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FLORA CONSERVATION

WILDFLOWERS OF THE STIRLING RANGE

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TWO hundred miles south-east of Perth, the Stirling Range rises abruptly from the surrounding plain. About forty miles long, it is a line of semi-isolated hills, rather than a continuous block.

Averaging 2,500 to 3,000 feet high, the peaks vary from low hills such as Hamila Hill in the west to Bluff Knoll in the eastern section, which, at 3,640 feet, is the highest peak in the range. The rugged and varied appearance of the hills together with the timeless lure of mountain-climbing are sufficient to attract continual interest. Also, among the mantle of vegetation there are many intriguing plants of diverse colour and form. Well over 400 species are known from the Range. A number of these are found no-where else, and some are restricted to one mountain.

The vegetation is of two basic types—firstly a woodland of jarrah, marri, wandoo or banksia, on the plain and lower slopes, and secondly—dense scrub on the hills which frequently extends down across the plain. The scrub is often thick and difficult to penetrate, but it contains many interesting species, especially on the higher slopes.

However, the woodland, particularly that dominated by jarrah, on the gravelly soils, and by banksia on the sandy soils, also shelters many colourful plants.

The families represented by the greatest numbers of species are the Myrtaceae, which includes the Eucalypts, teatrees, and bottlebrushes, and the Proteaceae, to which belong the banksias, dryandras and smokebushes. Representatives of the first family are the dominant trees and mallees of the area, the commonest being the jarrah, marri and wandoo, while the tall yate, *Eucalyptus cornuta*, occurs in the moister valleys. Of the mallees, the most conspicuous, because of its pale bluish-green foliage, is the tallerack, *Eucalyptus tetragona*. More striking florally are the bell-fruited mallee *Eucalyptus pressiana*,

with bright yellow flowers, and the square-fruited mallee, *E. tetraptera* with large, square red flower buds and fruit. The large leaves of *E. tetraptera* are the thickest of any eucalypt.

The mountain bells (*Darwinia* spp.) of this family are perhaps the most famous flowers of the Range. Of the five species recorded, three occur on a single mountain only. On Bluff Knoll are *Darwinia collina*, with quaint little lemon-yellow bells, and *D. squarrosa*, with bright pink bells. The most handsome, as well as the largest, is the red and white *D. macrostegia* from Mondurup. More widespread are *D. leiostyla*, with pink and white bells, and the Cranbrook bell, *D. meeboldii*. The bells of the latter are strikingly banded with green, white and red. This species occurs also outside the Range proper.

In contrast to their spectacular showing on sandplains, the morrison or feather-flowers, *Verticordia* species, are not prominent in the Stirlings. However, several attractive species occur, the most common being the white or pale pink *V. habrantha*. Wax flowers are represented by *Chamelaucium confertiflorum*, which is especially common in Red Gum Pass.

Bottlebrushes

Conspicuous among the scrub are the bottlebrushes (*Beaufortia* species). The largest is *B. decussata*, with large deep red brushes; the leaves are arranged neatly up the stem in four opposite rows. The smaller, maroon-flowered *B. anisandra* is more widespread. There are also the curious one-sided bottlebrushes, *Calothamnus* species. In the sandy soils is *C. gracilis* of lowly stature but with deep red flowers which emerge through the bark of the stems. Among this group of

Darwinia meeboldii, the Cranbrock bell, is restricted to the western end of the Stirling Range. It flowers in spring



myrtles are the *Melaleuca* species which usually have smaller heads of a cream, pink or reddish colour.

A similar genus, but with more prominent petals, is *Kunzea*, of which *K. recurva* var. *montana*, bearing round heads of cream flowers, is restricted to the heights. Mention should be made, too, of the swamp daisy, *Actinodium cunninghamii*. The small red flowers in the centre of the heads are surrounded by longer white ones, giving it the aspect of a daisy, quite unique in this family. More common farther south, the swamp daisy occurs in several wetter parts of the Range.

Banksias

The Proteaceae, well-named after the Greek god Proteus who could change his form at will, are represented by a large variety of forms. The banksias are the best-known, ranging from the bull banksia (*B. grandis*), with its large yellow spikes, and the slender banksia (*B. attenuata*), which are both small trees, down to the prostrate *B. repens* and *B. prostrata*. The flower cones of the last two species, of a pinkish cream and rusty-brown colour respectively, rest on the surface of the soil.

