

Vegetal names in the Ndu languages

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Introduction

For centuries the vast Sepik River Basin in Papua New Guinea has been a place of interaction where various migrant populations coming from the west have intermingled. They speak many languages having different origins. The Ndu family is the most important, and a number of Ndu languages are spoken in a large area extending from the banks of the Sepik River in the south to the sea in the north. The regions in which Ndu languages are spoken are surrounded by those in which other languages of diverse origins are spoken, especially Austronesian languages in the coastal zone. The peoples who speak Ndu languages have their own organisation and territory; they have developed an original architecture characterized by the use of vegetal materials and dominated by the construction of large community houses for men (Hauser-Schäublin, 1989; Coiffier, 1982).

The lands in which the Ndu speakers live have variable ecologies. The flora of the Sepik River banks and that of the hills are different in some respects. A comparison of the names of vegetals used by different peoples of the region may reveal contacts among them and may also shed light on their migratory patterns.

The purpose of this article is to compare the names in a number of languages spoken in the region, of about fifty vegetals of social and nutritional importance for the societies in which they are used. I collected a great many of these names during my four field trips¹ in PNG; the sources of the others are to be found in the text and bibliography. The international phonetic alphabet has not been used for the transcriptions for several reasons. Ethnologists are rarely trained as linguists and botanists. Indeed, the transcriptions of the names of some ambiguously identified species frequently differ depending on the mother tongue of the ethnologist. In the field, moreover, the pronunciation of vegetal names is often variable depending on the age and family origin (mother and father's respective villages) of the informant.

¹ My material concerning vegetal names was collected during field trips in PNG: the first in 1980 which I financed myself; the second in 1986 financed by a grant from the Research Department of the French National Education Ministry; the third in 1987 financed by grants from the Fyssen Foundation, the Research Department of the French National Education Ministry, and the Paris-La-Villette Architecture School; and the last financed by a subsidy from the Singer-Polignac Foundation. I wish to thank these institutions whose generosity allowed me to advance my research.

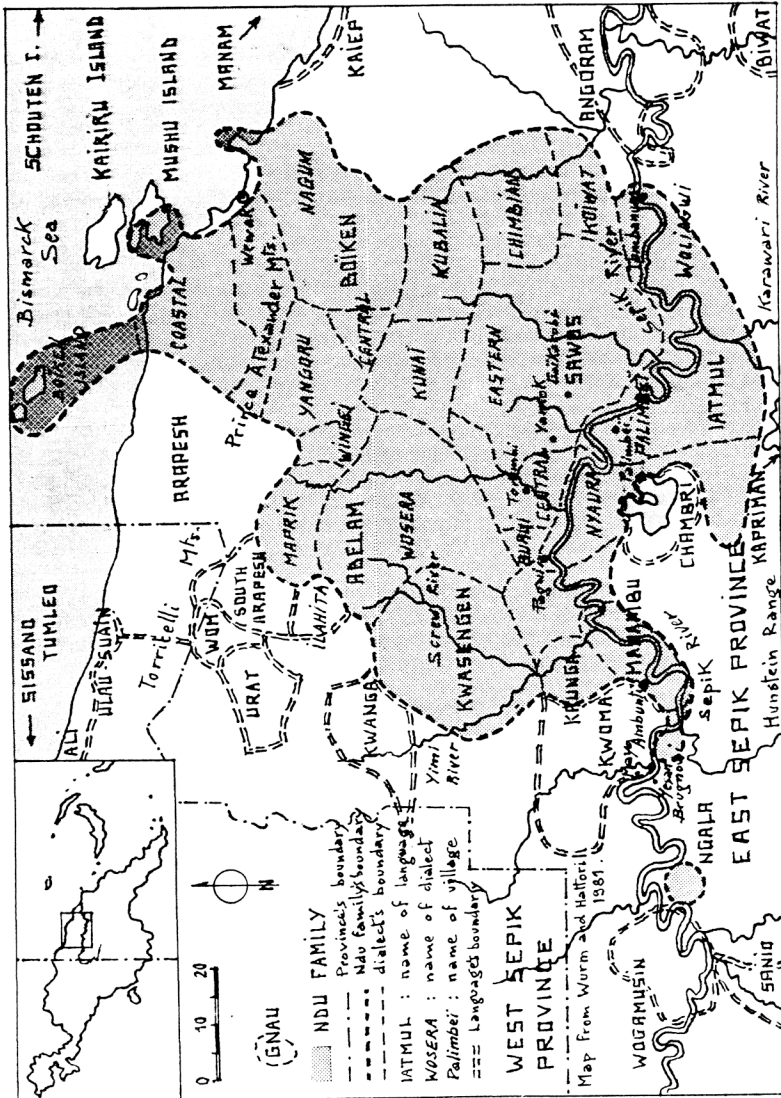


Figure 1. Map of the East-Sépiak Province with names in various local languages.

Certain words are pronounced differently even within the same village. Some names found in the bibliography are problematic because it is unsure that species cited in different languages by different authors are the same. This fact may be a source of error in a comparative study of this kind. For example, Aufenanger's works (1972 and 1979) contain many vernacular names that are not clearly identified.

The vegetals with which we shall be the most concerned are: the bamboo, the pandanus palm, the fig tree, the banana tree, the sugar cane, the yam, and the taro.

In this article I have used the names found in the Palimbeï dialect of the Iatmul language as a reference point because this is the language of the region in which I have done my basic work.

