

THE COMET VALE MALLEE

(*Eucalyptus comitae-vallis* Maiden)

A—Branchlets with buds, flowers and fruits; B—Branchlet with fruits; C—Flower-bud; D—Section of flower-bud; E—Stamens; F—Fruit; G—Section of fruit

[Comet Vale, Jutson (type)]

TREES

of Western Australia

By C. A. GARDNER, Government Botanist

No. 39—COMET VALE MALLEE (*Eucalyptus comitae-vallis* Maiden)

THIS mallee, formerly thought to be restricted to the Comet Vale district, must be very rare in that locality, since it is seldom found growing there, but on the other hand it has an extensive range, being found as far west as Perenjori. Kalannie and Kulja, thence eastwards to Comet Vale, and southward to Mount Holland which lies south of Southern Cross.

It is particularly common between Kulja and Mollerin, occurring as a mallee up to 20 ft. tall, with several stems from a large bulbous stock, or rarely with few stems, and still more rarely as a small tree. The bark of the upper stems and branches is smooth, grey and warm greenish-brown, thin and shedding in small flakes, whilst the bark of the lower parts is almost black and fibrous, flaky, and persistent. The foliage is a deep lustrous green except for one patch seen close to the Kulja townsite. In these specimens, the bark is totally rough—not unlike that of the trunk of a York-gum—and the leaves are broader than in the typical form, and a dull grey-green in colour.

The greatest variety is found in the bud-cap or operculum. The accompanying plate is taken from the original (type) specimen from Comet Vale, but between Kulja and Bodallin (on the eastern railway not far from Carrabin) the operculum

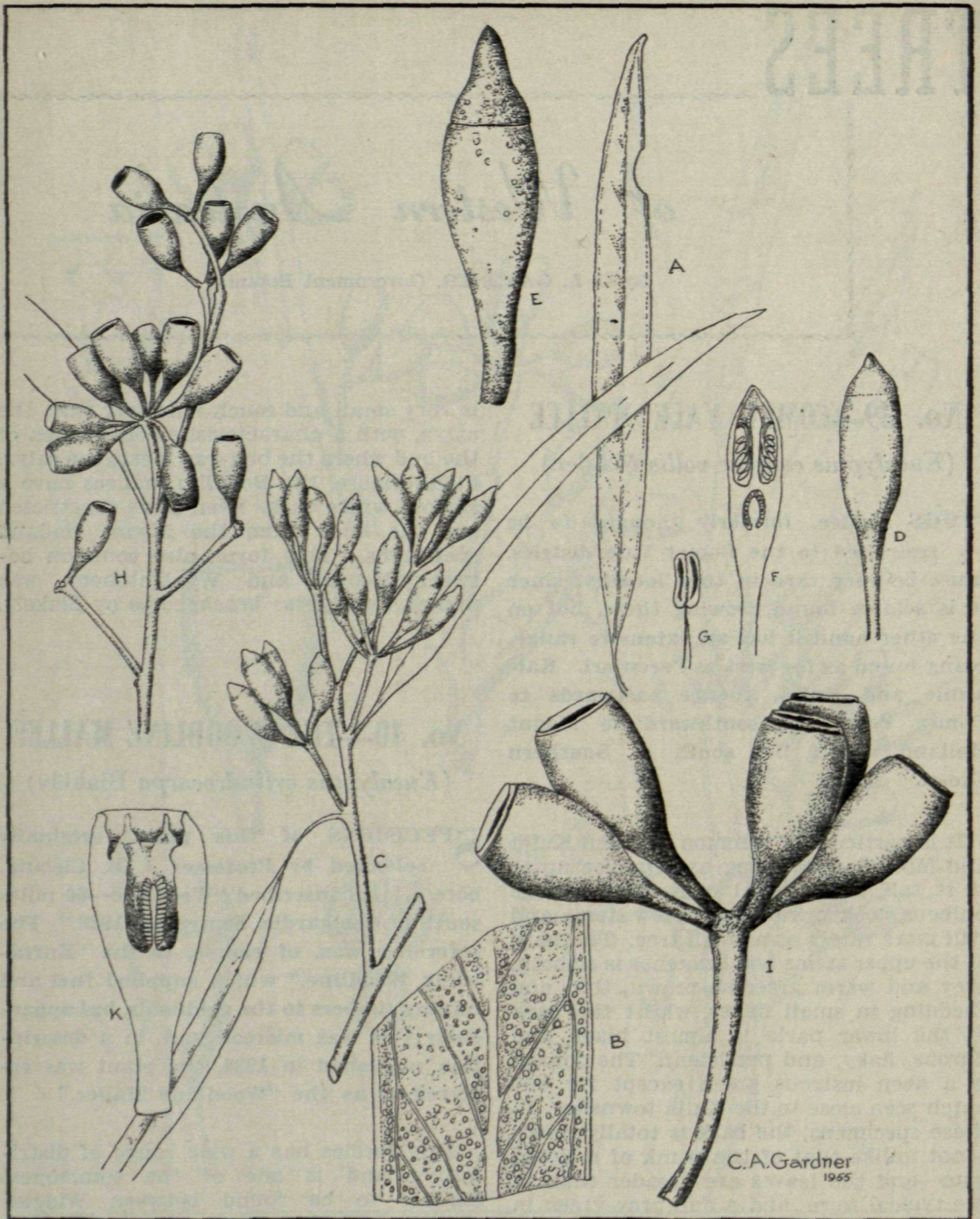
is very small and much narrower than the calyx, with a characteristic constriction of the bud where the bud-cap meets the calyx. Furthermore, the Bodallin mallees have a smooth white bark. Even more constricted are the buds from the Mount Holland specimens. This form, also common between Koorda and Wyalkatchem, was named *Eucalyptus brachycorys* by Blakely.

