THE OCCURRENCE AND CO-OCCURRENCE OF WAFFA NOUN SUFFIXES1

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0. Introduction

Noun suffixes in Waffa manifest several types of intricate co-occurrence restrictions such that a description in terms of affix orders and classes gives very little insight into the structure of the system. The method of description presented here focuses on an inventory of noun affixes and a statement of their occurrence and co-occurrence possibilities. It represents a preliminary analysis of text materials collected during two years of field work between 1962 and 1966. The field work was carried out in the village of Kusing under the auspices of the Summer Institute of Linguistics.

Waffa is a language of the Eastern Family as defined by S.A. Wurm.² It is spoken by approximately 940 people living in the mountains south of the Markham River in the Morobe District.

The following symbols have been used in the formulae which occur in the description of affix occurrence potential:

- + concatenation
- () enclose an optional item
- [] enclose alternative choices.

1. Noun Classes

Nouns may be divided into two classes on the basis of two sets of suffixes for subject and object markers. Class I (ns_1) consists of all proper names and certain kin relationships listed below. The subject marker for this class is /-va/ and the object/possessive marker is /-nna/. The possessive prefix /i-/your (sing.) is used in the following examples:

/i–koo–va/	/i–koo–nna/	your father
/i—noo—va/	/i—noo—nna/	your mother your elder brother
/i—vayaa—va/	/i—vayaa—nna/	your elder sister
/i—nnayaa—va/	/i—nnayaa—nna/	your eract stock.

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Wurm (1964) and McKaughan (1964).

/i—nnituoo—va/ /i—nnituoo—nna/ your brother-in-law /i—mmaugiaa—va/ /i—mmaugiaa—nna/ your sister-in-law	/i—mmaugiaa—va/	/i—mmaugiaa—nna/	your sister-in-law your great grandparents or
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Class II (ns₂) nouns consists of all other nouns. The subject marker is /-ivo/ and the object/possessive marker is /-ivaa/. The kinship terms which occur with this class are listed below.

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/i-kata-ivaa/
                                                       your younger brother
/i-kata-ivo/
                          /i-nnunna-ivaa/
                                                       your younger sister
/i-nnunna-ivo/
                          /i-vaati-ivaa/
                                                       your husband
/i-vaati-ivo/
                          /i-nnaata-ivaa/
                                                       your wife
/i-nnaata-ivo/
                          /i-nnaaputu-uvaa/3
                                                       your daughter-in-law
/i-nnaaputu-uvo/
                                                       your son-in-law
/i-nniraapu-uvo/
                          /i-nniraapu-uvaa/3
/i-mmaapu-uvo/
                          /i-mmaapu-uvaa/3
                                                       your son
                          /i-raunna-ivaa/
                                                       your daughter
/i-raunna-ivo/
                                                       your sister's children
/i-nnaudi-ivo/
                          /i-nnaudi-ivaa/
/i-nneedi-ivo/
                          /i-nneedi-ivaa/
                                                       your grandchild.
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Nouns as Subject and Object 2.

The distribution of suffixes will be discussed in terms of five formulae in sections 2, 3 and 4. These formulae will define the occurrence and co-occurrence restrictions of the suffixes. Following are two formulae which show nouns as subject and object.

Formula 1:
$$\begin{bmatrix} S \\ O \\ Ref \\ Non-RS \end{bmatrix} + \begin{pmatrix} \left(\frac{nanaa}{Md} \right) \end{pmatrix}$$

$$\begin{bmatrix} S \\ O \end{bmatrix} + \begin{pmatrix} \frac{ta}{ma} + \left(\frac{nanaa}{ma} \right) \end{pmatrix}$$

$$S + \begin{pmatrix} noo \end{pmatrix}$$

$$O \begin{pmatrix} \frac{ra_1}{ni} \\ \frac{si}{si} \end{pmatrix} + \frac{(diri_1)}{si} \end{pmatrix}$$

$$ns_2 + (O + (\underline{diri}_2) + (\underline{nanaa}))$$

Suffix restrictions may relate to their occurrence or non-occurrence or to their status as optional or obligatory. These restrictions depend on both the noun stem class which occurs and on the occurrence of the suffixes.

Following are the readings of the above formulae.

