Indigenous And Ingenious:

Aboriginal Plant Usage

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A cold, chill pre-dawn. Drawing blankets closer around their shoulders people sleepily huddle around the hearths. The smouldering coals of scattered campfires are stoked and brought to life until flames leap skyward.

Morning fires are for warmth. Gone are the heavy, scented plumes of smoke produced from splinters of pine and santalum wood, burnt in the early evening to repel the pestering attacks of mosquitoes and sandflies. Gone, too, are the slow, steady burning eucalypt logs necessary during the infrequent stoking period of the night. Now it is morning and the fires must produce immediate warmth and quantities of coals for cooking.

Having stoked the family fires, women sit quietly calling to the younger children whilst kneading dough for the breakfast damper. Damper, prepared from flour, baking powder and water, accompanies almost every meal. As the commercial Dingo flour supply is finished, one woman saunters over to an area containing many small, seed-bearing plants, noted whilst gathering firewood the previous afternoon. Only 10 cm in height, each plant (*Dysphania plantaginella*) yields many easily harvested seeds. Using an empty powdered milk can as a container the woman returns to her camp, en route tearing a strip of paperbark approximately 50 x 20 cm from a *melaleuca* growing on the banks of the inland pool. Deftly pinching the ends of the bark together the woman produces a disposable tray for the winnowing of seeds.

Within twenty minutes, while the camp is still stirring, seeds to supplement the commercial flour supply have been located, harvested, ground between hearth stones to remove the husks and winnowed. Added to the commercial flour, this 'bush tucker' enhances the flavour of the damper as well as serving as a substitute in times of shortage. With the kneading completed, the circular shaped dough is placed in the coals, completely encased in ashes. Water in the numerous tea billys is put on the fire and brought to the boil.

One of the younger children wheezes after a night spent on cold, damp ground. His brother is sent to the base of a nearby rock outcrop to find a lemon-scented grass (*Cymbopogon ambiguus*). Wandering back to camp, the child crumples the handful of freshly torn leaves, releasing their pungent citrous odour into the early morning air. The smell reminds two aged women of their youth - of days spent in the bush while their husbands mustered cattle. They talk together in low murmurs. One prods the fire, turning over the damper in its ash cocoon while simultaneously supervising the stewing of the lemon grass leaves in boiling water; her companion extends a lean arm to grasp two tobacco tins. Mixing the contents of the tins together she rubs in the palm of one hand lengths of tobacco with a fine, white ash (the bark of several plant species is reduced to make a suitable ash which apparently gives the user access to greater quantities of nicotine). Leaning back she places the tobacco-ash quid between her upper lip and gums and begins to suck noisily on the contents.

Surrounded by children, some still sluggish with sleep, the two old women noting the listeners shift the conversation from the past to the present. They divide the children into two groups — each represented by one of two commonly occurring flowers. With a

