

MARRI (*Eucalyptus calophylla* R. Br. ex Lindl.). A—Leaf; B—Portion of inflorescence with flower-buds; C—Flower-bud in section; D—Flower and calyx after flowering with the operculum still attached; E—Anthers; F—Young fruits; G—Cluster of fruits; H—Fruit in section; I—Seed; K—Cotyledons.

Perth, W.A.

Icon origin.

TREES OF WESTERN AUSTRALIA

By C. A. GARDNER, Government Botanist.

No. 25—MARRI

(*Eucalyptus calophylla* R. Br. ex Lindl.)

THE Marri tree is one of the commonest and best-known of the large trees of South-Western Australia. It has a range of distribution extending from Port Gregory near the Murchison River, to Cape Riche, westward and southward to the coast, and inland slightly beyond the eastern limits of the jarrah zone. Tinkurrin is probably the most inland of the areas in which it is found.

Although one of the largest trees of the jarrah forest, it occurs as a small tree or a shrub in its eastern limits on the south coast, while to the north of the Hill River it suffers considerable reduction in stature. In the forest areas however, it attains a height of well over 100 feet.

The Marri belongs to the group of *Eucalyptus* which are called bloodwoods, i.e., trees with a friable bark; leaves with a characteristic parallel lateral nervation of veins close together and spreading from the midrib almost at right angles; flowers which although in umbels have these umbels arranged in larger panicles; woody globular or urn-shaped fruits, and a bud cap or operculum which rarely falls freely, but shows a tendency to remain hinged to the calyx-tube at the time of flowering (see illustration).

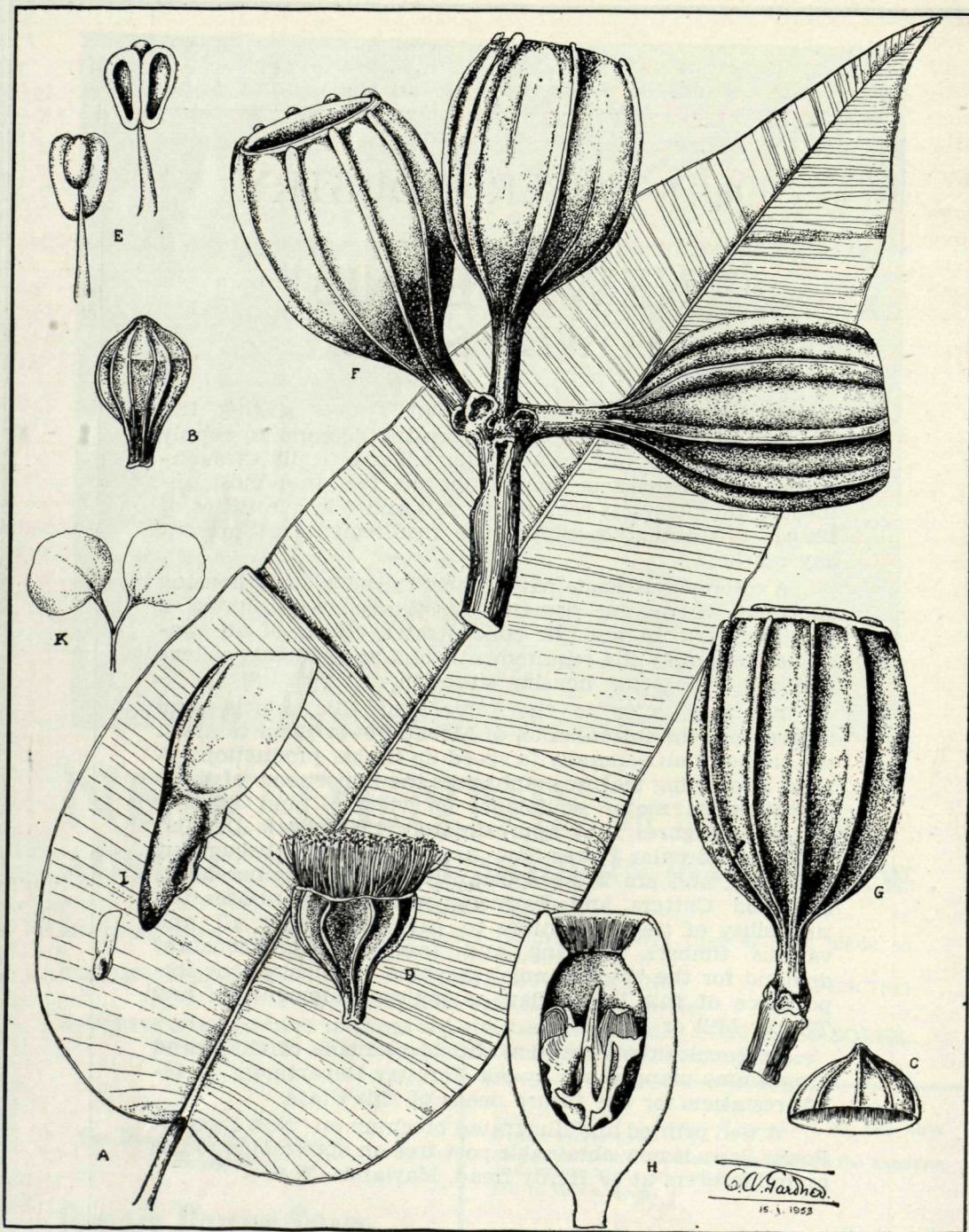
Although the bloodwoods are familiar objects in the tropical woodlands, twelve species being found in tropical Western Australia, there are only three in South-Western Australia, these being the Marri, the red-flowered gum, and the mountain gum of the Nannup and Jarrahwood districts to the south of Busselton. The Marri can usually be recognised at once by its large leaves which are dark green above and paler underneath; its wide spreading, often horizontal, thick branches; its large white or pale pink flowers, and its urn-shaped fruits of large size, typically with a "neck" or constriction below the wide terminal orifice.