1. The Ndu Linguistic Family

The word *ndu* means 'man' in a number of Ndu languages. Laycock (1965: 185) chose this word in preference to *tuo*, which was previously used by Kirschbaum and which also means 'man', but only in the Boiken language. In 1965, Laycock singled out six languages as belonging to the Ndu family: Ngala, Boïken, Abelam, Yelogu, Manambu, and Iatmul; he added Sawos with reservations. After having mentioned (1973:27) the possibility of two distinct languages under the same appellation, Laycock decided to classify Sawos as an independent language in his list published in Wurm and Hattori's *Language Atlas*, 1981; also added to the list was the Kwasengen language that had been considered as a West-Wosera dialect of Abelam until Wilson demonstrated that it was an independent language in 1976. Thus, linguistically speaking, Kwasengen links Abelam, in the north, with Yelogu (Kaunga) and Manambu in the south. It is therefore possible today to consider that the Ndu family is made up of eight distinct languages (about 100,000 speakers in all).

The populations speaking these languages often inhabit very different ecological zones. The Ngala, the Manambu, and the Iatmuls live on the banks of the Sepik River. The Iatmuls (9,842 speakers)² inhabit about twenty villages, which are joined in alliance with Sawos villages, situated in the marshes to the north of the Sepik River. The Iatmul economy is based on fishing and large quantities of sago are consumed (Coiffier, 1993). The women exchange surplus fish for the sago produced by Sawos women.

The Manambu (2,058 speakers) live in the villages of Avatip, Malu, and Yambun, situated between Pagwi and Ambunti. As for the Iatmuls, fishing is a basic economic activity, but yam production is also important. The phonemes of Manambu are almost identical with those of Wosera (Laycock, 1965:120-130; Allen & Hurd, 1972:37-40).

² The number of speakers for all groups mentioned in this article is taken from Wurm and Hattori's *Atlas* (1981).

The Ngala—the smallest group: 136 speakers in 1965 (Wurm & Hattori, 1981)—all live in Swagup village, a half day's journey by pirogue from Ambunti. They maintain close relations with the peoples of the neighbouring villages of Mayo, Yesan, and Wogamush (Laycock, 1965:131-138).

The Kaunga (Yelogu), the Kwasengen, and the Abelam live in the hills and on the penplain that runs along the tributaries of the Sepik River. They are hunters and growers of tubers (yams, taros, and sweet potatoes). The Kaunga, or Yelogu, are a small group (250 speakers), now part of the Kwoma cultural community. The Manambu language, from Avatip village, has also had an important cultural influence on them. The Kaunga language is close to the Wosera dialect of Abelam. The phonemes are the same except for the absence of the η velar (Laycock, 1965:25-44). The Abelam (33,100 speakers) are concentrated around the city of Maprik in villages made up of numerous hamlets situated on the ridge lines of the Prince Alexander hills (Laycock, 1965:25-44). The Kwasengen territory is situated between the Yimi and Screw Rivers.

The Boikin or Boiken are the most numerous group (35,300 speakers) among the peoples who speak a Ndu language. They live to the east of the Abelam and to the north of the Iatmul. Their villages are established in the hills, on the plains, in the coastal regions, and on the islands. Like the Kaunga (Yelogu), the Kwasengen and the Abelam, the Boiken hunt, fish, and farm. Those who live closest to the coast are in contact with peoples, living in the Wewak region and the Kairiru Islands, who speak Austronesian languages. The importance of Boiken is difficult to evaluate because of the numerous dialects which are very similar to the non-Boiken languages spoken in neighbouring villages.

The Sawos territory is situated between the Abelam and the Boiken territories to the north and those of the Iatmul, the Manambu, and the Ngala to the south. The Sawos inhabit a vast swampy penplain that, according to some geographers, was deforested by men. The flora of this region is rather different from, and more diversified than, that of the Sepik River banks. The Sawos language, Tshuosh, (8,200 speakers), is special in that it has not been precisely situated in relation to the other Ndu languages. Sawos does, however, have affinities with Abelam, Nyaura and Yelogu (Laycock, 1965:186). Each Iatmul village is allied to a Sawos village with which it maintains such close commercial and matrimonial relations that the majority of the inhabitants of these villages are bilingual.

2. The Ndu Languages and Vegetal Names

The languages of the Ndu family are agglutinative. Staalsen has distinguished a dozen consonants and three vowels (fricatives, nasals, resonants) that vary according to their articulation in words. (Staalsen; 1966:69-70 & Laycock, 1984).

As with certain Southeast Asian peoples, vegetals are divided into three classes: trees, lianas, and herbs. In Iatmul, Sawos, Manambu and Ngala the generic name for tree is *mi*. In Iatmul and Ngala the generic names for liana are, respectively, *yambaï* and *yi*. The generic names for herb is *wara* in Abelam, *djai* in Ngala, and *yuwi* in Iatmul, Sawos, and Yangoru. The root *wi* to signify the herb *Imperata sp.* is found in various Ndu languages (Cf. Table no 1).

I collected my glossary of Abelam vegetal names in Kimbangua and Kalabu villages and consulted Huber-Greub's work in order to complete it. Manambu and Iatmul vegetal names are very similar; I completed my own list after consulting Harrison (1982:353-358) and Newton (1971). I collected the vegetal names in the Yangoru dialect in the region of Wilaru village. The Iatmul names were collected in the course of my years of field work in the region, and the Ngala names were collected during my last mission in August 1994.

