

WESTERN AUSTRALIAN DEPARTMENT OF AGRICULTURE

TREES OF WESTERN AUSTRALIA

No. 20—THE RED BOX or GUM-BARKED
COOLABAH

No. 21—FORREST'S MALLEE

by

C. A. GARDNER,
GOVERNMENT BOTANIST



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TREES OF WESTERN AUSTRALIA

By C. A. GARDNER, Government Botanist

No. 20—THE RED BOX or GUM-BARKED COOLABAH

(*Eucalyptus intertexta* R. T. Baker)

THIS tree, now claiming some attention in South Australia and New South Wales as a desirable subject for cultivation in the drier areas, is a native to a large tract in Eastern and Central Australia. It is included in this series as a Western Australian tree because it was found at Mount Cooper in the Cavanagh Range by Helms of the Elder Exploring Expedition in July, 1891, at an elevation of 2,500 feet. The Cavanagh Range lies to the east of the Warburton Range, close to the South Australian boundary.

The writer recently saw this tree in several spots in the Macdonnell Ranges and close to Alice Springs, and was attracted by its handsome appearance, its stature, and its hardiness. It was found growing at various places between Alice Springs and the Hermannsburg Mission to the west, on alluvial flats and close to watercourses, thriving in a rainfall area of about 11 in. in a district where the rainfall variability is fairly high. Under such conditions its suitability for planting in our drier agricultural and pastoral areas was at once apparent.

Trees 50 or 60 ft. high were not uncommon, and apart from its attractive appearance, its dense canopy affording a wide shade, makes the tree particularly suitable for planting for shade purposes.

Since then it has been learned from Mr. Brockway of the Forests Department, that in Broken Hill this tree is regarded as being, together with *Eucalyptus oleosa*, among the most hardy of the trees in cultivation there, requiring no further attention after planting out. Only a few trees are in cultivation at the Forests Department's Kalgoorlie Nursery, but the attention of farmers and pastoralists is directed to this species as being particularly suitable for planting when supplies become available.



Eucalyptus intertexta R. T. Baker. Close-up view of the trunk, showing the persistent, dark-brown bark.

Photo C. A. Gardner



RED BOX OR GUM-BARKED COOLABAH (*Eucalyptus intertexta* R. T. Baker)

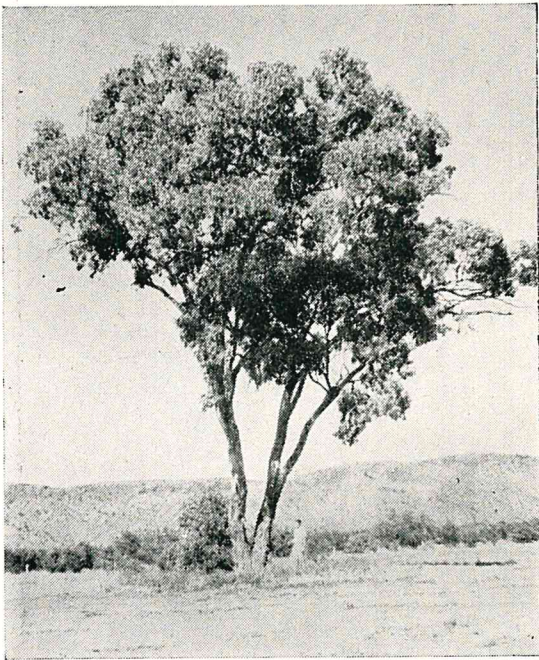
A—Branchlet with leaves and panicles of buds and flowers; B—Umbel of flower-buds; C—Anthers; D—Portion of panicle with fruits; E—Fruits; F—Section of fruit; G—Seeds; H—Cotyledons

Alice Springs, Gardner 11742

Icon. origin

The tree possesses several common names, such as red box, gum-barked coolabah, yellow- or spotted gum, coolabah (the town of Coolabah in New South Wales is said to be named after this tree), bastard red gum and white gum. It owes its botanical name *intertexta* to the very closely interlocked grain of its timber which is said to be so tough that there is a difficulty in splitting it, and on this account it is not used for timber—except mining timber—but it makes an excellent charcoal.

