

East Kimberley Impact Assessment Project

A PRELIMINARY ACCOUNT OF THE ETHNOBOTANY OF
THE KIJA PEOPLE OF BUNGLE BUNGLE OUTCAMP

N.H. Scarlett*

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A Joint Project Of The:

Centre for Resource and Environmental Studies
Australian National University

Australian Institute of Aboriginal Studies

Anthropology Department
University of Western Australia

Academy of the Social Sciences in Australia



The aims of the project are as follows:

1. To compile a comprehensive profile of the contemporary social environment of the East Kimberley region utilising both existing information sources and limited fieldwork.
2. Develop and utilise appropriate methodological approaches to social impact assessment within a multi-disciplinary framework.
3. Assess the social impact of major public and private developments of the East Kimberley region's resources (physical, mineral and environmental) on resident Aboriginal communities. Attempt to identify problems/issues which, while possibly dormant at present, are likely to have implications that will affect communities at some stage in the future.
4. Establish a framework to allow the dissemination of research results to Aboriginal communities so as to enable them to develop their own strategies for dealing with social impact issues.
5. To identify in consultation with Governments and regional interests issues and problems which may be susceptible to further research.

Views expressed in the Project's publications are the views of the authors, and are not necessarily shared by the sponsoring organisations.

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TABLE OF CONTENTS

	Page No.
ACKNOWLEDGMENTS	ii
INTRODUCTION	1
A BRIEF DESCRIPTION OF THE VEGETATION OF THE STUDY AREA	1
Usmond Valley Range	2
Purnululu	2
Western Range	2
Red Rock Creek Plain	3
Bungle Bungle-Urd Plain	3
Urd River	4
CAMP SITES VISITED AND THEIR RELATION TO THE ENVIRONMENT	4
FOOD RESOURCES AND THEIR UTILISATION	6
Fruits	6
Seeds	7
Roots	7
Stems, Leaves and Edible Gums	8
Wild Honey and Lerp Scales	9
Medicinal plants	9
Artefacts and Constructions	10
DISCUSSION	10
REFERENCES	11
APPENDICES	12-24

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M.C. Dillon
Executive Officer
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INTRODUCTION

The data reported and discussed was gathered between the 8th and 17th July, 1984, working with Kija people traditionally associated with the Bunyle Bunyle Outcamp, south of Turkey Creek in the eastern Kimberley.

Traditional camps (taam) were visited between Kirliwarl (Fowl House) on the east, Wurlwurlji (Samim Mining Camp) to the north and the 'Blue Hole' on the Urd River to the south (see Figures 1). Collection of plant specimens and ethnobotanical data was carried out in conjunction with a broader investigation of both religious and economic ties to country by Dr D. Rose (anthropologist).

This report is mainly restricted to the ethnobotanical aspects of Kija tradition in the study area. This field covers two categories recognised by the Kija people:

1. Mayim - vegetable foods in general
2. Ngarem - wild honey (Aboriginal English : sugar bag).

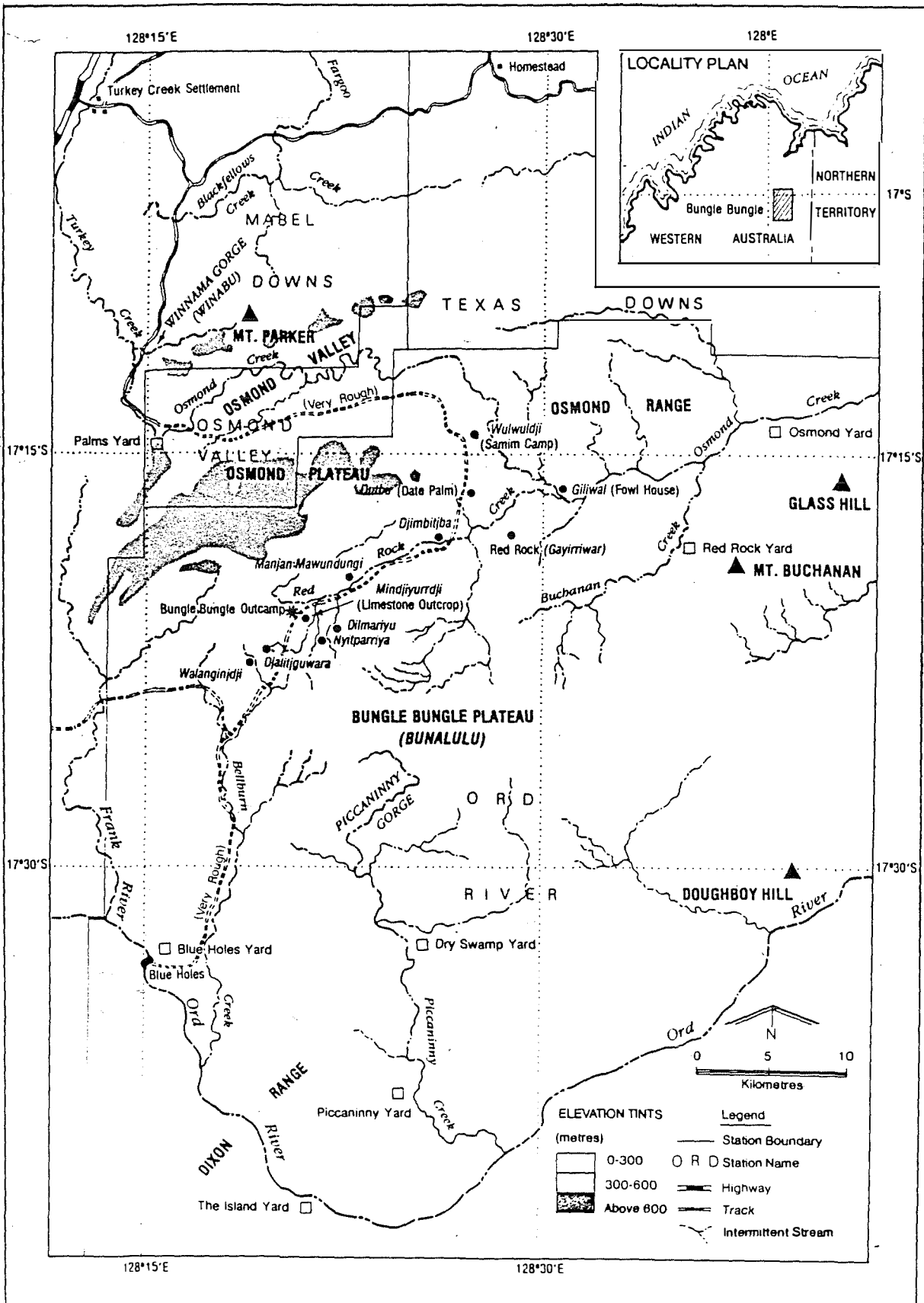
In addition, plants used for medicines, fish 'poisons', artefacts and constructions are listed.