TABLE 1: COMPARISON OF VEGETAL NAMES IN 5 NDU LANGUAGES.

Latin	Iatmul	Manambu	Ngala	Abelam	Yangoru
<i>Abelmoschus manihot</i>	sakna	sa'ak	kuiyaka	sakna, saka	—
<i>Alstonia scholaris</i>	kambu	yambwi	mbuiif	kambeu	kambi
<i>Althoffia pleiostigma</i>	mam mendje	ndoamandj	—	miembiem	miembien
<i>Amaranthus tricolor</i>	mbat	mba'ar	mbala	mbare	palua
<i>Areca catechu</i>	mbangla	ma'as	mbangla	bambao	kuadji
<i>Artocarpus altilis</i>	kam	kaam	kam	kam ³	ang ⁴
<i>Bambusae</i> sp.	kain	mbali (?)	kaumoa	kama, kepe	hamua, xain
<i>Borassus</i> sp.	tepmayaman	tepmayaman	maondeumbah	waletepme ⁵	pandé
<i>Barringtonia</i> sp.	nyangla	nyanggal	komuingn	nyingre (?)	—
<i>Calamus</i> sp.	kuvu	—	wela, waech	keve	heve
<i>Camptosperma</i> sp.	ngwat	sunggar	ngwaal	guat, guar	ngware (?)
<i>Canarium</i> sp.	maingula	maingura	néant	—	—
<i>Cerbera floribunda</i>	yambi	yawa'ap	mombaph	yambi ?	—
<i>Citrus</i> sp.	timbut	—	monao	yawi	tsumbung
<i>Cocos nucifera</i>	tepma	tep	ndeumbah ⁶	tepme	tupma
<i>Codiaeum variegatum</i>	agut	akar	mbiap klunga	kaua	solakao
<i>Colocasia esculenta</i>	maï	ma'ai	maï	maï,waole ⁷	maé
<i>Cordyline fruticosa</i>	kaava	kao	kuanga	hava, yawal	hawa
<i>Crinum</i> sp.	mawat	mapar	wanes	panduwin	yawal
<i>Curcuma</i> sp.	kamuin	—	ngued	tane ⁸	—
<i>Cyrtostachys</i> sp.	yawa	a'yaak (?)	yawa	—	yawa
<i>Dendrocnide</i> sp.	djipmia	—	—	dishipmu	tsupmea
<i>Dioscorea esculenta</i>	kalat	kamnggaw	lof	ka	mongu
<i>Dioscorea alata</i>	nyaen	nyaan	nyaen	waapi ⁹	wavi

³ The Abelam distinguish the female breadfruit tree *kam*, with large leaves, from the male *wal*, with small leaves.

⁴ Like the Abelam, the Yangoru have two types of breadfruit trees, *ang* and *waali*.

⁵ *Waletepme* or *waletepma* literally means the spirit of the coconut palm tree.

⁶ The term *ndeumbah* (coconut palm tree) uttered twice is used to designate the *Hibiscus canabinus* just as the Iatmul use the term *tepmarepma*, containing the word *tepma* (coconut tree), to designate the same plant.

⁷ The Abelam distinguish at least three varieties of taro: *maï* (producing many tubers), *waole* (with a single tuber), and *boeme* (considered wild).

⁸ The Abelam have at least two varieties of *Curcuma*: *tablak* (the elder) with large leaves and *tane* (the younger) with small leaves. These terms should be compared with *tawaya* in North Vanuatu and *yano* in Proto-Oceanic (Tryon, 1990).

⁹ The word *waapi* is also used by the Manambu to designate the first fruits (Harrison, 1982:151).

TABLE 1 (cont.)

<i>Euodia hortensis</i>	shup	mbuki ¹⁰	shuk	ship'mu	—
<i>Ficus</i> sp.	kuambi	—	nguamiendjup	—	kombi
<i>Ficus</i> sp. (banyan)	meat	mir	milieil (?)	miat	—
<i>Gnetum gnemon</i> ¹¹	yuwet	yipar	waola	yit, yir	yipre (?)
<i>Homalium</i> sp.	mengue	ma'angk	néant	mainguo	manke (?)
<i>Hibiscus r. sinensis</i>	maknamoi	ma'iramawei ¹²	kakashubua	maowe	maowe.
<i>Imperata</i> sp.	widjuk	—	—	wi	wi
<i>Intsia</i> sp.	kwarap	tawuk ¹³	wan	kwatmo ¹⁴	kwarpmo
<i>Ipomoea batatas</i>	djandjimungu	—	yifukuai ¹⁵	marka ¹⁶	warawawi
<i>Mangifera minor</i>	kuarambi	nggwarambi	klambouil	saakeu	kwambi (?)
<i>Maniltoa schefferi</i>	djanguan	ndjanggwan	waao	—	—
<i>Metroxylon sagu</i>	nau, naw	na'anggw	nangu, nagw	nau, n'aang	nangu
<i>Mucuna novo-guin.</i>	yangro	—	ngongaï	yakoro ¹⁷	yawuru (?)
<i>Musa</i> sp.	lavu	laap	nglandje	lapu	mbia
<i>Neonauclea</i> sp.	ngupma	nggep, ndoa as	ngemba	—	koepma (?)
<i>Nicotiana tabacum</i>	yaki	—	ulamis	niyungus	sakué ¹⁸
<i>Octomeles sumatrana</i>	wane	waan	wania ¹⁹	wani	—
<i>Pandanus</i> sp.	ngra	nggar	ngra	—	—
<i>Phragmites karka</i>	nguali	kwali	kuleph	—	—
<i>Pometia pinnata</i>	wa	—	néant	wa	wan
<i>Ptychococcus</i> sp.	yaman	yao	yiwom	yaman	yamun
<i>Rejoua aurantiaca</i>	mbuandi	mbandj	mbaal	ban, mban	ban (?)
<i>Saccharum officinarum</i>	sua gwi	mainggwi	ambonk	—	kwi
<i>Saccharum robustum</i>	sua	su	sumbouil ambo	sua	sua
<i>Stenochlaena</i> sp.	waiengue	—	wanga	—	—
<i>Syzygium</i> sp.(wild)	kukuan	—	kokop	—	—
<i>Syzygium</i> sp.	daavu	ndakaap ²⁰	drabi	—	—
<i>Terminalia sepikana</i>	kwi	kwai	wulunged	gwi (?)	kwai (?)
<i>Timonius timon</i>	nimbi	nambi	nimp	nampi (?)	—
<i>Vitex cofassus</i> (?)	miamba	miyemb	ngala namba	miamba ²¹	miampa
<i>Zinziber</i> sp.	laaki	laki, lagi	lakas	kol	lekie, likngi

