
AGOB/DABU	kit	*g*	gna / ngana	-	?	-	?
DABU	kit	*5*	5a / Nana	-	?	*g*	gagi maulidag / Nemi
DIBOLUG	idi	*g*	ginunga	-	?	-	?

Pauwasi		I		you		we	
DUBU	dmu	*n*	no	-	?	*n*	numu
JAFI	wfg	*n*	nam	-	?	*n*	nin
TOWEI	ttn	*n*	nngro / oNgo	-	?	*n*	nae / nu
YURI	yuj	*n*	3noN / ono	-	?	-	?

Pawaia		I		you		we	
PAWAIA	pwa	*n*	ane	-	?	-	?
PAWAIAN	pwa	*n*	ana	-	?	*n*	nono

Piawi		I		you		we	
ARAMO	pnn	*n*	n3gaud3x	-	?	-	?
HAGAHAI/ARAMO_II	pnn	*n*	n3gaid3x	-	?	*v*	avi
HARUAI/WAIBUK	tmd	*n*	n3ng	-	?	*n*	an3mbant

NANGENUWETAN	pnn	*n*	nig3	-	?	-	?
PINAI_1	pnn	*n*	n3ga	-	?	-	?
WIYAW	tmd	*n*	nin	-	?	-	?

Purari		I		you		we	
PURARI	iar	*n*	nai	-	?	-	?

Savosavo		I		you		we	
SAVOSAVO	svs	*5*	a5i	*n*	no	*m*	mai

Senagi		I		you		we	
AMGOTRO	kbv	*w*	ewo / eo	*t*	te	*g*	igoa
ANGOR	agg	*r*	ro	*s*	se	*s*	s3h3r3
MONGOWAR	kbv	*y*	yi	-	?	-	?

Sentanic		I		you		we	
DEMTA	dmy	*m*	mene	-	?	*N*	Nama
DEMTA/AMBORA	dmy	*m*	mini	-	?	*n*	ngame
DEMTA/MURIS	dmy	*m*	mene	-	?	-	?
SENTANI	set	*d*	d3yE	*w*	w3yE	*y*	eyE
TABLA	tnm	*d*	de / d3	-	?	*d*	deye / me
TABLA/C	tnm	*d*	de	-	?	*m*	mot3rana
TABLA/W	tnm	*d*	de / wepebesik	-	?	*d*	d3t3toro / we
TABLA_UNKNOWN_DIAL	tnm	*d*	de	-	?	*d*	deye / e

Sepik		I		you		we	
ABAU	aau	*h*	hakwe	*h*	hunkwe	*h*	hlom
ALAMBLAK	amp	*n*	na	*n*	ni	*n*	nom
AWTUW	kmn	*w*	wan	*m*	om	*n*	nom
BAHINEMO	bjh	*n*	ani	*n*	ini	*n*	nom
GABIANO	gbe	*n*	ane	-	?	-	?
HEWA	ham	*n*	ano	-	?	-	?
IWAM/MAY	iwm	*n*	ani / kani	-	?	*k*	k3r3
KAPRIMAN	dju	*n*	an	*n*	n3 / ni	*n*	nom
KWOMA	kmo	*d*	ada	*n*	nija / niji / ninya / ninyawa / minawa / mita / mitana / miti	*n*	nona / nota / noti
MENDE_PNG	sim	*n*	nir / an	*j*	ji / jir	*n*	ni / nir
NAMIA	nnm	*n*	3n	*n*	ne	*m*	em
PAKA	gbe	*n*	an	-	?	-	?
POUYE	bye	*w*	wEn	*y*	yin	*n*	nEm
SANIO	sny	*n*	ane	*n*	ne	*n*	nomo
YESSAN_MAYO	yss	*n*	an	*n*	ni	*n*	nim

Sko		I		you		we	
BARUPU	wra	*n*	nana / nani	*m*	mama / momu	*m*	mami
DUMO	vam	*n*	na	*m*	mi	*n*	nibu
ISAKA	ksi	*n*	nana / depu	*m*	mama / bepu	*n*	numu
POKO_RAWO	rwa	*n*	nEn	*m*	mEmu	*p*	ipi
SANGKE	wut	*n*	ni	-	?	*n*	ne
SKOU	skv	*n*	ni	*m*	me	*n*	ne
SUMO	wra	*n*	neno	*n*	nemo / namyo	*n*	namayo
TUMAWO	skv	*n*	ni	*V*	e	*n*	ne
WUTUNG	wut	*n*	nia*	-	?	-	?

South Bird's Head Family		I		you		we	
ARANDAI	jbj	*n*	nendi / neNtigo	-	?	-	?
ARANDAI/BARAU	bzp	*n*	nao / nedi	-	?	*n*	neri / nidi
ARANDAI/KASUWERI	xod	*n*	neiga	-	?	-	?
ARANDAI/NAJARAGO	jbj	*n*	neiga	-	?	-	?
ARANDAI/SEBYAR	jbj	*n*	nendi	-	?	-	?
ARANDAI/TAROF	jbj	*n*	neiga	-	?	-	?
ARANDAI/WERIAGAR	bzp	*n*	nam / nedi	-	?	-	?

BARAU	bzp	*n*	nao / nedi	-	?	*n*	nidi
KAMPONG_BARU	kzm	*n*	neri	-	?	-	?
KASUWERI	xod	*n*	neiga	-	?	-	?
PURAGI	pru	*n*	nedi / nei	-	?	-	?
TAROF	jbj	*n*	neiga	-	?	-	?
WERIAGAR	bzp	*n*	nedi	-	?	-	?

South Bougainville		I		you		we	
BUIN	buo	*n*	ne / nne	*r*	ro	*r*	re
MOTUNA	siw	-	?	-	?	*n*	ne
NASIOI	nas	*n*	nin	*d*	da7 / de7	*n*	ne7

Suki-Gogodala		I		you		we	
ADIBA	ggw	-	?	-	?	*s*	se
GOGODALA	ggw	*n*	na / ne	-	?	*s*	s3 / se
GOGODALA/ADIBA	ggw	-	?	-	?	*s*	se
GOGODALA/ARI	aac	*n*	ne / n	-	?	-	?
GOGODALA/GAIMA	ggw	*n*	na	-	?	*s*	se
GOGODALA/GIRARA	ggw	*n*	nepe	-	?	-	?
GOGODARA	ggw	*n*	ne	-	?	*s*	se
SUKI	sui	*n*	ne	-	?	*V*	e

Taiap		I		you		we	
TAIAP	gpn	*N*	Na	*y*	yu	*y*	yim
TAYAP	gpn	*N*	Na	*y*	yum	*y*	yim

Tanahmerah		I		you		we	
TANAH_MERAH	tcm	*n*	nafea	-	?	-	?

Teberan		I		you		we	
DARIBI	mps	*n*	ana / ano	-	?	-	?
FOLOPA	ppo	*y*	yano	*y*	ya* / nao	*d*	da*

Tirio		I		you		we	
TIRIO	aup	*n*	nogao	-	?	*g*	gaiga

Tor-Orya		I		you		we	
BERIK	bkl	*r*	aire / aZam	-	?	*n*	neZam
BERRIK_PAPUA	bkl	*m*	amen	-	?	-	?
ORYA	ury	*V*	3e	-	?	-	?
ORYA_UNKNOWN_DIAL	ury	*h*	hey	-	?	-	?
SAWE	ury	*n*	ano	-	?	-	?

Touo		I		you		we	
MBANIATA	tqu	*V*	ei / ero	*n*	noe	*m*	memo

Turama-Kikori		I		you		we	
IKOBI	meb	*n*	ina	-	?	-	?
MENA	meb	*n*	ina / inara	-	?	-	?
OMATI	mgx	*n*	ina	-	?	-	?
RUMU	klq	*V*	i / ene	*k*	iki / eke	*n*	namE

Uhunduni		I		you		we	
DAMAL	uhn	*n*	na*wo*u	-	?	*y*	yenoN

Usku		I		you		we	
USKU	ulf	*s*	ose	-	?	*p*	pu

Waia		I		you		we	
TABO/WAIA	knv	*b*	baidi / na	-	?	-	?
WAIA	knv	*n*	na	-	?	-	?

Walio		I		you		we	

TUWARI	tww	*l*	ali	-	?	-	?
West Bird's Head		I		you		we	
KALABRA	kzz	*t*	tet / tit	-	?	-	?
MOI	mxn	*t*	tiku / tit	-	?	-	?
MOI/STOKHOF_FLASSY	mxn	*t*	t / tit	-	?	-	?
MOI/WAIPU	mxn	*t*	tit	-	?	-	?
MORAID	msg	*t*	tit	-	?	-	?
SEGET	sbg	*d*	dyo / tet	-	?	*m*	mam
SEGET/WALIEM	sbg	*t*	tet	-	?	-	?
TEHIT	kps	-	?	*n*	nEn	*p*	pap
West Bomberai		I		you		we	
IHA	ihp	*n*	on	*k*	ko	*n*	in
KARAS	kgv	*n*	an	*k*	ka	*n*	in
MBAHAM	bdw	*n*	and	*t*	taw	*n*	undu
Wiru		I		you		we	
WIRU	wiu	*n*	no	-	?	*t*	toto
Yale		I		you		we	
NAGATIMAN	nce	*m*	mbo7	-	?	-	?
NAGATMAN	nce	*m*	mbo7	-	?	*s*	s3m3 t3n37
Yareban		I		you		we	
YAREBA	yrb	*n*	na	*V*	a	*y*	ya
Yeli Dnye		I		you		we	
YELETNYE	yle	*n*	n3 / neu	-	?	*y*	iyeve / me
Yuat		I		you		we	
KYAIMBARANG	kql	*n*	ndu	-	?	-	?
MIYAK	kql	*N*	Nin	-	?	*n*	nye

D-Family Classification of Papuan Languages

Abinomn

See Donohue and Musgrave (2007), Silzer and Heikkinen-Clouse (1991).
Member languages and subclassification:

Abinomn [bsa]

Abun

See Berry and Berry (1987a), Klamer et al. (2008), Reesink (2005b).
Member languages and subclassification:

Abun [kgr]

