

TIWI PLANTS AND ANIMALS

Aboriginal flora and fauna knowledge from Bathurst and Melville Islands, northern Australia





Storm cells, locally known as Hector, forming over Tiwi Islands (see page 7)

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DEDICATION



This book is dedicated to Mr R. Puruntatameri who passed away in 1996 when we were preparing this book. He worked extensively on this book during 1995 and early 1996. His detailed traditional knowledge coupled with a strong desire to pass on this information were important factors in this books production.

The memory of this old man inspired us to complete this book.

MAJOR SPONSOR

Cerylid Biosciences Limited is delighted to be associated with this book which, for the first time, brings together a wealth of information on the traditional uses of natural resources by Tiwi people.

It is the culmination of years of careful information gathering and analysis, for which the Tiwi people and the book's dedicated authors must be heartily congratulated.

We hope this book will inspire other projects of a similar nature and that it will serve as a comprehensive reference point both for the conservation of natural Tiwi resources and for the development of local commercial projects based on the sustainable use of those resources.



The following people assisted in preparing this book: Alberta Puruntatameri, Therese-Marie (Molly) Puruntatameri, Patrick Puruntatameri, Theodore Tipiloura, Ann-Marie Puruntatameri, Darryn Fernando,

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PARKS AND WILDLIFE COMMISSION OF THE NORTHERN TERRITORY
TIWI LAND COUNCIL
DARWIN, 2001





Front cover main image: **Pinyama** by Reppie (Reparata) Orsto, 1994, screen print, 53 x 43 cm. The flesh of the fruit of pinyama (*Syzygium suborbiculare*, 'beach form', Pink Beach Apple, see page 83) is eaten when it is a pink mottled colour. The flesh is very tasty and is highly regarded as a food source. The fruit are often produced in profusion during **Tiyari**, the build up period from October to January.

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Note: It is customary amongst the Tiwi (and other Aboriginal groups) that the name of a deceased person is not spoken or written down for some time. Several of our colleagues have passed away since we began working on this book. We have decided to include their names in an abbreviated form, to acknowledge their important role in this publication.



C O N T E N T S

Calytrix exstipulata 'Pink Turkey Bush' Murinyini (see page 33)

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Taracumbie Falls, Melville Island

Our landowners have, for the past twenty years, determined to utilise some of our land to realise economic benefits for our people. These opportunities involve a change in land use that has alerted us to the need for a different understanding of our natural resources in contemporary scientific terms. The science that describes and assesses the land, water, flora, fauna and habitats of our Islands, compliment and extend our own traditional knowledge, that have sustained our custodianship of the land for centuries.

In recent times we have engaged scientists in documenting and assessing our natural resource values. However, our traditional knowledge still exists and our concern of this being lost or eroded as custody of land moves to modern land management practices, is a reason for our urgency in promoting this publication. With changing land use it is vital that this traditional knowledge is recorded so that it will always be available as a resource to our younger generations.

Shared knowledge is essential to surviving knowledge. This book combines scientific names, common English names, and the Tiwi names and uses of 216 plants and 171 animals of our Islands. Our own Tiwi elders and authors have worked with Glenn Wightman and Donna Jackson over the past two decades in recording the information contained in this book. The collection of this material remains as a tribute to their extraordinary commitment and professional dedication.

Publication would not have been possible without the generosity of Cerylid Biosciences Limited and the Australian Quarantine and Inspection Service who have provided the resources for final printing and presentation. We record our gratitude and appreciation to all these people and to the organizations that have made this possible.

We hope you enjoy this book.

Matthew Wonaemirri. *Chairman, Tiwi Land Council.*
Darwin, August 2001.

Management of the Australian environment, including the Tiwi Islands, has a history of at least 40,000 years, dating back to the Aboriginal occupation of the continent and associated islands.

On the Tiwi Islands, the Tiwi harvest some 80 plant species and over 100 animal species for food alone, while other species are used for the necessities of life such as medicine. The Tiwi Islands are also home to several threatened species such as the Masked Owl (Tiwi Islands subspecies), the Hooded Robin (Tiwi Islands subspecies) and a recently recognised rainforest herb from the genus *Burmannia*.

The Tiwi have also cultivated their environment through fire management and the propagation of certain plants, such as yams. Practical and ceremonial activities are also timed to coincide with an annual calendar of natural events. The Kurlama ceremonies, which involve three days and nights of ritual body paintings, singing and dancing, are timed to coincide with the maturation of the Kurlama yam, *Dioscorea bulbifera*.

'*Tiwi Plants and Animals*' documents the plants and animals used by the people of the Tiwi Islands, and demonstrates the depth of local knowledge held by the Tiwi people. This local knowledge is integral to the skills and values, which promote sustainable environmental management on the islands.

The Tiwi can be proud of their living heritage. Their continued involvement in the conservation of species and the sustainable management of the islands plays an important role in conserving Australia's rich culture and its unique biological diversity.

I congratulate the Tiwi Land Council and the Parks and Wildlife Commission of the Northern Territory on the production of this book. It is recommended reading for all of us.

Senator Robert Hill *Federal Minister for the Environment and Heritage*
Canberra, February 2001.



Sunset over Aspley Strait

ABSTRACT

The results of a study of traditional plant and animal names and uses conducted by Tiwi people on Bathurst and Melville Islands, north Australia, are presented. Plant and animal use information, Tiwi plant and animal names, scientific names and common English names for 216 plants and 171 animals are included. Plant and animal use is categorised and comparisons are made with uses from other areas of north Australia. An alphabetical listing of Tiwi names is provided, as is information about exotic and naturalised plant and animal species.

INTRODUCTION

REGIONAL SETTING

The Tiwi Islands are located in the Arafura Sea, approximately 60 km north of Darwin, the capital city of the Northern Territory of Australia. Melville Island has a land area of 5,700 square km and is the easterly of the two major islands that comprise the Tiwi Islands. Bathurst Island has an area of 2,200 square km and is separated from Melville Island by Apsley Strait.

There are three major communities on the Tiwi Islands, Nguiu (1,350 people) on Bathurst and Milikapiti (480 people) and Pirlangimpi (370 people) on Melville Island. A number of smaller communities and outstations also exist; these include Paru, Taracumbi, Pickertaramoor, Yapilika (Melville Island) and Ranku (Bathurst Island). The resident population of the Tiwi Islands is approximately 2,500 people, of which about 90% are of Tiwi descent. There are also a number of Tiwi people living in and near Darwin.

The three major communities each has their own community management board that is responsible for local government issues and maintenance of essential services such as power, water, roads and housing. The Tiwi Land Council provides a decision making body which is responsible for issues that affect Tiwi life and culture generally. It is composed of 48 members, representing all clan or country groups that comprise the Tiwi people, with an elected Chairman and Deputy Chairman.

Each of the three major communities is serviced by daily connecting air services (and flights to Darwin), weekly barge services, community stores, health centres, schools, art and craft centres, sporting clubs and facilities, social clubs and other modern conveniences.

Various Tiwi business enterprises and participatory investments have been established to promote economic independence and community employment for Tiwi people. These include Tiwi Tours, Tiwi Barge Services, Sylvatech Plantation Forestry, Seacage Aquaculture, Plant extracts and Essential Oils and Melville Fishing Park Lodges.



CLIMATE

The climate of the Tiwi Islands is dry monsoonal characterised by uniformly high temperatures and solar radiation. Average monthly minimum and maximum temperatures range from 25 to 36°C in October to 19 to 29°C in July (Plumb 1977). Inland areas of both islands may experience temperatures of about 12°C overnight during the colder months of June and July.

Another characteristic of the climate is the markedly seasonal rainfall; the majority of the annual 1547 (Milikapiti) – 1963 (Three Ways) mm of rainfall is received during the period December to May. The cooler months of May to August are virtually rain free. During the hotter pre-wet period between September and December rainfall is infrequent (Plumb 1977).

Average annual evapotranspiration is between 1000 and 1250 mm, while average annual tank evaporation is between 1800 and 2300 mm.

The dominant features of the climate on the Tiwi Islands are the annual period of aridity and uniformly high day temperatures. Whilst these climate features are similar throughout the Top End their impact is lessened on the Tiwi Islands due to the fact that the land mass is relatively small and is surrounded by water.

Another feature of the Tiwi climate, typical of tropical islands, is the formation of a storm cell over the Islands, which is locally known as 'Hector'. This storm cell formation usually occurs in the late afternoon during the build-up and wet season and is responsible for significant earlier rainfall than occurs on the mainland.

TIWI SEASONS.

There are three major seasons. These are **Kumunupunari**, the dry season (or the season of smoke), **Tiyari**, the build up season and **Jamutakari**, the wet season.

Within the three main seasons there are a number of other weather patterns or minor seasons which are also recognised.

These are outlined below, with the major plant and animal food resources or indicators for these seasons.

The onset and duration of these seasons varies a lot from year to year, the approximate calendar months for the seasons are given only as a guide and it should be recognised that variation from these months will occur.

Kumunupunari, dry season, April to mid August.

Kumunupunari is the dry season when there is little or no rainfall. The first part of the dry is called **Wurringawuni**, when the first dry winds blow in from the south east and flatten the tall grass and dry up a lot of surface water. The period some time later when the dry grass is burnt is called **Kimirrakinari**. The wind later in the dry season that causes your skin to become dry and flaky is called **Pumutingari**.

The colder weather in the middle of the dry season is referred to as **Yirriwini** and **Mirniputi**. This cold weather only lasts for a week or two and is signalled by the flowering of **Wurritjinga**, *Eucalyptus confertiflora*, which also indicates that 'seagull' eggs are ready to be collected and eaten.

The main plant foods available are:

- Kirlinja, Water Chestnut (*Eleocharis dulcis*)
- Purnarrika, Water Lily (*Nymphaea violacea*)
- Tiyoni, Cheeky Yam (*Amorphophallus galbra*)
- Wupwarna, Bush Pumpkin (*Amorphophallus paeoniifolius*)
- Kwaka, Cycad (*Cycas armstrongii*)
- Muranga, Long Yam (*Dioscorea transversa*)
- Miyaringa, Pandanus (*Pandanus spiralis*)

Tiyari, build up season, mid August to November.

Tiyari is the season of hot weather with high humidity and little rain. **Wurrijingarri** is the period when many trees flower, it is also the time of **Milikornari** when the ground is very hot and the soles of your feet become hot when you walk. Later in Tiyari there are often cloudy skies, **Rakungumpara**, and even black clouds, **Turniyuwa**, and thunder, **Pumwanyinga**, but very little rain.

The sweet Mangrove worms, **Yuwurli**, from the salt water cannot be eaten during Tiyari, however, the normally cheeky worms, **Wakatapa**, can be eaten from freshwater mangrove areas. The thunder and lightning is telling you that the wet season is not far away. Tiyari is a season of hardship with water levels low and not many bush foods available.

Main plant foods available:

- Pinyawini, Red Bush Apple (*Syzygium suborbiculare*)
- Malikini, Peanut Tree (*Sterculia quadrifida*)

Jamutakari, wet season, December to March.

Jamutakari is the wet season, when rain, **Pakitiringa**, falls consistently every day and the swamps, creeks and rivers are full. **Wunijaka**, the north west wind blows and brings rain. There is much lightning and thunder with the rain. It is also the season that mangrove worms breed, both **Yuwurli** (sweet) and **Wakatapa** (cheeky), and that Possum, **Mumpukari**; tracks are muddy.

It is also the season when saltwater Crocodiles, **Jikipayinga**, build nests, **Maruti**, and lay eggs. They can be heard splashing at night near the beach and in rivers. There are a lot of bush foods available during Jamutakari.

Main plant foods available:

- Yankumwani, Green Plum (*Buchanania obovata*)
- Parntirringa, White Currant (*Flueggea virosa*)
- Kanuli, Cocky Apple (*Planchonia careya*)
- Jaliwaki, Bush Potato (*Brachystelma glabriflorum*)
- Rani (*Abelmoschus moschatus*)
- Wakajini (*Eriosema chinense*)
- Jimijinga, Milky Plum (*Persoonia falcata*)
- Alimpunga, Black Currant (*Antidesma ghesaembilla*)
- Pinyama, Pink Bush Apple (*Syzygium suborbiculare* Beach Form)
- Wurnika, Black Plum (*Vitex glabrata*)
- Pirlamunga, Billy Goat Plum (*Terminalia ferdinandiana*)



Rainforest, Melville Island

VEGETATION

The vegetation of the Tiwi Islands is variable and includes open *Eucalyptus* forest and woodland, Paperbark forest, monsoon vine forest and thicket, *Acacia* shrublands, treeless plains, freshwater swamps, samphire herblands and mangroves.

The most widespread plant community by far on the Islands is Eucalypt savanna, which is composed of open-forests and open-woodlands, dominated by various species of Eucalyptus. This community covers 79% of the land area of the Tiwi Islands.

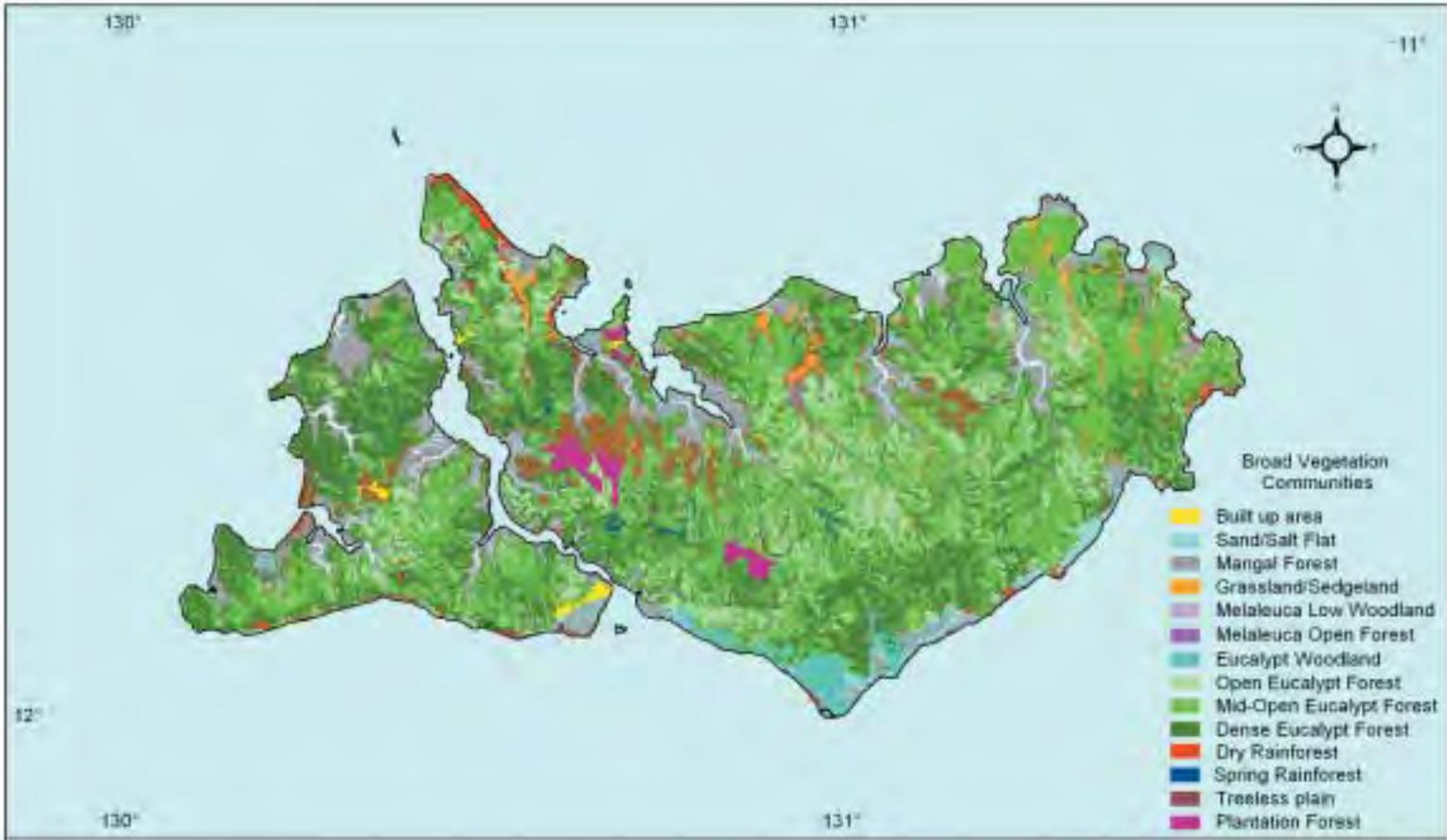
The dominant Eucalypts in the taller open forest are *Eucalyptus tetrodonta* (**Stringybark**), *Eucalyptus miniata* (**Woollybutt**) and *Eucalyptus nesophila* (**Melville Island Bloodwood**), and are found on undulating rises and low lying plateaux which are characteristic landforms on the Islands.

The lower open woodlands are composed of a mix of Eucalypt species, some of which are semi-deciduous, and generally occur on more poorly drained sites on foot slopes and flat areas behind the coastal plains.

Mixed *Callitris intratropica* (**Cypress Pine**) / Eucalypt open forest are found on drier side slopes and sand sheet areas in the western area of Melville Island.

Monsoon vine forest occurs sporadically on the Islands. Creek headwaters, springs and permanent streams support evergreen monsoon vine forests. Dry, semi-deciduous monsoon vine forests and thickets are common in coastal areas and below rocky slopes in seepage zones.

Melaleuca (**Paperbark**) open forest occurs fringing spring monsoon vine forests or fringing more permanent freshwater streams. *Melaleuca* (**Paperbark**) low open-forest to low open woodland occurs on poorly drained clay plains and drainage depressions and occasionally on the edges of spring monsoon vine forests.



Broad vegetation communities of the Tiwi Islands



Mangrove closed forests are well developed on the Tiwi Islands in comparison to most areas of the Top End mainland. These floristically diverse and tall forests occur on coastal mud flats, estuaries and fringing tidal waterways and creeks. Extensive areas of saline flats supporting samphires, and mud flats also occur on the Islands especially in the east. Notable in the Tiwi mangrove flora is the presence of two of the three known Northern Territory populations of Rola, *Nypa fruticans* (**Mangrove Palm**) at Yapilika and Maxwell Creek.

Freshwater and estuarine swamps are well developed in Andranangoo Creek on Melville Island and Dudwell Creek on Bathurst Island.

Grasslands and sedgeland occur in the upper reaches of creeks on open drainage depressions. Grasslands are well developed around Cape Gambier on Melville Island and in conjunction with treeless plains on both Islands.

Treeless plains, or sparsely wooded plains, occur as distinctive and unusual vegetation patterns on both Islands and are most conspicuous in the Yapilika (17 Mile plains) area on Melville Island.

Plantations of exotic and native species have been established at five main locations for research and timber production purposes. The main species cultivated are Karntirrikani, *Callitris intratropica* (**Cypress Pine**) and *Pinus caribaea* (**Carribbean Pine**) for timber production and Jarrikarli, *Acacia auriculiiformis* (**Black Wattle**) for research trials and *Acacia mangium* for fibre production.

Tiwi names for habitats and vegetation types

Sand dune areas with little or no vegetation	Rapatinga
Sand dune covered with grass	Kurlimipiti
Mangrove areas	Mirriparinga, Pamparinga
Monsoon vine forest, jungle	Yawurlama
Billabong, swamp, waterhole	Yirringarni
Open plains, grassy areas	Turringiya
Open area with no plants	Turringini
Eucalypt forest and woodland	Warta

Beach areas	Tingata
Sea, salt water	Winga
Shrubby vegetation to about 2-3 m high	Murinyini

Tiwi names for plant parts.

Tree, any woody plant	Taka
Grass, plant that does not become woody	Wupunga
Leaf	Wiyini
Flowers	Wurrijinga
Fruit	Arikuwakitori
Seed	Mantuwulani
Bark	Mintawunga, Purringiparri
Root	Jiyikala
Wood, timber	Taka
Ash from burnt wood	Pumutunga
Gum or resin	Japartinga
Hollow log or hollow tree	Tingiwini
New growth of grass	Yintara
New growth of bush trees	Yintaringa
Food from bush, plants or animals	Yingkiti

HISTORY

Bathurst and Melville Islands are the Tiwi Islands; the home of Tiwi people. The Islands were formed

'.... and then Mudangkala, the old blind woman arose from the ground carrying three babies in her arms. As she crawled in the darkness across the featureless landscape, seawater followed and filled the imprints made by her body. Eventually the pools became one and formed a channel. The old woman continued her journey overland and once again the moulded earth filled with the flow of water.'

'Before she left, Mudangkala covered the islands with plants and filled the land and sea with living creatures. Finally the land was prepared for her children and for the generations of children who followed' (Quoted from *Tiwi Land Council, Fifteenth Annual Report*).

The Tiwi occupied their land prior to the last ice age, 15,000 to 20,000 years ago. It is likely that during the ice age, Bathurst and Melville Islands were connected to the mainland, becoming islands again at the end of this period when sea levels rose, as described in the legend of Mudangkala. This left the Tiwi to develop a distinct culture over thousands of years of isolation (Tiwi Islands Region: Economic Development Strategy 1996).

The first recorded European sighting of the Tiwi Islands was made on the 13th of June 1636 by Dutch navigator Pieter Pieterszoon. He sailed along the north coast of Melville Island and made at least one landing. He saw smoke but no people or sign of habitation. In 1644 another Dutch navigator, Abel Tasman, sailed between Melville Island and Cobourg Peninsula, and then along the north coast of both Islands. Again, no contact was recorded with the Tiwi.

The first contact occurred on May 1, 1705, when a landing party from ships under the command of Maarten van Delft was confronted by a party of Tiwi men who attacked the Dutch landing party. Van Delft's ships explored the Tiwi Islands coastline for several months and also sailed around Cobourg Peninsula before departing for the East Indies in July 1705, by which time van Delft had perished and many sailors had died or were ill. Reports from this voyage indicated to the Dutch that the 'Southland' had little to offer in the way of goods or agriculture, and the people were 'potentially hostile and aggressive in the defence of their country'. Consequently the Dutch neglected further exploration.

Macassan fishermen from south Sulawesi, Indonesia, visited the Northern Territory coastline on a seasonal basis from about 1650 to the early 1900's, and had significant contact with many coastal Aboriginal groups. However, the Tiwi people were consistently hostile to

Macassans and the Tiwi Islands were avoided by the fishermen, though it appears there was minimal contact.

A French expedition led by Nicholas Baudin explored the western tip of Bathurst Island in 1803 but made no contact with Tiwi people.

In May 1818, Phillip Parker King sailed along the north coast of Melville Island in the *Mermaid* and on 17 May climbed Luxmore Head with some crewmembers. On the summit they were surprised by a group of Tiwi and chased back to the boat. King left a legacy of place names including Melville and Bathurst Islands and Apsley Strait.

Following King's exploration, British interest in establishing a trading post and garrison in the north of Australia intensified. After locating a water supply Captain Bremer landed a party at Point Barlow (just south of Garden Point) on September 30, 1824 to establish a British post. Fort Dundas was built, along with a wharf, soldier's huts and store. The British population was usually about 120 people. However, difficulties with disease, remoteness, lack of stores and the loss of the ship attached to the settlement were exacerbated by the hostility of the Tiwi people toward the Fort. Buffalo shipped from Timor were landed at the Fort in September 1826.

In March 1829 the stores and equipment from Fort Dundas were transferred to Fort Wellington in Raffles Bay, Cobourg Peninsula.

The first major land based exploration of the Tiwi Islands occurred in 1887 when a party of 22, including botanist Nicholas Holtze, sailed to the south coast of Melville. The reports from this expedition were negative and the aggression of the Tiwi in defending the Islands was again noted. However, in 1892, E.O. Robinson, the leader of the expedition took a lease to shoot buffalo on Melville.

The first party of buffalo shooters began work on Melville in May 1895. It included Robert Joel ('Joe') Cooper, 'Barney' Flynn



Re-enactment of first Dutch landing in 1705

and a group of Iwaidja speaking Aboriginals from Cobourg Peninsula. Primarily the aim was to procure hides and in the first fortnight of shooting 359 hides were sent back to Darwin. Joe Cooper became the driving force behind the buffalo hunting enterprise and with his brother Harry and Iwaidja speaking wife Alice, they hunted until 1916, though they had some extensive periods on the mainland. During the years 1895 and 1896 the party shot 6,660 buffalo and by 1915 had taken 18,000 hides. Cooper also milled Cypress Pine timber from Melville and gradually developed a friendship with the Tiwi after an initial period of aggression during which he was speared in the shoulder. Cooper's camp also provided a base for several anthropologists, including Herbert Basedow and Baldwin Spencer, and was visited by Father Francis Xavier Gsell.

In June 1911 Father Gsell with four Filipinos from Darwin landed at Nguiu to establish a Roman Catholic Mission on the 10,000 acres he had been granted. By the mid 1920's Father Gsell had begun to implement his plan of purchasing young widows as a mechanism for

disrupting the traditional Tiwi polygamous marriage system and the betrothal of infant females, which the church considered sinful and socially destructive. The widows purchased under Father Gsell's scheme were allowed to choose their own husband when 18 years old and though not required to convert to Catholicism, they had to pledge monogamy and allow their offspring to be baptised as Catholics. In 1938 Father Gsell left Bathurst to become Bishop of Darwin, by which time the Mission was firmly established with an airstrip, school, church, hospital and reservoir and agricultural, forestry and dairy projects were thriving. The influence of the Catholic Church has endured ever since.

Pearling began along the Tiwi coast in the mid 1880s and increased after World War One. Trading between the Tiwi and the predominantly Japanese pearlers continued until the outbreak of World War Two.

Pirlangimpi, also known as Pularumpi and Garden Point, began when a Police Officer was stationed there in 1939 and a year later a Catholic Mission was established as an institution for part Aboriginal children. By 1943 the Garden Point Mission had its own wharf, gardens and dormitories, and mission work continued until 1967 when Garden Point was taken over by Welfare Branch. The population in late 1976 was about 250 Tiwi and fifty others, including many of the children of the 'Stolen Generation' who were sent to Garden Point and who decided to stay permanently.

Milikapiti, also known as Snake Bay, was established shortly after Pirlangimpi to accommodate 'incorrigibles' from the Darwin area rounded up by Welfare Officer Bill Harney (senior). During the war the population and infrastructure increased significantly and plans were made for 'developing the resources of the Tiwi Islands'. By 1965 the population was 269, with 13 officers from the Welfare Branch, with a school, store and council. Forestry operations were being pursued by the Welfare Branch.



Melville Island Wetlands

Pickertaramoor was established as a result of the forestry operations and planting was implemented on a large scale. In the 1980s this was suspended amid concerns regarding waste of government funding.

Wurankuwu (Ranku) was established in 1994. Paru was originally the site for Joe Cooper's buffalo hunting party.

World War Two had a profound effect upon the Tiwi Islands. The first hostilities in north Australia took place near the Islands on February 19, 1942. On the same day the Bathurst Mission gave a radio warning to Darwin about approaching Japanese bombers, Matthius Ulungura captured a Japanese pilot on Melville Island and survivors from two damaged Allied ships came ashore on Bathurst Island. Later Japanese planes strafed the Nguiu Mission. Several defence facilities were established on the Islands for the duration of the War, and the Tiwi took part in organised patrols on the Islands and the mainland. One of the lasting legacies of the War for the Tiwi was the increased availability of many goods, especially foodstuffs and building materials. This had the effect of finally ending the reliance on traditional foods and materials on the Islands.

Plantation Forestry began in the early 1960s following the Native Affairs and Welfare Branches determination to generate revenue and employment on the Islands. Initially the native Cypress Pine (*Callitris intratropica*) was planted but following a slowing in growth rates was abandoned in 1976. Plantings of the exotic Honduras Caribbean Pine (*Pinus caribaea* varieties) began in 1965 and due to good growth rates became the main plantation species. Extensive plantings were undertaken on the treeless plains where preparation costs were lower. In 1986 the Northern Territory government terminated involvement in the Forestry operations and a commercial replica of the Tiwi Land Council, Pirtubula Pty. Ltd., was required to manage the forest resource.

Tourism on the Tiwi Islands formally began in 1979 with the first 'Tiwi Tours' to Nguiu and Pirlangimpi. Since then the tourism has expanded to include Milikapiti and Pickertaramoor, and includes overnight and day trips. The tourism industry on the Islands employs about 10 people and has annual visitor rates of approximately 2,500 people.

The increased sale of various Tiwi arts, crafts and clothing has been a positive by-product of higher tourist numbers.

The Tiwi Land Council was established from September 1978 and has statutory responsibility to administer the Tiwi Land Trust, but the Council has seen its role as spanning the whole range of contemporary social and economic affairs on the Islands.

The three major communities of Nguiu, Milikapiti and Pirlangimpi managed their own affairs through Community Government Councils until 2001, when the Tiwi Islands Local Government was formed to facilitate improved regional management. The Tiwi Land Council has tended to deal with issues that transcend local areas and issues that affect Tiwi life and culture as a whole.



Tiwi wood carvings, Nguiu.

LANGUAGE

The Tiwi language is the first language for most of the 2,500 people who inhabit the Tiwi Islands. It is one of the largest Aboriginal language groups in Australia. The Tiwi language over the years has undergone, and is still undergoing, considerable change. The traditional style of Tiwi is only spoken by older Tiwi. Middle aged and younger Tiwi can understand some 'old Tiwi', however many cannot speak it, particularly the hard verb forms, which have very complex structures. 'New Tiwi', which is spoken by younger Tiwi, is a half-and-half language which contains many English loan words. Older Tiwi speakers also use some English loan words necessary to describe contemporary subjects such as schools (which is 'Tiwi-ised' to jukurli) and hospitals (ajipitili).

Pronunciation: Tiwi spelling is linked closely to the sound of the word, though the letters used may not have the same sound as in English. Set out below is a general guide to the pronunciation of the letters and letter groups used in writing Tiwi. The strongest accent or stress in a word is on the second last syllable. Secondary (or lighter) stress may occur on the first syllable and some other syllables in longer words.

Tiwi alphabet and pronunciation examples

a	as in a boy
ay	like e in met
g	like g in get , but with friction
i	in mid word mostly as in bit , at the end of words mostly as in beet
j	before 'i' or 'u' usually pronounced like the ch in cheek , except the sound is made with the blade of the tongue not the tip; when preceding 'a' or 'o' usually pronounced like a fronted 't', also with the blade of the tongue.
k	like k in kicking
kw	like qu in quiet

l	as in like
m	as in mighty
mp	like mp in company
mw	like mw in slimwaisted
n	like n in now
ng	like ng in singing
ngw	like ngw in ringworm
nj	is more correctly written as nyj , but nj is used for simplicity
nk	like nk in thinking
nt	like nt in interest
ny	before 'i' or 'u', is like 'n' in menu , with tongue blade along roof of mouth; before 'a' or 'o' in old Tiwi is pronounced like a fronted 'n' with tongue blade along roof of mouth; in modern Tiwi it is pronounced like 'n' in menu .
o	is between the sound of o in gong and in port
p	as in second p in paper
pw	like pw in tripwire
r	like r in cheery , but with tongue curled back
rl	like l in lake but with tongue curled back
rr	like a trilled or flapped r sound common in Indonesian and Scottish
rt	like t in take but with tongue curled back
rnt	like nd in ponder , but with tongue curled back
t	like second t in tasty
u	like u in put
w	like w in wind , but with less rounding of lips
y	like y in yes

Words beginning with *yi* and *wu*.

The words beginning with **yi** and **wu** have the **y** and **w** pronounced only slightly or not at all; no words in Tiwi begin with *i* or *u*.

Vowel Glides.

Vowel glides are written as **ayi** and **awu**. They may occur at the start, middle or end of words. The only cluster of two vowels written together is **aa**. This is only used occasionally in traditional Tiwi, and sometimes in modern Tiwi.

Long stressed vowels ending words.

In some words the stress occurs on the last syllable, rather than the second last. This happens in old Tiwi with **i** and **u** (not **a**) and is written as **iyi** and **uwu**.

Variations of sounds.

Some sounds vary according to which other sounds precede or follow them. For example: **i** often becomes **u** when it is preceded or followed by **p**, **b**, **m**, **ng**, **k**, particularly if the next vowel is **u**.

i and **u** often sound like **a** as in **about** when not in a stressed syllable.

The only consonants which can occur together in Tiwi are where the nasals (**m**, **n**, **ny**, **ng**) occur before **p**, **t**, **j**, or **k**, respectively (see pronunciation guide above). These pre-nasalisations are sometimes pronounced and sometimes not.

In modern Tiwi there are a number of differences in the pronunciation of words. Many of the retroflex sounds and vowel glides are no longer fully vocalised.

Nouns and adjectives

In the Tiwi world everything is considered to be male or female, including people, animals, plants, places, cars, etc. As a consequence all nouns (naming words) have different forms depending on whether they are referring to male or female subjects. The adjectives (describing words that modify nouns) also have masculine and feminine forms. Nouns and adjectives may also have a plural form.

The endings of words may differ to denote the masculinity, femininity and plurality of subjects.

Generally words ending in **-ni** and **-ti** are **masculine**, **-nga** and **-ka** are **feminine** and **-wi** and **-pi** are **plural**. These endings are indicative only and there are variations.

METHODS

Fieldwork associated with the collection of plant information began in 1982 at Fort Dundas near Pirlangimpi. Whilst further field work was undertaken in the late 1980s and early 1990s, the bulk of the data collection occurred in the period 1994-1996, when information about animals was also collected. During this time field work was undertaken regularly every four to six weeks, usually for a period lasting four or five days. In May, June and early July of 1996 a ten-week period of fieldwork was done in an effort to complete the data collection aspect of the project. In 1997 and early 1998 further information was collected and manuscript checking and corrections were undertaken.

Fieldwork was undertaken from all major and minor communities on the Tiwi Islands and to most areas where vehicle access was possible. Generally our field trips were of a daily nature and generally three to five Tiwi elders would accompany Glenn Wightman looking for plants and Donna Jackson hunting for animals.

As plants were encountered in the field the Tiwi names and uses and scientific name were recorded on audiotape, and voucher specimens were collected. Information from the audiotapes was transcribed nightly onto an electronic version of the working manuscript.

