





THE HIDDEN TREASURES OF SHARK BAY

*by Greg Keighery
and Malcolm
Trudgeon*

*Shark Bay's flora is
varied and beautiful
- but you have to
look for it!*

Travelling along the main road to Denham, on Peron Peninsula, visitors to Shark Bay see only sandhills covered by wattle scrub, salt pans and spinifex grasslands. In spring, the contrast between this and the bright fields of everlastings along the north-west coastal highway, or the species-rich heath of Kalbarri, can give a false impression of the region's flora.

In fact, detailed studies of Shark Bay's vegetation show a rich diversity, an unusual species composition and many endemic species.

While the peninsulas are characterised by low, wind-pruned and relatively uniform vegetation, the small circular salt pans, known as birridas, seen from the main road have their own unique spring-flowering annuals. The saline creeks and estuaries are lined with mangroves, which are found as far south as Bunbury on the WA mainland, and there are brilliant contrasts along the beaches, where white sand meets red desert dunes, each soil type supporting its own 'heath suite'.

A unique tree heath grows on red sand between Peron and Edel Land peninsulas. Many endemic floral species and species at the ends of their range grow within it, and unlike other heaths it has many tall shrubs and mallees.

On Edel Land, the heaths are a blend of arid and south-western species. They include unusual vegetation types like speargrass (*Stipa*) communities and low wind-pruned succulent shrublands and heaths on the Zuytdorp Cliffs.



SHARK BAY PLANTS ARE SPECIAL

Shark Bay lies at the Northern end of the vegetation of the temperate South West, and is a region of major botanical significance. Its diverse flora comes not from unusual geology (such as major topographic features, a highly variable range of soils or numerous habitats - for example, rivers and swamps), but from the juxtaposition of two botanical 'provinces'.

WA has three major climatic zones: the tropical Kimberley, the deserts, and the South West. Each region has its own distinctive flora, with a broad change-over zone between species of converging regions. The desert and the south-western flora meet, mingle and change in a broad zone that stretches from Lake Moore to Cocklebidy in the south. At Shark Bay, however, the flora of the South West and the desert meet at the base of Peron Peninsula and Edel Land,

and change abruptly. Here it is possible to stand in a tree heath surrounded by south-western banksias, grevilleas, melaleucas and eucalypts, and see the start of the desert's spinifex plains.

The Shark Bay region has about 700 species of flowering plants (Kalbarri National Park to the south has 600 species). This alone is a high figure for an arid region, but of these species, 146 (more than 24 per cent) are at the northern limits of their ranges. These include such well-known flowers as the State emblem (the red and green kangaroo paw), three species of coneflowers (*Conostylis*), a smokebush, two orchids (the rattlebeak and bunny orchid), woollybush, and running postman.

Outside the heath on Tamala and Edel Land, the Shark Bay flora is essentially made up of desert elements. This is reflected in the major flora groups of the area: the grasses (52 species),

Previous page: Native foxglove, a widespread arid and coastal species.
Photo - Bert Wells

Top: The small-flowered rose (*Diplolaena microcephala*) grows at the northern limit of its distribution in Shark Bay.
Photo - Bert Wells

Right: Coastal fanflower, a wind-pruned shrub growing on Zuytdorp Cliffs.
Photo - Greg Keighery





Left: Pink everlastings growing in Acacia shrubland.
Photo - Greg Keighery

Below: A speargrass community in Edel Land, the only place where such a vegetation community grows.
Photo - Malcolm Trudgeon

samphires (51 species), myrtles (43 species) and daisies (70 species). These four groups make up about a third of the region's plants.

PLANTS EXCLUSIVE TO SHARK BAY

About 30 species of flowering plants are confined to the Shark Bay mainland and offshore islands. Most of these have close relatives in the South West, and only occur in the more temperate parts of Shark Bay, especially Edel Land and the areas to the south.

More than half of the species unique to the Bay are confined to the tree heath vegetation, which is also the end of the South West. These species are nearly all large or small shrubs, with few bulbous herbs or annuals. Some of the more spectacular are a one-sided bottlebrush (*Calothamnus formosus*), a subspecies of limestone melaleuca (*Melaleuca cardiophylla* spp. *princeps*), a lamarchea

(*Lamarchea hakeifolia* var. *brevifolia*), Royce's gum (*Eucalyptus roycei*), prickly woollybush (*Adenanthos acanthophyllus*) and golden lambstail (*Newcastelia chrysophylla*). The best selection of these can be seen in an area between 24 and 29 km from the Denham Road, on the road to Useless Loop.

