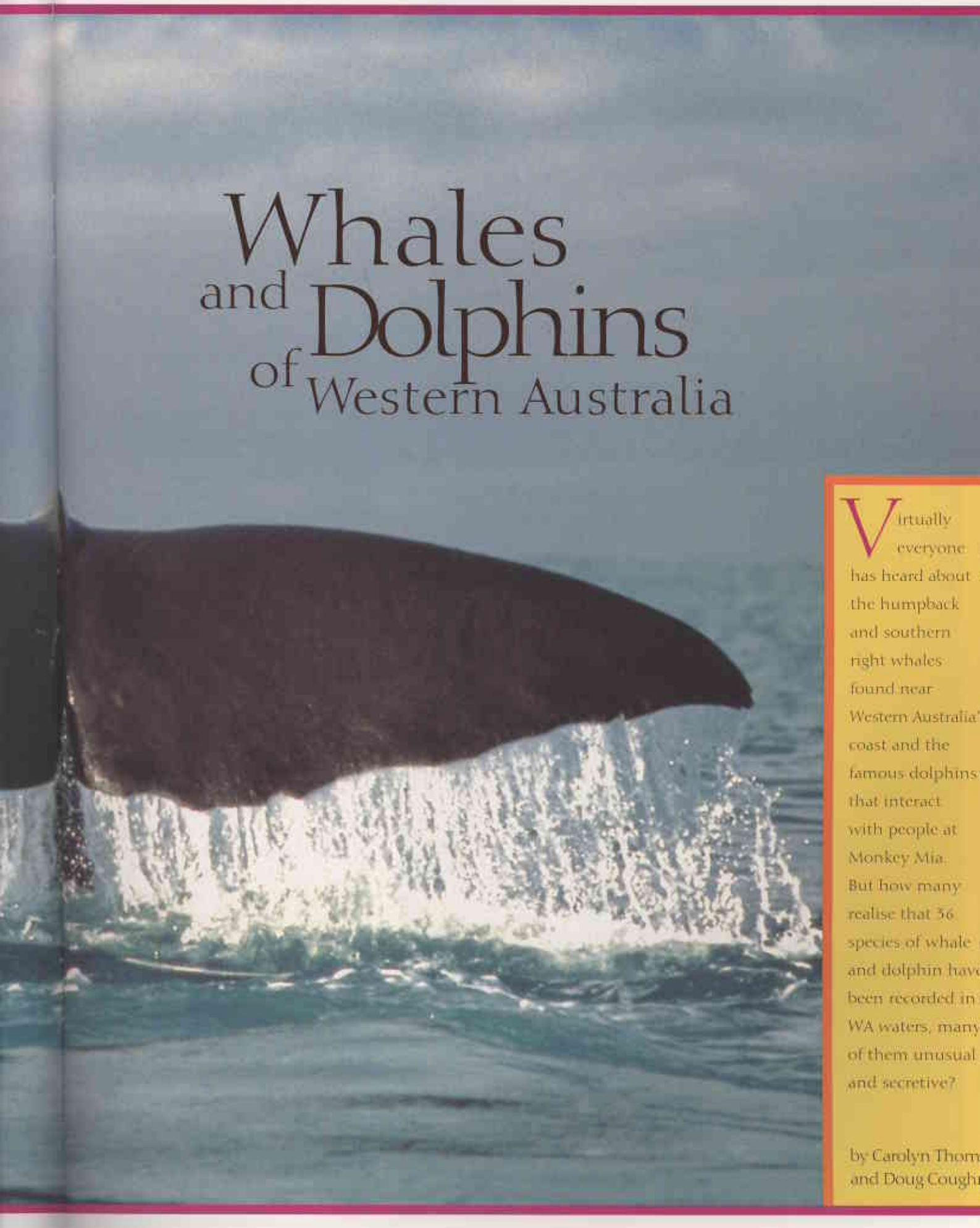

Whales and Dolphins of Western Australia

Virtually everyone has heard about the humpback and southern right whales found near Western Australia's coast and the famous dolphins that interact with people at Monkey Mia. But how many realise that 36 species of whale and dolphin have been recorded in WA waters, many of them unusual and secretive?