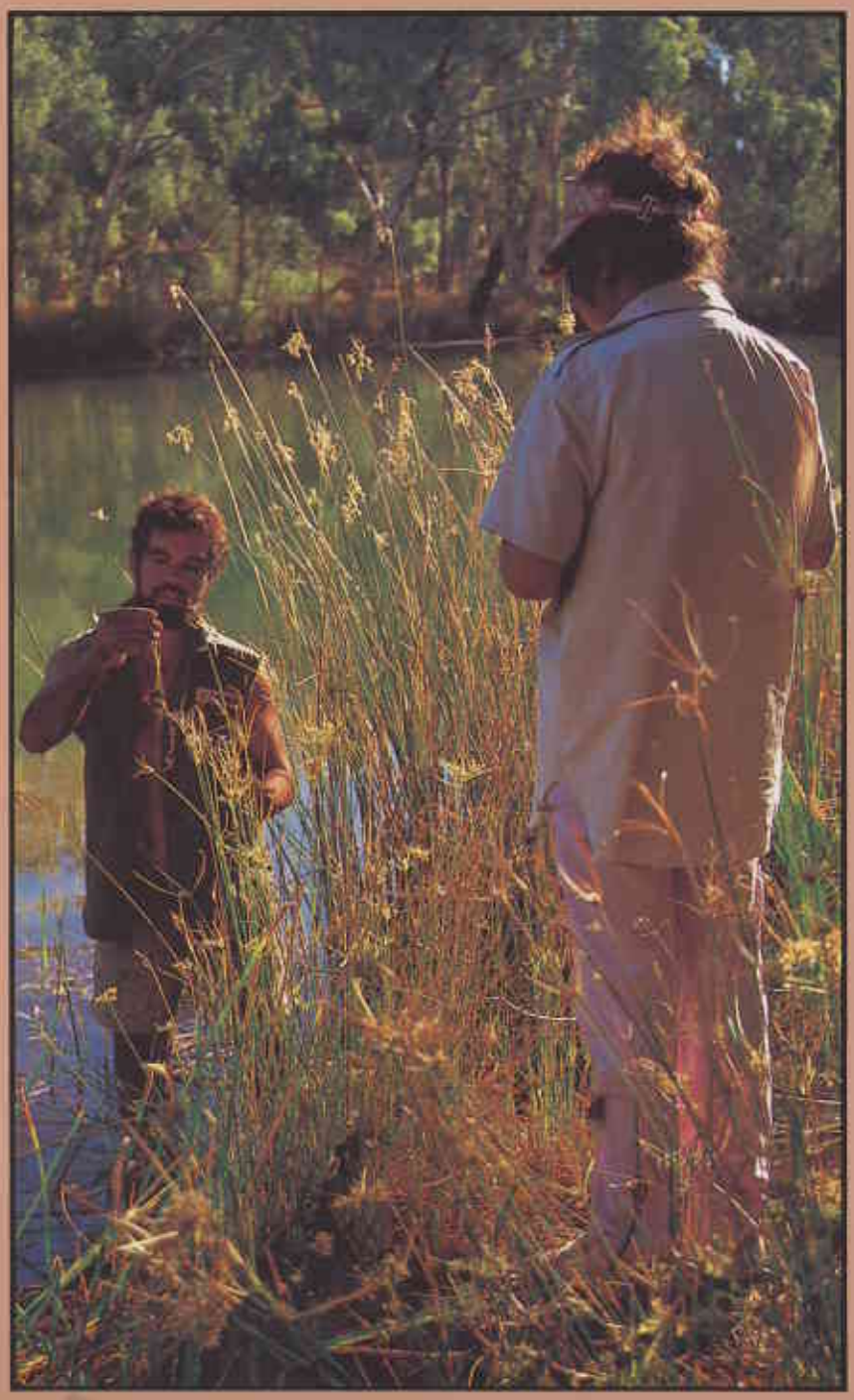
chuckle the oldest woman refers by name to a still sleeping girl who is of the opposite flower, or totem, to the boy sitting closest to the woman. Using the symbolism of two bush flowers to refer to the two children the old women explain the complexities of the Aboriginal marriage system.

For the children sitting around the women's campfire, today's breakfast conversation is one in an innumerable series of informal teaching sessions. In this traditional way a network of knowledge regarding the social and natural worlds is lovingly passed on from grandparents to their 'nannas' — the young grandchildren. Only an older person knowledgeable of inter-personal family relationships could determine the flower, the marriage group, to which each human being in the community belongs. With an embarrassed nod the boy signals that he has understood the lesson and the conversation changes. The water is boiled; the tea is made. Steam from the lemon grass beverage is inhaled by the wheezing youngster whilst the damper is removed from the coals and dusted free of ash. Kangaroo meat left over from the evening meal is removed from the coals and placed on a bed of freshly cut, non-poisonous leaves. Squabbling, the children reach out for a chunk of hot damper. By the warmth of the newly risen sun, breakfast is consumed and another bush day begins.

Left: War spears — *makuntu* — are made only from a bush known to Robe River aborigines as *mindurigee* and to botanists as *Petalostylis* sp.

Above: Tiny native bees just visible on a knot-hole are a sign that the hollow trunk of this tree may be full of honeycomb.

Below: Around the edges of billabongs grows a sedge (*Cyperus vaginatus*) which produces an edible onion-like nut.



During the last few years I have been privileged to work and camp with Aboriginal people in the coastal north and north-west regions of W.A.. Accompanying people now resident in towns or Aboriginal communities on trips into their homelands I have been able to observe some aspects of Aboriginal plant usage. What is striking is that in seemingly mundane events such as a bush breakfast, Aboriginal people repeatedly demonstrate the practical application of a vast body of detailed knowledge including such disparate subject areas as the toxic properties, differential burning potentials, calorific value and medicinal qualities of plant species.

