



A typical Salmon Gum on a wheatbelt roadside.

TREES OF WESTERN AUSTRALIA

By C. A. GARDNER, Government Botanist

No. 5—SALMON GUM (*Eucalyptus salmonophloia* F. Muell.)

THE name salmonophloia, meaning salmon-barked, was given to this tree in 1878 by Ferdinand Mueller, the famous Australian botanist. The title of "Salmon-Barked Gum-Tree" had already been bestowed upon this tree by the early settlers, a name which apparently referred to the colour of the bark in fracture when it resembles the colour of cooked salmon flesh. The external colouration varies from a brownish pink at the end of summer to almost white in winter, usually with greyish-purple patches.

From the early days of agricultural settlement in Western Australia, the presence of Salmon gums has been taken as an indication of a good class of loamy soil suitable for wheat growing.

Where it is associated with the Gimlet tree the soil is of a close texture and a heavy clay; where the Salmon gum occurs in pure stands, the soil is of a lighter nature. Early land classification was often based on the presence of one or both of these trees as indicating first-class agricultural soil.

In the agricultural areas today the Salmon gum is becoming rare except for its occurrence along roadsides, and even here many trees are being sacrificed to make way for telephone lines. One sometimes sees clusters of trees or isolated examples which have been left to provide shade and shelter for stock, and where this occurs one sees the Salmon gum at its best.

Perhaps no other Eucalyptus tree is more attractive than the Salmon gum which is noteworthy for its clean seasonal-changing bark combined with a heavy, deep green foliage, the lustre of which has a burnished appearance. Seen in the woodland the crowded trees possess relatively small crowns of an umbrella-like appearance, but when

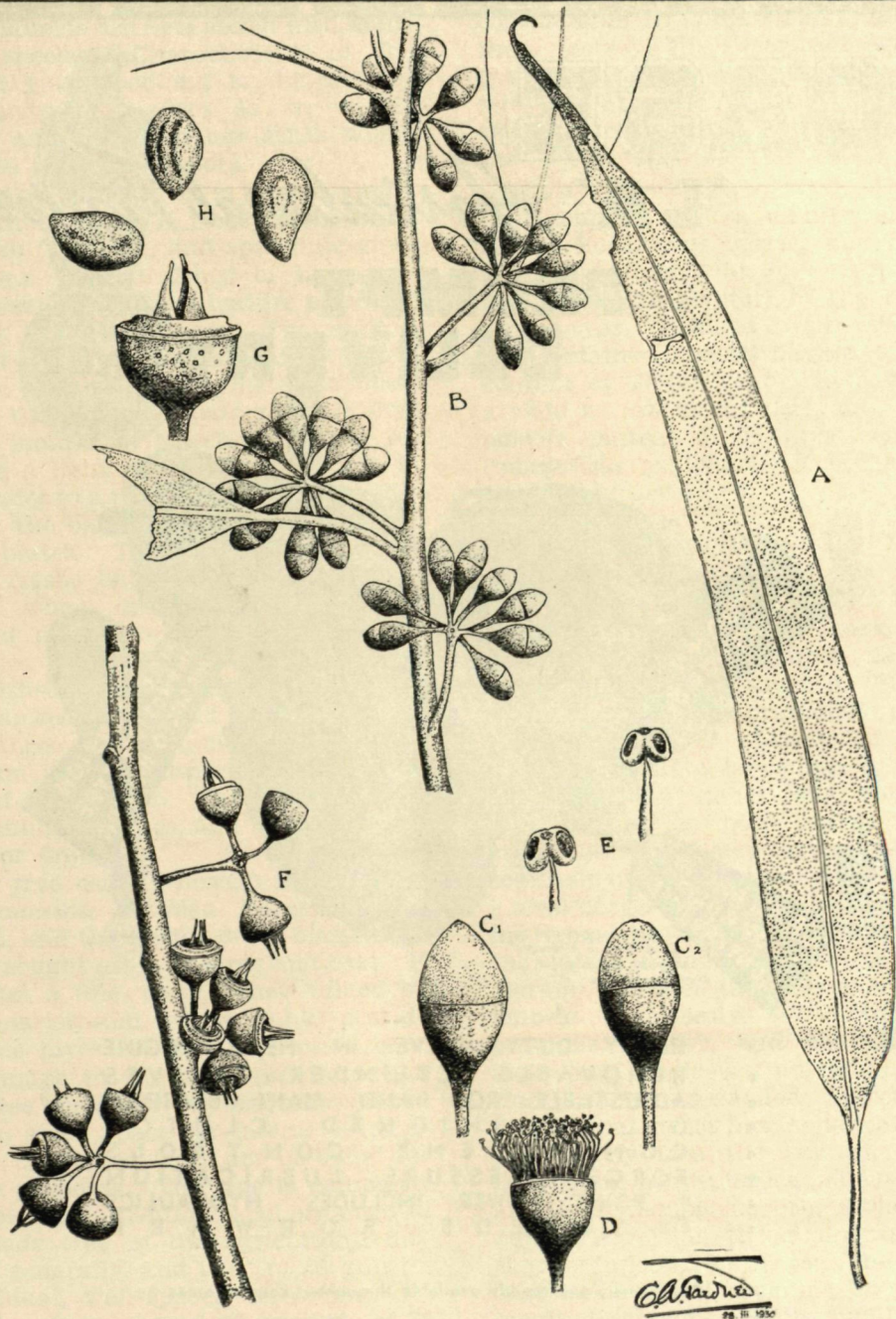
well-spaced, the trees branch widely and provide good shade. Of all the trees of the drier areas none is more suitable for planting or more decorative than the Salmon gum, if we except Eucalyptus Brockwayi, the "Red Mahogany" of the Norseman district.

