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**N.S.W.
RAINFOREST TREES**

PART I

**Family:
Lauraceae**

**AUTHOR:
A.G.Floyd**



**FORESTRY COMMISSION OF N.S.W.
RESEARCH NOTE No. 3
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N.S.W. RAINFOREST TREES

PART I

RESEARCH NOTE NO. 3

FAMILY—LAURACEAE

by

A. G. FLOYD

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FORESTRY COMMISSION OF N.S.W.

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N.S.W. RAINFOREST TREES

PART I

FAMILY LAURACEAE

FOREWORD TO SECOND EDITION

It has been realised for some time that there is no publication giving full descriptions of all trees occurring in the rainforest associations of New South Wales; and that, in some cases, the only distinguishing features recorded refer to differences in the flowers and fruits. As these structures are commonly not available in the forest, identification has been, in the past, impossible or indefinite in many instances.

It is the intention of the Forestry Commission of New South Wales to issue a series of twelve research notes that will eventually cover botanical descriptions of all tree species found in rainforests in New South Wales.

The task of adequately describing all New South Wales rainforest trees, totalling over 300 species, is formidable and time consuming; and priority has therefore been given in such a task to certain families.

Completed descriptions are now available for the family *Lauraceae*, comprising thirty three species. Descriptions covering other families have been published in Parts II to VII and are listed elsewhere.

Botanical descriptions place emphasis upon the ever-present features of bark and leaves as aids to identification, with only brief descriptions given of the flowers and fruits. The bark is studied under two main headings:—

- (a) Outer Bark which includes the surface of the dead bark, the layers of dead bark (under bark) and the outer surface of the live bark as exposed when the dead bark is removed by an axe blow.
- (b) Inner Bark or live bark, which includes the wood cambial layer.

As the diameter of the tree determines the features of the bark, the size of the described tree is recorded. A smaller tree could be expected to have a smoother bark and a somewhat paler blaze.

The leaf descriptions refer to mature leaves only, as both coppice and seedling leaves are generally larger and of different shape.

The descriptions for the family *Lauraceae* are arranged in alphabetical order of genera and species.

In addition, there are two dichotomous keys based respectively on the leaves and branchlets, and on the trunk and bark.

Diagnostic features are shown in italics. Standard Trade Names used are those in Australian Standard AS02-1970. "Nomenclature of Australian Timbers".

The locations in N.S.W. for each species are shown in latitudinal order of the major river systems; and where on State Forests (S.F.), Flora Reserves (F.R.), National Parks (N.P.) and Nature Reserves (N.R.), their location from the nearest large town is listed in Appendix II.

Seedling characteristics are also under study but because of the irregular seeding pattern of many species, considerable time must elapse before seeds of all species are collected and seedlings raised. Information and descriptions of seedlings must perforce be deferred for publication later.

The late Mr Harold Hayes contributed greatly to the field descriptions of many of these species up until his retirement in 1967. It was fortunate indeed that so much of his unique field experience and knowledge of the rainforest trees of N.S.W. could be so recorded and thus made available for all time. The inclusion of *Endiandra hayesii* in this publication is a fitting tribute to one of Australia's greatest field botanists of the rainforest.

Appreciation is expressed to the Chief Botanist and staff of the National Herbarium, Sydney, for their assistance in identifications, nomenclatural changes and locality records of all species.

J. L. HENRY,
Commissioner for Forests.

Sydney.

INTRODUCTION

This is a Second Edition of Part I of a series of research notes describing the rainforest trees of N.S.W.

Current publications by the same author are:—

- Research Note No. 7*(1961)—N.S.W. Rainforest Trees.
Part II Families *Capparidaceae*,
Escalloniaceae, *Pittosporaceae*,
Cunoniaceae, *Davidsoniaceae*.
- Research Note No. 28 (1973)—N.S.W. Rainforest Trees.
Part III Family *Myrtaceae*.
- Research Note No. 30
(Second Edition 1979) N.S.W. Rainforest Trees.
Part IV Family *Rutaceae*.
- Research Note No. 32 (1977)—N.S.W. Rainforest Trees.
Part V Families *Sapindaceae*,
Akaniaceae.
- Research Note No. 34 (1977)—N.S.W. Rainforest Trees.
Part VI Families *Podocarpaceae*,
Araucariaceae, *Cupressaceae*,
Fagaceae, *Ulmaceae*, *Moraceae*,
Urticaceae.
- Research Note No. 35 (1978)—N.S.W. Rainforest Trees.
Part VII Families *Proteaceae*,
Santalaceae, *Nyctaginaceae*,
Gyrostemonaceae, *Anonaceae*,
Eupomatiaceae and *Monimiaceae*.
- Research Note No. 38 (1979)—N.S.W. Rainforest Trees.
Part VIII Families *Mimosaceae*,
Caesalpiniaceae, *Papilionaceae*,
Simaroubaceae, *Bursetaceae*,
Meliaceae.

Another work by this author, Research Note No. 27 "Key to Major Rainforest Trees in N.S.W.", describes methods of identifying species by features in the leaves.

*in association with H. C. Hayes.

FAMILY LAURACEAE

CHARACTERISTICS OF THE FAMILY IN N.S.W.

Trees of the subtropical, warm temperate and cool temperate rain-forests with the greatest number of species in the latter two forest subforms. They are never emergent; but are generally confined to the second storey with a few species in the first storey such as *Litsea reticulata*, *Cryptocarya erythroxylon*, *Cryptocarya obovata* and *Endiandra introrsa*.

Trunk—Buttressing is confined to a few species only, namely *Litsea reticulata*, *Cryptocarya erythroxylon* and *C. obovata*, *Endiandra discolor* and *E. muelleri*.

Outer Bark—Commonly smooth but may be scaly (*Beilschmiedia obtusifolia*, *Cryptocarya bidwillii*, *C. sp. nov.* (Chandler Gorge), *C. sp. nov.* (Glenugie Peak), *C. glaucescens*, *Endiandra compressa*, *E. discolor*, *E. globosa*, *E. muelleri* and *Neolitsea cassia*), craterous (*Beilschmiedia elliptica*, *B. obtusifolia*, *Cryptocarya obovata*, *Endiandra crassiflora*, *E. introrsa*, *E. muelleri* and *Litsea reticulata*) or thick corky barks (*Cryptocarya foetida*, *C. meisnerana*, *C. microneura*, *Endiandra globosa*, *E. pubens*, *E. sieberi* and *E. virens*). The dead bark is usually shed in flakes.

Inner Bark—Usually thick brittle and granular due to the presence of stone cells. The blaze may range from yellow-brown and brown to pink and dark red. The cambium layer is slimy.

Leaves—Simple, entire, mostly alternate except for *Cinnamomum* which is generally opposite and *Neolitsea* which may appear whorled. The leaf surface is usually leathery, glossy dark green above and sometimes with a waxy glaucous underside. This waxy layer can be melted with a lighted match to reveal a darker green glossy surface beneath. The dried leaves in some species have a characteristic colour (e.g. *Endiandra globosa* always dries black). Foveolae in the nerve axils on the underside are characteristic of *Cryptocarya foveolata*, *Endiandra discolor* and sometimes *Endiandra muelleri*. The venation is generally pinnate; but in *Cinnamomum*, *Neolitsea*, *Cryptocarya laevigata* var. *bowiei*, *C. triplinervis* and occasionally *Endiandra muelleri* the two basal lateral veins are more conspicuous and elongated to produce a three-veined leaf. The venation becomes more prominent after drying. The genus *Endiandra* is characterised by numerous small veins forming a distinct network over the whole leaf surface. The leaf margin is often strengthened with sclerenchyma which is transparent in *Endiandra sieberi* and *Litsea reticulata*. Mucilage cells are present in most leaves; and are responsible for the slimy feel in the mouth when leaves of *Cryptocarya microneura* are chewed. Leaf hairs are always simple, unicellular and denser on the undersurface. A transverse section of the petiole shows crescentic vascular strands.

Flowers—Usually cream to creamy-green (but white in *Cryptocarya obovata* and greenish-pink in *Endiandra crassiflora*). Unscented except for an unpleasant odour in *Beilschmiedia obtusifolia* and *Cryptocarya foetida*. In axillary panicles (for the Australian species) although *Litsea* and *Neolitsea* resemble umbels. Perianth segments usually six; but reduced in four in *Neolitsea*. Stamens in two whorls in *Beilschmiedia*, *Cinnamomum* and *Cryptocarya* consisting of six fertile outer and three fertile alternating with three infertile in the inner whorl. *Endiandra* may have either one or two whorls, composed of three fertile outer stamens with or without an inner whorl of three infertile stamens. *Litsea* and *Neolitsea* have three whorls. In *Neolitsea* there are two outer whorls of two fertile stamens each and an inner whorl of two infertile stamens, while *Litsea* possesses either three or six fertile stamens in the outer two whorls and either six or three infertile stamens in the inner series. The flowers are unisexual in *Litsea*, *Neolitsea* and *Cinnamomum*.

Fruit—A one-seeded berry or drupe with a glossy outer covering which is often ribbed in *Cryptocarya*, but otherwise smooth. The genera are easily separated by the position of the calyx to the fruit:—

- | | |
|---|--|
| Fruit seated on a bare pedicel | <i>Beilschmiedia</i> and
<i>Endiandra</i> . |
| Fruit seated in a cup without the basal part of the perianth attached | <i>Litsea</i> and <i>Neolitsea</i> . |
| Fruit seated in a cup with the basal part of the perianth attached | <i>Cinnamomum</i> . |
| Fruit completely enclosed by the calyx, often crowned by the persistent calyx lobes | <i>Cryptocarya</i> . |

KEY TO THE RAINFOREST TREE SPECIES OF LAURACEAE IN N.S.W.