by Carolyn Thom
and Doug Coughi

Whales and dolphins have long fascinated people. The graceful humpback whales and inquisitive bottlenose dolphins are familiar to people who live in or visit Western Australia. But relatively little is known about some of the other weird and wonderful marine mammals that inhabit our oceans. Because of this scarcity of information, the Department of Conservation and Land Management (CALM) has been building up a database of whale and dolphin strandings in Western Australia. This provides scientists with vital information about the physical characteristics and distribution of the animals and their propensity to strand. Post-mortems are often carried out to determine the cause of death, and samples, photographic records and other information are passed on to the Western Australian Museum.

Whales range in size and weight from the 31-metre blue whale, which is the world's largest living animal and weighs between 80 and 130 tonnes, to the 2.4-metre dwarf sperm whale, weighing about 150 kilograms. They are divided into the baleen whales (such as humpbacks) and the toothed whales (such as sperm and killer whales). Baleen whales mostly sieve planktonic organisms from the water by means of thin plates of baleen hanging down from the top of the mouth. The baleen is composed of keratin, the same substance found in human fingernails. Toothed whales feed on squid, fish and even sometimes on marine mammals.

BALEEN WHALES

The southern right whale (*Eubalaena australis*) is well known to whale-watchers and tourists, but the pygmy right whale (*Caprea marginata*) is somewhat more mysterious. Although both species have a strongly bowed lower jaw, the pygmy right whale is considerably smaller than the southern right whale, and has a more streamlined shape, a small dorsal fin and narrow flippers. This is the smallest of the baleen whales and individuals grow to about six metres long. The pygmy right whale is found only in cool to temperate waters of the southern hemisphere. It spends short periods at the surface, its dorsal fin is usually not visible and the blow is weak, so few animals have been recorded in the wild. These whales feed on very small plankton. Pygmy right whales occasionally strand on the WA coast south of Fremantle. It has been surmised that they migrate inshore during spring and summer, sometimes moving into sheltered bays. In fact, one was photographed in Cockburn Sound in recent years—this was only the second time that a live pygmy right whale had been photographed in Australian waters.

The largest living animal on Earth, the blue whale (*Balaenoptera musculus*), is also found off our coast. Although the average length is 25 to 26 metres, females can reach more than 30 metres and weigh more than 160 tonnes at the end of the feeding season. Despite their size, blue whales are rarely seen near our coast, but they have been seen offshore from Rottnest Island. Blue whales seen off WA may often be a subspecies known as the 'pygmy' blue. However, the pygmy blue whale, while somewhat smaller than the true blue whale, is still a tremendous size. The huge size, mottled bluish-grey colour and small stubby dorsal fin positioned well back on the body distinguish blue whales from other whales. When viewed from the air they are a remarkable sight. They have a streamlined, slender body, a broad, flat U-shaped head, topped with a central

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The sperm whale has large triangular tail flukes that are quite distinctive.
Photo – Barbara Todd/ANT Photo Library

Left: Bryde's whales were among the marine animals involved in a spectacular feeding frenzy at Cape Cuvier, near Carnarvon, in June 1993.
Photo – Greg Pobar

ridge in front of the blowholes, and slender pointed flippers. Their blow is vertical and may be nine metres high. The species feeds principally on dense swarms of krill (tiny shrimp-like crustaceans) taken near the surface, and probably does not dive deeply. Blue whales may live an impressive 80 years or more.

Another baleen whale, Bryde's (pronounced *'broodahs'*) whale (*Balaenoptera edeni*), was among the sea creatures that amazed the public and marine biologists when they were filmed in June 1993, taking part in an incredible feeding frenzy at Cape Cuvier, on the WA coast near Carnarvon. The whales, mouths agape and baleen exposed, were seen lunging through massive swarms of anchovies that had become trapped against the cliffs, where they formed a ready-made meal for a number of whales, sharks and other predators. The feeding frenzy continued for weeks and is now believed to be a regular occurrence at this time of the year. Bryde's whales sometimes breach clear out of the water and are distinguished by the three ridges, which run from the front of the head to the blowholes, on top of their quite slender bodies. Adults may reach up to 14 metres, with females being slightly larger than males. Unlike the tall, slender blow of the blue whale, Bryde's whale has a bushy blow that rises in a cloud three to four metres high. In WA, these mammals are found from Shark Bay northwards and range through the world's warm temperate, subtropical and tropical waters.