Eucalyptus intertexta attains a height of about 60 ft., with a trunk of 2-3 ft. in diameter. The bark is typically smooth in the greater part, and sometimes smooth throughout. The basal part or "butt" is generally covered with a dark brown, platy, persistent hard bark; above, the smooth bark varies from yellow to almost white with patches of purple-grey bark. The bark sheds in thin plates. The sapwood is thin. The timber is red in colour, hard, dense, and with an interlocked grain. In some trees the rough bark extends nearly up to the branches, while in others there is very little rough bark at the base.



A specimen of *Eucalyptus intertexta* R. T. Baker at Alice Springs. This tree is 60 ft. in height.
—Photo C. A. Gardner

The branches which spread widely, have slender, often pendulous, branches and leaves. The foliage is blue-green or yellowish-green.

The tree is recommended for planting in the Eastern Agricultural Areas, the Eastern Goldfields and the pastoral areas of the North-West from the Ashburton to Murchison districts. Seeds obtained from New South Wales, and planted by the Forests Department at Mundaring have averaged about 3 ft. of growth per annum, and have flowered in the third year.

Although popular as a tree in cultivation in the interior of New South Wales and in South Australia, this species is practically unknown in Western Australia, and it is included in this series partly because it is indigenous here, and partly because it shows promise of becoming one of the most popular of all eucalyptus trees for planting in the interior.

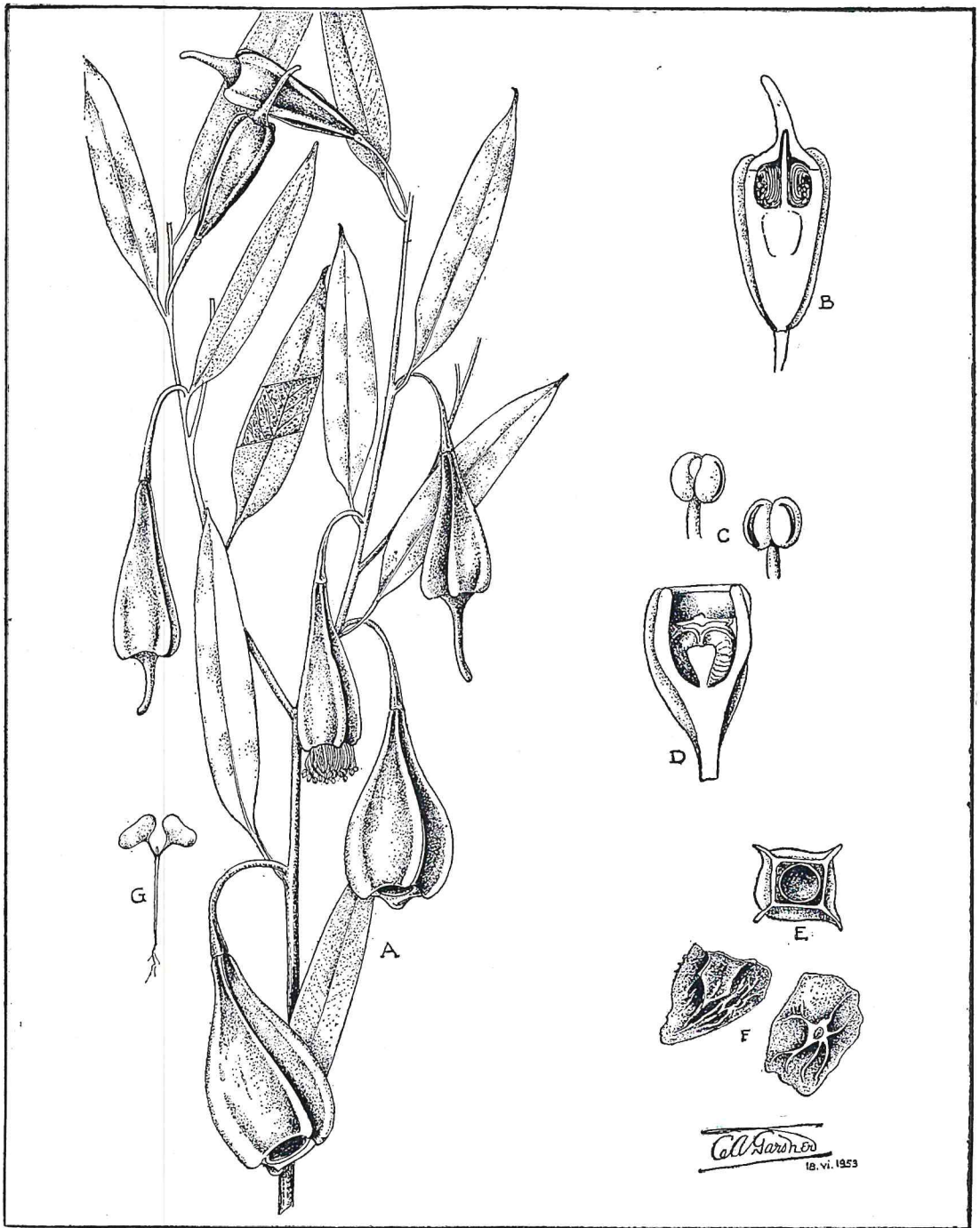
No definite information can be secured regarding the value of this tree for the bee-keeper, but it has been observed locally that young trees in blossom are visited by numerous insects, including bees. In New South Wales, where no other source of pollen and nectar are known other than a cypress pine, bees thrive in the red box country.