A. USING LEAVES AND BRANCHLETS ONLY

1. Some leaves opposite
2. Basal pair of lateral veins short, leaves usually paler and glaucous on the undersurface . *Cinnamomum oliveri* F. M. Bail.
2. Basal pair of lateral veins extending almost halfway up the leaf, leaves equally green on both surfaces . *Cinnamomum virens* R. T. Baker.
1. Leaves alternate or in groups
3. Leaves with prominent glands on the undersurface at the junction of the main vein and lateral veins
- ... 4. Leaves grey on the undersurface
5. Glands hardly raised on the upper surface
- *Endiandra discolor* Benth.
- 5. Glands prominently raised on the upper surface ..
- *Cryptocarya foveolata* White et Francis
4. Leaves green on the undersurface
6. Glands prominently raised on the upper surface ..
- *Cryptocarya foveolata* White et Francis.
6. Glands not raised on the upper surface
- *Endiandra muelleri* Meisn.
3. Leaves without prominent glands on the undersurface of the leaves
7. Leaves with the basal pair of veins extended to at least half the length of the leaf
8. Leaves not greyish beneath
9. Leaves not hairy beneath
10. Leaves under 3 cm long
- *Cryptocarya* sp. nov. (Willi Willi).
10. Leaves over 5 cm long
11. Basal pair of veins extending almost full length of the leaf
- *Cryptocarya laevigata* var. *bowiei* (Hook.) Kosterm.
11. Basal pair of veins extending about half the length of the leaf ..
- *Endiandra muelleri* Meisn.
9. Leaves hairy beneath
12. Leaves in whorls of three or four
- *Litsea dealbata* var. *rufa*.
- 12 Leaves alternate
- *Cryptocarya triplinervis* R. Br.
8. Leaves greyish beneath
13. Leaves smooth or silky beneath along the veins
- *Neolitsea cassia* (L.) Kosterm.

- 13. Leaves hairy beneath along the veins.....
Neolitsea dealbata (R. Br.) Merr.
- 7. Leaves with the basal pair of veins not extended
- 14. Leaves greyish beneath
- 15. Veins on the undersurface of the leaf hairy to the tongue
- 16. Leaves broadest near the tip .. *Cryptocarya obovata*
R. Br.
- 16. Leaves broadest in the middle
- 17. Leaves less than 5 cm long .. *Cryptocarya* sp. nov.
(Dome Mtn.).
- 17. Leaves more than 5 cm long
- 18. Mature leaves more than three times as long as broad *Cryptocarya rigida* Meisn.
- 18. Mature leaves broader, less than 2½ times as long as broad *Endiandra crassiflora*
White et Francis.
- 15. Veins on the undersurface of the leaf not hairy
- 19. Main lateral veins less than ten pairs
- 20. Lateral veins curved
- 21. Stalk of expanding leaves smooth
Cryptocarya erythroxylon Maiden et Betche.
- 21. Stalk of expanding leaves hairy
Cryptocarya glaucescens R. Br.
- 20. Lateral veins straight *Cryptocarya* sp. nov.
(New England N.P.).
- 19. Main lateral veins more than fifteen pairs . .
- 22. Reticulations between main lateral veins 20-30 *Cryptocarya glaucescens* R. Br.
- 22. Reticulations between main lateral veins less than 30 or obscure
- 23. Reticulations between main lateral veins obscure *Cryptocarya meisnerana*
Frodin (Whian-Whian form).
- 23. Reticulations between main lateral veins eight to ten .. *Endiandra introrsa* C. T. White.
- 14. Leaves not greyish beneath
- 24. Veins on the undersurface of the leaves hairy to the tongue
- 25. Net veins on the upper surface of mature leaves hardly visible and much less distinct than the main lateral veins . *Litsea leefeana* (F. Muell.) Merr.
- 25. Net veins almost as conspicuous as the main laterals
- 26. Net veins thick and close together, about six reticulations between main lateral veins ..
Endiandra hayesii Kosterm.

26. Net veins thin, forming about four larger reticulations between main lateral veins ..
Endiandra pubens Meisn.
24. Veins on the undersurface of leaves smooth to the tongue
27. Leaves thick, net veins not visible on the upper surface *Cryptocarya meisnerana* Frodin.
27. Net veins clearly visible on the upper leaf surface
28. Leaf blade broadest at $\frac{1}{3}$ of distance from the base *Cryptocarya* sp. nov. (Gorges).
28. Leaf blade broadest at $\frac{1}{2}$ or more of distance from the base
29. Midrib somewhat flattened or depressed on the lower surface
30. Leaves with a pale yellowish margin, leaf stalk red when fresh .. *Endiandra sieberi* Nees.
30. Leaves without a pale yellowish margin, leaf stalk green when fresh
31. Venation more prominent on the upper surface. Dried leaves brown
Cryptocarya bidwillii Meisn.
31. Venation more prominent on the lower surface. Dried leaves yellow
Cryptocarya foetida R. T. Baker.
29. Midrib raised and rounded on the lower surface
32. Majority of leaves rounded at the tip
33. Branchlets thick, brown. Fresh leaves with a transparent margin ..
Litsea reticulata (Meisn.) F. Muell.
33. Branchlets slender, green, turning black on drying. Fresh leaves without a transparent margin.....
Beilschmiedia obtusifolia (F. Muell. ex Meisn.) F. Muell.
32. Leaves tapering to a blunt point at the tip
34. Leaves more than three times as long as broad
35. Net veins translucent and conspicuous on the upper surface. Leaves more than five times as long as broad *Endiandra virens* F. Muell. ex Meisn.
35. Net veins not translucent and conspicuous above. Leaves less than five times as long as broad..

- 36. Main lateral veins straight, then forking equally into the intramarginal vein. Leaves greyish above *Beilschmiedia elliptica*
White et Francis.
- 36. Main lateral veins curving towards the leaf tip without a pronounced forking into two equal veins. Leaves green above when fresh
Cryptocarya microneura Meisn.
- 34. Leaves less than three times as long as broad
- 37. Leaves quite dull on the under-surface *Cryptocarya erythroxylon*
Maiden et Betche.
- 37. Leaves slightly glossy on the under-surface
- 38. Leaves ovate, turning black on drying. Tweed valley only ..
Endiandra globosa Maiden et Betche.
- 38. Leaves ovate lanceolate, brown or green on drying
- 39. Midrib warty to the touch below .. *Endiandra muelleri* Meisn.
- 39. Midrib smooth. *Endiandra compressa*
C. T. White (Minyon Falls only).

B. USING BARK ONLY

- 1. Bark smooth or lightly fissured 2
- 1. Bark craterous 27
- 1. Bark scaly 33
- 1. Bark fissured and corky 41
- 2. Blaze without any red colouration.....
- 3. Blaze or part thereof darkening within ten minutes ..
- 4. Freshly cut bark without a characteristic odour....
- 5. Blaze brown
- 6. Sapwood surface yellow, turning brown
Cryptocarya sp. nov. (Gorges).
- 6. Sapwood surface pink-brown turning dark brown *Cryptocarya foveolata* White et Francis.
- 5. Blaze straw to yellow
- 7. Blaze yellow with cream flares *Cryptocarya foetida*
R. T. Baker.
- 7. Blaze straw with fine pink-brown lines.....
Cryptocarya laevigata var. *bowiei* (Hook.) Kosterm.

4. Freshly cut bark with a characteristic odour
8. Buttresses present . . *Litsea reticulata* (Meisn.) F. Muell.
8. Buttresses absent
9. Whole blaze darkening
 10. Blaze darkens to purplish-black . *Neolitsea cassia* (L.) Kosterm.
 10. Blaze darkens to deep brown . *Cinnamomum oliveri* F. M. Bail.
9. Sapwood margin only darkening
 11. Sapwood margin turning orange-brown
Cryptocarya sp. nov. (Dome Mtn.).
 11. Sapwood margin turning dark brown
Neolitsea dealbata (R. Br.) Merr.
3. Blaze not darkening
 12. Trunk buttressed *Cryptocarya obovata* R. Br.
 12. Trunk not buttressed
 13. Trunk flanged *Cryptocarya triplinervis* R. Br.
 13. Trunk not flanged or buttressed
 14. Underbark white . *Endiandra compressa* C. T. White.
 14. Underbark brown . . *Cryptocarya meisnerana* Frodin.
2. Blaze with some red colouration
 15. Blaze or part thereof not darkening *Endiandra discolor* Benth.
 15. Blaze darkening
 16. Buttresses absent
 17. Underbark cream to fawn
 18. Outer surface of live bark reddish-black
Endiandra globosa Maiden et Betche.
 18. Outer surface of live bark green and orange
Cryptocarya rigida Meisn.
 17. Underbark brown
 19. Whole blaze surface darkening slightly
Cryptocarya laevigata var. *bowiei* (Hook.) Kosterm.
 19. Only sapwood margin darkening
 20. Sapwood margin turning from white to yellow . . *Cryptocarya* sp. nov. (New England N.P.)
 20. Sapwood margin turning from yellow to brown *Cryptocarya* sp. nov. (Gorges).
 16. Buttresses present
 21. Freshly cut bark with a characteristic odour . .
 22. Underbark thin, brown
 23. Blaze deep pink to red *Endiandra hayesii* Kosterm.
 23. Blaze pink-brown to red-brown
 24. Blaze with a few pale pink vertical stripes
Litsea leefeana (F. Muell.) Merr.