Alor-Pantar

See Holton et al. (2012), Robinson and Holton (2012). Comment: I have not been able to replicate the lexicostatistic argument for a relation between all Timor-Alor-Pantar languages, i.e. with East Timor (Stokhof 1975), and the correspondes adduced in Schapper et al. (2012) are suggestive but so far too few to conclude a relationship. The lexical and pronominal evidence for a Trans New Guinea affiliation is much too weak (Pawley 1998:683, Holton et al. 2012, Pawley 2005:94-95). The newest comparison of cognates (Kratochvíl 2007:6-11) cannot muster a strong case (correspondences are few, weak and not systematic enough).
Member languages and subclassification (Robinson and Holton 2012):

Alor

- **East Alor**
  - **Kolana**
    - **Wersing [kvw]**
  - **Tanglapui**
    - **Sawila [swt]**
    - **Kula [tpg]** Stokhof (1975)
- **West Alor**
  - **Straits West Alor**
    - **Adang-Hamap-Kabola** Stokhof (1975), Haan (2001:5)
      - **Adang [adn]**
      - **Hamap [hmu]**
      - **Kabola [klz]**
    - **Blagaric** Stokhof (1975)
      - **Blagar [beu]**
      - **Retta [ret]**

Tereweng [twg]

Kelon [kyo]

Abui [abz]

Kafoa [kpu] Stokhof (1975)

Kui (Indonesia) [kvd]

Kamang [woi]

Kaera [-]

Western Pantar [lev]

Nedebang [nec]

Tewa (Indonesia) [twe]

Amto-Musan

See Laycock (1975a).
Member languages and subclassification:

Amto [amt]

Siawi [mmp]

Anêm

See Dunn et al. (2002), Terrill (2002), Thurston (1992). Comment: Pronoun resemblances (Ross 2001) are not enough for concluding a Yele-West New Britain Family.
Member languages and subclassification:

Anem [anz]

Angan

See Foley (1986). Comment: As has been clear at least since (Lloyd 1973a) there are insufficient lexical links to posit a relationship with Trans New Guinea.
Member languages and subclassification (Lloyd 1973a and p.c. Tim Usher 2012):

Baruya-Simbari

Baruya [byr]

Simbari [smb]

Kapau-Menya

Hamtai [hmt]

Menya [mcr]

Northeast Angan

Kamasa-Susuami

Kamasa [klp]
Susuami [ssu] Smith (1992)

Kawacha-Safeyoka

Safeyoka [apz]
Kawacha [kcb]

Southwest Angan

Tainae-Akoye

Tainae [ago]
Akoye [miw]

Ankave [aak]

Angaataha [agm]

Yagwoia [ygw]

Arafundi

See Foley (2000).
Member languages and subclassification (Haberland 1966):

Andai [afd]

Nanubae [afk]

Tapei [afp]

Ata

See Yanagida (2004). Comment: Pronoun resemblances (Ross 2001) are not enough for concluding a Yele-West New Britain Family.
Member languages and subclassification:

Pele-Ata [ata]

Awin-Pa

See Voorhoeve (1975a:389-391).
Member languages and subclassification:

Aekyom [awi]

Pare [ppt]

Baibai-Fas

See Baron (1983). Comment: Laycock never presented real evidence for a Kwomtari-Baibai-Pyu family (Laycock 1975b). The membership is Baibai [bbf] and Fas [fqs] and not Biaka/Nai [bio] as many sources have erroneously repeated.
Member languages and subclassification:

Baibai [bbf]

Momu-Fas [fqs]

Baining

See Stebbins (2010), Ross (2001:311).
Member languages and subclassification (Stebbins 2010):

Unclassified Baining

Makolkol [zmh] ?

Qaqet [byx]

Kairak [ckr]

Mali [gcc]

Simbali [smg]

Ura (Papua New Guinea) [uro]

Banaro

See Z'graggen (1969:163-165), Foley (2013). Comment: Banaro [byz] shows some typological similarities to the Grass, Ap Ma and Ramu languages but there is little lexical evidence (Z'graggen 1969:163-165, Foley 2013).
Member languages and subclassification:

Banaro [byz]

Bayono-Awbono

See Lewis (2009).
Member languages and subclassification:

Awbono [awh]

Bayono [byl]

Biksi

See Conrad and Dye (1975), Foley (2013), Hammarström (2010b). Comment: Evidence for a Sepik affiliation is too scant, though data is very scant too. No convincing lexical relationship with Kimki (Kim 2006).
Member languages and subclassification:

Yetfa [yet]

Bilua

See Dunn and Terrill (2012), Terrill (2006).
Member languages and subclassification:

Bilua [blb]

Bogaya

See Voorhoeve (1975a:395-396). Comment: Arguments for the relatedness for Duna and Bogaya are given in Voorhoeve (1975a:395-396) but pronouns do not match sufficiently well for an immediate Trans New Guinea affiliation, and apart from this, there are only capricious lexical similarities to other families (Shaw 1973).
Member languages and subclassification:

Bogaya [boq]

Bogia

See Laycock (1975c), Z'graggen (1969:180-183). Comment: No evidence for the Bogia (Monumbo) languages being related to other Torricelli languages was ever presented (Laycock 1975c).
Member languages and subclassification:

Lilau [lll]

Monumbo [mxk]

Border

See Voorhoeve (1975a), Donohue and Crowther (2005). Comment: Waris, Taikat, Bewani
Member languages and subclassification (Voorhoeve 1975a, Donohue and Crowther 2005):

Bewani

Pagi-Kilmeri Gerstner-Link (2004), Brown (1981:195)

Ainbai [aic]
Kilmeri [kih]
Pagi [pgi]

Ningera [nby]
Umeda [upi]

Taikat-Awyi

Taikat [aos]
Awyi [auw]

Warisic Seiler (1985)

Amanab [amn] Loving and Bass (1964)
Daonda [dnd]
Imonda [imn]
Manem [jet] Voorhoeve (1971)
Auwe [smf]
Senggi [snu] Voorhoeve (1971)
Sowanda [sow]
Waris [wrs]

Bosavi

See Shaw (1986).
Member languages and subclassification (Shaw 1986):

Bosavi Watershed

Kaluli-Sunia
Kaluli [bco]
Sonia [siq]
Aimele [ail]
Kasua [khs]
Onobasulu [onn]

Etoro-Bedamini

Beami [beo]
Edolo [etr]

Botin

See Z'graggen (1969:168-169), Foley (2013). Comment: Ap Ma/Botin/Kambot shows some typological similarities to the Grass, Banaro and Ramu languages but there is little lexical evidence (Z'graggen 1969:168-169 Foley 2013).
Member languages and subclassification:

Ap Ma [kbx]

Bulaka River

See Wurm (1975a). Comment: Wurm's arguments (Wurm 1975a:324) for a Trans-Fly assignment were based on low (ca 9%) lexicostatistical figures and typological characteristics.
Member languages and subclassification:

Yelmek [jel]

Maklew [mgf]

Burmeso

See Donohue (2001).
Member languages and subclassification:

Burmeso [bzu]

Busa (Odiai)

See Laycock (1975a).
Member languages and subclassification:

Odiai [bhf]

Dagan

See Dutton (1975). Comment: Evidence for Trans New Guinea membership (Dutton 1975:624-631) (McElhanon and Voorhoeve 1970) or with other neighbouring families (Dutton 1975:624-631) is clearly insufficient, as the lexical links so far proposed are few and show irregular one-consonant correspondences.
Member languages and subclassification (Dutton 1971:15-19):

Daga [dgz]

Umanakaina [gdn]

Ginuman [gnm]

Dima [jma]

Mapena [mnm]

Maiwa (Papua New Guinea) [mti]

Onjob [onj]

Kanasi [soq]

Turaka [trh] Troolin (1998)

Dem

See Larson (1977). Comment: The cognation judgments of (Larson 1977) involving Dem are warped in that a match is judged if at least one segment matches. Needless to say, this gives inconsistent sound correspondences. The lexicostatistic argument for relatedness is the only one offered so far, and apart from probable borrowings, I cannot find cognate vocabulary or morphology.
Member languages and subclassification:

Dem [dem]

Dibiyaso

See Reesink (1976), Shaw (1986). Comment: Dibiyaso is often associated with its northern neighbour Bosavi through a small number of matching lexical items. (Reesink 1976:12) gives a number of lexical lookalikes between Dibiyaso and Kaluli. These contain a few fairly convincing comparisons where Dibiyasu *p* corresponds to Kaluli *f*. The items in question are common to the entire Bosavi Watershed group (not just Kaluli) but none are found in the Etoro-Bedamini group. This suggests, that we are dealing with loans between Dibiyaso and the Bosavi watershed group. Similarly, Turumsa and Dibiyaso are said to share as much as 19% lexicostatistical similarity (Tupper 2007c), but, looking at the items in question and the sociolinguistic situation, a loan scenario is preferable to a genealogical one.
Member languages and subclassification:

Dibiyaso [dby]

Doso-Turumsa

See Shaw (1986), Tupper (2007c). Comment: Turumsa and Dibiyaso are said to share as much as 19% lexicostatistical similarity (Tupper 2007c), but, looking at the items in question and the sociolinguistic situation, a loan scenario is preferable to a genealogical one.
Member languages and subclassification:

Doso [dol]

Turumsa [tqm]

Duna

See Voorhoeve (1975a:395-396). Comment: Arguments for the relatedness for Duna and Bogaya are given in Voorhoeve (1975a:395-396) but pronouns do not match sufficiently well for an immediate Trans New Guinea affiliation, and apart from this, there are only capricious lexical similarities to other families (Shaw 1973).
Member languages and subclassification:

Duna [duc]

Duranmin

See Conrad and Dye (1975), Conrad and Lewis (1988), Laycock and Z'Graggen (1975). Comment: Typological arguments are not sufficient to conclude a Leonard Schultze family with Walio (Laycock and Z'Graggen 1975). Neither is the shared animate-suffix with Walio conclusive of a genetic relation (Conrad and Lewis 1988). The lexical evidence does not show any conclusive genetic relationship either, be it inside or outside Leonard Schultze (Conrad and Dye 1975), or with Papi (Conrad and Lewis 1988) (a higher figure (29%) of Papi-Duranmin lexicostatistical relations quoted by Laycock earlier, is superseded by the later, below 10%, figures of Conrad and Lewis).
Member languages and subclassification:

Asabano [seo]

