

## Proto who utilized turmeric, and how?

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### 1. Introduction<sup>1</sup>

Crowley points out, in his 1994 paper entitled “Proto who drank kava?” that, although linguistic reconstruction is conducted with the implicit understanding that the results would have some importance for understanding prehistory, the fact is that linguists are usually more concerned about past forms than meanings, making it difficult for our proposals to be easily accepted by non-linguists, such as archaeologists. Acknowledging this, he attempts to relate the linguistic and the non-linguistic reconstructions of the history of kava (*Piper methysticum*), a plant that is widely consumed in the Pacific to mix a traditional beverage. Despite the fact that kava-related terms had previously been proposed for Proto-Oceanic, Crowley successfully shows that kava-drinking did not start until after Oceanic people had already settled Vanuatu and that only subsequently did it spread to areas where other Oceanic languages are spoken. Kikusawa (2003: 261) uses a similar approach focusing on another plant, *Cyrtosperma* taro (often referred to as “giant swamp taro”), arguing that the cultivation of this plant must have developed in atolls in Micronesia, and was subsequently introduced to Polynesia and part of Melanesia.

The implication of such outcomes—that the status of a reconstructed term is sometimes brought into question as a result of further examination taking related non-formal and non-linguistic aspects into consideration—is not to refute the comparative method. Lexical reconstruction based on the examination of sound correspondences is an essential step in linguistic reconstruction. However, what it implies is that, for linguistic reconstruction to truly contribute to an understanding of prehistory, linguists have one more step to go beyond the reconstruction of forms and even the reconstruction of their semantics (cf. Pawley 1985, Blust 1987, etc.). Reconstructed forms must be re-examined in the light of their cultural context to retrieve information that we may have overlooked during the initial search for cognate sets, and then integrate this information into our reconstructions.

Reconstructed forms for the turmeric plant, *Curcuma domestica* Valeton, (also known as *C. longa*, and *C. viridiflora*) and related forms, make fascinating candidates for such re-examination. The plant shows a wide distribution in

Austronesian communities, its value and usage slightly differing from one area to another. In Indonesia and some parts of the Philippines, turmeric is an important substance used as a dye for cloth, as well as for body painting and food colouring. It is also used as a medicine, a spice and in some areas also a food source. It has commonly been used as an important ingredient in various rituals. Farther down on the family tree, in Micronesia, the plant retained its significance but, being unable to grow on atolls, it became one of the most significant items in the *sawei* exchange network that took place between Yap Proper and the Outer Islands until the early twentieth century (Intoh 2005).

Because of the variety of usages associated with turmeric, some of which possibly originated in India and subsequently spread as a result of regional exchange (for example, the Malay influence in Indonesia), it is not easy to recover all aspects related to the uses of turmeric at early stages of Austronesian. However, it is possible to reconstruct forms associated with the plant itself, as the first step in determining what the functions of the plant were in the lives of people in prehistoric Austronesian societies.

In this chapter, we will first provide some general information about the turmeric plant and some of the plants related to it. We will also briefly comment on the various uses of turmeric. In Section 2, we will examine the terms for turmeric that have been reconstructed to the level of Proto-Extra Formosan. We will confirm that the form \*kúnij is in fact reconstructible for Proto-Extra Formosan, while the form \*temu is a later innovation in Indonesia. In Section 3, we will examine the meanings that have been reconstructed for these terms and attempt to throw light on them by noting the types of semantic change they have undergone in the light of what is known of the characteristics of the plants. In Section 4, we will briefly discuss problems associated with terms for turmeric in Oceanic languages.

## 1. Turmeric and Related Plants

Turmeric is a plant belonging to the genus *Curcuma* in the Zingiberaceae family, which consists also, among others, of the genus *Zingiber*, the most well-known member of which is probably *Zingiber officinale*, or ‘common ginger’. Table 1 shows some of the scientific names of commonly known turmeric and ginger plants and their English common names. The genera *Curcuma* and *Zingiber* are not always clearly distinguished in folk taxonomies as can be seen in some English names which refer to some species of *Curcuma* with the name ‘ginger’. This is also true in Austronesian languages, as we will see later in this paper. The English word *turmeric*, however, is typically used to refer to *Curcuma domestica*, and this will be our usage as well. For other species, we will use their scientific names followed by one of the English common names indicated in parentheses, e.g., *Zingiber zerumbet* (pinecone ginger).