24. Blaze with white horizontal lines
Cryptocarya bidwillii Meisn.
22. Underbark thick, corky, grey to white
25. Outer surface of live bark red-black
Endiandra pubens Meisn.
25. Outer surface of live bark green
Cryptocarya erythroxylon Maiden et Betche.
21. Freshly cut bark without a characteristic odour
26. Blaze deep red . *Endiandra crassiflora* White et Francis
26. Blaze pinkish-red *Endiandra pubens* Meisn.
27. Blaze without any red colouration
28. Blaze with pronounced dark brown vertical lines.
Beilschmiedia elliptica White et Francis.
28. Blaze without pronounced dark brown vertical lines
29. Blaze darkening to dark brown *Litsea reticulata*
(Meisn.) F. Muell.
29. Blaze not darkening to dark brown . . *Cryptocarya obovata*
R. Br.
27. Blaze with red colouration
30. Blaze not changing colour within ten minutes
Endiandra muelleri Meisn.
30. Blaze changing colour
31. Freshly cut bark with a peppery odour
Beilschmiedia obtusifolia (F. Muell. ex Meisn.) F. Muell.
31. Freshly cut bark without a peppery odour
32. Underbark pale grey to white . . *Endiandra crassiflora*
White et Francis.
32. Underbark dark brown . *Endiandra introrsa* C. T. White.
33. Blaze without any red colouration
34. Blaze without pronounced vertical lines or streaks
Neolitsea cassia (L.) Kosterm.
34. Blaze with pronounced vertical lines or streaks
35. Blaze darkening within ten minutes . *Cryptocarya* sp. nov.
(Gorges).
35. Blaze not darkening . . *Endiandra compressa* (C. T. White).
33. Blaze with red colouration
36. Blaze without pronounced vertical lines or streaks
37. Blaze darkening to dirty brown *Cryptocarya bidwillii*
Meisn.
37. Blaze remaining deep red *Endiandra discolor* Benth.
36. Blaze with pronounced vertical lines or streaks
38. Blaze changing to deep yellow-brown within ten
minutes *Beilschmiedia obtusifolia*
(F. Muell. ex Meisn.) F. Muell.
38. Blaze not changing colour

39. Freshly cut bark without a distinctive odour ..
Endiandra muelleri Meisn.
39. Freshly cut bark with a distinctive odour
40. Sugar-cane smell, trunk flanged
- Cryptocarya glaucescens* R. Br.
40. Aromatic smell, trunk not flanged
- Endiandra globosa* Maiden et Betche.
41. Blaze brown, without any red colouration
- Cryptocarya meisnerana* Frodin.
41. Blaze with red colouration
42. Blaze with pronounced vertical lines or streaks
- Endiandra globosa* Maiden et Betche.
42. Blaze without pronounced vertical lines or streaks ..
43. Neither buttressed nor flanged
- Endiandra virens*.
 F. Muell. ex Meisn.
43. Either buttressed or flanged
44. Blaze not changing colour .. *Endiandra sieberi* Nees.
44. Blaze changing colour
45. Blaze changing colour within three seconds..
- Cryptocarya microneura* Meisn.
45. Blaze changing colour after several minutes..
46. Underbark cream
- Endiandra pubens* Meisn.
46. Underbark brown *Endiandra hayesii* Kosterm.

NOTE: *Cryptocarya* sp. nov. (Willi Willi)
 does not reach sufficient size to
 warrant inclusion.

BEILSCHMIEDIA ELLIPTICA White et Francis

Reference—Queensland Dept. Agric. Bot. Bull. XXII. 28 (1920).

Derivation—Beilschmiedia, after C. T. Beilschmied, a botanist and chemist in Ohlau, Germany; elliptica from Latin “ellipticus”, shaped like an ellipse in allusion to the outline of the leaf.

Common Name—Grey Walnut, Brown Walnut, Nutwood, Brownbark.

Standard Trade Name—Grey Walnut.

A large tree attaining 30 m in height and 90 cm in diameter.

Trunk—Cylindrical or moderately buttressed and flanged.

Outer Bark—*Red Brown*, rarely grey, *pustular*, often with numerous depressions. Bark shedding in rounded or irregular patches. Underbark red-brown or pinkish-brown. Outer surface of live bark cream.

Inner Bark—*Lighter brown* with indistinct paler coloured threads fading out towards the sapwood, against which there is a paler layer. After five minutes exposure, the outer portion may darken to dark brown. The inner *sapwood margin always darkens* while the intervening area does not change perceptibly. After 30 minutes, the white threads fade and the inner bark displays white transverse lines which become more distinct on further drying. The bark is slightly bitter to taste. No smell. The bark is 2 cm thick on a tree of 90 cm diameter.

Branchlets—Brown. Young shoots hairy.

Leaves—Alternate, simple, with entire margins, elliptic to elliptic-lanceolate 8-10 × 2-3 cm wide, drawn out to a blunt point at the tip. Smooth and green both surfaces, shining above, dull beneath. A common feature is the 1 to 2 cm long thin galls attached to the underside of the leaf. Leaf stalk 6 mm long.

Venation—Midrib prominently raised on both surfaces, lateral and net veins distinct on both surfaces. The *main lateral veins are straight and then fork equally* into the intramarginal vein.

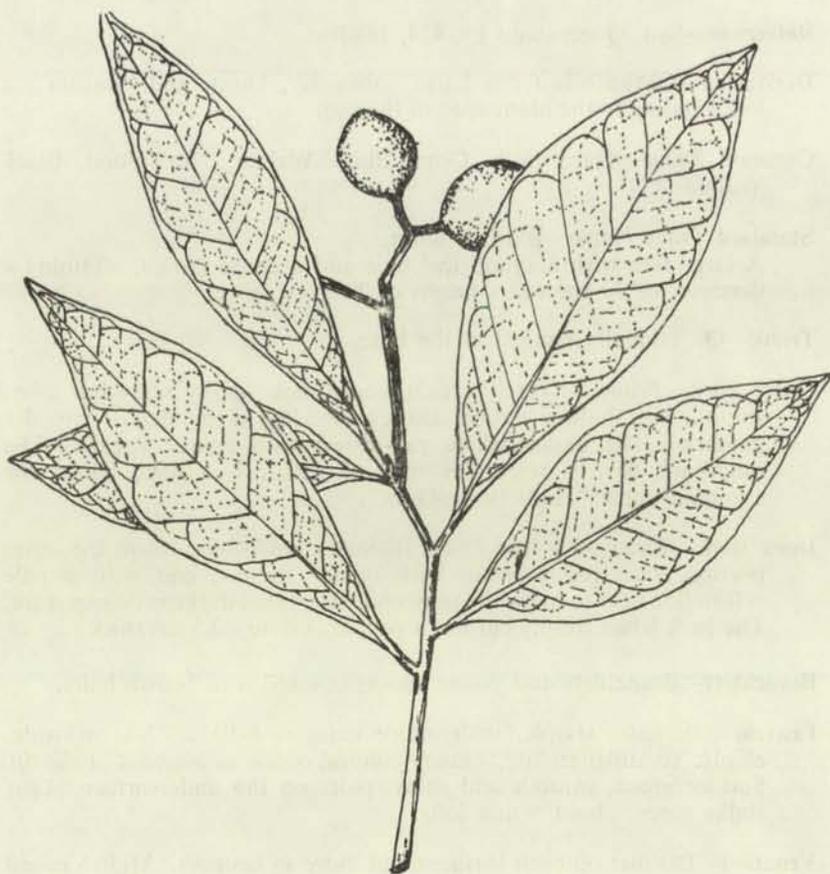
Flowers—In axillary panicles shorter than the leaves. Flowers broadly bell-shaped over 2 mm long. The six ovate perianth lobes are 2 mm long and divided nearly to their bases. Stamens in two series—six in the outer; and three stamens alternating with three staminodia in the inner series. Ovary ovate, hairless, 1 mm long, tapering at the apex into a very short style. Flowering period August to October.

Fruit—Drupe, black with a grey bloom, smooth, globular, 12 mm diameter containing a single smooth seed, globular with a slight point at the tip 8-10 mm diameter. Fruit ripe February to April.

Habitat—Although occurring in warm temperate rainforest on the poorer sedimentary soils, it reaches its best development in subtropical rainforest on red basaltic loams.

Distribution—Scattered from Forster, N.S.W. to Fraser Island, Queensland. Recorded in N.S.W. from Cape Hawke, Comboyne, Bellangry S.F., Pine Creek S.F., New England N.P., Woolgoolga, Wild Cattle Creek S.F., Moonpar S.F., Gibraltar Range S.F., Richmond Range S.F., Toonumbar S.F., Nothofagus Mtn. F.R., Moore Park, Roseberry S.F., Lever's Plateau, Wiangaree S.F., Red Scrub F.R., Brunswick Heads N.R., Mt. Warning N.P., Limpinwood N.R., and Couchy Creek.

Timber and Uses—As this tree has only recently been described, little information can be obtained as to its properties and uses. However, it has been used for case timber.



0 1 2 cm.
E.S.

Plate No. 1

Beilschmiedia elliptica White et Francis

BEILSCHMIEDIA OBTUSIFOLIA (F. Muell. ex Meisn.)
F. Muell.

Synonym—*Nesodaphne obtusifolia* Benth.

Reference—Syn. Queensland Fl. 424, 1883.

Derivation—*Obtusifolia* from Latin “*obtusus*”, blunt, and “*folium*”, a leaf alluding to the blunt apex of the leaf.

Common Name—Hard Bolly Gum, Blush Walnut, Nut Wood, Black Walnut.