SPERM WHALES

The distinctive sperm whales (*Physeter macrocephalus*) are found relatively close to the mainland in the Albany area (where the continental shelf extends only 20 nautical miles offshore), which was the reason for the existence of the former Cheyne Beach Whaling Station. These whales were hunted for their oil and

Above right: This baby long-finned pilot whale stranded on Garden Island in 1995. It was probably born prematurely and died soon afterwards.
Photo – Doug Coughran

Right: Sperm whales are found relatively close to the mainland in the Albany area, and may one day form the basis of a whale-watching industry there.
Photo – Kelvin Aitken/ANT Photo Library

spermaceti. Ambergris, a fragrant waxy substance in the gut that forms around squid beaks, was used in the perfume industry. Despite being hunted and killed for more than 300 years, the sperm whale remains reasonably abundant.

The name *macrocephalus* means 'big head', for the head is a quarter of the body length in calves and, with age, may form more than a third of the length of the body. The common name of sperm whale was given because whalers thought the liquid substance in its head resembled human sperm. This substance may be an important aid in the whale's ability to dive to tremendous depths. It has been surmised that the sperm whale may be able to change the density of the spermaceti and therefore control the buoyancy of its body. Sperm whales are among the longest and deepest divers of all whales and dolphins. Dives may last more than 90 minutes and be to depths of 2 800 metres, possibly deeper. Food such as squid, octopus and sometimes fish is taken in mid-water, usually below 400 metres, and the whales may also feed on the bottom.

Sperm whales are easily recognised by the rectangular head shown in drawings of Moby Dick. Their cylindrical lower jaws contain two rows of teeth that may weigh more than a kilogram each. The heads of the males may be heavily scarred as a result of fights with giant squid, which they eat, or with other males. There are stories from whalers telling of great fights between males, sometimes resulting in severe injuries. The average length of this species is 15 metres in males and 11 metres in females. Sperm whales are usually located by their bushy,

Top left: More than 20 000 whale-watchers view the humpbacks that migrate along the WA coast each year. This large male, photographed offshore from Perth in 1995, has fighting scars on its head.
Photo – Doug Coughran

Centre left: This pygmy right whale, photographed in Cockburn Sound in recent years, is believed to be straining minute marine animals from the water.
Photo – Barbara Porter

Left: Killer whales are seasonal visitors to WA's coast and often follow migrating humpback whales, to pick off the calves and old animals.
Photo – Barbara Todd/ANT Photo Library

The Indo-Pacific humpbacked dolphin is common in coastal habitats of tropical and some subtropical areas, such as Ningaloo Marine Park.
Photo – Kelvin Aitken/ANT Photo Library

five-metre-high blows. Unlike those of any other large whale, the blowhole is on the left of the head and the blow is lopsided and projects forward. These majestic animals, inhabiting waters at least 180 metres deep, are the largest toothed whales, and can grow to more than 18 metres and weigh up to 60 tonnes.

Pygmy sperm whales (*Kogia breviceps*) are oceanic and thought to reside seaward of the continental slope, with females and their young possibly moving on to the continental shelf to feed. Pygmy sperm whales consume oceanic squids and cuttlefish, along with small amounts of fish or deep sea shrimp. Found in temperate, tropical and subtropical seas and reaching a maximum length of little more than three metres, these slow-moving mammals have a relatively short head with a narrow, underslung mouth beneath a bulbous snout. The snout, containing the spermaceti organ, is pointed in young animals, but becomes rectangular with age. The blowhole is positioned on the top left-hand side of the head. A distinguishing feature is the light, bracket-shaped marking on each side of the head, which is sometimes referred to as a 'false gill'. Single animals or mother-calf pairs occasionally strand, but may be confused with sharks because of the shape of the head.