A BRIEF DESCRIPTION OF THE VEGETATION OF THE STUDY AREA

The area can be conveniently divided as follows:

1. Stony Ranges
 - (a) Usmond Valley Range
 - (b) Purnululu ('Bungle Bungles')
 - (c) Western Range (low range between Bellburn Creek and the Frank River)
2. Inter-range plains
 - (a) Red Rock Creek Plain
 - (b) Bunyle Bunyle - Urd Plain
3. Urd River

FIGURE 1 : BUNGLE BUNGLE AND ENVIRONS



Osmond Valley Range

The dominant vegetation of the sandstone hills is a tree steppe (Beard, 1977) of *Eucalyptus brevifolia* with an understorey of 'spinifex' (*Triodia* and *Plectrarchne* species). The Osmond Valley Range is remarkable for its wet stream valleys with *Melaleuca leucadendron* open forest, *Pandanus* low open forest and woodland and associated patches of dense riparian forest (cf. Riparian communities of Hnatiuk and Kenneally, 1981).

The riparian forest is composed of species such as *Syzygium angophoroides*, *Ficus coronulata*, *Nauclea orientalis* and *Carallia brachiata* over a lush understorey of *Cyclosorus interruptus* and *Colocasia esculenta*.

Purnululu

This sandstone range is characterised by steep often vertical cliffs intersected by narrow, steep stream valleys surrounding an undulating plateau. The dominant vegetation of the plateau is a tree steppe of *Eucalyptus pyrophora* with associated tall shrubs such as *Grevillia wickhamii*, *Acacia* spp. and an understorey of spinifex. The narrow stream valleys contain pockets of both *Eucalyptus herbertiana* woodland and riparian forest. Around the base of the range and in the broad valley flanking the eastern side of the Bungle Bungle-Ord plain, deep red sandy soils with a savanna dominated by *Eucalyptus collina* or *E. brevifolia* occur.

Western Range

The Western Range is formed on Archaean rocks (shales etc.) with a lower, more gentle terrain. The hills are dominated by a tree steppe dominated by *Eucalyptus brevifolia* and *E. dichromophloia* (spinifex understones), and drier, more open stream valleys with a *Tristania* (*Lophostemon*) *grandiflora* dominated riparian woodland on the stream banks. On the eastern side of the range dry, stony basaltic slopes fringe the Bungle Bungle-Ord plain. The tree cover in these areas is very sparse and tall shrubs such as *Terminalia canescens* and *Cochlospermum fraseri* are prominent.

Red Rock Creek Plain

The plain of varying width extending east along Red Rock Creek comprises extensive alluvial flats and outwash deposits of sandy soils. This plain is dominated by tree savanna (Beard, *op cit.*) of *Eucalyptus dichromophloia*, *Eucalyptus* sp.aff. *tectiflica* and *E. confertiflora* with an often dense ground stratum of Three-awn grass (*Aristida* spp.), *Heteropogon contortus* and *Chrysopogon fallax*. Smaller areas dominated by *E. pruinosa* and *E. papuana*. A lower stratum of tall shrubs (*Lysiphyllum cunninghamii*, *Grevillea* spp., *Acacia* spp., *Hakea arborescens*) is usually present. Large areas of *Acacia* 'scrub' (*A. tumida*, *Acacia holosericea*, *Acacia lysiphloia*) are also found. Un Aboriginal evidence these are the relatively recent results of lack of firing.