East Bird's Head

See Donohue (2005), Reesink (2004).
Member languages and subclassification (Gravelle 2010):

Meax

Meyah [mej]

Moskona [mtj]

Sougb [mnx]

East Kutubu

See Franklin (2001). Comment: The link to Fasu is premature because counting framework and kinship terms are precisely the kind of argument that is not conclusive of a genetic relationship (Franklin 2001:311).
Member languages and subclassification:

Fiwaga [fiw]

Foi [foi]

East Strickland

See Shaw (1986). Comment: Evidence for Trans New Guinea membership (Wurm 1975b:509-510) is insufficient and the lexicostatistical figures (Shaw 1986) linking East Strickland to Bosavi are difficult to reproduce
Member languages and subclassification (Shaw 1986, Dwyer et al. 1993):

Kubo-Samo-Bibo

Gobasi [goi]

Kubo [jko]

Samo [smq]

Fembe [agl]

Odoodee [kkc]

Konai [kxw]

East Timor-Bunaq

See Hull (2004), Klamer et al. (2008), Schapper et al. (2012). Comment: The group is clearly internally coherent. I have not been able to replicate the lexicostatistic argument for a relation between all Timor-Alor-Pantar languages, i.e. with West Timor-Alor-Pantar and Kolana-Tanglapui (Stokhof 1975), and the correspondes adduced in Schapper et al. (2012) are suggestive but so far too few to conclude a relationship. Likewise, the Bomberai/Alor comparisons in Hull (2004) are flimsy.
Member languages and subclassification:

East Timor Mandala (2010), van Naerssen (2008)

- **Fataluku-Oirata**
  - **Fataluku [ddg]**
  - **Oirata [oia]**
- **Makasae [mkz]**

Bunak [bfn] Schapper et al. (2012)

Eastern Trans-Fly

See Wurm (1975a), Fleischmann and Turpeinen (1976). Comment: Wurm's arguments (Wurm 1975a:327-335) for a Trans New Guinea affiliation appear to be unreliable lexicostatistics and typological features. Likewise, the lexical and pronominal evidence for a Trans New Guinea affiliation is weak. See (Fleischmann and Turpeinen 1976) for additional lexical data on the internal coherence of the group.
Member languages and subclassification (Wurm 1971):

Bine [bon]

Wipi [gdr]

Gizrra [tof]

Meriam [ulk]

Eleman

See Brown (1972).
Member languages and subclassification (Brown 1973):

Eastern Eleman

- **Toaripi [tqo]**

Tairuma [uar]

Western Eleman

Opao [opo]

Orokolo [oro]

Keoru-Ahia [xeu]

Elseng

See Voorhoeve (1971).
Member languages and subclassification:

Elseng [mrf]

Fasu

See Franklin (2001). Comment: The link to East Kutubuan is premature because counting system and kinship terms are precisely the kind of argument that is not conclusive of a genetic relationship (Franklin 2001:311).
Member languages and subclassification:

Fasu [faa]

Geelvink Bay

See Jones (1987), Voorhoeve (1975b).
Member languages and subclassification (Jones 1987):

Barapasi-Sauri-Kofei

Sauri-Kofei

Kofei [kpi]
Sauri [srt]

Barapasi [brp]

Burate-Wate

Burate [bti]

Tunggare [trt]

Bauzi [bvz]

Demisa [dei]

Nisa-Anasi [njs]

Tefaro [tfo]

Woria [wor]

Goilalan

See Foley (1986). Comment: Evidence for Trans New Guinea membership (Dutton 1975:624-631) (McElhanon and Voorhoeve 1970) or with other neighbouring families (Dutton 1975:624-631) is clearly insufficient, as the lexical links so far proposed are few and show irregular one-consonant correspondences.
Member languages and subclassification (Dutton 1975:631-632, Hooley and McElhanon 1970:1076):

Biangai [big]

Fuyug [fuy]

Kunimaipa [kup]

Tauade [ttd]

Weri [wer]

Greater Kwerba

See Clouse et al. (2002). Comment: Including Isirawa, Airoran and Samarokena (Clouse et al. 2002:18-20)
Member languages and subclassification (Clouse et al. 2002):

Kwerba-Samarokena

- **Kwerbaic**
  - **Bagusa [bqb]**
  - **Kwerba [kwe]**
  - **Trimuris [tip]**
  - **Kauwera [xau]**
  - **Kwerba Mamberamo [xwr]**
- **Samarokena-Airoran**
  - **Airoran [air]**
  - **Samarokena [tmj]**

Isirawa [srl]

Guriaso

See Baron (1983). Comment: Laycock never presented real evidence for a Kwomtari-Baibai-Pyu family (Laycock 1975b). It is clear from the data collected so far (Baron 1983) that Guriaso [grx] shares no more lexical cognates with Kwomtari and Biaka than expected at random, and that's not even when borrowing is discounted (Kwomtari neighbours Guriaso). Further correspondences presented are merely typological or random enough to make Japanese a Kwomtari language (Baron 1983:29).
Member languages and subclassification:

Guriaso [grx]

Hatam-Mansim

See Reesink (1996, 2002).
Member languages and subclassification:

Mansim [-]

Hatam [had]

Inanwatan

See Berry and Berry (1987b), de Vries (1998).
Member languages and subclassification:

Duriankere [dbn]

Suabo [szp]

Inland Gulf of Papua

See Franklin (1973:269-273). Comment: Internally, the membership of the geographically non-adjacent Ipikoi in the family was realised only in the early 1970s (Franklin 1973:267-273). Evidence for a Trans New Guinea membership are the singular pronouns in the Minanibai branch and a few lexical items (Wurm 1975b:509-510) and Ross (1995:152, 157) takes the pronoun evidence to be probative. However, the pronouns which look most like Trans New Guinea have not yet been shown to go back to proto-Inland Gulf, and even if we assume they are characteristic, the total of the evidence for a Trans New Guinea affiliation is very slight. Therefore, it would be premature to call Inland Gulf a branch of the Trans New Guinea family. No stronger cases for Inland Gulf affiliations to other (sub-)families have been put forward.
Member languages and subclassification (Franklin 1973:269-273):

Ipiko

- **Ipiko [ipo]**

Nuclear Inland Gulf of Papua

- **Foiafoian**
  - **Foia Foia [ffi]**
  - **Hoia Hoia [hhi]**
  - **Hoyahoya [hhy]**
- **Minanibai [mcv]**
- **Mubami [tsx]**
- **Karami [xar]**

Kaki Ae

See Clifton (1997). Comment: Similarly, with the proportion of lexicon shared with Kaki Ae, the semantic fields, metalinguistic awareness, relevant sociolinguistic facts favour a borrowing scenario (Clifton 1997:33-34). The so-called sound shifts alluded to by (Franklin 1995) are, in fact, perfectly predictable loan renderings given the phonemic systems of Eleman (which has no n/l/r-phonemic distinction) and Kaki Ae (which has no t/k distinction).
Member languages and subclassification:

Kaki Ae [tbd]

Kamula

See Reesink (1976:13-18), Routamaa (1994:7).
Member languages and subclassification:

Kamula [xla]

Kapauri

See Hammarström (2010b), Rumaropen (2006). Comment: However, a newer evaluation of the lexical relationships (claimed in Voorhoeve (1975b:45)) show no signficant relationship between the Kaure-Narau-Kosare languages and Kapauri (Rumaropen 2006:13).
Member languages and subclassification:

Kapori [khp]

Kaure-Narau

See Hammarström (2010b), Voorhoeve (1975b). Comment: A newer evaluation of the lexical relationships (claimed in Voorhoeve (1975b:45)) show no signficant relationship between the Kaure-Narau languages and Kapauri (Rumaropen 2006:13).
Member languages and subclassification:

Kaure [bpp]

Narau [nxu]

Kayagaric

See Voorhoeve (1975a:366-369).
Member languages and subclassification (Voorhoeve 1971:87-88):

Kaygir-Tamagario

- **Kayagar [kyt]**
- **Tamagario [tcg]**

Atohwaim [aqm]

Kehu

See Kamholz (2012). Comment: There are some parallels with Lakes Plain languages drawn up in Whitehouse (2006).
Member languages and subclassification:

Kehu [khh]

Kembra

See Doriot (1991), Hammarström (2010b).
Member languages and subclassification:

Kembra [xkw]

Kimki

See Foley (2013), Hammarström (2010b). Comment: Evidence for a Sepik affiliation is too scant, though data is very scant too. No convincing lexical relationship with Yetfa-Biksi (Kim 2006).
Member languages and subclassification:

Kimki [sbt]

Kiwaian

See Foley (1986).
Member languages and subclassification (Wurm 1973):

Turama-Kerewo

- **Kerewo [kxz]**
- **Morigi [mdb]**

Bamu [bcf]

Northeast Kiwai [kiw]

Southern Kiwai [kjd]

Waboda [kmx]

Koam

See Foley (2005), Laycock (1973). Comment: The three languages are closely related (hinted at by Laycock, and confirmable in the unpublished wordlists). What little data on Mongol-Langam-Yaul that was available to Foley in connection with his demonstration of the Lower Sepik-Ramu family, it was not sufficient for a genetic relationship with Lower Sepik-Ramu. Sufficient argumentation for a relation with the Yuat languages is wanting (Laycock 1973).
Member languages and subclassification (Laycock 1973):

Langam [lnm]

Mongol [mgt]

Yaul [yla]

Koiarian

See Dutton (2010). Comment: Evidence for Trans New Guinea membership (Wurm 1975b:624-631) (McElhanon and Voorhoeve 1970) or with other neighbouring families (Wurm 1975b:624-631) is clearly insufficient, as the lexical links so far proposed are few and show irregular one-consonant correspondences.
Member languages and subclassification (Dutton 2010):

Baraic

- **Barai-Namiae**
  - **Barai [bbb]**
  - **Namiae [nvm]**
- **Ömie [aom]**
- **Ese [mcq]**

Koiaric

- **Koita-Koiari**
  - **Grass Koiari [kbk]**
  - **Koitabu [kqi]**
- **Mountain Koiali [kpx]**

Kol

See Dunn et al. (2002), Terrill (2002).
Member languages and subclassification:

Kol (Papua New Guinea) [kol]