No. 40—THE WOODLINE MALLEE (*Eucalyptus cylindrocarpa* Blakely)

SPECIMENS of this plant, originally collected by Professor J. B. Cleland, bore a label inscribed "Woodline—60 miles south of Coolgardie, September 1926." The reference was, of course, to the "Kurrawang Woodline," which supplied fuel and mining timbers to the goldfields, but apparently this was misread and, in a description published in 1934, the plant was referred to as the "Woodbine Mallee."

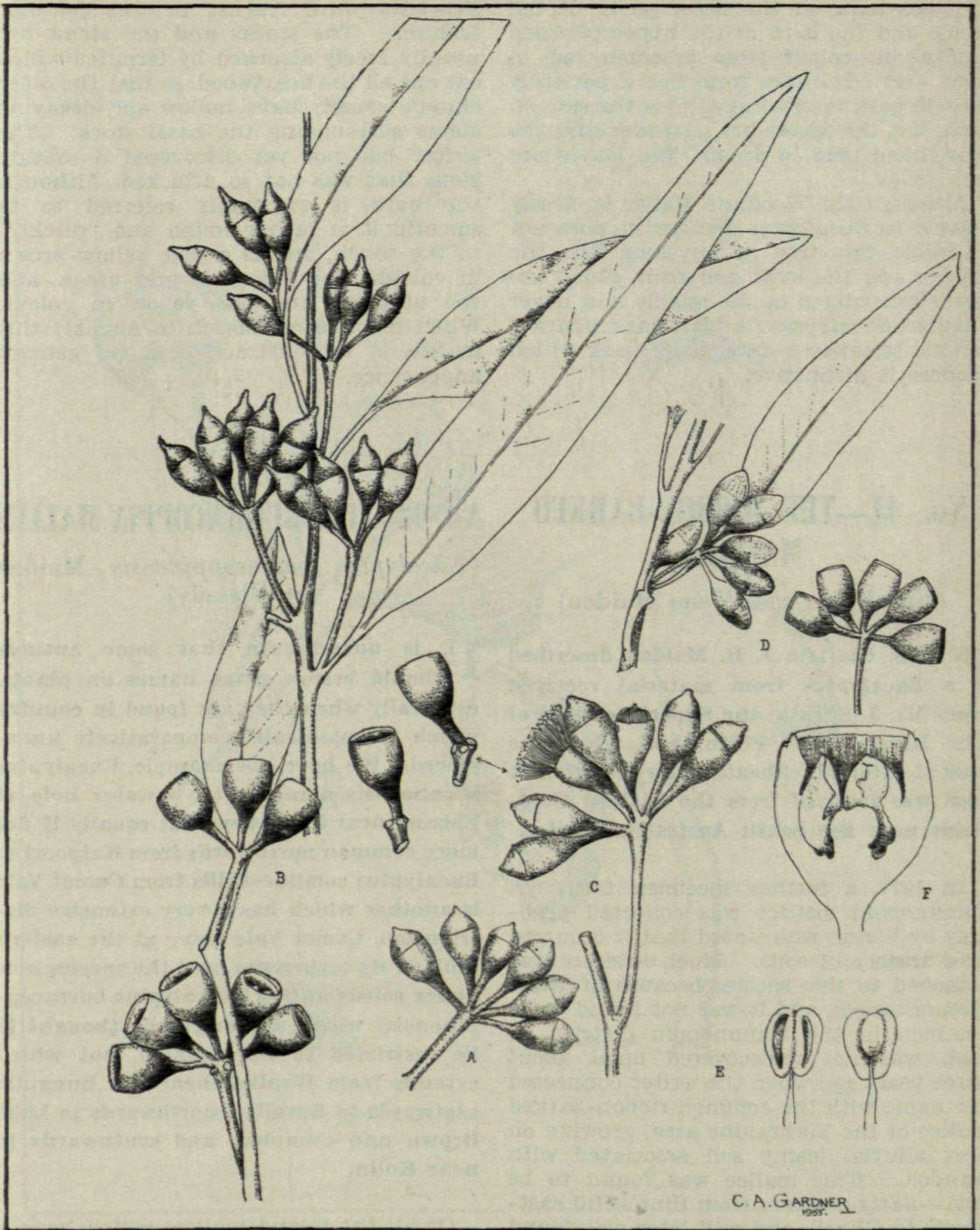
This species has a wide range of distribution and is one of the commonest mallees to be found between Widgimooltha and Kumarl, sometimes occurring as a tree not unlike the salmon gum, with which the mallee form is not uncommonly associated.

It extends eastward to Zanthus on the Transcontinental Railway. The typical form is a mallee about 18 ft. high with



THE WOODLINE MALLEE
(Eucalyptus cylindrocarpa Blakely)

A—Leaf; B—Portion of leaf with epidermis removed showing oil cavities and veins; C—Branchlet with flower-buds; D and E—Flower-buds; F—Section of flower-bud; G—Anther; H—Twig with fruits; K—Section of fruit.