Extensive areas of sheet erosion and gullying occur close to Kayirriwariny (Red Rock).

Bungle Bungle-Ord Plain

This plain is characterised by richer clay soils formed on both limestone and basalt. The tree savanna of *Eucalyptus* sp.aff. *tectiflica* - *E. dichromophloia* is sparser, and areas of treeless 'black soil plain' occur. Most of the area has suffered degradation; sheet erosion and gullying are thus extensive.

Intersecting creeks are densely fringed with *Tristania grandiflora*, *Vitex glabrata* and *Terminalia platyphylla*.

A NE/SW ridge of limestone is a prominent feature of the northern end of the plain. This ridge carries a sparse vegetation in which *Celtis philippensis*, *Ficus platypoda*, *F. opposita*, *Vitex glabrata* and *Premna acuminata* are prominent.

Ord River

The Ord River at 'Blue Hole' has a riparian strip dominated by *Melaleuca leucadendron*, *Eucalyptus camaldulensis*, *Terminalia bursarina*, and *Fiscus* spp. The dense thickets of reed (*Phragmites karka*) which once occurred have been largely destroyed by floods (R. Wallaby *pers. comm.*).

CAMP SITES VISITED AND THEIR RELATION TO THE ENVIRONMENT

The camp sites visited can be divided into two groups:

1. Wet season camps in caves and rock shelters:

Minyjwurrji	
Maanyan/Mawudulngi	Limestone
Jimpijpa	
Nyitparriya	Sandstone

2. Dry season camps at permanent water:

Kayirriwariny
 Jirliwarl
 Jaalijkuwariny
 Wurlunginyji
 Wurlwurlji
 Blue Hole (Ord River) - both wet and dry season

The siting of these camps is related primarily to the availability of shelter (caves, rock shelters), water supply and fish and game. The occurrence of particular plant foods did not seem to be a major consideration, though there is a full knowledge of the foods available in the vicinity of the camp sites. One possible exception was the *Livistona* palm Yingajali (q.v.) which is abundant near two of the wet season camps (*Nyitparriya* and *Jimpijpa*) and was heavily utilised. The present relative rarity of the species in accessible places near Nyitparriya was attributed to heavy use in past times, indicating it was heavily utilised.

A *detailed* account of the annual food-gathering cycle and its relationship to camping places, season and local food supply could only be given with much further study.

Discussion with informants indicated that the traditional pattern of land use was changed under the direct impact of European pastoral settlement.

During the early phase of settlement Aboriginal camps were attacked and 'dispersed' when they were seen as a threat to pastoral occupation, or in retaliation for cattle spearing. Aboriginals were often forced into the relative safety of the ranges. During this period Purnululu was used as a safe refuge. At one place above Kungkalangarri waterhole access to the plateau was gained by climbing up notched tree trunks. These were pulled up after the ascent to prevent pursuit. Our informants consequently have no experience of the camp sites and resources of this plateau.

The generation of the informants was employed on cattle stations, at least during the dry season. During the wet season 'holiday time' they were free to join tribal gatherings and visit relatives. In areas of north Australia unaffected by pastoral settlement, large gatherings were confined to the latter half of the dry season, the wet season being a time of dispersal. The European-imposed pattern of wet season gatherings relied heavily on supplies of rations bought with the station workers (see Durack, 1983: 193).

The *indirect* impact of European settlement due to overgrazing is obvious today. Along with the widespread pasture degradation and soil erosion, it appears that many plant foods have become rare or localised. The *majority* of the root foods listed in Appendix 3 could not be located in the area surveyed. While seasonal factors may partly be involved and searching earlier in the dry season may have been more successful, overgrazing must also be a major factor.

Ngawunji (*Vigna lanceolata* var. *latifolia*) survives in abundance only in the very lightly grazed rocky slopes in the upper reaches of Red Rock Creek. In the Ritharrngu-Waagilak country of north-east Arnhem land familiar to me, *Vigna lanceolata* is *ubiquitous* and *abundant* in grassland and savanna. The absence of this palatable species from the plains areas near Bungle Bungle Outcamp is almost certainly due to overgrazing. The present-day abundance of Kunja (*Cochlospermum fraseri*) on the stony basaltic areas corresponds to the very low level of grazing in these areas.

FOOD RESOURCES AND THEIR UTILISATION

Fruits (see Appendix 1 for a full list)

The majority of the twenty-four species bearing edible fruits ripen in the wet season and were important during this time. Root foods were largely unavailable or unpalatable during the wet.

Three species were of particular importance:

Minyjiwarram	(<i>Vitex glabrata</i>)
Taaluny	(<i>Buchanania obovata</i>)
Mapura*	(<i>Carissa lanceolata</i>)

The fruits of the first two species were present in such abundance that a surplus was available. The fruits were pounded up and formed into a rounded mass 'about the size of a basketball', wrapped in paper bark (mernta) and stored for later use. Mapura fruit was not stored, but the species was particularly important because of its abundance and the relatively long period of availability, which extends into the dry season.

