

TREES OF WESTERN AUSTRALIA

By C. A. GARDNER, Government Botanist.

No. 28—FOUR NORTHERN BLOODWOODS

BLOODWOOD" is the name given to a number of trees which have certain characteristics in common. The bark varies from smooth throughout, or with small adherent spots or patches of reddish, subsistent bark to a rough, reddish-brown bark which is more or less friable, so that when rubbed by the hand, the surface layers become detached in the form of small fine splinters. The timber is red, and the leaves have either a widely divergent, almost transverse nerve pattern, or the venation is open and netted. The fruits are woody and globular to urn-shaped, with large, often winged seeds.

In the field, the many species of *Eucalyptus* are capable of a rough classification into groups according to bark. Although this character varies to a certain extent from district to district, or from one soil type to another, it does serve as the basis of a very useful classification. Thus the terms Ironbark, Box, Blackbutt, Bloodwood, Stringybark, Gums, and many others are used to designate groups of *Eucalyptus* species which have similar bark characteristics. Amongst the *Eucalyptus* species of the south-west the Marri (*E. calophylla*) represents an extreme form of Bloodwood. Jarrah (*E. marginata*) on the other hand is a typical stringybark while *E. patens* is a blackbutt.

The Bloodwood group consists very largely of species which are northern in distribution and their identification has long been a difficult matter. This is due mainly to the paucity of material available for study, as many of the species occur in inaccessible country where few botanical collections have been made. During recent years, however, field work in connection with the Kimberley Horse Disease investigations has presented an opportunity for extensive collections of these little-known species. These specimens, together with those obtained by the

botanists of the C.S.I.R.O. Land Research & Regional Survey Section, have now made possible a better understanding of this difficult group.

The greater number of *Eucalyptus* trees in our tropical areas are either gums, i.e. entirely smooth-barked trees, or bloodwoods, and they show a preference for the looser sandy soils. The species depicted here possess no common names, and so are referred to under their scientific nomenclature.

Eucalyptus setosa is a common bloodwood of the Pindan between Broome and Derby, but extends southwards to the Ashburton River. It is a small crooked tree rarely exceeding 20ft. in height, and receives its name "setosa" from the bristly hairs found on the younger foliage and flower buds. This character which is an unusual one in the genus, makes the species easily recognisable in the field.

Eucalyptus zygophylla is a larger tree found between Derby and Anna Plains on the 80 Mile Beach, but not extending far inland. It much resembles *E. setosa*, but has no bristly hairs, and the leaves have a close parallel secondary nervation. In both species the leaves possess no stalk. It is very close to *E. perfoliata* (illustrated in the last number), but the leaves are