Standard Trade Name—Blush Walnut.

A large tree with a cylindrical bole and a dense crown, attaining a diameter of 90 cm and a height of 30 m or more.

Trunk—Occasionally flanged at the base.

Outer Bark—*Brown* or rarely cream, sometimes slightly scaly but often smooth with shallow vertical fissures, shedding in rounded or irregular patches. The underbark is red-brown with lighter streaks. The outerbark closely resembles that of *Litsea reticulata*, hence the common name “Hard Bolly Gum”.

Inner Bark—Blaze on a tree 75 cm diameter *reddish-brown* on the outer portion, *then yellow-brown* with lighter streaks, and with a pale yellow line next to the white sapwood. The blaze darkens on exposure. The bark when freshly cut has a peppery odour. 2.5 cm thick.

Branchlets—Branchlets and young shoots covered with brown hairs.

Leaves—Alternate, simple, with entire margins 8-10 × 2-4 cm wide, elliptic to oblanceolate, *bluntly pointed, obtuse or rounded at the tip*. Surface green, smooth and shiny, paler on the undersurface. Leaf stalks green, about 5 mm long.

Venation—Distinct on both surfaces, but more so beneath. Midrib raised on both surfaces, red.

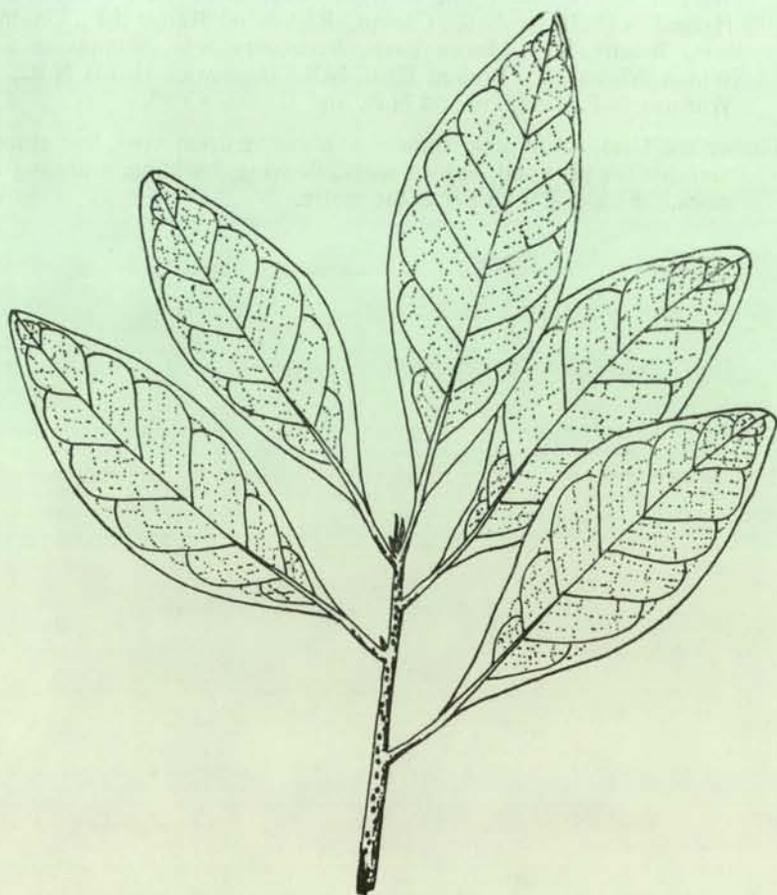
Flowers—In panicles at the ends of the branchlets or in the axils of the leaves—the panicles often as long or longer than the leaves. The flowers have an offensive odour. Flowers are over 3 mm in diameter with six minutely hairy perianth lobes about 2 mm long, which are joined in a short tube at the base and are therefore shed together. Six stamens in the outer series with three stamens and three alternating staminodes in the inner series. The ovary is minute, ovate, smooth, not joined to the perianth tube and crowned by a style. Flowering period October to November.

Fruit—Drupe, *black with a green fleshy pulp*, smooth, oval, 16-18 mm long and 8 mm wide containing a single oval smooth seed. Fruit ripe January to July.

Habitat—In subtropical rainforest on rich alluvial flats often close to the sea or on red basaltic loams.

Distribution—Scattered from Port Macquarie, N.S.W. to Daintree River, North Queensland. Recorded in N.S.W. from Port Macquarie, Warrell Creek, Bellingen, Dorrigo N.P., Wild Cattle Creek S.F., Hyland S.F., Iluka N.R., Casino, Richmond Range S.F., Unumgar S.F., Beaury S.F., Moore Park, Roseberry S.F., Wiangaree S.F., Whian Whian S.F., Broken Head N.R., Brunswick Heads N.R., Mt. Warning N.P., Limpinwood N.R. and Crystal Creek.

Timber and Uses—Dull pink, somewhat abrasive upon saws, fine grained. Suitable for plywood, indoor work, flooring, building, scantling and cases. Weight 800 kg per cubic metre.



0 1 2 cm.
E. S.

Plate No. 2

Beilschmiedia obtusifolia (F. Muell. ex Meisn.) F. Muell.

CINNAMOMUM OLIVERI F.M. Bail.

Reference—Bot. Bull. No. 18, p. 24 (1892).

Derivation—Cinnamomum from Latin “Cinnamomum”, cinnamon; oliveri, after Prof. D. Oliver, Keeper of Kew Herbarium who devoted much attention to Australian plants.

Common Name—Oliver’s Sassafras, Camphorwood, Black Sassafras, Cinnamonwood.

Standard Trade Name—Camphorwood.

A large tree attaining 75 cm in diameter and 30 m in height.

Trunk—Cylindrical.

Outer Bark—Grey or brown with a thin, grey, corky layer. Patterned with vertical lines of corky pustules. Underbark brown. Outer surface of live bark mottled, light brown and light green, rapidly darkening on exposure.

Inner Bark—Pale brown with white streaks. The whole blaze becoming darker on exposure. Bark fragrant when cut. Sapwood white.

Branchlets—Smooth, green.

Leaves—Opposite, simple, entire margins, smooth, lanceolate, acuminate, gradually tapering to the base, 8-15 cm long, 2-4 cm broad, green and shining above, under surface clothed in glaucous, waxy bloom which melts when a lighted match is applied to the upper surface. Leaves fragrant when crushed. Small oil dots visible when examined with a lens. Leaf stalk smooth, 6-12 mm long.

Venation—Distinct both surfaces, midrib raised both surfaces.

Flowers—Inflorescence in panicles at the ends of branchlets or in the forks of leaves near the ends of the branchlets. Panicle branches downy with fine whitish hairs. Individual flowers on stalklets 4-5 mm long, covered with whitish down, each flower over 5 mm long, with a perianth of six lobes, each 3 mm long. Stamens nine and staminodia three, all shorter than the perianth lobes and arranged in two series. The outer series consists of six stamens, while the inner series consists of three stamens about as long as those of the outer series, and three staminodia which are shorter than the three inner stamens and are inserted between them. Flowering period October to November.

Fruit—Drupe, oval, about 12 mm long, seated in the cup-like enlarged lower portion of the perianth from which the lobes have fallen. Containing a single seed. The fruit is often apparently galled when it assumes an irregular shape and larger size with a coating of a yellow, powdery substance. Fruit ripe March.

Habitat—Commonly in warm temperate rainforest on poorer sedimentary soils in cool mountain situations but also in impoverished subtropical rainforest in lowland gullies.

Distribution—Illawarra, N.S.W. to Eungella Range, Queensland. Recorded in N.S.W. from Minnamurra Falls, Boorganna N.R., Port Macquarie, Doyles River S.F., Way Way S.F., Coramba, Orara West S.F., Wild Cattle Creek S.F., Gibraltar Range N.P., Washpool S.F., Toonumbar S.F., Mt. Lindesay F.R., Lever's Plateau, Wiangaree S.F., Red Scrub F.R., Lismore, Broken Head N.R., Mullumbimby, Brunswick Heads N.R., Mt. Warning N.P., Limpinwood N.R. and Crystal Creek.

Timber and Uses—Fragrant. Used for indoor work, lining and cabinet work.



0 1 2 cm.

E.S.

Plate No. 3

Cinnamomum oliveri F. M. Bail.

CINNAMOMUM VIRENS R. T. Baker.

Reference—Proc. Linn. Soc. N.S.W. XXII, 282, 1897.

Derivation—Virens from Latin "virens" green, referring to the leaves being green on both surfaces and in contrast to *C. oliveri*, which is greyish-green beneath.

Common Name—Red-barked Sassafras, Black Scented Sassafras, Camphorwood, Scentless Cinnamon Wood, Native Camphor Laurel.

Standard Trade Name—Camphorwood.

A tree attaining a height of 30 m and a stem diameter of 60 cm.

Trunk—Usually tall, straight and cylindrical, large trees slightly flanged at base. Crown usually compact and not very wide spreading.

Outer Bark—*Reddish-brown*, usually smooth or finely scaly, sometimes marked by numerous corky pustules. Underbark reddish-brown.

Inner Bark—Blaze on the outer half *pinkish*, prettily marked by paler pink and red vertical lines and red flecks. Inner margin rose coloured, but changes to brown after a few minutes exposure. Bark has a *pepper-like smell*, but is not as strongly fragrant as in *C. oliveri*.

Branchlets—Usually green and smooth, some leaf scars visible. Both fresh and dry twigs have a *weak, peppery odour* and differ from the pleasant sassafras odour of *C. oliveri*.