Note : Vegetals for which there is no name in a given language are indicated by a dash : (—).

¹⁰ Another species is called *awi* .

¹¹ Various vernacular names cited in the table are related to names used in languages spoken in the islands of Eastern Indonesia, e.g., *uwa* or *wasowa* (Barrau, 1962:148).

¹² According to Harrison (1982): *maiiramawai*. Chowning (1963:42) confirms the considerable variation in New Guinea names for *Hibiscus rosa-sinensis* .

¹³ Laycock (1965:141) cites the Yelogu word *jaba* meaning 'iron tree' (probably *Intsia bijuga*).

¹⁴ Another variety is called *wapo* .

¹⁵ In Wogamusin, the neighbouring language: *yeiyokué* .

¹⁶ The Abelam distinguish white from red-skinned sweet potatoes: *marka* and *kualika*, respectively.

¹⁷ The Abelam distinguish two varieties of this liana: *yakoro* , considered as male, and *yakake*, as female, as do the Ngala who distinguish *ngongaï* from *djingai*.

¹⁸ This term is close to *sauke* in the Au and Olo languages and to *suuk* in Telefol. Philsooph (1990:92) suggests that the term is of Southeast Asian and Indian origin (Cf. *infra*).

¹⁹ This word is certainly related to words in Wogamusin and Sanio, *woun* and *wiyali* .

²⁰ Other terms designating other varieties: *ndjanggwus*, *mwiaka'ap* .

²¹ In the Kunjingini (Abelam language): *mber* (Aufenanger, 1975:152).

It is apparent that the various names in the five languages are very similar. The differences in a number of cases may mean that the name does not in fact correspond to the same species or that the name reflects the influence of a neighbouring language whose speakers may have introduced the plant. Thus *gnetum* is *waola* in Ngala, a word close to the Wogamusin word *walti* and to the Sanio word *tawe*. In Ngala, for example, *Canarium sp.*, *Homalium sp.*, *Pometia sp.*, *Cassia alata*, *Ipomoea aquatica* have only Pidgin names. My informants told me that missionaries imported *Cassia alata*, that the Japanese troops brought *Ipomoea aquatica* during World War II, and that *Homalium sp.* does not exist in the region. *Canarium sp.*, *Homalium sp.*, and *Pometia sp.* do, however, have names in the language of the Ngala's neighbours.

3. Dialects

Manambu, Ngala and Kaunga have no dialects; Boiken, on the other hand, has at least seven: Kunai (840 speakers), Kubalia (2,696 speakers), Yangoru (10,650 speakers), Central (4,835 speakers), Nagum (10,579 speakers), the coastal dialect (3,260 speakers), and the island dialect (2,436 speakers). Additionally, Freudenburg (1976) distinguishes numerous sub-dialects. The Abalam themselves distinguish three dialects of their own language (*mamu kundi*, *samu kundi*, and *kamu kundi*), which correspond to the linguists' classification: Maprik (8,500 speakers), Wosera (19,600 speakers), and Wingei (5,000 speakers).

Newton (1965) judged that the Iatmul language had four dialects: *Nyaura nimba*²², spoken in the western villages upstream; *Palimbei nimba*, spoken in the central region; the dialect of Aibom village, a neighbour of Chambri speaking villages (Cf. *infra*), and *Woliagwi nimba*, spoken in the eastern villages downstream. The Iatmul themselves only recognize two: *Nyaura kundi*²³ and *Palimbei kundi*, which correspond to the linguists' classification (Staalsen & Laycock): *Nyaura* (3,059 speakers) and *Palimbei* (6,783 speakers).

In fact, out of the 217 most usual words (Cf. Swadesh's list), 153 (73%) are identical in these dialects; 47 (21%) have variable forms with regularly corresponding sounds, 15 (7%) have variant forms which are cognates, and 2 (1%) have variant forms which are non-cognates (Staalsen; 1969:70).

The pronunciation of vowels changes in the western region; thus *mai*, meaning 'taro', becomes *maai*. The eastern (*a*) becomes (*aa*) in the west and is sometimes slightly gutturalized: *wala*, meaning 'dog', becomes *waala*. In the west, the ending of certain words is abridged: *mbal*, meaning 'pig', becomes *mbak*. The phoneme (*kn*) becomes (*g*): *tiknal*, meaning 'tongue', becomes *tigat* and *piyaakna*, meaning 'betel fruit', becomes *piyaaga* (Staalsen, 1969:71 & 79).