Voucher specimens of the plants were lodged at the Northern Territory Herbarium (DNA), Darwin, where further scientific

identification was undertaken where necessary. Scientific plant names are based on *The Checklist of the Vascular Plants of the Northern Territory* (Dunlop *et al.* 1996), with subsequent nomenclatural changes incorporated. Authorities for the scientific names of plants are not provided in this account but may be referred to in Dunlop *et al.* (1996).

During fieldwork most plants were encountered several to many times which allowed us to check and recheck our working manuscript and to revise as necessary.

Other sources of information regarding Tiwi plant names and uses have been drawn upon. These include information collected for the 'Bush Medicine' project undertaken by the Health Department and the Conservation Commission between 1985 and 1990. Data collected by Rod Fensham during fieldwork associated with his study of monsoon vine forest and open forest margins has also been incorporated.

Where possible animal names and uses were recorded in the field, or following viewing of live captured specimens. Due to the mobility of many animals other methods of ensuring correct identification were also used. It is difficult for senior custodians to identify animals from two-dimensional pictures that are often not to scale. To avoid confusion we used large-scale colour photographs in conjunction with descriptions of size, habitat, diet and behaviour. For approximately 20% of the birds pre-recorded calls were played while pictures were viewed and other information discussed. This proved to be an accurate and enjoyable way of identifying birds. Some crustaceans and insects were identified using dried or preserved specimens.

Animals were generally worked through according to their natural larger groups, for example, birds, mammals, reptiles, crustaceans, insects, etc. Within these large groups we then worked through smaller groups, for example, within reptiles we worked through crocodiles, lizards and skinks, goannas, snakes and turtles. Within these groups each species is listed alphabetically by common name. The scientific nomenclature for animals presented here follows that of the most recent natural history references provided in the references section of this book. Where necessary we have updated names based on the advice of relevant zoologists and taxonomists.

Information pertaining to Tiwi plant and animal names and uses found in the Tiwi-English dictionary (Ngawurranungurumagi Nginingawila Ngapangiraga, 1993) prepared by Jenny Lee and others is likewise included. It should be noted that these data sources have been checked and corroborated or altered where necessary.

The information we have recorded here represents the Tiwi names and utilitarian uses of the plants and animals that occur on the Tiwi Islands. There also exists extensive knowledge regarding ceremonial uses, cultural importance and other secret and sacred knowledge of plants and animals. These aspects are very important to Tiwi people but cannot be presented in this book. Only suitably qualified and experienced people are allowed to obtain and share in this knowledge.

Green Turtle, *Kitirika* (see page 122)





RESULTS

Information about plants is presented first, followed by information about animals (see page 97).

TIWI PLANT NAMES AND USES

Tiwi names and plant uses, scientific names and common English names for 216 plant species are listed alphabetically by scientific name. The information given is ordered as follows:

First line: scientific name, shown in *italics*,

Common English name used by Tiwi people, shown in 'quotation marks',

Tiwi name or names, shown in **bold**.

Second line: family name shown in UPPERCASE TEXT,

Other Tiwi names shown in **bold**.

Scientific name 'Common English name' **Tiwi name(s)**
FAMILY NAME

The Tiwi use of the plant is discussed directly below the plant's various names.

We caution non-Tiwi that use this book against eating the food plants or utilising medicinal plants. Many species are difficult to identify or may require extensive preparation to counteract toxicity. These skills of identification and preparation can only be gained from extensive tuition and experience

Abelmoschus moschatus
MALVACEAE

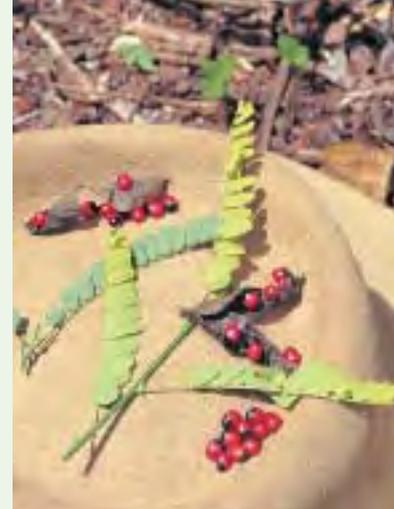
'Wild Carrot'

Rani (male)
Yirani (male)

The carrot-like tuber is dug up, cleaned and then eaten. While this plant is common on Bathurst Island it is rarely found on Melville Island.



Abelmoschus moschatus



Abrus precatorius

Abrus precatorius
FABACEAE

'Crab's Eye Vine'

Tapirtapunga (male)
Kulamuni

The hard red and black seeds are used as decoration for ceremonial items such as armbands, head-dresses and necklaces. An open necklace made from bush string and bees' wax with the red and black seeds pressed into the wax is used during initiation ceremonies and the **kurlama** ceremony. Alternatively they may be boiled to soften the seeds, then drilled and threaded onto string or fishing line to form a necklace.

Acacia auriculiformis
MIMOSACEAE

'Black Wattle Tree'

Jarrikarli

The trunks of large trees may be carved to form dugout canoes. These had to be cut from trees growing close to water as the weight of the log made them very difficult to move. Cut trunks could be reserved by carving initials or a personal mark into the timber. The curled bark from dead trees can be tied at the ends and used as a coolamon to carry honey, yams, etc. The seeds are bitten out of the pod and eaten by White Cockatoos.

When flowers are produced this indicates that Greenback Turtles are fat and ready to hunt. It also signals that 'Seagulls' (Terns) have laid eggs on the islands and they are ready to collect and eat.

When in flower the Sugarbag or native Beehives in the area will be full of pale, very sweet honey made from the pollen and nectar of the flowers.



Acacia auriculiformis

Acacia aulacocarpa
MIMOSACEAE

Jarrikarli

The yellow flowers are eaten by Possums, and are visited by native Bees to obtain nectar and pollen.

Acacia difficilis
MIMOSACEAE

Jarrikarli

The yellow flowers are eaten by Possums, and are visited by native Bees to obtain nectar and pollen.

Acacia holosericea
MIMOSACEAE

'Silver Leaved Wattle'

Jarrikarli

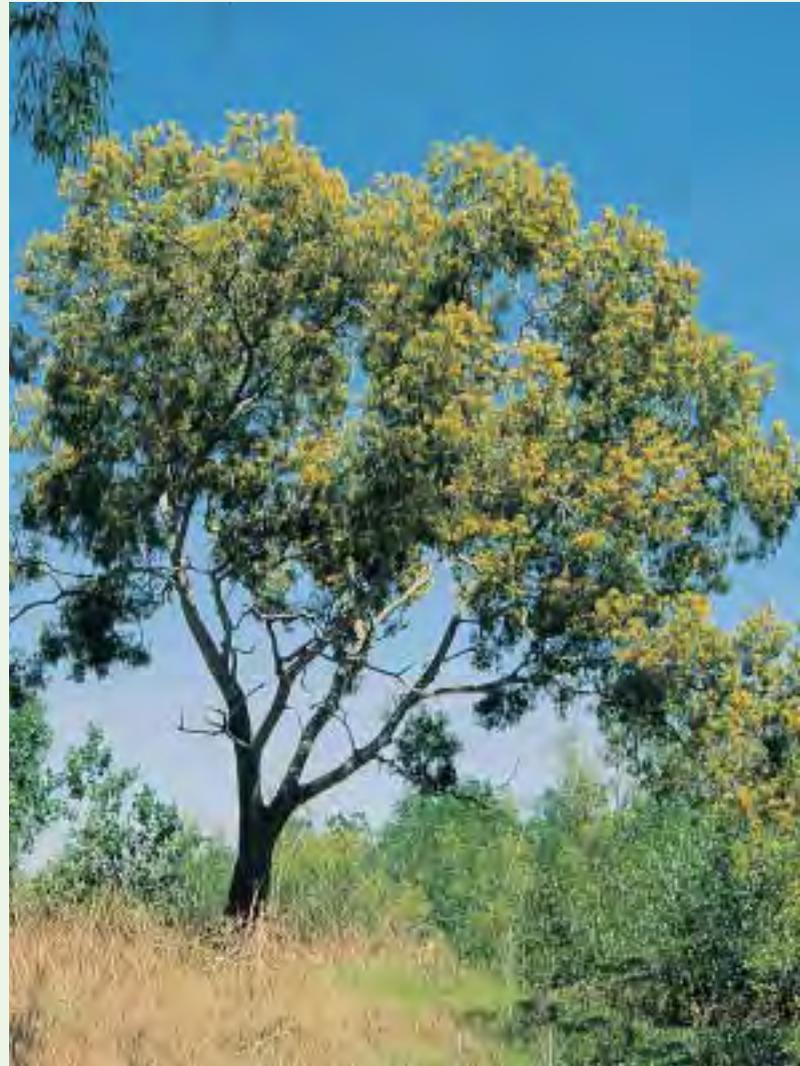
Acacia aulacocarpa



Acacia holosericea



Acacia auriculiformis



Acacia latescens
MIMOSACEAE

Jarrikarli

When flowers are produced this indicates that Greenback Turtles are fat and ready to hunt. It also signals that 'Seagulls' (Terns) have laid eggs on the islands and they are ready to collect and eat.

Acacia leptocarpa
MIMOSACEAE

Jarrikarli

The straight flexible stems of young trees are used to poke into hollow logs to see if a possum or carpet snake is in there. The softness of the flesh can be felt and with possums often some hairs get stuck in the end of the stick.

The yellow flowers are eaten by Possums, and are visited by native Bees to obtain nectar and pollen.

Acacia oincinocarpa
MIMOSACEAE

Murinyini (male)

The leaves are boiled in water and the liquid is drunk or used as a wash to treat chest infections, it tastes like coffee. Alternatively the leaves may be crushed and inhaled as a general medicine.



Acacia latescens



Acacia leptocarpa



Acacia oincinocarpa

Acmenosperma claviflorum
MYRTACEAE

The small, fleshy fruit are eaten when they are ripe (dark red to black).

Acrostichum speciosum 'Mangrove Fern' **Yawurlama**
PTERIDACEAE

This plant has no specific use and its name refers to the dense vegetation it often occurs in.

Aegiceras corniculatum 'River Mangrove' **Mijinga**
MYRSINACEAE

The sweet smelling flowers are visited by native bees which collect the nectar and pollen to make honey.

Aegialitis annulata 'Club Mangrove' **No Tiwi name**
PLUMBAGINACEAE

The leaves may be used by children as toy whistles, and sometimes as imaginary stingrays which are speared with small spears.

Alphitonia excelsa 'Soap Tree' **Jikiringini** (male)
RHAMNACEAE

The leaves are rubbed in water to produce a lather that is used as soap. The name **jikiringini** means soapy or frothy. The straight flexible stems of young plants may be used to poke into hollow logs to see if a possum or carpet snake is hiding there. The soft flesh may be felt with the stick, and with possums often a few hairs get stuck to the end of the stick.



Acmenosperma claviflorum

Aegialitis annulata



Acrostichum speciosum

Alphitonia excelsa



Alstonia actinophylla
APOCYNACEAE

'Milkwood'

Palampalinga
Murrulurluka

The milky-sap can be used as hair oil that is used as a form of decoration during ceremonies. The sap may also be used as a base for body paint to make it stick and last longer. The trunks of large trees are used to make canoes, the timber is buoyant and relatively easy to carve. The timber of smaller branches and stems is used to make stems for smoking pipes.

The fine black soot from bark that has been burnt used to be rubbed on the skin of pale skinned babies. This was done to hide the light coloured skin from Welfare Officers who used to take the children away from their Aboriginal mothers.

Alyxia spicata
APOCYNACEAE

Murinyini (male)

This plant has no use and its name refers to the habitat that it generally occurs in.

Amorphophallus galbra
ARACEAE

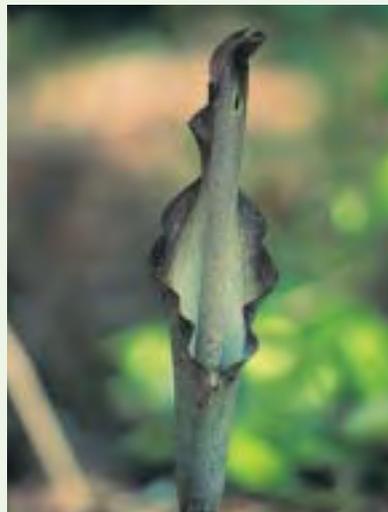
'Cheeky Yam'

Tiyoni (male)

The tuber is dug up when the above ground stems have gone yellow in the early dry season. The tubers are then covered in ashes and coals and cooked from sunset to sunrise. The tuber is then eaten on the first night of the **Kurlama** ceremony (refer to *Dioscorea bulbifera*). The flesh of the yam is white in colour. Wallabies also eat some parts of this plant.



Alstonia actinophylla



Amorphophallus galbra

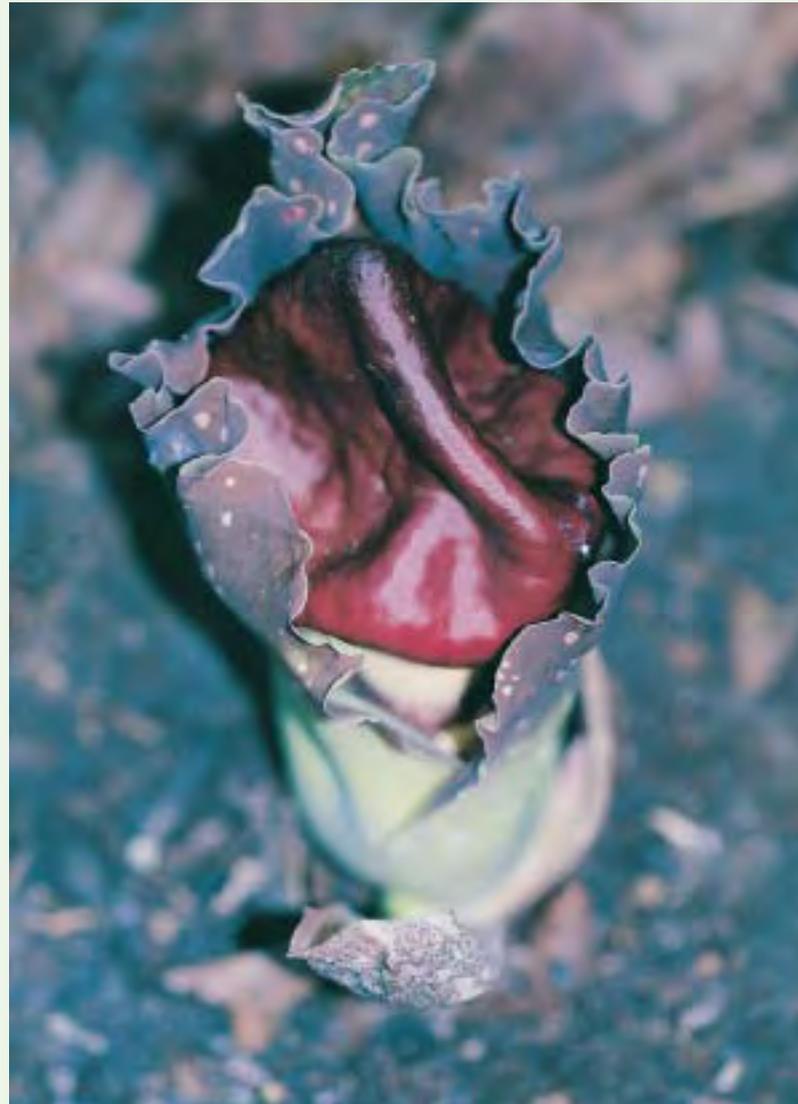
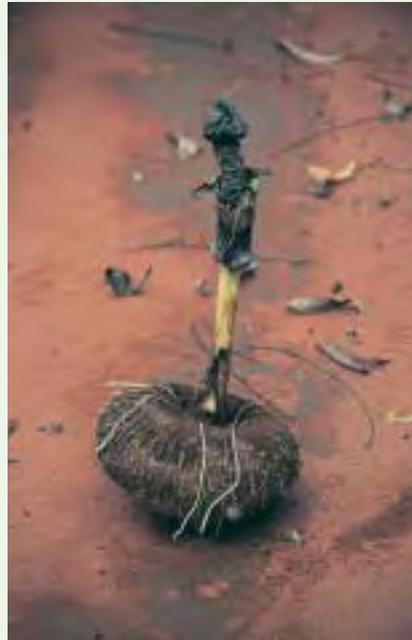


Amorphophallus paeoniifolius 'Bush Pumpkin' **Wupwarn**
ARACEAE

The tuber is eaten after extensive preparation, which includes overnight cooking. This food is good medicine for chest infections, including tuberculosis. The skin of the yam may be boiled in water, and the water used as a wash for sickness and skin disorders. The flesh of the yam is yellow-orange in colour. The top part of the yam where the stem joins looks like a belly button, this part should not be eaten as it is extremely hot in taste.

Wupwarn is considered to be the wife of **Tiyoni** (*Amorphophallus galbra*), and they always stay in the jungle areas together.

Amorphophallus paeoniifolius



Ampelocissus acetosa 'Native Grape' **Turukwanga**
VITACEAE

The fruit are eaten when ripe (black). Some Tiwi elders do not eat this plant and are of the opinion that this fruit is not edible.



Ampelocissus acetosa



Anacardium occidentale

Anacardium occidentale 'Cashew' **Kuruti** (male)
ANACARDIACEAE

The swollen, fleshy peduncle is eaten when it turns yellow. It is tasty and very juicy. The seeds can be eaten after they have been roasted on a fire. This is an introduced species, the Tiwi name refers to fruit in general.

Antidesma ghesaembilla 'Black Currant' **Alimpunga**
EUPHORBIACEAE

The fruit are eaten when they turn black; they are very sweet and tasty. This plant is uncommon on the Tiwi Islands, though it is common in the Top End in general.



Antidesma ghesaembilla



Avicennia marina

Avicennia marina 'Grey Mangrove' **Artama**
VERBENACEAE

The fruit are eaten after roasting in ashes. The green bark is chipped off and put in water with some leaves to boil. The water is allowed to cool and is then washed over skin sores, including lesions caused by leprosy. This dries the sores and makes them heal. The pencil-like pneumatophores that stick up out of the sand and mud are called **Pupwurrupwani**.

Possums and Sugarbag (native Beehive or bush honey) are occasionally found in hollows of the trunk and branches.

Wakatapa, the 'cheeky' mangrove worm, is often found in the wood of this tree. These worms are small, up to 15 cm long and 5mm

diameter, and generally are not eaten. If accidentally eaten they cause throat irritation and coughing. **Wakatapa** is an effective medicine for coughs, colds and chest congestion. They are boiled in water for up to 20 minutes to form thick soup, which is then swallowed slowly in small amounts, until the coughing ceases.

Bambusa arnhemica
POACEAE

'Bamboo'

Kayartirri (male)
Arlututa (male)

The stems are used to make strong, flexible and buoyant shafts for fishing spears. The stems are also used to make didgeridus and stems for smoking pipes.

Arlututa is the name used for the bamboo that grows on the mainland.

Bambusa arnhemica



Avicennia marina



Banksia dentata
PROTEACEAE

'Banksia'

Mayili (male)
Mayilinga

The inflorescence may be used as a comb. The core of old inflorescences may be used to carry fire. When lit at one end they slowly smoulder along their length, thus allowing them to be carried while walking.

Batis argillicola
BATACEAE

'Samphire'

Purrawurrika

A small plant that grows on salt pans and areas behind mangroves.

Blechnum orientale
BLECHNACEAE

Mirrijikurlini (male)



Batis argillicola



Banksia dentata



Bombax ceiba
BOMBACACEAE

'Kapok Tree'

Tunkuwanya (male)
Wurringa (male)
Reili (male)

The trunks of large straight trees are used to make canoes, as the timber is buoyant and easy to carve. The woolly kapok in the fruit is used to line coffins.

The soft-wood of the trunk and branches may contain Witchetty Grubs, which are an excellent food.

Brachychiton diversifolius
STERCULIACEAE

'Kurrajong'

Marlikirringa

The seeds are eaten after roasting the ripe fruit to remove dangerous irritant hairs within the fruit. The clear, exuded gum is eaten; it is regarded as a sweet. The swollen taproot of young plants may be

Bombax ceiba



Bombax ceiba



dug up and the skin peeled off and the inner flesh eaten. It does not need to be cooked and it has a pleasant taste. The bark of young plants is stripped off and made into string.

Brachychiton megaphyllus 'Red Flowered Kurrajong' **Ngirniyani** (male)
STERCULIACEAE

The inner bark is stripped off the trunk and is made into string. The seeds may be eaten after a light roasting on hot ashes and coals. The fruit and leaves must be handled carefully as the attached hairs can sting and damage the eyes.

The large leaves are used to wrap up various items to make them easier to carry. They are especially used to partition bush food supplies to ensure that all members of a family may get the appropriate share.

Brachystelma glabriflorum 'Small Bush Potato' **Jaliwaki** (male)
ASCLEPIADACEAE **Jaliwak** (male)

During the early to mid wet season the black 'star-like' flowers are found. This indicates that the disc-shaped yam is ready to be dug up, cleaned and eaten. It may be eaten raw or lightly roasted, the flesh is very tasty.



Brachystelma glabriflorum



Brachychiton diversifolius



Brachychiton megaphyllus



Bruguiera exaristata
RHIZOPHORACEAE

Nurninga (female)

Yuwurli, the edible mangrove worm, is often found in large numbers in the wood of this tree, and the presence of this tree indicates a good place to hunt for mangrove worms. **Yuwurli** is obtained by chopping open the stems and branches, then pulling or shaking out the worms which can be up to 50 cm long. They are excellent food, and are much sought after for the pleasant taste and health promoting qualities.

Witchetty Grubs are also occasionally found in the lower stems of this tree. Possums and White-tailed tree rats eat the flowers.

Bruguiera gymnorrhiza
RHIZOPHORACEAE

Timinipulika
Murrunga

Yuwurli, the edible mangrove worm, is often found in the wood of this tree. **Yuwurli** is obtained by chopping open the stems and branches, then pulling or shaking out the worms which can be up to 50 cm long. They are excellent food, and are much sought after for the pleasant taste and health promoting qualities.

The long hypocotyl that protrudes from the fruit is called **karampalinga**. The timber from stems of young plants was used in the past to make throwing sticks for hunting Magpie Geese and ducks. Possums and White-tailed tree rats eat the flowers.

Bruguiera parviflora
RHIZOPHORACEAE

Nurninga (female)

Yuwurli, the edible mangrove worm, is often found in large numbers in the wood of this tree, and the presence of this tree indicates a good place to hunt for mangrove worms. **Yuwurli** is obtained by chopping open the stems and branches, then pulling or shaking out the worms which can be up to 50 cm long. They are excellent food, and are much sought after for the pleasant taste and health promoting qualities.

The stems of tall, straight trees are used to make spear shafts. Possums and White-tailed tree rats eat the flowers.



Bruguiera exaristata



Bruguiera gymnorrhiza



Bruguiera parviflora



Buchanania arborescens 'Yawurlama yankumwani' (male)
ANACARDIACEAE

The fruit are eaten when ripe (red to brown). This plant is similar to **Yankumwani** (*Buchanania obovata*), but grows in jungles (**yawurlama**), not eucalypt savannas.

Buchanania obovata 'Green Plum' **Yankumwani** (male)
ANACARDIACEAE

The fruit are eaten when ripe (green but soft to touch). The inner red bark is used as a red dye for fibre crafts. The stems of young plants are used as an aid when climbing tall trees.

The new sucker shoots, which appear after fire, are red and fleshy. The red skin is peeled off and the inner green stem is eaten.

The green sap of new growth is used as glue to mix with paint to make it stick, and keep its colour strong and vibrant for long periods.

Callitris intratropica 'Cypress Pine' **Karntirikani**
CUPRESSACEAE

The timber is used for making spears, it is also excellent firewood. When this wood burns it makes a strong pleasant smell, which repels mosquitoes and sand flies.



Buchanania arborescens



Buchanania obovata



Callitris intratropica



Callitris intratropica



Buchanania obovata

Calophyllum inophyllum 'Beauty Leaf' **Taruwuka**
CLUSIACEAE

Children use the round seeds and fruit as projectiles in slingshots, it is also an excellent shade tree. This tree is native to the east coast of Bathurst Island and is grown as a shade tree at most of the communities.



Calophyllum inophyllum
Calytrix exstipulata



Calophyllum soulattri

Calophyllum soulattri
CLUSIACEAE **Pampiyaka**

The outer bark is peeled off and used to make **tunga** baskets. In the past these baskets were used to carry the flesh of **Minta** (*Cycas armstrongii*) seeds after they had been soaked in running water.

Calytrix achaeta 'White Turkey Bush' **Murinyini** (male)
MYRTACEAE

The canopy of this shrub produces light shade and wallabies often rest beneath it. The Tiwi name refers to the habitat that it generally occurs in.

Calytrix exstipulata 'Pink Turkey Bush' **Murinyini** (male)
MYRTACEAE

The canopy of this shrub produces light shade and wallabies often rest beneath it. The Tiwi name refers to the habitat that it generally occurs in.



Camptostemon schultzii 'Mangrove' **Jinjinga** (female)
BOMBACACEAE **Patialinga, Tungkwuka**

The timber is light and buoyant and straight trunks of large trees may be used as dug-out canoes, or simply as a floating log to hang onto when swimming a long way. The wood is good firewood as even though it burns quickly it produces a lot of heat and is easy to light.

Canarium australianum **Wilika** (female)
BURSERACEAE

The large straight trunks of mature trees are used to make canoes. Ripe fruit are purple and are eaten by some birds but not by people.

The wood of this tree may contain Witchetty Grubs that are an excellent food resource.

Canavalia rosea **Tingatiyanganila** (male)
FABACEAE

This plant has no use and derives its name from the sandy beach habitat that it grows in. When people had no bags this plant could be used to tie things up to carry them.

Capparis sepiaria No Tiwi name
CAPPARACEAE

This plant has no specific use but is recognised for the sharp prickles along its stem and branches.

Carallia brachiata 'Carallia' **Taruwuka** (female)
RHIZOPHORACEAE

The fruit are eaten by birds but not by people.



Camptostemon schultzii



Canarium australianum



Carallia brachiata

Carpentaria acuminata 'Carpentaria Palm'
ARECACEAE

Jora (female)
Yijora (female)

The flesh of the growing point or 'cabbage' (**Tia**) is eaten after chopping open the leaf bases to expose the pale, crisp flesh. The white pith (**Pajikura**) inside the woody trunk can be squeezed or sucked to obtain water, alternatively it may be cooked and then eaten. The pith is obtained by chopping a narrow section of the woody outer stem out and scraping the pith out. This does not kill the palm and many palms show evidence of pith removal. In the past sections of stem to about 1m long were cut and carried on long walks as a supply of water.

The flanged base of the leaf petiole can be bent up to form a leakproof bucket called **Tulini**. The leaf base is soaked in water for three days to soften it, it is then folded into an oblong bucket shape and stitched tightly using **Mawunkati** (*Flagellaria indica*). The sharp bone from the lower leg of a Wallaby or a sharpened stick of **Kartukuni**, Ironwood (*Erythrophleum chlorostachys*) is used to pierce holes to allow stitching. Any holes are plugged with wax from sugarbag (native Beehive) or the sticky white sap of **Jawarri**, Banyan (*Ficus virens*) or **Palampalinga**, Milkwood (*Alstonia actinophylla*). The leakproof bucket can be used to carry water, honey, **Yuwurli** (mangrove worms), etc.

This plant is considered to be female, its male equivalent is **Paliwuni**, *Hydriastele wendlandiana*.

Cassytha filiformis 'Dodder Laurel'
LAURACEAE

Ariwurrini (male)

The fruit are eaten when ripe (opaque to clear), although plants growing near the coast are considered salty and the fruit are not eaten. The stringy stems may be used as bush rope to tie up articles for carrying.



Carpentaria acuminata
Cassytha filiformis



Casuarina equisetifolia 'Casuarina' **Munkarajinga** (female)
CASUARINACEAE **Munkuraji** (male)

The inner bark is boiled in water and the liquid is used as an external wash to treat skin sores. The wood is used for spears, especially fish spears. It is also considered to be good firewood.

Cathormion umbellatum No Tiwi Name
CAESALPINIACEAE

This tree provides dense, cool shade in areas behind mangroves where there is often little other shade.

Caulerpa sp. 'Green Seaweed' **Pajini** (male)
CHLOROPHYTACEAE



Casuarina equisetifolia



Cathormion umbellatum



Casuarina equisetifolia

Ceriops australis
RHIZOPHORACEAE

'Mangrove'

Marrakali (male)
Tumulupuluka (female)

The straight stems of suitably sized plants are used to make spear shafts.

Wakatapa, the cheeky mangrove worm, is often found in the wood of this tree. These worms are small, up to 15cm long and 5mm diameter, and generally are not eaten. If accidentally eaten they cause throat irritation and coughing. **Wakatapa** is an effective medicine for coughs, colds and chest congestion. They are boiled in water for up to 20 minutes to form a soup, which is then swallowed slowly in small amounts, until the coughing ceases.

Ceriops tagal
RHIZOPHORACEAE

'Mangrove'

Marrakali (male)
Tumulupuluka (female)

The inner red bark is used as medicine. The bark is softened by hitting the trunk hard with an axe or a stick. The sticky inner bark is then removed and boiled in water and the resulting liquid is used as

Ceriops tagal



Ceriops australis



Ceriops australis



an external wash to treat scabies. The stems of young plants are used as digging sticks.

Wakatapa, the cheeky mangrove worm, is often found in the wood of this tree. These worms are small, up to 15cm long and 10 mm diameter, and generally are not eaten. If accidentally eaten they cause throat irritation and coughing. **Wakatapa** is an effective medicine for coughs, colds and chest congestion. They are boiled in water for up to 20 minutes to form soup, which is then swallowed slowly in small amounts, until the coughing ceases.

The timber from stems of young plants was used to make throwing sticks for hunting Magpie Geese.

Choriceras tricorne
EUPHORBIACEAE

Tinginga (male)

The hard wood of the stems is used to make digging-sticks, **Alukwuni** and fighting-sticks, **Alukwa**. This plant is considered the male version of *Xanthostemon psidioides*, which is also called **Tinginga**.

Chrysopogon fallax
POACEAE

Pitarika (female)

The leaf edges and sharp, pointed new shoots of this grass can cut your feet when walking. The new shoots are dug up, smashed up to soften them, and then boiled in water. The cooled water is drunk to treat diarrhoea and stomach illness.

The roots are often dug up and eaten by Wallabies.



Choriceras tricorne



Clerodendrum floribundum

Clerodendrum costatum
VERBENACEAE

No Tiwi name

The timber from straight, dry stems is used to make fire-sticks, **Muluwanya** or **Wuliwuranga**.

A straight, smooth, narrow stem is cut to about 40 cm long, and a broader heavier piece is also cut and a small round hole is made with a v-shape carved into the side. One end of the narrow stick is placed in the round hole of the heavier stick. The narrow stick is then rotated quickly between the palms with a strong downward, drilling pressure.

This creates friction which in turn creates a very hot, fine dust. This dust pours down the vee carved into the wood onto a clump of fine dry grass previously placed underneath. The grass and the very hot dust are gently blown upon until flame appears.

Clerodendrum floribundum
VERBENACEAE

No Tiwi name

The timber from straight, dry stems is used to make fire-sticks, **Muluwanya** or **Wuliwuranga**. (*see above for method.*)

Cochlospermum fraseri 'Yellow Kapok' **Pijuruwupirninga** (male)
BIXACEAE **Malupunyini** (male)

Twigs are made into brushes (**Marlipinyini**) by pounding one end to flatten it. The brushes are used to dip honey out of sugarbags (native beehives) which occur in hollow branches and trunks of trees.

The fibre in the pods is used to make cotton and for stuffing pillows.

The inner white bark is stripped off the trunk and split into narrow strips and allowed to dry in the sun. The fibre is then rolled on the thigh to produce rope. This rope is very strong and is tied to harpoons used for spearing turtles and dugong. The rope or the stringy bark is also used as a harness when climbing tall trees.

Cochlospermum fraseri



Cochlospermum gillivraei
BIXACEAE

This plant is used in the same ways as *Cochlospermum fraseri*. It is restricted in distribution on the Tiwi Islands.

Cocos nucifera
ARECACEAE

'Coconut'

Purumatingurrupuwa (male)
Alupwa (male)

The inner white flesh of the fruit is eaten and the milky liquid is drunk. The leaves may be used as a broom. This is an introduced plant.

Cordia dichotoma
BORAGINACEAE

Patinga (male)

The timber from straight, dry stems is used to make fire-sticks, **Muluwanya** or **Wuliwuranga**. This is considered to be the best plant to use for fire sticks.

The method of making fire is described for *Clerodendrum costatum*.

Crinum angustifolium
LILIACEAE

'Onion Lily'

Aligirryaka (female)

The stem of the flower and fruit may be used as a straw to suck water.

Cycas armstrongii
CYCADACEAE

'Cycad Palm'

Minta (female)
Kwaka (seeds)

The seeds, **Kwoka**, **Bwutha** or **Ngilinya** are roasted in ashes, cracked, dehusked and pounded. The resulting pulp is soaked in water for three days and nights before it can be eaten. When soaking the pulp is held in a loose cage made from the leaves of *Cycas*. It may then be carried in a basket, **Tunga** made from the bark of **Jukwartirringa**, *Eucalyptus tetrodonta* or **Pampiyaka**, *Calophyllum soulattri*.



Cordia dichotoma



Crinum angustifolium



Cycas armstrongii

While this food was eaten a lot in the past and was an important source of carbohydrate, it is rarely eaten now.

The base of young, soft fronds may be chewed raw. If the seeds are eaten raw they cause severe vomiting and sickness, possibly death.

When **Minta** has the orange seeds around the top of the stem during **Tiyari** it indicates that **Wakatapa** (cheeky Mangrove Worm) in the fresh water areas is sweet and edible. However, the salt water **Yurwurli** (sweet Mangrove Worm) has eggs and is not eaten at this time of year.

Cymbidium canaliculatum 'Tree Orchid'
ORCHIDACEAE

Japartinga (male)
Parlampinga (glue)

The stems are crushed and the green juice is collected. This is mixed with ochre acting as a glue to stick colours and also keeping the colours strong. The ochre mixed with this glue can be used for painting implements, barks or people in preparation for ceremonies.