THE RIBBON-BARKED MALLEE
(Eucalyptus Sheathiana Maiden)

A—Buds (King's Park, Perth—Sheath); B—Buds (near Nungarin—Brockway); C—Buds (Wyalkatchem—J. Reeves);
 D—Buds (Carrabin—Gardner 11828); E—Anthers from Sheath's specimens; F—Section of fruit (Gardner 11828)

a rough bark on the lower parts of the stems and the bark of the upper portions varying in colour from greenish red to light grey. The tree form has a perfectly smooth bark resembling that of the salmon gum, but the leaves are narrower and the branchlets tend to droop. The leaves are rich in oil.

Although the Woodline Mallee is closely related to *Eucalyptus Dundasi* it does not resemble this tree in anything but the foliage and the buds and fruit which are never constricted in the middle and never angular. *Eucalyptus Dundasi* has a characteristic tessellated dark green bark which renders it distinctive.

No. 41—THE RIBBON-BARKED MALLEE

(*Eucalyptus sheathiana* Maiden)

IN 1915, the late J. H. Maiden described a *Eucalyptus* from material received from Mr. J. Sheath, the Superintendent of The King's Park, Perth, and which he named after Mr. Sheath, who stated that seed was received from the Eastern Goldfields near the South Australian border.

In 1917, a further specimen from the Kununoppin district was collected probably by Victor, who stated that it occurred in a variety of soils. Much interest was attached to this species because of these circumstances, and it was not found to be common in the Kununoppin district, in fact, was not rediscovered until about three years ago when the writer connected the name with the common ribbon-barked mallee of the Yorkkrakine area, growing on grey alluvial loamy soil associated with wandoos. This mallee was found to be particularly common from Hine's Hill eastwards to Ghooli, and still later was found commonly around Nembudding.

The most peculiar feature of this species is the bark, which sheds in long ribbon-like flakes from the branches to the base of the stem, becoming free except at the top, and hanging for many weeks from

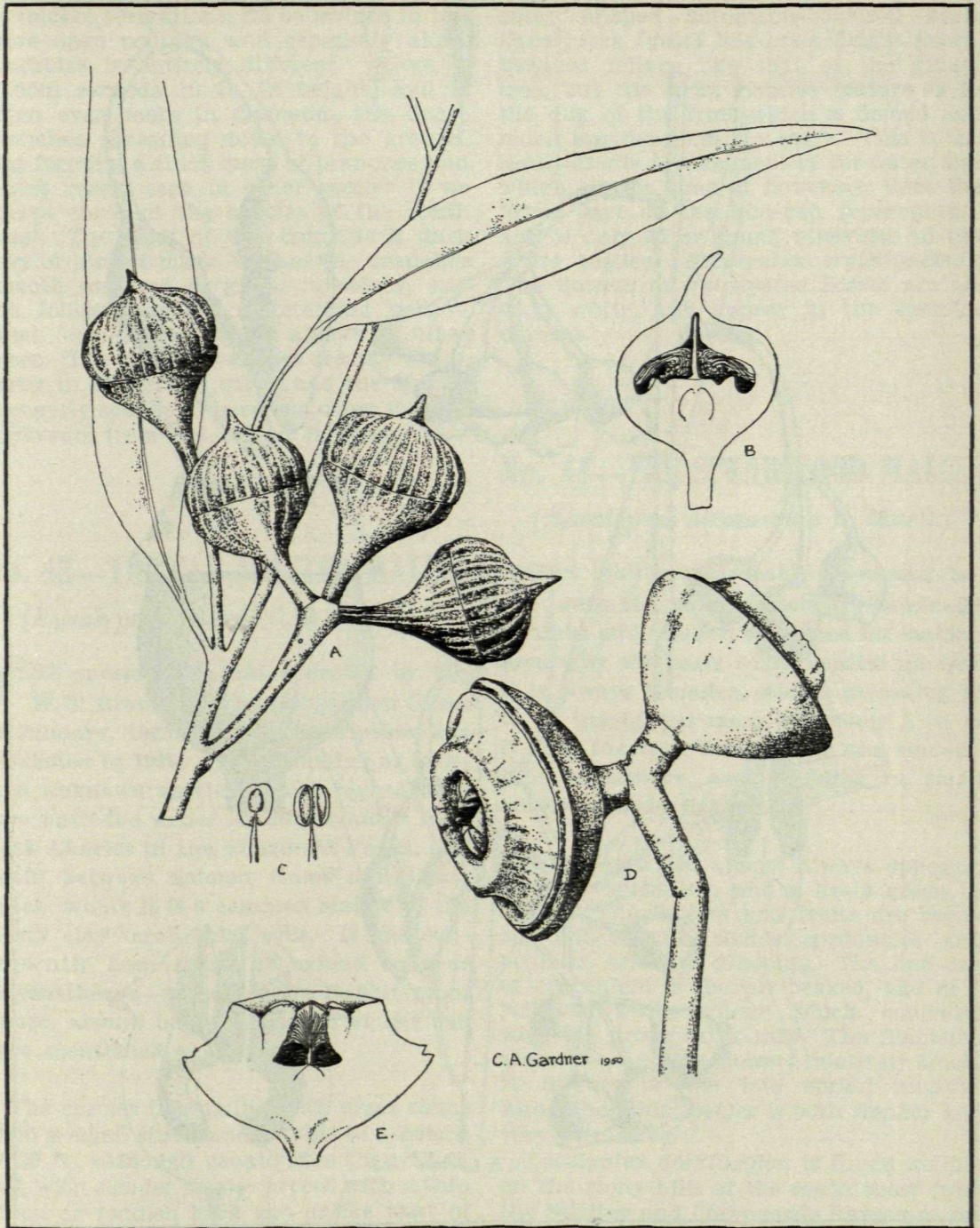
February until August in this peculiar fashion. The stocks and the stems are usually freely attacked by termites which eat out all the heartwood, so that the older clumps usually have hollow and decaying stems surrounding the basal stock. The writer has not yet discovered a mature stem that was not so attacked. Although the bark is commonly referred to as smooth, it is rather rough and "prickly" to the touch, and is a pale yellow-brown in colour. The foliage is grey-green, and the blossoms are pale yellow in colour. When in blossom (March to August) this mallee is very attractive in its general appearance.