In Formula 1 noun stems from both class one (ns₁) and class two (ns₂), can occur alone or with the subject or object suffixes. These suffixes are obligatory when followed by further suffixation. The subject, object, referent and non-referent specifier suffixes can be followed by /-nanaa/ first or by the Mood suffixes. The subject and object suffixes can also be followed by the accompaniment suffix /-ta/ plus the optional suffix /-ma/ which acts almost like an adverbialiser. The suffix /-nanaa/ can also follow the accompaniment suffix /-ta/. Only subject suffixes can be followed by the indicative suffix /-noo/ and only object suffixes can be followed by /-ra₁/ the reference suffix, or by /-ni/ the benefactive suffix, or by /-si/ to (of persons) plus the optional suffix /-diri, / from. The suffix /-nanaa/ can also follow these suffixes which follow the object suffixes.

Formula 2 shows affix restriction on noun stem class two. The noun stem can occur alone or with the object suffixes which are obligatory to the instrument suffix /-diri₂ / which can also be followed by /-nanaa/.

In the following descriptions of suffixes occurring in the above formulae symbols and morphemes are discussed in the order in which they appear when the formulae are read from left to right.

S = Subject Marker :

Class I:

/-va/ singular, e.g.,

/ni-noo-va

vi-ra-vai/

my-mother-subject

go-Far Past-Stative

My mother went.

Plural is shown on kinship terms by the formation of the stem. This is described in section five at the end of this paper.

Class II:

/-ivo/ singular, e.g.,

/puara—ivo

yeenna-ivaa nna-i-noo/

*pig-*subject

food-object

eat-3 pers. sing.-Indicative

The pig is eating food.

/-iyauvo/ plural collective (used more specifically when referring to a group but it is also used as a general plural), e.g.,

/ni yaaki—iyauvo

taka-i-vai/

my sugar cane-pl. coll. break-3 pers. sing.-Stative

My sugar cane is broken.

/-ido/ plural inclusive (used only when referring to an included group), e.g.,

/kiaatanna—ido

vi-da

kiaa-vai/

girls-plural inc.

go-pl. action sequence completive-stative

All the girls have gone.

/-iya/4 plural collective with animate (/-iyauvo/ can also be used for the animate), e.g.,

/vaidi—iva

kua-a-noo/

man-pl. coll.

go-2 and 3 pers. pl.-Indicative

The men are going.

O = Object/Possessive Marker :

Class I:

/-nna/ singular, e.g.,

/Meree-nna

ruputua-nee/

Mary-object

hit-Imperative singular

Hit Mary !