Cycas armstrongii



Cymbidium canaliculatum



Cymbopogon procerus 'Lemon Grass' **Wupwunga** (female)
POACEAE

The leaves are boiled in water and the lemon scented liquid is drunk like cough mixture to treat colds and coughing.

Dapsilanthus ramosus
RESTIONACEAE

The tall grass-like stems are used by Salt-water Crocodiles to make nests to incubate their eggs in.

Dapsilanthus spathaceus
RESTIONACEAE

Kirlinyjini (male)

The stems of large plants may be used to make ceremonial armbands.

Denhamia obscura
CELASTRACEAE

Yirimunukaminni

The inner bark of the roots is bright orange in colour and can be rubbed on the hands as **winmiti** (any substance used to provide good luck in gambling, hunting or success in finding a desired partner). The leaves are boiled in water and the liquid used as a wash to treat influenza.



Cymbopogon procerus



Denhamia obscura

Dicranopteris linearis
GLEICHENIACEAE

Tipurrukurtuwa (female)
Jurntuma (female)
Walumanikima (female)

Dicranopteris linearis

The horizontal root is dug up and softened by hitting with a stick or rock. It is then roasted in hot coals and can be eaten. The leaves can be collected and then laid down upon the ground to form a clean area for preparing food. The leaves are also used to form a cage to hold **Kwaka** (*Cycas armstrongii*) seeds that are being leached in running water. The stems are poked into the streambed to form a barrier to hold the seeds in place.

Dioscorea alata 'English Yam' **Muranga**
DIOSCOREACEAE

This plant is introduced but has become naturalised on Melville Island near Paru and Pirlangimpi. The edible yam is very large and the flesh is purple, yellow and white. Occasionally it is referred to as **Muranga** because of its similarity to the native long yam, *Dioscorea transversa*.

Dioscorea bulbifera 'Round Yam' **Kurlama** (male)
DIOSCOREACEAE

The round, hairy yam is eaten after roasting. It is considered 'cheeky' in comparison to **Muranga** (*Dioscorea transversa*).

This yam provides the focus for the **Kurlama** ceremony, which is a highly significant event in the Tiwi ceremonial calendar. It is centred on male initiation and the composition of original songs by senior men. The ceremony begins when the first full moon after **Jamutakari** has the distinctive rings around it that mark the beginning of the dry season. **Kurlama** yams are only eaten after this ceremony in February, March or April, and the firing of the bush should not commence until after this ceremony. Likewise senior men should not touch this plant until after this ceremony.



The stem of the vine that is traced down to locate the yam in the ground is called **Alarriga**.

The yam flesh is also used as a medicine to treat swollen and misshapen limbs and joints. The flesh of the yam is vigorously rubbed on to the limbs and joints. This may be done several times, it has the effect of decreasing the swelling and straightening the limbs.

Dioscorea transversa
DIOSCOREACEAE

'Long Yam'

Muranga (male)
Murani (female)

The long, cylindrical yam may be eaten raw or roasted. It is a staple form of carbohydrate and is considered excellent food. The timing of its use is the same as for **Kurlama** (*Dioscorea bulbifera*), though the laws relating to its use are less strict.

Emerald Doves, which live in jungles, call to signal it is time to harvest **Muranga** yams. The stem of the vine, which is traced down to locate the yam in the ground, is called **alarriga**. A yam, which has a lot of 'fingers' or small yams on the side, is called **Kurtakurta**.

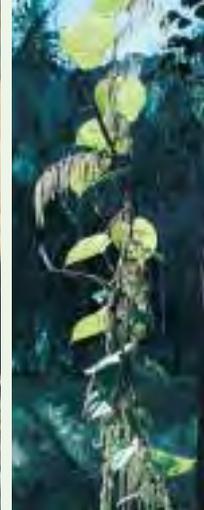
Diospyros littorea
EBENACEAE

Yawurlama

The orange fruit are eaten by birds but not by people.



Dioscorea bulbifera



Dioscorea transversa



Dodonaea lanceolata
SAPOTACEAE

Mirinyini (male)

A straight stem with a short length of one branch left at the base may be used to make a hook for pulling mud crabs out of their holes in the mangroves

Drynaria quercifolia
POLYPODIACEAE

Jurntuma (female)
Waluminikima (female)

The base of the leaf bracts or root system may be eaten.

Drypetes deplanchei
EUPHORBIACEAE

'Drypetes'

Karpilitu

The fruit are eaten when they turn red.

Dysoxylum oppositifolium
MELIACEAE

Tuwuluwunga (female)

This plant has the same name as *Terminalia grandiflora*.

Eleocharis dulcis
CYPERACEAE

'Water Chestnut'

Kirlinja (female)

The corms at the base of the stems in the mud are dug up, roasted for a short time and then eaten. They are very tasty and can be collected in large amounts from around freshwater swamps and floodplains.

Magpie Geese also eat the tubers. Sometimes when Geese are killed the crop is full of **Kirlinja** tubers. These are taken from the crop, cooked and eaten.



Drynaria quercifolia

Drypetes deplanchei



Eleocharis dulcis



Enhalus acoroides 'Sea Grass' **Pajini** (male)
HYDROCHARITACEAE

The long green leaves, which can be seen washed up on the beach or in shallow water at low tide, are eaten by Dugong.

Epipremnum amplissimum 'Raphidophora' No Tiwi name
ARACEAE

The large leaves are folded and used to dip water out of streams, water holes and wells.

Eriosema chinense **Wakajini** (male)
FABACEAE **Pirlumataka** (male)

Munkwarti (female, swear word)

The small tubers are dug up and eaten after a brief roasting on ashes. They are collected during the wet and early dry season, when the annual stem is visible.

Erythrina vespertilio **Yirrikarluwuni** (male)
FABACEAE

The swollen tap-root of young plants is dug up, lightly roasted in hot ashes and then eaten. The taste is similar to **Muranga** (*Dioscorea transversa*).

Erythrophleum chlorostachys 'Ironwood' **Kartukuni** (female)
MIMOSACEAE **Pijitinga** (female)
Tumpurama (female)

The hard wood is used to make clap-sticks, fighting-sticks and axe handles. Dry logs are used to carve **Pukamani** poles and as ornamental carvings.



Erythrina vespertilio



Erythrophleum chlorostachys



Sharpened sticks were also used as needles and to pierce the nose (nasal septum). They are also used to poke holes in bark and palm leaves when sewing them up to make baskets.

The leaves are placed on ashes to produce smoke, which is used to cleanse areas after the pukamani funeral ceremony.

The inner red bark is sun dried and then boiled in water and used as a medicine for skin sores. Young babies are treated with the smoke from the leaves to make them strong and healthy.

This plant has special totemic significance for some Tiwi people.

Eucalyptus alba 'Ghost Gum' **Pintampunga** (female)
MYRTACEAE

The wood is excellent firewood as it burns slowly and evenly.

Eucalyptus bigalerita 'Salmon Gum' **Tuwaninga** (female)
MYRTACEAE

The stems and branches of appropriate size may be made into didgeridus if they have been hollowed by white ants. Sugarbag (native Bee-hives) and possums may be found in this tree.

Eucalyptus (Corymbia) bleeseri 'Bloodwood' **Tuwaninga** (female)
MYRTACEAE

Sugarbag (native Bee-hives) may be found in this tree. Possums also often live in hollow stems and branches. The red sap produced by this tree is called **Tumulangini**.

Hollow stems and branches of a suitable size may be used to make didgeridus.

At Shark Bay on Melville Island there is a place called **Tuwaniyanga** because a lot of this tree grows there.



Eucalyptus alba



Eucalyptus bigalerita

Eucalyptus (Corymbia) bleeseri



Eucalyptus (Corymbia) confertiflora
MYRTACEAE

Wurritjinga (female)

The large bunches of white flowers are visited by native bees who collect the pollen and nectar. The timber is considered to be excellent fire wood.

The flowers of this tree indicate the beginning of **Yirriwini** or **mirniputi** season and that the weather will be cold for a short period. It also indicates that 'seagull' (tern) eggs have been laid and are ready to be collected then eaten.

Eucalyptus (Corymbia) foelscheana
MYRTACEAE

Pintampunga (female)

Eucalyptus (Corymbia) grandiflora 'Salmon Gum'
MYRTACEAE

Pintampunga (female)

Eucalyptus (Corymbia) latifolia
MYRTACEAE

Mintalima (female)

Kiripayi (female)

Eucalyptus miniata 'Woollybutt'
MYRTACEAE

Timirraringa (female)

Mantingirraga (female)

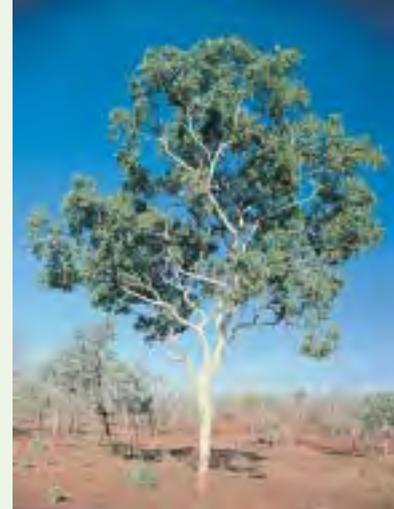
Mantiyurlaka (female)

The inner bark is boiled in water and the red liquid is used as a wash for scabies, sores, and cuts and as a wash to treat colds and chest infections. The inner bark may be boiled in water to produce a brown dye for fibre crafts.

The large seeds are eaten when the fruit are ripe and opening up. Cockatoos also eat the flowers and the seeds. Possums eat the orange flowers and native Bees collect pollen and nectar from them. When the flowers, **mantulani**, **wurrijinga** are produced it signals that possums are fat and beehives are full of honey.



Eucalyptus (Corymbia) confertiflora



Eucalyptus (Corymbia) grandiflora



Eucalyptus miniata

Sugarbag (native Beehives) may be found in this tree, also possums and carpet snakes often live in hollow stems and branches. The timber is considered to be good firewood.

The straight stems of young trees may be used to make harpoons for hunting turtles. These spears are very heavy so that they can pierce the hard shell and body of the turtle.

This plant has special totemic significance for some Tiwi people.

Eucalyptus (Corymbia) nesophila 'Bloodwood' **Wurringilaka**
MYRTACEAE (female)

Sugarbag (native Beehives), possums and carpet snakes may be found in the hollow stems and branches of this tree. The timber is good firewood. Insect galls, each containing a sweet edible grub may be found on the branches.

Tumulangini and **Kuwuti** refer to the blood-like sap that comes out of this tree.

The long, straight trunks are used to carve **Pukamani** poles.

Possums eat the flowers and flowering time is a good time to hunt possums as they will be fat and good to eat. Native bees collect pollen and nectar from the flowers.



Eucalyptus miniata



Eucalyptus (Corymbia) nesophila



Eucalyptus oligantha
MYRTACEAE

Mantipungala (female)

The timber is very hard and is used for carving, it also good firewood as it burns all night and produces very long lasting coals.

Eucalyptus papuana (*Corymbia bella*)
'Ghost Gum'
MYRTACEAE

Wuranungapingala (female)
Pintampunga (female)

Sugarbag or native Beehives are found in this tree. The timber is good firewood.

Eucalyptus (*Corymbia*) *polycarpa*
MYRTACEAE

'Bloodwood' **Wurringilaka**
(female)

Sugarbag, native beehives may be found in this species. Swollen insect galls, **Pawlika** are often found on the twigs of this tree. These galls are broken open to expose a swollen edible larvae or grub. The inner white flesh of the gall may also be eaten. The galls are often called 'bush coconuts' because of the brown outer skin and the inner white flesh.



Eucalyptus (*Corymbia*) *polycarpa*

Eucalyptus (Corymbia) ptychocarpa
'Swamp Bloodwood'
MYRTACEAE

Pawlika (female)

Young leaves are used by children as a toy balloon. The cuticle is carefully peeled open and then by blowing into the opening the cuticle expands like a small balloon. The large leaves may be folded and used as a cup to dip water out of wells or soaks.

Native Beehives (sugarbag) may be found in the trunks of this tree. Swollen insect galls (Pawlika) are often found on the twigs of this tree. These galls are broken open to expose a swollen edible grub. The inner white flesh of the gall may also be eaten. The galls are often called 'bush coconuts' because of the brown outer skin and the inner white flesh.

Eucalyptus tetradonta 'Stringybark'
MYRTACEAE

Jukwartirringa (female)
Jukwaliti (male)

The bark is stripped off the trunk during the wet season when the sap is flowing and the bark can be easily removed. It is folded in half and sown up along two edges to form a basket called a **tunga**. These are used as general carrying vessels and also to carry ceremonial decorations. Large ceremonial baskets called **imawalini** that are placed on top of pukamani poles are also made from this bark. Flattened bark is used to form walls and roofs of shelters and as a 'canvas' for painting.



Eucalyptus (Corymbia) ptychocarpa

Eucalyptus tetradonta

Eucalyptus (Corymbia) ptychocarpa



Sugarbag (native Beehives) may be found in this tree, possums also often live in hollow stems and branches.

Stems of young trees that have been hollowed by termites are used to make didgeridus. Straight stems of small plants are used to make spear shafts.

This plant has special totemic significance for some Tiwi people.

Eucalyptus tintinnans 'Salmon Gum' **Tuwaninga** (female)
MYRTACEAE

The stems and branches of appropriate size may be made into didgeridus if they have been hollowed by white ants. Sugarbag (native Beehives) and possums may be found in this tree.

Excoecaria ovalis 'Blind Your Eye Mangrove' **Artama** (female)
EUPHORBIACEAE

This plant has no specific use, it has the same Tiwi name as *Avicennia marina* which is also a mangrove.

Exocarpos latifolius **Murinyini** (male)
SANTALACEAE

The fruit are eaten when ripe (red-orange), but they are not a favoured food. The leaves may be placed on a fire to produce smoke, which repels mosquitoes and sand flies.



Eucalyptus tintinnans



Exocarpos latifolius



Excoecaria ovalis



Fagraea racemosa
LOGANIACEAE

Turukwanga (female)

This plant has the same Tiwi name as *Ampelocissus acetosa*.

Ficus benjamina
MORACEAE

'Weeping Fig'

Jawarri (female)

The inner bark of the aerial roots is stripped into long fibres, which are made into string. This string is very strong and can be used for many purposes.

Ficus opposita
MORACEAE

'Sandpaper Fig'

No Tiwi name

The fruit are eaten when ripe (light brown), and are also eaten by many birds. Some people boil the leaves in water and drink the liquid to treat chest infections, but not all Tiwi elders recognise this use.

The rough, sand-papery leaves are used to rub ringworm infections and the white sap from damaged twigs is also rubbed on the infections. This helps to speed the healing process.

Ficus scobina
MORACEAE

'Sandpaper Fig'

No Tiwi Name

The fruit are eaten when ripe (brown).

The rough, sand-papery leaves are used to rub ringworm infections and the white sap from damaged twigs is also rubbed on the infections. This helps to speed the healing process.



Ficus benjamina



Ficus opposita

Ficus scobina



Ficus virens
MORACEAE

'Banyan / Milk Tree'

Jawarri (female)

The inner bark of the aerial roots is used to make rope. The fibre is also chewed to soften it and then poked into sugarbag (native Bee-hives) to dip out the honey. Many different birds eat the small white fruit, but Tiwi people do not eat the fruit. This plant has the same Tiwi name as *Ficus benjamina*.

White, milky sap is produced when the bark is damaged. This sap becomes very sticky when it dries out. It is used as an additive for ochres when painting **pukamani** poles, barks or people in preparation for ceremonies.

In the past as part of the Kurlama ceremony the sap was rubbed into the beard and hair on the body and then rubbed with red ochre. When it had dried the beard was forcefully pulled out.



Ficus virens



Flagellaria indica
FLAGELLARIACEAE

Mawunkati (male)
Mawunkatinga (female)

The stems are chopped and boiled in water and the liquid used as a wash to treat various sicknesses including colds and stomach complaints.

The leaves can be chewed up and spat into a child's mouth to treat mouth sores.

The inner bark of the strong, fibrous stems are used make ceremonial armbands, to stitch baskets, for sewing the ends of bark canoes and **Tunga** baskets, and for tying stone heads to wooden axe handles.



Flagellaria indica

Flueggea virosa 'White Currant' **Parntirringa** (female)
EUPHORBIACEAE

The fruit are eaten when ripe (white), they are sweet when perfectly ripe and are sometimes produced in profusion.

Dry straight stems are occasionally used as firesticks (**Wuliwuranga**), but other species are recognised as being more efficient.

Gardenia megasperma **Yimunga** (female)
RUBIACEAE

This tree is related to the sun, which is also called **Yimunga**.

Gmelina arborea **Arluntunga** (female)
VERBENACEAE

The straight stems of young plants and shoots are used to make fishing spears for hunting fish, mud crabs and stingrays. This is an introduced plant.

Gmelina schlecteri **Puluma** (female)
VERBENACEAE

The trunks of large trees are cut down and hollowed out to make dug out canoes. The timber is hard, though quite buoyant.

Gossypium hirsutum 'Cotton Plant' **Alabanjar** (female)
MALVACEAE

The dry stems are used as firesticks to create fire using the traditional drilling method. This is an introduced plant.



Flueggea virosa



Gardenia megasperma



Gmelina schlecteri



Grevillea pteridifolia 'Fern-Leaved Grevillea' **Yununga** (female)
PROTEACEAE

The orange flowers are visited by possums and flying foxes that eat the flowers, as do some birds. Native Bees also visit the flowers to collect nectar and pollen to make Sugarbag.

Grewia asiatica 'Wild Plum' No Tiwi name
TILIACEAE

The small fruit are eaten when they are ripe, black. This plant has been introduced to the Tiwi Islands.

Grewia multiflora No Tiwi name
TILIACEAE

The fruit are eaten when they turn dark brown or black.

Grewia retusifolia 'Emu Berry' No Tiwi name
TILIACEAE

The fruit are eaten when ripe (brown), they are sweet and tasty.



Grevillea pteridifolia



Grewia retusifolia



Grewia asiatica

Gronophyllum ramsayi
ARECACEAE

'Palm'

Paliwuni (male)

The flanged base of the leaf petiole can be bent up to form a leakproof bucket called **Tulini**. The leaf base is soaked in water for three days to soften it, it is then folded into an oblong bucket shape and stitched with very close stitches using **Mawunkati** (*Flagellaria indica*). The sharp bone from the lower leg of a Wallaby or a sharpened stick of **Kartukuni**, Ironwood (*Erythrophleum chlorostachys*) is used to pierce holes to allow stitching.

Any holes are plugged with wax from sugarbag (native Bee-hive) or the stick white sap of **Jawarri**, Banyan (*Ficus virens*) or **Palampalinga**, Milkwood (*Alstonia actinophylla*). The leakproof bucket can be used to carry water, honey, **Yuwurli** (mangrove worms) and any other food or liquid.

The growing point or cabbage (**Tia**) is eaten. It is chopped out of the leaf bases at the apex of the palm and eaten. It is very tasty and is considered to be excellent food.

This plant has the same name as *Hydriastele wendlandiana*, and is considered to be the male version of *Carpentaria acuminata*.



Gronophyllum ramsayi



Gyrocarpus americanus

Guettarda speciosa
RUBIACEAE

Tarukwa (female)

The large leaves may be used as plates and folded to make small cups for dipping drinking water out of wells and billabongs. The old fruit, which have slightly decomposed into a hard globular shape, may be used as toy marbles. The dry twigs under this tree are good for kindling when lighting a fire. The large leaves and dense canopy provide cool shade in the coastal areas where this plant grows.



Guettarda speciosa



Gyrocarpus americanus
HERNANDIACEAE

'Shitwood'

Malikiwuni

This plant has the same name as *Sterculia quadrifida*, which is somewhat similar but is recognised as being different.

Haemodorum brevicaule 'Small Red Root' **Yaringa** (female)
HAEMODORACEAE

The red tuber is used to dye fibre for fibrecraft work. The fibre is boiled in water with small pieces of the tuber. The longer the boiling the darker the colour produced in the fibre. Colours range from pale orange to dark brown.

Haemodorum coccineum 'Large Red Root' **Yaringa** (female)
HAEMODORACEAE

The red tuber is used to dye fibre for fibrecraft work. The fibre is boiled in water with small pieces of the tuber. The longer the boiling the darker the colour produced in the fibre. Colours range from pale orange to dark brown.



Haemodorum coccineum

Halosarcia halocnemoides 'Samphire' **Purrawurrika** (female)
CHENOPODIACEAE

A small plant that grows on salt pans and areas behind mangroves.

Heteropogon triticeus 'Sugar Cane Grass' **Pitarika** (female)
POACEAE

The stems are broken into short lengths and then chewed and sucked to obtain a sweet juice. This has the effect of quenching thirst and providing energy. The stems are available during the late wet and early dry seasons.



Halosarcia halocnemoides

Heteropogon triticeus



Hibiscus tiliaceus 'Beach Hibiscus' **Alabanjar** (female)
MALVACEAE

String made from the inner bark is used for making the arm straps of baskets, **imorwulini**. Rope is also made from the inner bark. It is very strong and is attached to harpoons used for hunting turtles and dugong. The rope is made by two or three people who plait the strands of the rope to make it strong and as long as necessary.

The timber of straight trunks and branches is used to make spear shafts.

Timber from straight, dry branches is used to make fire-sticks, **Muluwanya** or **Wuliwuranga**. Refer to *Clerodendrum costatum* for the method of making fire-sticks.

Horsfieldia australianum **Tukutturukuni**
MYRISTICACEAE

The fruit are eaten when ripe (light brown). They are generally collected off the ground. The bark is used to make baskets.

Hoya rupicola 'Hoya' **Kulipiyawuni** (Iwaidja origin)
ASCLEPIADACEAE



Hibiscus tiliaceus



Horsfieldia australianum



Hibiscus tiliaceus

Hydriastele wendlandiana 'Palm' **Paliwuni** (male)
ARECACEAE

The white cabbage of the inner growing point may be eaten. This requires chopping open the leaf bases. The leaf bases may also be eaten by pulling out the youngest leaves and eating the soft, white basal section.

This plant is considered to be male, and its female equivalent is **Jora**, *Carpentaria acuminata*.

Hypoestes floribunda
LAMIACEAE

The foliage of this plant can be used as bush tobacco.

Ilex arnhemensis **Yawurlama**
AQUIFOLIACEAE

Some birds eat the small fruit but they are not eaten by people. The name refers to the jungles that this tree grows in.

Imperata cylindrica 'Blady Grass' **Pitarika** (female)
POACEAE **Pitarini** (male)

The sharp points of the new growth are used as 'thinning medicine'. They are poked into the back of the knee joints and the base of the back of people who are fat. This has the effect of causing the people to become slimmer and allows them to move more easily. This treatment may need to be repeated several to many times to be effective.

The horizontal rhizome may be dug up, cleaned and then eaten. It has a sweet pleasant taste and is good to eat while walking.



Hydriastele wendlandiana

Ilex arnhemensis



Ipomoea abrupta
CONVOLVULACEAE

The horizontal yam can be dug up and eaten after roasting in ashes.

Rokuni (male)
Roka (female)



Ipomoea abrupta

Ipomoea gracilis
CONVOLVULACEAE

The yams are dug up and eaten after roasting in ashes. This plant has the same Tiwi name and uses as *Ipomoea abrupta*.

Rokuni (female)
Roka (male)



Ipomoea graminea

Ipomoea graminea
CONVOLVULACEAE

The tubers are dug up during the late wet and early dry and may be eaten raw or roasted.

Portari (male)
Munkwarti (swear word, male)

Ipomoea pes-caprae
CONVOLVULACEAE

'Beach Morning Glory'

Wurakinni (male)
Rokuni (female)

The leaves are boiled in water and the liquid is used as an external wash for skin disorders such as scabies or bites from insects such as mosquitoes and sand flies.

The purple flowers may also be used as a skin medicine. They are collected and rubbed straight onto the area of skin that requires treatment. This medicine is regarded as being extremely effective and has a healing effect in a short time.



Ipomoea pes-caprae

Livistona humilis
ARECACEAE

'Fan Palm'

Miparri, Miparriyi (female)
Pakijipi (female)

The inner stem and the growing tip, **Pakijipi**, are heated on hot coals and chewed, though not necessarily eaten, to treat chest infections. The cabbage may be boiled in water and the liquid drunk to treat congestion. It may also be eaten as a food resource, though it is often dipped in bush honey to sweeten it.

The leaves are used as plates. The fibre from the new leaves may be used as cigarette paper to hold tobacco. The ripe fruit are boiled with water and fibre to colour the fibre a brown-purple colour.

The leaf stems have sharp thorns down each side and they may be used as a knife to skin possums, bandicoots and carpet snakes. The leaf stem is also used to dip honey out of beehives. The thorns are stripped off the edges and the end softened to form a brush, which is then used to dip honey out of the hive.

Lophostemon lactifluus
MYRTACEAE

Pulumutuma (female)

Sugarbag, native beehives, may be found in large trees of this species.



Livistona humilis



Lumnitzera littorea 'Red Flowered Mangrove' **Mijinga** (female)
COMBRETACEAE

The bright red flowers are visited by birds, which eat the pollen and nectar.

Lumnitzera racemosa 'White Flowered Mangrove' **Mijinga** (female)
COMBRETACEAE

The straight stems are used to make spears for hunting Wallabies and Stingrays. The spear-head may be added as a separate item or the end sharpened and then hardened over a fire.



Lumnitzera littorea



Lumnitzera racemosa



Lumnitzera littorea



Lumnitzera racemosa

Lycopodiella cernua 'Christmas Tree Fern' **Yawurlama**
LYCOPODIACEAE

A small fern that grows in jungles and creek-line and resembles a small Christmas tree. It has no specific use.

Macaranga involucrata **Aluntinga** (female)
EUPHORBIACEAE

The wood of narrow, relatively straight stems and branches is used to make spear shafts for fish spears. The bark easily peels off the light-wood, and any curves are straightened by heating the area over a fire. These spears are suitable for spearing fish but are too light to hunt larger game.

Macaranga tanarius **Yangutangini** (male)
EUPHORBIACEAE

Young, relatively straight stems are used to make 'fish-wires' (fishing spears). The outer bark is stripped off and the timber is straightened in a fire if necessary. The spears made from this species are too light to use to spear Wallabies.

Witchetty grubs, which are excellent food, are found in the stems of this tree.

Mangifera indica 'Mango Tree' **Arikuwakitori** (male)
ANACARDIACEAE **Mankuwu** (male)

An introduced fruit tree. The flesh of ripe fruit is eaten, the seed may also be roasted on the fire and the inner kernel eaten.

The name **Arikuwakitori** is the general Tiwi term for edible fruit. **Mankuwu** is a modern Tiwi version of the word Mango.



Lycopodiella cernua



Mangifera indica

Macaranga involucrata



Melaleuca leucadendra 'Paperbark' **Punkaringa** (female)
MYRTACEAE

The trunks of large, straight trees are used to make canoes. This is a big job and takes one man 3 or 4 days. During this period the man doing the work has his food supplied to him so he can keep working.

The papery bark was used as a covering for a woman's pubic area, for lighting fires, as a covering when cooking food and to make waterproof wet season shelters.

The flowers are eaten by Flying Foxes and are sometimes made into perfume for women. The swellings on the trunks contain water, they are chopped at the base to allow the water to come out and be drunk.

Melaleuca sp. ('red bark', D120590) 'Paperbark' **Punkaringa** (female)
MYRTACEAE

The trunks of large, straight trees are used to make canoes. This is a big job and takes one man 3 or 4 days, during this period the man doing the work has his food supplied to him so he can keep working.

The papery bark was used as a covering for a woman's pubic area, for lighting fires, as a covering when cooking food and to make waterproof wet season shelters.

The flowers are eaten by Flying Foxes and are sometimes made into perfume for women. The swellings on the trunks contain water, they are chopped at the base to allow the water to come out and be drunk.

Melaleuca viridiflora 'Paperbark' **Punkaringa** (female)
MYRTACEAE

The papery bark is used as a covering for women's pubic area, for lighting fires, as a covering when cooking food and to make waterproof wet season shelters.



Melaleuca leucadendra

The flowers are eaten by Flying Foxes and are sometimes made into perfume for women. The swellings on the trunks contain water, they are chopped at the base to allow the water to come out and be drunk.

Melastoma affine
MELASTOMACEAE

Yawurlama

Twigs and branches are used to cover water containers to keep the water cool and stop it from splashing over. This plant is also used in the preparation of **Kwaka** (*Cycas armstrongii*) when the seeds are soaked in running water.

Mimusops elengi
SAPINDACEAE

Yawurlama

The fruit are eaten when ripe (red) by Tiwi people and many birds.



Melaleuca leucadendra

Mimusops elengi

Melaleuca viridiflora



Mnesithea rottboellioides 'Blady Grass' **Pitarika** (female)
POACEAE

This plant has the same Tiwi name and uses as *Imperata cylindrica*.

The sharp points of the new growth are used as 'thinning medicine'. They are poked into the back of the knee joints and the base of the back of people who are fat. This has the effect of causing the people to become slimmer and allows them to move more easily. This treatment may need to be repeated several to many times to be effective.

The horizontal rhizome may be dug up, cleaned and then eaten. It has a sweet pleasant taste and is good to eat while walking.



Mnesithea rottboellioides

Morinda citrifolia 'Rotten Cheesefruit' **Wuliwulama** (female)
RUBIACEAE

The fruit can be eaten when ripe (whitish and soft). However, they have a very strong taste and are not a favoured food. The dried leaves are used as tobacco that can be rolled up in a piece of leaf or smoked in a crab claw pipe. This plant has a restricted distribution on the Tiwi Islands and use of it is not widespread.

Myristica insipida 'Native Nutmeg'
MYRISTICACEAE

Some birds eat the fruit, but people do not eat the fruit.



Morinda citrifolia



Myristica insipida



Morinda citrifolia

Nymphaea violacea
NYMPHAEACEAE

'Waterlily'

Purnarrika (female)
Malaritinga (female)

The tuberous roots are dug up out of the mud, cleaned and peeled then eaten. The round fruit are also collected and the seeds eaten. They have a very pleasant oily taste. The flowers may also be eaten without any preparation.

At Mangatuwu on Bathurst Island the Waterlilies must not be pulled out otherwise very heavy rains will fall. If unseasonable heavy rain occurs then people say the Waterlilies at Mangatuwu must have been disturbed.

Nypa fruticans
ARECACEAE

'Mangrove Palm'

Rola (female)

Large Mud Mussels, **Jukwarringa** are found around the base of the stems of this palm where it grows in deep mud in fresh water. These are excellent food and are fairly easy to collect.

This palm has a very restricted distribution on the Tiwi Islands and only occurs at one other place in the Northern Territory. **Rola** is a 'dreaming

Nymphaea violacea



Nymphaea violacea



tree' for one of the authors of this book and it has special spiritual significance for her. Rola Plains get their name from this palm.

Opilia amentacea

OPILIACEAE

Murinyini (female)

Thickets of this climbing vine produce dense, cool shade. Wallabies often camp in this shade. The fleshy fruit are eaten by birds but not by people.

Osbornia octodonta

MYRTACEAE

'Myrtle Mangrove'

Mijinga (female)

The leaves have a strong pleasant smell. The plant has no specific use.

Pandanus spiralis

PANDANACEAE

'Pandanus'

Miyaringa (plant) (female)

Miyarti (leaf) (male)

The inner stem and the growing point (white basal section of leaves) is called **tingga**. It is roasted and chewed to relieve abdominal pain and treat diarrhoea. It is also eaten as a food source, which supplies a lot of energy.

Sections of stems or strips of leaves are wrapped around the end of a stick to form a swollen knob. These are heated on hot coals and then placed directly onto painful areas of the stomach to relieve pain. Thin strips of leaves which have had the prickles stripped off are tied tightly around the head to cure headache.

The seeds, **temelepama** inside the fruit, **wurranya** are eaten after roasting. Old dry leaves are excellent for starting fires. This is a good tree to sit under during a storm as it keeps off rain very effectively.

The dry old stems may be used to carry fire. They are lit at one end and smoulder slowly along their length allowing the fire to be carried from one place to another.



Nypa fruticans



Opilia amentacea



Osbornia octodonta

The inner cabbage is also eaten by various Cockatoos, which tear apart the leaf bases and then eat the cabbage.

The new leaves are pulled out of the apex of the stem and the epidermis stripped off. After careful preparation and dying this is used to make coiled baskets. Needles are used to poke the fibre through the coils, in the past a bone from the leg of the kangaroo was used for this purpose.

The presence of clumps of *Pandanus* in low areas indicates a good place to dig for water. Many of the old wells and waterholes on the Islands are found at the base of *Pandanus* clumps.

In the past the sharp leaf edges were used to make cuts on the stomach and arms to leave ceremonial scars.

This plant is considered to be both male and female.

Pandina fraseri

'Seaweed'

Pajini (male)

PHAEOPHYTACEAE

Turtles and dugong eat this seaweed.

Pandanus spiralis



Pandanus spiralis



Passiflora foetida
PASSIFLORACEAE

'Wild Passionfruit'

No Tiwi name

The fruit are eaten when ripe (orange), but are not popular. This is an introduced plant with no Tiwi name.

Pemphis acidula
LYTHRACEAE

Mijinga (female)

Persoonia falcata
PROTEACEAE

'Milky Plum'

Jimijinga (female)

The leaves are crushed and boiled in water or, alternatively, fresh leaves are chewed and the juice swallowed to treat thrush of the mouth, chest infections, diarrhoea and sore throat. The juice from leaves may be placed on the breasts of mothers feeding babies to treat sore mouth on the baby.

The fruit are eaten when ripe (green but soft to touch) and are often collected off the ground.



Passiflora foetida



Pemphis acidula



Passiflora foetida



Persoonia falcata



Petalostigma pubescens 'Quinine Tree' No Tiwi name
EUPHORBIACEAE

The round fruit are used as toy marbles by children. Carpet snakes eat the fruit. The leaves are boiled with Pandanus to dye the fibre a dark grey to black colour.

Physalis minima 'Gooseberry' No Tiwi name
SOLANACEAE

The inner fleshy part of the fruit is eaten when ripe (pale yellow).

