

A seaside garden will tax your understanding of weather conditions, soil and wind-blown sediments.

Dune commune

By JANE BURKE

AGARDEN beside the sea is an idyllic notion. In reality, the harsh conditions often associated with coastal gardens can be a challenge in terms of plant selection and landscape design. The garden pictured is close to the ocean beach at Sorrento. With a south-westerly aspect, the site is exposed to relentless salt-laden winds and hot afternoon sunshine. The design strategy to accommodate these constraints incorporates plants that occur on the nearby undulating dunes, precisely spaced on gravel terraces. Limestone rocks and recycled pier beams reinforce the coastal theme and give the garden definition and textural detail.

Columns of terra rossa limestone over galvanised steel, by New Zealand sculptor Chris Booth, emphasise the strong design elements in the gravel terrace, creating a visual link with the natural landscape of the coastal wood- and southward to the ocean beach.

Beachcombed treasures decorate the gravel surface. Shell grit is used here, with sea-blasted, colored glass fragments and a lifetime collection of marine flotsam. Seaweed is used as a fertiliser mulch.

Quaint, springy, rounded cushion-bushes *Leucophyta brownii* are mixed with leafy shrubs such as coast daisy *Olearia axillaris*, coast everlasting *Ozothamnus turbinatus*, white Correa *Correa alba* and seaberry saltbush *Rhagodia candolleana*. Various sedges and grasses grow among the shrubs, providing shape, texture and color variation.

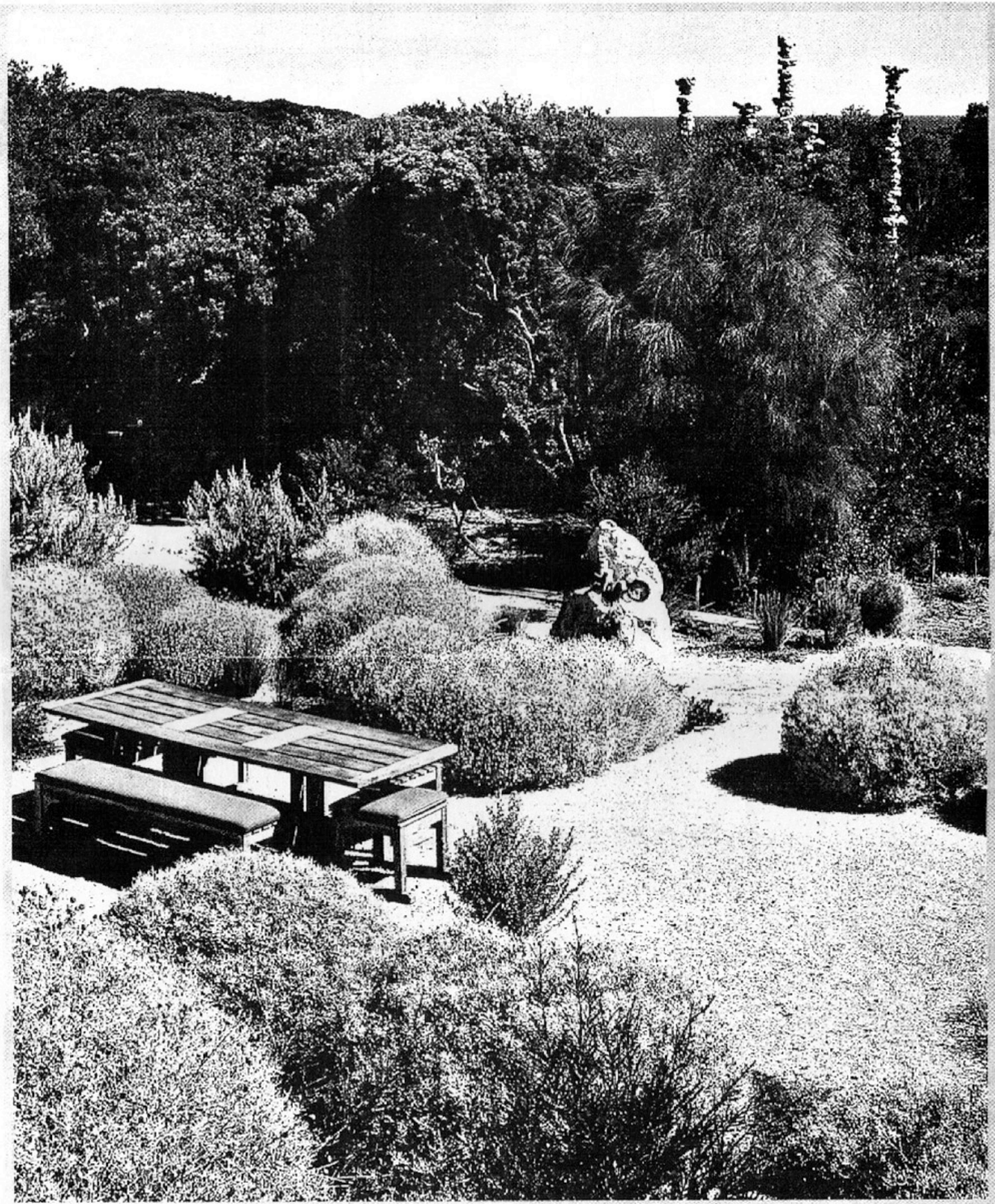
Coastal dune plant communities present an interesting mosaic of generally glabrous (coated with a waxy secretion or hairs; pale grey to pale green leaves) with some glaucous foliage (without surface ornamentation — at least, the upper surface of leaves are shiny and usually darker green). Other characteristics include reduced leaves, succulence and salt glands. Many coastal plants produce edible fruits and berries to aid seed dispersal. These are halophytes (salt-tolerant plants), adapted to severe conditions of wind and salt spray, low-nutrient soils, and constant attrition of wind-blown sediments.

