

## NOTES ON EUCALYPTUS, No. IX.

(WITH DESCRIPTIONS OF THREE NEW SPECIES).

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*[Read before the Royal Society of N. S. Wales, November 3, 1920.]*

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## EUCALYPTUS ADJUNCTA n. sp.

Arbor alta, "Grey Gum," ligno atro-rubeo. Foliis maturis petiolatis lanceolatis, rectis vel falcatis, venis secundariis patentibus non prominulis. Alabastris axillaribus, umbellis 3-floris in duobus paribus, pedunculis pedicellisque gracilibus, calycis tubo obconico, operculo rostrato 1 cm. longo. Fructibus hemispherico-conoideis, ca. 1 cm. diametro, calycis tubo læve margine distincta, capsulæ valvis valde exsertis.

A tall tree of 70 or 80 feet, with a diameter of 3 or 4 feet (Andrew Murphy); the bark smooth, and somewhat rough in patches, like that of a Grey Gum; timber deep red.

*Juvenile leaves.* What are known as "suckers" (adventitious shoots) are not available, but a young seedling with leaves of medium width.

*Mature leaves* small (as far as the material is available),<sup>1</sup> petiolate, lanceolate, straight or falcate, tapering gradually to the apex, without lustre, secondary veins not prominent, spreading, the midrib and marginal vein pink in colour.

*Buds* axillary, usually in two pairs of three flowered umbels, peduncles slender, 1 cm. long and more, decurved,

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<sup>1</sup> The original material was mislaid. When subsequent search was made for the original trees it was found that the group of three had been destroyed in the widening of the Line, and others have not yet been found. The belated description is published now, in the hope that other trees may be traced.



pedicels slender, of half that length, calyx-tube smooth, obconical, 5 mm. long, 7 mm. broad, terminating somewhat abruptly in the pedicel; operculum rostrate, 1 cm. long. Anthers long, white, opening in parallel slits, gland at back, versatile.

*Fruits* hemispherical-conoid, about 1 cm. in diameter, calyx-tube smooth, with distinct, domed rim, the valves of the capsule 3 or 4 and well exsert.

#### *Range.*

Close to the bank of a fresh-water creek near the eastern side of the railway line, about three-quarters of a mile from Wyee Railway Station, towards Morrisset. Wyee is 71 miles north of Sydney and 33 miles south of Newcastle, New South Wales.

The species has been temporarily lost, so we must postpone further notes as to its range. It has probably been confused with other Grey Gums in well-watered littoral districts of New South Wales and Queensland.

#### *Affinities.*

Its position seems to be between *E. longifolia* Link and Otto and *E. punctata* DC., but to come nearer to the former. The timber seems to be nearer *E. longifolia* in texture and colour, although that of *E. punctata* runs it closely. As regards the bark, while *E. punctata* is consistently a Grey Gum, one may have logs showing that the woolly bark (woolly-butt) of *E. longifolia* almost disappears, showing bark intermediate between a Grey Gum and a Woolly-butt. *E. adjuncta* is a Grey Gum.

1. With *E. longifolia* Link and Otto. For *E. longifolia* see Part xx, plate 86 of my "Critical Revision." There is similarity in the pink veins of the leaves and in the three-flowered umbels and in the timber. There are differences in the larger leaves of *E. longifolia*, in the (as a rule)



smaller flowers, in the absence or almost absence of exsertion of the valves and in the roughness of the bark.

2. With *E. punctata* DC. Originally *E. adjuncta* was sent as "bark and timber not to be distinguished from *E. punctata*." For *E. punctata* see Part xxix, plates 121, 122 of my "Critical Revision," where it will be seen that the peduncles and pedicels are thicker, the flowers are more in the umbel, the buds different in shape, and the fruits different.