Planchonia careya 'Cocky Apple' **Kanuli** (female)
LECYTHIDACEAE

The fruit are eaten when ripe (green but soft). Only the inner yellow flesh is eaten after the green outer skin is peeled back to expose the soft edible portion.

The outer bark is chipped off and the red inner bark is collected and boiled in water. The liquid is then used as a wash to treat any skin sores, rashes or infections.

The large bags of processionary caterpillars (*Ochrogaster*) are often found in this tree. They are very dangerous and must not be touched.

Pleomele angustifolia **Mirima** (female)
AGAVACEAE

The leaves are boiled in water and the liquid is used as medicine to treat skin sores or general sickness. The presence of these plants in jungles indicates that there are lots of **Muranga** (*Dioscorea transversa*) yams in the vicinity.

The sap is used as glue to add to paint when painting people for ceremony. It is also applied to the ochre in a person's hair to set it.



Petalostigma pubescens



Physalis minima

Planchonia careya



Pogonolobus reticulatus 'Colour Root' **Arrukuninga** (female)
RUBIACEAE

Roots are used to dye fibre. The corky bark is chipped off the roots and then chopped up with the shell of Mud mussels. This mixture is boiled in water with the fibre. If it is boiled and soaked for a short period a yellow colour is obtained and brown colours are obtained from longer periods. Boiling in a rusty billycan can also darken the colour.

Pouteria pohlmaniana No Tiwi name
SAPOTACEAE

Carpet pythons eat the fruit.

Pouteria sericea 'Pouteria' **Murinyi** (male)
SAPOTACEAE

The fruit are eaten when ripe (dark purple to black), they are also eaten by Possums.

Premna serratifolia
VERBENACEAE

The timber from straight, dry stems is used to make fire-sticks, **Muluwanya** or **Wuliwuranga**.

A straight, smooth, narrow stem is cut to about 40 cm long, and a broader heavier piece is also cut and a small round hole is made with a v-shape carved into the side. One end of the narrow stick is placed in the round hole of the heavier stick. The narrow stick is then rotated quickly between the palms with a strong downward, drilling pressure.

This creates friction which in turn creates a very hot, fine dust. This dust pours down the vee carved into the wood onto a clump of fine dry grass previously placed underneath. The grass and the very hot dust are gently blown upon until flame appears.



Pogonolobus reticulatus



Pouteria sericea



Premna serratifolia

Protasparagus racemosus
LILIACEAE

'Krip'

Aruwuinni

The swollen roots are dug up and boiled in water. The resulting liquid is used as an external wash and can be drunk to treat chest infections. After washing the person should go and lie in the sun as this further clears the chest.

This plant has been used as a medicine only in recent times. Its medicinal use was passed to the Tiwi Islands by people from Maningrida. The name **Krip** appears to be refer to the term creeper, which describes the way in which this plant grows as a creeper or climber.

Pseudopogonatherum contortum
POACEAE

'Grass'

Wupunga

The flowering of this plant signals that Tern eggs have been laid and are ready to be collected prior to eating.

Rhizophora apiculata
RHIZOPHORACEAE

'Stilt Root Mangrove'

Pukulijupa (female)
Purirringa (female)

The outer bark of the aerial roots can be bent to form ceremonial armbands, **pamajyini**. The hypocotyl, **tudapulima** or **karampalinga**, is boiled in water and the liquid used as a wash to treat skin sores.

Yuwurli, the edible mangrove worm, is often found in the wood of this tree, and the presence of this tree indicates a good place to hunt for mangrove worms. **Yuwurli** is obtained by chopping open the stems and branches, then pulling or shaking out the worms which can be up to 50 cm long. They are excellent food, and are much sought after for the pleasant taste and health promoting qualities.

This plant has the same Tiwi name as *Rhizophora stylosa*, but it is recognised that this species favours sites receiving a lot of fresh water, while *R. stylosa* occurs in higher salinity areas.

Mud Crabs are often found under this tree and the presence of this tree indicates a good place to hunt for mangrove worms and mud crabs.

Protasparagus racemosus



Rhizophora stylosa 'Stilt Root Mangrove' **Pukulijupa** (female)
RHIZOPHORACEAE **Purirringa** (female)

The outer bark of the aerial roots can be bent to form ceremonial armbands, **pamajini**. The hypocotyl, **tudapulima** or **karampalinga**, is boiled in water and the liquid used as a wash to treat skin sores.

Yuwurli, the edible mangrove worm, is often found in the wood of this tree, and the presence of this tree indicates a good place to hunt for mangrove worms. **Yuwurli** is obtained by chopping open the stems and branches, then pulling or shaking out the worms which can be up to 50 cm long. They are excellent food, and are much sought after for the pleasant taste and health promoting qualities.

Mud Crabs are often found under this tree and the presence of this tree indicates a good place to hunt for mangrove worms and mud crabs.

Sargassum decurrens 'Brown Seaweed' **Pajini** (male)
SARGASSACEAE

Turtles and Dugong eat the leaves and stems, which are often seen washed up at the high tide area on the beach.

Sargassum sp. 'Seaweed' **Pajini** (male)
SARGASSACEAE

Turtles and dugong eat this seaweed.

Sauropus ditassoides
EUPHORBIACEAE

The inner bark of the roots is boiled in water and fibre to produce a red dye.



Rhizophora stylosa

Scaevola taccada
GOODENIACEAE

Wuraka (female)

The ripe fruit (white) are squeezed so that drops of the liquid fall into the eye to treat any eye disorders or soreness.

Schizaea dichotoma
SCHIZAEACEAE

'Fern'

Yawurlawuni (male)

This small fern has no specific use. Its Tiwi name actually refers to any small plant that occurs in monsoon vine forests and does not have another name.

Scleria ciliaris
CYPERACEAE

'Razor Grass'

Tornty (male)

The sharp edges of this plant cut your feet and legs if you walk through it. As a consequence it is generally avoided when hunting or travelling.

Scyphiphora hydrophylacea 'Yam Stick Mangrove' **Murruka** (female)
RUBIACEAE

The stems of tall straight plants are used for spears and for digging sticks. The timber is hard and strong.

Wakatapa, the cheeky mangrove worm, is often found in the wood of this tree. These worms are small, up to 15 cm long and 10 mm diameter, and generally are not eaten. If accidentally eaten they cause throat irritation and coughing. **Wakatapa** is an effective medicine for coughs, colds and chest congestion. They are boiled in water for up to 20 minutes to form soup, which is then swallowed slowly in small amounts, until the coughing ceases.



Scaevola taccada



Schizaea dichotoma



Scyphiphora hydrophylacea



Semecarpus australiensis 'Native Cashew' **Kajuwiyi** (female)
ANACARDIACEAE

The swollen seed stalk and the seed is eaten after roasting and discarding the poisonous section. This plant has a restricted distribution on the Tiwi Islands.

If people other than the traditional owners of the country where this plant occurs eat the fruit leprosy can result. Thus a great deal of respect is accorded this plant and its use is severely restricted.

Smilax australis **Turukwanga** (female)
SMILACACEAE

The timber from straight, dry stems is used to make fire-sticks, **Muluwanya** or **Wuliwuranga**.

A straight, smooth, narrow stem is cut to about 40 cm long, and a broader heavier piece is also cut and a small round hole is made with a v-shape carved into the side. One end of the narrow stick is placed in the round hole of the heavier stick. The narrow stick is then rotated quickly between the palms with a strong downward, drilling pressure.

This creates friction which in turn creates a very hot, fine dust. This dust pours down the vee carved into the wood onto a clump of fine dry grass previously placed underneath. The grass and the very hot dust are gently blown upon until flame appears.

Solanum tetrandrum **No Tiwi Name**
SOLANACEAE

The fruit are considered to be poisonous.



Semecarpus australiensis



Smilax australis

Sonneratia alba 'Pornupan Mangrove'
SONNERATIACEAE

Maripwanga (female)

The round top-shaped fruit, **Kurrakatu**, are spun between the fingers like a toy spinning top. There is a song and dance associated with the fruit, which can be undertaken when the fruit is used as a spinning top.

The leaves are boiled in water and the liquid is used as an external wash to treat skin disorders.

Yuwurli, the edible mangrove worm, is often found in the wood of this tree. **Yuwurli** is obtained by chopping open the stems and branches, then pulling or shaking out the worms which can be up to 50 cm long. They are excellent food, and are much sought after for the pleasant taste and health promoting qualities.



Sonneratia alba



Sorghum intrans 'Spear Grass'
POACEAE

Marakati (male)

A tall annual grass that produces large amounts of dark brown spear-like seeds at the end of the wet season. The season when seeds are produced is called **Marakatari**.

Sorghum intrans

Sorghum plumosum
POACEAE

Marakati (male)

The roots and stem base are boiled in water and the liquid used as a wash/drink to treat chest infection.



Spinifex longifolius 'Beach Grass'
POACEAE

Pitarika (female)

A grass that grows in sandy coastal areas, it has no specific use.

Spinifex longifolius



Stenocarpus verticis
PROTEACEAE

The stems of straight saplings are used to make spear shafts.

Sterculia quadrifida 'Peanut Tree' **Wurranyini** (male)
STERCULIACEAE **Malikini** (male)

The black seeds are eaten when the fruit are ripe (red and split open to expose the seeds). The trunk and roots often contain Witchetty Grubs. The Witchetty Grubs are chopped out of the wood and then lightly roasted before eating.

Strychnos lucida 'Strychnine Tree' No Tiwi name
LOGANIACEAE

The orange fruit are poisonous. In the past the fruit were used to poison people specifically during 'payback' killings.



Sterculia quadrifida

Suaeda arbusculoides 'Samphire' **Purrawurrika** (female)
CHENOPODIACEAE

A small plant that grows on salt pans and areas behind mangroves.

Syzygium angophoroides **Pintawunga** (female)
MYRTACEAE

The fleshy fruit are eaten by Flying Foxes. The timber is used to make canoes and paddles.

Syzygium armstrongii 'White Bush Apple' **Parntirringa** (female)
MYRTACEAE

The fruit are eaten when ripe (white). This plant is considered to be the female version of *Flueggea virosa*, which has the same name.

Syzygium angophoroides



Suaeda arbusculoides

Syzygium armstrongii



Syzygium eucalyptoides
ssp. *eucalyptoides*
MYRTACEAE

'Bush Apple'

Tumurangkini (male)
Tumaranka (female)

The fruit are eaten when ripe (pink-white with red veins), they are large and have a pleasant sweet taste. This tree has a dense leafy canopy and provides cool shade. The wood often contains Witchetty Grubs which are excellent food.



Syzygium eucalyptoides ssp. *eucalyptoides*



Syzygium fibrosum

Syzygium fibrosum
MYRTACEAE

'Small Red Bush Apple'

Tiwulama (female)

The small fruit are eaten when ripe (red), they have a sharp tangy taste.

Syzygium forte
MYRTACEAE

'White Apple'

Pintawuni (male)

The fruit are eaten when ripe (white). The trunks of large straight trees are used to make canoes. When the rains of the wet season come in this plant produces fruit.



Syzygium forte

Syzygium minutuliflorum
MYRTACEAE

The fruit are eaten when ripe (white).



Syzygium suborbiculare (Bush form) 'Red Bush Apple' **Pinyawini** (male)
MYRTACEAE

Wurringawuni (male)
Purringawuni (male)

The fruit flesh is eaten when ripe (red), but the seed is not eaten. After eating this fruit the knees may become weak and walking may become difficult, one will feel lazy and lacking energy.

This fruit is considered inferior to **Pinyama** (the beach form *Syzygium suborbiculare*, below), which is sweet and highly regarded as a food resource.

Syzygium suborbiculare (Beach form) 'Pink Beach Apple' **Pinyama**
MYRTACEAE (female)

The fruit flesh is eaten when ripe (pink), but the seed is not eaten. The fruit is very tasty and is sweet compared to other Bush Apples. The fruit are sometimes produced in profusion and are one of the most highly regarded Tiwi food resources. The fruit are produced during the wet season, **Jamutakari**, from December to March.

Syzygium suborbiculare (Beach form) *Syzygium suborbiculare* (bush form)



Syzygium suborbiculare (bush form)



Tacca leontopetaloides
TACCACEAE

Aligirryaka (female)
Alarriga

The stems can be used as straws to suck water from tree hollows. During times of water shortage small amounts of water can be located in tree hollows and forks by noticing birds congregating near the tree. The tubers were probably eaten in the past, but are not used now.



Tacca leontopetaloides



Tamarindus indica

Tamarindus indica
CAESALPINIACEAE

'Tamarind Tree'

No Tiwi name

The fruit are eaten when ripe (brown). This plant is thought to be introduced by Macassan fisherman, who occasionally visited the Tiwi Islands in the past.

Tecticornia australasica
CHENOPODIACEAE

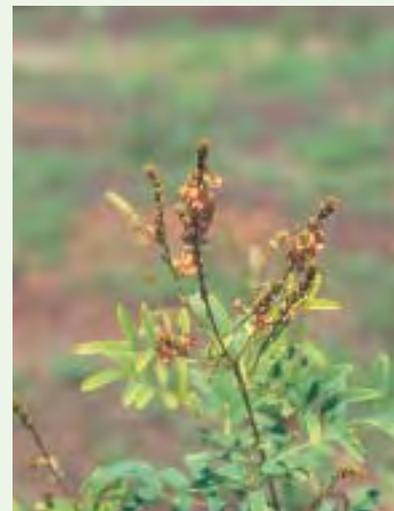
'Sapphire'

Purrawurrika (female)

A small greyish coloured plant that grows on salt pans and areas behind mangroves.



Tecticornia australasica



Tephrosia oblongata

Tephrosia oblongata (perennial form)
FABACEAE

Yirimunukamini (female)

This plant is used as medicine, the leaves are chewed by the mother of a young baby and then placed in the mouth of the baby. The baby sucks and licks the leaves, which heal any illness. It has a sour taste.

Tephrosia remotiflora (perennial form)
FABACEAE

Majatama (female)

The tubers are dug up and collected in a **tunga** (a basket made from the bark of **jukwartirringa**, *Eucalyptus tetradonta*). When a creek or water body with a lot of fish is located the tubers are pounded and then the **tunga** is carried by someone who swims through the water. The

swimmer must keep his eyes shut and leave the water as soon as possible.

The **Majatama** causes the fish to float to the surface of the water as if the water has been dynamited. Crocodiles are also stunned or killed and the water cannot be used for drinking or washing until it is flushed out again by rain. In the past four or five **tungas** of **Majatama** would be collected and large amounts of fish could be caught for ceremonial gatherings. However the **Majatama** cannot be used regularly as it depletes the fish resource and renders the water unusable.

The tubers are also used as medicine. They are pounded and boiled and then used as a washing medicine to treat kidney disorders, tuberculosis and other chest problems. After washing with this medicine the patient feels hot all over for a short period, then a feeling of lightness is followed by vastly improved health.

Terminalia ferdinandiana 'Billy Goat Plum' **Pirlamunga** (female)
COMBRETACEAE

The fruit are eaten when ripe (pale green to yellow). They are generally collected when they have fallen to the ground. If too many are eaten the teeth can turn black. The fruit is considered to be a good medicine to treat colds and congestion. Fruit produced on young plants are considered sweeter than those from mature trees. The large leaves may be used as a plate and twisted and folded to make a small cup, they are also used to wrap shellfish to carry them.

Terminalia ferdinandiana



Terminalia grandiflora
COMBRETACEAE

Tuluwunga (female)

The hard, brown fruit is split open and the seed is taken out and eaten.

The black fine soot from the burnt trunk is used to darken the skin of a widow after the death of a husband. It has also been used in the past to darken the skin of fair skinned babies so that Welfare Officers would not take them away.

Terminalia microcarpa
COMBRETACEAE

Tinginga (male)

The timber is used to make fighting sticks and the dancing sticks used by women during ceremonies.



Terminalia microcarpa



Terminalia grandiflora

Terminalia prostrata
COMBRETACEAE

'Billy Goat Plum'

The fruit are eaten when ripe (green with a pink-red tinge). The fruit are similar to **Pirlamunga** but are sweeter to taste. This plant always stays small and although similar to *Terminalia ferdinandiana* the fruit tastes sweeter and generally occurs in larger numbers.

Thespesia populneoides
MALVACEAE

Alabanjar (female)

The inner white bark is stripped off straight branches and trunks and is used to make rope. This rope is very strong and is attached to harpoons used for hunting turtles and dugong.

The timber from straight, dry stems is used to make fire-sticks, **Muluwanya** or **Wuliwuranga**.

A straight, smooth, narrow stem is cut to about 40 cm long, and a broader heavier piece is also cut and a small round hole is made with a v-shape carved into the side. One end of the narrow stick is placed in the round hole of the heavier stick. The narrow stick is then rotated quickly between the palms with a strong downward, drilling pressure.

This creates friction which in turn creates a very hot, fine dust. This dust pours down the vee carved into the wood onto a clump of fine dry grass previously placed underneath. The grass and the very hot dust are gently blown upon until flame appears.



Thespesia populneoides

Tinospora smilacina
MENISPERMACEAE

'Snake Vine'

Rokuni (female)

The flexible stems may be used as bush string to tie up yams, firewood, etc., for carrying.

Triodia microstachya
POACEAE

'Spinifex'

Mulani (female)

The resinous leaves are boiled in water and the liquid used as a wash to treat skin disorders such as scabies and itchy skin. When native bees visit the flowers of this plant it makes the honey 'cheeky'.

Typhonium jonesii
ARACEAE

Jilarringa (female and male)

The tubers are dug up and placed on a fire. When the fire dies down they are pounded until a white juice comes out. The tubers are then ready to eat.

Vigna vexillata
FABACEAE

Wuliwirranga (female)

The underground tubers are dug up and peeled to remove the fibrous skin. The yam may be eaten raw or roasted briefly then eaten. The seed may be eaten when it is green in the pod or when it has germinated in the early wet season. If the seed is dry and hard it cannot be eaten.



Tinospora smilacina



Vigna vexillata



Triodia microstachya

Vitex acuminata
VERBENACEAE

'Black Plum'

Wurnika (female)

The fruit are eaten when ripe (black), they are sweet and highly regarded as a food.

The timber from straight, dry stems is used to make fire-sticks, **Muluwanya** or **Wuliwuranga**.

A straight, smooth, narrow stem is cut to about 40 cm long, and a broader heavier piece is also cut and a small round hole is made with a v-shape carved into the side. One end of the narrow stick is placed in the round hole of the heavier stick. The narrow stick is then rotated quickly between the palms with a strong downward, drilling pressure.

This creates friction which in turn creates a very hot, fine dust. This dust pours down the vee carved into the wood onto a clump of fine dry grass previously placed underneath. The grass and the very hot dust are gently blown upon until flame appears.

Vitex glabrata
VERBENACEAE

'Black Plum'

Wurnika (female)

The fruit are eaten when ripe (black), they are sweet and highly regarded as a food.

The dry branches and stems are used to make fire-sticks. Refer above for the method.



Vitex acuminata



Xanthostemon psidioides
MYRTACEAE

Tinginga (male)

The timber is used to make fighting sticks, **tatwunga** and clap sticks. The wood is very hard and is very difficult to break.



Xanthostemon psidioides



Xylocarpus moluccensis

Xylocarpus moluccensis 'Cedar Mangrove' **Pupwurrupwani** (male)
MELIACEAE

The name Pupwurrupwani refers to the stout conical pneumatophores that this tree produces around its stem.

Zanthoxylum parviflorum
RUTACEAE

Yarlakarliwuni (male)

The straight trunks of large trees are used to make dugout canoes.

Ziziphus mauritiana
RHAMNACEAE

'Plum'

No Tiwi name

The fruit are eaten when ripe (yellow). When the fruit are produced they are often collected in large quantities by children. This is an introduced plant and has no specific name but is sometimes referred to as **Yawurlama** because of its resemblance to a 'jungle plant'.



Xylocarpus moluccensis



Scientific name unknown

Mantipika

This is a large tree from that grows in the jungle, we were unable to determine the scientific name during our research.



Green Turtle tracks, Kitirika (see page 122)

TIWI ANIMAL NAMES AND USES

TIWI ANIMAL NAMES AND USES

The Tiwi names and uses of animals are outlined below. The information relates only to the public knowledge of Tiwi people that can be published in a book such as this. There is a great deal of knowledge about animals that is of a sacred or secret nature. This knowledge relates to ceremonies, dreamtime and creation stories, healing practices and other areas. We have included some special stories to indicate the depth and type of knowledge that exists about animals that cannot be published.

We have arranged the animals according to the major natural groupings, birds, fish, mammals, reptiles, shell-fish, crustaceans, insects and others.

Within these major groups we have further divided the animals into smaller natural groups, for example birds are broken into carnivores, herbivores and insectivores; cockatoos, lorikeets and parrots; granivores; owls and nightjars; raptors; and waterbirds.

In total we have recorded Tiwi names for 171 animals, from the major natural groups as follows:

Birds	56 species
Reptiles	27 species
Fish	24 species
Insects	23 species
Mammals	19 species
Molluscs, shell-fish	8 species
Crustaceans	5 species
Others	9 species

Young or baby animals are referred to as **Pakijapura**.

BIRDS

The general term for all birds is **Tokapini**.

BUSH FOWL / DUCKS / GEESE / TURKEY

(Magpie Goose, Scrub-fowl, Bush Turkey, etc)

Bush or Stone-curlew
Burhinus grallarius

Wayayi, Pima (female)

There is a Tiwi legend which tells how **Wayayi** comes to have such an eerie call at night. The legend is as follows:

'She, a Tiwi lady, turned into this bird, she is crying at night, because she lost her baby..... When she was a person, she had one son, and she had found a boyfriend, she had an affair with him, and she left that son at home with her husband..... Her son was crying all day for his mother, she was gone all day with her lover..... And that father he was looking for his wife calling out 'wayyy', and his wife's lover covered her mouth so she could not call back to her husband.....She finally came back and saw that the baby was dead, and she cried out 'Wayayi' when she saw him.....I'm a bloody naughty girl she said to herself, and then turned into the bird Wayayi..... And now you can still hear her mournful calls at night, crying out for her dead son'.

This bird is often called the Bush Thick-knee, as well as the Stone-curlew.



Bush or Stone-curlew

Bush Turkey / Australian Bustard
Ardeotis australis

The flesh is cooked and eaten, it is considered excellent food. In the past it was hunted with wooden implements including light spears, traps and throwing sticks. In more recent times they have been hunted with guns. Bush Turkey numbers appear to have decreased in recent times and they are not seen in large numbers anymore. **Kawukawuni** prefers open, grassy areas, often called 'plains country'.

Orange-footed Scrub-fowl
Megapodius reinwardt

This bird has cultural significance to some Tiwi people, especially the Puruntatameri family who are responsible for undertaking the 'Kirilima' dance at some ceremonies. Eggs are not collected and eaten, but they may have been in the past.

Burdekin Duck / Radjah Shelduck
Tadorna radjah

In the past the hunting of ducks involved a group of hunters sneaking up on feeding birds. When the birds took flight each hunter threw several timber throwing-sticks into the flock. This would ensure that at least a few birds were killed or injured, then captured, cooked and eaten.

In recent times shotguns have been used extensively to hunt ducks. Occasionally duck eggs are collected for eating, but Magpie Geese eggs are preferred.

Kawukawuni (male)
Kawukawunga (female)



Bush Turkey / Australian Bustard
Burdekin Duck / Radjah Shelduck



Orange-footed Scrub-fowl

Kirilima (male)
Kirilumunga (female)

Tirrintirri (female)



Domestic Hen
Galus galus

Kalakala (female)

Magpie Goose
Anseranas semipalmata

Mayimampi (male)
Awurnanka, Narringari
Pukumwaka, Wurrikiliki (female)

The flesh is eaten after cooking and it is considered excellent food. Eggs may be collected from nests and eaten, but egg collecting can be dangerous as saltwater crocodiles occur in the same habitat.

Whistling Ducks
Dendrocygna spp.

Jurriyi

The flesh is eaten after cooking. Eggs were occasionally collected in the past but now this rarely occurs (Refer to Radjah Shelduck for hunting methods).



Magpie Goose

CARNIVORES / INSECTIVORES

(Butcher-birds, Crow, Kingfishers, Swifts, Shrikes)

Azure Kingfisher
Alcedo azurea

Pipijirringa (female)

Black-faced Cuckoo-shrike
Coracina novaehollandiae

Arlipunyika (female)



Whistling Ducks



Azure Kingfisher

Blue-winged Kookaburra
Dacelo leachii

Jorrijorringa (female)

Common Koel / Stormbird
Eudynamis scolopacea

Alarpiningwani

A calendar animal. When the Koel gives its distinctive call, it indicates that the wet season will begin soon.

Magpie Lark, Pee-wee
Grallina cyanoleuca

The Pee-wee disappears from the Tiwi Islands during the wet season and returns in the dry season.

Collared Kingfisher
Todiramphus chloris

Payampuna (male)

Rainbow Bee-eater
Merops ornatus

Wutirriwutirri (male)

Silver-crowned Friar Bird
Philemon argenteiceps

Juruwa (female)



Blue-winged Kookaburra

Magpie Lark, Pee-wee



Common Koel / Stormbird

Rainbow Bee-eater



Torresian Crow
Corvus orru

Kilirampani (male)
Wakuwakini (male)

Tree Martin
Hirundo nigricans

Wanyiwanyini (male)

COCKATOOS / LORIKEETS / PARROTS

The brightly coloured feathers of these birds are used in some ceremonies. Generally when birds are killed for feathers the body is roasted and the flesh eaten. The feathers from the Red-tailed Black Cockatoo and the Sulphur-crested Cockatoo are especially favoured for use during ceremonies.

Northern Rosella
Platycercus adscitus

Majirrapuratuwu (female)

Red-tailed Black Cockatoo
Calyptorhynchus banksii

Ngaringa (female)



Tree Martin



Torresian Crow



Northern Rosella

Red-collared Lorikeet
Trichoglossus rubritorquis

Mirririji (female)

Red-winged Parrot
Aprosmictus erythropterus

Arntirringarika (female)

This name may also be used as the generic term for all parrots.

Sulphur-crested Cockatoo
Cacatua galerita

Pulpungilirri (male)
Yinkaka (female)

Red-collared Lorikeet



Red-winged Parrot



Sulphur-crested Cockatoo



GRANIVORES, FRUGIVORES

(Doves, Pigeons, Quails, Finches, Figbirds, Orioles)

The general name for doves and pigeons is **Kurlutuki**, which is based on the sound of the call of the some of the more common species.

Bar-shouldered, Peaceful Dove
Geopelia humeralis, *G. striata*

Mwapurawayi (male)
Mwapura (female)



Bar-shouldered, Peaceful Dove



Emerald Dove

Emerald Dove
Chalcophaps indica

Mapulinka

When the distinctive breeding and territorial call of **Mapulinka** is heard from the jungles in the early to mid wet season it indicates that the **Kurlama** (*Dioscorea bulbifera*) yams are fat and fully formed. These yams are not harvested until later in the wet season when they form the basis for the important Kurlama ceremony.

Partridge Pigeon
Geophaps smithii

Mapulinka

Although this Pigeon has the same Tiwi name as the Emerald Dove, these pigeons are recognised as being quite distinct. The flesh of these birds can be eaten after roasting. In the past they were hunted with wooden implements and traps, more recent hunting involves shot-guns or using a slingshot, the latter being used mostly by children.



Partridge Pigeon

Torres Strait Pigeon / Pied Imperial-Pigeon
Ducula bicolor

Muma

The red fruit of **Jora**, the Carpentaria Palm (*Carpentaria acuminata*) is one of the favoured foods of **Muma**. The Torres Strait Pigeons depart the Tiwi Islands during the late wet season, February and March, and return during August and September in the late dry season.



Torres Strait Pigeon

Finches
Generic

Wutirri

Quails
Generic

Puwarrirr

The flesh is not eaten. The Tiwi name is based on the sound made by these fleeing birds when they are startled and fly quickly from the ground.

HONEYEATERS

Different Honeyeaters are recognised but none have specific Tiwi names and the name **Arlipunyika** refers to all honeyeaters.

Honeyeater



Finch



Quail



OWLS / NIGHTJARS / FROGMOUTHS

The general name for all Owls is **Pinjoma**.

Barn Owl
Tyto alba

Pinjoma

Boobook/Barking Owls
Ninox spp.

Jurrukukuni

Rufous Owl
Ninox rufa

Purrikikini (male)

Tawny Frogmouth
Podargus strigoides

Jupurtumpuni (male)
Kuwiyini



Barn Owl



Rufous Owl



Tawny Frogmouth



Owl

RAPTORS

(Eagles, Falcons, Hawks)

The general Tiwi term for Raptors, especially Kites and Hawks, is **Murtati**.

Black-shouldered Kite
Elanus notatus

Piripirininigini (male)

Black or Fork-tailed Kite
Milvus migrans

Turtujuka (female)

Brahminy Kite
Haliastur indus

Paparanyini, Jankinaki (male)
Juburu (female)

This bird is imitated during the **Kurlama** ceremony, with dancers painting themselves white on the head, shoulders and chest, then ochre on the back with feathers used as decoration.

Little Eagle
Hieraaetus morphnoides

Yirrimuru (male)

Osprey
Pandion haliaetus

Purruti (male)



Black-shouldered Kite



Osprey

Brahminy Kite



Wedge-tailed Eagle
Aquila audax

Yimpirnika
Yirrimiruwu (female)

White-bellied Sea Eagle
Haliaeetus leucogaster

Ngirrikati, Jankinanki (male)
Juburu (female)

WATER-BIRDS

(Egrets, Darters, Cormorants, Brolgas, Plovers, Sandpipers, Stilts)

Brolga
Grus rubicundus

Jilarti (male)
Jilarringa (female)

The cooked flesh is eaten. The large tasty drum-sticks are especially favoured. Brolgas are rarely killed and are not specifically hunted. The feathers are used during some ceremonies.



Brolga



White-bellied Sea Eagle



Wedge-tailed Eagle

Eastern Reef Egret
Egretta sacra

Jongijongini
Wulipankini (male)

Comb-crested Jacana
Irediparra gallinacea

Karrawutungna

Also known as the Christ-bird due to its ability to walk on top of Water-lily leaves and thus giving the appearance of walking on water.

Crested Tern
Sterna bergii

Martapani (male)
Martapaka (female)

Martapaka lay their eggs on sandy islands during the 'knock-em down' storms in the late wet season. The eggs are collected, cooked and eaten and are excellent food. These birds are often referred to as 'seagulls'.

Darter
Anhinga melanogaster

Putini (male)

Darters are noted for their ability to dive and stay underwater for long periods. They are also respected for their fishing skills.

Crested Tern



Eastern Reef Egret

Comb-crested Jacana



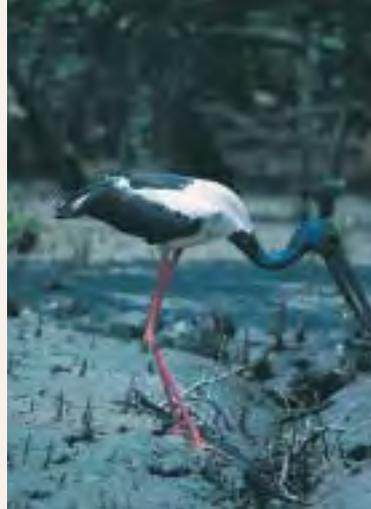
Darter



Jabiru / Black-necked Stork
Ephippiorhynchus asiaticus

The meat can be eaten. Modern hunting is opportunistic, with spears replaced by guns.

Arntongi (male)
Jipiyontongi (female)



Jabiru / Black-necked Stork



Great and Lesser Frigatebird, Stormbird

Great and Lesser Frigatebird, Stormbird
Fregata minor, F. ariel

Also called the Stormbird, as large numbers close to shore indicate a big storm is approaching. If they are seen roosting in mangrove areas it also indicates a storm or cyclone approaching. Refer to the Common Koel that is also called Stormbird.

Japarrika (female)

Masked Lapwing / Plover
Vanellus miles

Pirrampirrama (female)

Nankeen Night Heron
Nycticorax caledonicus

According to Tiwi legend **Yakingiya** is the mother of the Salt-water Crocodile.

Purtapurta, Yakingiya (female)



Nankeen Night Heron



Masked Lapwing / Plover

Pelican
Pelecanus conspicillatus

Alikampwarni, Arlipiwua, Kipiwura (male)
Jampawunga (female)

One of the main subjects of Tiwi wood carvings. The flesh can be eaten but other meats preferred. Hunting is opportunistic.

Royal Spoonbill
Platalea regia

Ararrini (male)

The flesh is cooked and eaten and has a taste similar to chicken.

Royal Spoonbill



Pelican



Seagulls, in general

Larus novaehollandiae, *Sterna spp.*

The term **Martapani** refers to the true seagull and terns, particularly Crested Terns. While true Seagulls do lay their eggs near the Tiwi Islands, the nests of Crested Terns are more common. Crested Tern nesting sites on nearby sandy islands are regularly visited by Tiwi people in the late wet season.

Martapani (male)

Straw-necked Ibis

Threskiornis spinicollis

Tumwapinila (female)

Striated Heron

Butorides striatus

Kararrunga (female)

White Egret

Ardea sp.

Pawunga (female)



Terns (*Sterna spp.*), often referred to as Seagulls



White Egret



Striated Heron



Straw-necked Ibis

FISH

The general term for fish is **Muputi**, eggs are called **Kurakura**.

SALTWATER FISH

Angelfish
Various taxa

Pamatikimi (male)

Barramundi
Lates calcarifer

Arlamini (small, male)
Arlaminga (large, female)

The flesh is eaten after cooking. It is very tasty and highly sought after. In the past Barramundi were speared in coastal areas and occasionally in freshwater areas. In recent times fishing lines have been used extensively in salt and freshwater areas.

Bream
Various taxa

Tiruwati (male)

Catfish
Arius spp.

Pirnikinga (female)

The spines on the pectoral and dorsal fins are dangerous and must be avoided. The flesh may be eaten after cooking, other fish are generally preferred.

Catfish
Scientific name uncertain

Puntunga (female)

Groper
Epinephelus lanceolatus

Wurriwurini (small, male)
Wurriwuringa (large, female)

Wurriwuringa can reach lengths of two metres and weigh up to 280 kilograms. The flesh is edible but considered poor tasting.