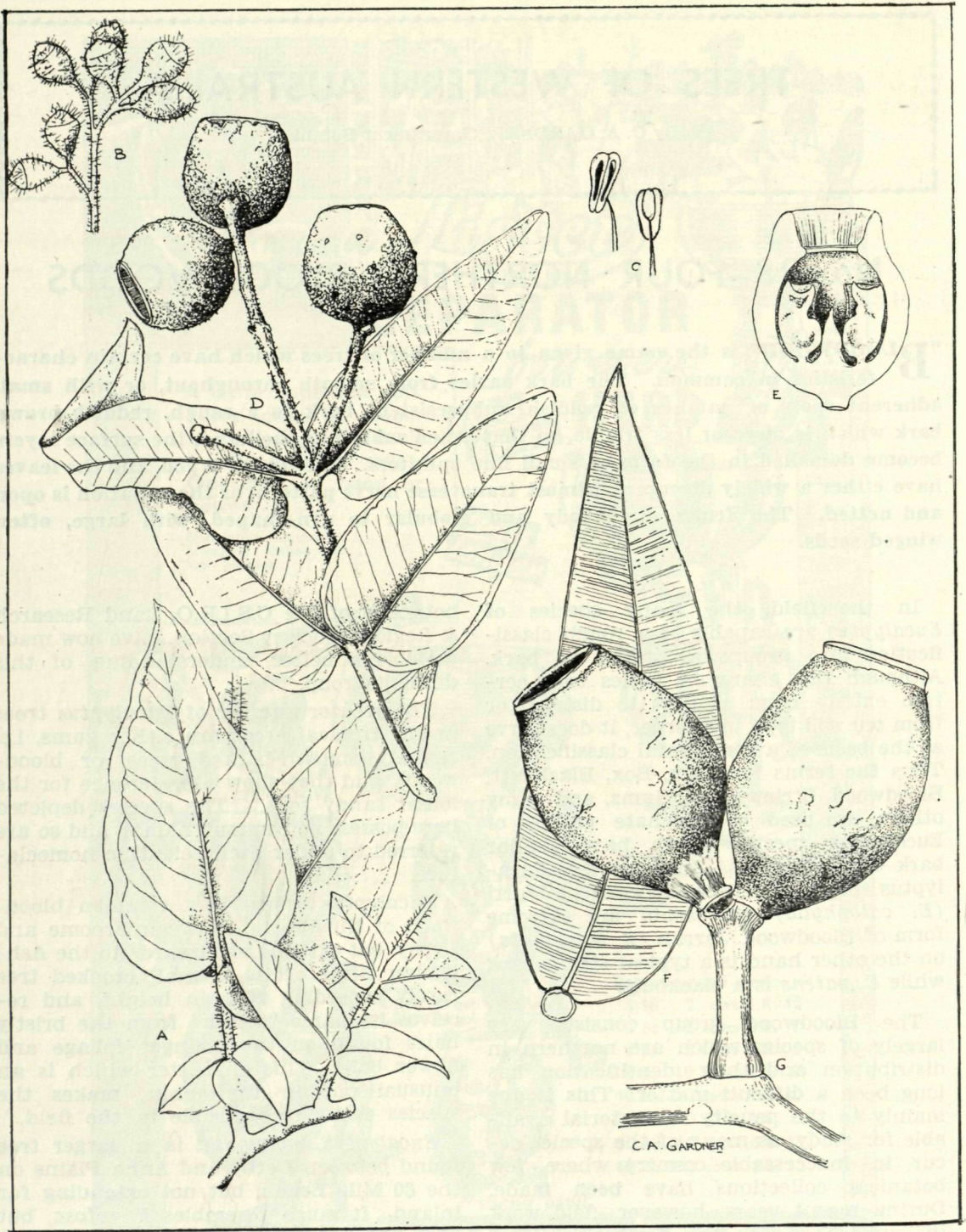


PLATE 1.—*Eucalyptus setosa* Schau. A—Young foliage; B—Buds; C—Anthers; D—Adult foliage and fruits;
 E—Section of fruit.
Eucalyptus zygophylla Blakely. F—Leaf; G—Fruits.

smaller and not united at the base, and it is a much larger tree, attaining a height of 40ft. or more. It is a common tree between Derby and Yeeda on the lower Fitzroy River.

The two species *E. ferruginea* and *E. abbreviata* appear to be restricted, in Western Australia, to the region of the Ord River. In these two species the leaves are a yellowish-green, and covered with a close reddish scurf, at least when young. The differences between the two are very slight, and somewhat inconstant. They would perhaps be best considered as one species under the name *E. ferruginea*. Both trees are small and straggling in growth with rough friable bark, and little is known of their occurrence and distribution in Western Australia.

BOTANICAL DESCRIPTIONS

Eucalyptus setosa Schau.

A small to medium-sized tree, 15-40 ft. tall; bark rough-scaly on the trunk and branches; timber reddish, moderately hard and tough.

Leaves opposite i.e. two leaves arising at the same level on the branchlet, thick, spreading stiffly, stalkless, and with the bases produced into stem-clasping lobes. Ovate to lanceolate in shape, more or less hairy and 2-4 inches in length and a little more than 1 inch in width. The midrib prominent, the secondary nerves diverging at an angle, the intramarginal nerve sometimes indistinct and close to the margin.

Umbels 2-3 flowered arranged in a corymbose inflorescence. Peduncles terete and not flattened, up to 1 inch in length and setose with bristly hairs. Buds globular to pyriform, pedicellate, thickly covered with bristly hairs, and approximately one half inch in length and width. Operculum (bud cap) hemispherical, not half as long as the calyx tube. Anthers rather large, oblong, lobed at the extremity, the cells splitting down the whole length when liberating the pollen.