Throughout Aboriginal Australia plant usage varies according to factors such as climate, the local plant communities and the necessity or otherwise for individuals to be competent in bush survival. Although a body of knowledge relating to plants is shared by all Aboriginal people, an individual's level of knowledge with regard to plant distribution, seasonality and usage is in most cases directly proportional to his or her age.

Young children are taught the most obvious plant foods for survival, how to use plants to make rudimentary shelters and plant species as indicators of easily collectable fresh water. An older child or young adolescent is competent to locate, and process where necessary, commonly occuring foods and rudimentary medicines. Many young adults are capable of producing and using artefacts such as bush shelters, wells or soaks, carry dishes, twine etc. The ability to draw together the practical and symbolic elements of plant knowledge remains the province of the elderly.

Today many Aboriginal adults have not personally manufactured fishing nets, wooden carry dishes,

boomerangs or spears, yet the reservoir of knowledge necessary for such manufacture is still intact having been transmitted from the elderly to those most interested. Aboriginal people repeatedly state their confidence in the 'knowledge reservoir' if a change of circumstances necessitated artefact production. Generally, however, a different set of survival skills is necessary for the current social situation.

In recent years several academic papers and books have been written by anthropologists who have worked with specific Aboriginal communities. Published studies for W.A. document the varied ways in which Aboriginal people use plants as foods, beverages and medicines; as the raw materials for artefact production; and as indicators of seasonality. Fish poisons, decoration and rituals of body scarification are also listed. In one way or another plants are always an integral part of life.

Conception to Death

Most Aboriginal people have at least two names: an English name and a 'bush name' used by other Aborigines. In many cases, when translated these names refer to a plant, animal or place. Reasons behind the allocation of bush names are many, including place of birth, spiritual relationship to a particular piece of country often characterised by a specific plant, e.g. areas noted for acacias, water lilies, mangroves etc; or because close to the time of conception either parent or a close relative dreamed of a specific plant in association with the coming birth. Whatever the reason, any individual named after such a plant will for his or her lifetime maintain a special relationship to all plants of this species.

In the past people were born and died on beds of soft paperbark or on freshly cut fragrant boughs. The same

Above: The stems of the water lily (*Nymphaea gigantea*) are not unlike sticks of celery.

Right: The bush potatoes in the Pilbara were small this season because of the dry conditions in the region. They are the tuberous roots of the morning glory (*Ipomea costata*) and in a good season they may grow to weigh over a kilogram each.

Below: The hunting spear is made of two types of wood. Dense mulga (*Acacia aneura*) gives the spear a weighted point hard enough not to splinter or break on impact. The shaft is the lighter and straighter *Petalostylis*. The two are joined using kangaroo gut binding and secured with a glue produced by ants when they feed on spinifex (*Triodia pungens*). Under the heat of a naked flame the gum becomes plastic, but on cooling it turns rock hard.

plants that were once used in bush births are still collected by midwives. These plants, noted for their antiseptic qualities, are applied to the mother immediately upon discharge from a public hospital.

Over large areas of Aboriginal Australia, weak or sickly babies are ritually 'smoked' in order to improve blood circulation, clear the sinuses and any congestion in the lungs and to generally strengthen the child. Held over a tiny, smouldering bark fire the baby is momentarily enveloped within the healing fumes. Adults, especially after severely debilitating disease or the traumatic loss of a loved one, may similarly undergo 'smoking'.

Ritual Scarring

Young mothers, particularly after a difficult birth, or the birth of their first child, paint their nipples with a white milky paste. The paste, obtained from the exudate of the inner bark of *Grevillea pyramidalis* is believed to induce lactation. The caustic seed coating of the same species is used in the ritual scarring, or cicatrisation, of both men and women's bodies. Although the skin may be opened today with bottle glass rather than a flaked stone, caustic agents are still applied to delay healing and accentuate the scar tissue resulting from the wound.