^{4. /-}iya/ has the variant form /-ya/ which may be partially accounted for by morphophonemic rules not stated here.

```
/itai—nna nnau—vai/
man's name-possessive house-Stative
It is Itai's house.
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Class II:

/-ivaa/ singular, e.g.,

/na surau—vaa⁵ vara—u—vai/

I bow-object get-1 pers. sing.-Stative

I got the bow.

/ni vaidi—ivaa

fai—va

taa-nee/

my man-possessive dog-o

dog-object look-Imperative singular

Look at my man's dog.

/-iyauvaa/ plural collective, e.g.,

/ni yaaki—iyauvaa

taa-nee/

my sugar cane-pl. coll. see-Imperative singular

Look at my sugar cane.

/-iya/6 plural collective with animate (/-iyauvaa/ can also occur with animate), e.g.,

/vaidi-iya

puara-iya

hatoka-a-vai/

man-pl. coll. pig

pig-object

cut-2 and 3 pers. pl.-Stative

The men cut up the pigs.

ta vaidi—iya

puara—iyauvaa

hatoka-a-vai

we man-pl. poss. pig-pl. coll.

cut-2 and 3 pers. pl.-Stative

We cut up the men's pigs.

/-idaa/ plural inclusive, e.g.,

/na sikau-daa⁷

vara-u-vai/

I stone (money)-pl. inc. get-1 pers. sing-Stative

I got all the money.

Ref = Referent:

/-vai/ singular; /-vai-tana/ dual; /-yauvi/ plural

(This suffix points out the subject or object specifically referred to in a construction. It has been noted that a referent does not occur as the subject of a transitive verb. The singular form does not occur with ns₁.), e.g.,

 ns_1

/i-nayaa-kia-vai-tana

kua-a-noo/

your-sister-pl.-Ref.-dual

go-2 and 3 pers. pl.-Indicative

Your two sisters are going.

/i-nayaa-kia-yauvi

kua-a-noo/

your-sister-pl.-Ref. pl.

go--2 and 3 pers. pl.-Indicative

Your sisters are going.

- 5. /au + i/ results in the omission of /i/.
- See footnote 4.
- 7. See footnote 5.

ns₂

kua-i-noo/ ngiau

upwards go-3 pers. sing.-Indicative /fayai-vai

animal-Ref. sing The animal went up.

kua-a-noo/ ngiau

/fayai-vai-tana animal-Ref. sing.-dual

go-3 pers. pl.-Indicative upwards

Two animals went up.

oro rai-nara/ takai—yauvi

ni yaaki-iyauvo my sugar cane-Sub. pl. coll.

break-Ref. pl. go up tie-Fut. sing.

I will go up and tie up my sugar cane (which broke).

/-da/ plural referent specifier (seems to be used when the number of things referred to is in focus. The number is general and could refer to four or more things), e.g.,

/ngiaammuau—da

kua-a-noo/

boy-Ref. pl. Spec.

go-3 pers. pl.-Indicative

The boys are going (a specific number of boys previously in focus).

/na seera-da

utua-u-noo/

/ stick-Ref. pl. Spec.

hold-1 pers. sing.-Indicative

I am holding the pencils.

Non-R S = Non-Referent Specifier :

/-ruta/ singular; /-ruta-tana/ dual; /-rupara/ plural.

This suffix behaves in the same manner as the Referent and the tentative name of Non-Referent Specifier has been given to it. It seems to point out a subject or object of special importance which has not been discussed in the course of the conversation. When suffixed to noun stems of class one the subject and object markers are obligatory with Proper Names. Proper names therefore provide an exception to Formula 1. Examples are:

 ns_1

/Meree—va—ruta

kua-i-noo/

Mary-subject-Non-R S

go-3 pers. sing.-Indicative

It is Mary going.

/i-nayaa-kia-ruta-tana

kua-a-noo/

your-sister-pl-Non-R S-dual

go-2 and 3 pers. pl.-Indicative

It is your two sisters going.

/i-nayaa-kia-rupara

kua-a-noo/

your-sister-pl.-Non-R S pl.

go-2 and 3 pers. pl.-Indicative

It is your sisters going.

 ns_2

VO

/ikia

saaba-ruta

ni-mia-nee/

firewood Limiter

bundle-Non-R S

me give-Imperative sing.

Give me a bundle of firewood.

saaba-ruta-tana ni mia-nee/ VO /ikia Limiter bundle-Non-R S-dual me give-Imperative sing. firewood Give me two bundles of firewood. saaba-rupara ni mia-nee/ VO bundle-Non-R S-pl. me give-Imperative sing. Limiter firewood Give me bundles of firewood. /-nanaa/ first, e.g., kua-i-noo/ /meree-va-nanaa go-3 pers. sing.