Most showy is the scarlet banksia, *B. coccinea*, which generally a spindly shrub or small tree but this untidy habit is amply compensated for by striking flowers. It is common in Red Gum Pass. In more sheltered spots and on some higher peaks is *B. brownii*, attractive for its soft, feathery foliage and large red-brown flower spikes. On the higher slopes

of most peaks and restricted to the Range is *B. solandri* similar in appearance to the bull banksia but with flowers of an unusual purplish-brown.

Closely allied to the banksias is the genus *Dryandra*, in which the flowers are in heads surrounded by long bracts. A showy species in the Range is *D. formosa* a tall shrub with relatively soft leaves and golden orange flowers. *D. Drummondii* also has golden flowers surrounded by rusty-coloured bracts; it is a low, tufted shrub with large triangular-lobed leaves, and is common in some gravelly areas. Two species are of interest in being restricted to the Range—*D. concinna* and *D. foliolata*. However, these are less attractive, having their flower heads hidden among the prickly leaves.

Smokebushes are generally inconspicuous plants unless flowering, as they are mostly low shrubs with narrow, scattered leaves. The individual flowers are small, as with most of our wildflowers, but are produced in large numbers, often obscuring the branches and leaves. There are three distinctive species in the Stirlings. *Conospermum distichum*, has the white, woolly flowers usually associated with the genus; it grows in sandy areas. On the higher slopes is a variety of *C. amoenum* with attractive blue flowers, while the third species, *C. teretifolium*, is quite different, with sprays of cream flowers quite devoid of any wool at all.

The cone flowers, *Isopogon* and *Petrophile*, are present in varied forms and



Burtonia scabra, a small shrub of the pea family, flowers in spring

colours. Best known is the magnificent *Isopogon latifolius* of the peaks. This large-leaved shrub bears heads of bright pink flowers up to four inches across.

Other pink-flowered species are *Isopogon baxteri*, and *I. formosus*, the latter being particularly common on the plains. *Petrophile serruriae*, with finely-divided, prickly leaves, has numerous small heads of pink or cream flowers borne on arching stems.

The genus *Hakea* is intriguing for its wide variety of fruit forms. These are woody capsules which persist on the plant and split open when dried such as in a bushfire, releasing two winged seeds. Some are large, as for example *H. baxteri* with a fruit $1\frac{1}{2}$ inches across; this plant also has attractive fan-shaped leaves. In *Hakea lehmanni* the fruit is smaller but covered with prickly bristles; the flowers are an unusual pale blue colour. However, florally the hakeas of the Range are generally not

conspicuous. Similarly the genus *Grevillea* (spider flowers) is represented by a few species of little note.

Pea flowers

The pea flowers (family *Fabaceae* or *Papilionaceae*) are much in evidence in the spring. A beautiful shrub of the higher slopes is *Oxylobium atropurpureum* in which the bright red flowers hang rather like bells. *Brachysema sericeum* also has large red flowers set among dark green leaves which have an attractive silky covering on their undersurface. Various species of *Chorizema*, the flame peas, have flowers combining red, pink, orange and yellow.

Common especially in Chester Pass and almost restricted to the Range, is *Cupulanthus bracteolus*. This is a rather straggling shrub with reddish flowers borne in cup-like bracts and calyces. It is the only species known in the genus.

Daviesia trigonophylla also occurring only in the Range, is a shrub with curious winged stems, and clusters of orange and maroon flowers. This and other *Daviesia* species are characterised by a flattish, triangular pod. *D. alternifolia* common on the gravelly plains, has floral bracts which enlarge colourfully around the pods, similar to the well-known bookleaf of the Darling Range.

Pink is a common colour in several genera of pea-flowers. Two beautiful species here are *Mirbelia dilatata* and *Burtonia scabra*. An unusual combination is seen in *Gompholobium venustum* a low, spreading shrub with small blue and red flowers.