Leaves—*Opposite*, entire, *elliptical*, gradually tapering to a blunt point at the tip. Green, very smooth and glossy upper surface. Underside duller. 5-12 cm long. Leaf stalks 3-5 mm long. When a lighted match is applied to the upper surface, the thin, waxy layer is seen to melt on the lower surface which then becomes shiny and a brighter green.

Venation—Midrib and lateral nerves visible on both surfaces, but generally more prominent and conspicuous beneath. Generally the leaves of this species differ from those of *Cinnamomum oliveri* in not being paler or glaucous beneath and in being *partly triplinerved*. In most specimens, there are *two basal nerves* branching off the midrib about 5 mm from the base of the leaf and *extending half the length of the blade* then looping into the lateral nerves.

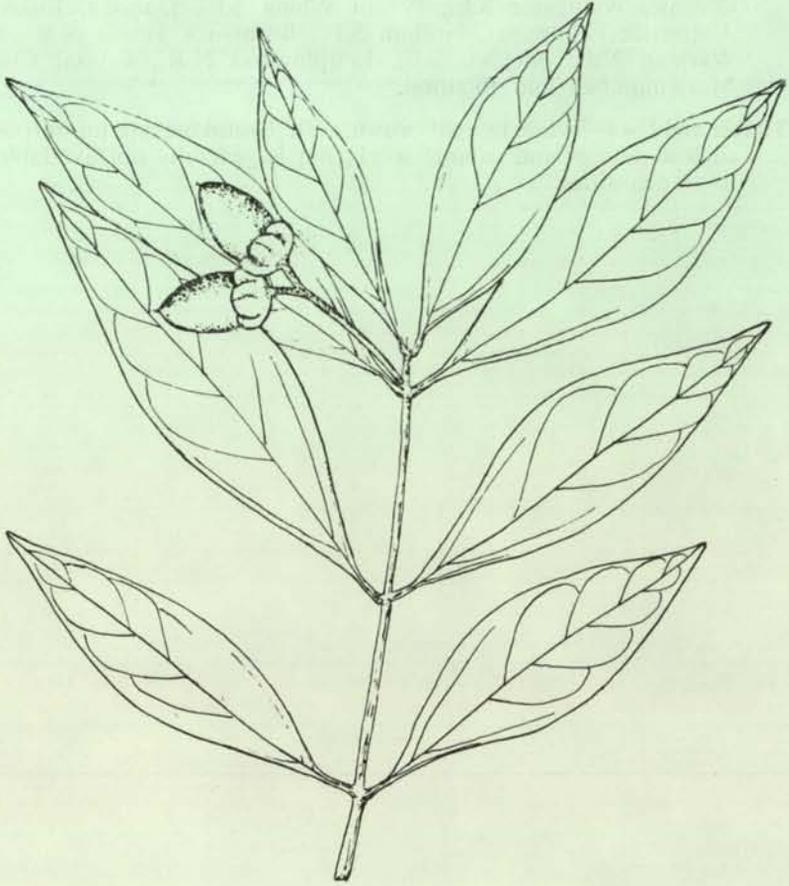
Flowers—In panicles either at the ends of the branchlets or in the axils of the upper leaves. Perianth of six equal lobes. Flowering period February to July.

Fruit—Succulent drupe, *black, smooth oval*, 10-12 mm long and 6-8 mm wide, *sunk in the enlarged cup-like calyx tube* with six indistinct segments. The single seed is oval, smooth, 8 mm long and 5 mm wide. Fruit ripe August to November.

Habitat—In subtropical rainforest on red volcanic soils where it reaches its best development, but also in warm temperate rainforest associated with *Ceratopetalum* on poorer sedimentary soils.

Distribution—Comboyne Plateau, N.S.W. to the McPherson Range, Queensland. Recorded in N.S.W. from Boorganna N.R., Doyles River S.F., New England N.P., Dorrigo N.P., Never Never S.F., Gleniffer, Bellingen, Orara West S.F., Wild Cattle Creek S.F., Kangaroo River S.F., Moonpar S.F., Gibraltar Range N.P., Washpool S.F., Richmond Range S.F., Toonumbar S.F., Beaury S.F., Koreelah S.F., Nothofagus Mtn. F.R., Mt. Lindesay F.R., Mt. Glennie, Wiangaree S.F., Whian Whian S.F., Dunoon, Lismore, Alstonville, Tintenbar, Nullum S.F., Brunswick Heads N.R., Mt. Warning N.P., Mebbin S.F., Limpinwood N.R., Crystal Creek, Murwillumbah and Bilambil.

Timber and Uses—White to light brown, soft. Useful for interior purposes, such as linings and cabinet work, but is generally not available in large quantities.



0 1 2 cm.

F.S.

Plate No. 4

Cinnamomum virens R. T. Baker

CRYPTOCARYA BIDWILLII Meisn.

Reference—D. C. Prod. XV. 1. p. 74, 508 (1864).

Derivation—Cryptocarya from Greek “kryptos”, concealed, “karyon” a nut alluding to the fleshy perianth enclosing the hard seed; bidwillii after J. C. Bidwill, a botanical collector and commissioner of Crown Lands in Queensland who collected the type specimen at Wide Bay, Queensland.

Common Name—Suggest Yellow Laurel.

Standard Trade Name—None.

Usually a small tree up to 50 cm diameter and a height of 20 m. Commonly with a low spreading crown on a short bole up to 6 m.

Trunk—Generally too small to exhibit buttresses, but the larger trees may be shortly buttressed or flanged at the base.

Outer Bark—*Grey to greyish-brown*, fairly smooth with numerous fine vertical rows of reddish lenticels and very fine horizontal cracks dividing the surface into small scales, 5 mm or less in width, which give the bark a pimpled appearance. Underbark brown streaked with white.

Inner Bark—Blaze on a tree 25 cm diameter, *reddish-brown* with the outer margin of dead bark showing as a darker brown band. *Inner margin yellow changing to a brown* after a few minutes exposure. Structurally the bark is arranged in layers, the wider reddish-brown ones are separated by very *thin whitish layers* which show as pale horizontal lines on the surface of the blaze and as vertical lines at the sides. The blaze changes to a slightly darker brown after a few minutes exposure. When freshly cut the bark has a distinctive *aromatic smell*. Bark 5 mm thick.

Branchlets—Smooth, brown, becoming green towards the ends and marked by numerous raised dots (lenticels). Young shoots finely downy.

Leaves—Alternate, simple, margins entire, elliptic, 6-12 cm long tapering towards the base and drawn out into a blunt point at the tip, *shiny-green on both surfaces*, paler beneath. Margins undulate. Dried leaves turn brown with a red-brown midrib. Leaves resemble *C. microneura* in some respects but differ in the coarser texture and in the *venation being more distinct on the upper surface* instead of being equally distinct on both surfaces. Leaf stalks 5-10 mm long.

Venation—Visible both surfaces but more distinct above. Net veins fine and numerous. The midrib at the base on the underside is raised but somewhat flattened.

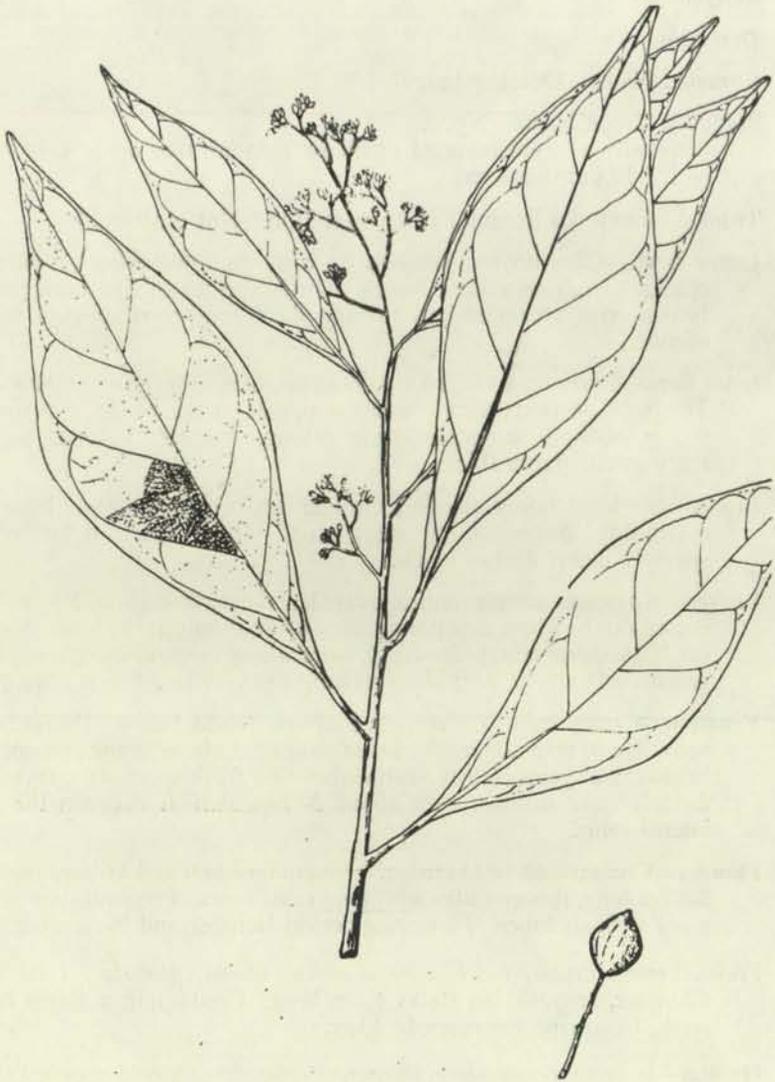
Flowers—In panicles at the ends of the branchlets, or axillary, often about as long as the leaves. Flowers bell-shaped, hairy, 3 mm long, the lower tubular portion equal in length to the six lobes. Flowering period December to January.