Kolopom

See Voorhoeve (1975a). Comment: I am unable to find arguments for Trans New Guinea affiliation in Voorhoeve (1975a) and there is no obvious relation.
Member languages and subclassification (Drabbe 1949, Menanti and Susanto 2001):

Kimaama-Riantana

- **Kimaama [kig]**
- **Riantana [ran]**

Ndom [nqm]

Konda-Yahadian

See Berry and Berry (1987b), Voorhoeve (1975a:437-446). Comment: Evidence for inclusion in Trans New Guinea is weak (Voorhoeve 1975a:437-446), especially lexically. The same can be said for a relation with South Bird's Head, Konda-Yahadian and any West Papuan affiliation (Berry and Berry 1987b).
Member languages and subclassification:

Konda [knd]

Yahadian [ner]

Kosare

See Wambaliau (2006). Comment: The lexicon shows no convincing relationship to any of the surrounding languages (Wambaliau 2006)
Member languages and subclassification:

Kosadle [kiq]

Kuot

See Lindström (2002).
Member languages and subclassification:

Kuot [kto]

Kwalean

See Dutton (1975). Comment: Evidence for Trans New Guinea membership (Dutton 1975:624-631) (McElhanon and Voorhoeve 1970) or with other neighbouring families (Dutton 1975:624-631) is clearly insufficient, as the lexical links so far proposed are few and show irregular one-consonant correspondences.
Member languages and subclassification (Dutton 1975:636):

Humene-Kwale

- **Humene [huf]**
- **Uare [ksj]**

Mulaha [mfw]

Kwomtari-Nai

See Baron (1983). Comment: Laycock never presented real evidence for a Kwomtari-Baibai-Pyu family (Laycock 1975b). The membership is Kwomtari [kwo], Biaka/Nai [bio] and not Fas [fqs] as many sources have erroneously repeated. It is clear from the data collected so far (Baron 1983) that Guriaso [grx] shares no more lexical cognates with Kwomtari and Biaka than expected at random, and that's not even when borrowing

is discounted (Kwomtari neighbours Guriaso). Further correspondences presented are merely typological or random enough to make Japanese a Kwomtari language (Baron 1983:29).
Member languages and subclassification:

Nai [bio]

Kwomtari [kwo]

Lakes Plain

See Clouse (1997).
Member languages and subclassification (Clouse 1997, Voorhoeve 1975b):

East Lakes Plain

- **Foau [flh]**
- **Taworta [tbp]**

Far West Lakes Plain

- **Rasawa-Saponi**
  - **Rasawa [rac]**
  - **Saponi [spi]**
- **Awera [awr]**

Tariku

- **Central Tariku**
  - **Edopi [dbf]**
  - **Iau [tmu]**
- **Duvle**
  - **Duvle [duv]**
- **East Tariku**
  - **Doutai-Kai-Waritai**
    - **Kwerisa [kkb]**
    - **Papasena [pas]**
    - **Kaiy [tcq]**
    - **Doutai [tds]**
    - **Waritai [wbe]**
  - **Eritai-Obokuitai-Biritai**
    - **Obokuitai [afz]**
    - **Biritai [bqq]**
    - **Eritai [ert]**
  - **Sikaritai [tty]**

West Tariku

Fayu-Kirikiri

Fayu [fau]

Kirikiri [kiy]

Tause [tad]

Lavukaleve

See Dunn and Terrill (2012), Terrill (2006).
Member languages and subclassification:

Lavukaleve [lvk]

Left May

See Årsjö (1999), Conrad and Dye (1975). Comment: From (Conrad and Dye 1975) we know that the family is internally coherent (with sound correspondences) and that there are no convincing external relations revealed in the lexicon.
Member languages and subclassification (Conrad and Dye 1975):

Eastern Left May

Owiniga [owi]

Western Left May

Iteri-Bo

Bo (Papua New Guinea) [bpw]

Iteri [itr]

Ama (Papua New Guinea) [amm]

Nakwi [nax]

Nimo [niw]

Lepki-Murkim

See Hammarström (2010b). Comment: Though not fortcoming from the lexicostatistical counts in Wambaliau (2004), looking the actual words in the two languages, there are too many similarities to be mere chance.
Member languages and subclassification:

Lepki [lpe]

Murkim [rmh]

Lower Sepik-Ramu

See Foley (2005). Comment: Ap Ma [kbx] shows some typological similarities to the Grass and Ramu languages but there is little lexical evidence (Z'graggen 1969:168-169) (Foley 2013). Banaro [byz] shows some typological similarities to the Grass and Ramu languages but there is little lexical evidence (Z'graggen 1969:163-165) (Foley 2013). Member languages and subclassification (Foley 2005, Laycock 1973):

Grass

Agoan Z'graggen (1969:166-167)

Abu [ado]

Gorovu [grq]

Ambakich [aew] Comparison of Potter et al. (2008) and Agoan Z'graggen (1969) shows some probable cognates

Lower Sepik

Karawarian

Tabriak [tzx]

Yimas [yee]

Nor

Murik (Papua New Guinea) [mtf]

Kopar [xop]

Angoram [aog]

Chambri [can]

Ramu Foley (2013)

Annaberg

Aian

Aiome [aki]

Anor [anj]

Rao [rao]

Ataitan Z'graggen (1969:149-151)

Tangu-Igom

Kanggape [igm]

Tanggu [tgu]

Andarum [aod]

Tanguat [tbs]

Lower Ramu

Ottilien

Bosngun-Awar

Awar [aya]
Bosngun [bqs]
Watam-Kaian
Kaian [kct]
Watam [wax]
Borei [gai]
Ruboni
Mikarewan
Aruamu [msy]
Sepen [spm]
Kire [geb]
Tamolan Z'graggen (1969:151-155)
Breri-Romkun
Breri [brq]
Romkun [rmk]
Itutang-Midsivindi-Akrukai
Akrukay [afi]
Inapang [mzu]
Kominimung [xoi]
Unclassified Tamolan
Igana [igg] Z'graggen (1975)

Mailuan

See Dutton (1999, 1975). Comment: Evidence for Trans New Guinea membership (Dutton 1975:624-631) (McElhanon and Voorhoeve 1970) or with other neighbouring families (Dutton 1975:624-631) is clearly insufficient, as the lexical links so far proposed are few and show irregular one-consonant correspondences.
Member languages and subclassification (Dutton 1999, Dutton 1982):

Bauwakic

Ooku [-] Ray (1938) and Tim Usher p.c. 2013
Bauwaki [bwk]

Binaharic

Binahari-Ma [-]
Binahari [bxz]

Domu [dof]

Laua [luf]

Mailu [mgu]

Morawa [mze]

Mairasi

See Peckham (1991). Comment: Links with Tanahmerah are unconvincing lexically and pronominally (Voorhoeve 1975a:424-431) (Ross 2005).
Member languages and subclassification (Peckham 1991):

Semimi [etz]

Mer [mnu]

Mairasi [zrs]

Manubaran

See Dutton (1975). Comment: Evidence for Trans New Guinea membership (Dutton 1975:624-631) (McElhanon and Voorhoeve 1970) or with other neighbouring families (Dutton 1975:624-631) is clearly insufficient, as the lexical links so far proposed are few and show irregular one-consonant correspondences.
Member languages and subclassification:

Doromu-Koki [kqc]

Maria (Papua New Guinea) [mds]

Marindic

See Foley (2000). Comment: Not including Inanwatan, though typological affinities have been noted (de Vries 1998)
Member languages and subclassification (Voorhoeve 1968, Voorhoeve 1975a):

Boazi

- **Kuni-Boazi [kvg]**
- **Zimakani [zik]**

Nuclear Marindic

- **Bian Marind [bpv]**
- **Marind [mrz]**

Yaqayic

- **Warkay-Bipim [bgv]**
- **Yaqay [jaq]**

Masep

See Clouse et al. (2002).
Member languages and subclassification:

Massep [mvs]

Mawes

See Hammarström (2010a).
Member languages and subclassification:

Mawes [mgk]

Maybrat

See Berry and Berry (1987a), Klamer et al. (2008), Reesink (2005b).
Member languages and subclassification:

Mai Brat [ayz]

Karon Dori [kgw]

Molof

See Voorhoeve (1971).
Member languages and subclassification:

Molof [msl]

Mombum

See Voorhoeve (1975a:396-398). Comment: Pronouns do not match sufficiently well for an immediate Trans New Guinea affiliation, and apart from this, there are only capricious lexical similarities to other families (Voorhoeve 1975a:396-398). Internally, Koneraw and Mombum (aka Komelom) can be seen to be related from the basic vocabulary correspondences in Geurtjens (1933).
Member languages and subclassification:

Koneraw [kdw]

Mombum [mso]

Mor

See Voorhoeve (1975a). Comment: Evidence for inclusion in Trans New Guinea is weak (Voorhoeve 1975a:431), both lexically and pronominally.
Member languages and subclassification:

Mor (Bomberai Peninsula) [moq]

Moraori

See Wurm (1975a). Comment: Wurm's arguments (Wurm 1975a:327-335) for a Trans-Fly assignment are not convincing as the only argument appears to be unreliable lexico-statistical calculations.
Member languages and subclassification:

Morori [mok]

Morehead-Wasur

See Wurm (1975a). Comment: Wurm's arguments (Wurm 1975a:327-335) appear to be unreliable lexicostatics and typological features.
Member languages and subclassification (Döhler 2012, Donohue no date):

Kanum

- **Ngkâlmpw Kanum [kcd]**
- **Bädi Kanum [khd]**
- **Sota Kanum [krz]**
- **Smärky Kanum [kxq]**

Morehead-Maro

- **Nambu**
  - **Namo [mxw]**
  - **Nambo [ncm]**
  - **Neme [nex]**
  - **Namat [nkm]**
  - **Nama (Papua New Guinea) [nmx]**
  - **Nen [nqn]**
- **Tonda**
  - **Wara-Kancha**
    - **Kunja [pep]**
    - **Wára [tci]**
  - **Blafe [bfh]**
  - **Rema [bow]**
  - **Guntai [gnt]**
  - **Arammba [stk]**
- **Yei [jei]**

Mpur

See Klamer et al. (2008), Reesink (2005b).
Member languages and subclassification:

Mpur [akc]

Namla-Tofanma

See Hammarström (2010b).
Member languages and subclassification:

Namla [naa]

Tofanma [tlg]

Ndu

See Aikhenvald (2008b). Comment: The Ndu languages do not show cognate gender markers with Sepik while the pronouns show some amount of resemblance (Foley 2005:126-139). However, with the extant variety of pronoun forms with the Sepik languages, it is difficult to ascertain beyond-chance relationships. The best resemblance is with Kwoma but there is detailed refutation of the evidence so far presented that Ndu is related to Kwoma-Kwanga (or the rest of Sepik) (Aikhenvald 2008b). Yerakai shares no significant lexical relations with any Sepik language (Conrad and Dye 1975:14), except Ndu (Laycock 1973:23), but these are arguably loans from the adjacent Iatmul (as of intermarriage) (Conrad and Dye 1975:14) (Aikhenvald 2008a).
Member languages and subclassification (P.c. Timothy Usher Jan 2012):

Nuclear Ndu

Ambulas-Hanga-Hundi

Ambulas [abt]
Hanga Hundi [wos]

Bundi-Gaikundi

Burui [bry]
Gaikundi [gbf]

Koiwat-Boikin

Boikin [bzf]
Koiwat [kxt]

Manambu-Sengo

Manambu [mle]
Sengo [spk]

Sawos ?