#### EUCALYPTUS NOTABILIS n. sp.

Arbor mediocris pulchra umbrosa, cortice lamelloso-fibrosa "Mahogany" simile, ligno pallido rectis fibris duro. Ramulis quadrangulatis. Foliis juvenilibus lanceolatis, petiolatis, pallidis inferiore pagina, venis secundariis fere parallelibus. Foliis maturis crassis, coriaceis, lanceolatis, rectis vel falcatis, penniveniis. Alabastris ad 9 capitulo, pedunculo lato fere sessile, calycis tubo hemispherico ad hemiellipsoides, angulis duobis prominulis. Fructibus fere hemisphericis, ca 7 mm. diametro angulis vel alis duobus, margine distincta, valvis valde exsertis.

A tree of moderate size, say about 50 feet, with a diameter of 4 to 5 feet. It has rich dark umbrageous foliage, and is a handsome species.

Bark flaky-stringy, or fibrous-flaky in young trees. It is rough to the tips of the branches, and the trunk does not display corrugations of the bark. Timber pale-coloured (of the palest brown when freshly cut), straight grained, a good splitter and possessing a fair degree of tensile strength.

*Juvenile leaves.* Young branchlets markedly quadrangular, leaves very thin, pale on the underside, punctate, lanceolate, petiolate (say 10 or 11 cm. long, 3 or 4 cm. broad with petioles of 1 cm. and more), secondary veins thin, roughly parallel, rather spreading, making angles of 60–80 degrees with the midrib, a few nearly at right angles; intra-marginal vein well removed from the edge.



*Mature leaves* thick, coriaceous, of egg-shell lustre on the upper, but dull on the lower surface, lanceolate, straight or falcate, tapering into a long apex, petiolate, up to 14 cm. long and more, up to 4 cm. in greatest width, with petioles of 2 cm. Venation inconspicuous, the secondary veins penniveined, nearly as parallel and commonly making scarcely a more acute angle with the midrib than the Corymbosæ; the intramarginal vein not far removed from the edge.

*Buds* up to nine in the head, on a broad strap shaped peduncle of 1 cm. or less, sessile or on pedicels of .5 cm., each commonly with a double operculum; calyx-tube hemispherical to hemiellipsoid, with two angles or ribs sometimes so prominent as to be winged; operculum hemispherical to conoid, up to 7 mm. in diameter and sometimes exceeding that of the calyx-tube.

*Anthers* white, opening in parallel slits, the two cells usually cohering to the tips; versatile; large gland at the back.

*Fruits* almost hemispherical, about 7 mm. in diameter, often with two or more angles or wings; rim well defined; the calyx-valves three or four, broad at the base, and the tips well exsert.

Type—Glenbrook, Blue Mountains, New South Wales (R. H. Cambage and J.H.M.)

*Illustrations*—The new species is figured as intermediate between *E. resinifera* and *E. pellita* in C.R., Part xxx, plate 125, figs. 7, 8, 9. We there have a juvenile leaf, mature leaf, buds with hemispherical and conoid opercula, anthers and fruits.

*Synonym.*

Recorded as the Blue Mountains form of those intermediate between *E. pellita* F.v.M. and *E. resinifera* Sm. See C.R., Part xxx, pp. 216, 217.



*Range.*

Confined to New South Wales so far as we know at present, and to the vicinity of the lower slopes of the Blue Mountains, but owing to wide-spread confusion with *E. resinifera* we have much to learn of its range. It has only been recorded so far from the Lower Kurrajong and Glenbrook to Faulconbridge.

Following are specific localities :—Lower Kurrajong, one of the lower slopes to the Blue Mountains (J.H.M.). Glenbrook (R. H. Cambage, J.H.M., J. L. Boorman). Lapstone Hill to Springwood (R. H. Cambage and J.H.M.). Springwood (J. L. Boorman). North Springwood (R. H. Cambage and J.H.M.). Faulconbridge (J.H.M.).

*Affinities.*

1. It is one of the few species, of which *E. gomphcephala* DC. is the most notable, which have an operculum of diameter greater than the calyx-tube, giving it an overhanging appearance.

2. The anthers of *E. notabilis* and *E. canaliculata* are to all intents and purposes alike. Affinity to each other is thus indicated and also that they belong to the same group which includes *E. punctata*, *E. resinifera*, and *E. pellita*.