It is important to stress that Staalsen's study of Iatmul was carried out in Brugnawi whose inhabitants speak the *Nyaura* dialect.

²² *Nimba* means 'people'.

²³ *Kundi* means 'language' in Iatmul.

TABLE 2: COMPARISON OF VARIOUS DIALECTS OF IATMUL.

Latin name	Nyaura dialect	Palimbei dialect	Tambanum region
<i>Acalypha</i> sp.	mangak	manga	-
<i>Areca catechu</i>	mbangloo	mbangla	mbankale
<i>Bambusae</i>	kayn	kayn	kayn
<i>Bambusae</i>	ndagut	ndangu	-
<i>Citrus</i> sp.	timbuk	timbut	-
<i>Cocos nucifera</i>	tepma	tepma	tepma
<i>Colocasia esculenta</i>	maai	mai	mai
<i>Crinum</i> sp.	mavak	mavat	-
<i>Dioscorea alata</i>	niaen	niaen	niain
<i>Ficus</i> sp.	miak	meat	-
<i>Gnetum ngenum</i>	yivik	yiwet	-
<i>Gulubia costata</i>	tap	taapu	-
<i>Ipomea batatas</i>	kavayawi	djandjimungu	djandjimunku
<i>Intsia bijuga</i>	kwaaluk	kwarap	-
<i>Metroxylon sagu</i>	naaw	naaw	naw
<i>Musa</i> sp.	lavul	avu	lavu
<i>Nicotina tabacum</i>	yaki	yagi	yaki
<i>Pandanus</i> sp.	ngua	ngra	ngra
<i>Saccharum officin.</i>	nkwi	ngwi	nkwi
<i>Scirpus</i> sp.	sak	sap	-

Nota : The dash (-) indicates that I was unable to verify the names in the Tambanum region. Terms in the Nyaura dialect are taken from Wassmann (1982), Staalsen P. & L. (1966), and Staalsen (1969).

This table shows very slight differences in pronunciation in the names belonging to the various dialects. It is clear, nevertheless, that terms for sweet potato are very different in the east and the west; this difference may be due to its recent introduction in the Iatmul region.

Sawos has various dialects²⁴; Staalsen (1975:9-10) distinguished five dialects each spoken respectively, by several hundred speakers: Sengo, Burui, Gaikwundi, Kwaruwi kundi, and Koiwat. He added three more closely related to Iatmul: those of the villages of Torembi (2,000 speakers), Yamok (1,500 speakers), and Gaïkarobi (1,000 speakers). In Wurm and Hattori's *Language Atlas* (1981), Laycock reduced the number of dialects to five: besides those of the Centre (1,500 speakers?) and of the East (4,500 speakers?), he distinguished Burui (250 speakers?) to the west and Chimbian (1,000 speakers) as well as Koiwat (1,000 speakers?) to the extreme east.

A number of plant names, cited by Staalsen (1975:14), reveal similarities between these dialects. In three southern Sawos villages, already mentioned, *naw* means the sago palm tree, *mbangla* the areca palm, and *yaki* the tobacco plant; the terms are the same in Palimbei Iatmul. On the other hand, the banana tree is *lapu* in Torembi and *piyau* in Gaïgarobi. *Lapu* is related to *lapuk* and *lapu* used, respectively, in the Gaikwundi and Kwaruwi dialects. The word *piyau* may be

²⁴ The inhabitants of the Gaïgarobi region call their language *Mbaren Kundi*.

compared to *pwia* and *piya* used, respectively, in the Koiwat dialect and in Boiken. The words for the sago palm tree, *naan* in the Sengo dialect, *nun* in the Burui dialect and *nain* in the Kwarui dialect are related to *naan* in the Wosera dialect. *Nangu* for sago is found in both East Koiwat dialect and Boiken. Also comparable are the words for areca palm tree: *nasa* in the Sengo, Burui, and Kwarui dialects; *masak* in the Gaikwundi dialect, related to *maasa* in the Wosera dialect, and *kwasien* in the Koiwat dialect related to *xwazi* in Boiken. The tobacco plant is called *nu gwik* in the Burui dialect, *yakik* in Gaikwundi dialect, and *ningwit* in the Wosera dialect, but is *sakwen* in Kwarui, *tsaka* in the Koiwat dialect and *sakwe* in Boiken. These terms may be related to the numerous words for tobacco in other Papua New Guinea languages: *saken* in Seleo, *suwakei* in Tumleo, *sukuba* in the Torres Islands, *sakupa* on Kiwai Island (Riesenfeld, 1951:85-87) and compared to those used in Southeast Asia and India: *sugi* in Malay, *sukhaen* in Hindi, and *suska* in Sanskrit (Philsooph, 1984:84).