Occurring freely in the jarrah and karri forests it favours the lighter, somewhat sandy soils, a fact which no doubt accounts for its prevalence in the sandy coastal areas, and its comparative absence from the clay soils of the wandoo forest. A gum-resin or kino is formed in cavities in the wood, or in vessels below the bark, and is sometimes exuded in fair quantities. This kino has a value as a tanning material, but its collection today for this purpose is uneconomical.

Marri timber is straight-grained and pale in colour. Foresters consider it a durable timber, and it may possess a future for use as sleepers. The Marri is also well known to the apiarist, giving a copious supply of nectar in suitable seasons. It flowers in the summer months, usually in February and March, but may continue until April or May. The timber is straight-grained and pale in colour. The leaves yield small quantities of an oil which consists mainly of terpene and is of no commercial value.

The name *calophylla*, given to this species by Robert Brown who was the botanist accompanying Flinders in 1801-1802, signifies beautiful leaf, and Lindley, who first published the name in 1841, remarks in its similarity to that of a species of *Calophyllum*. Brown remarked that the tree was the only useful timber tree growing on the shores of King George's Sound.

As early as 1838 the early settlers knew the tree under the name of red-gum, but the Swan River natives called it "N'gum-



SPRING BLOODWOOD (*Eucalyptus ptychocarpa*, F. Muell.). A—Leaf; B—Flower-bud; C—Operculum (bud-cap); D—Flower (less than natural size); E—Anthers; F—Fruits; G—Single fruit; H—Fruit in section; I—Seeds; K—Cotyledons.

Lawley River, Gardner 1458.

Icon origin.

bat." Other native names were "Kurden" or "Karden," and "Marri" or "Marree." Mr. C. E. Lane-Poole, a former Conservator of Forests, initiated the substitution of the name Marri for red-gum, to avoid confusion with the red-gum of Victoria and South Australia (*E. camaldulensis*), and after 40 years this name has now a general application except amongst some of the older residents, who continue to call it "red-gum." Children know the fruits as "hockey nuts."

On account of its singularly attractive habit of growth and dense crown, and its large white or pale pink flowers, the tree is of considerable value to the farmer and country dweller as a shade tree. Indeed, the prevalence of this tree in farming lands along the lower Great Southern districts adds very considerably to the beauty of the landscape, and its value there for shade purposes for stock is obvious. Like other species of *Eucalyptus*, it develops best when given space in which to develop its roots and lateral branches.