Baker and Smith, who examined the oil of this tree from Nyngon in New South Wales, found the average yield to be 0.2 per cent. The crude oil was of an orange-brown colour with an odour resembling that of the better class eucalyptus oils. Phellandrene was quite absent; a fair amount of cineole (35 per cent.) was found, also pinene, and the third-class fraction consisted mainly of sesquiterpene. From the point of view of oil production, it is poor.

BOTANICAL DESCRIPTION

Tree up to 25 metres tall, the trunk up to a metre or more in diameter; bark typically hard, rough and persistent on the lower part of the trunk, or extending throughout its greater length, otherwise smooth and chalky white or yellow, and spotted or blotched with patches of purple-grey bark. Timber red.

Leaves alternate, petiolate, lanceolate acuminate, mostly less than 15 cm. long, pale yellowish-green or glaucous on both surfaces, not lustrous, the lateral nerves



FORREST'S MALLEE (*Eucalyptus Forrestiana* Diels)

A—Branchlet with leaves, buds and fruits; B—Flower-bud in section; C—Anthers; D—Fruit in section; E—Apical view of fruit, showing the four wings; F—Seeds (much enlarged); G—Cotyledons of the seedling

Grass Patch, Gardner 2225

Icon. origin

spreading, obscure, the intramarginal nerve close to the margin or contiguous with it.

Umbels four-seven-flowered arranged in terminal panicles, the branches and pedicels of which are slender. Buds pyriform, 8-12 mm. long. Calyx-tube pyriform; operculum hemispherical or conical, obtuse or apiculate-umbonate, shorter than the calyx-tube and not greater than it in diameter. Stamens all perfect; filaments white, inflected in the bud; anthers versatile, obovoid, opening in parallel broad longitudinal slits, the gland almost terminal. Ovary flat-topped.

Fruit obovoid-pyriform, tapering into the slender pedicel, contracted at the summit, 4-8 mm. long, the rim rather narrow, the disc vertical, the valves of the capsule included.

Fertile seeds ovate to ellipsoidal in outline, 1.5-2 mm. long, finely longitudinally striate, somewhat angular, wingless, pale to dark brown, the hilum ventral almost central and rather large. Cotyledons cuneate, retuse, shortly stalked, glabrous pale green.

Flowering season: April-May.