**Table 1.** Scientific names of commonly known Turmeric and Ginger plants

Scientific name	Turmeric		Ginger
	English common name(s)	Scientific name	English common name(s)
<i>Curcuma domestica</i> (syn. <i>Curcuma longa</i> , <i>Curcuma viridiflora</i> )	turmeric Indian saffron long rooted curcuma yellow ginger	<i>Zingiber officinale</i>	ginger common ginger cooking ginger Canton ginger
<i>Curcuma zeodaris</i> (syn. <i>Curcuma zedoaria</i> , <i>Curcuma zeodoaria</i> )	white turmeric hidden lily ginger	<i>Zingiber zerumbet</i> (syn. <i>Zingiber serumbet</i> )	pinecone ginger shampoo ginger Hawaiian white ginger wild ginger

Turmeric is a plant which does not produce seeds, but is propagated from rootstock. Therefore, its distribution in the Pacific area is considered to obviously be the result of human introduction, ultimately from Southeast Asia, and any occurrence in forest areas is considered to be the result of past cultivation (Whistler 1992). Turmeric powder, which is famous as a spice used for flavouring and colouring curry, is produced from the rhizome of the turmeric plant. The rhizome has a very distinct smell and taste, and its colour varies from canary-yellow when young to a deep orange or mustard colour when older (Intoh 2005). The powder may also be used to paint the body, to colour rice and other food, to dye clothes, to treat sicknesses, and to sprinkle over things to chase evil spirits away.

In the next section, we examine the reflexes of terms that have been reconstructed for turmeric and confirm the reconstruction of \*kúnij meaning ‘turmeric plant’ for Proto-Extra Formosan.

## 2. Reconstruction of the form \*kúnij for Proto-Extra Formosan

In 1938, Otto Dempwolff reconstructed the term \*kunij for the protolanguage that today is referred to as Proto-Malayo-Polynesian (PMP) or Proto-Extra-Formosan (PEF).<sup>2</sup> Zorc (1994) subsequently reconstructed the same term, but with an initial accented vowel \*kúnij. However, he apparently questioned the depth of the reconstruction, placing a question mark after PMP. Other researchers have also reconstructed the term (Blust 1993).

These forms are shown in (1). There are no possible cognates of the form found in Formosan languages, preventing reconstruction to any deeper time depth.

Reconstructed forms for ‘turmeric’

- (1) PMP \*kunig ‘Gelbwurz [turmeric]’ (Dempwolff 1938: 84)<sup>3</sup>  
 PMP? \*kúnij ‘turmeric, *Curcuma zeodoaria*’ (Zorc 1994: 549)<sup>4</sup>  
 PMP \*kunij ‘turmeric, yellow’ (Blust 1993)

In addition to these terms, Wolff implicitly recognises an early reconstructible form of which Malay *kuñit* ‘turmeric’ must be a reflex, but notes that it is “not from PAn in all likelihood” (Wolff 1994: 513). Before discussing the meaning of the term, it will be useful to first examine the cognates upon which the reconstruction is based. For this purpose, the forms for turmeric that are found in Philippine languages are examined.

Table 2 provides the complete set of reflexes of PEF \*kúnij that have been reported in Philippine languages with a *Curcuma* species gloss. (Reflexes of the form with the meaning ‘yellow’ are also reported for several languages in Reid 1971). The distribution of these forms is extremely interesting. All the forms but two are from the Northern Luzon subgroup, while the other two are from Tagbanwa, one of the languages spoken in the north of Palawan. No reflexes have been reported for any other of the Central or Southern Philippine languages. Since there are numerous reflexes of the term in Indonesian languages to the south of the Philippines (see Table 3), it appears that reflexes of

**Table 2.** Reflexes of \*kúnij in Philippine Languages

Language	Form	Meaning	Source
Ilokano	<i>kunig</i>	<i>Curcuma domestica</i> Valet.	Madulid 2001*
Ilokano	<i>kúnig</i>	<i>Curcuma zedoaria</i> (Berg.) Rosc.	Vanoverbergh 1956
Ibanag	<i>kunik</i>	<i>Curcuma domestica</i> Valet.	Madulid 2001
Isnag	<i>kunig</i>	<i>Curcuma domestica</i> Valet.	Madulid 2001
Isneg	<i>kúnig</i>	<i>Curcuma zedoaria</i> (Berg.) Rosc.	Vanoverbergh 1972
Itawis	<i>kunig</i>	<i>Curcuma domestica</i> Valet.	Madulid 2001
Itneg	<i>kunig</i>	<i>Curcuma domestica</i> Valet.	Madulid 2001
Kalinga	<i>unig</i>	<i>Curcuma domestica</i> Valet.	Madulid 2001
Bontok	<i>kúnəg</i>	<i>Curcuma zedoaria</i> (Berg.) Rosc.	Reid and Madulid 1972
Kankanay	<i>kúnig</i>	<i>Curcuma zedoaria</i> (Berg.) Rosc.	Vanoverbergh 1933
Ifugao	<i>ūnig, ūnig an nahamad</i>	<i>Curcuma zedoaria</i> (Berg.) Rosc.	Conklin 1967
Tagbanwa	<i>kunit</i>	<i>Curcuma domestica</i> Valet.	Madulid 2001
Tagbanwa	<i>kunit-kunit</i>	<i>Curcuma sp.</i>	Madulid 2001

\*Unfortunately, Madulid deliberately removed diacritical marks for ease of printing and editing; consequently, the absence of an accented vowel in his data is not meaningful.