Shark Bay's floral gems may be hidden from immediate view, but then here, first impressions don't count. It takes several visits, a detour from the beaten tracks and an enquiring eye to find out just what the Bay has to offer. But then, we always appreciate what is hardest to find... ☐

Right: Pom-pom everlastings on the saltflats on Tamala Station.
Photo - Greg Keighery

Below: *Halgania littoralis*, probably one of the blue-flowered plants noted by Dampier, growing in coastal limestone country.
Photo - Bert Wells



CALM botanist Greg Keighery and consultant botanist Malcolm Trudgeon are completing a detailed study of the vegetation communities of the Shark Bay peninsulas. Greg is based at the Wildlife Research Centre at Woodvale on (09) 405 5100, while Malcolm can be contacted at CALM's WA Herbarium on (09) 367 0500.

LANDSCOPE

VOLUME SEVEN NO.2 SUMMER EDITION 1991-92



When European scientists first set foot on our shores they found a bewildering array of animals and plants. Péron the Explorer takes an intimate look at the French scientist whose name lives in Western Australia's newest national park. See page 20.



This tour of the Gascoyne's desert coast guides you through Shark Bay and WA's newest national park. See page 10.



Close to where the fictional Gulliver is believed to have been shipwrecked lives one of the world's oldest organisms. Lilliput's Castles, on page 34, describes the creatures and the ecosystem they have built.



Seagrass covers 3 700 square kilometres of the ocean floor around Shark Bay. Grasses of the Sea, on page 42, takes us on a journey through these underwater meadows.



At first glance, Shark Bay is dry, arid and inhospitable. But if you look more closely you discover its Hidden Treasures. See page 16.

FEATURES

| | |
|---|----|
| DESERT COAST CAROLYN THOMSON | 10 |
| HIDDEN TREASURES GREG KEIGHERY & MALCOLM TRUDGEON | 16 |
| PÉRON THE EXPLORER BARRY WILSON | 20 |
| SEA PIGS OF SHARK BAY PAUL ANDERSON | 24 |
| ISLANDS OF CONTRAST KEITH MORRIS, JENI ALFORD & RON SHEPHERD | 28 |
| LILLIPUT'S CASTLES BOB BURNE | 34 |
| GRASSES OF THE SEA DIANA WALKER | 42 |
| BIRDS OF THE BAY PHOTO ESSAY | 47 |
| MANAGING FOR DIVERSITY RON SHEPHERD | 50 |

REGULARS

| | |
|---|----|
| IN PERSPECTIVE | 4 |
| BUSH TELEGRAPH | 5 |
| ENDANGERED THICK-BILLED GRASSWREN | 41 |
| URBAN ANTICS | 54 |

COVER

Green turtles (*Chelonia mydas*), the commonest turtles found along our coast, begin to congregate in the waters of Shark Bay from the end of July. The Bay is the southernmost nesting area for these long-lived animals. During summer, female green turtles lay their eggs on the white sandy beaches of Bernier, Dorre and Dirk Hartog Islands, and occasionally at the northern tip of Peron Peninsula. Illustration by Philippa Nikulinsky.



Managing Editor: Ron Kawallak
Editor: Ray Bailey
Contributing Editors: Verna Costello, David Gough, Tanyia Maxted and Carolyn Thomson
Design: Sue Marais, Stacey Strickland
Finished art: Sandra Mitchell
Advertising: Estelle de San Miguel ☎ (09) 389 8644 Fax: 389 8296
Illustration: Ian Dickinson, Sandra Mitchell and Stacey Strickland
Cartography: CALM Land Information Branch
Colour separation by Prepress Services
Printed in Western Australia by Lamb Print
© ISSN 0815-4465. All material copyright. No part of the contents of the publication may be reproduced without the consent of the publishers.



Published by Dr S Shea, Executive Director
Department of Conservation and Land Management,
50 Hayman Road, Como, Western Australia 6152.