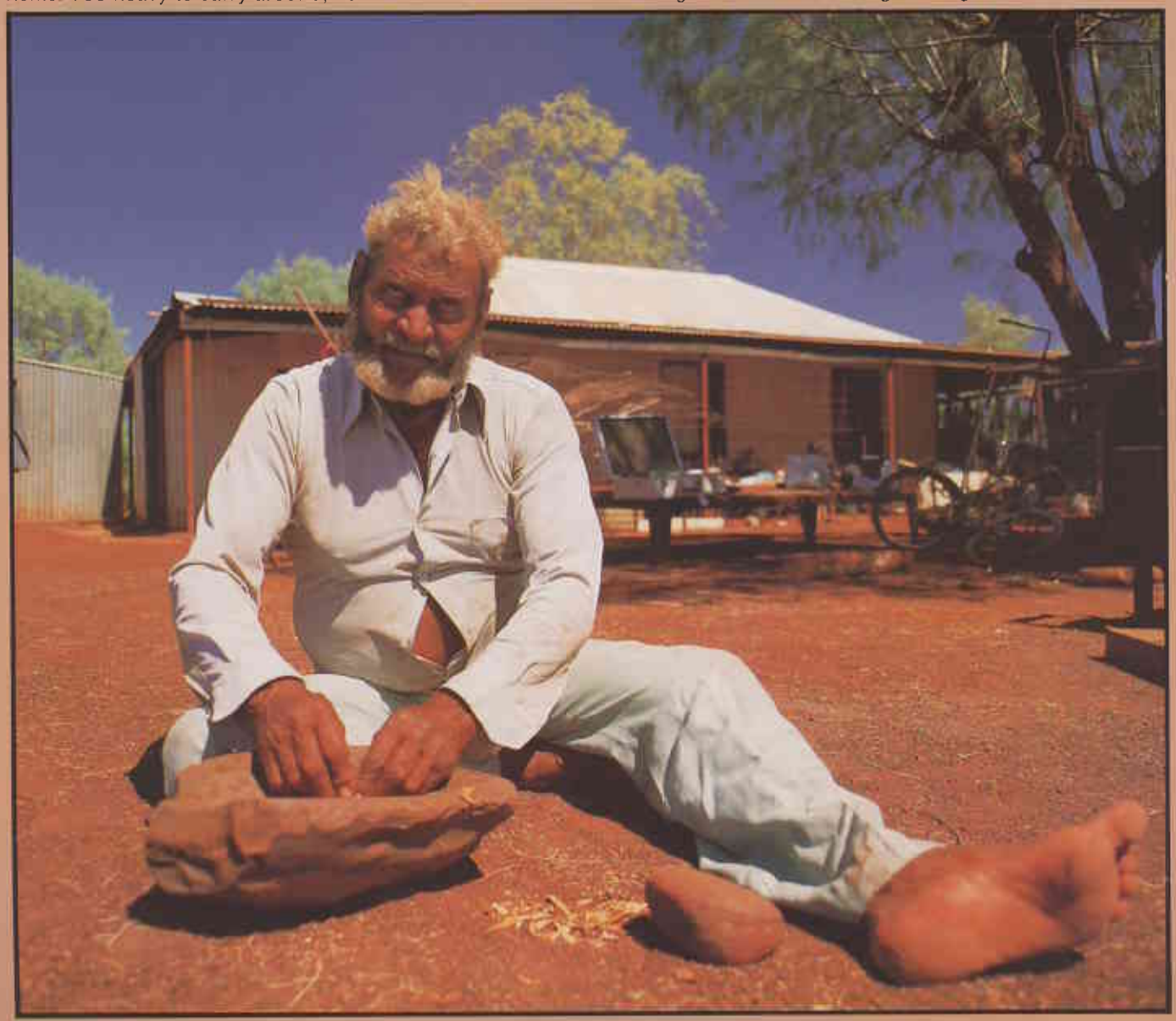
In the past, bones of the dead were gathered and wrapped in paperbark bundles for placement in crevices in rock shelters of great spiritual importance to the deceased. Mortuary parcels are still easily recognisable in rock shelters scattered throughout the western Kimberleys.

Plants provided much more than just the raw materials for food, medicines, poisons and artefacts; the symbolic use of plants is a tantalising field to specify an individual's relationship to a specific stretch of land.

Symbolism

Over much of Aboriginal Australia, plants are used to symbolise social divisions

Preparing to grind acacia seeds into a flour. The mortar and pestle are called *parru* and *pinyee* and are treasured items. Too heavy to carry around, numbers of them were hidden throughout the tribal food-gathering routes.



within Aboriginal society and to specify an individual's relationship to a specific stretch of land.