Fruit ovoid to urn-shaped, up to one inch wide and long, and more or less rigid-hairy when young, but becoming glabrous, 3-5 locular, the valves deeply included. Flowering season May and June.

Eucalyptus zygomphylla Blakely.

A small to medium sized tree up to 40ft. tall, with persistent bark; branchlets terete and glabrous.

Leaves opposite, i.e. two arising at the same level on the branchlet, without stalks, and with the same basal lobes as *E. setosa*. Ovate-oblong to lanceolate, thick leathery, and without hairs, up to six inches in length and sometimes more than one inch in width. Midrib prominent, the secondary nerves fine and almost at right angles to the midrib, the intramarginal nerve fine and close to the margin.

Umbels 3-5 flowered arranged in a short terminal corymbose inflorescence, the peduncles elongated, robust and usually much enlarged under the fruit. Buds with a more or less turbinate calyx tube about half an inch in diameter, and with a short operculum or bud cap. Anthers smaller than those of the related species. Fruits woody, subglobose or urn-shaped, nearly two inches in length and 1 inch in width, with a very thick rim. 4-5 locular with deeply enclosed valves. Seeds with a long terminal wing. Flowering occurs during February.

Eucalyptus Ferruginea Schau.

A medium sized tree of 30-40ft. in height with a usually widely spreading crown. Bark on the trunk grey, shortly fibrous and flaky. Twigs, foliage and inflorescence covered with a close dense rusty-coloured indumentum of small, more or less branch or star-shaped scales mixed with short bristles, the indumentum tending to wear off with age, the plant then often becoming somewhat silvery.

Leaves opposite, without or with only short leaf stalks, lanceolate in outline with a lobed or heart-shaped base, up to 7 inches in length and two inches in width. The midrib prominent, the secondary nerves very few, curved, with smaller anastomosing nerves between them; intramarginal nerve not evident.

Umbels 3-6 flowered, in large, terminal, corymbose inflorescence. Buds scaly, more or less pyriform, up to one half inch in length, operculum short. Anthers obovate, attached by the middle, the cells long and broad. Fruit ovoid to cup-shaped with a