The use of Boab fruits was mentioned as important for other areas, but the species was very rare in the area studied.

Seeds (see Appendix 2)

Five species provided edible seed. In the past the seeds of two species were ground-up for food: Ngarnthanji (*Cycas pruinosa*) and Wirlarr (an unidentified grass).

Informants were well aware of the toxic properties of fresh *Cycas* seed, though they had not used the species themselves, and their knowledge of preparation methods was based on observing 'the old people'.

The kernels of the fruit were ground into a coarse paste, the paste enclosed in paperbark (details not known) and leached in a running

* Mapura is a Jaru term. The Kija equivalent is *piriyalji*.

stream for 'about a week'. The leached paste was then made up into 'dampers' and cooked in sand and hot ashes. This species is confined to the Usmond Valley Range (Usmond Creek, upper Red Rock Creek).

The grass wirlarr was once abundant on the black soil flats near Bungle Bungle outcamp but may now be either extinct or very rare. It matured in the early dry season, when the seeds were collected by rubbing the heads between the palms of the hand so that the seeds and chaff fell into a 'flat' coolaman, larnturrji. The seed was then winnowed using the larnturrji by tossing the mixture of seeds and chaff into the air, blowing away the chaff. The informants vividly remember the women sitting while rhythmically changing 'tutulut, tutulut, tutulut' as they tossed the grain into the air from the larnturrji. After winnowing, the grass seed was ground into a thick paste that was eaten without cooking. Grindstones used for grinding wilarr were seen at Minjiwurrji rock shelter close to Bungle Bungle Outcamp.

It is noteworthy that although early ripe pods of *Acacia platycarpa* were cooked and eaten, *Acacia* seed was not ground for flour as is reported for many Aboriginal groups to the south and east, e.g. Warlpiri (Meygitt, 1962) and Jingili (Heath *pers. comm.*, 1976).

Two other sources of edible seed are worthy of mention: Partiki* (*Terminalia arostrata*) and the 'Kurrajongs' (*Brachychiton diversifolius* and *Sterculia* sp.). Partiki (now a rare tree) was found in the inter-range plains. Large amounts of dried nuts accumulate beneath the trees forming a large store of food available at all times. The nut is cracked and the tasty, edible kernel extracted and eaten raw.

The 'Kurrajongs' wurlarlji and panjaruny were important sources of food in the first half of the dry season. The 'early ripe' green pods were cooked in the ashes of a fire, and the seeds extracted, rubbed between the palms to remove the sharp irritant hairs which cling to the seeds and eaten.

* Partiki is a Jaru term; the Kija equivalent is parekel

Roots (see Appendix 3)

Only two root foods are available today in the study area:

- Kunja (*Cochlospermum fraseri*)
 Ngawunji (*Vigna lanceolata* var. *latifolia*)

Kunja is very abundant on stony basaltic soils fringing the Western Range. While the roots were available at all seasons, it was best in the mid ('cold') dry season because there was less gum which gives a rather bitter taste to the root. Small plants were the most sought after, as larger, older plants tend to have harder, 'gummy' roots. The roots were eaten after roasting in the ashes of a fire.

Ngawunji was available through the dry season. The roots are briefly cooked in the ashes and eaten. They can be eaten raw.

Jimarniny (*Colocasia esculenta*) a root food of special interest, was confined to the Osmond Valley Range on Osmond Creek, where it was abundant on the swampy stream banks and flats. This species is the wild form of the cultivated Taro. The eating of the large corms raw was forbidden, 'you would turn into a kangaroo', and the large amounts of burning calcium oxylate would certainly have made it unpalatable. The corm was baked in a 'dry oven' (kungkun) but the informants had not used this species themselves.

Stems, leaves and edible gums

The upper stem and apical bud of the palm Yingajali (*Livistona* sp.) is an important item of food. This food is prepared by steaming in an earth oven (Yurnkurr) for four to six hours. Because the species grows in the rocky lower hill slopes, close to caves and rock shelters (and in relatively 'cattle-proof' areas) it was a welcome source of food in the wet season, when other vegetable food was scarce.

Nyaarnte (edible gum) is collected from a variety of species of *Acacia* and *Terminalia*. It can be consumed immediately, but larger amounts were baked in a 'dry oven' (kungkun), and then eaten. Such cooking has the advantage of softening hardened lumps of gum and improving digestibility. Nyaarntiny (*Terminalia platyphyllo*), a very abundant tree

on stream lines throughout the Bungle Bungle area, and Yirriyarriny (*Terminalia bursarina*), abundant at Blue Hole on the Ord were the most important species.

Wild Honey and Lerp Scales (see Appendix 6)

Wild honey is abundant in the study area in the mid-dry season. Bees have the generic name ngare; three species (not identified) occur:

Kayirriny	a ground-living bee
Perangkul	
Nhawinj	two tree living bees

Honey is consumed immediately in the bush, or taken back to camp for eating. When honey is available in surplus a preparation known as pija is prepared. The pounded inner bark of warurnji (*Eucalyptus tectifera*) is mixed with the honey, forming a drier fibrous and sticky substance which can be kept and eaten when desired. In the past large amounts of pija were prepared and made up into large 'basketball sized' masses, wrapped in paper bark and stored for future use. This pija becomes dry and was soaked in water prior to eating.