-Indicative Mary-subject-first Mary is going first. Md = Mood: /-vee/ Indicative; /-nnee/ Interrogative. These suffixes can also occur on verbal constructions. Examples are: /meree-va-vee/ Mary-subject-Indicative It is Mary. /vaidi-ivo-vee/ man-subject-Indicative It is a man. /meree-va-nee/ Mary-subject-Interrogative It is Mary? vara gioonna-ivo-nnee/ /vaidi-ivo-nnee man-subject-Interrog. or woman-subject-Interrog. Is it a man or is it a woman? /-ta/ Accompaniment. The suffix /-ma/ can occur following /-ta/. /-ma/ shows a close relationship to the following verb and is almost an adverbialiser. Examples are: kua-a-noo/ /ivo ari-vaati-ivoo-ta-ma she her-husband-subject-accom-adverbialiser go-3 pl-Indic. She and her husband are going. /-noo/ Indicative. The difference between /-vee/ Indicative and /-noo/ Indicative is that /-vee/ marks the Predicate slot and /-noo/ marks the Subject slot. E.g. ti-i-vai/ /apoo-vaa-noo8 say-3 pers sing-Stative man's name-subject-Ind. Apoo spoke. /-ra₁/ Reference (indicates the person or thing referred to, spoken to, spoken about or reason), E.g. kua kia-a-noo/ /puara—ivaa—ra talk say-2 and 3 pers. pl.-Indicative. pig-object-about

8. /noo/ causes length on the preceding vowel.

They are talking about a pig.

/-ni/ Benefactive, E.g. iikia-a-noo/ /nniaammuau-ya-ni work-2 and 3 pers. pl.-Ind. boys-plural object-benefactive They are doing it for the benefit of the boys. /-si/ to (occurs in both noun classes with noun stems referring to persons only), E.g., kua-nee/ /meree-nna-si go-Imperative singular Mary-object-to Go to Mary. kua-nee/ /gioonna—ivaa—si go-Imperative singular woman-object-to Go to the woman. /-diri₁ / 'from' (direction) (~ /di/ in free variation), É.g. nni-i-vai/ /nnau-vaki-di come-3 pers. sing.-Stative house-in-from He (she, it) came from in the house. nni-i-vai/ /meree-nna-si-diri come-3 pers. sing.-Stative Mary-object-to from He came from Mary (from where Mary was). /-diri₂ / Instrument (~/-di/ in free variation), E.g. ruputua-u-vai/ /na veeva-ivaa-di hit (kill)-1 pers. sing.-Stative I arrow-Object sing.-Ins. I killed it with an arrow.

With the Instrument suffix the object suffix can be shown only by the /-a-/ morpheme. Both forms are used and it has not yet been determined if there is a significant reason for this.

/na veeva—a—diri ruputua—u—vai/
// arrow-Object sing.-Ins. hit-1 pers. sing.-Stative
// killed it with an arrow.

3. Nouns as Location and Direction:

Following is formula 3 which shows the occurrence and co-occurrence restrictions of noun stems with location and directional suffixes.

Formula 3.
$$\begin{bmatrix} \frac{ivaki}{(kieta) + ki} \end{bmatrix} + \begin{pmatrix} \frac{(nnai) + nni}{naa} + (nni) \\ \frac{ra_2}{ra_2} \end{bmatrix}$$

$$ns_2 + \begin{pmatrix} \frac{nai + (nni)}{ivau} \end{bmatrix} + \begin{pmatrix} \frac{ra_2}{ivau} \end{pmatrix} \end{pmatrix} + \begin{pmatrix} \frac{ngiaa}{gietaa} \end{pmatrix} \end{pmatrix} + \begin{pmatrix} \frac{diri_1}{1} \end{pmatrix} + \begin{pmatrix} \frac{nanaa}{inataa} \\ \frac{inataa}{nni} \\ \frac{na}{inataa} \end{pmatrix}$$

Formula 3 shows further affix restrictions on noun stem class II. Of the suffixes appearing in the formula, only /diri₁ / from and /-nanaa/ first occur in the formulae described previously. The suffix /-ivaki/ in, at and the specifier suffixes represented by /-kieta/ plus the obligatory suffix /-ki/ in, to are obligatory to the optional suffix /-nnai/ interrogative plus /-nni/ by, or to /-naa/ through plus the optional suffix /-nni/ by, or to /-ra₂ / to. The suffix /-nai/ area plus the optional suffix /-nni/ by and /-ivau/ on are both obligatory to /-ra₂ / to. Further suffixes /-yaa/ on, /-inataa/ down inside, /-nni/ by or /-na/ inside can occur following the noun stem.

The above suffixes are optional and can be followed by /-ngiaa/ along or by /-gietaa/ along side. These are also optional and can be followed by the optional suffix /-diri₁ / from which in turn can be followed by the optional suffix /-nanaa/ first.

/-ivaki/9 in, at, e.g.,

/toori—ivaki—di huda ni—mia—nee/
bamboo-in-from cook me-give-Imperative
From in the bamboo cook it and give it to me.
na nnoori—ivaki dia—u—noo/
/ water-at stand-1 pers. sing.-Indicative
/ am standing at the water.

Sp = Specifiers:

/-kieta/ singular; /-kieta-tana/ dual; /-kiennia/ plural. Examples are :

/nnau-kieta-ki kua-nee/ house-spec. sing-in go-Imperative

Go in the house (previously spoken about or referred to).

9. /-ivaki/ has the variant form /-vaki/ which may be partially accounted for by morphophonemic rules not stated here.