No. 42—THE BURRACOPPIN MALLEE

(*Eucalyptus burracoppinensis* Maiden
et Blakely)

IT is unfortunate that some authors should bestow place names on plants, especially when they are found in country which is botanically comparatively unexplored. We have, for example, *Eucalyptus ebbanoensis* named after a water hole at Ebbano near Mingenew, but equally if not more common northwards from Kalgoorlie; *Eucalyptus comitae-vallis* from Comet Vale is another which has a very extensive distribution, Comet Vale being at the eastern limit of its occurrence, and the species now under consideration (*Eucalyptus burracoppinensis*) which was originally thought to be restricted to Burracoppin, but which extends from Wyalkatchem and Bungulla eastwards to Karallee, northwards to Lake Brown and Campion, and southwards to near Kulin.

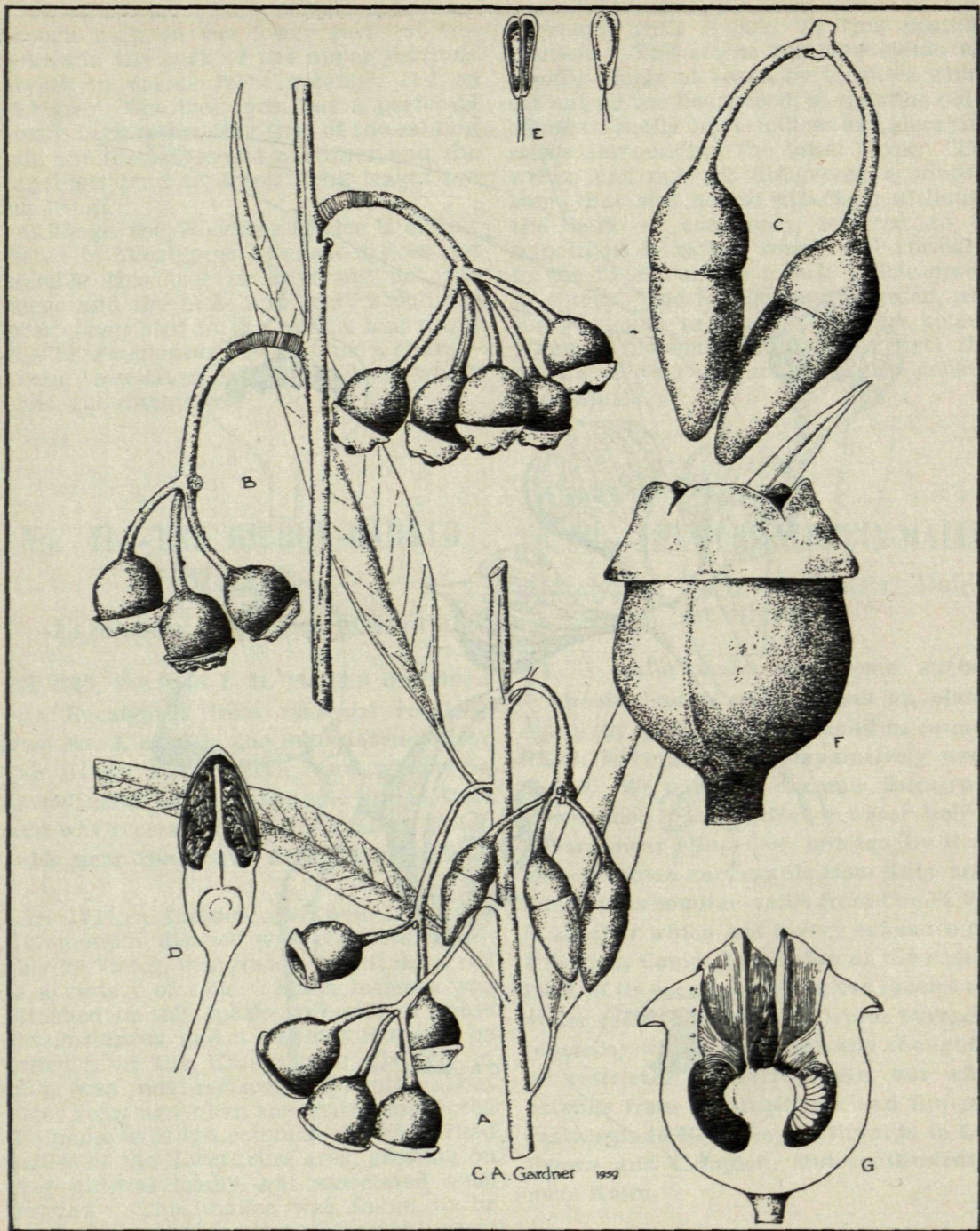
Of all the inland mallees which have a place in agricultural development as plants for windbreak purposes, this mallee should be of paramount importance in inland localities. Although in its natural state it may attain a height of nearly 18 ft. with erect rigid branches when growing