3. With *E. resinifera* Sm. (and *E. pellita* F.v.M.). The position of *E. notabilis* seems to be nearest to these two species, but closer to the former in some respects. The figures and remarks on this association have already been referred to. The bark is that of a "Mahogany," but the paleness of the timber of *E. notabilis* at once separates it from these two species.

## EUCALYPTUS CANALICULATA n. sp.

"Grey Gum" alta, in cortice læve maculis lenticularibus. Ligno pallido, fibris crassis, duro. Foliis juvenilibus petiolatis, lanceolatis, venis tenuibus. Foliis maturis, angusto-lanceolatis, paullo



crassis, venis tenuibus fere parallelibus angulum ca.  $45^{\circ}$  cum costa formantibus. Alabastris magnis, clavatis, umbellis ad 6 capitulo pedunculis applanatis; operculo hemi-ellipsoideo, mucrone breve. Fructibus magnis, conoideo-hemisphericis, pedicello breve applanato, calycis tubo duobus costis prominentibus margine paullo rotundata conspicua.

A tall Grey Gum, whose trunk usually averages scarcely two feet in diameter, but it may attain, exceptionally, twice that size (A. Rudder). It is a tall tree with a diameter of 4 feet, 70 feet to the lowest branches, the whole tree being 90–120 feet high (J. L. Boorman, also speaking of a Dungog tree). Bark smooth, but with lenticular patches in places, like that of a Grey Gum (*E. punctata*).

*Timber* pale coloured, somewhat coarse-fibred, interlocked and tough, resembling that of Spotted Gum (*E. maculata*) a good deal, and also that of Tallow-wood (*E. microcorys*). The colour of the timber approximates to pale snuff-brown, say Dauthenay, Rep. de Couleurs, Plate 2, shade 303.

*Juvenile leaves* not seen in the earliest state, but some still opposite are lanceolate to broadly-lanceolate, equally green on both sides, with numerous fine, not prominent, roughly parallel veins, at an angle of about  $45^{\circ}$  with the midrib. Leaves about 5 or 6 cm. long and about half that width, with petioles of 2 cm.

*Mature leaves* of medium size, narrow-lanceolate, petiolate, say 1–2 dm. long and 2–3.5 cm. broad, with petioles say 2–3 cm. long, dark green, moderately thick venation almost as in juvenile leaves.

*Buds* large, clavate, umbels up to 6 in the head on flattened expanding peduncles 2 cm. long and more, the calyx-tubes with one or two opposite sharp ridges, gradually tapering in short but distinct thick pedicels, the operculum



hemi-ellipsoid with a short mucrone, each bud with a second deciduous operculum which leaves a sharp commissural edge.

*Anthers* white, opening in parallel slits, the cells cohering at their edges; versatile, gland at the back.

*Fruits* large, about 1.7 cm. in greatest width and about the same in depth, including the tips of the capsule. Conoid-hemispherical, the shiny calyx-tube with a short, flattened pedicel, the continuation of the edges of which forms two somewhat sharp ridges. The calyx-tube is surmounted by a slightly domed conspicuous rim of about 3 mm. in width, (which rim morphologically consists of a fusion of the disc and of the staminal ring). This again is surmounted by a pudding-basin rim barely 2 mm. wide. Valves triangular, moderately exsert.

*Type*—Seven miles from Dungog on the Booral road (Augustus Rudder, J. L. Boorman). The specific name is given in reference to the channelled appearance of the fruit.

*Illustrations.* See my "Forest Flora of N.S.W.," fig. D, plate 37, Part x (fruits); the same drawing reproduced in my C.R. Part xxix, fig. 1, plate 123. For mature leaf, buds and anther, see figs. 9 a—c, plate 122 of C.R. The specimens "fruit rather globular, but not perfectly ripe," Spit Road, Manly, Port Jackson (J. L. Boorman), figured at fig. 3, plate 123, do not belong to *E. punctata* var. *grandiflora* (*E. canaliculata* n. sp.); they belong to *E. punctata* though rather larger than those of the type.