Recorded in Western Australia only from the Cavanagh Range, R. Helms.

No. 21—FORREST'S MALLEE

(*Eucalyptus Forrestiana* Diels)

THIS attractive shrub or small tree is one of the most widely-cultivated of all the smaller Western Australian species. Known by many as the "Fuchsia mallee" or "Mallee fuchsia," it has found a place in many public and private gardens, and is at once attractive and conspicuous by reason of its pendulous brilliantly scarlet flower buds and young fruits, the latter fading to a pale chestnut brown at maturity. It was named by the renowned German botanist Ludwig Diels in honour of Lord Forrest, who in 1900, when Premier and Treasurer of Western Australia, afforded Diels and his companion, Dr. Pritzel, many facilities for travel in their extensive botanical explorations in South-Western Australia.

Those who know this plant in cultivation, when it grows as a small spindly tree, would scarcely recognise it in the field. In the alluvial clay, and often subsaline soils between Salmon Gums and Grass Patch, this attractive plant grows to a height of about 18 ft. Its dense branches and the dark green foliage, from which the scarlet buds emerge making it at once a most attractive plant.

Nowhere in cultivation does one see such specimens, and the reason for this may be the sandy nature of the soil in which it is frequently cultivated, or the lack of some necessary soil constituent.

Among its relatives the four-winged mallee (*E. tetraptera*), the pear-fruited mallee (*E. Stoutei*) and Steedman's mallee (*E. Steedmanii*) our plant can be easily distinguished by the facts that its flowers are solitary, four-winged, and on long drooping peduncles or foot-stalks, and the valves of the fruit are deeply included within the fruiting calyx. The filaments

when in open flower, are a rich yellow colour like those of *E. Stoutei*.

Forrest's mallee is found over a rather restricted area extending from Salmon Gums to the south of Grass Patch. It has not been found any distance either to the east or west, and is restricted to loamy or clay soils. The relatively thick leaves are copiously oil-dotted, but the yield and nature of the oil are unknown to me. To the bee-keeper the plant would be of very little value, since it is not particularly floriferous, and its stamens are relatively few in number compared with some species. On the other hand it is worthy of a place in any garden, and will succeed in the eastern agricultural areas, growing well and proving hardy in the lighter loamy soils.

BOTANICAL DESCRIPTION

A small tree or shrub attaining a height from 9 to 20 ft., densely branched, the branches usually short and spreading, the

bark smooth, pale grey, shedding in thick flakes, the new bark brown.

Leaves stalked, alternate, erect, the blade 7-10 cm. long broadly lanceolate or oblong-lanceolate, abruptly acute, leathery, the same colour on both surfaces, deep green, the midrib prominent, the leaves copiously oil-dotted, the lateral nerves spreading from the midrib at a wide angle, the intramarginal nerve remote from the margin.

Peduncles axillary, solitary, one-flowered, at first erect or spreading, later recurving, elongated, much compressed but rather slender, thickened upwards and almost obpyramidal at the apex, 3-5 cm. long. Flowers sessile, but the calyx-tube so much attenuated towards the base as to appear stalked; buds scarlet. Calyx-tube obovoid-pyramidal, contracted at the summit and gradually tapering towards the base, conspicuously four-winged,

3.5-4 cm. long. Operculum somewhat narrower than the calyx-tube, not winged, the broad base depressed-hemispherical and radially striate, abruptly contracted into a rather slender elongated break about as long as the calyx-tube and of the same colour. Stamens all perfect, the filaments yellow, incurved in the bud; anthers orbicular, versatile, opening in relatively short parallel slits, the gland small.

Fruit brown when ripe, lustrous, quadrangular-pear-shaped, 4 cm. long, with an elongated tapering base, contracted at the summit, with four angles or wings extending from base to apex, the rim rather broad, the disc vertical, the capsule and valves deeply included. Fertile seeds dull black, roundish, the margin winged, and with two or three vertical wings dividing off cavities in the seed. Cotyledons kidney-shaped.