The dune sands that support these plants are low in organic matter and most trace elements. Water-holding capacity is extremely low. Once dune plants are established, they are drought-resistant and require only an occasional application of slow-release fertilisers.

These species can be used in a formal or architectural style in city gardens that are exposed to the southerly to westerly winds along the bay foreshore. Plants can be regularly pruned to constrain the shape for hedging or to encourage a multi-stemmed habit for a squatter form.

One simply way to use this idea in small gardens is to create a relatively flat area dressed with 15 centimetre deep mulch of gravel fines (crusher dust). Using gravel media will give textural contrast to the interesting forms of many dune plants, while providing similar conditions to their natural habitat. The surface of the gravel layer is reflective, limiting heat transference to plant roots. Drainage is good and the water holding capacity is improved. While gravel beds require low maintenance and are inexpensive to construct, gravel is a perfect environment for seed germination. As overdue removal of mature weeds will disturb the gravel and allow the sub-soil to come to the surface, regular weeding is essential.

The natural attributes of coastal plants may guarantee success, however, keep in mind that, like many other indigenous species, these plants have specific requirements that are related to the ecology. Knowledge of the relevant natural systems or envi-



Inspirational: mounded plantings of cushion bush (*Leucophyta brownii*); sculpture and shellgrit form the backbone of this seaside garden.

ronment of any native species is useful as a guide for successful plant selection. The ecological requirements of cushion bush, for instance, are markedly different from those of most cottage plants. This species may be difficult to use in the competitive conditions of a cottage garden, with a regime of fertilisers and watering.

Dune communities are subject to continual deposition of salts, carried landwards from the sea. The salts are blown by the wind in tiny water droplets called aerosols, which result from the forces of waver action and winds on the seashore. Along with sodium chloride, aerosols bring nutrients such as potassium and magnesium.

This may explain why many coastal plants fail when planted in exposed

sites that are some distance from the sea.

Calcium-carbonate-based sand dunes, derived mainly from marine shells, have extremely low levels of organic matter and pH from neutral to alkaline. Deep organic mulching can increase acidity, increase water-holding capacity and decrease oxygen concentrations in soil pores. If you must mulch dune plants, use larger wood chips that degrade slowly and allow air to pass through to the soil below.

Dune communities rarely form a continuous canopy. Gaps are caused by treefall, sand erosion and deposition. This association includes few understorey plants, except for herbs such as sea celery *Aprium prostratum*, with ground covers bower spinach

Tetragonia implexicoma and coast twin-leaf *Zygophyllum ballardieri*. The majority of dune shrubs, sedges and grasses are adapted to maximum sunshine and good ventilation. Some may not flourish under canopy trees or in a site shaded from the afternoon sun.

Some coastal shrubs do tolerate a broader range of environments. *Correa reflexa* (green flower coastal form) and seaberry saltbush, with tussocks knobby club-rush *Isolepis nodosa*, coast tussock grass *Poa poiformis* and black anther flax-lily *Dianella revoluta* var. *breviculmis* are suitable for semi-shaded sites.

Autumn is the best time to plant. Do this after the gravel fines have been laid down, with the crown of the plant

at, or slightly below, gravel surface. Water tubes well. Average rainfall should be sufficient for good growth, but weekly water will alleviate young plant stress. Tip-pruning of young shrubs in winter will improve plant shape.

All these plants and lots more are available in tubes from regional propagators and some growers will give discounts for bulk purchases. Details of indigenous nurseries in your area can be provided by Greening Australia, phone 9457 3024.

St Kilda Indigenous Nursery Co-operative, 525 Williamstown Road, Port Melbourne has a large range of coastal plants in tubes, including spectacular coastal wildflowers, at about a dollar each.