HABITAT

The habitat of the Salmon gum extends from the Mullewa district southwards to the vicinity of Ravensthorpe and the Oldfield River. Its western boundary extends through Carnamah and Moora, thence to Seabrook, Brookton, Wagin and Gnowangerup, thence eastwards to Borden and Ravensthorpe. Its eastern limits are not well defined.

At Mount Gibson, in the Ninghan district, forest areas occur, and the tree is found commonly around Southern Cross and Kalgoorlie, and perhaps as far east as Goddard's Creek. It does not extend into South Australia. The township of Salmon Gums appears to be its southern limit on the Coolgardie-Esperance Railway, and it is found some little distance to the east of Norseman.

The tree occurs usually in pure stands forming open woodland formations in red loamy or light clay soils, sometimes mixed with gimlet, sometimes mixed with morrell and yorrel, or, in the East-



SALMON GUM (*Eucalyptus salmonophloia* F. Muell.). A—Leaf; B—Flower buds; C1 and C2—Flower buds showing variation in shapes; D—Flower; E—Anthers; F—Fruits; G—Fruit, showing detail; H—Seeds.

ern Goldfields districts mixed with many other species. Characteristic of the Salmon gum woodland is the absence or paucity of mallees as an understorey, and the open low scrub which provides the ground flora.

The Salmon gum is a tree attaining a height of up to 75 feet, with a trunk up to 40 feet long, and spreading-erect branches. Its burnished or lacquered, dark green foliage is a feature possessed by but few other trees. The bark is smooth throughout and rather thick, friable, and yellowish-pink. Its outer layers, then white or pale grey are shed in the months of March and April, revealing a light red new bark which in time fades to a pale pink or almost white colour, the old bark shedding in rather thick plates. The timber is deep red when fresh, but fades to a reddish-brown when dried. It is straight-grained and strong, and is used for domestic structural purposes, but will not withstand the ravages of termites. The sapwood is almost white. Trunks up to three feet in diameter are not uncommon in the southern regions of its area of distribution. The timber is used for mining purposes, and to a lesser extent for firewood.

The tree usually flowers in the summer months, between November and March, and the nectar of its blossoms is much sought after by birds and bees. It provides a fine, clear honey valued by the apiarist, and hollow trunks provide suitable hives for the naturalised bees.

Although in the woodland formation this tree has a narrow, umbrella-shaped crown, given space for lateral development, cultivated trees are of value for shade purposes. The tree is eminently suitable for cultivation as an ornamental or shade tree in the agricultural districts generally, and is of rapid growth. Individual, well-spaced trees may develop a crown spread of upwards of 30 feet, and such trees provide much shade. Under these conditions the Salmon gum provides superimposed leafy branches. The tree is shallow-rooted, and its roots extend radially from the stem for very

considerable distances. The presence of these roots in the superficial layers of the soil after the trees have been destroyed, has provided farmers with excellent firewood for many years after the destruction of the trees during clearing operations.

In common with a number of other inland Eucalyptus species the Salmon gum foliage yields an oil which is rich in cineole (Eucalyptol) of the cineole-pinene type. Yields of 3.6 per cent. have been obtained, the oil having a cineole content of 77 per cent., but some give a yield as low as 1.4 per cent., with a cineole content of 46.4 per cent. Its commercial exploitation has not been extensively developed.