Fruit—*Black, globular pointed, slightly longitudinally ribbed*, about 12 mm diameter. Seed solitary, oval. Fruit ripe November.

Habitat—Found *on the dryer gravelly ridges in dry rainforest* and viny scrubs.

Distribution—From Glenugie Peak (near Grafton), N.S.W. to McIlwraith Range, North Queensland. Recorded in N.S.W. from Glenugie F.R., The Gorge, Rivertree, Toonumbar S.F., Beaury S.F., Koreelah S.F., Lever's Plateau F.R. and Wilson Park near Lismore.

Timber and Uses—Yellow or creamy-white when in the green state, close-grained, hard and tough to chop. Probably has the hardest wood of any of the genus occurring in N.S.W. It is subject to attack by borers and not durable in the weather. Little seems to be known about the wood but it should be suitable for turnery, carving, brushware, tool-handles, etc.



0 1 2 cm.
S.S.

Plate No. 5
Cryptocarya bidwillii Meisn.

CRYPTOCARYA SP. NOV. (Dome Mtn.).

Reference—

Derivation—

Common Name—Dorrigo Laurel.

Standard Trade Name—None.

Generally a multistemmed small to medium tree up to 6-20 m tall and 7-10 cm diameter.

Trunk—Sometimes irregular in cross-section. Not buttressed.

Outer Bark—Grey-brown, smooth or with shallow vertical fissures or cracks. *Underbark dark brown.* Outer surface of live bark yellow-brown with cream stripes turning dark red-brown overall in one minute.

Inner Bark—Blaze on a tree 10 cm diameter *fawn with cream vertical lines.* The outer portion cream. *Sapwood margin orange, changing to orange-brown.* Otherwise no change in colour. Astringent taste. Slightly spicy smell. 4 mm thick.

Branchlets—Moderately slender, clothed in *soft rusty down*, buds and expanding leaves silvery rusty-hairy. Older leafy stems *yellow*, sparsely hairy, drying black.

Leaves—Alternate, simple, entire, ovate lanceolate to elliptic, 3-8 cm long, drawn out to a long fine point, tapering gradually at the base. Smooth on both sides except for *rusty hairs along the midrib below.* Dark green shiny above, *grey dull beneath.* Leaf stalks 3-6 mm long, *furry.*

Venation—Cream midrib, channelled above, raised below. Main lateral veins five to seven, *scarcely curved*, indistinct above, more conspicuous below. Net veins clearly visible above on fresh specimens, forming a distinct *close network* with about 20 *reticulations* between the main lateral veins.

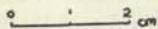
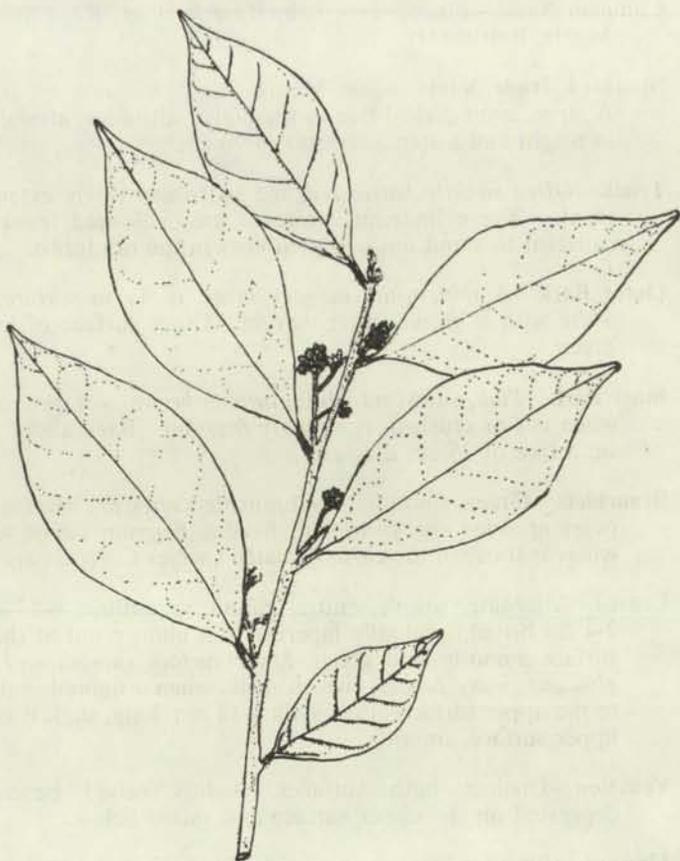
Flowers—Creamy-yellow to creamy-green in terminal and axillary panicles, 2-3 cm long, flower stalks with long rusty hairs. Perianth tube golden hairy with six lobes. Flowering period October and November.

Fruit—Fleshy drupe, *black with a bluish bloom, globular*, 1.3-1.7 cm diameter, smooth, on stalks 1 cm long. Containing a single round seed. Fruit ripe February to May.

Habitat—In *depauperate warm temperate rainforest* on cold exposed ridges at 600-700 m as an understorey to *Ceratopetalum apetalum*, *Callicoma serratifolia* and *Araucaria cunninghamii*. Also in cool temperate rainforest at 800 m as an understorey to *Nothofagus moorei* and *Doryphora sassafras*. On soils of low fertility derived from sedimentary and metamorphic rocks.

Distribution—Confined to eastern Dorrigo, N.S.W. Recorded from Dome Mountain, Dorrigo N.P., above Killungoondie Plain on Killungoondie S.F., and Range Road on Orara West S.F.

Timber and Uses—Too small to be used.



E.S.

Plate No. 6

Cryptocarya sp. nov. (Dome Mtn.)

CRYPTOCARYA ERYTHROXYLON Maiden et Betche.

Reference—Forest Flora N.S.W., III, 1907, 111.

Derivation—Erythroxyton from Greek "erythros" red and "xylon" wood, referring to the pinkish colour of the timber.

Common Name—Pigeonberry Ash, Rose Walnut, Rose Maple, Southern Maple, Bottleberry.

Standard Trade Name—Rose Maple.

A large, symmetrical tree of the higher altitudes, attaining over 30 m in height and a stem diameter of 90 cm.

Trunk—Often slightly buttressed, the buttresses rarely extend far up the trunk. The cylindrical, white or grey coloured trunk of this tree causes it to stand out conspicuously in the rainforest.

Outer Bark—A thin, white or grey layer, corky in texture. Underbark white with a brown inner margin. Outer surface of live bark light green.

Inner Bark—Pink, sapwood white, turning brown on exposure. The bark, when cut or crushed, is strongly fragrant. Bark about 20 mm thick on a tree of 75 cm diameter.

Branchlets—Green, smooth. The branchlets often dry black or brown. The twigs of dried specimens still have a fragrant odour when broken, whereas those of the closely related species *C. rigida* are odourless.

Leaves—Alternate, simple, entire, elliptic in outline, 6-13 cm long and 2-4 cm broad, gradually tapering to a blunt point at the tip. Upper surface smooth, and green, lower surface smooth and clothed in a glaucous, waxy process, which melts when a lighted match is applied to the upper surface. Leaf stalk 6-14 mm long, slightly channelled on upper surface, smooth.

Venation—Distinct both surfaces, slightly raised beneath. Midrib depressed on the upper surface and raised below.

Flowers—(Francis) Flowers in panicles in the forks of the upper leaves or at the ends of the branchlets, the inflorescences shorter than or as long as the leaves. Stalklets in individual flowers short. Flowers about 2 mm long; the perianth divided to the middle into six minutely hairy lobes, the lower individual part of the perianth narrower than the upper lobed part. Within the perianth, and shorter than it, are two series of stamens; the outer row of six stamens and the inner row of three perfect stamens alternating with three staminodia. In the centre of the flower and enclosed by the base of the perianth is the egg-shaped ovary which tapers at its apex into a style. In the development of the fruit, the lowest part of the perianth unites with the ovary and encloses it. Flowering period November to December.

Fruit—Egg-shaped to pear shaped, 12-18 mm long, black, smooth, crowned by the remains of the perianth lobes and containing a single, large oval-pointed smooth, seed, 9-15 mm long. Fruit ripe April to October.

Distribution—From below Barrington Tops, N.S.W. to the McPherson Range, Queensland. Recorded in N.S.W. from Upper William's River, Gloucester, Boorganna N.R., Doyles River S.F., Thumb Creek S.F., Dome Mtn., Dorrigo N.P., Gibraltar Range N.P., Washpool S.F., Richmond Range S.F., Toonumbar S.F., Beaury S.F., Koreelah S.F., Nothofagus Mtn. F.R., Mt. Lindesay F.R., Lever's Plateau, Wiangaree S.F., Mt. Warning N.P., Mebbin S.F., Limpinwood N.R., and Crystal Creek.

Timber and Uses—The timber is a light pinkish-brown when freshly cut, but weathers to an orange shade and possesses a strong, distinctive odour. It has a moderately coarse, but uniform texture and shows a fine figure on backsawn faces, due to the bands of soft tissue. Durable in the weather. Its main uses are for flooring, lining, panelling, internal fittings, furniture and as plywood. Moderately light in weight, 700 kg per cubic metre.



0 : 2 cm.
E.S.

Plate No. 7

Cryptocarya erythroxylon Maiden et Betche

CRYPTOCARYA FOETIDA R. T. Baker.