Catfish

Groper



Barramundi



Longtom
Strongylura spp., *Tylosurus* spp.

Tumpuni (male)

Mud-Skipper
Periophthalmus spp.

Wurranjini (male)

Mullet
Various taxa

Takaringa (female)

Parrot / Tusk Fish
Scarus spp., *Choerodon cyanotus*

Pirika (female)

Puffer-fish, Toadfish
Various taxa

Mirima (male)

Considered to be poisonous and never utilised.

Mangrove Jack
Lutjanus argentimaculatus

Marripukarli (male)

The flesh is eaten after cooking and is very tasty. Often found in mangrove areas, this fish is known for its dangerous bite.

Stone-fish
Synanceia horrida

Arruni (male)

Recognised for the painful sting delivered by its spines and its ability to hide on the ocean floor.



Longtom



Mud-Skipper



Mullet



Puffer-fish, Toadfish



Parrot / Tusk Fish

Salmon
Polynemus sheridani,
Eleutheronema tetradactylum

Turnumuni (large male)
Yirikiripinyani (small male)

Sawfish
Pristis spp.

Jirtaka (female)

Trevally, Giant
Caranx ignobilis

Kuratinga (female)



Sawfish

FRESHWATER FISH

Freshwater fish are considered inferior in comparison to saltwater fish. The saltwater fish are generally larger and the flesh better tasting. As a consequence the freshwater fish are not well delineated or well known.

Brown Fish
Various taxa

Pirrilani (male)

This is a general term for any relatively small brown fish found in freshwater areas.



Trevally, Giant

Eeltail Catfish
Neosilurus spp.

Pirninginka

Riflefish / Archerfish
Toxotes spp.

Jurrijuka



Eeltail Catfish



Riflefish / Archerfish

SHARKS / STINGRAYS

Cowtail Ray
Pastinachus sephen

Wuranjani (male)

Manta-rays, Devil Ray
Aetobatus narinari, *Aetomylaeus* spp.,
Mobula eregoodootenkee, *Manta birostris*.

Palironji (male)
Palironjinga (female)

These large Rays have spiritual significance for some Tiwi people and are not eaten. The largest Manta-ray, *Manta birostris*, is often referred to as the 'Devil Ray'.

Stingrays, general (other than Manta-ray)
Various taxa

Kirluwarringa (female)

Shovel-nose Ray / Shark
Various taxa

Pikaji (male)

Shark, general
Various taxa

Tartuwali (male)



Shark, general



Stingrays



Shovel-nose Ray / Shark

MAMMALS

BANDICOOTS / GLIDERS / POSSUMS

Northern Brown Bandicoot
Isoodon macrourus

Kipopi, Tukwatukini (male)
Marinyi, Tukatuka (female)

The flesh is cooked, in a similar way to possums (below), and eaten. It is considered to be excellent meat. Hunting involves searching hollow logs on the ground and looking for Bandicoot 'nests'. These are shallow depressions on the ground, usually with some surrounding vegetation cover.

Once the nest is located it is carefully observed to see the rise and fall of the Bandicoot breathing as it is almost impossible to distinguish the camouflaged fur. If the nest is occupied it is quietly approached and either hit with a heavy stick or the bandicoot pinned down. Then using a fair amount of force, they are smacked headfirst against a tree. It may take a couple of swings to kill it, but the first blow usually knocks them out.

In the past Dingo pups were trained to sniff out Bandicoots in the nest. Cooking is every similar to the possum, see below.

Kipopi is the most commonly used Tiwi name for Bandicoots.

Brushtail Possum
Trichosurus vulpecula

Kwangapi, Marrikwalimpi (male)
Wuninga, Wuruwanjinga (female)

Possums are relatively common on the Tiwi Islands. They are regularly hunted and are an important and highly regarded food source. Possum flesh is very high in protein and iron. The liver is eaten; it is roasted for about five minutes and is high in iron and zinc. The kidneys are also roasted for two to three minutes and they are high in protein and calcium (Tiwi Foods, NT Department of Health, 1983).



Northern Brown Bandicoot

Brushtail Possum



Wuninga is the most commonly used name. Young male possums are called **Wuningini**, females with young are called **Arriniya**. When **Wurringilaka**, *Eucalyptus nesophila* trees are flowering possums are fattest as they eat the flowers and buds. Although this is the best time to hunt possums they can be hunted throughout the year.

Cooking and distributing food from possums follows traditional laws. The hunter is usually the cook, with the senior traditional owner of the area it was captured on supervising the cooking and obtaining first choice of the best cut. The hunters' relationship with the land owner also plays an important role in the food preparation and distribution.

Favoured parts for eating include the meat along the backbone, the tail, the testicles and stomach (turned out and roasted close to the fire to resemble pork crackling), but individual tastes vary. The taste of the flesh, and especially the internal organs varies, depending upon the possum's diet.

Quoll and Echidna

Dasyurus hallucatus, *Tachyglossus aculeatus*

Quolls and Echidnas are not known to occur on the Tiwi Islands.

Sugar Glider

Petaurus breviceps

The flesh is eaten after roasting. They are usually caught opportunistically when hunting for Possums. They mainly feed on nectar, pollen and the flowers of various plants.

Rijingini (male)

Rijinga (female)



Sugar Glider

BATS and FLYING FOXES

Black Flying-fox, Little-red Flying-fox
Pteropus alecto, *Pteropus scapulatus*

The flesh of both species is eaten though the larger Black Flying-fox is preferred. The Black Flying-fox flesh is also considered good medicine for asthma and congested chest due to colds and influenza.

Insectivorous Bats
Various taxa

Tarnikini (male)
Ngakuraka (female)

Wurrinjimparni (male)
Murrujipaka (female)



Black Flying-fox

Insectivorous Bats



Little-red Flying-fox

Dingo

DOG / DINGO

Dingo
Canis familiaris dingo

Tayamini (male)
Tayama (female)
Pulangumwani, Kitarringini, Wankini

A head-dress made from the fur of Dingoes is called, **Arntuma**, which is now the accepted term for hat. **Arntumwari** is a head-dress made from Pandanus fibre with Dingo tails hanging down.

In the past Dingo pups were taken from their mother to be trained as hunting companions, they were especially suited to finding Bandicoots. The pups had the fur of the Bandicoot rubbed into their noses to sensitise them to the smell of the Bandicoot.

Dingo flesh was occasionally eaten in the past during periods of food shortage.

Dog
Canis familiaris

Kitarringini (male)
Wankini (male)



DUGONG / DOLPHIN / PORPOISE / WHALE

Dugong
Dugong dugon

Mantuwujini, Mantuwuni (male)
Mantuwuntinga (female)

The flesh is eaten and is considered an excellent food. Dugong hunting is a specialised skill and in the past harpooning was the only method of killing them. When hunting dugong from a canoe or boat the driver and the harpoon thrower need to be skilled and have a good understanding of dugong behaviour and each other.

Calves and female with young are not hunted and while guns may be used to hunt the Tiwi have a law of only catching one dugong per hunting trip. Around Goose Creek, Cape Fourcroy and Burnie Island are some well known dugong and turtle feeding places.

Some indicators of a dugong's presence below the water include fresh bits of sea-grass floating to the surface along with small bubbles. A prior knowledge of the distribution of sea grass beds and an understanding of seasonal movements of dugong are advantageous when hunting dugong.

Bottlenose Dolphin / Porpoise
Tursiops truncatus

Mununga (male, female)

Dwarf Sperm Whale ?
Kioga sp.

**Ampiji
Mariji**

Senior Tiwi elders remember the beaching of a whale in the 1940s. The meat is remembered as being very red, and it is the only occasion when the elders have seen such a whale.



Dugong



Bottlenose Dolphin / Porpoise

WALLABY

Agile Wallaby
Macropus agilis

Anjorra and Jajurrukwa (large male),
Jipwajirringa (male)
Arlituwi, Yirripurliwiyi (females with young)

Wallabies are a common and much sought after source of meat. Wallabies eat a variety of plant foods including roots, basal stems and leaves of grasses, and fruit and leaves from other plants. Wallabies are the only Macropods on the Tiwi Islands and with little other competition and a vast food supply their populations are large and stable.

In the past Wallabies were hunted with spears, throwing sticks, dingoes and traps. In recent times hunting has been undertaken almost exclusively with shotguns and rifles.



Agile Wallaby

RATS / MICE

Rat / Mouse

Wurruwataka (female)

This generic name includes: Brush-tailed Rabbit-rat, *Conilurus penicillatus*; Grassland Melomys, *Melomys burtoni*; Pale Field-rat, *Rattus tunneyi*, Dusky Rat, *Rattus collettii*.

The modern Tiwi name is **Rataka**.

Black-footed Tree-rat,
Mesembriomys gouldii,

Pwampungini (male)
Pwampunga, Yintumunga (female)

Brush-tailed Phascogale
Phascogale tapoatafa

Pwampungini (male)
Pwampunga, Yintumunga (female)

Dusky Rat



Black-footed Tree-rat



Mouse



Grassland Melomys



Water Rat*Hydromys chrysogaster*

The flesh can be eaten after roasting but they are not sought after and have not been eaten much in recent times. Their tracks are often seen in mangrove areas where they eat crustaceans, mussels, exposed mangrove worms and flowers from some mangroves.

Jikipayini (male, female)*Water Rat**Buffalo***FERAL ANIMALS****Buffalo***Bubalus bubalis*

The word **Jarranga** is used for female cattle as well as female Buffalo, similarly the term **Jarrangini** is for bulls and sometimes male Buffalo. Buffalo only occur on Melville Island and are far more common in the southern areas of the Island. They are regularly hunted for the meat and are an excellent food source.

The British introduced Buffalo from Timor to the Fort Dundas area in 1826. By 1895 there were enough buffalo to support a small industry supplying hides to Darwin. Robert Joel Cooper's hunting party had sent 18,000 hides to Darwin by 1915.

Cattle*Bos taurus*

Before guns were readily available, when Tiwi men hunted buffalo and cattle, three men using heavy spears would attack together to kill wild cattle.

Horse*Equus caballus***Yuwala** (male)**Jarranga** (female)**Jarrangini** (male)**Jarranga** (female)**Piki** (male)**Partirrapartirra, Pika** (female)*Cattle**Horse*

Pig
Sus scrofa

Pikipiki

Feral Pigs occur in large numbers on Bathurst Island. Melville Island has no feral pigs, though recently one was shot. Feral pigs have severely damaged some river and creek lines and monsoon vine forests on Bathurst Island.

REPTILES

The Tiwi term for reptile eggs is **Kurakura**, the egg sac in Turtles and Crocodiles is called **Miyara**.

CROCODILES

Saltwater Crocodile
Crocodylus porosus

Jikipayini (male)
Yirrikipayi, Jikipayinga (female)

Crocodiles are hunted and eaten. This was far more common in the past when hunting was undertaken by several men who used heavy hardwood spears. The spear was aimed at the side of the neck. The tail is considered the tastiest part of the body.

Jarrikarluwiyi is the name of an unusually large crocodile that lives in the sea near Cape Fourcroy on Bathurst Island. It eats other crocodiles and was originally a man. The Nankeen Night Heron is considered to be the mother of the Saltwater Crocodile.

There are no records of freshwater Crocodiles on the Tiwi Islands, though saltwater Crocodiles may spend a lot of time in fresh water areas.



Pig

Saltwater Crocodile



LIZARDS / SKINKS

Blue-tongue Lizard
Tiliqua scincoides

The flesh is eaten after roasting. Cooking involves roasting on the coals and turning until the skin is black and begins to split. The bulky base of the tail is the favoured section, the flesh is mostly white after cooking.

Tuningini (male)
Tuninga (female)



Blue-tongue Lizard

Burton's Legless Lizard
Lialis burtonis

Frill-neck Lizard
Chlamydosaurus kingii

The flesh is eaten after roasting. It is usually captured while it is sunning on tree trunks, the tail is grasped firmly and the lizard is quickly dashed against a tree several times. Cooking involves placing on the hot coals until skin begins to split, it needs to be turned several times. The tail section is favoured.

Pulartikimi (male)

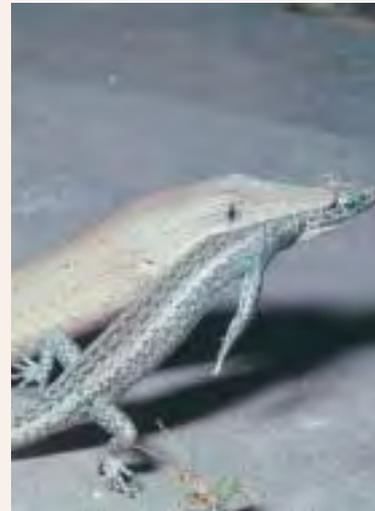
Kurupurrani, Kuntamani (male)

Gecko
Various taxa

Wulikarani (male)



Gecko



Burton's Legless Lizard



Frill-neck Lizard

Sand Goanna
Varanus gouldii

The flesh is eaten after a light roasting on hot coals and ashes.

Goanna (small)
Scientific name uncertain

Goanna (small)
Varanus scalaris

Ta-ta Dragon
Diporiphora spp., *Gemmatophora* spp.

Water Monitor
Varanus mertensi, *V. mitchelli*

The flesh is eaten after a light roasting.

Water Monitor



Ta-ta Dragon



Kawarri, Muwani (male)

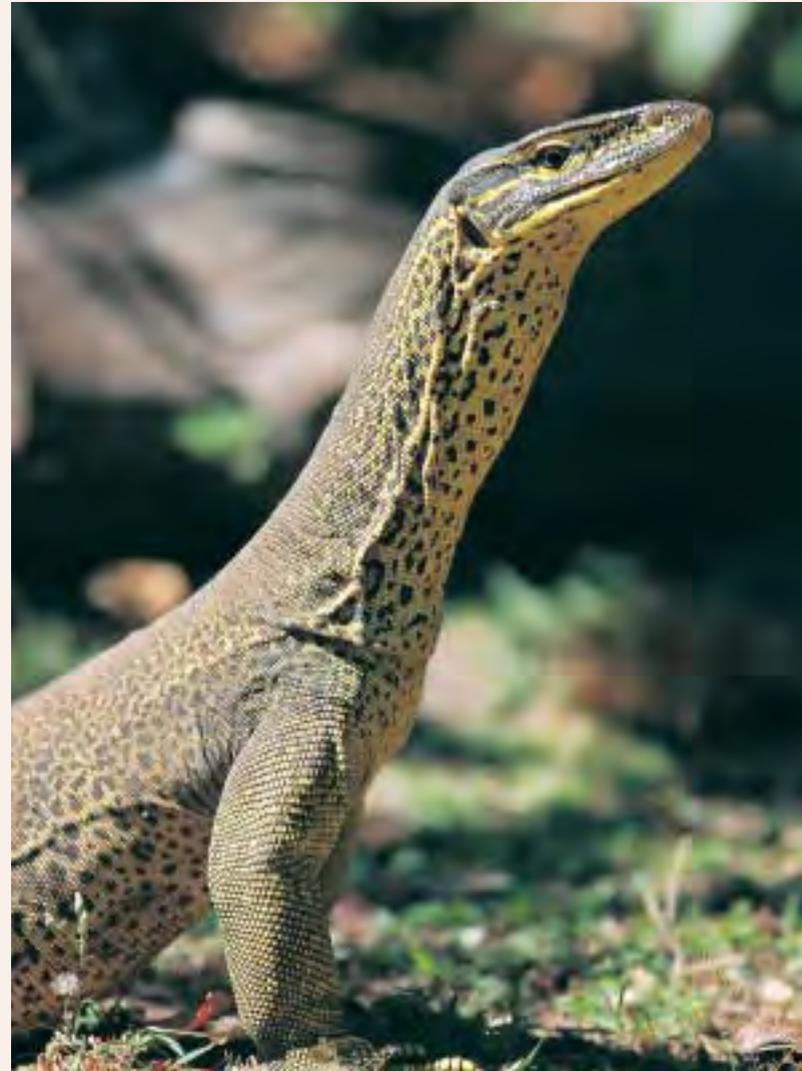
Muwaka (female)

Wayika (female)

Wawungini, Pwatispwatingina (male)

Pakitiroti, Yuwarnti (male)

Sand Goanna



SNAKES

The general Tiwi terms for venomous or 'cheeky' snakes are: **Aruwunga, Taringa** (female), **Aruwuni, Taringini** (male).

Before western medicine was introduced to the Tiwi Islands, Tiwi people treated snakebite by urinating on the bite area, then cutting it open and tying off above the bite with string made from Pandanus leaves.

Venomous snakes are not eaten.

Black-headed Python
Aspidites melanocephalus

Jinaringa (female)

This harmless snake is considered to be blind. It was occasionally eaten in the past.

Black Whip Snake
Demansia sp.

Kaluputi (male)

Brown Tree Snake
Boiga irregularis

Kirluwutingini (male)
Kiraga (female)

This snake is also referred to as the 'Doll's eye snake' on the Tiwi Islands.

Carpet Python
Morelia spilota

Yilingini (young), **Tupuyuka** (large)
Yilinga (female, male)

The cooked flesh is a popular food. This snake is common on the Islands and is found in hollow logs on the ground and in hollows in living trees. The snakes are often caught while hunting possums and sugarbag that are also found in hollow logs.

Cooking involves either boiling for several hours, until the flesh is mostly white (often with a greenish outer layer), or placing amongst hot coals. Eggs from this species can also be eaten.



Black-headed Python



Brown Tree Snake



Carpet Python



Death Adder

Death Adder
Acanthophis praelongus

Pwamika (female)

Golden / Green Tree Snake
Dendrelaphis punctulatus

Tirrika (female)

King Brown
Pseudechis australis

Puliyalingini (male)
Puliyalinga (female)

This snake has spiritual significance for some Tiwi people.

Poisonous Snake
Scientific name uncertain

Winywinyinga (female)

Taipan
Oxyuranus scutellatus

Tartiwiyi (male)
Kirawarritigama (male, female)

This is one of the most poisonous snakes on the Tiwi Islands. Tiwi people are very cautious of snakes and prefer not to walk in areas where there is long grass, these areas are generally burnt as are grassy areas around living areas and walking trails.

Water Python
Liasis fuscus

Pajinga (female)

The flesh can be eaten after it is cooked. This is also the Tiwi word for Sea Snakes.

Water Snake (small)
Scientific name uncertain

Turlaka (female)

Western Brown
Pseudonaja nuchalis

Puwatingini (male)



Golden / Green Tree Snake
Water Python



King Brown
Western Brown



SALTWATER TURTLES

The general Tiwi term for female turtles is **Jarrakalaninga**, this term is also used to describe Tiwi women of the Turtle Clan.

Turtle eggs are called **Karaka**, **Kirluwarringa**, **Kiluwuka** and **Pajipajuwu** (female). **Karakini** and **Karaparri** (male) are also names for eggs laid by small green turtles. Hatchlings are not eaten if they are able to walk, instead they are released to the sea.

Flatback Turtle *Natator depressus*

The eggs are collected, boiled and eaten.

Green Turtle *Chelonia mydas*

Kitirika (female)

The Greenback Turtle is the most common salt water turtle seen around the Tiwi Islands coastline, though other species often nest around the islands. The flesh of adult turtles and eggs from nests are eaten.

Hatchlings are called **Kitirini**. Eggs are called **Karaka** and are collected from various well-known locations around the Tiwi Islands. Nests are usually found by searching for tracks. If the high tides have washed away the tracks then the distinctive mark of a slight depression with freshly disturbed sand indicates a nest.

A strong, thin stick is then pushed down into the nest depression and when the stick is pulled out the end is smelt and touched to see if there is evidence of egg yolk and white. If there is evidence of eggs, the hunter carefully digs down to locate the eggs, which are generally buried about 50 to 75 cm deep in the sand. The eggs are then checked again for freshness, the softer and whiter shell indicates older eggs, and if they are too old they are not eaten. Fresh eggs have slightly translucent shells, are quite firm and can only be depressed about 6 to 8 mm. Turtle eggs are a very popular food source and are eaten raw or boiled in water for 5 to 10 minutes.



Green Turtle

Hawksbill Turtle
Eretmochelys imbricata

The flesh of the adults and the eggs are eaten. Hawksbill Turtle shells are very decorative and they were occasionally traded with mainland people.

Loggerhead Turtle
Caretta caretta

This name also applies to birthmarks and moles on people's skin.

Manjidi (female)
Marrakani (male)

Yirruwamini (male),
Jarrakalani (female)

FRESHWATER TURTLES

Long-neck Turtle
Chelodina rugosa

Mirningatinga (male and female)

The flesh is eaten after cooking. In the dry season these turtles are dug up from the mud where they aestivate around the edges of billabongs. In the wet season they are generally caught by fishing with a hand line, hook and bait.

Most Tiwi are of the opinion that the only freshwater species on the Islands is the Long-neck turtle. There is a possibility that the 'Yellow-faced Emydura' (an as yet undescribed short-neck turtle species) has been seen by some Tiwi people, particularly near Taracumbi falls.



Green Turtle

Hawksbill Turtle



Flatback Turtle



Loggerhead Turtle



SHELL-FISH / MOLLUSCS

Cockle, generally with ridged shells
Anadara granosa, various other taxa

Mirrangini (male)

The shellfish are lightly roasted in hot coals, allowed to cool and then eaten.

Cockle, generally with smooth shells
Tapes spp., various other taxa

Wurripiti (male)

The shellfish are lightly roasted in hot coals, allowed to cool and then eaten.

Long Bum / Mud Whelk
Telescopium telescopium

Piranga (female)

Long bums are common in many mangrove areas and may be collected in large numbers in a short period. They are relatively easy to find in the mangroves, being the largest of all Australian 'mud creepers'. They are usually lightly roasted on hot coals and then eaten. When cooked the outer edges of the flesh turns bright green, if too much is consumed diarrhoea may result. The flesh is high in iron (NT Health Department analysis).

They may also be eaten uncooked, and in fact still alive, and are an efficient treatment for hangovers.

Mangrove Worms **Milipukani, Mwarini, Yirrikala, Yuwurli** (male)
Bactronophorous thoracites, *Bankia australis*

Wakatapa

Yuwurli is the most common term used for the larger, sweet tasting worms. The smaller, cheeky worms are most commonly called **Wakatapa**.



Cockle



Long Bum / Mud Whelk



Long Bum / Mud Whelk

Yuwurli (*Bactronophorous thoracites*) are a favoured food, they are eaten raw after chopping them from the branches, stems and roots of dead mangrove wood. They range from 15 to 50 cm in length and have a similar taste to natural oysters. The worm is placed in the mouth headfirst, running the fingers down their body squeezes the mud out, and the head is then bitten off and discarded.

Yuwurli cannot be eaten during **Tiyari**, the build up season from mid August to November. Yuwurli is considered to be a health promoting food and is given to people who are sickly or unhealthy. They are especially good for pregnant women and nursing mothers. These worms are also effective 'hang-over' cures.

Yuwurli can be found in **Nurnunga** (*Bruguiera exaristata*, *B. parviflora*), **Murrunga** (*Bruguiera gymnorrhiza*), **Pukulijupa** (*Rhizophora apiculata*, *R. stylosa*) and **Maripwanga** (*Sonneratia alba*).

Wakatapa (*Bankia australis*) is a smaller mangrove worm and is 'cheeky', it cannot be eaten at most times of the year. However, after it has been boiled for 10 to 20 minutes it makes soup that is good medicine for coughs, colds and congestion. It is used by nursing mothers to increase milk production. If **Wakatapa** is accidentally eaten raw it causes throat irritation and coughing.

Wakatapa can only be eaten without cooking during **Tiyari**, the build up season from mid August to November, and only those that are from freshwater areas of mangroves.

Wakatapa occurs in the wood of **Artama** (*Avicennia marina*), **Murruka** (*Scyphiphora hydrophyllacea*) and **Marrakali** (*Ceriops australis*, *C. tagal*).

Wakatapa and **Yuwurli** start to breed just before the wet season rains begin.

Mangrove Worms



Mud Whelk, small
Terebralia palustris

Small Mud Whelks are lightly cooked on hot coals and then eaten. The flesh is high in iron. This species is similar to **Piranga** (*Telescopium telescopium*) but is smaller and wavy on the sides. They are cooked and eaten in the same way.

Mussel or Clam, saltwater
Polymesoda erosa

These mussels grow to be quite large and are an excellent and tasty food resource. They are also found in saltwater areas that receive a lot of freshwater input. This name is also the Tiwi term for kneecap.

Oyster
Saccostrea echinata

Oysters are collected from rock outcrops exposed at low tides. They may be eaten raw, roasted briefly on coals or boiled for a short period. They are considered an excellent food resource and a good health promoter.

Periwinkle
Nerita balteata

Wujirrima is the most commonly used name. This species occurs mainly in the mangroves, especially mangroves on rocky sites, where they can be found on or amongst the roots and lower stems. It is lightly roasted on hot coals and the flesh picked out with a stick or pin and then eaten.



Tuwarirrukwa (female)



Mussel or Clam, saltwater

Mirninguwuni (male)
Piliwuni, Piliwunga (large) (female)

Ampirikilimira, Pirikilimira, Wujirrima



Oyster

CRUSTACEANS

The general Tiwi terms for crabs are **Ngimama**, **Tarati** (male), and **Kuluwuka**, **Pujurripuka**(female). Crab eggs are called **Pajapawu**. Soft-shelled crabs, just after shedding the old shell, are called **Tuwulingata**.

Hermit Crab
Clibanarius taeniatus

Kiriwurrini, **Arijilani** (male)



Hermit Crab

Mangrove / Fiddler Crab (red claw)
Uca spp.

Pumwarninga (female)



Mangrove / Fiddler Crab (red claw)

Mud Crab
Scylla serrata

Kurumpuka, **Wurlanga** (female)



Yabbie / Freshwater Crayfish

The flesh of the claws, body and legs is eaten after a quick roasting on hot coals. It is considered a delicacy and is much sought after. Crabs are located in mangrove vegetation during low tides by looking for burrows that show recent water disturbance.

Once an active burrow has been found the crab can be dug out, enticed out by poking with a stick or by feeling for them and pulling out with the hand. The latter method is risky and only undertaken by experienced and skilful hunters. Occasionally Mud Crabs can be found in sandy open areas where they can be easily caught.

Spider Crab
Various taxa

Kirriwurrika, **Arijilaka** (female)

Yabbie / Freshwater Crayfish
Cherax quadricarinatus

Mijingaranga (female)



The saltwater crayfish has the same Tiwi name.

INSECTS

Many insects are known by general Tiwi names for certain natural groups. These names often correspond to families and orders recognised by western scientists. Most of the insects are not used and consequently not differentiated.

Green Ant
Oecophylla smaragdina

Waliwalinga (female)

A treatment for colds and influenza is made by boiling the entire green ant nest in water. The liquid becomes milky and can be drunk when cooled.

Ant, small (general term for many taxa)
Hymenoptera

Waliwalini (male)



Green Ant

Beetles in general
Coleoptera

Murnani (male)



Butterfly / Moth

Butterfly / Moth (general term)
Lepidoptera

Kwarikwaringa (female)



Beetles

Caterpillars in general
Lepidoptera larvae

Mwarlijangini (male)

Dragonfly (general term for many taxa)
Odonata

Pipirriwini (male)

This is also the Tiwi name for Helicopters.

Green Caterpillar
Lepidoptera larvae

Wunamika (female)

Grub, larvae stage of many insects
Many taxa

Yatukuwani (male)

Hornet
Hymenoptera

Muntamunta (male)

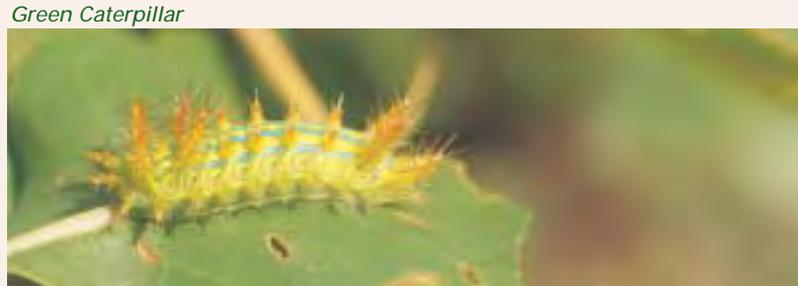


Dragonfly

Mangrove Grub
Scientific name uncertain

Tumirankini (male)

This larvae is found in **Tumulupuluka**, *Ceriops spp.*, small mangrove trees.



Green Caterpillar

Large Fly / March Fly
Diptera

Japijapini (male)



Mosquitoes

Mosquitoes in general
Culicidae

Mimini (male)
Rakuma

Lice / Fleas in general
Phthiraptera, Siphonaptera

Mimpini, Wuliwani (male)



Sandfly, all species
Diptera

Kirnikirni, Wurrimpawini (male)
Miminga (female)

Small flies, many types
Diptera

Mirrijilaka, Wutaka (female)

Large Fly / March Fly

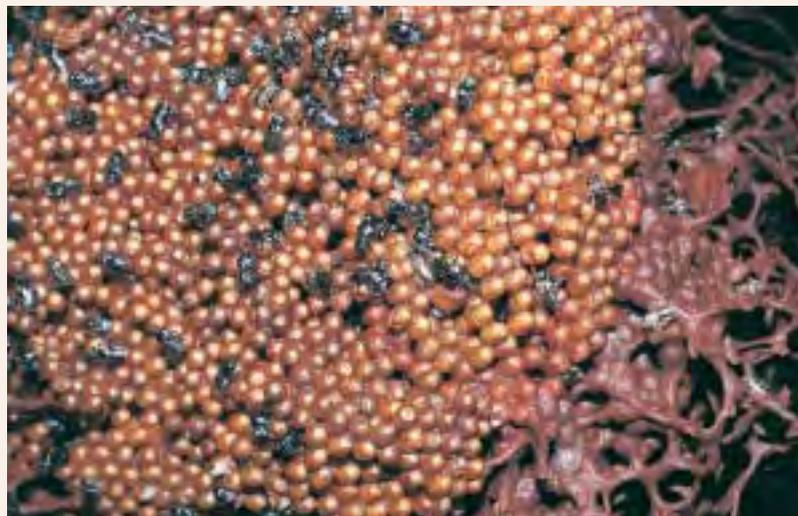
Small flies

Sugarbag: The general term for all sugarbag and its various parts, including honey is **Yingwati**.

Tree Sugar Bag Bee
Trigona spp.

Mawunga (male)
Yayingumi (female)

This bee builds hives in trees and has white coloured eggs and pollen in the nest. The two species of sugarbag bee are also differentiated by behavioural characteristics, hive structure and honey (texture, colour and taste). This species is slower in flight than **Dalyingini** (below) and often a spiralling flight pattern is observed.



Sugar Bag Bee



Ground and tree Sugar bag Bee
Trigona spp.

Also a predominantly tree dwelling species, but it also makes ground hives and has yellow coloured eggs and pollen in the nest. This species tends to 'humberg' the hunter after the hive is broken open. They do not sting, rather they cling to you and crawl over you. This species is a faster and more direct flyer than the Tree Sugarbag Bee.

The bee eggs are called **Munga**, the thick bush honey is called **Jalingini** or **Jamulanjini** (male). Soft honey is called **Jipiyinkimi**. Beeswax is called **Tingawini**. The thin salty part of wild honey found in **Kartukuni**, Ironwood is called **Mawungunya**.

Ticks, on cattle and dogs
Various taxa

Termite Mound / Antbed
Isoptera, Hymenoptera

The outside of the mound is broken off, crushed in the hands and then eaten to treat diarrhoea. It has the effect of slowing water loss in the same way as commercially available diarrhoea medicines, due to the high clay content.



Dalyingini (male)
Yimpara (female)



Tree Sugar bag

Termite Mound / Antbed



Wasp, general
Hymenoptera general

Takwakija (female)
Takwakijini (male)

Wasp, large black and yellow
Hymenoptera

Warntarrunga (female)

Witchetty Grub
Xyleutes spp., and others

Timirankini, Yatukuwani (male)
Timiranka (female)

The flesh may be eaten raw or lightly roasted and it is very tasty and valued as a food resource.



Wasp, general



Witchetty Grub

OTHER

Box Jellyfish / Stinger
Chironex fleckeri

Arntirringa,
Ngirtirringa (female)

This large jellyfish has a painful and potentially deadly sting. It is more common in the wet season and care is taken when swimming in coastal areas. Children have died after receiving severe stings on the chest and torso areas. **Ngirtirringa** refers to Jellyfish with long tentacles.

Centipede
Chilopoda

Piyarringa (female)

Piyarringa can get large with a painful, but not deadly sting. They are treated with caution due to this painful sting.



Box Jellyfish / Stinger

Frogs
Salientia

Arlitarraka

All frogs are referred to as **Arlitarraka** (female), tadpoles are called **Mirima**. Tiwi children are told not to kill green frogs during the wet season as this could cause severe flooding.

Maggots and worms
Diptera larvae and many other taxa

Yipirti (male)

Octopus, general
Octopus spp.

Jukulurruka

Scorpion
Scorpiones

Amputurrunga (female)

Amputurrunga is treated with caution due to the sting, which is painful but not deadly. If no other medicine is available urine is applied to relieve the pain.

Snail
Gastropoda

Wuripijirringa (female)

Spiders in general
Arachnida

Pwanga (male, female)

Worm



Frog
Spider



MYTHOLOGICAL

Rainbow Serpent

Ampiji, Marriji (male)

The Rainbow Serpent is a powerful part of culture and spirituality for Tiwi people. There is a freshwater lake on Bathurst Island where **Ampiji** resides. This lake must be approached quietly and with care. There are certain taboos associated with this waterhole, for example you must never touch sugar-bag and then wash your hands in the lake, and likewise menstruating women must not go near or swim in the water.

Ampiji is active when a rainbow is visible in the sky and pregnant women or women with new-born babies cannot go near water or travel in a boat.

Little hairy men

Nyingawi

Nyingawi are small men to about 1.2 metres (4 feet) tall. They are covered in orange hair and have relatively long arms, with which they can swing through the trees. **Nyingawi** can speak many languages and prefer to eat **Kwaka** (Cycad seeds) and **Piranga** (long bums). Occasionally they take Tiwi women for wives.