Families and individuals, often unable to trace direct kin ties, realise a commonality by their shared belief in a totem, derived from the creative period of the Dreaming. In the Dreaming, when the world was new and soft, mythological figures, some of which were plants, travelled through the landscape creating natural features such as rivers and hills, thereby establishing themselves with a specific stretch of land. Humans now associated with that land can by ritual action ensure the perpetuation of the species and thus the regeneration of natural world.

Many anthropologists have written about the cultural belief that they label 'totemism'. One viewed totemism as a perspective 'which colours and influences the Aborigines' social groupings and mythologies, inspires their rituals and links them to the past. It unites them with nature's activities and species in a bond of mutual life giving...' (Elkin 1954: 133).

It is at the symbolic level that non-Aboriginal people are culturally most ill-equipped to understand the complexity and depth of Aboriginal relationships to the plant world.

For people living a western lifestyle based upon a monetary flow of payments for goods and services it is often difficult to recognise basic human requirements. Aboriginal people traditionally looked to the natural world surrounding them to provide the raw materials to satisfy their needs at both a physical and spiritual level. Many Aboriginal people know and relate to the plant world in an intimate fashion - their immense knowledge of plant distribution, seasonality, breeding cycles and the multiplicity of plant uses being based on generations of observations and crucial experimentation.

Awareness

Most Australians are aware that Aboriginal people once relied solely on plant and animal products for food, medicines, hunting poisons and as the raw materials of artefact production. Unfortunately, there is a popular notion that knowledge of these skills of survival is now so reduced they are no longer practised except by the oldest of Aboriginal people. Although in most social geograhic areas skills relating to boomerang or spear making are no longer integral to survival, Aboriginal people continue to hand down through the generations an immense body of knowledge relating to the plant world. From this 'cultural reservoir' individuals and groups select those specific areas of knowledge most appropriate for Aboriginal Australians living in the 1980s. Adaptability to circumstance has always been a keynote in Aboriginal culture.

Indigenous and ingenious —two words which summarise Aboriginal plant usage from the past until the present!

Some of the Ways Aboriginal People use Plants

- Food
- Cooking, heating
- Drinks
- Medicines
- Dyes
- Extractive items such as wood working, chopping, scraping and grinding tools
- Hunting aids, e.g. fishing nets, spears, boomerangs, digging sticks and to make animal, fish and bird traps
- Containers, e.g. baskets, wooden carry dishes, food containers and plates
- Fire sticks and fire drills
- String and rope, e.g. from boab fibre and spun spinifex
- Adhesives, e.g. tree and spinifex resin
- Fixatives to bond ochre and dyes to rocks or wood
- Construction of shelters
- Transport, e.g. rafts
- Poisons — to kill or stun animals and fish
- Animal lures, burning to encourage new plant growth as animal food, collection of the quarry's preferred food species
- Body decoration — mundane and sacred
- Paint brushes, e.g. from banksia
- Hair and skin conditioners
- Caustic agents used to promote ritual body scarring
- Abortive agents
- Nicotine
- Disposal of the dead, e.g. bark bundles containing bones, tree platforms for the dead
- Mosquito and sand fly repellant
- Games, e.g. marbles or string games
- Musical instruments
- Teaching aids
- Clothing
- Indications of seasonality
- Indicators of dangerous areas such as poison snake habitats, wood that stakes car tyres
- Message sticks and communication through smoke signals and fire in general
- Ritual smoking of bodies to induce health, or fortify the psyche in times of trauma Production of sacred objects
- Sacred sites, e.g. the carved trees of the West Kimberley or the rainmaking trees of the Pilbara
- Mythological and ceremonial uses to ensure the continuation of life and nature
- Naming of people
- Naming of places