The native wisteria, *Hardenbergia comp-toniana*, is common in some woodland areas, producing a profusion of purple flowers. This is one of the few climbing plants of the Stirlings. Another is the beautiful white *Clematis pubescens*.

Boronia

The well-known *Boronia* group is represented by about ten species. These are mostly pink-flowered plants without the scent of the popular brown boronia. A curious representative of this family is

Muiriantha hassellii, which is confined to the Range and is quite rare. It is similar in appearance to a mountain bell, having pendulous flowers with long, pale yellow petals.

The heath family Epacridaceae, is well represented but its species are often inconspicuous, as the flowers are small. However, on the upper parts of some mountains the large-flowered species *Andersonia axilliflora*, and *A. echinocephala* are sometimes prominent. Their cream flowers surrounded by similar-coloured bracts stand out against the dark green of the pungent leaves. On the lower slopes the fox-tail, *Andersonia caerulea*, displays its attractive pink and blue spikes in the late winter. Two other heaths *Sphenotoma squarrosus* and *S. drummondii* have dense spikes of pure white flowers, the latter species clinging to rocky crevices towards the mountain tops.

For the more careful observer, numerous trigger plants, *Stylidium* species, are to be seen. Their usual lowly form is offset by brightly-coloured flowers with the added attraction of a sensitive trigger which flicks across when touched. In winter, the purple tile trigger plant, *S. imbricatum* is at its best, while later in the

The scarlet banksia, *Banksia coccinea*, bears its striking flowers from August to December



season the climbing *S. scandens* with its curious hook-tipped leaves, produces bright pink flowers. A rare species is the pink-flowered *S. verticillatum* known only from Mondurup.

In the leschenaultia family, (Goodeniaceae), a prominent species on the higher slopes in late spring is the golden-flowered *Velleia foliosa*. The deep blue dampieras and the red and the blue flowered species of *Leschenaultia* are well in evidence.

The southern cross, *Xanthosia rotundifolia* is common in the Stirlings as well as elsewhere along the south coastal areas. A form restricted to the Range is the var. *hypoleuca*, distinguished by the white felted under-surface of the leaves.

Kangaroo paws are represented by two species *Anigozanthos rufa*, the common red kangaroo paw of the southern sand plains, and a form of *A. bicolor*, which grows only a few inches tall and is the smallest member of this group.

The attractive hooded lily, *Johnsonia lupulina* is widespread in the Range, its pink or white bell-like flowers being borne on grass-like stems. On sunny spring days, one can see various fringed lilies, *Thysanotus* species, which usually open early in the morning and close soon after midday. There is also the tinsel lily, *Calectasia cyanea* resplendent with iridescent blue or purple flowers.

Orchids

Outstanding among the orchids is the butterfly orchid, *Caladenia lobata*, which tends to hide its magnificent red and green flowers among leafy undergrowth. There are many others of this spider orchid group here, one of them being the smallest of all *Caladenia bryceana*, which grows several inches high and has a flower only a quarter of an inch across. While this one is difficult to find, others such as the cowslip orchid, *C. flava* and the white spider orchid, *C. patersonii* are more conspicuous. Other common orchids are various sun orchids, donkey orchids, greenhoods and enamel orchids. One interesting species is the slipper orchid *Cryptostylis ovata* which occurs up to the highest levels and flowers well into the summer.

In addition to these more spectacular wildflowers, there are also very many other species which in the spring help to change



The red kangaroo paw, *Anigozanthos rufa*, which occurs on sandy soils and flowers in October and November

the heath and hill sides into a riot of colour. Among these are the banjines (*Pimelea*), native buttercups (*Hibbertia*), and the ubiquitous wattles (*Acacia*). It is difficult to decide the best time to see the Stirlings. Certainly there are always many species flowering in September and October, but an early season will produce a good showing in July and August. The upper slopes and peaks reach their best later than the plains, and are usually quite colourful in late October and November. As with much of our bushland, especially in the south, there are nearly always some flowers to be found, even in summer.

It should be appreciated that while the visitor can see a lot simply by keeping to the roads and major paths, many species must be searched for among less-frequented parts. However, this is part of the attraction of the Range, especially on the steep slopes where the explorer is also rewarded with panoramic views of the surrounding peaks and plains.