The two most closely-related species to the Marri in South-Western Australia are the red-flowered gum (*Eucalyptus ficifolia*) and the mountain gum (*Eucalyptus haematoxylon*.) The former, now widely planted in many parts of the world, differs from the Marri in being a smaller tree with smaller, more rigid and deeper green leaves; flowers of a brilliant vermilion or sometimes crimson; fruits usually without any "neck," and brown winged seeds. Like the Marri it has a pale timber: the mountain gum has red timber; oil-dotted leaves, and reddish-brown winged seeds; otherwise it much resembles the Marri, but is a smaller crooked tree.

When not in flower, the Marri and red-flowered gum may very closely resemble each other, but can usually be distinguished by the foliage; an absence of oil-dots in the leaves, reddish branchlets (often purple) and smaller and narrower leaves are characters which usually suffice to separate the two.

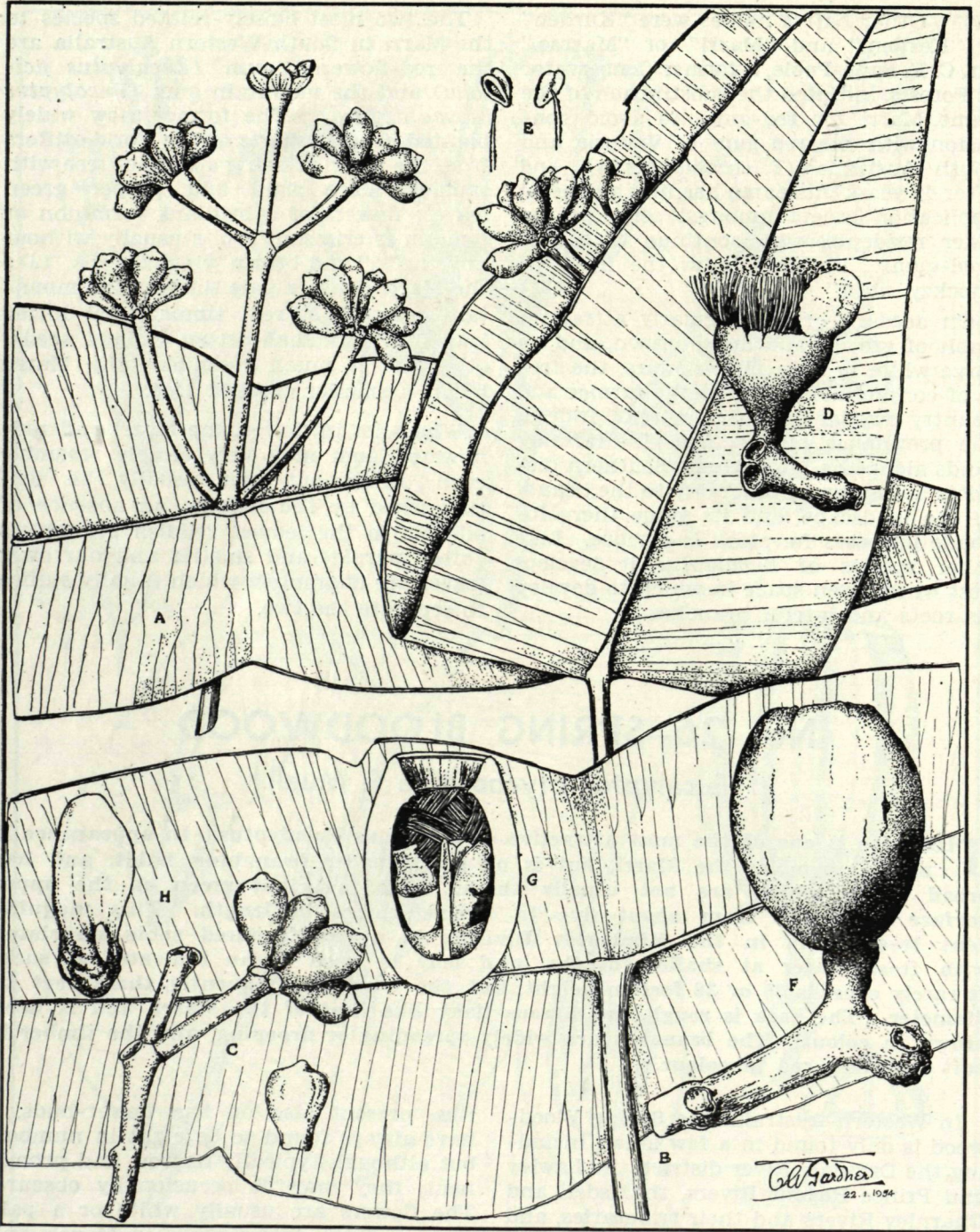
No. 26—SPRING BLOODWOOD (*Eucalyptus ptychocarpa* F. Muell.)