Iatmul [ian]
Keak [keh]
Sos Kundi [sdk]

Yelogu [ylg]

Ngala [nud]

Nimboran

See Foley (2000).
Member languages and subclassification (Voorhoeve 1975a:421):

Gresi-Kemtuik Fautngil (2009)

Gresi [grs]

Kemtuik [kmt]

Mlap [kja]

Mekwei [msf]

Nimboran [nir]

North Bougainville

See Dunn et al. (2002), Terrill (2002), Robinson (2011:17-24).
Member languages and subclassification (Robinson 2011:17-24):

Keriaka

Ramopa [kjx]

Rapoisi

Rapoisi [kyx]

Rotokas-Askopan

Askopan [eiv]
Rotokas [roo]

North Halmahera

See Klamer et al. (2008), Reesink (2005b), Voorhoeve (1987, 1989), Wada (1980).
Member languages and subclassification (Taber 1996, Voorhoeve 1987):

Northern North Halmahera

Kao-Modole

Kao [kax]
Modole [mqo]

Laba-Loloda

Laba [lau]
Loloda [loa]

Sahuan

Gamkonora [gak]
Ibu [ibu]
Sahu [saj]
Waioli [wli]

Ternatean

Ternate [tft]
Tidore [tvo]

Tobelo-Tugutil

Tobelo [tlb]
Tugutil [tuj]
Galela [gbi]
Pagu [pgu]
Tabaru [tby]

West Makian [mqs]

Nuclear Torricelli

See Crowther (2001), Foley (2000), Sanders and Sanders (1980). Comment: No evidence for the Bogia (Monumbo) languages being related to other Torricelli languages was ever presented (Laycock 1975c). The low lexicostatistical figures from Wom [wmo] (Glasgow and Loving 1964:8) notwithstanding, inspection of Wom lexicon shows many obvious correspondences with Arapesh and Kombio (I wish to thank Tim Usher and Matthew Dryer for convincing me of this).
Member languages and subclassification (Laycock 1975c):

Arapesh Nekitel (1985:39)

Mufian-Bukiyip-Abu

Bukiyip-Abu
Abu' Arapesh [aah]
Bukiyip [ape]
Mufian [aoj]

Bumbita Arapesh [aon]

Kombio-Yambes Glasgow and Loving (1964)

Torricelli-Kombio

Torricelli [tei]
Kombio [xbi]

Unclassified Kombio-Yambes

Aruek [aur] Laycock (1973:14)
Wom (Papua New Guinea) [wmo] Glasgow and Loving (1964:8)

Yambes [ymb]

Marienberg Sanders and Sanders (1980)

Elepi-Kamasau-Marienberg

Elepi [ele]
Kamasau [kms]
Urimo [urx]

Mandi-Muniwara

Juwal [mwb]
Wiarumus [tua]

Bungain [but]

Buna [bvn]

Nuclear Maimai Hutchinson (1981:130), Laycock (1968:48)

Heyo-Yahang

Heyo [auk]
Yahang [rhp]

Siliput [mkc]

Wapei-Palei

Au-Olo-Elkei Laycock (1968:48)

Olo-Elkei Laycock (1975c:768)

Elkei [elk]
Olo [ong]

Au [avt]

Bragat-Aruop-Amol Laycock (1968:48) and p.c. Jennifer Wilson

Amol [alx]
Bragat [aof]
Aruop [lsr]

Halu-Ahi-Yeri Laycock (1968:48) and p.c. Jennifer Wilson

Ahi-Yeri

Agi [aif]
Yeri [yev]

Halu

Alu-Sinagen [dia]
Galu [siu]

Ningil-Yil Laycock (1975c:768)

Ningil [niz]
Yil [yll]

Unclassified Wapei-Palei

Eitiep [eit] Despite Laycock (1968:41) recent data collected by Matthew Dryer suggests that Eitiep is a Wapei-Palei language

Gnau [gnu] Laycock (1973)

Urim [uri] Some lexical evidence favours a Wapei-Palei affiliation Laycock (1968:48), Glasgow and Loving (1964:8) and ablaut distinctions for realis-irrealis are shared with Srenge Walman and Yeri making a good case for relatedness to Wapei-Palei (p.c. Matthew Dryer 2012)

Yangum-Ambrak

Ambrak [aag]
Yangum Dey [yde]
Yangum Gel [ygl]
Yangum Mon [ymo]

Yau-Yis Laycock (1975c:768)

Yis [yis]
Yau (Sandaun Province) [yyu]

Nabi [mty] Laycock (1968:48)

Valman [van]

Minidien [wii] Laycock (1968:48)

Wanap [wnp] Laycock (1968:48)

West Wapei Crowther (2001)

One

Central-Northern One
Molmo One [aun]
Inebu One [oin]
Kabore One [onk]
Northern One [onr]
Kwamtim One [okk]
Southern One [osu]

Seti [sbi]

Seta [stf]

Beli (Papua New Guinea) [bey] Cooper (1981:153), Laycock (1968:48)

Laeko-Libuat [lkl] Cooper (1981:153)

Urat [urt] Glasgow and Loving (1964), Laycock (1968:48) I have not been able to reproduce the lexicostatistical figures from Laycock for making Urat a Wapei-Palei language specifically

Nuclear Trans New Guinea

See Foley (2000), Suter (1997), Pawley (2005). Comment: Includes Finisterre-Huon (Suter 2010, 2012), Irian Highlands (Dani and Paniai Lakes subgroups) (Foley 2000), Madang (Daniels 2010, Foley 2000), Ok (Foley 2000), Awyu-Dumut (Foley 2000), Asmat-Kamoro (de Vries 2010, Voorhoeve 2005), Oksapmin together with Ok (Loughnane and Fedden 2011), Binanderean (Smallhorn 2010) (Smallhorn 2011), Eastern Highlands (Xiao 1990), Mek (Heeschen 1978, 1992), probable members Engan (Foley 2000), Chimbu (Foley 2000). See also (Pawley 1995:97) and (Ross 1995:146) (Daniels 2010) for re-subgrouping of a few languages. The Bikaru-Bragge wordlist in Conrad and Lewis (1988)

presumably represents the Pikaru dialect of Bisorio (an Engan language) despite the divergence of the two, since the body part terms agree and the elicitation sessions were monolingual.
Member languages and subclassification:

Asmat-Awyu-Ok Voorhoeve (2005)

- **Asmat-Kamoro**
  - **Asmat** Voorhoeve (1980)
    - **Central-Yaosakor Asmat**
      - **Yaosakor Asmat [asy]** Voorhoeve (1980)
      - **Central Asmat [cns]**
    - **Citak Asmat**
      - **Diuwe [diy]** Van Arsdale (Peter)
      - **Tamnim Citak [tml]** Voorhoeve (1980)
      - **Citak [txt]**
    - **Casuarina Coast Asmat [asc]**
    - **Momogo-Pupis-Irogo [nks]**
  - **Sabakor**
    - **Buruwai [asi]** Anceaux (1958)
    - **Kamberau [irx]**
  - **Kamoro [kgq]**
  - **Sempan [xse]**
- **Greater Awyu** de Vries et al. (2012)
  - **Awyu-Dumut**
    - **Awyu ?** and Tim Usher p.c. Apr 2013
      - **Central and West Awyu**
        - **Mappi-Digul Awyu**
          - **Aghu [ahh]**
          - **Central Awyu [awu]**
        - **Asue Awyu [psa]**
        - **North Awyu [yir] ?**
      - **Southeast Awyu**
        - **Kia River Awyu [awv]**
        - **Edera Awyu [awy]**
      - **South Awyu [aws]**
    - **Dumut**
      - **Ketum-Wambon**
        - **Ketum [ktt]**
        - **Wambon [wms]**
      - **Mandobo**

- **Mandobo Atas [aax]**
- **Mandobo Bawah [bwp]**

Ndeiram

- **Kombai [tyn]**
- **Wanggom [wng]**

Unclassified Awyu-Dumut

- **Sawi [saw]** Voorhoeve (1975b)

Becking-Dawi

Tsakwambo-Komyandaret

- **Tsaukambo [kvz]**
- **Komyandaret [kzv]**

Korowai [khe]

Ok-Oksapmin Loughnane and Fedden (2011)

Ok

Kwer-Kopkaka-Burumakok

Kwer-Burumakok

- **Burumakok [aip]** Wilbrink (2004a)
- **Kwer [kwr]** Wilbrink (2004a)

Kopkaka [opk] Wilbrink (2004b)

Lowland Ok Healey (1964)

- **Iwur = Dintere [iwo]** Brongersma and Venema (1960)
- **North Muyu [kti]**
- **South Muyu [kts]**
- **Ninggerum [nxr]**
- **Yonggom [yon]**

Mountain Ok Healey (1964)

Mianic Fedden (2011)

- **Mian [mpt]**
- **Suganga [sug]**

Bimin [bhl]

Faiwol [fai]

Setaman [stm]

Tifal [tif]

Telefol [tlf]

Urapmin [urm]

Tangko-Nakai Hughes (2009), Wilbrink (2004a)