The dwarf sperm whale (*Kogia simus*) is another species that is rarely seen. It is the smallest of all whales and has a snubbed, squarish snout. The dorsal fin is tall and broad at the base and its shape resembles that of many dolphin species. Dwarf sperm whales are found throughout tropical, subtropical and temperate seas in both hemispheres. They forage in groups of 10 or less, taking a variety of small prey such as tiny cuttlefish at depths of more than 250 metres.

BEAKED WHALES

Mysterious oceanic creatures with strange dolphin-like beaks have been known to strand on our shores. Strap-toothed beaked whales (*Mesoplodon layardii*) and scamperdown whales (*M. grayi*) strand quite frequently on the southern WA coast. *Mesoplodon* is derived from a combination of three Greek words that mean 'having a tooth in the middle of the jaw', and males have two massive teeth protruding from either side of their arched lower jaw. Strap-toothed whales, usually five to six metres long, derive their name from the bizarre, strap-like teeth found in adult males. The tips grow up and back, until they almost meet outside the beak above the upper jaw. In fact, the jaw is unable to fully open, but the whale is still able to feed. The teeth are not visible in young animals and females. The scamperdown whale, with an average length of about five metres, has a long, narrow beak that becomes white with maturity. Its head is small, and the lower jaw of the male has two small triangular teeth near the middle of the beak. Scamperdown whales stranded near Dunsborough have been successfully returned to the ocean on several occasions. The social structure of this species has some degree of cohesion, as more than one animal may become stranded.

A male Blainville's beaked whale (*M. densirostris*) was found dead at Two Rocks, north of Perth, in November 1990, the first recorded stranding in WA. The cause of death was unknown. Blainville's beaked whales can be recognised by their unusual lower jaws, which are raised in an arch. A huge forward-tilting tooth grows on the peak of this arch and in males it may be higher than the forehead and covered in barnacles. Adults grow up to five metres long. Females appear to develop white jaws and calves are lighter in colour. Scars suggest that they may be attacked by

Because they are often very difficult to study, much of the available scientific information on whales and dolphins is derived from strandings.
Photo - Cliff Winfield

killer whales or false killer whales. The Andrew's beaked whale (*M. bowdoini*) has also been recorded in WA.

KILLER WHALES AND OTHER DOLPHINS

Unlike some other parts of the world, groups of killer whales (*Orcinus orca*) do not occupy defined home ranges off the WA coast. They are seasonal visitors and often follow migrating humpback whales to pick off the calves and old animals. Pods occasionally enter Shark Bay to hunt dugongs. The name *orca* is Latin for 'demon'. These voracious hunters will attack animals of all sizes, even the massive blue whale. Dolphins, seals, dugongs, turtles, penguins and a variety of birds, fish and other whales are also included on the menu. Despite its common name, the killer whale is regarded by most scientists as the largest species of dolphin, having an average length of six to eight metres. Males are generally larger than females and may reach more than nine metres. Killer whales live in pods of between two and 40. Each group includes at least one large male. They may hunt in packs and share their catches with others in the group in a manner similar to lions. Members of the group communicate by means of pulses, clicks, whistles and scream-like noises, particularly when hunting. They frequently breach, spy hop and slap their tails, and their blows are low and bushy.

Indo-Pacific humpbacked dolphins (*Sousa chinensis*) have a crookedly humped dorsal fin, which is wide at the base, then flattens out before rising to a triangular, pointed tip. These animals hug the shorelines in the primarily tropical waters where they are found. They are rarely seen beyond the surf zone, favouring shallow waters no deeper than 20 metres. They also live in mangrove channels, bays and estuaries. The species grows to less than three metres, with a relatively large tail and a long and slender beak. Their colour varies by age and area, but those in Australia darken to a lead grey colour as they age. The undersides are, however, off-white and the dorsal fin may be white in older animals.