It was customary to eat pija following a meal and this custom was compared to the European custom of drinking tea after a meal (which is now the rule among Aboriginal people). The method of storing honey and extending its availability has not, to my knowledge, been reported elsewhere in Australia.

The brood of the bees (lernjim) was also eaten, but more as a medicinal item than as a food. The brood of kayirriny is extremely bitter if eaten as extracted, but it can be diluted in water to produce a medicine effective against stomach aches. The brood of perangkul can be eaten as extracted and is considered effective in dealing with constipation following eating large amounts of meat: 'It cleans a man out'.

Medicinal plants (see Appendix 5)

Sixteen species are used medicinally. An important part of traditional medicine was the steaming treatment of colds and influenza.

Branches and leaves of a wide range of trees were put in a hole in the ground on top of heated stones and the sick person would lean forward into the steam issuing from the leaves. Today the same species are usually boiled in water and the water used for washing the sick person.

Preparations for treating sores, stomach aches and general malaise ('feeling weak') are also employed.

Artefacts and Constructions (see Appendix 7)

The wide range of trees and shrubs used for implement making is listed in Appendix 7. Perhaps the most important species in traditional days was the tall river paper bark, *Melaleuca leucadendron* (merntany). Its bark was used for traditional circular houses, for blankets, for wrapping stored food, for carrying, preparing and serving food, and covering 'wet' earth ovens (yurnkurr). Corrugated iron and cardboard has replaced paper bark in many cases today.

DISCUSSION

The ethnobotanical knowledge of the Kija people of the Bungle Bungle Outcamp extends far beyond an inventory of useful plants and their uses. Despite all the disruptions and changes consequent on the European presence, the *persistence of association* between people, their land, and the environment is reflected in the detailed practical knowledge of base camps, associated resources and their location, their seasonal availability, preparation and storage.

The short study of two weeks was only successful because the informant group were thoroughly familiar with their country and its resources and planned the survey strategy accordingly. The economic dimension of the relationship to the land (of which ethnobotany is only a part), like the religious and social dimensions, has been strongly maintained.

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APPENDIX 1 : FRUITS

Panykurnji 'Fig'	<i>Ficus platypoda</i> <i>Ficus virens</i>
Fruits eaten raw; wet season	
Taaluny 'Plum'	<i>Buchanania obovata</i>
Fruits eaten raw, pounded and stored (see text), wet season - early dry season	
Tikurlul/Wulngal 'Bean'	<i>Canavalia papuana</i>
Early ripe pods baked (kungkun cooking); mid dry season.	
Japayiny/Kanampiny 'Fig'	<i>Ficus coronulata</i>
Fruits eaten raw; wet season.	
Jawunany/Ngalalapany/Kunangkiny 'Fig'	<i>Ficus racemosa</i>
Fruit eaten raw, wet season.	
Jimirlpiri ¹ 'Wild Grape'	<i>Jasminum molle</i>
Fruits eaten raw; wet season.	
Jimirlpiri ² 'Wild Grape'	<i>Opilia amentacea</i>
Fruits eaten raw; wet season.	
Jukurru 'Wild Orange'	<i>Capparis umbonata</i>
Fruit eaten raw, inside part only; late wet season - mid dry season.	
Jumuluny 'Boab Tree'	<i>Adansonia gregori</i>
Fruit eaten inside only.	
1. When green, steamed.	
2. When dry inside part pounded up, water added, honey may then be added to the pulp.	
First part of the dry season (green); through the dry season (dry).	
Karrawuny/Nguwartuny	<i>Grewia polygama</i>
Fruit eaten raw, including the seeds; wet season. Eaten also by emus and bustards.	
Kanthiliny 'Geebung'	<i>Persoonia falcata</i>
Fruit eaten raw; late dry season/early wet season.	
Karnampiny see Japayiny	
Karnkul(ji) 'Wattle'	<i>Acacia platycarpa</i>
Early-ripe pods baked (kungkun cooking) and eaten; second half of the dry season.	

- Kirliny 'Wild Gooseberry'
Fruits eaten raw (prickly sepals discarded);
mid-dry season. *Solanum echinatum*
- Kunturlpal¹
Fruits eaten raw. Often gathered in bulk
and put in water. Those that sink are
ripe (paapij) and can be eaten; wet season. *Mallotus nesophilus*
- Kunturlpal² see Mintimintil
- Kuwarrurlji¹
Fruit eaten raw; wet season (first
rain time) *Antidesma ghaesembila*
- Kuwarrurlji² see Ngurrwany
Fruits eaten raw; wet season
- Martarrku(ny)
'Skin' of the fruit only eaten after baking
(kurrakun cooking) or boiling; wet season. *Zizyphus quadrilocularis*
- Marrarnyil
Fruits eaten raw; early wet season. *Capparis sepiaria*
- Minyjaarrany see Minyjiwarrany
- Minyjiwarrany/Minyjaarrany 'Plum'
Fruit eaten raw, pounded and stored
(see text); wet season. *Vitex glabrata*
- Mintimintil
Fruit eaten raw, often gathered in bulk
and put into water, the ripe fruits sink
and can be eaten: wet season. Unidentified (NHS84-385)
- Nyimirlil 'Leichhardt Tree'
Fruit eaten raw: wet season. *Nauclea orientalis*
- Nyalalapany see Jawunany
- Kunangkiny see Jawunany
- Ngurrwany/Rungkuny/Kuwarrulji
Fruit eaten raw; wet season. *Securinega
melanthesioides*
- Rungkuny see Ngurrwany
- Mapura 'Conkerberry'
(In Jaru, Kija word is piriyalji)
Fruit eaten raw; wet season to mid-dry
season. *Carissa lanceolata*
- Wulnyal see Tikurlul