- **Nakai [nkj]**
- **Tangko [tkx]**

Ngalum [szb] Healey (1964)

Oksapmin [opm]

Chimbu-Wahgi Capell (1962:105-128)

Hagen Capell (1962:105-128), Shafer (1965:370-372)

Aua-Gawil

Imbongu [imo]

Umbu-Ungu [ubu]

Melpa-Tembagla

Melpa [med]

Bo-Ung [mux]

Jimi Cook (1966)

Kandawo-Narak

Kandawo [gam]

Narak [nac]

Maring [mbw]

Simbu Tida (2011, 2012)

Chuave-Nomane

Chuave [cjv]

Nomane [nof]

Nuclear Simbu

Golinic

Golin [gvf]

Salt-Yui [sll]

Sinasina [sst]

Kuman-Dom-Gunaa

Dom [doa]

Kuman [kue]

Wahgic Capell (1962:105-128)

Nii [nii]

Wahgi [wgi]

North Wahgi [whg]

Dani Larson (1977)

Central Dani

Grand Valley Dani

Upper Grand Valley Dani [dna]

Lower Grand Valley Dani [dni]

Mid Grand Valley Dani [dnt]

Hupla [hap] Silzer and Heikkinen-Clouse (1991), Bromley (1967)

Pyramid-Swart Valley

Western Dani [dnw]

- **Walak [wlw]**
- **Ngalik-Nduga**
  - **Yalic** Fahner (1979:3)
    - **Ninia Yali [nlk]** Wilson (1986)
    - **Pass Valley Yali [yac]** Voorhoeve (1975a)
    - **Angguruk Yali [yli]**
  - **Nduga [ndx]**
  - **Silimo [wul]**
- **Nggem [nbq]** Etherington (2002)
- **Wano [wno]**

Enga-Kewa-Huli Franklin (1975a)

- **Engan**
  - **Outer Enga** Conrad and Lewis (1988), Davies and Comrie (1985)
    - **Bisorio [bir]**
    - **Nete [net]**
  - **Enga [enq]**
  - **Ipili [ipi]**
  - **Kyaka [kyc]**
  - **Lembena [leq]**
- **Kewa-Huli** Franklin (1997)
  - **Sau-Angal-Kewa** Franklin (1968)
    - **Angal-Kewa**
      - **Angal Mendi**
        - **Angal [age]**
        - **Angal Heneng [akh]**
        - **Angal Enen [aoe]**
      - **Kewa**
        - **West Kewa [kew]**
        - **East Kewa [kjs]**
        - **Erave [kjy]**
    - **Samberigi [ssx]**
  - **Huli [hui]**

Finisterre-Huon Suter (2012)

- **Finisterre-Saruwaged**
  - **Erap**
    - **Boana** Hooley and McElhanon (1970:1072-1073)
      - **Nek-Nuk** Retsema et al. (2009:7)
        - **Nek [nif]**

Nuk [noc]
Mungkip [mpv] Retsema et al. (2009)
Nakama [nib]
Numanggang [nop]
Finungwan-Mamaa-Gusan Hooley and McElhanon (1970:1073)
Finongan [fag]
Gusan [gsn]
Mamaa [mhf]
Sauk-Nimi Hooley and McElhanon (1970:1073)
Nimi [nis]
Sauk [skc]
Uri [uvh]
Gusap-Mot ?:45
Gira-Neko-Nekgini
Madi [grg]
Neko [nej]
Nekgini [nkg]
Ufim-Rawa-Nahu
Iyo [nca]
Rawa [rwo]
Ufim [ufi]
Unclassified Gusap-Mot
Ngaing [nnf]
Uruwa ?:44
Sakam-Som
Sakam [skm]
Som [smc]
Unclassified Uruwa
Weliki [klh]
Nukna [klt]
Yau (Morobe Province) [yuw]
Wantoatic
Wantoat-Awara Hooley and McElhanon (1970:1074)
Awara [awx]
Wantoat [wnc]
Tuma-Irumu [iou]
Warup
Molet-Asaroo ?
Molet [-]
Asaro'o [mtv]

- **Muratayak [asx]**
- **Bulgebi [bmp]**
- **Gwahatike [dah]**
- **Degenan [dge]**
- **Forak [frq]**
- **Guya [gka]**
- **Yagomi [ygm]**

Yupna

- **Bwana-Moam-Tapen**
  - **Domung [dev]**
  - **Ma (Papua New Guinea) [mjn]** Z'graggen (1975:9)
- **Kewieng-Bonkiman-Nokopo** Hooley and McElhanon (1970:1074)
  - **Bonkiman [bop]**
  - **Yopno [yut]**
- **Unclassified Yupna**
  - **Yout Wam [ytw] ?**
- **Nankina [nnk]**

Huon

Eastern Huon

- **Kate-Mape-Sene**
  - **Kâte [kmg]** McElhanon (1967:7)
  - **Mape [mlh]** McElhanon (1967:7)
  - **Sene [sej]** Hooley and McElhanon (1970:1069)
- **Momare-Migabac** Hooley and McElhanon (1970:1070)
  - **Migabac [mpp]**
  - **Momare [msz]**
- **Tobo-Kube** Hooley and McElhanon (1970:1070)
  - **Kube [kgf]**
  - **Tobo [tbv]**
- **Dedua [ded]**
- **Kovai [kqb]**

Western Huon

- **Kinalakna-Kumukio** Hooley and McElhanon (1970:1071)
  - **Kinalakna [kco]**
  - **Kumukio [kuo]**
- **Kosorong-Burum-Mindik** Hooley and McElhanon (1970:1070)
  - **Burum-Mindik [bmu]**
  - **Borong [ksr]**
- **Nabak-Momolili** Hooley and McElhanon (1970:1071)
  - **Mese [mci]**

- **Nabak [naf]**
- **Timbe-Selepet-Komba** McElhanon (1967)
  - **Selepet-Komba**
    - **Komba [kpf]**
    - **Selepet [spl]**
  - **Timbe [tim]**
- **Nomu [noh]**
- **Ono [ons]**
- **Sialum [slw]**

Greater Binanderean Smallhorn (2011)

- **Binanderean**
  - **North Binanderean**
    - **Suena [sue]**
    - **Zia [zia]**
  - **Nuclear Binanderean**
    - **Binandere-Ambasi**
      - **Binandere [bhg]**
    - **South Binanderean**
      - **Coastal Binanderean**
        - **Baruga-Doghoro**
          - **Baruga [bjz]**
          - **Doghoro [dgx]**
        - **Gaena-Korafe**
          - **Gaina [gcn]**
          - **Korafe-Yegha [kpr]**
        - **Ewage-Notu [nou]**
      - **Orokaivic**
        - **Aeka [aez]**
        - **Hunjara-Kaina Ke [hkk]**
        - **Orokaiva [okv]**
  - **Yekora [ykr]**
- **Guhu-Samane [ghs]**

Kainantu-Goroka Xiao (1990), Foley (1986:245-257)

- **Goroka** Foley (1986:236-237), Capell (1949), Haiman (1987), Capell (1962:105-128)
  - **Gahuku** Deibler (2008)
    - **Dano [aso]**
    - **Alekano [gah]**

Tokano [zuh]

Gende-Isabi

Gende [gaf]

Isabi [isa] Pawley (2005:93), Ross (1995:146) and Tim Usher p. c.

Kamano-Yagaria Wurm and Laycock (1962)

Abaga [abg] Pace Tupper (2007a) and McElhanon (1975:543) lower numerals Lean (1986:27-29) and other items of basic vocabulary look similar to their Eastern Highlands counterparts especially with in the Kamano-Yagaria group

Inoke-Yate [ino]

Kamano [kbq]

Kanite [kmu]

Keyagana [kyg]

Yagaria [ygr]

Benabena [bef]

Fore [for]

Gimi (Eastern Highlands) [gim]

Siane [snp]

Yaweyuha [yby]

Kainantu McKaughan (1964)

Gauwa

Auyana

Kosena-Awiyaana Marks (1974), McKaughan (1964)

Awiyaana [auy]

Kosena [kze]

Usarufa [usa]

Awa-Oweina

Awa (Papua New Guinea) [awb]

Oweina [wsr] Gajdusek (1980), Lloyd (1973b) p.c. Tim Usher 2012

Gadsup-Agarabi

Agarabi [agd]

Gadsup [gaj]

Tairora

Binumarien [bjr] Bee (2008)

Kambaira [kyy] Wurm and Laycock (1962:138)

South Tairora [omw]

North Tairora [tbg]

Waffa [waj] Hotz and Stringer (1979)

Kenati [gat] Gajdusek (1980), Lloyd (1973b) p.c. Tim Usher 2012

Madang Pawley (2005), Pawley (2013)

- **Croisilles**
  - **Amaimon**
    - **Amaimon [ali]**
  - **Dimir-Malas**
    - **Dimir [dmc]**
    - **Malas [mkr]**
  - **Kumilan**
    - **Bepour [bie]**
    - **Brem [buq]**
    - **Mauwake [mhl]**
    - **Musar [mmi]**
    - **Moere [mvq]**
  - **Mabuso** Z'graggen (1980a)
    - **Gum**
      - **Panim-Isebe**
        - **Isebe [igo]**
        - **Panim [pnr]**
      - **Amele [aey]**
      - **Bau [bbd]**
      - **Gumalu [gmu]**
      - **Sihan [snr]**
    - **Hanseman**
      - **Silopi-Utu**
        - **Utu [utu]**
        - **Silopi [xsp]**
      - **Wamas-Samosa-Murupi-Mosimo**
        - **Mosimo [mqv]**
        - **Murupi [mqw]**
        - **Samosa [swm]**
        - **Wamas [wmc]**
      - **Baimak [bmx]**
      - **Bagupi [bpi]**
      - **Wagi [fad]**
      - **Gal [gap]**
      - **Nobonob [gaw]**
      - **Garus [gyb]**
      - **Mawan [mcz]**
      - **Matepi [mqe]**
      - **Nake [nbk]**
      - **Rempi [rmp]**

- **Rapting [rpt]**
- **Saruga [sra]**
- **Yoidik [ydk]**

Kare

- **Kare (Papua New Guinea) [kmf]**

Kokon

- **Girawa [bbr]**
- **Kein [bmh]**
- **Munit [mtc]**

Mugil-Kaukombaran

Kaukombaran Z'graggen (1980b)