```
kua-tee/
            /nnau-kieta-tana-ki
                                       go-Imperative pl.
           house-spec. sing-dual-in
            Go to the two houses.
                                  kua-tee/
           /nnau-kiennia-ki
                                  go-Imperative pl.
           house-spec. pl-in
           Go in the houses.
    /--ki/ in, to, e.g.,
                        kua-nee/
           /nnau-ki
                       go-Imperative
           house-in
           Go in the house.
          /na nnoori-ki kua-u-noo/
                         go-1 pers. sing.-Indicative
          I water-to
          I am going to the water (place).
   /-nnai/ (the area of meaning of this suffix has not been determined), e.g.,
          /nnau-vaki-nnai-nni taa-nee/
                                look-Imperative
          house-at-?-by
          Look by the house.
  /-nni/by, e.g.,
         /nnau-nni taa-nee/
         house-by look-Imperative
         Look by the house.
 /-naa/ through, e.g.,
                        kua—nee/
        /nnau-ki-naa
        house-in-through
                             go-Imperative
        Go in through the house.
 /-ra<sub>2</sub> / to (this suffix is used when indicating a long distance), e.g.,
                        kua-nee/
        /nnau-ki-ra
        house-in-to
                        go-Imperative sing.
        You go to and in the house.
/-nai/ area, e.g.,
       /hanikia ruru—nai kua—nee/
                path-area go-Imperative
       Go along the fence path.
/-ivau/10 on, around
       /yatari-vau rammua-nee/
       tree-around tie-Imperative
       Tie it around the tree.
       /iri-ivau kua-nee/
      log-on
                go-Imperative
      Go on the log.
```

^{10. /-}ivau/ has the variant form /-vau/ which may be partially accounted for by morphophonemic rules not stated

This locative suffix also occurs suffixed to the Referent suffixes. In the singular form the Referent suffix is lost and the form appears the same as above. The dual and plural forms retain the /-i/ following the noun stem and become /-u/ for dual and /-vunu/ for plural. Examples are:

/yana—ivau taa—nee/
leaf (paper)-on look-Imperative
Look on the book.
/yana—ivai—tana—u taa—nee/
leaf-Ref.dual-on look-Imperative
Look on the two books.
/yana—iyau—vunu taa/nee/
leaf-Ref. pl.-on look-Imperative
Look on the books.

/-yaa/ on (this suffix indicates a more specific area than /-ivau/ on), e.g.,

/mmata—yaa varia—nee/ ground-on sit-Imperative Sit on the ground.

/-inataa/11 down inside, e.g.,

/yava—inataa taa—nee/

clay pot-down inside look-Imperative sing.

Look down inside the clay pot.

/-na/ inside, e.g.,

/na nnoori-na-di vara-u-vai/

I water-inside-from get-1 pers. sing.-Stative

I got it from in the water.

/-ngiaa/ along; /-gietaa/ along side (the tentative meanings along around and along side have been given to try to distinguish the area of meaning of these two suffixes). Examples are :

/nnau-vaki-nnai-gietaa kua-nee/

house-at-?-along side go-Imperative

Go along side the house.

/nnau-vaki-nnai-nni-ngiaa kua-nee/

house-at-?-by-along around go-Imperative

Go along around by the house.

4. Other Usages of Nouns

Formulas 4 and 5 show further restrictions of the occurrence and co-occurrence of suffixes with noun stems.

^{11. /-}inataa/ has the variant form /-nataa/ which may be partially accounted for by morphophonemic rules not stated here.

Formula 4:

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ns + (voc)
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Both noun stems of class one and class two can be followed by the vocative suffixes when the noun stem is human.

voc = Vocative :

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/-o/ singular; /-so/ plural, e.g.,
                           nnia-nee/
       /nasitee-o
      man's name-voc. sing. come up-Imperative sing.
      Nasitee, (you) come!
      /vaidi-so rikia-tee/
      man-voc. pl. hear-Imperative pl.
      Men, (you pl.) listen!
```