Ngayalel 'Piemelon'
 Inside of fruit eaten raw; first half
 of dry season.

Not collected

Yimarlji/Yingarrjiny 'Sandpaper Fig'
 Fruit eaten raw; wet season.

Ficus opposita var
micracantha

Yingarrjiny see Yimarlji

Ficus opposita var
indecora
Ficus sp. aff *opposita*

APPENDIX 2 : SEEDS

Panjaruny/Terrangkelji

Early ripe (green) pods cooked in ashes and eaten after rubbing off the spiky hairs; wet season to early dry season.

Brachychiton viscidulus

Partiki 'Nut Tree'

(In Jaru, Kija word is parekel)
Kernels of the fruit eaten raw. The nuts accumulate at the bases of the trees and are available at all times.

Terminalia arostrata

Terrangkelji see Panjaruny

Ngantharnji 'Palm Tree'

The ripe fruits are cracked open, the kernels ground into a coarse paste and placed in paperbark in a running stream for a week. The leached paste was made into dampers and cooked in hot sand and ashes, late dry season to wet season. (Description only; process not seen.)

Cycas pruinosa

Winpul 'Pandanus'

The large fruits are roasted in a fire and cut open so that the kernels can be eaten.

Pandanus sp.aff.
spiralis

Werlalji 'Kurrajong'

Early ripe (green) pods cooked in the ashes, and eaten after rubbing off the spiky hairs; wet season to early dry season.

Brachychiton
diversifolius

Wirlarr Grass

(yuka in Jaru; Kija synonym is minyperniny)
Seed ground into an edible paste after winnowing; early dry season.
See text for details.

Unidentified

APPENDIX 3 : ROOTS

Panariny	'Round sweet yam'	Unidentified
Parnkuwarliny		Unidentified
Pikinniny		Unidentified
Jirlirrjirlirr(ji)	'Vine with yams'	? <i>Ipomoea</i> sp.
Jimarniny		<i>Colocasia esculenta</i>
	Stem tubers eaten after cooking. The old people said that if anyone ate these raw they would turn into a kangaroo.	
Jurntany		Unidentified
Karnawiny		? <i>Dioscorea bulbifera</i>
	Roots chopped into slices, rubbed in the ash from <i>Lysiphyllum</i> (kunytjin) wood, then cooked in the ashes of a fire.	
Karnti(ny)/Yuwalany	'Vine with yams on black soil'	? <i>Ipomoea</i> sp.
Karrjany	'Lily, grows in water'	? <i>Nymphaea</i> sp.
Kelewurrji	'Grows in water'	Unidentified
Kunja		<i>Cochlospermum fraseri</i>
	Roots eaten after cooking in ashes. Best in the mid-dry season as resin content is lower.	
Ngawunji		<i>Vigna lanceolata</i> var. <i>latifolia</i>
	Roots eaten after cooking briefly in ashes. Dry season.	
Wanarrji	'Peanut'	Unidentified
Wawalji	'Long yam in water'	Unidentified
Yarrkalany	'Water plant'	Unidentified
Ngurlungkiny	edible lily	Unidentified

APPENDIX 4 : STEMS, LEAVES AND EDIBLE GUMS

Jiwiny Edible gum (nyaarnte)	<i>Acacia tumida</i> <i>Acacia acradenia</i>
Perawuruny Edible gum (nyaarnte)	<i>Terminalia canescens</i>
Marlarrinj Edible gum (nyaarnte)	<i>Terminalia volucris</i>
Nyaarntiny Edible gum (nyaarnte)	<i>Terminalia platyphyllo</i>
Nyaarnte	General term for edible gum.
Yingajali 'Palm' The apical bud and upper stem steamed in an earth oven and eaten (see text for details). All seasons.	<i>Livistona</i> sp. (undescribed)
Yirriyarriny/Wararuny Edible gum (nyaarnte)	<i>Terminalia bursarina</i>

APPENDIX 5 : MEDICINES, COOKING HERBS, DRUGS AND FISH 'POISONS'