4. Relationships between the Ndu Linguistic family and Neighbouring Languages.

After having compared vegetal names in the various Ndu languages and their dialects, I shall compare these same names with equivalent terms in six neighbouring languages. Five of these, Kwoma (2,865 speakers), Kwanga (13,305 speakers), Wogamusin (555 speakers), Chambri (1,050 speakers), and Kapriman²⁵ (1,439 speakers), belong to the Sepik-Ramu phylum (Laycock, 1973:19) whereas Arapesh belongs to a more distant group, the Torricelli phylum (Laycock, 1973:7). Kwoma, Kwanga (Nukuma family), Wogamusin, and Kapriman (Sepik Hill family) belong to the Sepik sub-phylum (Laycock, 1973:20) whereas Chambri (Pondo family) belongs to the Lower Sepik sub-phylum (Laycock, 1973:33-35). For comparative purposes, I shall cite several examples from Angoram (Pondo family), Sanio (Sepik Hill family) as well as Urat, Wom, and Gnau, which all belong to the Torricelli phylum (Laycock, 1973:7-15).

The list of Kwanga words is based on Obrist's Glossary (1992) and includes several terms collected by Aufenanger (1975). The Arapesh words come from Mead (1971:509-516) and Tuzin (1980); the Chambri names, *urat* and *wom*, from Aufenanger (1975), and the Gnau names from Lewis (1975). I collected the Kapriman, Wogamusin, and Sanio names in the course of my field work.

²⁵ I collected my glossary of vegetal names principally in Kuyenmas village.

TABLE 3: COMPARISON OF VEGETAL NAMES IN DIVERSE LANGUAGES
 ADJACENT TO THE NDU LINGUISTIC ZONE.

Latin name	Arapesh	Kwoma	Kwanga	Wogamusin	Chambri	Kapriman
<i>Abelmoschus sp.</i>	-	mboyn	waingusa	mbaanti	-	-
<i>Alstonia scholaris</i>	-	-	-	mum't	-	-
<i>Areca sp.</i>	-	mimbi	mahambi	mbeh	-	siman
<i>Artocarpus sp.</i>	iluh	waych	ware	yuor	-	-
<i>Bambusae</i>	-	-	-	yumku	kain	muak
<i>Borassus sp.</i>	-	naugusar	-	tup (?)	-	tepmayaman
<i>Calamus sp.</i>	ba'om (?)	pok (?)	kubu	ngi	-	talia
<i>Camptosperma sp.</i>	-	kwar	-	ngwal *	ngguat	wagl ²⁶
<i>Canarium sp.</i>	-	-	yili	yagu	-	-
<i>Cinnamomum sp.</i>	-	-	-	memélu	nguambi	-
<i>Citrus sp.</i>	nifi	sigā	-	mono	-	womgu
<i>Cocos sp.</i>	sumba (?)	suva	siya	saap	-	-
<i>Codiaeum sp.</i>	unali yalih	gabsi	-	yarukei	-	laé
<i>Colocasia sp.</i>	bagi	-	nansi	nangn	-	morho
<i>Cordyline sp.</i>	owa, aun	awa	aua	yehelu	-	owo
<i>Curcuma sp.</i>	-	botika (?)	-	kouod *	-	godeur
<i>Dioscorea escul.</i>	-	kou, kow	bake	kuei mbaah	-	-
<i>Dioscorea alata</i>	-	nein, neny	naini	-	-	-
<i>Evodia sp.</i>	-	buk	-	moltak	-	botinamb
<i>Ficus sp.</i>	-	-	mengle (?)	naur	-	fenich
<i>Gnetum sp.</i>	-	meej	ugia	walti *	-	-
<i>Hibiscus rosa s.</i>	alulohis	-	-	taashuk	-	-
<i>Homalium sp.</i>	-	maichi, mes	mas	hoch (?)	-	nidjemaï
<i>Intsia sp.</i>	-	woyn	-	wen *	-	-
<i>Laportea sp.</i>	malino	-	angle	-	-	aingk
<i>Mangifera sp.</i>	-	-	kimbia	kalap	hurau	-
<i>Metroxylon sp.</i>	rahoh	naugu, noku	naku	nak *	ntsanam ²⁷	nam, nar ²⁸
<i>Musa sp.</i>	solo'win	-	lobo	yam	-	-
<i>Nicotina sp.</i>	aheliuh	him	-	walams *	-	-
<i>Pandanus sp.</i>	-	-	gla	kaar	-	namtua
<i>Pometia sp.</i>	shauwep	haem	hame	iyague	-	-
<i>Rejoua sp.</i>	su'witip	mbont, bodi	-	mbigli	aïyer	bolmeur
<i>Saccharum sp.</i>	-	hija	ayi, hinsi	youk	-	-
<i>Scirpus grossus</i>	-	-	-	wop	-	djeff
<i>Vitex sp. (?)</i>	-	nyebi	-	nam *	-	sibeur
<i>Zinziber sp.</i>	amafux	-	-	sakiou	marpuk	wadjeur

Note: The lemon tree (*Citrus sp.*) is *lugeban*, in Gnaou, and *wishu* in Urat (Dreikikir), languages belonging to the Torricelli phylum; in Gnaou: *Canarium sp.* (*nimbalgut*), coconut (*we'at*), yams: *Dioscorea alata* (*wuningi*) and *Dioscorea esculenta* (*lawuti*), *Gnetum sp.* (*tellug*), mango tree (*nembibi*), sago palm (*lawut*), banana tree (*tebawug*), *Pometia sp.* (*tila'at*). The Wogamusin names followed by an asterisk may be related to names in Ngala (cf. Table 1). In Sanio, the sago palm is *naw* and *Octomeles sp.*, *wiyali*. The root *na* is found in the Vanuatu Pidgin term *natangora* meaning sago palm tree. The sweet potato does not seem to have a name in Kwanga (Obrist, 1992:235).