- **Mala (Papua New Guinea) [ped]**
- **Miani [pla]**
- **Maia [sks]**
- **Maiani [tnh]**

Bargam [mlp]

Numugenan

Yaben-Bilakura Z'graggen (1975:23)

- **Bilakura [bql]**
- **Yaben [ybm]**

Yarawata-Parawen-Ukuriguma Z'graggen (1975:23)

- **Parawen [prw]**
- **Ukuriguma [ukg]**
- **Yarawata [yrw]**

Usan [wnu]

Tibor-Omosa

Omosan

- **Pal [abw]**
- **Kobol [kgu]**

Tiboran

- **Pamosu [hih]**
- **Mawak [mjj]**
- **Wanambre [wnb]**
- **Kowaki [xow]**

Kalamic-South Adelbert Pawley and Bulmer (2011:23)

Kalam-Kobon Pawley and Bulmer (2011:20-23)

Etp-Ti Kalam

- **Kalam [kmh]**
- **Tai [taw]**

Kobon [kpw]

- **South Adelbert** Daniels (2010)
  - **Osum-Wadaginam-Pomoikan**
    - **Pomoikan**
      - **Anamuxra [imi]**
      - **Moresada [msx]**
      - **Anam [pda]**
    - **Utarmbung [omo]**
    - **Wadaginam [wdg]**
  - **Sogeram** Daniels (2010)
    - **Central Sogeram**
      - **North Central Sogeram**
        - **Mum [kqa]**
        - **Sirva [sbq]**
      - **South Central Sogeram**
        - **Apali [ena]**
        - **Manat [pmr]**
    - **East Sogeram**
      - **Kulsab [faj]**
      - **Aisi [mmq]**
    - **West Sogeram**
      - **Nend [anh]**
      - **Atemble [ate]**
  - **Unclassified South Adelbert**
    - **Gants [gao]** Pawley and Bulmer (2011:23)
- **Rai Coast**
  - **Evapia**
    - **Asas-Sinsauru** Z'graggen (1975:13)
      - **Asas [asd]**
      - **Sinsauru [snz]**
    - **Kesawai-Sausi** Z'graggen (1975:13)
      - **Sausi [ssj]**
      - **Kesawai [xes]**
    - **Dumpu [wtf]**
  - **Kabenau**
    - **Arawum [awm]**
    - **Kolom [klm]**
    - **Lemio [lei]**
    - **Pulabu [pup]**
    - **Siroi [ssd]**
  - **Mindjim**

Anjam [boj]
Bongu [bpu]
Male (Papua New Guinea) [mdc]
Sam [snx]

Nuru
Duduela [duk]
Ogea [eri]
Jilim [jil]
Kwato [kop]
Rerau [rea]
Uya [usu]
Yangulam [ynl]

Peka
Danaru [dnr]
Sumau [six]
Urigina [urg]
Sop [urw]

Unclassified Rai Coast
Biyom [bpm]
Wasembo [gsp]
Tauya [tya] Pawley (2001)

Yaganon
Bai-Maclay [-]
Dumun [dui]
Ganglau [ggl]
Saep [spd]
Yabong [ybo]

Unclassified Madang

Kowan Z'graggen (1971)
Korak [koz]
Waskia [wsk]

Mek Heeschen (1978), Heeschen (1992)

Eastern Mek
Eipomek [eip]
Una [mtg]
Ketengban [xte]

Western Mek
Kosarek Yale [kkl]
Korupun-Sela [kpq]

Nalca [nlc]
Nipsan [nps]

Paniai Lakes Moxness (2002:6-7)

Auye-Dao

Auye [auu]
Dao [daz]

Ekari [ekg]

Moni [mnz]

Wolani [wod]

Pahoturi

See Wurm (1975a). Comment: Wurm's arguments (Wurm 1975a:327-335) appear to be unreliable lexicostatics and typological features.
Member languages and subclassification:

Idi [idi]

Agob [kit]

Papi

See Conrad and Dye (1975), Conrad and Lewis (1988), Laycock and Z'Graggen (1975). Comment: Typological arguments are not sufficient to conclude a Leonard Schultze family with Walio (Laycock and Z'Graggen 1975). The lexical evidence does not show any conclusive genetic relationship either, be it inside or outside Leonard Schultze (Conrad and Dye 1975), or with Duranmin Conrad and Lewis (1988) (a higher figure (29%) of Papi-Duranmin lexicostatistical relations quoted by Laycock earlier, is superseded by the later, below 10%, figures of Conrad and Lewis).
Member languages and subclassification:

Papi [ppe]

Pauwasi

See Voorhoeve (1971). Comment: Karkar-Yuri is an Eastern Pauwasi language as is evident by inspection of wordlists. Occasional Pauwasi lexical items and pronoun forms show TNG likeness (**?**:155-156), (Voorhoeve 1975a:418-419), but are not sufficient to conclude a relationship.
Member languages and subclassification (Voorhoeve 1971):

Eastern Pauwasi

Emumu [enr]
Yafi [wfg]

Karkar-Yuri [yuj]

Western Pauwasi

Dubu [dmu]

Towei [ttn]

Pawaia

See Trefry (1969). Comment: Despite vocabulary cognacy of 5% or so, Pawaia was included in Trans-New-Guinea because of pronoun resemblances to Kuman and on typological similarities. The typological similarities involve function only (Trefry 1969), and thus count for nothing. The pronoun resemblances do not generalize to the Chimbu family (Foley 1986:69-71) and match only an *n* anyway, so they are better accounted for as accidental similarities than deep relationship.
Member languages and subclassification:

Pawaia [pwa]

Piawi

See Comrie (1988, 1992).
Member languages and subclassification:

Pinai-Hagahai [pnn]

Haruai [tmd]

Porome

See Franklin (1975b). Comment: The suggestion of a Kiwai affiliation is based on pronouns only (Ross 2005).
Member languages and subclassification:

Kibiri [prm]

Purari

See Brown (1973).
Member languages and subclassification:

Purari [iar]

Pyu

See Conrad and Dye (1975). Comment: Laycock never presented evidence for a Kwomtari-Baibai-Pyu family (Laycock 1975b).
Member languages and subclassification:

Pyu [pby]

Sause

See Hammarström (2010b).
Member languages and subclassification:

Sause [sao]

Savosavo

See Dunn and Terrill (2012), Terrill (2006).
Member languages and subclassification:

Savosavo [svs]

Senagi

See de Sousa (2006).
Member languages and subclassification:

Angor [agg]

Dera (Indonesia) [kbv]

Sentanic

See Cowan (1952), Hartzler and Gregerson (1987). Comment: The relation of Sentani-Nafri-Tabla (SNT) to Demta is best argued in Cowan (1952:161-163), see also (Cowan 1957), and can be verified with the subsequent SNT phonological reconstruction (Hartzler and Gregerson 1987) and the longer wordlists in Smits and Voorhoeve (1994).
Member languages and subclassification (Hartzler and Gregerson 1987):

Demta

Demta [dmy]

Nuclear Sentanic

Nafri [nxx]

Sentani [set]

Tabla [tnm]

Sepik

See Foley (2005), Foley (2013), Conrad and Dye (1975). Comment: Includes Abau, Yellow River, Iwam, Ram (Pouye, Karawa, Awtuw), Wogumusin-Chenapian, Tama, Kwoma-Kwanga (Kwoma, Kwanga, Mende), Sepik Hill for which the pronouns, gender markers as well as dative, locative marker and benefactive verb are largely cognate (Foley 2005:126-139) and/or there are significant lexical relations (Conrad and Dye 1975:12-14). The Ndu languages do not show cognate pronouns or gender markers, and there is there

is a detailed refutation of the evidence so far presented that Ndu is related to Kwoma-Kwanga (or the rest of Sepik) (Aikhenvald 2008b). Yerakai shares no significant lexical relations with any Sepik language (Conrad and Dye 1975:14), except Ndu (Laycock 1973:23), but these are arguably loans from the adjacent Iatmul (as of intermarriage) (Conrad and Dye 1975:14). No other argument for a Sepik affiliation in offered (Laycock and Z'Graggen 1975:738) and Yerakai is not mentioned in Foley's re-consideration of the Sepik family (Foley 2005). Similarly, there is no evidence that Biksi is Sepik since nothing significant was presented (Laycock and Z'Graggen 1975) and the lexical evidence does not warrant it (Conrad and Dye 1975). The Bikaru-Bragge wordlist in Conrad and Lewis (1988) presumably represents the Pikaru dialect of Bisorio (an Engan language) despite the divergence of the two, since the body part terms agree and the elicitation sessions were monolingual.
Member languages and subclassification (Laycock and Z'Graggen 1975):

Abau

- **Abau [aau]**

Amal

- **Amal [aad]** Foley (2013)

Iwam-Wogamus Foley (2013)

- **Iwamic**
  - **Iwam [iwm]**
  - **Sepik Iwam [iws]**
- **Wogamusin-Chenapian**
  - **Chenapian [cjn]**
  - **Wogamusin [wog]**

Nukuma

- **Kwanga-Mende**
  - **Kwanga [kwj]**
  - **Mende (Papua New Guinea) [sim]**
- **Kwoma [kmo]**

Ram Laycock (1968:48)

- **Pouye [bye]**
- **Awtuw [kmn]**
- **Karawa [xrw]**

Sepik Hill Conrad and Lewis (1988), Dye et al. (1968)

- **Central Sepik Hill**
  - **Bahinemic**

- **Nigilu [-]** Dye and Dye (2012:38)
- **Wagu [-]** Dye and Dye (2012:38)
- **Berinomo [bit]** Dye et al. (1968)
- **Bahinemo [bjh]**

Nuclear Central Sepik Hill

- **Kapriman-Watakataui**
  - **Kapriman [dju]**
  - **Watakataui [wtk]**
- **Bisis [bnw]**
- **Mari (East Sepik Province) [mbx]**
- **Sumariup [siv]**

Eastern Sepik Hill

- **Alamblak [amp]**
- **Kaningra [knr]**

Western Sepik Hill

- **Hewa-Paka**
  - **Niksek [gbe]**
  - **Hewa [ham]**
  - **Piame [pin]**
- **Saniyo-Hiyewe [sny]**