Partiki 'Nut-Tree' (In Jaru; Kija word is parakel) Leaves used for steaming treatment of colds, influenza.	<i>Terminalia arbostrata</i>
Pilirn(ji) 'River Gum' Branches thrown in waterholes to 'poison' fish. Leaves used in earth oven for cooking meat (gives it a spicy taste). Leaves used for steaming treatment of colds, influenza.	<i>Eucalyptus camaldulensis</i>
Pingkunji/Ngunyju Leaves dried and chewed with ash of Mawurrun (<i>E. dichromophoria</i>)	<i>Lobelia quadrangularis</i>
Talngamji Leaves used in earth oven for cooking meat (gives it a spicy taste).	<i>Eucalyptus brevifolia</i>
Theltheny/Thelinjany The stems are used to clean wax from the ears.	<i>Cyperus vaginatus</i>
Kerlerneny see also Mirliwuny Leaves used for steaming treatment of colds, influenza. Leaves pounded and thrown into water holes to 'poison' fish.	<i>Plectrachne</i> sp. and ? <i>Triodia</i> spp.
Karnkulji 'Wattle' Early ripe (green) pods beaten up and thrown into small waterholes to 'poison' fish.	<i>Acacia tumida</i> <i>Acacia holosericea</i>
Kurtirtarl Leaves used for steaming treatment of colds and influenza.	Unidentified
Kunyjiny 'Bauhinia' Ashes used for rubbing kanawiny yam slices prior to cooking (? removes toxic principle).	<i>Lysiphylum cunninghamii</i>
Lamparllamparrji Infusion of leaves in hot water drunk for colds, influenza and 'feeling weak'.	<i>Wedelia verbesinoides</i>
Lawuny Leaves and bark boiled in water and used for washing sores.	<i>Dolichandrone heterophylla</i>

- Lernji(m) General term for 'bee's brood
The brood from Kayirringy (q.v.) is very bitter if eaten, but it can be diluted in water and drunk for stomach aches.
The brood from Peranykel (q.v.) can be eaten 'straight away' and is eaten as an antidote to constipation caused by eating large amounts of meat.
- Manyanyiny/Parnapelyny 'Wild tea' ? synonym of lamparrlamparrji
- Mawurru(ny) *Eucalyptus dichromophloia*
Kino (kaliwuny) dissolved in water and used for washing sores.
Best ash for chewing Ngunyju (q.v.) is from this species.
- Mirliwuny/Kerlerniny *Triodia procera*
Leaves used for steaming treatment of colds, influenza.
Leaves pounded and thrown into waterholes to poison fish.
- Merntany *Melaleuca leucadendron*
Leaves used for steaming treatment of colds and influenza.
- Nyarrnyarrji *Cymbopogon bombycinus*
Decoction of leaves in water drunk and used as wash for colds, headaches (cf. lamparrlamparrji).
- Ngunyju¹ 'Bush Tobacco' *Nicotiana benthamiana*
Leaves dried, pounded and chewed with ash.
- Ngunyju² see Pingkunji
- Wirlinyji *Grevillea pteridifolia*
Bark burnt to produce fine black ash which is rubbed into the hair 'to make it grow and keep it black'.
- Wurlnguruny 'Sandalwood' *Santalum lanceolatum*
Leaves used in steaming treatment of colds and influenza.
- Nyarerrji *Rhynchosia rhomboidea*
Whole plant including roots beaten up and thrown in small waterhole to 'poison' fish.

APPENDIX 6 : HONEY AND LERP SCALES FROM PLANTS

Pinkany	Branches with the scale are dried, the scales knocked off, then eaten. This species is also known as Mawurru nyarnany, 'Dweller on Mawurrun'.	Lerp scale on <i>Eucalyptus dichromophl oria</i>
Kayirringy		Bee with a hive in the ground or at the roots of trees; dark, strong tasting honey.
Nhawiny		Bee with a hive in trees; a larger insect than Perangkul
Perangkul		Bee with a hive in trees; smaller insect than Nhawiny.
Warrayayiny See Pingany		Lerp scale on <i>Eucalyptus camaldulensis</i>

APPENDIX 7 : ARTEFACTS AND CONSTRUCTIONS

Pakawakany Wood used to make boomerangs, fighting sticks.	<i>Acacia farnesiana</i>
Paalinji Stems used for spears.	<i>Acacia</i> sp.
Pilirn(ji) Wood prized for firewood (maarnam).	<i>Eucalyptus camaldulensis</i>
Punpa(ny) 'cabbage tree' Firewood (maarnam).	<i>Eucalyptus confertiflora</i> <i>Eucalyptus grandifolia</i>
Puniny The term covers a number of 'bloodwoods'. The first species produces tall, straight trunks useful for building stock yards.	<i>Eucalyptus collina</i> <i>Eucalyptus aspera</i> <i>Eucalyptus ptychocarpa</i>
Talngarrji Firewood (maarnam).	<i>Eucalyptus brevifolia</i>
Jaalaluny 'Shitwood' Wood used to make 'coolimans': the flat type, larnturrji; and the square, deep type for honey gathering, yawunyji	<i>Gyrocarpus americanus</i>
Jawirliny Wood used for boomerangs, fighting clubs (wirlki).	<i>Hakea arborescens</i>
Jingkurlji 'River mangrove' Firewood (maarnam); bark used for artefacts (no details).	<i>Tristania grandiflora</i>
Jiwiny Stems used to make spears, and the pegs of woomeas (mirliti)	<i>Acacia</i> sp. aff. <i>cowleana</i> <i>Acacia tumida</i> <i>Grevillea miniata</i>
Jurnjurnurl Wood used for boomerangs and woomeas.	<i>Timonius timon</i>
Kerlerniny, see also Mirliwuny Resin from leaf bases and culms used as an adhesive. Leaves dried in a heap, then beaten to detach the resin, then the resin moulded into a lump by heating over a fire (process described only).	<i>Plectrachne</i> sp. ? also <i>Triodia</i> spp.