THE BURRACOPPIN MALLEE

(*Eucalyptus burracoppinensis* Maiden et Blakely)

A—Twig with leaves and flower-buds; B—Flower-bud in section; C—Anther (enlarged); D—Fruits; E—Section of fruit



THE CAP-FRUITED MALLEE

(Eucalyptus Dielsii C. A. Gardn.)

A and B—Branchlets with flower-buds and fruits; C—Flower buds; D—Section of flower-bud; E—Anthers; F—Fruit; G—Section of fruit. (C, D, E, F and G variously enlarged)

[Icon origin.]

in thicket formations, its behaviour in the more open country, and especially along roadsides is entirely different. Here it seldom exceeds 10 ft. in height, and is often even more in diameter, the dense branches spreading down to the ground, and forming a thick mass of branches and leaves rarely seen in other species if we except some of the species of the south coast. The bark of the trunk is a dark grey or almost black, that of the branches smooth and red or green in colour, and the foliage has a characteristic yellow-green colour, sometimes almost a blue-green. The large flowers are creamy white, borne in clusters of three, and the species is eagerly sought by bees and other insects. It flowers from October to January.

No. 43—THE CAP-FRUITED MALLEE (*Eucalyptus Dielsii* C. A. Gardn.)

THIS species was first collected by Mr. W. T. Brown, a farmer of Salmon Gums in January, 1925, and the description was published in 1926. Like a number of hitherto unknown species it was regarded as rare until the writer in 1929 found it near Peak Charles in the Fitzgerald Peaks, and again between Salmon Gums and Grass Patch, where it is a common mallee of the heavy clay "crab-hole" soils. It has subsequently been found to extend to near Ravensthorpe—at least to the Rabbit-proof Fence, always being indicative of the soil type mentioned.

The species is a mallee with erect stems from a small stock, and attains to a height of 20 ft., although usually less than 12 ft. tall, with slender stems covered with a thin green or reddish bark not unlike that of the gimlet. It is interesting to associate types of bark with different soil conditions, since there is a definite connection with many species, particularly those of the heavy clay soils and those restricted to granite outcrops, the latter frequently having a green inner bark overlaid by an

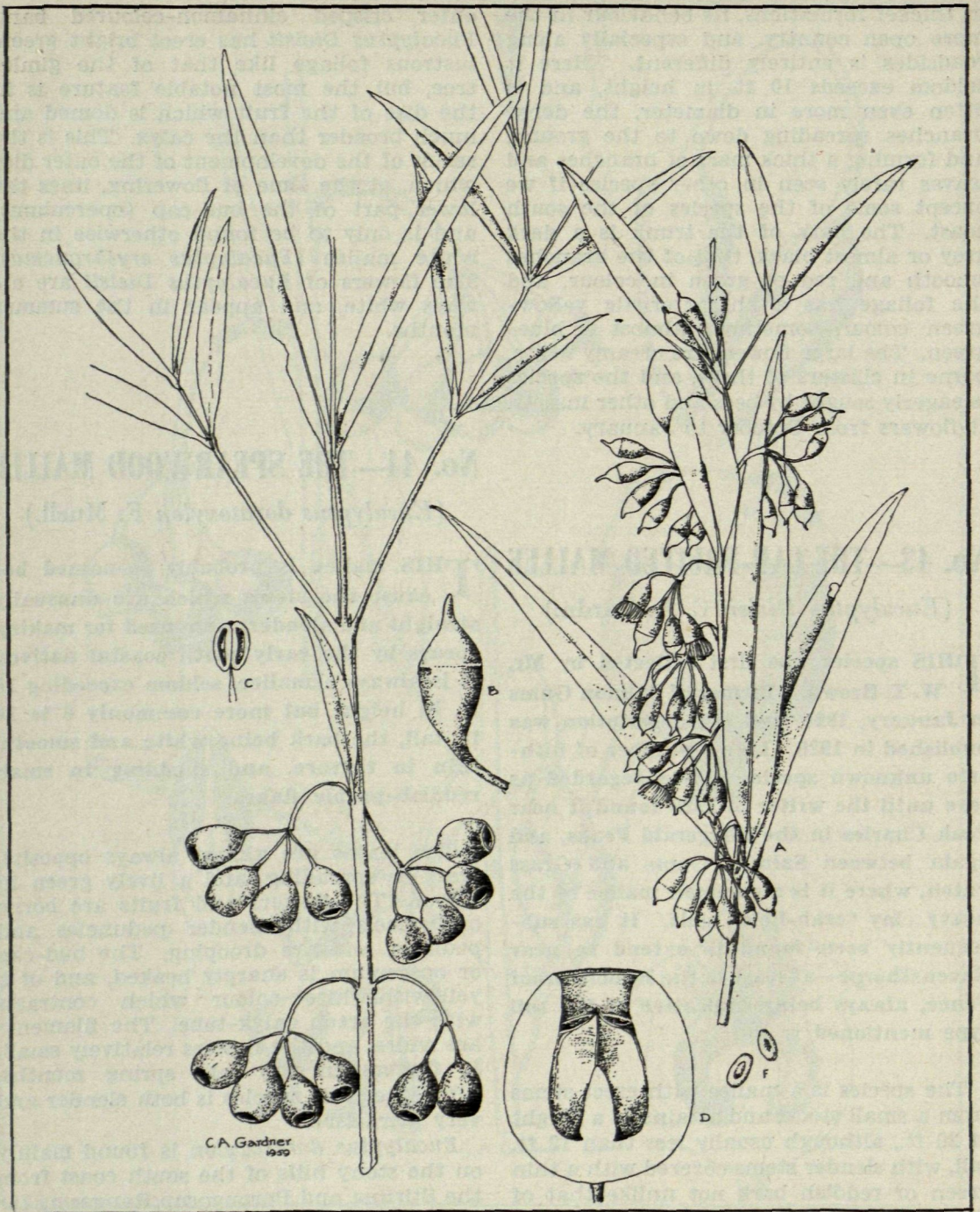
outer crisped cinnamon-coloured bark. *Eucalyptus Dielsii* has erect bright green, lustrous foliage like that of the gimlet tree, but the most notable feature is in the disc of the fruit which is domed and much broader than the calyx. This is the result of the development of the outer disc which, at the time of flowering, lines the lower part of the bud-cap (operculum), and is only to be found otherwise in the white mallee (*Eucalyptus erythronema*). The flowers of *Eucalyptus Dielsii* are always white, and appear in the summer months.