Formula 5:

$$ns_2 + \left(\left[\frac{ra_3}{(vai)} + (Md) \right] \right)$$

Formula 5 shows further affix restrictions on noun stem sub-class two. The purposive suffix /-ra₃ / and the suffixes represented by /-vai/ plus the Mood suffixes optionally follow the noun stem.

/-ra₃ / purposive (indicates the purpose of the action of the verb with reference to the noun with which it occurs), e.g.,

```
/na ngiaamma—ra kua—u—noo/
I bird-purposive go-1 pers. sing.-Indicative
I am going for (to acquire) birds.
```

/-vai/ represents /vai₁ / and /vai₂ /.

/-vai₁ / refers to the Stative suffix which occurs with verbal constructions. The person and number is not indicated. This could be considered the Predicative when occurring with nouns. E.g.,

```
/ni fai-vai/
my dog-Stative
It is my dog.
```

/-vai₂ / represents the Perfect suffixes. These also occur on verbs and they are marked for person and number. The forms are as follows: - /-vai/ 1 and 3 sing.; /-kua/ 2 sing.; /-ya/ 1, 2 and 3 pl. E.g.,

```
/a
           vaidi-kua/
you (sing.) man-Perfect
You are (definitely) a man.
```

Kinship Term Stem Formation 5.

Kinship terms in both classes of nouns are prefixed with the possessive pronouns /ni-/ 1 pers. sing.; /i- \sim ai-/ 2 pers. sing.; /ari-/ 3 pers. sing.; /ti-/ 1 pers. pl.; /ngii-/

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2 pers. pl.; /ngiari-/ 3 pers. pl., e.g.,
```

/ni-napoo-nna

nnau-vai/

my-father-poss.

house-Stative

It is my father's house.

These pronouns are obligatorily prefixed excepting where the person is being addressed, e.g.,

/napoo-o/

father-voc.

Father.

There are two terms for father, mother, older brother, older sister, mother's brother, and mother's sister. When the speaker is referring to his father, mother, etc., he uses a different term to that used by anybody else, e.g.,

/ni-noo-va/

/ni-napoo-va/

*my-mother-*subject

my-father-subject

My mother.

My father.

/ai-kaano/

/i—koo—va/

your-mother

your-father-subject

Your mother.

Your father.

Plural is indicated by a change in the stem.

ns₁ have /kia(iya)/ added when the reference is by someone other than the speaker. This seems to mean a special kin relationship. E.g.,

/i-kookiaiya

varia-a-noo/

your-father pl.

sit-3 pers. pl.-Indicative

Your fathers are sitting.

/-vainna/ is added when the speaker is referring to his own kin, e.g.,

/ni-napoo-vainna

varia—a—vai/

my-father-plural

sit-3 pers. pl.-Stative

My fathers sat.

ns₂ kinship terms have the following plural stem formations: /i-kata-unna-iya/ your-younger brother-pl.; /i-vaati-daunna-iya/ your-husband-pl.; /i-nnaata-daunna-iya/ your-wife-pl.; /i-nnaedi-tunna-iya/ your-grandchild-pl.; /i-nnaudi-tunna-iya/ your-niece/neph-ew-pl.; /i-nnunna-apu-uya/ your-younger sister-pl.; /i-raunna-apu-uya/ your-daughter-pl.

In ns₁ the suffix /--ya/ occurring on two noun stems connects the two nouns, e.g.,

/meree-ya

suaisa—ya

kua-a-noo/

Mary-connective

Joyce-connective

go-3 pers. sing.-Indicative

Mary and Joyce are going.

/aheemo-ya

ari-koo-ya

kua-a-noo/

man's name-connective his-father-connective

go-3 pers. pl.-Indicative

Aheemo and his father are going.

When a kin relationship term from class II occurs the suffix /-ri/ occurs, e.g., /munniduu-ya raunna-ri kua-a-noo/ daughter-connective go-3 per. pl.-Indicative Munniduu and his daughter went.

BIBLIOGRAPHY

- McKAUGHAN, H., 1964. "A Study of Divergence in Four New Guinea Languages", (ref. Watson, 1964 : 98-120).
- WATSON, J.B. (ed.), 1964. New Guinea: The Central Highlands. American Anthropologist, 66: 4 (part 2).
- WURM, S.A., 1964. "Australian New Guinea Highlands Languages and the Distribution of their Typological Features", (ref. Watson, 1964: 77–79).