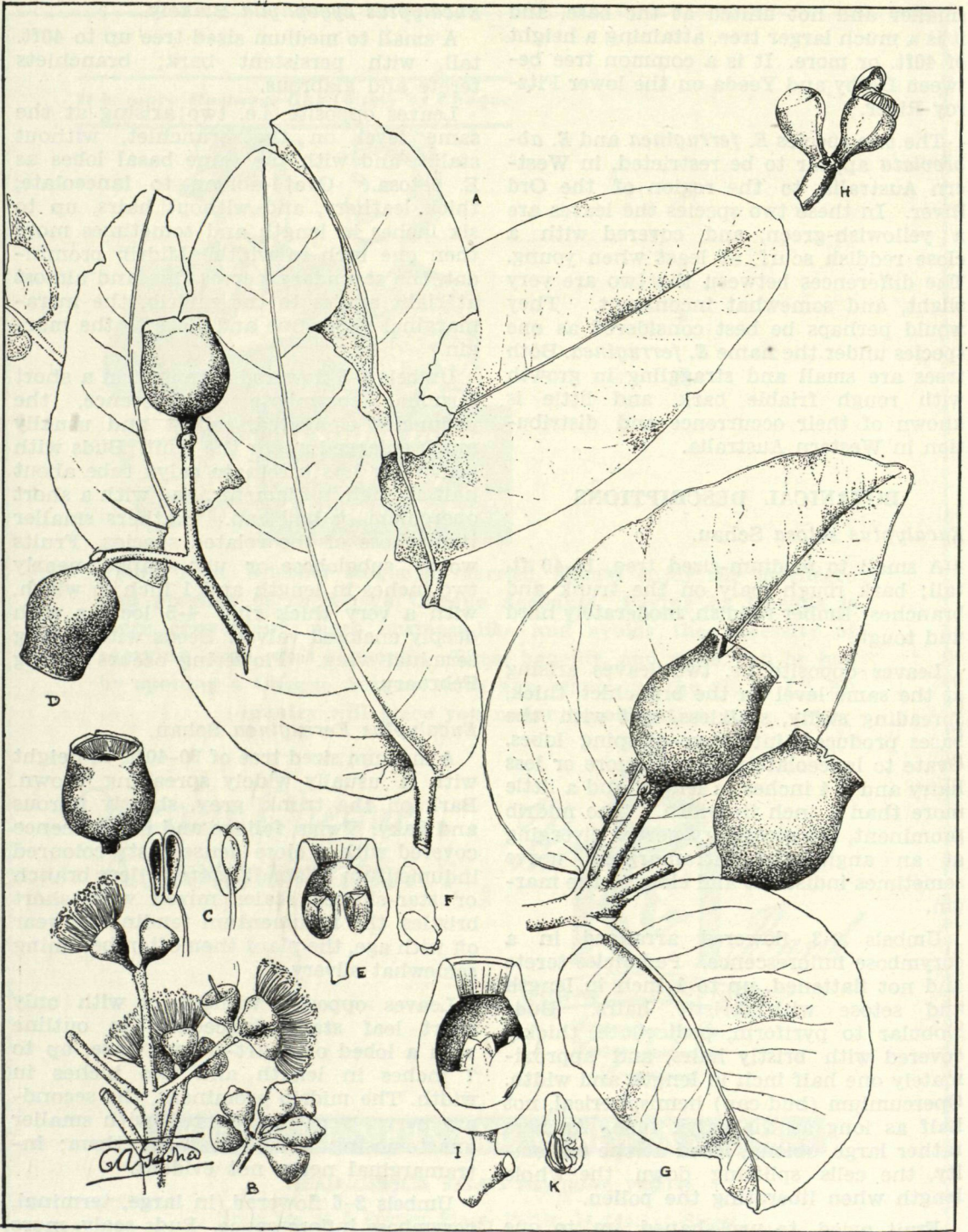


PLATE 2.—*Eucalyptus ferruginea*, Schau. A—Leaves; B—Inflorescence and flower-buds; C—Anthers; D—Fruits; E—Section of fruit; F—Seed (enlarged).
Eucalyptus abbreviata, Blakely et Jacobs. G—Branchlet with leaves and fruit; H—Flower-buds; I—Section of fruit; K—Seed (enlarged).

rather thin rim, 3-5 locular with deeply enclosed valves. Seed with a terminal wing. Flowering season January-February.

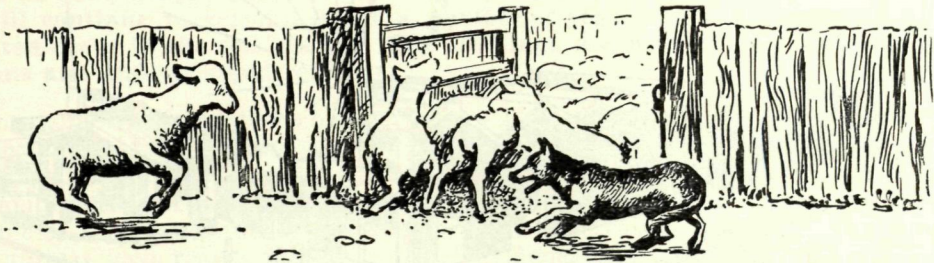
Eucalyptus abbreviata Blakely et Jacobs.

A small tree up to 20ft. in height with a deeply furrowed and flaky persistent bark. Timber dark red.

Leaves opposite, or more or less so, without stalk or very shortly stalked, thick, rigidly coriaceous, yellowish green, paler on the lower surface, and more or less covered with a fine rusty tomentum or almost glabrous, narrowly ovate to lance-

olate, 7-8 inches in length. Midrib distinct, the intramarginal nerve irregular, and close to the margin.

Umbels 3-5 flowered in an abbreviated corymb. Buds obovoid, slightly scurfy and about $\frac{1}{2}$ inch in length, with a short operculum. Anthers oblong, attached in the middle, the parallel cells opening in longitudinal slits. Fruit thick and woody, broadly urn-shaped, up to $1\frac{1}{2}$ inches in length with a thick obtuse rim; 4-5 locular, the valves deeply enclosed. Seeds with a terminal wing. Flowering season July and August.



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