Reference—Proc. Linn. Soc. N.S.W. XXX. 1905, 517.

Derivation—Foetida from Latin “foetidus” stinking, referring to the offensive odour of the flowers.

Common Name—Stinking Cryptocarya.

Standard Trade Name—None.

A straight small to medium tree up to 20 m high and 20 cm diameter with a dark green crown. *Closely resembles Diospyros fasciculosa from a distance.*

Trunk—Cylindrical, not buttressed but slightly flanged at the base.

Outer Bark—Brown, slightly fissured. *Underbark purplish-brown* with fawn round lenticels. Outer surface of live bark yellow-brown.

Inner Bark—Blaze on a tree 20 cm diameter *yellow with cream flares, turning yellow-brown within ten seconds.* After five minutes, the middle layer turns brown whilst the inner and outer layers turn creamy-fawn. *Bitter taste* but no smell. 6 mm thick.

Branchlets—Slender, green turning brown, smooth. Leaf buds with a short rusty down.

Leaves—Alternate, simple, not toothed, ovate to ovate-lanceolate, smooth, *thick and shiny with a transparent margin*, tapering to a blunt point, 8-13 × 4-5 cm broad. The leaves are similar in shape to *Endiandra muelleri* but are thicker in texture with the venation resembling that of *Beilschmiedia elliptica*. *Dark green above, paler below.* Leaf stalk 5-8 mm slightly downy, grooved above.

Venation—Midrib and lateral veins prominent on both surfaces, *conspicuously reticulate beneath* and thus distinguishable from *Diospyros fasciculosa*. Midrib not raised on the upper surface, but raised and somewhat flattened below as in *Endiandra sieberi*. Midrib cream as in *Diospyros fasciculosa*, but the *leaf stalk greenish-brown* rather than cream as in the latter species.

Flowers—In axillary or terminal paniculate cymes. Inflorescence stalks with scattered golden-brown hairs. Flowers numerous, hoary pubescent, smaller than those of *Cryptocarya rigida*, but larger than those of *Cryptocarya glaucescens*. Perianth segments about 2 mm long, fused for the bottom half. Stamens six in the outer series with three fertile in the inner series, alternating with three staminodia. The flowers have a very offensive odour, and are attractive to bees. Flowering period February.

Fruit—*Globular*, about 8-10 mm diameter, *purplish-black with a bloom.* Fruit ripe February.

Habitat—Originally common in *littoral rainforest* but now mostly destroyed by repeated burning and clearing.

Distribution—From Ballina, N.S.W. to Fraser Island, Queensland. Recorded in N.S.W. from Ballina (not seen since 1891), Broken Head N.R., Byron Bay, Brunswick Heads N.R., Cabarita and Cudgen Lake.

Timber and Uses—R. T. Baker, in describing this species, considered that the wood might be hard and durable as are the other species of the genus.



E.S.
0 1 2 cm

Plate No. 8
Cryptocarya foetida R. T. Baker

CRYPTOCARYA FOVEOLATA White et Francis.

Reference—Proc. Roy. Soc. Q'land. 35, p. 75, 1924.

Derivation—Cryptocarya from Greek “kryptos” concealed, “karyon” a nut referring to the fleshy perianth enclosing the seed; foveolata from Latin “foveolata” minutely pitted, referring to the hollow glands on the underside of the leaves.

Common Name—Small-leaved Cryptocarya, Mountain Walnut.

Standard Trade Name—Small-leaved Laurel.

A tree attaining a height of 40 m and a stem diameter of 90 cm.

Trunk—Not prominently buttressed.

Outer Bark—*Brown or reddish-brown, usually fairly smooth, with numerous short vertical lines of lenticels. Underbark brown. Outer surface of live bark pinkish.*

Inner Bark—Blaze on a tree 90 cm diameter, *brown with a few vertical light coloured lines. Inner margin at first pinkish-brown, but changing after a few minutes exposure to a darker brown. 20 mm thick. On Gibraltar Range State Forest where this species is one of the largest and most common trees in the rainforest, the outer bark is distinctly rougher and wrinkled, while the blaze is deeper and more reddish-brown.*

Branchlets—Smooth, young shoots finely downy.

Leaves—Alternate, elliptical or ovate, 4-7 cm long, blunt, or drawn out to a blunt point at the tip. *Three nerved, usually with one or two pairs of prominent hollow glands, situated at the junction of the principal lateral nerves. A gland occurs on each side of the midrib, with its aperture on the underside of the leaf and a raised lump on the upper-side. Upper surface of leaf dark green, paler beneath. Leaf stalk 3-7 mm long.*

Venation—Midrib pale green and slightly raised on both surfaces. Lateral nerves raised slightly on underside. Some net veins faintly visible on both surfaces.

Flowers—Panicles 1-2 cm long in the upper axils or terminal. Stalks sparsely hairy. Calyx tube with thick fawn hairs, 2 mm long, lobes egg-shaped, 2 mm long. Ovary narrow egg-shaped, downy. Flowering period February.

Fruit—*Black, oval, crowned by the minute circular scar of the perianth tube. The thin outer succulent part enclosing a single large oval seed. Fruit ripe April to October.*

Habitat—Rainforest on volcanic soils, *generally at the higher altitudes.*

Distribution—From below Barrington Tops, N.S.W. to the McPherson Range, Queensland. Recorded in N.S.W. from Upper Patterson River, Chichester S.F., Dungog, Comboyne, Doyles River S.F., Mt. Boss S.F., Riamukka S.F., Oakes S.F., New England N.P., Deervale, Dorrigo N.P., Bellinger River, Marengo S.F., Hyland S.F., Gibraltar Range N.P., Washpool S.F., Toonumbar S.F., Unungar S.F., Beary S.F., Koreelah S.F., Nothofagus Mtn. F.R., Mt. Lindesay F.R., Wiangaree S.F., Whian Whian S.F., Mt. Warning N.P., Mebbin S.F. and Limpinwood N.R.

Timber and Uses—Little seems to be known about the pale coloured, firm textured timber, but it is said to be suitable for flooring and cases.



0 1 2 cm.
E.S.

Plate No. 9

Cryptocarya foveolata White et Francis

CRYPTOCARYA SP. NOV. (Gorges).

Reference—

Derivation—

Common Name—Gorge Laurel, Glenugie Laurel.

Standard Trade Name—None.

A small slender tree up to 15 m tall and 25 cm diameter with a dense dull dark green crown resembling *Diospyros pentamera*.

Trunk—Sometimes multi-stemmed, not buttressed, crooked, slightly fluted or flanged on large trees.

Outer Bark—*Brownish-grey to black, wrinkled with shallow vertical fissures and roughened by fine pimples. Somewhat tough and leathery. Underbark dark brown.* Outer surface of live bark yellow-brown with darker brown streaks and patches.

Inner Bark—Blaze on a tree 20 cm diameter. *Pinkish-brown or light brown with vertical creamy-brown or cream flames on the outer half.* Uniform paler pinkish-brown or light brown on the inner half. Hard and granular. *Sapwood surface yellow changing to brown* after a few minutes exposure. Slight fading of the darker bands only upon exposure. Astringent or slightly bitter taste with a sappy smell. 8 mm thick.

Branchlets—Moderately slender, *greenish-black*, sometimes slightly grey, dull with a sparse grey-fawn down near the tips. *Leaf buds with fawn silky hairs.*

Leaves—Alternate, simple, not toothed, broad lanceolate, 3-6 cm long, 8-20 mm wide, *broadest near the base* and tapering gradually to a long point at the tip but more quickly at the base. *Dark green shiny above, paler and almost dull beneath with a transparent margin.* Leathery. Stalks 4-10 mm long, greenish-black.

Venation—Distinct on both surfaces, but more prominent on the underside. *On fresh leaves only the yellow-green midrib is visible* unless held up to the light when the six to ten looping lateral veins on each side can also be seen. On dried specimens the paler lateral veins and close net veins are clearly visible on both surfaces.

Flowers—Pale green, fragrant, in axillary paniculate cymes, 1-2 cm long. Stalks with pale silky hairs. *Flower stalks long, 2-3 mm.* Flowers 3 mm diameter. Calyx tube densely silvery silky. Sepals and petals sparsely silky, triangular, 1 mm long. Flowering period October to November.

Fruit—*Globular, black, shining, 12 mm diameter, pointed at the tip, longitudinally ribbed, more prominently so at the tip.* Fleshy covering, thin, scarcely succulent, enclosing a single large seed. The mature fruit has the appearance of being pointed at both ends owing to the firm adherence of part of the pedicel. Fruit ripe February to June.

Habitat—Confined to dry rainforest on steep dry rocky slopes or gorge sides where only scattered trees occur.

Distribution—Restricted to the gorges of the Macleay and Guy Fawkes River systems, Glenugie Peak near Grafton, N.S.W. and Mt. Kiangarow in Bunya Mountains N.P., Queensland. Recorded in N.S.W. from Yard Creek (a tributary of Kunderang Brook south of the Macleay River), below Wollomombi Falls, near Mill Creek and Long Point (Chandler River Gorge), Big Scrub Gully and N.E. of Bees Nest Trig (Guy Fawkes N.P.) and on the eastern and northern upper slopes of Glenugie Peak (Glenugie F.R.).

Timber and Uses—Wood white. Too small and rare to be used.



0 1 2 cm.

E. S.

Plate No. 10

Cryptocarya sp. nov. (Gorges)

CRYPTOCARYA GLAUDESCENS R. Br.

Reference—Prodr. Fl. Nov. Holl: 402, 1810.