Malawu and **Wurankawu**, on Bathurst Island are places where Nyingawi likes to live. Nyingawi refer to themselves as **Tumarrimpula**, **Tirtiringulwula** and **Yuwlipi**. Many Tiwi people, especially older Tiwi, can recount stories of their personal experiences of seeing **Nyingawi**.





Sterculia quadrifida 'Peanut tree' Malikini (see page 80)

DISCUSSION

The information we have presented here is based upon the current traditional plant and animal knowledge of Tiwi people of Melville and Bathurst Islands. Whilst this represents a substantial amount of the total biological knowledge associated with the Tiwi people, it must be understood that it is not the complete Tiwi plant and animal story.

Although we have undertaken extensive field work on the Tiwi Islands there is no doubt that we would have missed some Tiwi plant and animal names and uses during our field work. This is due to the seasonality of some animals and plants, the restricted nature of some plants, the mobility of many animals and the inaccessibility of some areas of the Islands.

It is also acknowledged that some Tiwi plant and animal knowledge has been forgotten. This knowledge has been lost since the traditional lifestyle of the Tiwi people changed following contact with Europeans. The major reason for producing this book was to record and conserve the traditional plant and animal knowledge of the Tiwi elders, and to make it available for younger Tiwi generations.

CATEGORISATION AND DISCUSSION OF TIWI PLANT USE.

Table A (below) presents a categorisation of plants based on Tiwi use of these plants. The statistics of this categorisation are presented in Table B. Following these Tables is a discussion of Tiwi plant use.

Table A: Plants Arranged in Categories Based on Tiwi Use.

FOOD PLANTS

Cabbage			
<i>Carpentaria acuminata</i>	Carpentaria Palm		Jora
<i>Gronophyllum ramsayi</i>	Palm		Paliwuni
<i>Hydriastele wendlandiana</i>	Palm		Paliwuni
<i>Livistona humilis</i>	Fan Palm	Miparri / Miparriyi	
<i>Pandanus spiralis</i>	Pandanus		Miyaringa
Fruit Flesh			
<i>Acmenosperma claviflorum</i>			?
<i>Ampelocissus acetosa</i>	Native Grape		Turukwanga
<i>Anacardium occidentale</i>	Cashew		Kuruti
<i>Antidesma ghesaembilla</i>	Black Currant		Alimpunga
<i>Buchanania arborescens</i>		Yawurlama yankumwani	
<i>Buchanania obovata</i>	Green Plum		Yankumwani
<i>Cassytha filiformis</i>	Dodder Laurel		Ambulmadingkumana
<i>Drypetes deplanchei</i>	Drypetes		Karpilitu
<i>Exocarpos latifolius</i>			Murinyini
<i>Ficus opposita</i>	Sandpaper Fig		No Tiwi name
<i>Ficus scobina</i>	Sandpaper Fig		No Tiwi Name
<i>Flueggea virosa</i>	White Currant		Parntirringa
<i>Grewia asiatica</i>	Wild Plum		
<i>Grewia multiflora</i>			No Tiwi name
<i>Grewia retusifolia</i>	Emu Berry		
<i>Horsfieldia australianum</i>		Tukutturukuni	
<i>Mangifera indica</i>	Mango Tree		Arikuwakitori
<i>Mimusops elengi</i>			Yawurlama
<i>Morinda citrifolia</i>	Rotten Cheesefruit		Wuliwulama
<i>Pandanus spiralis</i>			Pandanus
<i>Passiflora foetida</i>			Wild Passionfruit
<i>Persoonia falcata</i>			Milky Plum
<i>Physalis minima</i>			Gooseberry
<i>Planchonia careya</i>			Cocky Apple
<i>Pouteria sericea</i>			Pouteria
<i>Semecarpus australiensis</i>			Native Cashew
<i>Syzygium armstrongii</i>			White Bush Apple
<i>Syzygium eucalyptoides</i>			Bush Apple
<i>Syzygium fibrosum</i>			Small Red Bush Apple
<i>Syzygium forte</i>			White Apple
<i>Syzygium minutuliflorum</i>			
<i>Syzygium suborbiculare</i>			Red Bush Apple
<i>Syzygium suborbiculare</i>			Pink Beach Apple
<i>Tamarindus indica</i>			Tamarind Tree
<i>Terminalia ferdinandiana</i>			Billy Goat Plum
<i>Terminalia prostrata</i>			Billy Goat Plum
<i>Vitex acuminata</i>			Black Plum
<i>Vitex glabrata</i>			Black Plum
<i>Ziziphus mauritiana</i>			Plum
Fruit Seeds			
<i>Anacardium occidentale</i>			Cashew
<i>Brachychiton diversifolius</i>			Kurrajong
<i>Brachychiton megaphyllum</i>			Red Flowered Kurrajong
<i>Cycas armstrongii</i>			Cycad Palm
<i>Eucalyptus miniata</i>			Woollybutt
<i>Mangifera indica</i>			Mango Tree
<i>Nymphaea violacea</i>			Waterlily
<i>Pandanus spiralis</i>			Pandanus
<i>Semecarpus australiensis</i>			Native Cashew
<i>Sterculia quadrifida</i>			Peanut Tree
<i>Terminalia grandiflora</i>			
Preparation / Flavouring			
<i>Calophyllum soulattri</i>			
<i>Dicranopteris linearis</i>			
<i>Livistona humilis</i>			Fan Palm
			Miyaringa
			No Tiwi name
			Jimijinga
			No Tiwi name
			Kanuli
			Murinyi
			Kajuwiyi
			Parntirringa
			Tumurangkini
			Tiwalama
			Pintawuni
			?
			Pinyawini
			Pinyama
			No Tiwi name
			Pirlamunga
			Wurnika
			Wurnika
			No Tiwi name
			Kuruti
			Marlikirringa
			Ngirninyani
			Minta
			Timirringa
			Arikuwakitori
			Purnarrika
			Miyaringa
			Kajuwiyi
			Wurranyini
			Tuluwunga
			Pampiyaka
			Tipurrukurluwa
			Miparri / Miparriyi

<i>Melaleuca leucadendra</i>	Paperbark	Punkaringa	<i>Bruguiera parviflora</i>	Nurninga
<i>Melaleuca</i> sp. red	Paperbark	Punkaringa	<i>Eucalyptus bigalerita</i>	Tuwaninga
<i>Melastoma affine</i>		Yawurlama	<i>Eucalyptus bleeseri</i>	Tuwaninga
Tuber / Yam			<i>Eucalyptus miniata</i>	Timirraringa
<i>Abelmoschus moschatus</i>	Wild Carrot	Rani	<i>Eucalyptus nesophila</i>	Wurringilaka
<i>Amorphophallus galbra</i>	Cheeky Yam	Tiyoni	<i>Eucalyptus papuana</i>	Wurawungapingala
<i>Amorphophallus paeoniifolius</i>	Bush Pumpkin	Wupwarna	<i>Eucalyptus polycarpa</i>	Wurringilaka
<i>Brachychiton diversifolius</i>	Kurrajong	Marlikirringa	<i>Eucalyptus ptychocarpa</i>	Pawlika
<i>Brachystelma glabriflorum</i>	Small Bush Potato	Jaliwaki	<i>Eucalyptus tetradonta</i>	Jukwartirringa
<i>Dicranopteris linearis</i>		Tipurrukurluwa	<i>Eucalyptus tintinnans</i>	Tuwaninga
<i>Dioscorea alata</i>	English Yam	Muranga	<i>Lophostemon lactifluus</i>	Pulumutuma
<i>Dioscorea bulbifera</i>	Round Yam	Kurlama	<i>Rhizophora apiculata</i>	Pukulijupa
<i>Dioscorea transversa</i>	Long Yam	Muranga	<i>Rhizophora stylosa</i>	Pukulijupa
<i>Drynaria quercifolia</i>		Jurntuma	Calendar plants	
<i>Eleocharis dulcis</i>	Water Chestnut	Kirlinja	<i>Acacia auriculiformis</i>	Black Wattle Tree
<i>Eriosema chinense</i>		Wakajini	<i>Acacia latescens</i>	
<i>Erythrina vespertilio</i>		Yirrikarluwuni	<i>Cycas armstrongii</i>	Cycad
<i>Imperata cylindrica</i>	Blady Grass	Pitarika	<i>Eucalyptus miniata</i>	Woollybutt
<i>Ipomoea abrupta</i>		Rokuni	<i>Pseudopogonatherum</i>	
<i>Ipomoea gracilis</i>		Rokuni	<i>contortum</i>	Grass
<i>Ipomoea graminea</i>		Portari	<i>Sorghum intrans</i>	Spear Grass
<i>Nymphaea violacea</i>	Waterlily	Purnarrika	Plants that are a good food source for certain animals	
<i>Tacca leontopetaloides</i>		Aligirryaka	<i>Acacia auriculiformis</i>	Black Wattle Tree
<i>Typhonium jonesii</i>		Jilarringa	<i>Acacia leptocarpa</i>	
<i>Vigna vexillata</i>		Wuliwirringa	<i>Aegiceras corniculatum</i>	River Mangrove
Water sources			<i>Amorphophallus galbra</i>	Cheeky Yam
<i>Carpentaria acuminata</i>	Carpentaria Palm	Jora	<i>Bruguiera gymnorhiza</i>	
<i>Heteropogon triticeus</i>	Sugar Cane Grass	Pitarika	<i>Carallia brachiata</i>	Carallia
<i>Melaleuca leucadendra</i>	Paperbark	Punkaringa	<i>Chrysopogon fallax</i>	
<i>Melaleuca</i> sp. red	Paperbark	Punkaringa	<i>Diospyros littorea</i>	
<i>Melaleuca viridiflora</i>	Paperbark	Punkaringa	<i>Enhalus acoroides</i>	Sea Grass
Plant / animal associations			<i>Eucalyptus bleeseri</i>	Bloodwood
Edible animals found in plants			<i>Eucalyptus miniata</i>	Woollybutt
<i>Avicennia marina</i>	Grey Mangrove	Artama	<i>Ficus virens</i>	Banyan / Milk Tree
<i>Bruguiera exaristata</i>		Nurninga	<i>Grevillea pteridifolia</i>	Fern-Leaved Grevillea
			<i>Lumnitzera littorea</i>	Red Flowered Mangrove

<i>Melaleuca leucadendra</i>	Paperbark	Punkaringa	<i>Livistona humilis</i>	Fan Palm	Miparri / Miparriyi
<i>Melaleuca</i> sp. red	Paperbark	Punkaringa	<i>Pandanus spiralis</i>	Pandanus	Miyaringa
<i>Melaleuca viridiflora</i>	Paperbark	Punkaringa	<i>Petalostigma pubescens</i>	Quinine Tree	No Tiwi name
<i>Mimusops elengi</i>		Yawurlama	<i>Pogonolobus reticulatus</i>	Colour Root	Jimujuwunga
<i>Pandanus spiralis</i>	Pandanus	Miyaringa	<i>Sauropus ditassoides</i>		?
<i>Pandina fraseri</i>	Seaweed	Pajini			
<i>Petalostigma pubescens</i>	Quinine Tree	No Tiwi name	Firewood		
<i>Pouteria pohlmaniana</i>		No Tiwi name	<i>Camptostemon schultzi</i>	Mangrove	Jinjinga
<i>Pouteria sericea</i>	Pouteria	Murinyi	<i>Casuarina equisetifolia</i>	Casuarina	Munkarajinga
<i>Sargassum decurrens</i>	Brown Seaweed	Pajini	<i>Eucalyptus confertiflora</i>		Pintampunga
<i>Sargassum</i> sp.	Seaweed	Pajini	<i>Eucalyptus miniata</i>	Woollybutt	Timirraringa
			<i>Eucalyptus nesophila</i>		Wurringilaka
			<i>Eucalyptus oligantha</i>		Mantiipungala
			<i>Eucalyptus papuana</i>	Ghost Gum	Wurawungapingala
MATERIAL CULTURE					
Artefacts / Carving					
<i>Erythrophleum chlorostachys</i>	Ironwood	Kartukuni	Glues/Adhesives		
<i>Eucalyptus nesophila</i>		Wurringilaka	<i>Alstonia actinophylla</i>	Milkwood	Palampalinga
<i>Eucalyptus oligantha</i>		Mantipungala	<i>Buchanania obovata</i>	Green Plum	Yankumwani
			<i>Cymbidium canaliculatum</i>	Tree Orchid	Japartinga
			<i>Pleomele angustifolia</i>		Mirima
Baskets					
<i>Calophyllum soulattri</i>		Pampiyaka	Poisonous/Harmful		
<i>Carpentaria acuminata</i>	Carpentaria Palm	Jora	<i>Semecarpus australiensis</i>	Native Cashew	Kajuwiyi
<i>Eucalyptus tetradonta</i>	Stringybark	Jukwartirringa	<i>Solanum tetrandrum</i>		No Tiwi Name
<i>Gronophyllum ramsayi</i>	Palm	Paliwuni	<i>Strychnos lucida</i>	Strychnine Tree	No Tiwi name
Fibre crafts					
<i>Brachychiton diversifolius</i>	Kurrajong	Marlikirringa	Shade/Shelter		
<i>Brachychiton megaphyllum</i>	Red Flowered Kurrajong	Ngirniyani	<i>Cathormion umbellatum</i>		No Tiwi Name
<i>Buchanania obovata</i>	Green Plum	Yankumwani	<i>Eucalyptus tetradonta</i>	Stringybark	Jukwartirringa
<i>Cassytha filiformis</i>	Dodder Laurel	Ambulmadingkumana	<i>Melaleuca leucadendra</i>	Paperbark	Punkaringa
<i>Cochlospermum fraseri</i>	Yellow Kapok	Pijuruwupirninga	<i>Melaleuca</i> sp. red	Paperbark	Punkaringa
<i>Dapsilanthus spathaceus</i>		Kirlinyjini	<i>Melaleuca viridiflora</i>	Paperbark	Punkaringa
<i>Eucalyptus miniata</i>	Woollybutt	Timirraringa			
<i>Ficus benjamina</i>	Weeping Fig	Jawarri	Toys		
<i>Ficus virens</i>	Banyan / Milk Tree	Jawarri	<i>Aegialitis annulata</i>	Club Mangrove	No Tiwi name
<i>Flagellaria indica</i>		Mawunkati	<i>Calophyllum inophyllum</i>	Beauty Leaf	Taruwuka
<i>Haemodorum brevicaula</i>	Small Red Root	Yaringa	<i>Guettarda speciosa</i>		Tarukwa
<i>Haemodorum coccineum</i>	Large Red Root	Yaringa	<i>Sonneratia alba</i>	Pornupan Mangrove	Maripwanga
<i>Hibiscus tilliaceus</i>	Beach Hibiscus	Alabanjar			

Others

<i>Abrus precatorius</i>	Crab's Eye Vine	Tapirtapunga
<i>Banksia dentata</i>	Banksia	Mayili
<i>Bombax ceiba</i>	Kapok Tree	Tunkuwanaya
<i>Callitris intratropica</i>	Cypress Pine	Karntirrikani
<i>Cocos nucifera</i>	Coconut	Purumatingurruwuwa
<i>Crinum angustifolium</i>	Onion Lily	Aligirryaka
<i>Denhamia obscura</i>		Yirimunukaminni
<i>Exocarpos latifolius</i>		Murinyini
<i>Hypoestes floribunda</i>		?
<i>Morinda citrifolia</i>	Rotten Cheesefruit	Wuliwulama
<i>Tephrosia remotiflora</i>		Majatama

MEDICINE PLANTS

Intestinal Ailments

<i>Chrysopogon fallax</i>		Pitarika
<i>Flagellaria indica</i>		Mawunkati
<i>Pandanus spiralis</i>	Pandanus	Miyaringa
<i>Persoonia falcata</i>	Milky Plum	Jimijinga

Respiratory Ailments

<i>Acacia oncinocarpa</i>		Murinyini
<i>Amorphophallus paeoniifolius</i>	Bush Pumpkin	Wupwarna
<i>Cymbopogon procerus</i>	Lemon Grass	Wupwunga
<i>Denhamia obscura</i>		Yirimunukaminni
<i>Eucalyptus miniata</i>	Woollybutt	Timirraringa
<i>Ficus opposita</i>	Sandpaper Fig	No Tiwi name
<i>Flagellaria indica</i>		Mawunkati
<i>Livistona humilis</i>	Fan Palm	Miparri / Miparriyi
<i>Persoonia falcata</i>	Milky Plum	Jimijinga
<i>Protasparagus racemosus</i>		Aruwuinni
<i>Sorghum plumosum</i>		Marakati
<i>Tephrosia remotiflora</i>		Majatama

Skin Ailments

<i>Avicennia marina</i>	Grey Mangrove	Artama
<i>Casuarina equisetifolia</i>	Casuarina	Munkarajinga

<i>Ceriops tagal</i>	Mangrove	Marrakali
<i>Erythrophleum chlorostachys</i>	Ironwood	Kartukuni
<i>Eucalyptus miniata</i>	Woollybutt	Timirraringa
<i>Ficus opposita</i>	Sandpaper Fig	No Tiwi name
<i>Ficus scobina</i>	Sandpaper Fig	No Tiwi Name
<i>Ipomoea pes-caprae</i>	Beach Morning Glory	Wurakinni
<i>Planchonia careya</i>	Cocky Apple	Kanuli
<i>Rhizophora apiculata</i>	Stilt Root Mangrove	Pukulijupa
<i>Rhizophora stylosa</i>	Stilt Root Mangrove	Pukulijupa
<i>Sonneratia alba</i>	Pornupan Mangrove	Maripwanga
<i>Triodia microstachya</i>	Spinifex	Mulani

Other

<i>Dioscorea bulbifera</i>	Round Yam	Kurlama
<i>Imperata cylindrica</i>	Blady Grass	Pitarika
<i>Mnesithea rottboellioides</i>	Blady Grass	Pitarika
<i>Pandanus spiralis</i>	Pandanus	Miyaringa
<i>Persoonia falcata</i>	Milky Plum	Jimijinga
<i>Scaevola taccada</i>		Wuraka
<i>Tephrosia oblongata</i>		Yirimunukaminni
<i>Tephrosia remotiflora</i>		Majatama

WEAPONS / IMPLEMENTS

Canoes

<i>Acacia auriculiformis</i>	Black Wattle Tree	Jarrikarli
<i>Alstonia actinophylla</i>	Milkwood	Palampalinga
<i>Bombax ceiba</i>	Kapok Tree	Tunkuwanaya
<i>Campostemon schultzi</i>	Mangrove	Jinjinga
<i>Canarium australianum</i>		Wilika
<i>Gmelina schlecteri</i>		Puluma
<i>Melaleuca leucadendra</i>	Paperbark	Punkaringa
<i>Melaleuca sp. red</i>	Paperbark	Punkaringa
<i>Syzygium angophoroides</i>		Pintawunga
<i>Syzygium forte</i>	White Apple	Pintawuni
<i>Zanthoxylum parviflorum</i>		Yarlakarliwuni

Clapsticks

<i>Erythrophleum chlorostachys</i>	Ironwood	Kartukuni
<i>Xanthostemon psidioides</i>		Tinginga

Didgeridu					
<i>Bambusa arnhemica</i>	Bamboo	Kayartirri	<i>Alstonia actinophylla</i>	Milkwood	Palampalinga
<i>Eucalyptus bigalerita</i>	Salmon Gum	Tuwaninga	<i>Bambusa arnhemica</i>	Bamboo	Kayartirri
<i>Eucalyptus bleeseri</i>	Bloodwood	Tuwaninga			
<i>Eucalyptus miniata</i>	Woollybutt	Timirraringa	Spears		
<i>Eucalyptus tetradonta</i>	Stringybark	Jukwartirringa	<i>Bambusa arnhemica</i>	Bamboo	Kayartirri
<i>Eucalyptus tintinnans</i>	Salmon Gum	Tuwaninga	<i>Bruguiera parviflora</i>		Nurninga
			<i>Callitris intratropica</i>	Cypress Pine	Karntirikani
Digging Sticks			<i>Casuarina equisetifolia</i>	Casuarina	Munkarajinga
<i>Ceriops tagal</i>	Mangrove	Marrakali	<i>Ceriops australis</i>	Mangrove	Marrakali
<i>Choriceras tricorne</i>		Tinginga	<i>Eucalyptus tetradonta</i>	Stringybark	Jukwartirringa
<i>Scyphiphora hydrophylacea</i>	Yam Stick Mangrove	Murruka	<i>Gmelina arborea</i>		Arluntinga
			<i>Hibiscus tiliaceus</i>	Beach Hibiscus	Alabanjar
Fighting Stick / Throwing Stick			<i>Lumnitzera racemosa</i>	White Flowered Mangrove	Mijinga
<i>Bruguiera gymnorhiza</i>		Timinipulika	<i>Macaranga involuocrata</i>		Aluntinga
<i>Ceriops tagal</i>	Mangrove	Marrakali	<i>Macaranga tanarius</i>		Yangutawungini
<i>Choriceras tricorne</i>		Tinginga	<i>Scyphiphora hydrophylacea</i>	Yam Stick Mangrove	Murruka
<i>Erythrophleum chlorostachys</i>	Ironwood	Kartukuni	<i>Stenocarpus ? verticis</i>		?
<i>Terminalia microcarpa</i>		Tinginga	<i>Thespesia populneoides</i>		Alabanjar
<i>Xanthostemon psidioides</i>		Tinginga			
			Other		
Fire Sticks/Carrier			<i>Acacia leptocarpa</i>		Jarrikarli
<i>Banksia dentata</i>	Banksia	Mayili	<i>Alphitonia excelsa</i>	Soap Tree	Jikiringini
<i>Clerodendrum costatum</i>		No Tiwi name	<i>Bambusa arnhemica</i>	Bamboo	Kayartirri
<i>Clerodendrum floribundum</i>		No Tiwi name	<i>Buchanania obovata</i>	Green Plum	Yankumwani
<i>Cordia dichotoma</i>		Patinga	<i>Dodonaea lanceolata</i>		Mirinyini
<i>Flueggea virosa</i>	White Currant	Parntirringa	<i>Erythrophleum chlorostachys</i>	Ironwood	Kartukuni
<i>Gossypium hirsutum</i>	Cotton Plant	Alabanjar	<i>Syzygium angophoroides</i>		Pintawunga
<i>Hibiscus tiliaceus</i>	Beach Hibiscus	Alabanjar			
<i>Pandanus spiralis</i>	Pandanus	Miyaringa			
<i>Premna serratifolia</i>		?			
<i>Smilax australis</i>		Turukwanga			
<i>Thespesia populneoides</i>		Alabanjar			
<i>Vitex acuminata</i>	Black Plum	Wurnika			
<i>Vitex glabrata</i>	Black Plum	Wurnika			

Table B: Statistics of Tiwi Plant Use Categories

Category Use	Number of species	Total	% of total plant use
FOOD			
Cabbage	5		
Fruit flesh	39		
Fruit seeds	11		
Preparation / Flavouring	6		
Tuber	21		
Water source	5		
Plant / Animal associations			
Edible animals found in plants	15		
Calendar plants	6		
Plant foods for animals	25		
		133	45.4%
MATERIAL CULTURE			
Artefacts / Carving	3		
Baskets	4		
Fibre crafts	18		
Firewood	7		
Glues / Adhesives	4		
Poisonous / Harmful	3		
Shade / Shelter	5		
Toys	4		
Others	11		
		59	20.1%
MEDICINE			
Intestinal ailments	4		
Respiratory ailments	12		
Skin ailments	13		
Other	8		
		37	12.6%
WEAPONS/IMPLEMENTS			
Canoes	11		
Clap-sticks	2		
Didgeridu	6		
Digging-sticks	3		
Fighting-/ Throwing-sticks	6		
Fire-sticks / Fire carrier	13		
Smoking pipes	2		
Spears	14		
Other	7		
		64	21.8%

TIWI ETHNOBOTANY TAXONOMIC STATISTICS

We have recorded 216 plant species in this account of Tiwi plant knowledge. These species are from 154 genera and 84 families.

At the family level the most widely utilised family is Myrtaceae, with 32 species recorded. Poaceae has 11 species used while Euphorbiaceae has nine. The families Mimosaceae, Rhizophoraceae and Verbenaceae each have eight useful species and Fabaceae has seven species recorded. The families Combretaceae and Arecaceae have six species used, while Anacardiaceae and Rubiaceae have five species recorded. Four useful species are recorded for five families and three useful species from three families. Sixteen families have only two species used and 50 families have one species used.

At the genus level *Eucalyptus* is the most widely used with 15 species recorded. *Syzygium* has eight species used and *Acacia* seven species used. The genera *Ficus*, *Ipomoea* and *Terminalia* each have four useful species, while the genera *Bruguiera*, *Dioscorea* and *Grewia* have three useful species. Sixteen genera have two species recorded while 129 genera have a single species recorded.

COMPARISON OF TIWI PLANT USE WITH OTHER ABORIGINAL GROUPS

Presented in Table C is a comparison of Tiwi plant use with the plant use of other, mainly coastal, Top End Aboriginal language groups. The information is presented in percentages of total plant species used for food, implements, material culture and medicine. Table C is divided into language groups where the same data collection methods were used (upper four languages) and those where different methodologies were employed (lower 3 languages).

Table C: Comparative Aboriginal Plant Use in Coastal Areas of the Top End.

Location (source)	Language	Plant usage %			
		Food	Implements	Material culture	Medicine
Tiwi Islands (this publication)	Tiwi	45	22	20	12
Cobourg Pen. (Blake, et al. 1998)	Iwaidja	43	25	26	6
Yirrkala (Yunupingu, et al. 1995)	Rirratjingu	40	18	33	9
Milingimbi (Wightman & Smith 1989)	Djambarrpuyngu	49	7	26	17
Arnhem Land various (Specht 1958)	various	47	25	26	2
Oenpelli (Smyth & von Sturmer 1981)	Gunwinggu	49	23	26	2
Kakadu (Russell-Smith 1985)	Mayiali	43	26	27	2

The data presented in Table C demonstrate that there are broad similarities in percentages of plants used by Aboriginal language groups in the coastal areas of the Top End for food, implements, medicine and material culture. It should be noted that the high number of medicinal plants recorded at Milingimbi (Wightman & Smith 1989) is probably a reflection of the medicinal plant emphasis of the fieldwork undertaken.

PLANTS USED FOR FOOD

We have recorded a total of 133 plants which are used as food, in food preparation or with plant / animal food associations. The most widely used food plant group are those with edible fruit flesh with 39 species, followed by plants with edible tubers or roots with 21 species. Eleven plants have edible seeds and six plants are used to flavour or prepare food. Five plants have edible cabbage or pith and 5 species are used as a water source.

Twenty-five plants are recognised as being foods for specific animals and a further 15 species are recognised as often containing edible animals, for example native Beehives or mangrove worms. Six species are recorded as calendar plants or seasonal indicators of inconspicuous but important ecological events.

Cabbage: We have recorded 5 species that have edible cabbage or pith, 4 of these plants are palms and one a pandan.

The larger palms **Jora** (*Carpentaria acuminata*) and **Paliwuni** (*Gronophyllum ramsayi*) contain a significant amount of crisp, tasty flesh that is referred to as cabbage. The smaller palms **Paliwuni** (*Hydriastele wendlandiana*) and **Miparri** (*Livistona humilis*) also contain cabbage but in smaller quantities and are not as pleasant in taste. The cabbage of **Miyaringa** (*Pandanus spiralis*) has a pleasant starchy taste and is easily collected and commonly available.

Fruit flesh: A wide variety of plants produce fruit that have edible fruit flesh. Most of these fruit are eaten without preparation and are relatively easily collected. The flesh is often high in sugar content and consequently the flesh is sweet and pleasant to taste.

Some of the most sought after fruits include **Pinyama** (*Syzygium suborbiculare* Beach), **Wurnika** (*Vitex glabrata*), **Jimijinga** (*Persoonia falcata*), **Yankumwani** (*Buchanania obovata*), **Parntirringa** (*Flueggea virosa*), and **Pirlamunga** (*Terminalia ferdinandiana*).

There are many other fruits that are not as tasty and less common but are also considered to be important food resources. While these species are not actively sought out, the fruit will be collected and consumed when it is found.

Several introduced fruit trees occur in large numbers on the Tiwi Islands and are highly respected as a food resource. These include the Cashew (*Anacardium occidentale*) which is called **Kuruti** and the Mango (*Mangifera indica*) which is called **Arikuwakitori** or **Mankuwu**.

Fruit seeds: Of the plants that produce edible seeds some require extensive preparation before they can be eaten. However, some require little or no preparation and are very pleasant to taste which makes them a highly sought after food source.

The seeds of **Wurranyini** (*Sterculia quadrifida*) are easily collected, require no preparation and are pleasant to taste. As a consequence these seeds are highly sought after. The seeds of **Tuluwunga** (*Terminalia grandiflora*) and **Miyaringa** (*Pandanus spiralis*), are difficult to extract from the woody fruit, but otherwise require no preparation and are very tasty. The large seeds of **Minta** (*Cycas armstrongii*) are called **Kwaka** and in the past they were used extensively as a food resource. The seeds required cooking and then extensive leaching to remove poisons prior to eating. The prepared food could be stored for long periods.

Tubers and yams: We have recorded 21 plants that have tubers or yams that can be eaten. Some of these plants develop large, perennial yams that are highly valued and important food resources. For example, **Muranga** (*Dioscorea transversa*) produces a long cylindrical yam containing large amounts of sweet tasting crisp flesh that can be eaten raw or roasted.

Kurlama (*Dioscorea bulbifera*) has a rounded yam that also contains large amounts of edible flesh but this flesh requires extensive preparation prior to eating. The use of the tuber as food is also governed by strict and complex laws. In fact the ceremony relating to the use of this food source is called Kurlama and it represents one of the major annual Tiwi ceremonies which occurs between February

Dioscorea transversa 'Long Yam' Muranga (see page 44)



and April. This ceremony has links with other ceremonies and determines the timing of important events such as the onset of dry season burning and initiation ceremonies for young males.

Another species of *Dioscorea* is apparently introduced and has become naturalised in jungles near Pirlangimpi. *Dioscorea alata* is called **Muranga** due to its similarity to *Dioscorea transversa* but the tubers are quite different in size, shape and colour of the flesh.

A large proportion of edible yams are relatively small, though they often occur in high numbers which allows a significant amount of food to be gathered and prepared. Examples of the most sought after of these smaller tubers include **Wakajini** (*Eriosema chinense*), **Wuliwurranga** (*Vigna vexillata*), **Kirlinja** (*Eleocharis dulcis*) and **Jaliwaki** (*Brachystelma glabriflorum*).

Preparation/Flavouring: Six plants are recorded which are used in the preparation or flavouring of food. Generally these plants are used in the cooking and pre-cooking preparations of plant and animal foods.

Water sources: Of the five species used to obtain water three are paperbarks, **Punkaringa** (*Melaleuca* spp.) which store water in swellings on the trunks. These swellings are chopped open to release drinkable water. Water is also obtained from the white soft pith of **Jora** (*Carpentaria acuminata*). Although the water is somewhat salty it is available in large quantities in one adult stem. A sweet watery juice is also obtained from the stems of **Pitarika**, *Heteropogon triticeus*.

Plant/animal associations: Relationships between plants and animals provide important information about food resources. We have recorded 46 plants with important animal links and divided this knowledge into three main areas.

Firstly, some important animal foods are associated with specific plants, for example native Bee hives (which contain honey, pollen and wax) are generally found in certain eucalypts and mangrove worms occur in certain mangrove tree species. We have recorded 15 species in this category.

Secondly, we have recorded 25 plants, which provide food for animals. It should be noted that this only represents plants eaten by important animal food species, many more plants are eaten by animals but these are not recorded here. The knowledge of links between plants and animal species that are important food resources is valuable, for hunting purposes and also for cultural reasons as many people have powerful totemic and 'dreaming' links with these animals.

Thirdly, six plants have been included as calendar plants. These are species that act as conspicuous indicators of certain seasonal occurrences that are important but difficult to observe. For example, the flowering of **Jarrikarli** (*Acacia auriculliformis*) indicates that Green Turtles are fat and it is the best time of year to hunt them as this fat is considered a delicacy. It also signals that tern eggs have been laid and they are ready to collect and that sugarbag or native Bee-hives are full of the pale, very sweet honey characteristic of the nectar and pollen collected by bees from the flowers of **Jarrikarli**.

The flowers of **Timirringa** (*Eucalyptus miniata*) indicate that Possums are fat, because Possums favour the flowers as a food resource, and it is a good time of year to hunt them. The flowers are also visited by native Bees so the hives are full of dark sweet honey.

PLANTS USED FOR MATERIAL CULTURE

Fifty-nine plants are recorded as being used for material culture that incorporates a wide range of plant uses including fibre crafts, toys, firewood and other uses.

Artefacts/Carving: Three plant species are used for carving artefacts, the most extensively used is **Kartukuni** (*Erythrophleum chlorostachys*), while **Wurringilaka** (*Eucalyptus nesophila*) is used to a lesser degree. The timber of **Kartukuni** is very hard, heavy and extremely long lasting, it is deep red in colour and has a beautiful grain pattern. Only dead trunks that have become dry are used for carving. They are extensively used for carving



Pukamani poles

Pukamani poles, which are placed around burial sites on the Islands, and are also used to carve artefacts for commercial sale through the Art and Craft Centres on the Tiwi Islands.

Baskets: Four plants are used to make baskets, the bark of two plants is used while the leaf bases of two palms are also used. The stringy bark of **Jukwartirringa** (*Eucalyptus tetradonta*) may be used to make a Tunga. These are baskets which consist of a rectangular piece of outer bark folded in half and the edges sown together with one end left open. These baskets can be leakproofed by plugging any holes with Bees-wax. These baskets can be used for carrying a variety of goods including bush tucker, plant parts used for medicine, and any other items. They are used ceremonially. The yellowish bark of **Pampiyaka** (*Calophyllum soulattri*) is also used to make baskets.

The flanged leaf bases of the palms **Jora** (*Carpentaria acuminata*) and **Paliwuni** (*Gronophyllum ramsayi*) are used to make leakproof baskets which are actually similar to rectangular buckets. These may also be leakproofed and are good for carrying water and liquid like food such as bush honey and mangrove worms.

Fibre crafts: We have recorded 18 plants used for fibre crafts. Ten species are used to provide fibre while eight plants are used as dyes to colour the fibres.