**Table 3.** Forms indicating \*kúnij ‘turmeric, *Curcuma domestica*’ in some languages in Indonesia (Verheijen 1984)\*

<i>huni</i>	Bima (E Sumbawa)
<i>hunik</i>	Batak (W Sumatra))
<i>huning</i>	Batak (W Sumatra)
<i>huniq</i>	Roti dial (Roti I., W of Timor)
<i>kakunyé</i>	Enggano (Enggano I., SE of Sumatra
<i>kewunyi</i>	Sawu (NTT)
<i>kone</i>	Buru; Saparete
<i>konéng</i>	Sunda
<i>konik</i>	Buru; Amblau
<i>konyék</i>	Madura
<i>konyi</i>	“Sumatra”
<i>kuminu</i>	Ambon
<i>kunai</i>	Minangkabau
<i>kuné</i>	Ende
<i>kuni</i>	N Sulawesi: Baréé, Padu, Lalaki, Mandar, Bugis, ?Sula,
<i>kunik</i>	Minangkabau; Roti dial.
<i>kunin</i>	E Seran
<i>kuniné</i>	Moluccas, Nusa Laut
<i>kuning</i>	Gayo, Alas, Malay
<i>kunino</i>	Ambon, Saparua
<i>kuniq</i>	Minahasa, Tontemboan (Minhasa), Tonsawang
<i>kunir</i>	Tinggalan, Lampong; Minahasa; Java; Bentenan (NE Sulawesi), Toulour, Timor: Tetun
<i>kunis</i>	Far East Manggarai, Rmb
<i>kunit</i>	Banjarmasin
<i>kunita</i>	W Sumba
<i>kunyét</i>	Aceh
<i>kunyi</i>	W Sumatra, Makasar, Salayar
<i>kunyik</i>	Minangkabau (W Sumatra)
<i>kunyiq</i>	Sasak
<i>kunyir</i>	Lampong; Sunda; Minahasa: Tong, Tounsawang
<i>kunyit</i>	Malay, Bali; Ekalimantan, Kambang, Tidung, Banjarmasin, E Borneo: Olon-Manyaan
<i>žuni</i>	Buru
<i>unik</i>	Roti dial
<i>unin</i>	Goram; SSeran; Hila, Buru, Kayeli
<i>uniné</i>	Seran, Piru
<i>unino</i>	Ambon, Haruku
<i>uninun</i>	Ambon
<i>unyi</i>	Bugis (S Sulawesi)
<i>unyiq</i>	Bugis; Lampalagiang
<i>wuné</i>	Ngadha (W Flores)
<i>wunis</i>	Manggarai proper

\*Verheijen (1984:79) notes, “After serious hesitation I give alphabetically the numerous forms I found with rather full geographical data. I could not check all the forms, some of which must be inaccurate.”

PEF \*kúnij in the Central and Southern Philippine languages have been replaced by local innovations or borrowed terms from Indonesian languages.

The phonological reflexes found in the forms in Table 2 are for the most part completely regular. All agree on the form of the initial consonant. The Kalinga and Ifugao forms show a regular development of \*k to glottal stop, which is generally not represented in the sources.<sup>5</sup> All agree on the form of the first vowel \*u,<sup>6</sup> and the following consonant \*n. Only Bontok shows an irregular development of the second vowel as ə, and all have appropriate reflexes of final \*j. All of the Northern Luzon languages in the table typically reflect \*j as g, while Tagbanwa (as with all other Philippine languages) reflects it as d (Charles 1974). Devoicing of the final voiced consonant is a regular development in Ibanag, and appears to have taken place also (in at least some forms) in Tagbanwa.

### **3. Identifying the Primary Meaning of PEF \*kúnij**

In this section, we argue that the plant referred to by reflexes of \*kúnij ‘*C. domestica*’, was perceived as a plant for producing dye. Its medicinal and ritual uses may or may not have existed, but if they did they would have been secondary uses. The basis for this observation is the semantic differentiation between two forms for turmeric observed in Malay, the semantic shifts observed in some Malagasy dialects, and finally, the development of words for ‘yellow’ from earlier \*kúnij.

#### *3.1 Did \*kúnij indicate turmeric, or some other Curcuma species?*

Looking again at (1), we notice that two different meanings have been reconstructed for PEF \*kúnij. Both Dempwolff and Blust reconstruct it as ‘turmeric’, i.e., *Curcuma domestica*, whereas Zorc reconstructed it as ‘turmeric, *Curcuma zeodoaria*’, the plant commonly referred to in English as ‘white turmeric’. One possible interpretation of this is that the same term was used for both species and that, because of the similarity in their appearance, the species were not differentiated in the folk taxonomy. However, considering the culturally significant difference between the two species observed today,<sup>7</sup> it would be useful to identify, if possible, the actual meaning of \*kúnij in the protolanguage, assuming that they were recognised as two different plants.

The basis for Zorc’s reconstruction is apparently the fact that a number of the reflexes in the Philippines are supposedly names for *C. zeodaris*. It is not easy to determine how plant identification was done, whether by sight or by actual herbarium comparison, but we do know that, at least in some cases, the identification of the plant is simply copied from some earlier document when a dictionary is compiled.<sup>8</sup> However, there are some facts that seem to point to *C. domestica* rather than to *C. zeodaris*. First, the meaning *C. domestica* is more widely represented both in Northern Luzon as well as in Tagbanwa. Second, in

Tagbanwa, in addition to the form meaning *C. domestica*, there is a reduplicated reflex of \*kúnij, which was identified only as *Curcuma sp.* The reduplication is typically employed to mean a plant similar to *C. domestica*, and may have been *C. zeodaris*.