²⁶ In Biwat, which belongs to the Ramu sub-phylum, *Camptosperma sp.* is *ruang* (Aufenanger, 1975:22 & 24).

²⁷ In the Angoram region (Pondo family), sago palm is *wayāro* (Haberland, 1966-67).

²⁸ In the languages of the Korowori region, sago palm is *na-kum*, *na-kur*, or *nake-bam*; in the Hunstein region, *nam* (Haberland, 1966-67).

The differences between names designating the same species are much more pronounced than in Table 1 because the terms treated here belong to some linguistic groups that are distant from the Ndu family. Nevertheless, the names of certain vegetables, such as the areca palm, the coconut tree, the sago palm, *camposperma*, and *cordyline*, remain fairly similar in all these languages; this similarity may be due to the fact that these vegetables have been in the region for a very long time.

5. Relationships between the Ndu Linguistic Family and Austronesian Languages.

The majority of the languages spoken in Papua New Guinea are non-Austronesian while those spoken in the islands of the Bismarck Archipelago are Austronesian. On the north coast of the large island, however, there are small enclaves of Austronesian language speakers: Sera, Sissano, Tumleo, Ulau-Suain, Kaiep, the Wewak region as well as the Kairiru, East-Mushu, Schouten, and Manam Islands (Laycock, 1973:4-7).

Table 4, shows about thirty vegetables with their names in Iatmul, Melanesian Pidgin, diverse Austronesian languages, and Kairiru, the language spoken on the small island of the same name, situated at the extreme northern edge of the Ndu linguistic zone. Pidgin is the lingua franca of Papua New Guinea. Numerous Pidgin plant names have Austronesian roots.²⁹ Pidgin Melanesian names come from Mihalic's dictionary (1971); Chowning's (1963) and Tryon's (1990) articles are the sources of the Austronesian terms; and Kairiru names came from Borrell's glossary (1989).

TABLE 4: COMPARISON OF VEGETAL NAMES IN IATMUL, PIDGIN, SEVERAL AUSTRONESIAN LANGUAGES, AND KAIRIRU.

Latin name	Iatmul	Pidgin	Austronesian	Kairiru
<i>Abelmoschus manihot</i>	sakna	aibika	biqa (POC)	wasnet, war
<i>Areca catechu</i>	mbangla*	buai	buna (POC), mpua (POC), <u>bu</u>	bu *
<i>Artocarpus</i> sp.	kam *	kapiak	kama (PAN), <u>kulu</u>	nging 30
<i>Bambusa</i> spp.	kain*	mambu	kaundu (POC), <u>kau</u>	k'ling
<i>Calamus</i> sp.	kuvu*	kanda	<u>huc</u>	kolan, wuk *
<i>Canarium</i> sp.	maingula *	galip	kanari (PAN), <u>kangali</u>	kaniar, kangiar *
<i>Citrus</i> sp.	timbut	muli	limaw (PAN), <u>moli</u>	moli *
<i>Cocos nucifera</i>	tepma	kokonas	pada (POC), <u>niu</u>	niu *
<i>Codiaeum variegatum</i>	agut	purpur	<u>babaka</u>	blalui, moel *
<i>Colocasia esculenta</i>	mai *	taro	mwao (POC), <u>mao, talo</u>	mau *
<i>Cordyline</i> sp.	kaava	tanguet	ngaria(PNV), siri (PAN), <u>dili</u>	sir * 31
<i>Curcuma</i> sp.	kamuin	kawawar	timun (PAN), yano (POC)	lakea

²⁹ According to Mihalic (1971:56) about 15% of Melanesian Pidgin words came from Kuanua, an Austronesian language (80 000 speakers), spoken on the Gazelle Peninsula.

³⁰ On the neighbouring Schouten Islands, breadfruit is *kanar* and *kul* (Aufenger, 1972:225 & 240).

³¹ *Cordyline* is *asil* in Wom, which belongs to the Torricelli phylum (Aufenger, 1975:14).

TABLE 4. (cont.)

Latin name	Iatmul	Pidgin	Austronesian	Kairiru
<i>Cycas rumphii</i>	mala tepma *	baibai	mwele (PNV), <u>male</u>	rarir
<i>Dioscorea esculenta</i>	kavikalat* ³²	mami	gamut (PAN), mwaru (PNV)	mame, wuw kwai
<i>Erythrina sp.</i>	nguekanda *	balbal	dapdap (PAN), <u>rara</u> ³³	bar *
<i>Euodia hortensis</i>	shup	?	<u>lauolou</u>	chin
<i>Hibiscus tiliaceus</i>	mbendjin	mangas	baru (PAN), vaqaru (POC)	fear, boser
<i>Intsia bijuga</i>	kwarap	kwila	teras (PAN), tora (PEO)	kaitra, tor *
<i>Laportea sp.</i>	yanguel ³⁴	salat	salato (POC), <u>lato</u>	shinshium
<i>Mangifera indica</i>	kwarambi *	mango	wai (PAN), waiwai (POC)	naf, niaf
<i>Metroxylon sagu</i>	nau	saksak	rabia (PEO), <u>labia, uto</u> ³⁵	rabi,rapi, urpepi *
<i>Musa sp.</i>	lavu *	banana	vudi (PNV), punti(PAN), <u>puti</u>	wud(Iles Schouten) ³⁶
<i>Nicotiana tabacum</i>	yaki	brus,tabak	sugi (Austro.), tabako (Indo)	saukwei *
<i>Pandanus sp.</i>	ngra	karuka	<u>panda</u>	rai, kavari
<i>Pometia pinnata</i>	wa *	taun	ntawa, tawan ((POC)	yanyang
<i>Rejoua aurantiaca</i>	mbuandi	?	?	fofiek sawar
<i>Saccharum sp.</i>	sua, gwi	suga	viso (PNV), <u>tovu</u>	tuo *
<i>Syzygium malac.</i>	kukuan *	aiai	kapika (POC), <u>kavika</u> ³⁷	kaviak*
<i>Terminalia catappa</i>	karaba *	talis	kantapa (POC), <u>talise</u> ³⁸	shem
<i>Vitex sp.</i>	miamba *	garamut	pampa (PAN)	bakau
<i>Zingiber sp.</i>	laaki *	gorgor	leyqa (PAN), laqia (POC), <u>lahia</u>	lei *