Reference

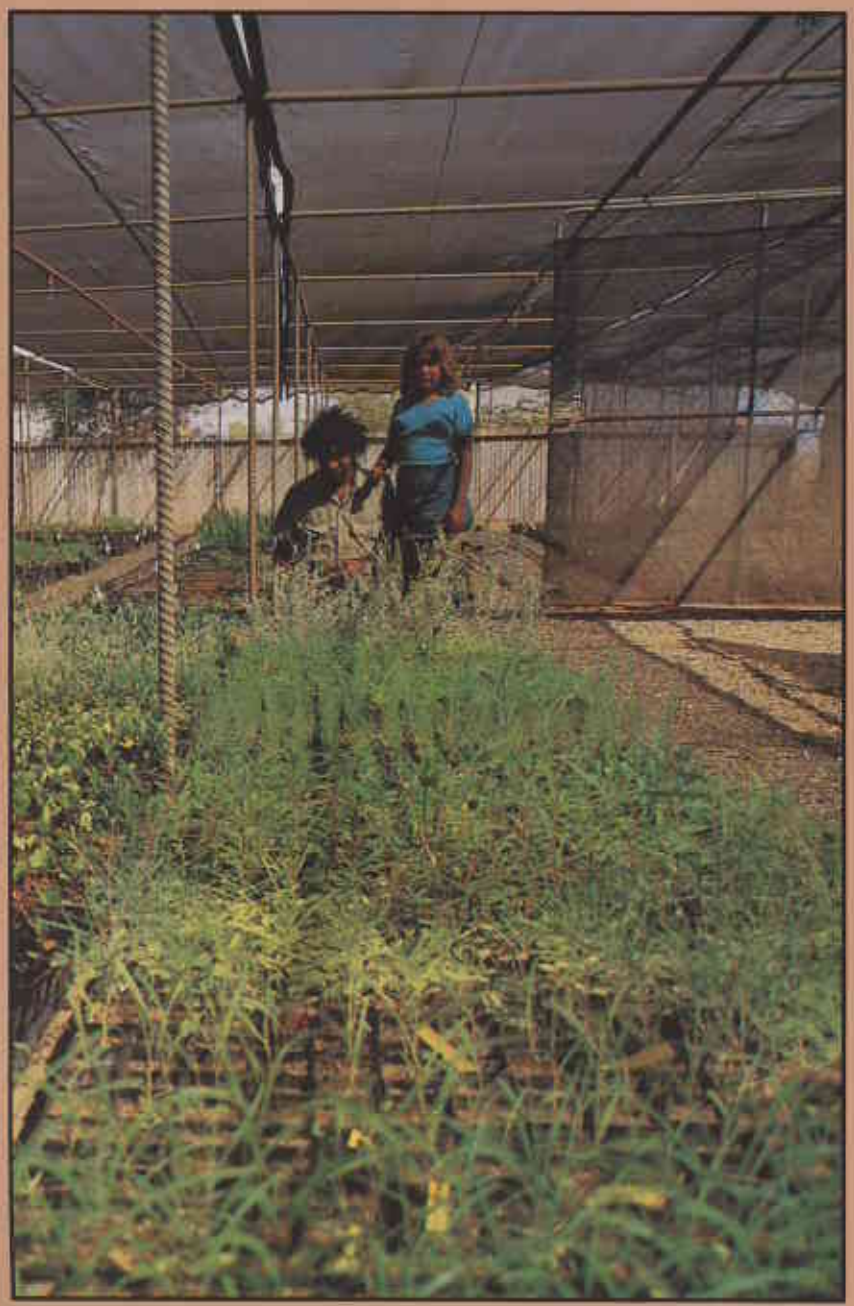
Elkin, A.P., 1954 (1st ed. 1938). *The Australian Aborigines: How To Understand Them*. Angus and Robertson, Sydney.

Recording a Heritage

Last year the Department of Conservation and Land Management supervised a scheme in which a botanist, laboratory assistant and two field assistants spent six months in various areas of the Pilbara with local Aborigines.

Plants significant to the Aborigines were documented and specimens and seeds collected. A botanical garden reserved for plants significant to Aborigines was then set up at Karratha College.

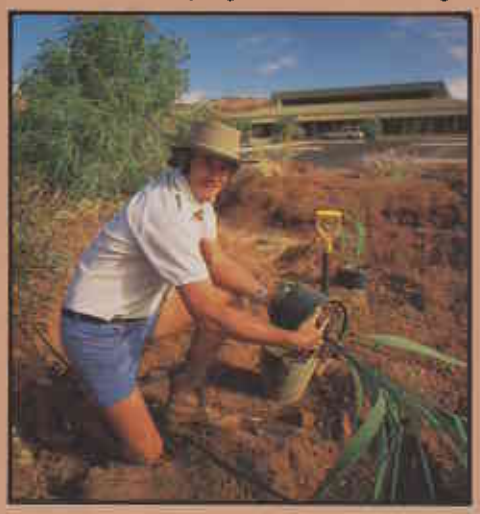
Here in this 'ethno-botanical' garden present and future generations will have the opportunity to learn something about ancient Aboriginal lore and survival techniques.