Sepik Tama

- **Mayo-Pasi** Hutchinson (1981:128)
  - **Yimin-Bel** Hutchinson (1981:126)
    - **Ayi (Papua New Guinea) [ayq]**
    - **Pasi [psq]**
    - **Kalou [ywa]** Hutchinson (1981:123)
  - **Yessan-Mayo [yss]**
- **Mehek-Pahi** Hutchinson (1981:128, 130), Laycock (1968:48)
  - **Pahi [lgt]**
  - **Mehek [nux]**

Yellow River

- **Ak [akq]**
- **Auwon [aww]**
- **Namia [nnm]**

Sko

See Donohue (2002).
Member languages and subclassification (Donohue 2002, Donohue and Crowther 2005, Donohue and San Roque 2002):

Skou-Serra-Piore

- **Nuclear Skou-Serra-Piore**
  - **Skou [skv]**
  - **Vanimo [vam]**
  - **Wutung [wut]**
- **Serra Hills**
  - **Rawo-Main Serra**
    - **Nori [-]**
    - **Womo-Sumararu [-]**
    - **Rawo [rwa]**
  - **Puare [pux]**
- **Warapu [wra]**

Krisa [ksi]

Somahai

See Voorhoeve (1975b). Comment: No obvious lexical or other significant links with Mek, Western Ok, Awyu-Dumut or Bayono-Awbono.
Member languages and subclassification:

Momina [mmb]

Momuna [mqf]

South Bird's Head Family

See Berry and Berry (1987b), Voorhoeve (1975a:437-446). Comment: Evidence for inclusion in Trans New Guinea is weak (Voorhoeve 1975a:437-446), especially lexically. The same can be said for a relation with Inanwatan, Konda-Yahadian and the older West Papuan affiliation (Berry and Berry 1987b).
Member languages and subclassification (Berry and Berry 1987b):

East South Bird's Head

- **Kemberano [bzp]**
- **Arandai [jbj]**
- **Kokoda [xod]**

Kais [kzm]

Puragi [pru]

Kaburi [uka]

South Bougainville

See Evans (2010).
Member languages and subclassification (Evans 2010, Onishi 2004):

Buin

Terei [buo]
Siwai [siw]
Uisai [uis]

Nasioi

Koromira [kqj]
Daantanai' [lni]
Naasioi [nas]
Sibe [nco]
Ounge [oue]
Simeku [smz]

Suki-Gogodala

See Foley (1986), Voorhoeve (1970).
Member languages and subclassification (Voorhoeve 1970):

Gogodalic

Ari [aac]
Gogodala [ggw]
Waruna [wrv]

Suki

Suki [sui]

Sulka

See Reesink (2005a).
Member languages and subclassification:

Sulka [sua]

Taiap

See Kulick (1992:61ff). Comment: Laycock's assignment to Sepik-Ramu was for mainly typological reasons (Laycock and Z'Graggen 1975:757) and cannot be said to constitute sufficient evidence for an affiliation to any Sepik-Ramu (sub-)family.
Member languages and subclassification:

Taiap [gpn]

Tambora

See Donohue (2007).
Member languages and subclassification:

Tambora [xxt]

Tanahmerah

See Ross (2005), Voorhoeve (1975a:424-431). Comment: Links with Mairasi are unconvincing lexically and pronominally (Voorhoeve 1975a:424-431).
Member languages and subclassification:

Tanahmerah [tcm]

Taulil-Butam

See Aikhenvald and Stebbins (2007:250), Ross (2001:311), Futscher (1959:17).
Member languages and subclassification:

Butam [-]

Taulil [tuh]

Teberan

See Wurm (1982). Comment: The suggested Pawaian relation is based on lexicostatistics and typological features (MacDonald 1973), while e.g. the pronouns do not match systematically (Wurm 1975b:501-504).
Member languages and subclassification:

Dadibi [mps]

Folopa [ppo]

Tirio

See Wurm (1975a). Comment: Wurm's arguments (Wurm 1975a:327-335) appear to be unreliable lexicostatics and typological features.
Member languages and subclassification:

Nuclear Tirio Jore and Alemán (2002)

- **Baramu-Were**
  - **Baramu [bmz]**
  - **Were [wei]**
- **Makayam [aup]**
- **Bitur [mcc]**

Abom [aob] Tupper (2007b)

Tor-Orya

See Ross (2005), Voorhoeve (1975a). Comment: The pronouns for Tor are not Trans New Guinea and other arguments have not been offered (Voorhoeve 1975a:413-414), nor are there any apparent relations in newer data published after Voorhoeve. Tor and Orya are unquestionably related (Fields 1991, Smits and Voorhoeve 1994).
Member languages and subclassification:

Orya

Orya [ury] Fields (1991)

Tor Oosterwal (1961)

Coastal Tor Lee and Wambaliau (2004)
Betaf-Vitou
Betaf [bfe]
Vitou [vto]
Bonerif [bnv]
Dabe [dbe]
Jofotek-Bromnya [jbr]
Keder [kdy]
Kwinsu [kuc]
Berik [bkl]
Itik [itx]
Kwesten [kwt]
Mander [mqr]
Maremgi [mrx] Lee and Wambaliau (2004)

Touo

See Dunn and Terrill (2012), Terrill (2006).
Member languages and subclassification:

Touo [tqu]

Turama-Kikori

See Foley (2000), Franklin (1973:263-267).
Member languages and subclassification (Franklin 1973:263-267):

Kairi

Rumu [klq]

Turama-Omatian

Ikobi-Mena [meb]
Omati [mgx]

Uhunduni

See Larson (1977). Comment: The cognation judgments involving Damal are warped in that a match is judged if at least one segment matches. Needless to say, this gives inconsistent sound correspondences. The lexicostatistic argument for relatedness is the only one offered so far, and apart from probable borrowings, I cannot find any cognates in vocabulary or morphology.
Member languages and subclassification:

Damal [uhn]

Usku

See Hammarström (2010b).
Member languages and subclassification:

Usku [ulf]

Waia

See Reesink (1976). Comment: (Wurm 1975a:325) claims that Waia is related to the Pahoturi languages but adduces no evidence and there is certainly nothing obvious that links the two. Pronouns were not explicitly examined (and perhaps not implicitly either) by Ross (Ross 2005) but, in any case, they do not match Pahoturi.
Member languages and subclassification:

Tabo [knv]

Walio

See Conrad and Dye (1975), Conrad and Lewis (1988), Laycock and Z'Graggen (1975). Comment: Typological arguments are not sufficient to conclude a Leonard Schultze family with Papi (Laycock and Z'Graggen 1975). The lexical evidence does not show any conclusive genetic relationship either, be it inside or outside Leonard Schultze (Conrad and Dye 1975, Conrad and Lewis 1988).
Member languages and subclassification (Conrad and Lewis 1988):

Pai-Sinen-Walio

- **Pei [ppq]**
- **Walio [wla]**

Tuwari [tww]

Yawiyo [ybx]

West Bird's Head

See Berry and Berry (1987a), Flassy (2002), Reesink (2005b, 2004), Voorhoeve (1987).
Member languages and subclassification (Berry and Berry 1987a):

Seget-Moi

Moi (Indonesia) [mxn]
Seget [sbg]

South West Bird's Head

Tehit [kps]
Kalabra [kzz]
Moraid [msg]

West Bomberai

See Voorhoeve (1975a:432-437). Comment: The inclusion of the poorly known Karas is best argued in Cowan (1953:33-36), with systematic correspondences in pronominals and a few items of basic vocabulary. Evidence for inclusion in Trans New Guinea is weak (Voorhoeve 1975a:432-437), both lexically and pronominally, cf. (Pawley 2005:94-95). Likewise, the East Timor/Alor comparisons in Hull (2004) are flimsy.
Member languages and subclassification (Voorhoeve 1975a:432-437):

Karas

Karas [kgv]

Nuclear West Bomberai

Baham [bdw]
Iha [ihp]

Wiru

See Kerr (1975). Comment: Wiru shares some cultural vocabulary and some typological features with Engan (Kerr 1975) but is otherwise very different (Franklin 1975a). I am indebted to Tim Usher for bringing to my attention how different Wiru actually is from Engan.
Member languages and subclassification:

Wiru [wiu]

Yalë (Nagatman)

See Laycock (1975a).
Member languages and subclassification:

Yale [nce]

Yareban

See Dutton (1975). Comment: Evidence for Trans New Guinea membership (Dutton 1975:624-631) (McElhanon and Voorhoeve 1970) or with other neighbouring families (Dutton 1975:624-631) is clearly insufficient, as the lexical links so far proposed are few and show irregular one-consonant correspondences.
Member languages and subclassification (Ray 1938, Dutton 1971):

Barijian

Bariji [bjc]

Nawaru [nwr]

Aneme Wake [aby]

Moikodi [mkp]

Yareba [yrb]

Yawa

See Foley (2000), Jones (1986).
Member languages and subclassification:

Saweru [swr]

Yawa [yva]

Yélî Dnye

See Levinson (2006).
Member languages and subclassification:

Yele [yle]

Yerakai

See Conrad and Dye (1975:14), Aikhenvald (2008a). Comment: Yerakai shares no significant lexical relations with any Sepik language (Conrad and Dye 1975:14), except Ndu (Laycock 1973:23), but these are arguably loans from the adjacent Iatmul (as of intermarriage) (Conrad and Dye 1975:14) (Aikhenvald 2008a). No other argument for a Sepik affiliation in offered (Laycock and Z'Graggen 1975:738) and Yerakai is not mentioned in Foley's re-consideration of the Sepik family (Foley 2005).
Member languages and subclassification:

Yerakai [yra]

Yuat

See Foley (2005, 2013), Laycock (1973). Comment: The family is assumed on lexical similarities hinted at by Laycock. What little data on Yuat that was available to Foley in connection with his demonstration of the Lower Sepik-Ramu family, it was not sufficient for a genetic relationship with Lower Sepik-Ramu. Sufficient argumentation for a relation with the Mongol-Langam languages is wanting (Laycock 1973).
Member languages and subclassification (Foley 2013, Laycock 1973):

Miyak-Bun-Biwat

Bun-Mundukumo

Bun [buv]
Biwat [bwm]

Kyenele [kql]

Changriwa [cga]

Mekmek [mvk]

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