BOTANICAL DESCRIPTION

An erect, smooth-barked tree up to 75 feet tall, the trunk up to 40 feet, and three feet in diameter; bark, thick, smooth and friable; timber, deep red, strong and straight-grained. Branches spreading-erect, the branchlets reddish, somewhat angular. Leaves on slender petioles, alternate, lanceolate or oblong-lanceolate, 3-5 inches long, thick, the same colour on both surfaces, dark green, lustrous, somewhat sickle-shaped, copiously oil-dotted, the midrib fine, the lateral nerves inconspicuous and diverging from the midrib at a wide angle, the intramarginal nerve close to the margin. Flowers in axillary or lateral umbels of usually 5-7 flowers, the peduncle slender, and less than one inch long; pedicels (individual flower-stalks) short and slender. Buds obovoid. Calyx-tube almost hemispherical, tapering shortly into the pedicel, smooth. Operculum hemispherical, about as long as the calyx-tube, smooth, obtuse. Stamens all fertile, the filaments white, sharply inflected in the bud, the anthers short and broad, opening in parallel longitudinal slits. Fruit small hemispherical, the capsule 3-4-valved, the valves prominently exerted within the narrow, flat, annular disc. Seeds small, ellipsoidal, reddish-brown. Cotyledons V-shaped.

No. 6—THE SCARLET PEAR GUM (*Eucalyptus Stoatei* C. A. Gardn.)

NAMED after the present Conservator of Forests in Western Australia (Mr. T. N. Stoate) who first secured specimens of this tree, the Scarlet Pear Gum ranks among the most decorative of the smaller *Eucalyptus* trees of Australia. Its stature and habit render it an ideal subject for street planting and for parks and gardens. Of erect habit and small size, its dense, dark green foliage and the brilliant scarlet buds and young fruits render it at once conspicuous and attractive, and it deserves a place in any garden.

It is especially recommended for planting in the agricultural areas as it appears to thrive in both sandy and loamy soils. Its denseness and low branching habit make it highly suitable for windbreaks.

When used as a street tree it is attractive in appearance and, as it does not usually attain proportions which would interfere with overhead wiring, lopping is seldom necessary.

Those desirous of establishing these trees should transplant them early in the season, not later than the end of April. In common with all other *Eucalyptus* species, the roots will not tolerate interference when transplanting, hence it is important that the soil surrounding the roots should not be disturbed in transit but should be conveyed, still enclosing the roots, to the new site.

Plants may be obtained from the Forests Department Nurseries, Kalgoorlie.