In addition there are also some examples which imply that *C. domestica* was the earlier sense, and *C. zeodaris* the latter. For example, in the Beyer-Merrill collection of Ifugao plants (Conklin 1967: 261), there are two terms which appear to be reflexes of PEF \*kúnij. The first is *ʔünig* ‘*C. zeodaris*’, while the second is *kúnig* with initial *k*, meaning ‘yellow dye’. The dialect of Ifugao from which Beyer collected the plant names had apparently not undergone the \*k to /ʔ/ shift of other Ifugao dialects, suggesting that the term for ‘dye’ (and its derived form *kinúnig* ‘yellow’) is a direct reflex of PEF \*kúnij ‘*C. domestica*’, while the term meaning ‘*C. zeodaris*’ is a later introduction from one of the dialect areas that have undergone the \*k to /ʔ/ shift.

To conclude, it is probable that PEF \*kúnij meant exclusively ‘*Curcuma domestica*’. In the following section we claim that one of the primary characteristics associated with this plant was as a source of dye. This is supported by the semantic differentiation in Malay between reflexes of PEF \*kúnij and of \*temu, one of the forms reconstructed by Dempwolff (1938: 135) for ‘Ge-würzpflanze (a spice plant)’, as well as the semantic shifts observed in some Malagasy dialects, and finally, the development of words for ‘yellow’ from PEF \*kúnij.

### 3.2 Relationship between the forms \*kúnij and \*temu.

In the previous sections, we have argued that the reconstruction of PEF \*kúnij can be confirmed, based on the forms observed in the Philippines and also in Indonesia. We have also argued that the form \*kúnij is likely to have indicated ‘turmeric’, and not some other *Curcuma* species. With reference to the plant names found in the Philippines and Indonesia, Wolff (1994: 521) notes that a number of languages have the form *temu*, the meaning of which he gives as “*Curcuma* spp., a root used for medicine or spice”.<sup>9</sup> According to Wolff, many if not all the *temu*-like forms show irregular sound correspondences and are therefore probably forms that have spread throughout Indonesia to the Philippines. In the Philippines, *temu*-like forms are found only in Central and Southern Philippine languages (and Kapampangan), indicating either a *Curcuma* sp. or *Zingiber* sp. or both.

The different coverage of the two forms in Malay, namely *kuñit*, which is a regular reflex of \*kunij (Adelaar 1992: 197), and *temu*, helps to identify what was considered to be the primary attribute of the plant indicated by the form \*kúnij.

Table 4 shows Malay words that refer to different species of *Curcuma* plants. It can be seen that the form *kuñit*, which is a direct reflex of the form \*kúnij, exclusively means ‘turmeric’, while the form *temu* and terms derived from it are

**Table 4.** Malay words for *Curcuma* spp. (Based on Corner and Watanabe 1969: 1073-1076, and Hotta et al. 1989: 343-344)

Malay word	Scientific name	Usages*	English name
<i>kunyit</i>	<i>Curcuma domestica</i> Valeton	food, dye, spice	turmeric
<i>temu pauh</i>	<i>Curcuma mangga</i> Val. et Zyp.	food, spice, medicinal <sup>#</sup>	
<i>temu hitam</i>	<i>Curcuma aeruginosa</i> Roxb.	food, spice	
<i>temu kuning</i>	<i>Curcuma zeodaria</i> Rosc.	food (young shoot), medicinal (rhizome)	white turmeric
<i>temu kunchi</i>	<i>Gastrochilus panduratum</i> Ridl syn. <i>Kaempferia pandurata</i> Roxb., <i>Boesenbergia pandurata</i> Schl	food, medicinal, spice	
<i>temu lawak</i>	(rhizome of) <i>Curcuma xanthorrhiza</i> Rxb.	medicinal (rhizome)	
<i>temngiring</i> (I)	(rhizome of) <i>Curcuma heyneana</i> Val. et v. Zijp.	medicinal (rhizome)	

\*Part of the plant that is used for each usage is listed only when it is clear in the references.

<sup>#</sup>Corner and Watanabe (1969) note that this species is also used as dye. However, there is no such description found elsewhere and we consider that the information in Hotta *et al.* (1989) is more updated.

used for all other *Curcuma* spp. The question is why? The major difference between turmeric and other *Curcuma* spp. is that the former is a good source of dye, while the others are not as good.<sup>10</sup> Note that the form for *Curcuma zeodaris* carries a modifier *kuning*, which means ‘yellow’ (see section 3.4). It seems to be appropriate to assume, therefore, that one of the primary uses of the plant \*kunij was as the source of yellow dye. Probably because of this association, although the other *Curcuma* spp. also are used as medicine, food, spice, and so on, the reflex of \*kúnij was not replaced by *temu*, which carried a more generic meaning.