The plants used for fibres all have different qualities and are generally used for specific purposes, these are discussed under each plant species. The plants used for dyeing fibre crafts are also treated in detail below each individual species.

Firewood: Seven plants are recorded as being especially good for firewood. While any dry timber can be burnt as firewood, there are certain species which have very good firewood and are used in preference to other woods. Five eucalypts are considered to be excellent firewood, especially **Wurawungapingala** (*Eucalyptus papuana*), **Wurringilaka** (*Eucalyptus nesophila*) and **Pintampunga** (*Eucalyptus confertiflora*).

The timber of **Munkarajinga**, *Casuarina equisetifolia*, is also good firewood as it burns evenly and slowly. Conversely the dry timber of **Jinjinga**, *Camptostemon schultzii*, burns very quickly but is valued for quickly cooking various shellfish. These are collected from the mangroves and beach areas where this plant grows and is often found as dry logs at the high tide mark.

Glues /Adhesives: The sap from four plants can be used as a glue or adhesive. Generally these glues are added to ochre or paints which are being used to decorate people for participation in ceremonies. However, they may also be used when painting onto bark, canvas or wood. The glue has the effect of making the paint or ochre stick well to the base it is being applied to, and also keeping the colours strong and vibrant for longer periods.

The juice from the crushed stems of **Japartinga**, *Cymbidium canaliculatum*, is regarded as especially effective glue.

Shade/Shelter: Of the five plants regarded as providing good shade or shelter, four have bark which is used in the construction of waterproof dwellings for the wet season. The other, *Cathormion umbellatum*, is valued for providing very dense and cool shade in the floodplain margin areas where there is little other protection from the sun.

In the past the bark from **Punkaringa**, various *Melaleuca* species, was used extensively to make waterproof areas to camp under during the heavy rain part of the wet season. The bark can be collected in large sheets that were placed several layers thick over wooden frames to make sleeping areas that were dry. The bark of **Jukwartirringa**, *Eucalyptus tetradonta*, can also be collected in large sheets that are water resistant but these are more difficult to peel off than the paperbark, and this was especially so prior to the arrival of steel-headed axes.

Toys: Of the four plants recorded as being used for toys, two species have globular fruits which are used as marbles (**Taruwuka**, *Calophyllum inophyllum* and **Tarukwa**, *Guettarda speciosa*). One has a fruit which is used like a spinning top (**Maripwanga**, *Sonneratia alba*)

and the fourth is used as an imaginary stingray and is speared (Club Mangrove, *Aegialitis annulata*).

Other uses: Other Tiwi uses of plants include the use of the inflorescence of **Mayili** (*Banksia dentata*) as a comb and the cotton from the fruit of **Tunkuwayana** (*Bombax ceiba*) to line coffins. The hollow stems of **Aligirryaka**, *Crinum angustifolium*, are used as straws to suck water, while the bright orange inner bark of the roots of **Yirimunukaminni**, *Denhamia obscura*, is used to promote good luck when gambling, hunting or seeking a partner. **Majatama** (*Tephrosia remotiflora*) may be used as fish poison, while **Murinyini** (*Exocarpus latifolius*) and **Karntirrikani** (*Callitris intratropica*) are burnt on a fire to repel insects.

PLANTS USED FOR MEDICINE

We have recorded a total of 37 plants, which are used as medicine. Thirteen plants are used to treat skin ailments and 12 to treat respiratory illnesses. Four species are used in the treatment of intestinal complaints and a further eight plants are used to treat various other types of illnesses.

It should be noted that plants are only one form of medicine that is available to treat illness. Various animals, minerals, insects and marine organisms are also used as medicines. Apart from these physical treatments of disease there are a variety of spiritual and metaphysical treatments that can be used. The use of ceremonies, songs, special healing artefacts and the expertise of healers all play a role in the physical and mental health of a person.

Whilst the chemical healing properties of plant medicines are highly respected the spiritual healing properties of plants are considered to be equally important in the healing process. This latter aspect of healing can not be provided by synthesised medicines, even though they may contain the appropriate chemical healing agents.

Intestinal ailments: Four plants are used to treat intestinal ailments. Two species are taken internally, one is used as an external wash and one species may be used as a wash or eaten.

Miyaringa, *Pandanus spiralis*, is used to relieve abdominal pain by wrapping strips of leaves or sections of stems around the end of a stick. This is warmed on a fire and is then rubbed onto painful areas of the stomach and is a powerful pain reliever. The white, soft inner portion of the growing point at the base of the new leaves may be eaten to relieve abdominal pain and diarrhoea.

Another highly respected treatment for diarrhoea is **Jimijinga**, *Persoonia falcata*. The leaves may be chewed or boiled in water and the liquid drunk.

Respiratory Ailments: Twelve plants are used to treat respiratory problems. The leaves of five species are used, the tubers or roots of four species, while the bark, stems and cabbage of one species are used. Seven plants are used as external washes, two species are drunk, one species is chewed and two species may be used as either a wash or a drink.

Aruwuinni, *Protasparagus racemosus*, has fleshy lateral roots, which are dug up, boiled in water, and the liquid used as a wash and drink to treat chest infections. While the potency of this medicine is highly respected it appears that the medicinal use has been relatively recently introduced from Maningrida where the plant is widely used medicinally. When referring to the medicinal use of *Protasparagus racemosus* it is most commonly referred to as **Krib**, even though the traditional Tiwi name for the plant is **Aruwuinni**.

Other plants that are considered the best treatments for respiratory complaints include the inner bark of **Timirringa** (*Eucalyptus miniata*), the leaves of **Jimijinga** (*Persoonia falcata*) and the tuber of **Wupwarn** (*Amorphophallus paeoniifolius*).

Skin Ailments: We have recorded 13 plants that are used to treat skin disorders. Of these 11 are applied as external washes and two have their sap applied directly to the skin disorder. The inner bark of five plants is used, the leaves of two species, the hypocotyls of two

species, the leaves and sap of two species, the leaves and flowers of one species and the bark and leaves of one species. One of the most favoured medicines for the treatment of skin ailments is **Wurakinni** (*Ipomoea pes-caprae*). The leaves may be boiled in water and the liquid used as an external wash, alternatively the pink flowers may be rubbed directly onto areas that have been affected by mosquito and sand-fly bites. This is considered to be an extremely effective treatment for relieving the effects of mosquitoes and sand-flies and also for hastening the healing of the affected areas.

The liquid made from boiling the inner reddish bark of **Marrakali** (*Ceriops tagal*) and **Kartukuni** (*Erythrophleum chlorostachys*) is also excellent medicine for the treatment of any skin disorders, including scabies and skin sores.

Other Medicinal Plants: There is a group of eight plants which are used to treat a variety of illnesses or disorders. For example the flesh of the yam of **Kurlama** (*Dioscorea bulbifera*) can be used to rub directly and vigorously onto swollen and misshapen limbs and after several applications has the effect of improving these limbs.

The use of **Pitarika**, *Imperata cylindrica* and *Mnesithea rottboellioides*, as a thinning medicine is also an unusual medicinal application. The sharp hard new stems are poked into the back of the knees of people who are overweight and this causes them to begin to lose weight. The ripe white fruit of **Wuraka**, *Scaevola taccada*, are squeezed so that the juice falls into the eye like eye drops. This has a healing effect on any eye problems.

Majatama, *Tephrosia remotiflora*, is used to treat kidney disorders, tuberculosis and other chest problems. The tuber or small yams are dug up and pounded, then boiled and the liquid used as an external wash. This makes the patient feel hot all over for a short time and a feeling of lightness, which is followed by improved health, follows this. The healing qualities of **Majatama** are very highly respected.

PLANTS USED FOR WEAPONS AND IMPLEMENTS

A total of 64 plants are recorded here as being used to make a range of weapons and implements.

Canoes: We have listed 11 plants being used for canoes, these range from heavy-hulled dugout canoes made from the dense timbers of **Jarrikarli** (*Acacia auriculiformis*) and **Punkaringa** (*Melaleuca* spp.) to light weight dugout canoes made from the buoyant wood of **Jinjinga** (*Camptostemon schultzei*).

In the past a great deal of time and labour was expended in making dugout canoes. These could be constructed by one man over a long period of time or by a group of men over a shorter period. The difficulty for a group of men was being able to provide food for them for the period they worked on the canoe, and also being able to repay them for the labour they provided. Often large trunks would be worked on over an extensive period. A carving in the wood would identify the trunk's owner, in more recent times the initials of a person's name were used.

Clap-sticks: The timber from two plants is used to make clap-sticks. The most favoured species is **Kartukuni**, Ironwood (*Erythrophleum chlorostachys*) because of the hardness and durability of the wood and the quality of the sound it produces. However, the wood from **Tinginga**, *Xanthostemon psidioides*, may also be used, as it is quite hard and durable.

Didgeridus: Five species of *Eucalyptus* are favoured for making didgeridus. The stems of **Kayartirri** (*Bambusa arnhemica*) may also be used. Of the five *Eucalypts* the most favoured species are **Jukwartirringa** (*Eucalyptus tetradonta*) and **Tuwaninga** (*Eucalyptus bleeseri* and *Eucalyptus bigalerita*). However, if any eucalypt with a suitably hollowed stem of the appropriate diameter is found it may be used to make a didgeridu.

Digging sticks: Three species are recorded as being used for digging sticks. These are mainly used for digging edible yams, but are also

used for digging up medicinal plants, dyes for fibres, occasionally goannas and even for poking in the ground for turtles and echidnas. The plants used are all hard and heavy wooded shrubs. The timber is further hardened by heating on a fire, which also helps maintain the sharp tip. The use of steel bars and rods has largely superseded the use of timber for digging sticks in modern times.

Fighting and throwing sticks: Six plants with heavy and dense timbers are used to make fighting and throwing sticks. The main attribute sought for these implements is the ability to 'knock down' animals and people. Throwing sticks were used in hunting and were mainly used to kill and injure Magpie Geese, other birds and small game such as goannas and small wallabies. These sticks were made to be able to be thrown so generally were less than 50 cm long and relatively light in weight so they could be thrown a reasonable distance. Preferred plants for making throwing sticks are **Tinginga** (*Choriceras tricornis*) and **Marrakali** (*Ceriops tagal*).

Fighting sticks or nulla-nullas were quite a deal longer and heavier. These were used in person to person fighting and in simple terms the heavier the timber the better the weapon. **Kartukuni** (*Erythrophleum chlorostachys*) and **Tinginga** (*Xanthostemon psidioides*) provide the heaviest timber for fighting sticks.

Fire sticks and fire carriers: We have recorded 13 plants which are used as fire-sticks or fire carriers. Only two of these are used to carry fire, **Mayili** (*Banksia dentata*) and **Miyaringa** (*Pandanus spiralis*), while 11 are used as fire-sticks.

The most effective plants for use as fire-sticks are **Patinga** (*Cordia dichotoma*) and **Wurnika** (*Vitex acuminata* and *Vitex glabrata*). However, any of the plants listed will be used to make fire if the preferred species are not available. The use of fire-sticks to create fire is physically demanding and requires a



Making fire using the traditional drilling technique



Hunting for mud crabs near the mangroves

deal of skill and expertise. Generally in the past fire was carried from place to place as people moved around country, as it was easier and more convenient to do this. However, the ability to make fire using the traditional drilling technique was an important and necessary skill for survival.

Smoking pipes: Two plants are used to make the stem part of long-stemmed smoking pipes. These are suitably sized branches and stems of **Palampalinga** (*Alstonia actinophylla*) and narrow stems of **Kayartirri** (*Bambusa arnhemica*). The bowls of the pipe can be made from Mud Crab claws or the bases of large bullet cartridges.

Spears: A total of 14 plants are recorded as being used to make spears. This reflects the diversity of purposes of spears that require a diverse range of timber qualities. For example light and buoyant spears are necessary for hunting fish and other small marine game. However, heavier timbers are required to hunt large marine animals such as turtles and dugong and larger land animals such as wallabies.

For making the shafts of fishing spears which need to be lightweight **Alabanjar** (*Hibiscus tiliaceus* and *Thespesia populneoides*), **Aluntinga** (*Macaranga involucreta*) and **Yangutawungini** (*Macaranga tanarius*) are the most favoured plants. The advantage of a light spear shaft when spearing fish is that the spear may be thrown many times without tiring the hunter and its buoyancy brings the spear and the fish to the surface quickly.

Heavier timbers with more penetrative power include **Jukwartirringa** (*Eucalyptus tetradonta*) and **Munkarajinga** (*Casuarina equisetifolia*). These heavier spears or harpoons are needed when hunting marine turtles to puncture the shell, and also for dugong to make a deep incision so that the harpoon will not pull out.

CATEGORISATION AND DISCUSSION OF TIWI ANIMAL USE

Tiwi animal use categorisation is presented in Table D, with the statistics of this animal use in Table E. A discussion of Tiwi animal use follows these tables.

Table D: Categorisation of Tiwi animal use and hunting methods.

Common Name	Type and Frequency of Use		Hunting Methods		General comments & population observations by Tiwi authors	
	Past	Current Variation	Past	Present	Past	Present
BIRD						
Bush Turkey / Bustard	F, SP	OP	W, NT	SH	Common	Restricted
Brolga	F, SP-OP	RH-OP	W	SH	-	Common
Red-tailed Black Cockatoo	F, FD, CS, OP	RH	W	SH	-	-
Sulphur-crested Cockatoo	F, FD, CS, OP	RH	W	SH	-	-
Bar-shouldered & P. Dove	F, OP	RH	W	-	-	-
Emerald Dove	CS	-	-	-	-	-
Whistling Ducks	F, OP, Eggs	-	W,	CM SH	-	-
Frigatebirds	Warning	-	N/A	N/A	-	-
Galah	F, FD, OP	RH	W	SH	-	Common
Magpie Goose	F, Eggs, OP-SP	RH	W, CM	SH	-	Common
Sea Gull	Eggs, SP	SP-OP	Canoe to Islands.	Boat	?	Common
Nankeen Night Heron	CS	-	N/A	N/A	-	-
Jabiru	F, OP	RH	W	-	-	-
Brahminy Kite	CS, FD, SP	-	W??	SH??	-	-
Common Koel	CA	-	-	-	-	-
Pelican	F, CS, OP-RH	NH	W, CM	N/A	-	-
Partridge Pigeon	F, OP	RH	W, NT	SH	?	Common
Orange-footed Scrub-fowl	F, CS, Eggs,	NH	-	Not hunted	Common	Common
Royal Spoonbill	F, OP	RH	W	SH?	-	-
Crested Tern	Eggs, SP	SP-OP	Canoe to Islands.	Boat	-	-
FISH (currently using boats)						
Barramundi	F, OP	-	W, FL, NH	W, FL, NH	-	-
Bream	F, OP	-	W, FL, NH	W, FL, NH	-	-
Catfish	F, OP	-	FL	FL	-	-
Rock Cod	F, OP	-	FL	FL	-	-
Groper	F, OP	-	FL	FL	-	-
Mullet	Bait, SP	-	FL, NT	FL, NT	-	-
Salmon	F, OP	-	FL	FL	-	-
Sawfish	F, OP	-	FL	FL	-	-
Snapper	F, Op	-	FL	FL	-	-
Red Snapper, Mangrove Jack	F, OP	-	FL	FL	-	-
Trevally	F, OP	-	FL	FL	-	-
MAMMALS						
Bandicoot	F, SP	OP	W, H	W, H	-	-
Possum	F, LF, SP	OP	H, Stone axe	H, Steel axe, Chainsaw	Common	Common

Black Flying Fox	F, MC, SP	OP	W, H	SH, W, H	Common	Common
Little-red Flying Fox	F, MC, SP	OP	W, H	SH, W, H	Common	Common
Dingo	F, CS, OP	NH	W, H	Not hunted	Common	Pure dingo #'s low
Dugong	F, SP	OP	Harpoon, Canoe	Harpoon? SH, Boat	Uncertain	Uncommon
Agile Wallaby	F, LF, SB, SP	LF, SB no longer used	W	SH	Common	Common
Water Rat	F, OP-RH	NH	W,H	-		
<i>Ferals</i>						
Buffalo	F, OP	-	W	SH	Intro. 1826	Only on Melville Is.
Cattle	F,? OP?	-	W	SH	?	?
Horse	SP?	OP	?	?	?	Common
Pig	F, OP		W	SH	Intro. ??	
REPTILES						
Saltwater Crocodile	F?, CS	NH?	W	SH?	Common	Not hunted in recent times, v. common
Blue Tongue Lizard	F, OP	-	W, H	W, H	-	-
Frill-neck Lizard	F, SP-OP	OP	H	H	-	-
Sand Goannas	F, MC, SP	OP	W, H	W, H	-	-
Water Monitors / Goannas	F, MC, OP	-	W, H	W, H	-	-
King Brown	CS	-	-	-	-	-
Carpet Python	F, Eggs, SP	OP	H	H	Common	Quite common
Water Python	F, OP	RH-NH?	H	H	-	-
Green Turtle	F, Eggs, SP	SP-OP	Harpoon, Canoe, NI	Harpoon?, SH, Boat, NI	Common	Uncertain
Hawksbill Turtle	Eggs, Shell?	OP	H	H	Uncertain	-
Long-neck Turtle	F, CS, DS, SP	OP-SP	W, FL, H	W, FL, H	-	-
Yellow-faced Turtle	F??	?-	H, FL??	H, FL??	Uncertain	Uncertain
CRUSTACEANS, INSECTS and SHELLFISH						
Long Bum	F, SP	-	H	H	Common	Common
Mud Crab	F, SP	-	W, H	W, Trap, H	Common	Common
Freshwater Yabbie	F, OP	-	W, H	W, H, NI	?	?
Saltwater Muscle	F, SP	OP	H	H	?	?
Oyster	F, SP	OP	H	H	?	?
Periwinkle	F, OP	-	H	H	?	?
Whelk	F, OP	-	H	H	?	?
Mangrove Worm	F, SP	-	H, Stone axe	H, Steel axe	Common	Common
Sugar-bag (Bush Honey)	F, MC, SP	OP-SP	H, Stone axe	H, Steel axe, Chainsaw		

LEGEND: Hunting methods

CM Camouflage FL Fishing line H Hand NI Night hunting NT Nets, traps SH Shotguns, rifles W Wooden implements

LEGEND: Type and frequency of use

CA Calendar animal CS Cultural, spiritual significance F Food FD Feathers, down LF Leather, fur MC Medicine, cosmetic NH No longer hunted OP Occasional, opportunistic hunting SB Sinew, bones (Macropods only) SP Specifically hunted RH Rarely hunted



Collecting sugarbag in a billy can



Boiling medicinal plants in water

Table F: Statistics of recorded Tiwi animal names with percentages.

Grouping	No of species recorded	Total species recorded	% of total
Birds			
bush fowl, ducks, geese, turkey	7		
carnivores, insectivores	10		
cockatoos, lorikeets and parrots	5		
granivores, frugivores	6		
owls and nightjars	5		
raptors	7		
waterbirds	16	56	33%
Fish	24	24	14%
Mammals			
bandicoots, gliders, possums	3		
bats	3		
wallaby	1		
feral animals	4		
marine mammals	3		
rats	3		
others	2	19	11%
Reptiles			
crocodiles	1		
lizards, skinks, goannas	9		
snakes	12		
turtles	5	27	16%
Shell-fish, molluscs	9	9	5%
Crustaceans	5	5	3%
Insects	23	23	13%
Other	8	8	5%

Of the 171 animal taxa we have presented here the most widely recorded faunal group is birds, with 56 species documented representing 33% of the total faunal listing. The next most recorded group is reptiles with 27 species (16%), followed by fish with 24 taxa (14%), insects with 23 species (13%) and mammals

with 19 species (11%). The less recorded groups are shellfish/molluscs (9 species, 5%), followed by crustaceans (5 species, 3%) and others (8 species, 5%).

Animals are primarily used as a food resource by Tiwi people, with 56 species representing 81% of the total uses of animals being for food (refer to Table F). Medicine or cosmetics (7%) is the next largest use for animals followed by feathers and down (6%). Minor uses for animals by Tiwi people include leather and fur (3%), sinew or bone (1.5%) and calendar animals (1.5%).

Table G: Categorisation of Tiwi animal use types.

	Number of species	% of total animal use
Calendar animal	1	1.5%
Food	56	81%
Feathers, down	4	6%
Leather, fur	2	3%
Medicine, cosmetics	6	7%
Sinew, bone	1	1.5%

ANIMALS USED FOR FOOD

The animals most commonly hunted by Tiwi people for food are **Anjorra**, Agile Wallabies, **Wuninga**, Brushtail Possums, **Kurupurrani**, Frill-neck Lizards and **Yingwati**, native Sugarbag. These animals are well adapted to, and common in, the eucalypt forests and woodlands that are the dominant vegetation type on the Tiwi Islands.

Anjorra, Agile Wallabies, are the only macropods on the Islands, and as such have little competition for food resources and living areas. There are high numbers of healthy, large Wallabies on the Islands. Generally a hunting party is guaranteed of success in obtaining meat when hunting. In modern times Wallabies have been hunted with guns using motor vehicles to hunt from, and as transport to get to good hunting areas.

While this has obviously increased harvesting capabilities in certain areas, it appears to be balanced by large areas of the Islands being harvested less often in recent times.

Wuninga, Brushtail Possums, are common. This is partly due to the large numbers of hollow trunks and branches associated with the Eucalypt forests and woodlands, especially **Wurringilaka**, *Eucalyptus nesophila*, which provide excellent habitat and food for Possums. In the Northern Territory these *Eucalyptus nesophila* dominated savannas are restricted to the Tiwi Islands and Cobourg Peninsula. They contain larger trees in higher numbers than other Eucalypt savannas.

Kurupurrani, Frill-neck Lizards and **Yingwuti**, native Sugarbag are also suited to these habitats and occur in relatively high numbers on the Islands. They are regularly hunted by Tiwi people and are often obtained at the same time as Possums, when **Wurringilaka**, *Eucalyptus nesophila*, and other large hollow trees are chopped down.

Another favoured, but less common, food source is **Kipopi**, the Northern Brown Bandicoot. The meat is tender and considered very tasty. **Kipopi** is not as common and has smaller quantities of meat than the popular animal foods mentioned above.

Marine food resources are important to Tiwi people. This is due to the variety of food that is available on a year round basis, and the large area of mangroves and indented coastline on the Islands.

Some of the most favoured, and easily obtained 'saltwater' foods include **Yuwurli**, large Mangrove Worms, **Kitirika**, Green Turtles, various shell-fish and **Wurlanga**, Mud Crabs. In addition to these foods there is a large variety of fish that are somewhat more difficult to catch but are considered excellent food with health promoting qualities.

Mangrove communities are recognised as a very important hunting area by Tiwi people. Many valuable animal food resources occur in the mangroves in sufficient numbers to ensure a good quantity of food can be harvested for relatively little effort. Some of the mangrove foods are also highly regarded as being health promoting and healing foods.

The shell-fish that occur in mangrove communities include **Wurripiti**, Cockles, **Piranga**, Long Bums, **Jukwarringa**, Mussels, **Piliwunga**, Oysters, **Pirikilimira**, Periwinkles, **Yuwurli**, large Mangrove Worms, and others. **Wurlanga**, Mud Crabs are also common in certain mangrove zones, while **Wuninga**, Possums, **Yingwuti**, Sugarbag and occasionally other edible animals may be found feeding on flowers of some mangrove trees.

ANIMALS USED FOR MEDICINE

Several animals are used medicinally by Tiwi people. The cooked flesh of **Tarnikini**, the Black and Little-red Flying Foxes is good medicine for treating asthma and chest congestion caused by colds and flu. Soup made from boiled **Wakatapa**, the small cheeky mangrove worm, is excellent medicine for the same symptoms.

The Sand Goanna, Water Monitor and **Yingwuti**, sugarbag, are also used medicinally.

TIWI NAMES AND SCIENTIFIC CLASSIFICATION

In most cases the Tiwi fauna nomenclature matches the western taxonomic system at the species level, or less commonly at the genus level. Noteworthy exceptions include honeyeaters, which are all called **Arlipunyika**, even though it is recognised that there are many different types. Similarly all frogs are called **Arlitarraka**. This lack of names for different species occurs for groups that are not utilised and have little significance for Tiwi people.

There are many examples where one animal has several names. This is generally due to different life cycle stages and linguistic differences between the traditional Tiwi clans.

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FURTHER INFORMATION

The Aboriginal people of the Top End of the Northern Territory and the Parks and Wildlife Commission have produced a range of publications aimed at conserving and promoting traditional plant knowledge. Some of these publications are outlined below.

Identikit

Bush Tucker Identikit: a full colour 64 page pocket-sized book detailing the common bush tucker plants of the Top End.

Bush Medicine Identikit: a full colour 64 page pocket-sized book detailing the common bush medicine plants of the Top End.

Jawoyn Plant Identikit: a full colour 64 page pocket-sized book detailing the common plants used by Jawoyn people in the Nitmiluk / Katherine area.

Desert Bush Tucker Identikit: a full colour 64 page pocket-sized book detailing the common bush tucker plants of Central Australia.

Aboriginal plant use posters

A series of seven full colour, 85 x 60 cm posters providing bold images and details of traditional Aboriginal plant use based on different themes: Bush Tucker, Bush Medicine, Colour and String, Bush Pandanus, Bush Timber, Calendar Plants and Mangroves.

Traditional Aboriginal Medicines

A full colour, hard bound, 650 page book which links traditional Aboriginal medicine with modern science.

Aboriginal plant use Botanical Bulletins (outlined below in NTBB series)

The results of research aimed at conserving and promoting traditional plant knowledge of individual language groups, each

booklet is illustrated providing a detailed insight into Aboriginal culture. These booklets are listed below in the Northern Territory Botanical Bulletin series.

These publications are the results of joint research by Aboriginal people of the Top End and the Parks and Wildlife Commission of the Northern Territory. They may be purchased by calling in person to the Parks and Wildlife Commission main office in the Goyder Centre at Palmerston or the Darwin Botanic Gardens, or by phoning the Records Section on (08) 8999 4529 (please have your credit card handy).

NORTHERN TERRITORY BOTANICAL BULLETIN SERIES

Listed below are the publications produced by the Northern Territory Herbaria, Alice Springs (NT) and Darwin (DNA), in the Botanical Bulletin series; note that certain numbers are out of print and are unavailable. Prices are provided for those that are available, they may be purchased by phoning Records on (08) 8999 4529 (please have your credit card handy) or by calling in person to the Parks and Wildlife Commission main office, Goyder Centre, Palmerston, Northern Territory.

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| No. 1 | A Botanical Survey of Elcho Island July 1975.
C.R. Dunlop, P.K. Latz and J.R. Maconochie. 1976.
(Not available). |
| No. 2 | 1. Botany of Maria Island, Gulf of Carpentaria.
C.R. Dunlop.
2. Vegetation Survey of the Keep River Study Area.
T.S. Henshall and A.S. Mitchell
3. Botany of Peron Island, Anson Bay. T. S. Henshall.
1979. (Not available). |

- No. 3 1. **A Botanical Survey of the Lander River-Lake Surprise Area, Tanami Desert.** J.R. Maconochie.
2. **Checklist of vascular plants, Little Nourlangie Rock, Kakadu National Park, N.T.** C.R. Dunlop and R.J. Begg. 1980. (Not available).
- No. 4 1. **General Plant Ecology and Biology of the Australian Arid Zone.** J.R. Maconochie.
2. **Checklist of Vascular Plants, of Palm Valley, Finke Gorge National Park, NT.** P.K. Latz. 1981. (Not available).
- No. 5 **The Family Moraceae in the Northern Territory.** M.O. Rankin. 1982. (Not available).
- No. 6 **Ethnobotany, Vegetation and Floristics of Milingimbi, northern Australia.** G.M. Wightman and N.M. Smith. 1989, reprinted 1991. \$4.95.
- No. 7 **Mangroves of the Northern Territory.** G.M. Wightman. 1989. (Not available).
- No. 8 **Checklist of the vascular plants of the Darwin Region, Northern Territory, Australia.** S.N. Cousins. 1989. \$2.00.
- No. 9 **Arid zone Eucalypts of the Northern Territory.** B.G. Thomson and P.D. Kube. 1990. \$17.95.
- No. 10 **Ethnobotanical notes from Belyuen, Northern Territory, Australia.** N.M. Smith and G.M. Wightman. 1990. \$4.95.
- No. 11 **Alawa ethnobotany: Aboriginal plant use from Minyerri, northern Australia.** Glenn Wightman, Donna Jackson and Lorraine Williams. 1991. \$4.95.
- No. 12 **Northern Territory flowering plants: A key to families.** H.T. Clifford and I.D. Cowie. 1992 (Not available).
- No. 13 **Northern Territory plants of conservation significance.** G.J. Leach, C.R. Dunlop, M.J. Barritt, P.K. Latz and N. Sammy. 1992 (Not available).
- No. 14 **Mudburra ethnobotany: Aboriginal plant use from Kulumindini (Elliott), Northern Territory.** Glenn Wightman, Dilkbarri Dixon, Lorraine Williams and Injimadi Dalywaters. 1992. \$12.00.
- No. 15 **Mangarrayi ethnobotany: Aboriginal plant use from the Elsey area, northern Australia.** Glenn Wightman, Jessie Garalnganjak Roberts and Lorraine Williams. 1992. \$15.00.
- No. 16 **Ngarinyman ethnobotany: Aboriginal plant use from the Victoria River area, northern Australia.** Nicholas Smith, Bobby Wididburu, Roy Nuwallat Harrington and Glenn Wightman. 1993. \$15.00.
- No. 17 **A key to grasses of the Northern Territory, Australia.** Brian K. Simon, and Peter Latz. 1994. \$15.95.
- No. 18 **Gurindji ethnobotany: Aboriginal plant use from Daguragu, northern Australia.** Glenn Wightman, George Jungurra Kalabidi, Topsy Nangari Ngarnjal Dodd, Roslyn Nawurla Dujngari Frith, Mildred Nampin Jiwijiwij, Josephine Nampin Nyidyngali Oscar, Ronnie Jangala Wirrba Wave Hill, Steve Holt, Jimmy Jalyirri Limbunya and Violet Nanaku Wadrill. 1994. \$12.00.
- No. 19 **Sundanese ethnobotany: traditional plant knowledge from Ciamis and Tasikmalaya, West Java, Indonesia.** Glenn Wightman, Inggit Puji Astuti and Esti Munawaroh (eds). 1994. \$18.00.

- No. 20 **Flora of the Darwin Region, Vol. 2.** C.R. Dunlop, G.J. Leach and I.D. Cowie. 1995. \$20.00
- No. 21 **Rirratjingu ethnobotany: Aboriginal plant use from Yirrkala, Arnhem Land, Australia.** Banygul (1) Yunupingu, Laklak Marika-Yunupingu, Dhuwarrwarr Marika, Banduk Marika, Balngayngu Marika, Raymattja Marika and Glenn Wightman. 1995. \$25.00
- No. 22 **Ngan'gikurunggurr and Ngan'giwumirri ethnobotany: Aboriginal plant use from the Daly River area, northern Australia.** Patricia Marrfurra, Molly Akanburru, Mercia Wawul, Topsy Kumunerrin, Harold Adya, Kitty Kamarrama, Mabel Kanintyanu, Topsy Waya, Mary Kannyi, Glenn Wightman and Lorraine Williams. 1995. \$25.00
- No. 23 **Iwaidja ethnobotany: Aboriginal plant knowledge from Gurig National Park, northern Australia.** Nelson Muluriny Blake, Glenn Wightman and Lorraine Williams. 1998.
(Jointly published with the Centre for Indigenous Natural and Cultural Resource Management, Northern Territory University.)
- No. 24 **Tiwi plants and animals: Aboriginal flora and fauna knowledge from Bathurst and Melville Islands, northern Australia.** Justin Puruntatameri, R. Puruntatameri (deceased), Anita Pangiraminni, Lydia Burak, Cornelia Tipuamantymirri, Mercy Tipakalippa, Jovita Puruntatameri, Paulina Puruntatameri, John Baptiste Pupangamirri, Ruth Kerinaia, Doreen Tipiloura, Mary-Margaret Orsto, B. Kantilla (deceased), Sidney Puruntatameri, P. F. Puruntatameri (deceased), Tommy Daniel Puruntatameri, Leon Puruntatameri, Kitty Kantilla, John Wilson, Jack Cusack, Donna Jackson and Glenn Wightman. 2001.
- No. 25 **Wardaman ethnobiology: Aboriginal plant and animal knowledge from the Flora River and south-west Katherine region, north Australia.** Mrs E Raymond (dec), Julai Blutja, Lily Gin.gina, Michael Raymond, Oliver Raymond, Lindsay Raymond, Jessie Brown, Queenie Morgan, Donna Jackson, Nicholas Smith and Glenn Wightman. 1999.
(Jointly published with the Centre for Indigenous Natural and Cultural Resource Management, Northern Territory University.)
- No. 26 **MalakMalak and Matngala plants and animals: Aboriginal flora and fauna knowledge from the Daly River area, northern Australia.** Biddy Yingguny Lindsay, Kitty Waliwararra, Frances Milijat, Helen Kuwarda, Rita Pirak, Albert Muyung, Edwin Pambany, Jack Marruridj, Patricia Marrfurra and Glenn Wightman. 2001.



INTRODUCED WEEDS AND FERAL ANIMALS

A number of introduced weeds, and feral animals already occur on Melville and Bathurst Island. However, there also several bad weeds and feral animals that occur on the mainland that do not occur on the Tiwi Islands, or occur in small numbers on the islands.

These are outlined below and it is hoped that these species they may be kept from the islands or restricted to one or other island.

Weeds, pests and diseases that do not occur in Australia at present, but which are considered at risk of being introduced from counties to the north are outlined in the following Tiwi watch North Australian Quarantine Service.

Giant Sensitive Plant *Mimosa pigra* (see page 167)

Feral Animals

Cane Toads

Bufo marinus

A large ugly toad introduced into Queensland from South America in an effort to control sugarcane insect pests. The cane toad has now spread into the Northern Territory and is expected to move into the Darwin area by 2002. The cane toad has a very damaging effect, especially in the first few years of its arrival, on many native animals that are used by the Aboriginal people as food resources.

Strict quarantine measures at sea and land exit points from Darwin and entry points to the islands could stop the cane toad from establishing on Tiwi country.