Humpbacked dolphins may form loose associations of two or more, but it seems they will readily leave these groups to associate with different animals. These small groups sometimes combine to form larger schools. Humpbacked dolphins feed on a range of schooling fish. They are slow swimmers, but may be seen leaping, chasing or somersaulting. They rarely bow ride and tend to avoid boats.

The Irrawaddy dolphin (*Orcaella brevirostris*) is perhaps the most mysterious of all WA's marine mammals. Although these dolphins formed part of the diet of Aboriginal people, scientists only discovered them in Australia in 1948. This blunt-headed species is externally most similar to the beluga whale of the northern hemisphere. But unlike the beluga, it is a warm-water lover, found in shallow, coastal waters of the tropics and sub-tropics. Some also live in fresh water, preferring the muddy and brackish waters of rivers. Irrawaddy dolphins have fairly long flippers, a blowhole set slightly to the left of their heads and no beak. There is a small and quite rounded dorsal fin and a distinct indentation and crease around the neck, which is quite mobile. They are usually greyish-blue in colour and reach about two-and-a-half metres in length. Found in groups, sometimes ranging up to 15, they feed on fish, squid and crustaceans.

Western Australia's whales and dolphins are becoming increasingly important from an economic point of view. Whale-watching off WA is booming and set to increase even further as whale numbers recover and as natural wonders such as the sperm whales off Albany are discovered by nature-based tourism operators. However, many of these animals are so secretive they will never be important for tourism. Nevertheless, they have fascinating adaptations and lifestyles in their own right.

A new pocket-sized book, *Whales and Dolphins of Western Australia* (see 'Bush Telegraph'), has been released by the Department of Conservation and Land Management to help you identify the whales and dolphins you can see, and to learn more about the species you may never see.

Carolyn Thomson, a special project officer for CALM, is currently writing, editing and compiling a number of Bush Books, with the assistance of a range of scientific experts. She can be contacted on (09) 389 8644.

Doug Coughran is a principal wildlife officer with CALM. He has a special interest in Western Australia's marine mammals and has been involved in rescuing and researching the State's whales, dolphins and seals for many years. He can be contacted on (09) 334 0339.

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LANDSCOPE

VOLUME ELEVEN NO. 3 AUTUMN ISSUE 1996

Thanks largely to CALM's fox-control programs, the recovery of the woylie has been so swift that the species has now been taken off the threatened fauna list (see page 10).

This killer whale, photographed at Ningaloo, is one of 36 marine mammals living off the WA coastline. Read about them on page 16.

LANDSCOPE *Expeditioners made some interesting discoveries during last year's expedition to Queen Victoria Spring. Read all about them on page 23.*

Spring flowers thrive on a moss carpet —one of the range of attractions on offer in the Porongurup National Park (see page 28).

The rose mallee is just one species benefiting from action by recovery teams working together for conservation (see page 36).

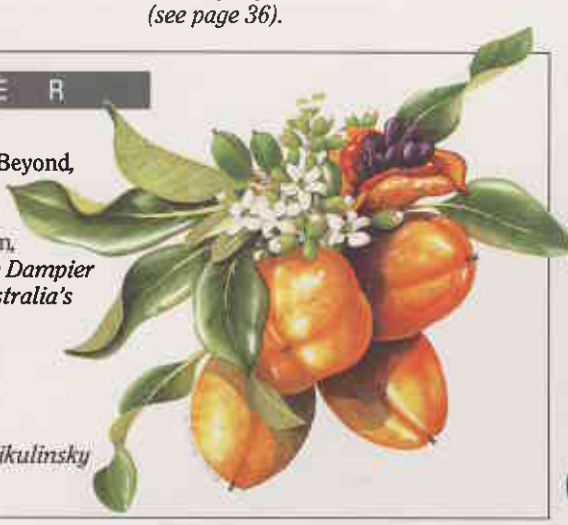
FEATURES

REGULARS

COVER

A new book, Broome and Beyond, *takes an in-depth look at the plants, such as this* Pittosporum molluccanum, *people and cultures of the Dampier Peninsula, in Western Australia's Kimberley Region. The story on page 48 takes a brief glimpse into this exciting new book.*

Illustration by Philippa Nikulinsky



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