Although based on data from a single language, the assumption that what distinguished *C. domestica* from other species was its value in the production of yellow dye seems to be consistent with semantic changes observed in some other Austronesian languages. First, as we discuss in section 3.3 below, this explains some semantic changes that certain forms underwent in Malagasy languages. Second, as we discuss in section 3.4, the semantic shift from turmeric as a plant name to the colour yellow was apparently the result of a number of independent local innovations, rather than being inherited from PEF and, we assume, must have been because the plant, *C. domestica*, was associated with the production of dye.

### 3.3 Semantic shift in Malagasy languages

In Malagasy languages, both reflexes of \*kúnij and forms originating from \*temu are found. These are listed in Table 5. Many lexical items in Malagasy, as in Māori, are known to have undergone semantic change as Austronesian people moved to an island with a different environment from that from which they had

**Table 5.** Malagasy words originating from \*kúnij and \*temu

Hova	<i>húnitra</i>	‘Name einer rot färbenden Pflanze (name for a plant for red dye)’	(Dempwolff 1938: 84)
Betsimisaraka*	<i>húnitra</i>	‘A creeping plant used by the Betsi- misaraka as a red dye for Rafia cloth.’	(Richardson 1885)
Hova	<i>tamutamu</i>	‘turmeric’	(Richardson 1885)
Comoros	<i>tamutamu</i>	‘yellow’	(Gueunier 1988)
Taimoro	<i>tamutamu</i>	‘yellow’	(Vérin et al. 1969)
Antambahoaka	<i>manamutamu</i>	‘yellow’	(Vérin et al. 1969)
Antankarana	<i>manamutamu</i>	‘yellow’	(Vérin et al. 1969)

\*Betsimisaraka *asaka* ‘yellow’ is unrelated. Likewise the forms *mavu* and *vuni* ‘yellow’ found in other Malagasy languages are also unrelated (Vérin et al. 1969).

come (cf., Sakiyama 1991), and the reflex of \*kúnij apparently was not an exception. The form *húnitra* is a regular reflex of \*kúnij both in Hova (Merina) and in Betsimisaraka. However, there apparently was a semantic shift in these languages, from ‘*C. domestica*’ to ‘a plant which yields red dye’. Although the identification of the Betsimisaraka plant called *húnitra* is still unsure—according to Richardson’s definition, it is “a creeping plant”—the new referent has quite a different shape from that of *C. domestica*, the original referent. The only commonly shared characteristic of the two plants seems to be the fact that both are sources of dye, and this semantic change seems to support the notion that the primary function associated with \*kúnij was as a source for dye.<sup>11</sup>

The forms *tamutamu* and others that have developed from \*temu, also underwent semantic shift. First, in Hova (Merina) it came to mean *C. domestica*, and not some other *Curcuma* species. Second, in many other Malagasy languages, the form now means ‘yellow’.<sup>12</sup> Richardson states that the form *tamutamu* is a new introduction but does not provide any evidence.<sup>13</sup> The Malagasy language is considered to have split from the other Southeast Barito languages about the 7th century AD (Adelaar 1989, Dahl 1991), the implication being that the *temu*-like forms were already used by then to indicate turmeric-like plants, while at least in the Barito area of south Kalimantan reflexes of \*kúnij carried the primary meaning of a plant producing dye. Whether the reflexes of \*kúnij and \*temu arrived in Madagascar simultaneously or separately, it seems safe to assume that the semantic shift in the reflex of \*kúnij occurred first. Subsequently, the meaning of the reflex of \*temu extended to include *C. domestica*, then to the colour yellow, the latter change also occurring in many other Austronesian languages, as we will see in the next section.<sup>14</sup>

### 3.4 Turmeric and the colour yellow

Forms that have been reconstructed for ‘yellow’ are provided in (2).

## Reconstructed forms for ‘yellow’

- (2) Proto Malayo-Polynesian      \**kunij*      ‘yellow’ (Dempwolff 1938)  
 Proto Malayo-Polynesian      \**ma-kunij*      ‘yellow’ (Blust 1993, 1999)  
 Proto Central Malayo-Polynesian      \**kunij*      ‘yellow’      (Blust 1993)

According to Adelaar (1992: 142, cited in Wolff 1994: 513, fn. 3), the Malay form *kuning* (section 3.2) developed as a reflex of \**kúnij* in some language other than Malay (probably one of the Batak languages such as Karo Batak which reflects \*-j as *ŋ*) and was borrowed into Malay. The forms that primarily interest us here are those reconstructed by Blust in (2) above. The first shows a derivation from \**kúnij* with a \**ma-* prefix for ‘yellow’ which he reconstructs for his PMP. We note that in his on-line Austronesian Comparative Dictionary (ACD) he also assigns the meaning ‘yellow’ to his PMP \*/*kunij*/, noting:

PMP had a classic three term (black-white-red) color system, with possible derivative terms for ‘grue’ (green-blue) and ‘yellow’ based on natural substances or maturational characteristics (\**mataq* ‘raw, unripe; green’, \*/*kunij*/ ‘turmeric; yellow’).