THIS tree is one of the most attractive of the genus *Eucalyptus*. In appearance it much resembles the Marri, but is of still broader branching habit, and has broad leaves which are not usually thick, are of a bright green on the upper surface and vary from about five to twelve inches in length. This magnificent tree occurs in the Kimberley Division in a few favoured spots associated with fresh water at shallow depths, and may be used as an indicator of such. It rarely exceeds 35 or 36 feet in height, but the trunk is frequently three feet in diameter. The bark is rough and fibrous-flaky like that of the Marri, and is deep brown in colour. The branches are widely spreading or drooping, and the timber is soft and deep red in colour.

In Western Australia the Spring Bloodwood is only found in a few areas, including the Drysdale River district, the Lawley and Prince Regent Rivers, the Isdell and Charnley Rivers and their tributaries, and Cockatoo Spring near the lower reaches of the Ord River. It has all the characteristics of the bloodwood tribe (the *Corymbosae*) as discussed under the marri, but differs from them all in its eight-ribbed fruit. The name *ptychocarpa*, given to it by Mueller, means "folded fruit." These

ribs, present also on the flower-buds, I have always found to be eight in number, but although typically narrow and prominent, they may be occasionally obscure. The flowers are usually white or a pale pink, and the tree flowers in March and April.

There has been much discussion as to the colour of the flower filaments. In Western Australia only white, or a very pale pink colour, has been observed; Leichardt described a Port Essington speci-



TWIN-LEAVED BLOODWOOD (*Eucalyptus perfoliata* R. Br. ex Benth). A—Leaves and inflorescence with buds; B—Leaves; C—Flower buds; D—Flower; E—Anthers; F—Fruit; G—Fruit in section; H—Seeds.
Roe River, Gardner (fruits). Icon origin.

Gogo, Fitzroy River.
Gardner 9795.

men as carrying "scarlet blossoms," but this has been doubted by later botanists. More recent observers have described both crimson and scarlet blossoms, as well as white.

Recently, when travelling along the upper country of the Roper River about 60 miles from Katherine, I saw a sight that cannot easily be forgotten—a grove of these trees with massive trusses of brilliant crimson flowers in great profusion. The filaments were the colour of blood, and their presence in such abundance made the tree a splendid sight. The Spring Bloodwood would be a powerful rival to

our well-known red-flowered gum were it in cultivation, as the combination of crimson flowers and heavy foliage makes the trees particularly attractive. The flowers were certainly not scarlet as stated by the earlier observers Leichardt and Gulliver.

The blossoms were very rich in nectar, and the tree would be of value to the apiarist did it occur in sufficient numbers. Where sufficient moisture occurs, this tree should have a prominent place in tropical gardens, surpassing both in habit, density of crown and colour and massiveness of its inflorescences, the better-known woolly-butt (*E. miniata*).

No. 27—TWIN-LEAVED BLOODWOOD

(*Eucalyptus perfoliata* R. Br. ex Benth.)

THIS tree inhabits stony hills and rises in the Kimberley Division, and it stands unique amongst Western Australian species with a single exception—a tree of the desert and the Hamersley Range—*E. gamophylla*) in having its paired leaves united at the base so that the stem or branch appears to grow through the leaf.

It is fairly abundant along the Roe and Moran Rivers in North Kimberley, where it appears as a crooked tree 15 to 20 feet in height. The Twin-leaved Bloodwood is also found on the sandstone ranges southward from the King Leopold Range, notably on the St. George Range, and on the hills around Gogo Station. It is of little

commercial value, and is remarkable rather than handsome. The name *perfoliata* refers to the shape of the leaves. (A *perfoliate* leaf is one in which the leaf-blade completely surrounds the stem on which it grows, or has the appearance of having the stem grow through the leaf.)

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