*Synonym.*

*E. punctata* DC., var. *grandiflora* Deane and Maiden, in Proc. Linn. Soc. N.S.W., xxvi, 133 (1901).

*Range.*

It seems to be confined to New South Wales. "I have only observed the large-fruited Grey Gum in the Counties



of Gloucester and Durham. It seems, so far as I have seen, to occupy the intermediate country a little back from the coast to near the eastern slopes of the Dividing Range. I do not think it is very plentiful, but small patches of it are occasionally met with, besides isolated trees, and it often associates more or less with the small-fruited Grey Gum, *E. propinqua*." (The late Augustus Rudder in a letter to the writer, dated 31st August, 1893).

It grows in company with Ironbark (*E. paniculata*) and abundance of *E. saligna*. It is very scarce in the Dungog district (J. L. Boorman).

#### *Affinities.*

1. With *E. saligna* Sm. The similarity of these trees is chiefly in their barks, but the differences between them in this respect have been already stated. Mr. Boorman says that, at Dungog, the direction of the branches in *E. canaliculata* is more horizontal and the shape less inclined to be pyramidal as in *E. saligna*. The floral organs and the timber of course sharply separate them. (See Plates 99 and 100, Part xxiii, C.R., for *E. saligna*).

2. With *E. punctata* DC. The new species is nearer *E. punctata* (indeed it has been regarded as a variety of it) than *E. saligna*, but the discovery that *E. canaliculata* n.sp. has a pale timber at once showed that it must be removed from *E. punctata* and other species with red timbers. For drawings of details of *E. punctata*, see C.R., Part xxix, plates 121 and 122, while that of *E. canaliculata* n.sp. are in the same Part (as *E. punctata* var. *grandiflora*) in plates 122 and 123. The anthers of the two species are alike. The outstanding difference shown there is in the smaller size of the buds and fruits of *E. punctata*, their less tendency to vertical angularity, and less marked commissural edges. The juvenile leaves are broader in *E. punctata*.



3. With *E. maculata* Hook. We have undoubted affinities in the smooth, more or less blotched bark, and also in the timber, for both are remarkably alike in external characters. But *E. maculata* (Plate 178, Part xliii) is a well defined member of the Corymbosæ, and the differences are very great, as regards the organs.

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ANGOPHORA CLELANDI N. SP.

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[Read before the Royal Society of N. S. Wales, November 3, 1920.]

Frutex Mallee similis, cortice aspera, inflorescentia et foliis immaturis  $\pm$  hispidis. Foliis juvenilibus magnis cordatis ad lato-lanceolatis, amplexicaulibus. Foliis maturis lanceolatis paullo falcatis distincte petiolatis, supra glabris nitentibusque, infra glaucis. Floribus majusculis 3 in umbella, corymbum irregularem terminalem formantibus. Petalis ca 7 mm. diametro. Calycis tubo 6 mm. longo, 7 mm. diametro. Calyce fructifera durissimo, ca 7 mm. lato et æquilongo.

A shrub, mallee-like, or several-stemmed, 3 or 4 feet to 12 feet high, bark rough, thickish, the inflorescence and young foliage more or less hispid.

*Juvenile leaves* large, cordate to broadly lanceolate, always with the apex blunt, stem clasping (common measurements are 7 cm. broad and long and 9 or 10 cm. long by 4 cm. in greatest breadth).

*Mature leaves* lanceolate, slightly falcate, mostly obtuse, distinctly petiolate, with some tendency to shortly rounded auricles, about 1 dm. long, and under 3 cm. broad, glabrous and shining above, glaucous but not pubescent underneath.

*Flowers* of medium size, three in each umbel, forming a rather loose irregular terminal corymb.





Maiden, J. H. 1920. "Notes on Eucalyptus, No. IX., with descriptions of three new species." *Journal and proceedings of the Royal Society of New South Wales* 54, 167–175. <https://doi.org/10.5962/p.359771>.

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