We agree with Blust that in many languages a derivative of the term for turmeric was used to refer to the colour ‘yellow’. This implies again that its basic usage was to produce dye. However, we would argue that this derivation was locally innovated and was not inherited from Proto-Extra Formosan. In the Philippine languages, six languages are reported to have words for ‘yellow’, in which a reflex of \**kúnij* appears, all but one of which are found in the Northern Luzon family. They are listed in (3).

## Forms for ‘yellow’ in Philippine languages (Reid 1971: 168)

- (3) Gaddang                         *kunig*  
 Ifugao (Amganad)                ?i'nunig  
 Ifugao (Bayninan)                ?innu:nig  
 Kankanay (Northern)            kina?u'nəgan  
 Bontok (Guinaang)               kag'kunəg  
 Tagbanwa (Aborlan)             makunit

It will be noted that only Aborlan Tagbanwa has a *ma-* prefix. The only other languages which show a reflex of a \**makúnij* are the two Sulawesi languages, Bare'e and Wolio *makuni* ‘yellow’ (cf., ABVD). These seem insufficient evidence to reconstruct the form to Proto-Extra Formosan. The derived forms in the Northern Luzon languages have either an infix *-in-* ‘characterised by the quality of the base’, or in Guinaang Bontok a compound of a reduced form of *kənəg* ‘like, similar to’ and *kúnəg*. Although there are a number of *kunij*-like forms meaning ‘yellow’ in Indonesian languages, the great majority have a final velar nasal, and are clearly borrowings into the languages rather than directly inherited forms from PEF. We must assume therefore that the semantic

shift from ‘turmeric’ to ‘yellow’ must have taken place somewhere in Indonesia, and spread to surrounding languages, yielding doublets such as *kunīt* ‘turmeric’ and *kuning* ‘yellow’ in Malay (see also Adelaar 1992).

### 3.5 Other Semantic Shifts Related to \*kúnij and \*temu in Languages in the Philippines and Indonesia

It has already been mentioned that some reflexes of \*kúnij and \*temu have been generalised to cover a wider group of plants. For example, in some Philippine languages, the reflex of \*kúnij now indicates ‘*Curcuma zeodaris* (white turmeric)’ in addition to, or in place of ‘*Curcuma domestica*’. It is also observed that *temu*-like forms indicating not only plants belonging to the genus *Curcuma* but also ginger and related plants are found in the Philippines and are probably borrowings with subsequent modification from Indonesian languages.<sup>15</sup>

### 3.6 Summary

Figure 1 shows the semantic changes that have been proposed thus far.

The nature of the changes themselves is not very surprising. Either the name of a plant was extended to cover similar plants, or was changed to indicate another plant with similar attributes, or the meaning was restricted to one distinctive characteristic associated with the plant (the colour ‘yellow (or red)'). Even so, some questions remain. Where did the second form \*temu come from? Why did the *kuning* reflex of \*kúnij spread among Indonesian languages after it started to carry the meaning ‘yellow’? Were these connected with the influence

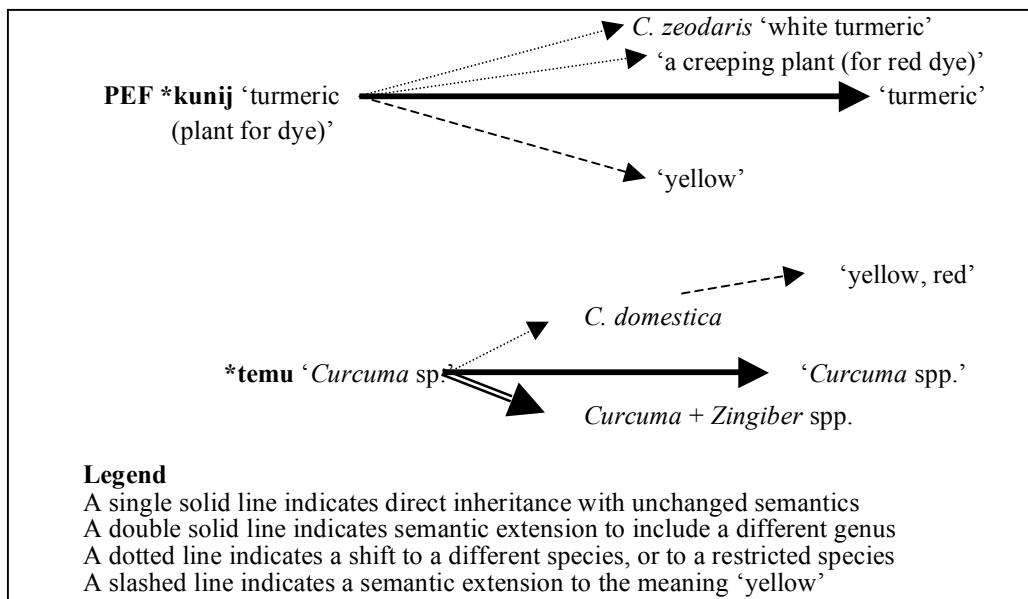


Figure 1. Semantic Changes Associated with \*kunij and \*temu

of Indian culture on Indonesian culture? At this stage, it seems clear that the plant was being used for the production of yellow (and possibly red) dye among Austronesians long before Indian influence and usages of turmeric were extended as Hindu customs were introduced.