No. 44—THE SPEARWOOD MALLEE (*Eucalyptus doratoxylon* F. Muell.)

THIS mallee is probably so-named because the stems which are unusually straight and slender, were used for making spears by the early south coastal natives. It is always a mallee, seldom exceeding 15 ft. in height but more commonly 6 to 10 ft. tall, the bark being white and smooth, thin in texture, and shedding in small reddish-purple flakes.

The leaves are almost always opposite, erect or spreading, and a lively green in colour. The flowers and fruits are borne on umbels with slender peduncles and pedicels, and are drooping. The bud-cap or operculum is sharply beaked, and of a yellowish-white colour which contrasts with the green calyx-tube. The filaments are white, and the flowers relatively small. It flowers in the late spring months. Altogether this species is both slender and very attractive.

Eucalyptus doratoxylon is found mainly on the stony hills of the south coast from the Stirling and Porongorup Ranges as far eastward as Cape Arid and the Russell Range. It exhibits a preference for protected situations in rocky places, either in granite, sandstone or quartzite, and ascends the Stirling Range to an altitude of 3,000 feet, and to the summits of the Barren Mountains to the east.



THE SPEARWOOD MALLEE
(Eucalyptus doratoxyloides F. Muell.)

A—Branchlet with leaves and flower-buds; B—Flower-bud; C—Anther; D—Fruit in section; F—Seeds
 [Toolbrunup, Gardner]

No. 45—THE APPLE MALLEE

(*Eucalyptus buprestium* F. Muell.)

ABOUT the year 1862, G. Maxwell, who was collecting for Baron von Mueller, Government Botanist of Victoria, collected this mallee on the Kalgan Plains between Ellen's Peak and the Pallinup River. He noted that the flowers attracted large numbers of jewel beetles (Buprestidae) and thus Mueller gave the species the name *buprestium*.

Apparently it was not at the time known that most of our summer-flowering mallees commonly attract species of *Stigmodera* in large numbers and of many species, so that the name given to this plant is not very appropriate. On the other hand, the fact that this *Eucalyptus* has a remarkable characteristic in that the small globular apple-like fruits remain soft until the seeds are ripe, suggests the common name given above.

Eucalyptus buprestium has a somewhat restricted range in the south, being found only around the Stirling Range, on both the north and south sides, but more commonly to the south. It is found in sandy places, and may reach a height of 15 ft., but is commonly much smaller (6 to 8 ft.) with thin erect stems and a pale yellow smooth bark, although the branchlets are purplish. The small leaves are thin, bright green in colour, and prominently and openly veined. The small flowers are white and the globular fruits have a deeply immersed capsule. It is related to the coastal blackbutt (*Eucalyptus Todtiana*), (but is never a tree just as the latter is never a mallee), and has a characteristically rough prickly bark and thicker pale leaves. The species, apart from the range given, occurs in a few places to the north. Mr. D. H. Perry found it on the Mundaring Catchment Area in 1952, and Mueller records it from the Arrowsmith River.