Kamanykarr(ji) Stems used to make light 'bamboo' spears with a wooden upper shaft and point.	<i>Phragmites karka</i>
Karntiwarlerl Wood used to make woomeeras.	<i>Erythrina vespertilio</i>
Kurnarnturu Wood used to make boomerangs, axe handles and fighting sticks.	<i>Acacia coriacea</i>
Kunja Sticks from the plant frayed at the ends to make spoons to eat wild honey.	<i>Cochlospermum fraseri</i>
Kungkala Stems used to make fire sticks.	<i>Premna acuminata</i>
Linyjil(ji) Firewood (maarnam).	<i>Eucalyptus pruinosa</i>
Luwarrir Wood used to make fighting sticks.	<i>Atalaya hemiglauca</i>
Marlarriny Fine shavings of the wood are stuck to the skin as decorations for dancing and ceremony, called wanpata, yiilyi.	<i>Terminalia volueris</i>
Mangatany Implement made from the dried stems (mangatany) are used for trimming and sharpening (by fine flaking) flakes for the 'bottle spear', yalka. The term mangatany may not apply to the plant in general. Sharpened lengths of iron could also be used for flaking and were then called mangatany also. (Note: yarlka is a Malngin/Gurindji word; the kija word is kurlwalel.)	<i>Dodonaea polyzyga</i>
Mawurru(ny) 'Bloodwood' Firewood, best ash to add to Ngunyju (q.v.)	<i>Eucalyptus dichromophoia</i>
Mirliwuny see Kalarniny	<i>Triodia procera</i>
Merntany 'Paperbark' Bark used in the past to make traditional 'cupola' houses, for blankets, for wrapping food for storage, for cutting up meat, covering food in earth ovens (yurnkurr).	<i>Melaleuca leucadendron</i>

Warlakarriny 'Ironwood' Wood used for boomerangs and 'sticks' used in parrying boomerangs.	<i>Grevillea pyramidalis</i> <i>Ventilago viminalis</i>
Warlarriny	<i>Eucalyptus papuana</i>
Warurn(ji) Firewood (maarnam). 'Good wood for ashes'.	<i>E. sp. aff. tectifera</i>
Werlalji Sticks frayed at the end are used for spooning out bush honey.	<i>Brachychiton diversifolius</i>
Wirlirrji Stems used for making spears.	<i>Grevillea pteridifolia</i>
Werrerrul 'Corkwood' Wood used to make woomeras.	<i>Sesbania formosa</i>

APPENDIX 8 : NAMED PLANT SPECIES, NO USE RECORDED

Jirrinjirrinji	'Tall prickly spinifex Picaninny Creek'.	
Thewenykiny	Common on limestone ridges, creek banks on heavy soils. Birds eat the fruit.	<i>Celtis philippinensis</i>
Kalungkuny	The honey from trees with this epiphyte should not be eaten - a religious prohibition (Ko kwunji).	<i>Cymbidium canaliculatum</i>
Manthurnji	Mistletoes in general.	
Munykulji		<i>Melaleuca nervosa</i> ssp. nov. <i>Melaleuca acacioides</i>
Nyirntiwarling	Grows at Nyitparriya.	<i>Phyllanthus ciccoides</i>
Nyarraparral/nguyu/mayim	Literally "emu's food", a general term for plants which have fruits eaten by emus	<i>Cassia venusta</i> <i>Owenia vermicosa</i> <i>Santalum lanceolatum</i> (not eaten by Kija people)
Wangalji		<i>Calytrix exstipulata</i>
Wiluwiny	Tall grass along Usmond Creek.	<i>Arundinella nepalensis</i>
Wurimarra	A bullrush seen at Murnta (Blackfellows Creek).	<i>Typha</i> sp.
Warampurr	Used as medicine in Arnhem Land, called 'rubbish' by Kija informants.	<i>Tinospora smilacina</i>

APPENDIX 9

Phonetic Orthography (Used on map)

Practical Orthography
(Used in article and at
Warmun Community)

Bunalulu

Purnululu

Wulwuldji

Wurlwurlji

Giliwal

Jirliwarl

Gayirriwar

Kayirriwariny

Dutbu

Tutpu

Djimitjba

Jimpijpa

Manjan-Mawundungi

Manyan/Mawudulngi

Mindjiyurrdji

Minyjiwurrdji

Dilmariyu

Tilmarriyu

Nytparriya

Nytparriya

Djalitjyuwara

Jaalijkuwariny

Walanginjddji

Waarlanginyji

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