#### 4. Words for turmeric in Oceanic Languages

Turmeric is also considered to be an important plant in Austronesian communities outside of Indonesia and the Philippines, in particular, Micronesia and Polynesia.<sup>16</sup> Based on the fact that certain uses of the plant (especially the medicinal ones) are found in wide areas of Oceania, Intoh (2005) infers that the use of turmeric is probably a continuation from the earliest Austronesian settlers. Detailed examination of this hypothesis from archaeological, ethnological, and linguistic aspects is currently in progress by Intoh and Kikusawa and, for the purpose of this paper, we will restrict ourselves to pointing out some of the issues relevant to linguistic reconstruction.

First, although the fact that the form \*kúnij indicating turmeric is reconstructible for Proto-Extra Formosan, implying the possibility that it was the first settlers, the Lapita people, who carried the plant into the Pacific, neither of the forms reconstructed for Proto-Oceanic is a reflex of \*kúnij. Reconstructed forms for turmeric in Proto-Oceanic are listed in (4) and (5).

- |     |   |   |
|-----|---|---|
| (4) | POc    *deŋ(w)a ‘turmeric’<br>PPn    *reŋa      ‘turmeric’<br>PMc    *reŋa      ‘turmeric colour’   | (French-Wright 1983)<br>(Biggs n.d.)<br>(Bender et al. 2003)                            |
| (5) | POc    *(y)ano     ‘turmeric’<br>PEO    *yaŋo      ‘turmeric’<br>PNCV *ano      ‘turmeric, yellow’<br>PPn    *ano      ‘turmeric’<br>PMc    *ano      ‘curcuma, turmeric, ginger, yellow’ | (Clark 1986)<br>(Geraghty 1990)<br>(Clark 1986)<br>(Biggs n.d.)<br>(Bender et al. 2003) |

These reconstructions, along with the fact that no reflexes of PEF \*kúnij are found indicating either turmeric or the colour yellow pose two questions. Why did the form \*kúnij disappear and where did the Proto-Oceanic forms come from? What was the cultural context in which these changes occurred? French-Wright mentions (1983: 173) the possibility that \*yaŋo indicated the turmeric plant itself, while \*deŋ(w)a referred to processed turmeric, namely, powdered dye. In both Micronesian languages and some languages of the Solomon Islands, reflexes of \*deŋ(w)a are used to indicate powdered dye, while there is no reflex of \*yaŋo that does. This needs to be examined carefully, for in the Pacific, unlike in Southeast Asia, areas where turmeric can readily be cultivated are limited (Hotta *et al.* 1989, and Intoh 2005).

As for the possibility that Fijian *damudamu* ‘red’, and Tongan *tamutamu* ‘red’ are related to either \*temu or \*tamu (Dempwolff 1938, Zorc 1994), we note that there are no other related forms reported from Oceanic languages and at this time these need to be treated as chance resemblances.

As for the uses of the plant, most descriptions comment on the use of the rhizome as a source for dye, but little is mentioned of the use of its leaves. However, Tryon (1994) notes that “the leaves are used to treat coughs, and sore throat”. Similarly, Richardson (1885) notes that in Madagascar the leaves are used “in the form of vapour baths for malarial fever”. According to Burrows (1957: 174) cited in Intoh (2005), although the plants can grow on coral islands, as on the Carolinian atoll of Ifaluk for example, they produce only small rhizomes which are not enough for powder production, and only the leaves are used. Are these uses of the leaves of turmeric widely found, like the uses of the rhizomes, or are they simply local innovations? Is there any linguistic data hiding somewhere from which to find an answer to these questions?

Finally, an examination of the terms found in Micronesian languages reveals that, in addition to reflexes of the two forms reconstructed for Proto-Oceanic (listed in (3) and (4) above), there are at least three sets of similar forms. First, there is a set of *teik*-like words indicating ‘powdered dye’ spread from Chuuk to Sonsorol. Second, there is a set of *jafan*-like forms meaning ‘turmeric plant’ occurring in languages on the atolls relatively close to Chuuk, namely, Satawal, Puluwat, Namonuito, Pulap, Chuuk and Nama. Finally, there is a set of *guchol*-like forms, most of which mean ‘turmeric plant’, and not ‘dye’. According to Ross (1996b: 154), the Yapese form *yucæ:l* ‘turmeric plant’ shows sound correspondences that imply an introduction from “an older stage of Palauan or a lect closely related to it”. If this is correct, the *guchol*-like forms, which are found also in Ulithi (Quackenbush 1968) and Faith (Lessa 1977), but not farther to the east, appear to reflect an old exchange route from the west. Yapese also has a form *re:y* (Ross 1996b: 160), which is a reflex of Proto-Micronesian \**rena* (and ultimately of Proto-Oceanic \**deŋ(w)a* ‘turmeric’). Was turmeric so important that it travelled around the Pacific, both from the west and the east, to eventually meet again in Yap? We hope, by further examining both linguistic and non-linguistic data, to find an answer to this question.