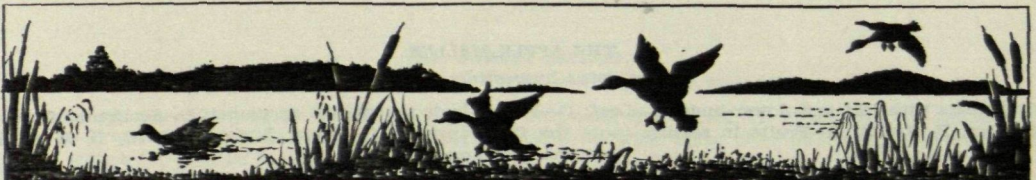
No. 46—THE GOBLET MALLEE

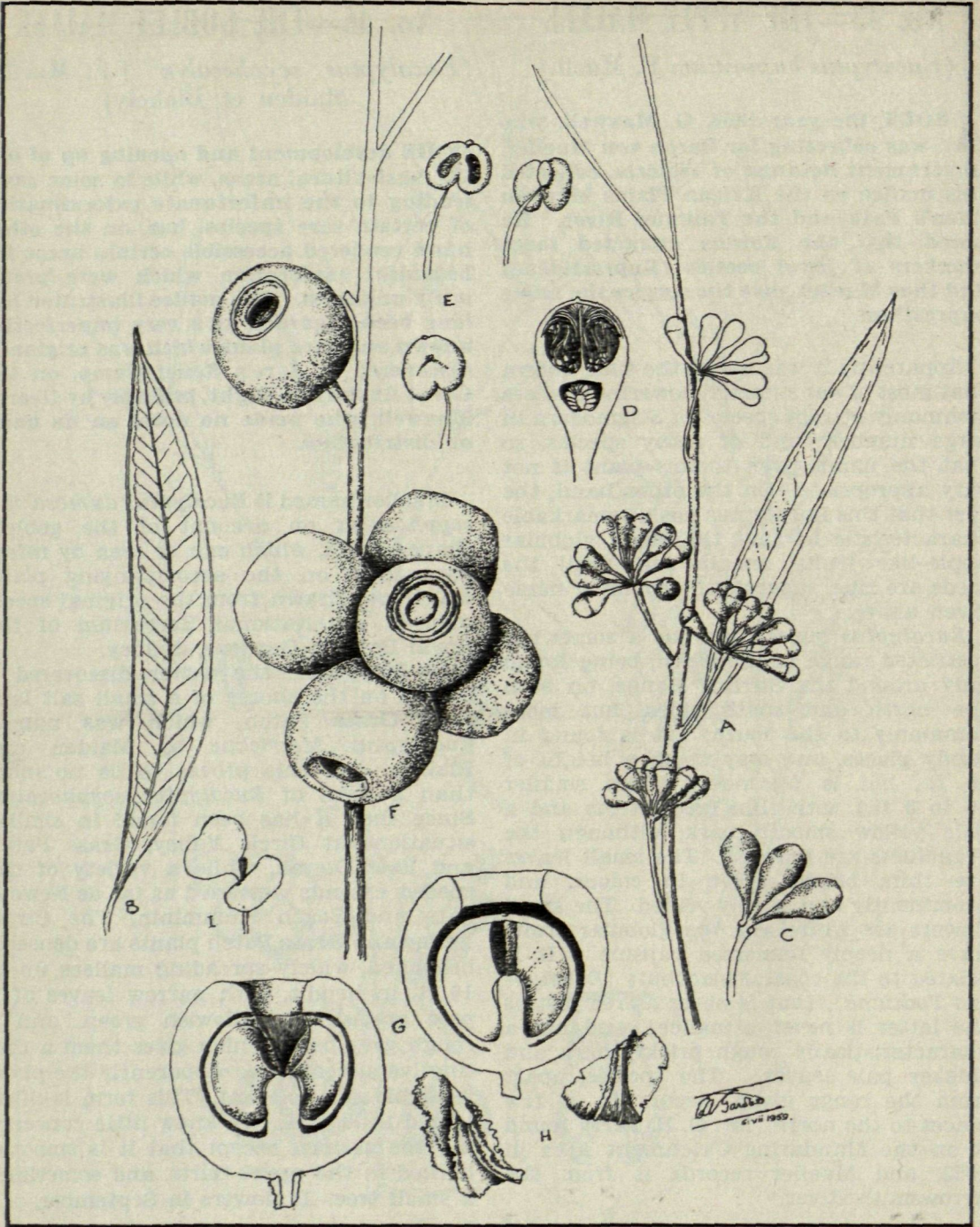
(*Eucalyptus scyphocalyx* [F. Muell.]
Maiden et Blakely)

THE development and opening up of our agricultural areas, while in some cases leading to the unfortunate extermination of certain rare species, has, on the other hand rendered accessible certain areas for botanical exploration which were previously unknown. The mallee illustrated has long been regarded as a very imperfectly-known and rare plant which was originally discovered at Eyre's Relief Camp, on the Great Australian Bight, probably by George Maxwell, who made no notes on its habit or distribution.

Mueller named it *Eucalyptus dumosa* var. *scyphocalyx* on account of the goblet-shaped calyx, which can be seen by reference to A on the accompanying plate, which was drawn from the original specimen in the National Herbarium of the Royal Botanic Gardens, Sydney.