Note : List of abbreviations: PAN = Proto-Austronesian, POC = Proto-Oceanic, PNV = Proto-Northern Vanuatu, PEO = Proto-Eastern Oceanic, underlined words = Proto-Melanesian.

It is likely that half of the Iatmul words (followed by an asterisk in the table) are related to Austronesian terms. Only six may be related to Pidgin names, and only six are comparable to Kairiru names. The proportion of Yangoru words comparable to Kairiru names (cf. Table 1) is no higher, despite the fact that

³² In Iatmul *kavi kalak* designates an ancestral variety of yams (*Dioscorea esculenta*). According to my informants, the old people still knew how to plant them until recently; the plant can still be found in the bush. The proto-Austronesian root *huvi* for yam (*Dioscorea alata*) is found in Fiji; in Samoa it becomes *uvi*, *ufi* in certain New Caledonian languages, *kuuwic* in Jawe, *kuvic* in Koumac, *uuvi* in Balade, *ywuvuk* in Koné (Haudricourt, 1972:354, 371, 379). The Sawos distinguish the wild yam *woli kavi* from the cultivated one *woli naw* (*naw* being the name of the sago palm).

³³ The Austronesian root for the *Erythrina sp.* is *dara*; in Fiji it becomes *rara* or *ndala*; in Samoa *lalapa*; and in certain New-Caledonian languages *ndalap* (Haudricourt, 1972:354, 370).

³⁴ *Yaay*, in Manambu (Allen & Hurd, 1972:41) and *nohungge* in Wom (Aufenanger, 1975:7).

³⁵ In the Austronesian enclaves on the north coast, the sago palm tree is *lepi* in Sissano, *lapij* in Tumleo, *rapiy* in Ali, *rapiy* in Ulau-Suain (Haberland, 1966-67:94).

³⁶ The banana tree is *vundi* in Fidji and *pwi* in the language spoken in Canala, New-Caledonia (Haudricourt, 1972:354).

³⁷ The *Syzygium malaccense* is *kavika* in Fiji, *fekika* in Tonga, *caai* in South-Gomen, *caak* in the Jawe language, in Koumac and in Pouebo (Haudricourt, 1972:353, 369).

³⁸ These terms become *telie* in Tonga and *keenda* in Gomen, New Caledonia (Haudricourt, 1972:369).

Yangoru and Kairiru are closely geographically related languages. Half of all the Kairiru names (followed by an asterisk in the table) are also comparable to Austronesian terms, and they are not the same ones that are found in Iatmul. We do not have a sufficient number of examples to draw any definite conclusions, but our examples confirm the fact that relations between Kairiru and Ndu language speakers have been relatively recent. Linguistic and other phenomena strongly suggest that Ndu speaking peoples may have migrated from territories situated to the south of the Middle Sepik River basin and made their way north towards the coast, wending their way along the banks of the Sepik River. This hypothesis does not exclude the influence of older waves of Austronesian migrations, particularly in the southeast region of Chambri Lake.³⁹

Conclusion

There is a great similarity in vegetal vocabulary in the diverse Ndu languages, but there are few relations with neighbouring languages. A certain number of similarities with Austronesian roots should be noted, but in general only for vegetals having to do with nutrition. A dozen vegetals are found in all four tables. This phenomenon is above all due to their frequent presence in ethnological literature, which is a sign of the ethnocentrism of the authors who have neglected certain vegetals of great importance in Papua New Guinea societies.

The example of names for tobacco,⁴⁰ having comparable names in Indian languages and Malay, is interesting. It is by no means impossible that research on other vegetals would lead to similar results for other names. It is known that the populations of India and Malaysia have engaged in horticulture, as well as the cultivation of tubers, for a long time. South Asia is the richest part of the globe in the production of useful plants (Haudricourt, 1987:159-160). Golson's recent archeological research at Kuk seems to show that the Papuan may have been one of the oldest cultivators on our planet (Golson, 1990). This study has shown that certain vegetals are particularly related to the Austronesian world. It would be interesting to extend this study by compiling lexicons of larger numbers of vegetal words used in all PNG societies. The material treated in this article represents supplementary elements confirming the hypothesis that Austronesian migrants imported certain vegetals into the northern part of New Guinea.

³⁹ The populations of the Blackwater regions and those south of Chambri Lake use respectively numerical systems based on 5-10 and 5-10-20, common to Austronesian, but the majority of Ndu speaking peoples (except the Abelam people) use one based on 5-20 (Lean, 1987: 65-91).

⁴⁰ The tobacco plant poses a problem for botanists because many of them believed for a long time that this vegetal was of American origin.

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