Big Headed or Coastal Brown Ant

Pheidole megacephala

The big headed ant was introduced from southern Africa and now occurs in urban areas of the Northern Territory. They are a pest in houses, gardens and natural environments, because they form large colonies and displace other ants and insects. They have the potential to impact on jungles, as they prefer shady, cool sites. Big headed ants cannot fly and are mainly spread in pot plants and landscaping materials.

Big headed ants have not been recorded from the Tiwi Islands and should be kept out by checking materials on barges and planes travelling to the islands.

Big Headed or Coastal Brown Ant



Cane Toad

Asian Water Buffalo

Bubalis bubalis

The British introduced Buffalo to Melville Island in 1826 from Timor; when Fort Dundas was abandoned the buffalo became feral. There are still significant numbers in the southern and eastern parts of the Melville Island; however, they have never been recorded from Bathurst Island.

It is important that buffalo are not introduced to Bathurst Island as they damage swamps, plains and jungles.



Asian Water Buffalo

Feral Pigs

Sus scrofa

Feral pigs occur on Bathurst Island and have a damaging impact on jungles, creek-lines and swamps. They also dig up and destroy plants with tubers, including some yams, orchids and rare plants.

Feral pigs do not occur on Melville Island and it is important that they are not introduced or accidentally released.



Feral Pigs

Feral Horses

Equus caballus

Feral horses occur in small numbers on Melville Island and are mainly seen around the old forestry plantations, at present they do little damage. However, if numbers increased there could be a need to control numbers to minimise damage.

They should not be introduced to Bathurst Island.



Feral Horses

Weeds

Mimosa, Giant Sensitive Plant

Mimosa pigra

A spreading shrub to 6m high with sharp prickles, that grows in floodplains and along watercourses. Native to tropical America but now found on floodplains from the Moyle River to central Arnhem Land. When established it forms dense thickets and excludes native plants and animals.

Not found on the Tiwi Islands and should be excluded at all costs, if found eradication should be undertaken immediately, followed by long term monitoring.

Gamba Grass

Andropogon gayanus

A large tussock-forming perennial grass to 4m high, occurs in disturbed areas, open forests and woodlands. Native to tropical Africa but now well established around Darwin and sub-coastal areas of the NT. This large, aggressive grass can alter fire intensity and have a significant impact on native plants.

Only known from several, recently established small populations on the Tiwi Islands, should be eradicated in the next wet season and kept from the Islands in the future.

Mimosa, Giant Sensitive Plant



Mission Grass*Pennisetum polystachion*

A clumping perennial grass to 3m high, occurs in open forests and woodlands, especially in disturbed areas though also invading natural areas. This clumping grass provides more fuel for later, hotter fires and can seriously change fire intensity. Recorded from small areas near Pirlangimpi and Milikapiti on Melville Island and Nguiu on Bathurst Island.

The spread of Mission Grass should be controlled and eradication attempted to stop further infestations.

Other potential weeds, feral animals and diseases currently not known from Australia are outlined in the following Tiwi Watch section.





TIWI WATCH

White Sand Beach, Melville Island

TIWI WATCH

Northern Australia Quarantine Strategy (NAQS)

There are many pests, weeds and diseases in countries near Australia that we do not have here. These could affect the traditional lifestyle of Tiwi people. They could damage bush tucker, stop access to traditional lands, spoil the food you like to eat or cause disease in your community members and your animals.

The Northern Australia Quarantine Strategy (NAQS), has been developed by the Australian Quarantine and Inspection Service (AQIS), to keep watch on Australia's northern coastline.

NAQS needs your help to keep a top watch on your country, and to protect your lands from foreign pests and disease.



Northern Australia Quarantine Strategy (NAQS)

Please report to Quarantine if you see any of these things:

- ▶ any unusual plant pests or diseases,
- ▶ new weeds,
- ▶ damage to quarantine insect traps (so they can be replaced),
- ▶ increased death rates or strange behaviour in animals,
- ▶ unusual markings on the leaves or fruit of trees and food plants,
- ▶ an increase in the number of insects and insects not normally seen in your area,
- ▶ or the arrival of yachts and fishing boats from overseas.

Contacts:

Animals:	Andrew Moss	(08) 8999 2103
Weeds:	Andrew Mitchell	(08) 8999 2104
Plant disease:	Matthew Weinert	(08) 8999 2235
Insects:	Glenn Bellis	(08) 8999 2345
Information:	Kay Carvan	(08) 8999 2046

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Photographs in this section were kindly supplied by: CSIRO, AQIS, DPIF, A. Moss, R. Davis, M. Weinert, A. Mitchell, D.Nickseat, G. Bellis, P. Zborowski.

NONE OF THE PESTS IN THIS SECTION BELONG IN AUSTRALIA.

You can help keep them out

The Australian Quarantine and Inspection Service (AQIS) is an agency within the Commonwealth Department of Agriculture, Fisheries and Forestry – Australia.



AGRICULTURE, FISHERIES AND FORESTRY – AUSTRALIA

FOREWORD

I am pleased to be able to support this publication of the Tiwi Land Council, which records part of the natural history of the Tiwi Islands.

Tiwi Plants and Animals is the result of years of research and hard work. It records the wealth of knowledge of the environment that Tiwi Islanders have passed down from generation to generation, so that the Tiwi Islands can be appreciated today and protected for the future.

The quarantine information in this publication describes some exotic pests, weeds and diseases that could damage the quality of life on the Tiwi Islands. These pests and diseases are often common in countries to the north of Australia. They could reach the Tiwi Islands with people, food and animals brought from overseas.

Quarantine keeps watch for pests, weeds and diseases that do not belong in Australia, so that they can be found and removed quickly. People in north Australia have already seen the arrival of two especially damaging pests – cane toads and Mimosa weed. These are examples of what can happen when exotic pests get into Australia. We have learnt from these mistakes and do not want to repeat them.

Quarantine staff are working closely with communities in northern Australia, including communities of the Tiwi Islands. I believe quarantine staff and people of the Tiwi Islands share common interests. Both groups need to work together to achieve the common goal of protecting Australia from the serious pests and disease which are present in countries to our north.

Quarantine staff need the support and knowledge of people in coastal and island communities of northern Australia – including people of the Tiwi Islands – to combat the risk of exotic pests entering Australia.

I thank you for the opportunity to contribute to this publication, and for the chance to be involved in helping protect the Tiwi Islands.

Warren Truss *Minister for Agriculture, Fisheries and Forestry*

March 2001

dead mangrove, Melville Island

SCREW-WORM FLY

So far there is no screw-worm fly in Australia but it is in East Timor, Indonesia and Papua New Guinea. Keep a top watch for screw-worm fly to stop it getting established here.

What is screw-worm fly?

Screw-worm fly is a blow-fly found in most tropical countries except Australia. It looks a lot like the blow-flies we have here. It has a shiny blue-black body and a yellow face.

Why is it bad?

Screw-worm fly lays its eggs on the edge of an injury on any warm-blooded animal including people. Maggots hatch out of the eggs. The maggots have sharp hooks around the body and powerful mouth-parts. They crawl into even the smallest wound or scratch and make it bigger, feeding on the living flesh of the animal. Animals can die due to loss of tissue fluid and infection.

The numbers of screw-worm flies increase quickly; up to 250 eggs are laid at a time and maggots hatch in 24 hours. One injury can be struck many times. Each maggot could become one more screw-worm fly.

What kind of animals will it hurt?

All warm-blooded animals including dogs, pigs, buffalo, horses, birds and people.



How can you help prevent introduction of screw-worm fly?

Check fly struck animals and send maggots to Quarantine for identification.

You can get a maggot collection kit from the NAQS office in Darwin.

Telephone Andrew Moss (08) 8999 2103

RABIES

Rabies can kill humans and affect many species of mammal. **Australia is one of the few countries in the world that does not have rabies.** Rabies is found in Indonesia.

To keep rabies out, any animal from overseas must be quarantined before it is allowed into Australia. Keep a top watch for any dogs or cats on foreign boats.

What is Rabies?

Rabies is caused by a virus that affects the nervous system and is spread by the bite of an infected animal such as a dog, cat or dingo.

Infected people develop a fear of water that stops them drinking. They have fits and within a few days lose consciousness and die.

How can you tell if an animal has rabies?

Watch out for strange behaviour.

Some animals will drool, become cranky, aggressive and unpredictable. They may attack other animals or objects. They then become paralysed and die within four or five days. Some animals only become paralysed and die quickly without showing other strange behaviour.

Why is rabies bad?

If rabies got into our dingoes, dogs and cats, no one in Australia could ever be sure it was safe to handle these animals again.

Remember; rabies kills.



How can you help?

Watch out for strange behaviour in dogs, dingoes and cats.

Watch out for unusual deaths or more deaths in animals.

An animal with rabies is very dangerous. If you suspect an animal has rabies, quickly contact Quarantine or a vet.

Keep watch for dogs or cats in foreign boats or planes and report to Quarantine.

NAQS contact: Andrew Moss (08) 8999 2103

FOOT AND MOUTH DISEASE

Foot and mouth disease affects most cloven-hoofed animals such as buffalo, pigs, cattle and goats. It is caused by a virus and spreads so quickly that whole herds can be infected within days.

If this disease got into Australia many animals would be affected.

If it comes we must find it quickly to prevent spread.

What is foot and mouth disease?

Cattle, buffalo and pigs are the worst affected by foot and mouth disease. Pigs can be severely affected.

Signs are: fever, drooling, not wanting to move. Blisters appear on the mouth or snout, on the tongue, lips, between the hooves and on the feet. These break and expose raw, painful tissue.

Why is it bad?

Foot and mouth disease in Australia would stop trade in meat and live stock, exports of cattle, buffalo and pigs. This could cost Australia many millions of dollars in export earnings.

The cattle industry in the Northern Territory would be destroyed.

How could it come to Australia?

The foot and mouth virus is carried in live animals, in meat and meat products such as sausages and salami, in dairy food, such as milk and cheese, in soil, bones, untreated hides and equipment used with animals.

It can live after being frozen, chilled and freeze dried.

Traveller's carrying any of these products could bring the virus into Australia.



How can you help?

Keep watch for sick animals and report to Quarantine.

Keep watch for boats and planes from overseas and report to Police, Customs or Quarantine.

Keep watch for food items washed up along the shore that may have come from foreign boats.

NAQS contact: Andrew Moss (08) 8999 2103

CLASSICAL SWINE FEVER

The pig is the only natural host of this highly contagious virus. There have been several outbreaks in Australia, the latest in 1961, but these have been eradicated. Classical swine fever could spread to Australia by infected animals entering the country illegally or by wild pigs eating contaminated food that could have come off an illegal boat.

What is classical swine fever?

Classical swine fever is a virus that attacks pigs. It can be spread by infected pigs but can also survive in frozen pig carcasses and cured or salted pig meat (like ham and bacon) for quite a long time. The virus can stay alive in contaminated pig-pens for up to two weeks and could be carried on trucks, clothing or shoes if you had visited a contaminated site.

Pigs get very sick and as many as 90% may die. Pigs may be drowsy with high fever. They huddle together, stagger when forced to move and are either constipated or have diarrhoea and vomiting. Coughing is an early sign. Skin has red or purple blotching on the ears, snout, limbs and stomach. Death can occur between 5 days up to more than 30 days from the start of the disease.

Why is it bad?

Sometimes the pigs can be sick without showing any signs. If they are moved to another area they could spread the disease and infect other pigs.

High death rate.

What can it hurt?

If classical swine fever got into the wild pig population it would be very hard to stop, it could spread into domestic pigs and many pigs would die.

If many pigs got sick in Australia, we might not be able to buy the foods we like to eat such as bacon and ham.



How can you help?

Keep watch on wild pigs. If you see sick pigs or more deaths than usual, notify Quarantine immediately.

If you see foreign boats on the beach or if you see food washed up on shore, tell Quarantine.

NAQS contact: Andrew Moss (08) 8999 2103

BLACK SIGATOKA

This fungus attacks banana plants and the plants produce less fruit.

What is black sigatoka?

Black sigatoka is a fungal disease. It attacks the leaves of the banana tree causing small dark brown streaks on the under side of the leaf. These streaks get bigger and become spots with a light grey centre and a yellow edge. As the spots get larger they destroy large areas of the leaf and the plant produces fewer fruit, which ripen early.

Why is it bad?

Each plant produces less food. Ripe fruit is smaller. This disease is a big problem for home garden growers. In commercial plantations it can only be controlled by using many chemical sprays. These sprays are bad for the environment and too expensive to use in home gardens.



How can you help?

Because of quarantine, we do not have this disease in Australia yet but it could come in on infected fruit or plants from overseas. Boats that come from overseas may be carrying bananas or banana plants that have this disease. Watch out for foreign boats around the coast and report to Quarantine. Report strange markings on banana plants.

NAQS contact Matthew Weinert (08) 89992235

FUSARIUM WILT

A bad disease of bananas caused by a fungus.

What is fusarium wilt?

This fungus infects banana plants through the roots and spreads through the plant.

The leaves turn yellow at the edges; first the older leaves then newer leaves start to collapse near the stem and hang down to form a skirt around the stem. The stem may also split lengthways.

If the diseased plant is cut, discoloured tissue may be seen.

The clump will continue to grow and may produce many suckers, but growth will be reduced until the clump finally dies.

The fungus can survive in the soil for 30 years. Different strains of the fungus will infect different varieties of banana.

Why is it bad?

Once this fungus gets into a clump of bananas the clump will eventually die and the plant will not produce any more fruit. Because the disease can survive for up to 30 years in the soil, it could stop you growing bananas for a long time in the future.



How can you help?

Quarantine is the only way to stop the disease from spreading. This means if you suspect the disease you must contact Quarantine. A Quarantine Inspector will look at the plants. If the disease is present they will tell you what to do to stop it spreading and infecting more of your plants.

This disease can be carried in infected suckers and soil attached to the suckers. Do not move infected bananas from one place to another. Different forms of this disease are already in Queensland and the Northern Territory, so keep a close watch for signs of this disease in bananas.

NAQS contact Matthew Weinert (08) 89992235

CITRUS GREENING

This is a very severe disease of citrus plants

What is citrus greening?

This is a bacterial disease. It grows only in the food-conducting tissue of citrus species such as oranges, lemons, limes and mandarins.

It is hard to recognise as symptoms can be confused with nutrient deficiencies. The disease is spread by a sap-sucking insect that is not present in Australia, but it can also be spread by moving around infected planting material.

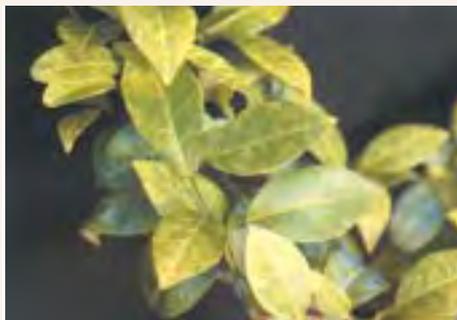
What you might see is a yellowing canopy, blotchy, mottled leaves and small, uneven fruit.

Why is it bad?

There is no known cure for citrus greening. Infected trees will slowly get more and more sick and produce less fruit. Infected fruit are small and poorly coloured. The only way to get rid of the disease is to replace the trees.

What can it hurt?

Citrus trees in home gardens would not grow good fruit. Commercial plantations could suffer severe financial losses. People would not want to eat or buy the infected fruit.



How can you help?

Quarantine is the best method to stop this disease from getting to Australia but it could come here if people smuggle infected fruit or planting material into Australia.

Keep a watch for sick citrus trees.

Watch out for foreign boats; they may be carrying the disease in fruit on board.

Telephone your nearest Quarantine office if you see any of these things.

NAQS contact Matthew Weinert (08) 8999 2235

CITRUS CANKER

Citrus canker is a bacterial disease of citrus trees including grapefruit, lemons, limes, and oranges.

What is citrus canker?

The bacteria that cause citrus canker attack all above-ground parts of the citrus tree, particularly the leaves, twigs and fruit. Scabby marks appear on the fruit. These are ugly and people do not want to buy the fruit. Trees lose leaves, fruit drops to the ground before ripening. Infection in young trees can cause a severe setback in growth because of damage to shoots.

Why is it bad?

Citrus canker is most severe in areas of high rainfall and high temperature. The Tiwi Islands and Darwin have the climate that citrus canker likes best. High winds and rain promote disease spread. Leaf loss and premature fruit drop reduce the size of the crop. What fruit does survive is marked and not suitable for sale, and new trees fail to thrive.

What can it hurt?

There have already been two outbreaks of this disease around Darwin. Both times authorities managed to get rid of the disease but this was very expensive. When money has to be spent on eradication programs, it reduces the money available for other purposes.

Because a lot of the fruit is ugly and can't be sold, local citrus growers would lose income. Increased costs and lower income would result in job losses for local people.



How can you help?

Keep watch on citrus trees in your local area. If you see any symptoms of citrus canker, contact Quarantine.

NAQS contact Matthew Weinert (08) 8999 2235

SUMATRA DISEASE OF CLOVES

This disease could affect our Australian native plants

What is Sumatra disease of cloves?

It is a disease caused by bacteria. The main photograph shows a tree with Sumatra disease. It shows yellowing and leaf fall. It will progressively wilt and die. Trees will usually be killed within 2 years of being affected. The disease attacks the stem and roots of the trees. This blocks food-conducting tissues and the tree starves.

Why is it bad?

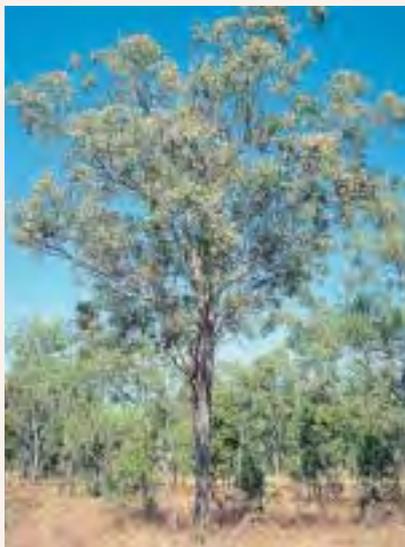
Cloves are in the same family as many of Australia's native plants such as **Pinyama** (bush apple) and Eucalypts such as **Timirraringa**, **Wurringilaka** and **Jukwartirringa**. So these plants may also catch the disease.

If these native species were affected, it is easier for weeds and other introduced plants to take over the landscape.

What can it hurt?

This disease could kill many native trees and plants. This would change our way of life and our landscape.

Healthy trees like eucalypts and bush apples could die if this disease comes to the Tiwi Islands



Eucalyptus tetradonta (see page 51)



How can you help?

Keep watch for patches of bush that look sick and report this to Quarantine. If this disease got into Australia, only quick action to quarantine the disease could stop it spreading.

NAQS contact Matthew Weinert (08) 8999 2235

SIAM WEED

Siam weed, *Chromolaena odorata*, is commonly known as 'the world's worst weed'. Each bush produces kilograms of seed. The seeds are small and have tiny barbs that stick to clothing, and a parachute of white hairs that helps them be blown by the wind.

East Timor has a lot of Siam weed. Because of all these things, it would be easy for Siam weed to sneak into Australia.

What is Siam Weed?

Siam weed is a shrub that forms thick tangled bushes up to 3 metres tall in open land. It also climbs over other trees and bushes up to a height of 7 metres. It can grow up to 20 millimetres a day. It can re-grow from stem and root pieces as well as seeds. It survives drought and the tall woody stems are a fire hazard. Masses of small white or pale blue flowers appear in May to June each year.

Why is it bad?

Australia has no native insects or diseases that attack Siam Weed. This means that it would spread very quickly. Siam weed would quickly cover crops such as bananas and papaya and it likes to grow along riverbanks. Siam weed encourages hot fires in the dry season.

What can it hurt?

Siam weed stops crops, pasture and young trees growing and forms dense thickets that make access to rivers and creeks difficult. This would make it harder to move around country, to hunt and gather bush foods. It would stop people growing fruit and vegetables, as it would clog up gardens. Dry season fires could be bigger and hotter, and could kill native plants and animals.



How can you help?

Keep watch for new weeds. If you see new weeds contact Quarantine.

NAQS contact: Andrew Mitchell (08) 8999 2104

FRINGED SPIDER FLOWER

Fringed spider flower, *Cleome rutidosperma*, was recently discovered in Darwin. It has been spreading through south-east Asia and is a serious weed of crops such as peanuts, vegetables and melons.

What is fringed spider flower?

Fringed spider flower is a weed found in many tropical countries including Indonesia and East Timor. It looks a bit like pigweed and grows to look like a mat, spreading out along the ground in sunny places and growing taller in shady places. It has small pink flowers, about 1 centimetre wide, with four petals and thin seedpods about 5 to 7 centimetres long. It has small brownish black, round seeds about 2 millimetres wide. Fringed spider flower looks a bit like pigweed.

Why is it bad?

In other countries, fringed spider flower is a serious weed that smothers crops. This means that if you wanted to grow melons or vegetables to eat, spider flower might stop them growing. Fringed spider flower also likes to grow in the bush where the soil has been disturbed, so it might stop native plants from growing.

What can it hurt?

Fringed spider flower is an invader. It does not belong in our country. It could stop you using your country the way you like to.



How can you help?

Keep watch for any new weeds. Tell Quarantine if you see a new weed.

NAQS contact Andrew Mitchell (08) 8999 2104

MILE-A-MINUTE

This vine, *Mikania micrantha*, is a serious weed in Indonesia and a number of Pacific islands. It smothers other plants and stops them from growing. It grows quickly and spreads rapidly. Mile-a-minute grows on roadsides, in the bush and around coconut trees and palms.

What is mile-a-minute?

It's a bad weed that grows and spreads fast. It climbs and twines around other plants and trees. The leaves are a heart or triangle shape with a pointed tip and tooth-like edges. It has many flower heads on each vine with 4 tiny white flowers coming from each bud. Seeds have parachutes so they can travel on the wind, but this vine can also shoot from stem fragments.

Why is it bad?

Because it strangles other young plants, mile-a-minute changes the natural landscape. Because it grows so quickly and has many seeds, it will spread rapidly and replace native plants. It affects soil quality so good plants can't grow.



How can you help?

If you see a strange vine like this, or any other strange weeds, contact Quarantine.

NAQS contact Andrew Mitchell (08) 8999 2104

WITCHWEED

Witchweed *Striga asiatica* infests grasslands and stops crops from growing. It grows in Africa and Asia, including Indonesia but is not yet in Australia. It has cost many millions of dollars to eradicate witchweed from the United States.

What is witchweed?

A branched annual herb, witchweed grows to 30centimetres tall. It is a root parasite that sucks the goodness out of plants like a tick sucks blood out of a dog. It grows on a wide range of grasses. The stems are square and bristly. Flowers have unequal petals and are yellow, white or red. Seeds are as small as dust specks and are spread by wind and water.

Why is it bad?

Witchweed likes to grow in grassland and among cultivated crops. It grows and spreads quickly and can stop young plants thriving. A heavy infestation of witchweed can cause complete loss of crops such as maize, millet, rice, and sugarcane.

What can it hurt?

In the Tiwi islands witchweed could push out native grasses and change the landscape. It could also make it difficult to grow home vegetable gardens.



How can you help?

If you see a new weed in your area you should contact Quarantine. Many plants that have been brought into Australia in earlier times have become weeds and replaced native plants. Quarantine aims to stop any more foreign weeds establishing here.

NAQS contact Andrew Mitchell (08) 8999 2104

ASIAN HONEY-BEE

What is Asian honey-bee?

The Asian honey bee looks very similar to the European honey bee that is used in Australia to produce commercial honey. It is quite different to the little native bee, **Mawunga**, **Yayingumi**, **Dalyingini** or **Yimpara**.

The main problem with this bee is that it carries varroa mite. These mites are so small that two mites would only cover a pinhead but the damage they cause is very large indeed. Once a colony of bees is infested the whole colony will usually be wiped out within 3 years.

Asian honey-bees carrying this in mite have already been found on Torres Strait islands as well as Indonesia, Papua New Guinea and East Timor. The bees were blown to Torres Strait from Papua New Guinea by wind. They could also enter Australia by hitchhiking on a ship. Asian honey bee has been found once in Darwin, but quick action meant Quarantine was able to get rid of it.

Why is it bad?

Varroa mite would move from Asian honey-bees to European honey bees and kill the bees that make our honey.

Asian honey-bee would out compete native bees for food and take over the hollows used by possums and native birds for their nests. Pollination of native plants could be affected.

What can it hurt?

It's not only beekeepers who would be hurt if this got into Australia. Pollination by bees of fruit, flower and vegetable crops is worth more than \$1 billion a year to Australian agricultural producers.

European honey-bees would die and the honey industry would lose millions of dollars. Australia could no longer produce the honey we like to eat.

The environment would be changed, pollination of native plants affected and possums and native birds deprived of their homes.



How can you help?

There should be no European honey-bees or Asian honey-bees in the Tiwi Islands. REPORT ANY HONEY-BEE on Tiwi Islands to Quarantine.

NAQS contact Glenn Bellis (08) 8999 2345

RED-BANDED MANGO CATERPILLAR

Mangoes are something we all love to eat; they are also big business for the Territory. You can keep a 'Top Watch' to protect the Northern Territory's \$36 million mango industry from this exotic pest.

What is red-banded mango caterpillar?

This caterpillar has distinctive red and white bands across its body that make it easy to identify. It is common in Indonesia and Papua New Guinea and over the past few years has been making its way south. It has been found on islands in the Torres Strait.

The red-banded mango caterpillar eats mango seeds and will attack fruit from as small as 2 centimetres to fullygrown. It leaves holes and sap stains on the outside of the fruit but you'd most likely see the caterpillar when you are cutting up or eating fruit.

Why is it bad?

This pest destroys the mango fruit from the inside out.

What can it hurt?

The Territory's mango-growing industry is one of its fastest growing and almost doubled in value in the past year. This brings money into the territory and supports jobs. If exotic pests such as the red-banded mango caterpillar get into our crops no one will want to buy our fruit and the industry could be destroyed.

Good fruit would be difficult to grow and more expensive to buy



How can you help?

Keep watch for strange markings on mangoes. If you see signs of this pest or other strange pests inside fruit, contact your local Quarantine office.

Quick action to pick up the presence of this pest is vital.

NAQS contact Glenn Bellis (08) 8999 2345

MANGO PULP WEEVIL

If this pest gets into our mangoes the fruit will be brown and rotten inside and we won't be able to eat it.

What is mango pulp weevil?

In the Territory we already have the mango seed weevil that eats mango seeds. The mango pulp weevil is similar but lives in the pulp or flesh of the mango rather than the seed.

There are no signs on the outside that the fruit has been affected. When you cut up the fruit to eat you may see the grubs or the adult weevil inside. They form distinctive brown chambers up to 1 centimetre wide.

Why is it bad?

Fruit is rotten inside and you can't eat it. This pest is hard to find because the outside of the fruit doesn't show any signs. This also means if mango pulp weevil were found here, all mangoes from the Northern Territory would be suspect.

What can it hurt?

Many mangoes are grown in the Northern Territory. This industry brings \$36 million dollars a year into our economy and provides many jobs. If this pest got into NT mangoes no one would buy our fruit. We couldn't send our fruit overseas or to other parts of Australia.



How can you help?

If you cut up a mango and it is rotten inside, look for the brown chambers in the fruit where the grub lives. Don't throw the fruit away, call Quarantine for inspection.

NAQS contact Glenn Bellis (08) 8999 2345

FRUIT FLIES

There are more than 150 species of fruit fly already in Australia, but many of these do not attack commercial crops, the fruit we like to eat. Fruit flies in many other countries including Indonesia, East Timor and Papua New Guinea would be a serious problem if they get into Australia.

What are exotic fruit flies?

Exotic fruit flies are fruit flies presently not found in Australia. Some of the bad ones include:

Papaya fruit fly is found in Papua New Guinea and Indonesia and has also been found in the Torres Strait Islands and in Cairns where eradication cost \$25 million. It attacks a wide range of fruits, which become infested at an earlier stage than with most other fruit flies. Maggots feed inside the fruit and fruit then becomes rotten.

The **Filipino fruit fly** came into Darwin in 1998 and was eradicated. It is a close relative of the Papaya fruit fly.

The **melon fly** likes to lay its eggs in cucumbers, melons, pumpkin and tomatoes. Small spots on the outside of the vegetables may be the only sign but the inside will be rotten.

NAQS sets traps in ports and the Tiwi islands to check for these fruit flies.

Why are exotic fruit flies bad?

Because they attack the types of fruit and vegetables we like to eat and make them rotten inside.

What can they hurt?

The presence of exotic fruit flies means other countries and other states that do not have these pests will not buy Northern Territory fruit and vegetables. We would not be allowed to move fruit or vegetables out of the area where there was an outbreak of one of these pests. It would cost a lot of money to get rid of exotic fruit flies and our local economy and jobs would be affected.



How can you help?

Do not move or break quarantine insect traps. If you see a broken one, contact Quarantine so a new one can be set up. The traps are there to give us warning of these foreign pests and to protect our fruit and vegetables from exotic fruit flies.

NAQS contact Glenn Bellis (08) 8999 23454

BANANA SKIPPER

This pest of bananas can strip the leaves off banana plants. It is a butterfly that is native to southeast Asia where it is a major pest of banana plants.

The banana skipper caterpillar starts to feed at the edges of the leaves. It makes a leaf shelter by rolling the edge of the leaf. Inside this leaf-roll the caterpillar puts out a protective white, waxy powder to protect itself. Just three caterpillars on a leaf can strip the entire leaf.

Why is it bad?

Banana skipper strips the leaves from banana plants and weakens them. The sick plants produce fewer bananas.

What can it hurt?

If our banana plants get infested with this pest, there will not be so many bananas on the plant. Bananas will be hard to grow in home gardens and more expensive to buy at the market. Trees will be weakened and could more easily become infected with other pests or disease.



How can you help?

Rolled leaves on banana plants are a good sign of this pest. If you see banana plants with stripped leaves and sections rolled up, ask Quarantine to have a look. As with all these foreign pests, if we find them quickly, we will be able to get rid of them from Australia before they do serious damage.

NAQS contact Glenn Bellis (08) 8999 2345

GIANT AFRICAN SNAIL

This snail looks like a seashell, grows up to 20 centimetres long and weighs up to 1kilogram. It eats 500 different plants.

What is giant African snail?

This snail first came from Africa but has spread to most tropical countries.

It is now found in East Timor, most of Asia and Papua New Guinea. Giant African snail hides in shipping containers, under packing cases, in machinery or motor vehicles. A giant African snail can lay up to 1200 eggs in a year. lays its eggs in soil and they hatch in 8 to 21 days. The adult lives up to 7 years.

They like wet conditions but during times of low rainfall, the snail can live for years without feeding. In those conditions snails can lose 60 per cent of their body weight, then be mistaken for dead and collected as a shell specimen or souvenir. If the shell gets put into the garden, the snail will wake up again when it gets wet.

Giant African snails will eat 500 different plants including crops, ornamental plants, vegetables and the bark of large trees such as citrus and paw-paw.

How could it get here?

These snails are often found at our ports trying to hitch a ride into Australia in containers or machinery. Travellers sometimes try to smuggle them in, mistaking the resting animal for an empty shell, or as food.

Why is it bad?

Giant African Snails breed quickly and live a long life. They are a very serious pest to farmers and home gardeners in many parts of the world. They have a big appetite and will eat many different plants.

How can you help?



If you ever see a snail that looks like this picture, tell Quarantine immediately.

Do not bring snails or their shells into Australia.

NAQS contact Glenn Bellis (08) 8999 2345

CRAZY ANT

This ant is small, orange and moves very fast. Its head is smaller than its abdomen (the last segment of its body) which makes it different from our native orange ants. It can often be seen on plants where it feeds from scale insects on leaves and stems and causes black sooty mould-like in the photo. It likes to live in and near houses and in creeks.

What is crazy ant?

This ant first came from Africa but has spread to most tropical countries.

Found in East Timor, most of Asia and Papua New Guinea, crazy ants were recently found near Nhulunbuy. Crazy ants hide in shipping containers, under packing cases, in machinery or motor vehicles. They will move eggs into these places and this is how they move into new areas.

How could it get here?

These ants are often found at our ports trying to hitch a ride into Australia in containers or machinery. How they arrived in Nhulunbuy is not known but luckily they have not spread very far.

Why is it bad?

Crazy ants are very aggressive and can totally replace other ants, especially **Waliwalinga**, the green tree ant, in the bush. The bush near Nhulunbuy no longer has green tree ants because of the crazy ant. On Christmas Island, these ants are destroying local populations of the red land crab and other native crabs and insects. They also like to carry scale insects around and this can have a big effect on plants as the large numbers of scale insects damage the plants. The forest on Christmas Island is changing because of the increased number of scale insects caused by crazy ants. Crazy ants will also feed on cuts and scratches on people and animals.



How can you help?

If you see an ant that looks like this picture, tell Quarantine immediately.

NAQS contact Glenn Bellis (08) 8999 2345

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Tiwi artists Natalie Tungatalum (left) and Marie-Evelyn Pautjimi with *tungas*, (folded bark baskets) made from Jukwartirringa, *Eucalyptus tetradonta* (see page 51)



"Shared knowledge is essential to surviving knowledge. This book combines scientific names, common English names, and the Tiwi names and uses of 216 plants and 171 animals of our Islands."

Matthew Wonaeamirri, *Chairman, Tiwi Land Council.*

"*Tiwi Plants and Animals* documents the plants and animals used by the people of the Tiwi Islands, and demonstrates the depth of local knowledge held by the Tiwi people. This local knowledge is integral to the skills and values, which promote sustainable environmental management on the islands."

Senator Robert Hill *Federal Minister for the Environment and Heritage*

Tiwi Plants and Animals records and conserves the traditional Tiwi names and uses of almost 400 plants and animals. It has been prepared by Tiwi elders as a legacy for future generations and in memory of previous generations. Over 600 full colour images are used to bring to life this ancient and powerful Tiwi wisdom. We recommend this book to you as an insight into one of Australia's most vibrant Aboriginal cultures.



PARKS AND WILDLIFE COMMISSION OF THE NORTHERN TERRITORY
TIWI LAND COUNCIL



Tiwi flag