In May 1924, the writer discovered a mallee on the shores of a small salt lake near Grass Patch, which was named *Eucalyptus Merrickae* by Maiden and Blakely, and this proves to be no more than a form of *Eucalyptus scyphocalyx*. Since then it has been found in similar situations at Circle Valley, Grass Patch and East Dowak, while a variety of the species extends westward as far as Newdegate and South Kuminin, The Circle Valley and Grass Patch plants are densely-branched, widely-spreading mallees up to 10 ft. in height, with narrow leaves of a pale greyish or yellowish green, and a rough grey bark, which gives them a distinctive appearance. Apparently the plant is highly salt-tolerant. This form is illustrated in E to K. We know little concerning the variety, except that it is smooth-barked in the upper parts, and sometimes a small tree. It flowers in September.



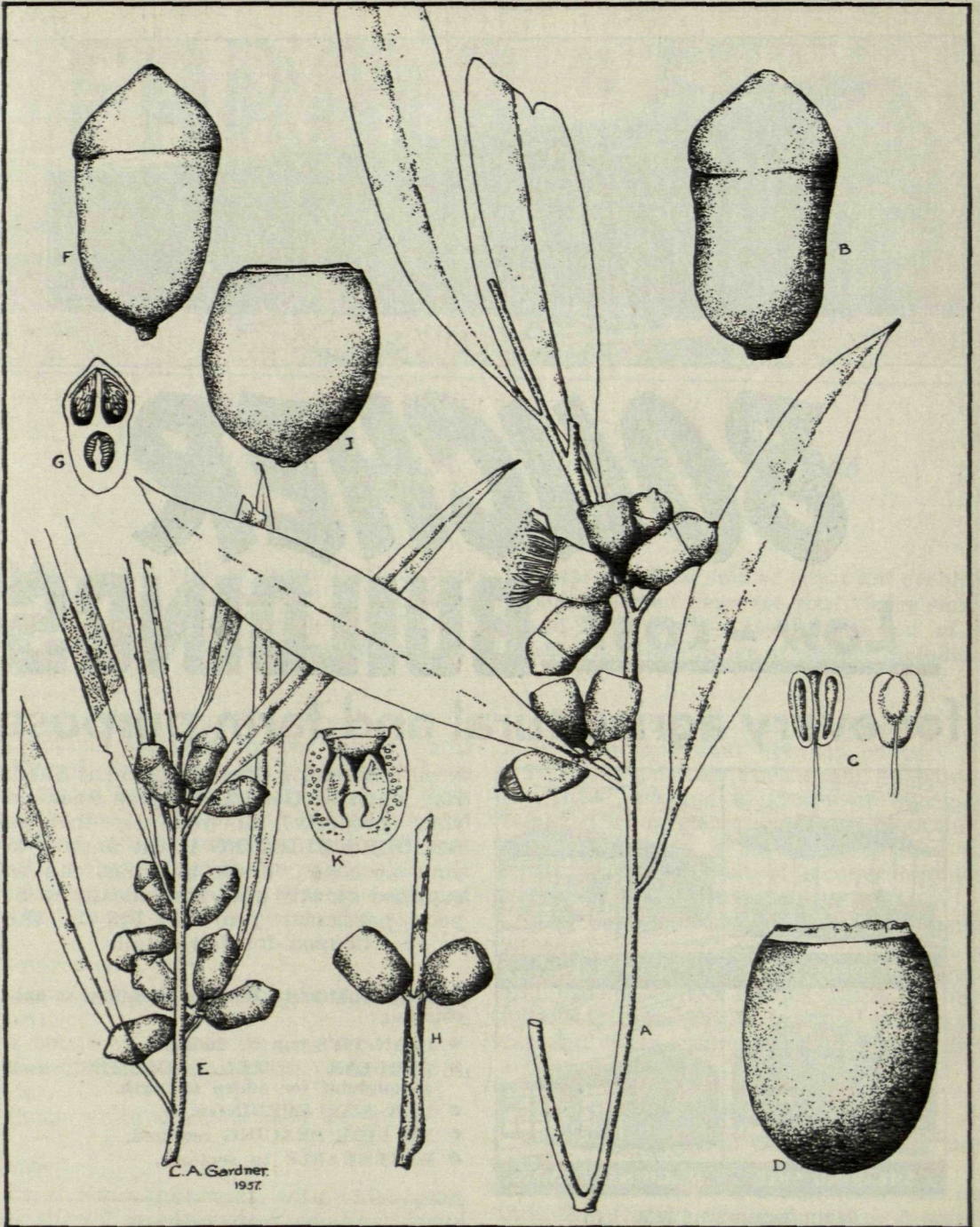


THE APPLE MALLEE

(*Eucalyptus duprestium* F. Muell.)

A—Branchlets with leaf and flower-buds; B—Leaf; C—Flower-buds taken from an umbel; D—Section of flower-bud; E—Anthers; F—Fruits; G—Fruits in section (note the free capsule); H—Seeds; I—Seedling; (C, D, E, G and H variously enlarged)

[icon origin.]



THE GOBLET MALLEE

(*Eucalyptus scyphocalyx* [F. Muell.] Maiden et Blakely)

A-D—The type specimen from Eyre's Relief; A—Branchlet with buds and flowers; B—Flower-bud; C—Anthers (after Flockton); D—Fruit; (E to K—The Grasspatch form); E—Branchlet with buds; F—Flower-bud; G—Flower-bud in section; H—Fruits; I—Fruit; K—Section of fruit (B, C, D, F, G and I variously enlarged)

[Icon. origin.]