Top: The ethno-botanical garden at Karratha College.

Left: The nursery at Karratha.

Below: Landscaping at Karratha College.



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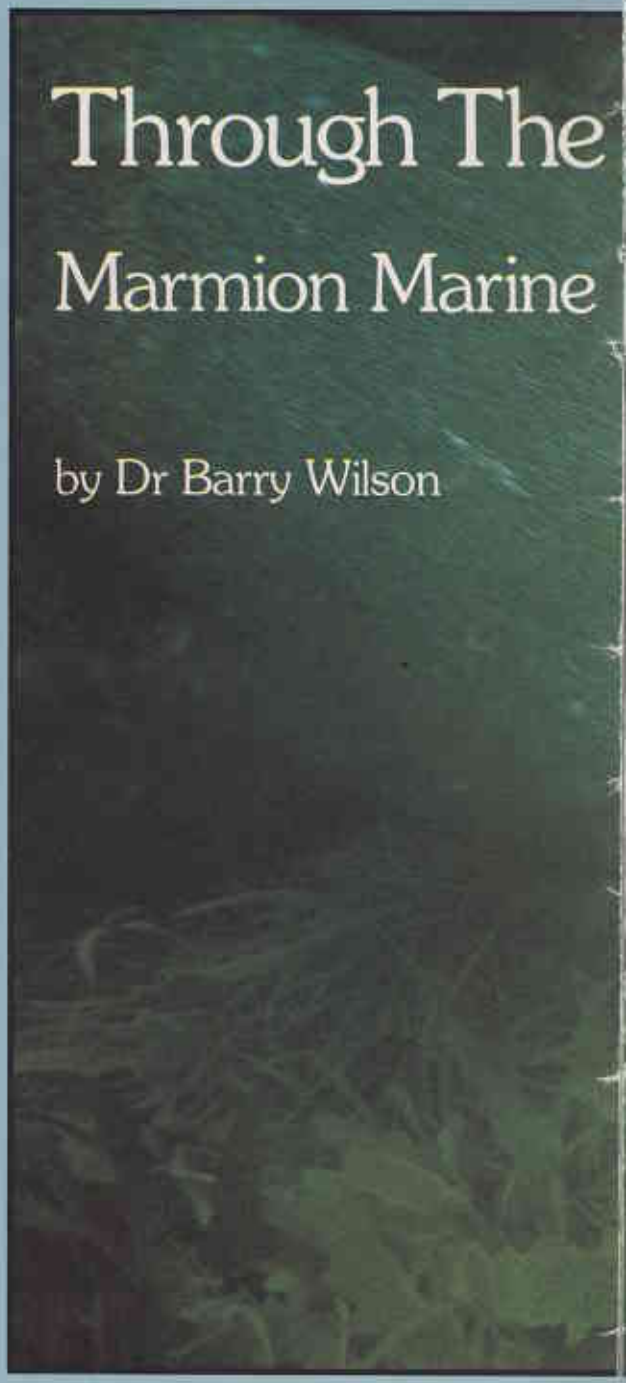
Cover

The Caspian Tern (*Sterna caspia*) is a good advertisement for the value of islands (see article p. 25). It breeds on islands all along W.A.s coast from Recherche Archipelago in the south to Lacepede Island near Broome. Cover photo by Cliff Winfield.



Through The Marmion Marine

by Dr Barry Wilson

To the land-bound observer standing on the dunes of the Whitford Nodes, on Perth's north coastline, the surface of the sea beyond may be still or turbulent, but it is always two-dimensional. It is hard to realise that below the surface, on the other side of the mirror, is a three-dimensional counter-world, with varied relief and diverse habitats. This world is populated by an alien array of the most impossibly grotesque and stunningly beautiful creatures, in such abundance and variety as to leave a snorkel-diver breathless in more ways than one.