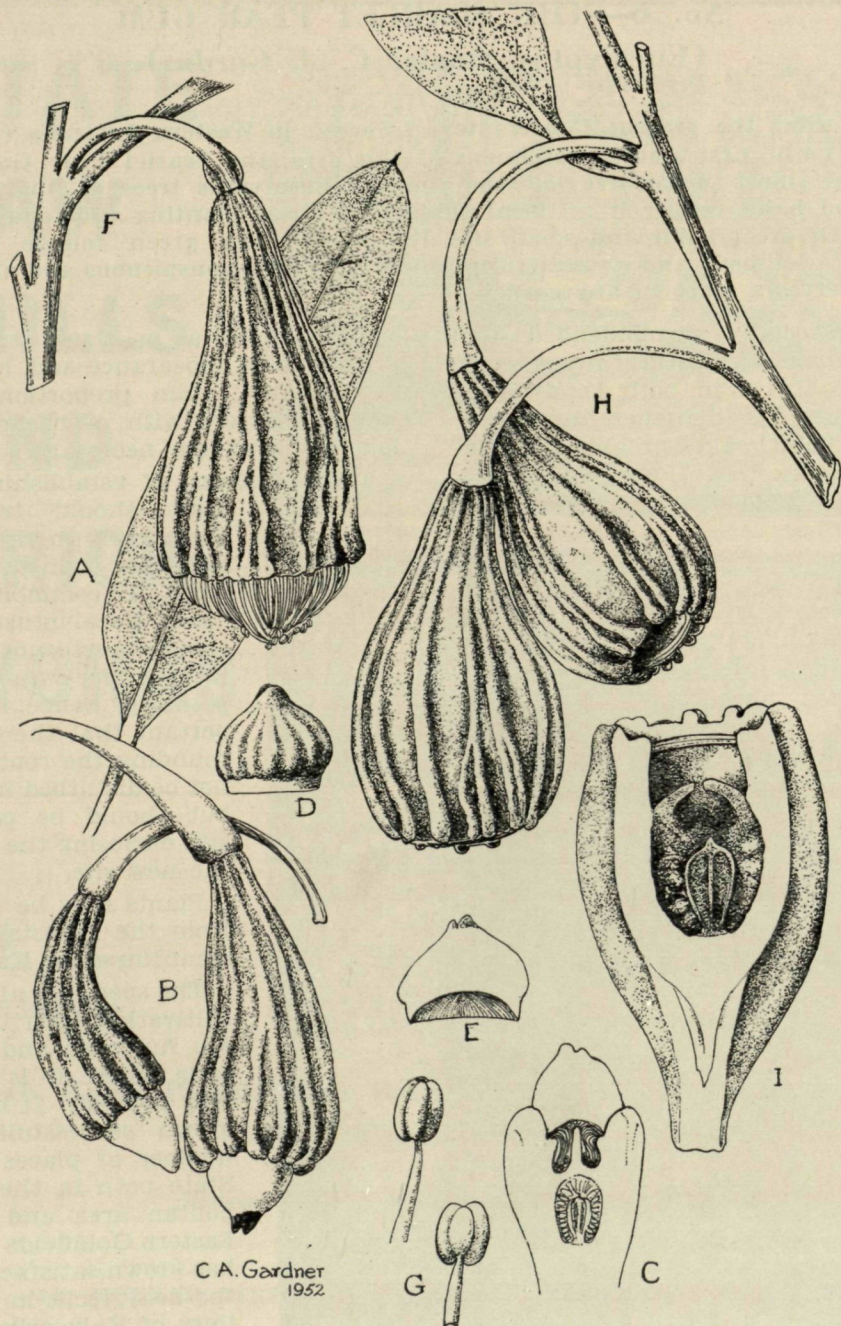
The species is already in cultivation both in Western Australia and in Victoria where it is proving very popular. It has been grown successfully in a number of places in this State both in the metropolitan area and on the Eastern Goldfields where it has grown satisfactorily in the heavy soils in the vicinity of Kalgoorlie.

HABITAT

The tree has been found in only one locality, an area to the east of Kundip,



A specimen of *Eucalyptus Stoatei* growing on the Kalgoorlie Reservoir site.



SCARLET PEAR GUM (*Eucalyptus Stoaleti* C.A. Gardn.). A—Leaf; B—Flower buds; C—Section of flower bud; D—Operculum; E—Longitudinal section of operculum; F—Flower; G—Stamens; H—Fruits; I—Longitudinal section of fruit. Icon. origin.

between Ravensthorpe and Hopetoun, in open scrub country on the tributaries of the Jerdacuttup River. The total area of its habitat is very small, amounting to but a few hundred acres. It has also been collected nearer Ravensthorpe, but the locality from which I first received the fruits remains obscure.

DESCRIPTION OF TREE

The tree attains a height of about 20 or 25 feet, with a single straight trunk and numerous short leafy branches making a compact, narrow and dense crown with dense branches and foliage. The leaves are alternate, stalked, the leaf-blade being oblong to oblong-lanceolate, thick, the same colour on both surfaces, deep green and somewhat lustrous, obtuse at the tip or with a short point, the lateral nerves indistinct and spreading, the intramarginal nerve distant from the thick, pale-coloured margin.

The flowers are produced singly on a long recurved flower-stalk which is broadened and flattened upwards or sometimes two-winged below the flower.

The buds are pear-shaped and up to two and a half inches long, conspicuously longitudinally and deeply ribbed, a number of the ribs often bifurcated upwards, and the operculum is ovoid-conical, usually black at the tip and often somewhat cleft, either smooth or somewhat ribbed, very thick, and inserted like a plug in the orifice of the calyx-tube. This thick, almost solid, operculum and its method of attachment are unique in the genus *Eucalyptus*.

The stamens are not numerous, and are deeply inserted in the calyx-tube, the yellow filaments being incurved in the bud and comparatively short. The fruit is pear-shaped, two to almost three inches long and up to two inches broad, scarlet when fresh, but becoming brown in age, conspicuously ribbed like the buds and calyx in flower, but more contracted at the orifice, the conspicuous ribs curving over to the orifice, the disc narrow and horizontal, the capsule 4-valved, deeply sunk with deeply included short valves. The fertile seeds are black, somewhat pyramidal, with an irregular wing.

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