## Notes

1. We would like to thank Michiko Intoh for drawing our attention to the fact that turmeric carries an important role in Austronesian cultures, and Mitsuru Hotta for sharing with us materials on turmeric that he has collected over the years. Other aspects of our research into turmeric will appear in future related papers.
2. We use the term Proto-Extra Formosan in this paper as more accurately defining the subgroup of languages it names, rather than the corresponding term Proto-Malayo Polynesian, which although commonly used in the literature has different definitions depending on the researcher (cf. Harvey 1979 and Reid 1982).

3. The proto-phoneme represented by Dempwolff as \*g' is typically represented in more recent publications as \*j.
4. Zorc here uses the term 'turmeric' apparently as the definition of *C. zeodaris*, rather than implying that the reconstructed form meant both *C. domestica* and *C. zeodaris*. This inconsistent use of the term complicates research in that, where the definition of a plant is given simply as 'turmeric', one is left wondering which species is being referred to. On the other hand, Blust's definition of his reconstruction implies that the form meant both 'turmeric' (presumably *C. domestica*) and 'yellow'.
5. The language referred to as Kalamian Tagbanwa does not reflect \*k as k, but as glottal stop in word-initial positions (Himes 2006). The language referred to in the table as Tagbanwa is probably Aborlan Tagbanwa, a Central Philippine language, which retains \*k as /k/.
6. In many of the Northern Luzon languages, vowel stress is contrastive, and at least the Ilokano, Isneg, Bontok, Ifugao, and Kankanaey forms carry stress on the first vowel.
7. In Hanunóo, for example, the two species are distinguished: thus *dilaw* is '*C. domestica*', and *zalumpay* is '*C. zedoaris*'. While Conklin notes that, for the Hanunóo, '*C. domestica*' is a useful plant for food and medicine, '*C. zedoaris*' has no useful purpose. It is considered to be a weed and is treated as such in swiddens (Conklin 1955: 275, 308, 1956: 104).
8. Thus the recent dictionaries of Ilokano (Geladé 1993, and Rubino 2000), which both define Ilokano *kúnig* as *C. zedoaria* are ultimately derivatives of Vanoverbergh (1956), which so defines the term, and this itself is a "translated, augmented and revised" version of Andrés Carro's *Vocabulario Iloco-Español* (1888).
9. Wolff (1994: 537) glosses it as '*Curcuma zedoaria*' (i.e., white turmeric) in another part of his paper.
10. Another species that has been noted for producing dye (in Okinawa) is *C. aromatica* (Tawada 1972). Corner and Watanabe (1969:1074) also claim that *C. mangga* (Malay *temu pauh*) is used in the production of dye; however other descriptions of the species (e.g., Ochse 1931 and Holtum 1950) make no mention of its use as a source of dye.
11. Sakiyama (1991) suggests that the bright yellow to orange colour of turmeric replaced an earlier red dye that had been used in Austronesian communities in Southeast Asia for rituals. However, he provides neither the source of, nor evidence for, this information. Following this suggestion, one might assume that the form \*kúnij originally meant 'plant yielding red dye'. Although turmeric is commonly recognised as the source of yellow dye, it also produces a red dye when grilled over a fire (Intoh p.c., July, 2005).
12. The source of this data is the term for 'yellow' in the Swadesh 100 word list in Malagasy languages, so information as to whether the same term is used for turmeric, or some other term, is not present.
13. Richardson describes its usage as follows: "The root is pounded and used as a poultice for abscesses by the Betsileo, and along with some other things for hydrophobia [rabies]. The leaves are used by them in the form of vapour baths for malarial fever. It also affords a yellow dye." (1885: 277)
14. Adelaar argues that there was continuous contact with Indonesia, even after the initial Austronesian settlement in Madagascar, so it is possible that the form *tamu(tamu)* was introduced subsequent to the initial settlement. However, the fact that the *tamutamu* is found in many geographically peripheral areas, including Comoros, seems to indicate an early arrival of the form.
15. Philippine forms occurring in Madulid (2001) which include a *tama-* or *temu*-like form include the following: *tamo* (Kapampangan, Tagalog), *tamokansi* (Tagalog) '*C. zeodoris* (white turmeric)', *tamangyan* 'turmeric' (Bisayan), *tamohilang* 'ginger' (Bukidnon), *tanmanan* 'turmeric' (Bisayan, Samar-Leyte), *tamahiba* (Tagalog), *tamahilan*, *tamaylan* (Bikol) '*C. zeodoris* (white turmeric)'.
16. Medicinal uses of the plant in Polynesia are widely reported (Whistler 1992). In Micronesia, according to Intoh (2005), the following have been reported: i) body painting, ii) dye for colouring cloth, iii) medicinal use, iv) food, and v) offerings.