Derivation—Cryptocarya from Greek “kryptos”, concealed and “karyon” a nut referring to the perianth enclosing the hard seed; glaucescens from the Latin “glaucescens”, becoming bluish-grey referring to the colour of the underside of the leaves.

Common Name—Jackwood, Silver Sycamore, Native Laurel, Brown Beech, Brown Laurel.

Standard Trade Name—Silver Sycamore.

Trunk—A tree attaining 30 m in height and 90 cm stem diameter. Sometimes buttressed in larger trees.

Outer Bark—*Brown, more or less scaly.* Surface marked by numerous shallow, irregular indentations and lines.

Inner Bark—*Blaze reddish-brown with inconspicuous lighter vertical bands.* The whole blaze darkening slightly after a few minutes exposure. Freshly cut bark has a *sugar cane-like smell.* The surface of the sapwood is often corrugated.

Branchlets—Young branchlets minutely hairy.

Leaves—Leaves alternate, elliptic, 6-13 cm long, tapering at both ends and drawn out to a blunt point at the tip. *Upper surface green, underside grey.* Leaf stalks 8-12 mm.

Venation—Midrib, lateral nerves and net veins visible both surfaces, but raised and more conspicuous beneath.

Flowers—Flowers small and numerous in panicles. Shorter or longer than the leaves. Flowering period October to November.

Fruit—Fruit *black, shiny, somewhat puckered and indistinctly vertically ribbed,* of a peculiar *round somewhat flattened shape,* 12-18 mm broad by about 10-15 mm deep. Seed light brown, dull, wrinkled and indistinctly vertically ribbed, globular-flattened at base and tip which has a short hard point. Fruit ripe March to June.

Habitat—Common in most rainforest areas in New South Wales on the poorer sedimentary soils; often associated with Coachwood.

Distribution—From Mt. Dromedary near Narooma, N.S.W. to Tully, North Queensland. Recorded in N.S.W. from Mt. Dromedary, Burrill Lake, Conjola, Cambewarra Mtn., Kangaroo Valley, Jamberoo, Minnamurra Falls, Macquarie Pass, Dapto, Mt. Kembla, Mt. Keira, Stanwell Park, Royal National Park, Eastwood, Strickland S.F.,

Wyong, Stroud, Upper Williams River, Seal Rocks, Bulga Flat, Boorganna N.R., Port Macquarie, Mt. Boss S.F., Kempsey, Macksville, New England N.P., Dorrigo N.P., Bellingen, Pine Creek S.F., Orara East S.F., Coramba, Kangaroo River S.F., Wild Cattle Creek S.F., Moonpar S.F., Marengo S.F., Cloud's Creek S.F., Coalinsok Creek, Gibraltar Range N.P., Washpool S.F., Drake, Wiangaree S.F., Whian Whian S.F., Lismore, Crystal and Couchy Creeks.

Timber and Uses—Timber pale brown. Sapwood not attacked by Powder Post Borer. Used for interior joinery, cabinet work, and cases. It dulls saws and other tools quickly. It should also be useful as flooring and panelling.

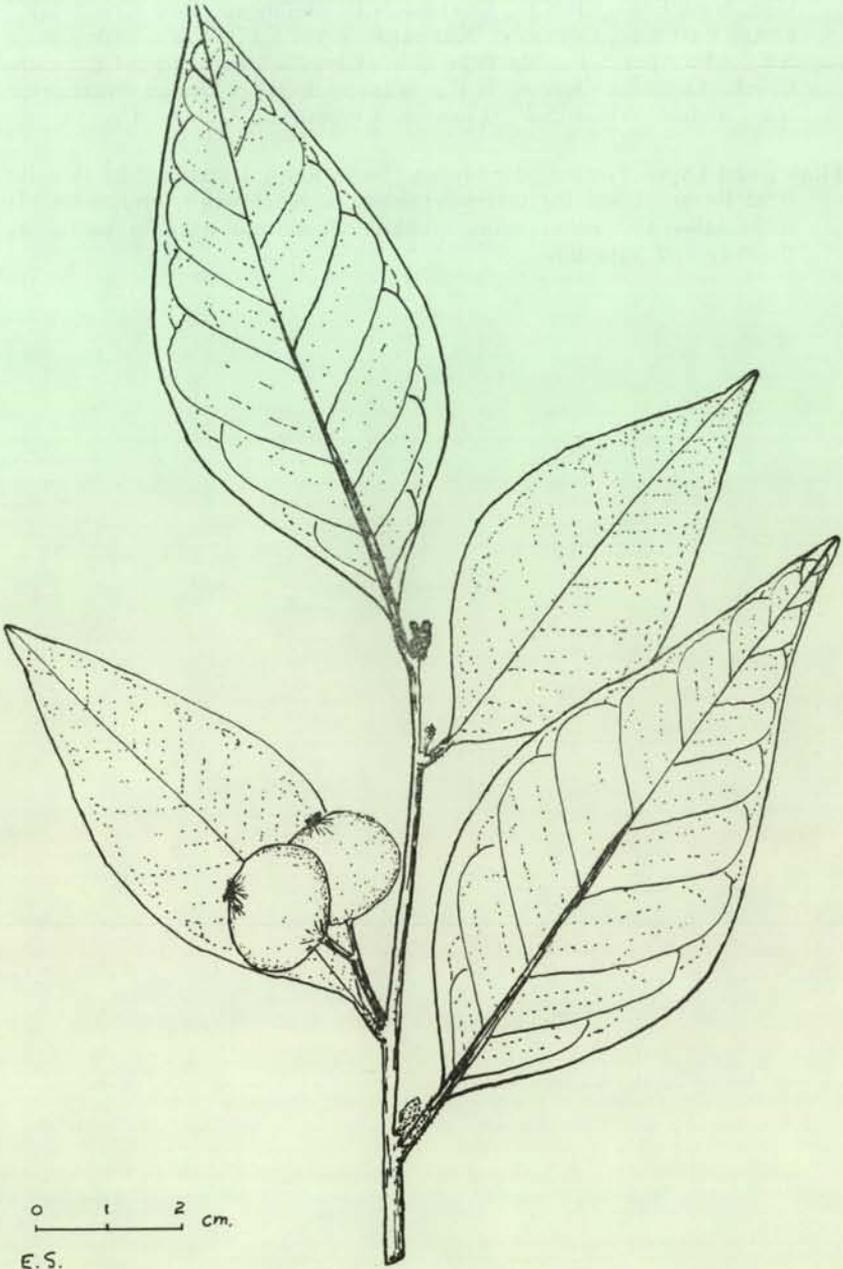


Plate No. 11

Cryptocarya glaucescens R. Br.

CRYPTOCARYA LAEVIGATA VAR. BOWIEI (Hook.)
Kosterm.

Synonym—*Cryptocarya australis* Benth., *C. bowiei* (Hook.) Druce,
Cryptocarya laevigata Bl.

Reference—Reinw. 7: 470 (1969).

Derivation—*Laevigata* from Latin “*laevigatus*” smooth and polished in reference to the glossy leaves; *bowiei* after Mr. Bowie of South Africa to whom Hooker at Kew Gardens incorrectly accredited with sending him seed of this species.

Common Name—Glossy Laurel, Grey Sassafras.

Standard Trade Name—None.

A large shrub or crooked small tree up to 6 m tall and 5 cm diameter with attractive glossy green leaves.

Trunk—Cylindrical without buttresses.

Outer Bark—*Brownish-black*, smooth to finely fissured with raised round pustules. *Underbark light brown*. Outer surface of live bark cream-brown.

Inner Bark—Blaze on a tree 5 cm diameter *uniformly straw-coloured* in the outer section but marked by numerous *fine vertical pinkish-brown lines in the inner part*. Sapwood surface creamy-yellow. The whole surface darkens slightly on exposure. *Very bitter*, no smell. 2 mm thick.

Branchlets—Slender, somewhat angular, light green, smooth. Buds with a fawn silky down.

Leaves—Alternate, simple, not toothed, ovate-elliptical to almost oblong, 5-12 cm long, tapering at the base and also to a somewhat blunt point at the tip. Thick, *glossy on both sides* when fresh but drying dull, not hairy, bright green above and paler below. Leaf stalk short, 2-5 mm, smooth.

Venation—*Prominent midrib and two basal lateral veins extending for most of the leaf length*. Other veins obscure.

Flowers—Cream, in loose few-flowered (three to seven) panicles, 1-3 cm long in the axils of the leaves. Flower stalks long, 2-4 mm. Flowers 2-4 mm diameter, the triangular six sepals and petals wide open. Stamens very short. Flowering period October to December.

Fruit—Fleshy drupe, *usually red* or orange to yellow, *shiny, egg-shaped to globular* with the remains of the flower crowning the top, 15 mm diameter. The single, hard, egg-shaped seed is longitudinally ribbed. Fruit ripe January to April.

Habitat—In lowland subtropical rainforest on rich basaltic or alluvial soil associated with *Heritiera trifoliolata*.

Distribution—Common in the understorey in the Brunswick and Tweed valleys. Richmond River, N.S.W., to Cairns, North Queensland. Recorded in N.S.W. from Lismore, Lennox Head, Brunswick Heads N.R., Burringbah, Nullum S.F., Mt. Warning N.P., Limpinwood N.R., Couchy Creek, Murwillumbah and North Tumbulgum.

Timber and Uses—Wood pale, close-grained, easily worked. Suitable for lining boards, but rarely of sufficient size.



0 1 2 cm.

ES

Plate No. 12

Cryptocarya laevigata var. *bowiei*. (Hook.) Kosterm.

CRYPTOCARYA MEISNERANA Frodin.

Synonym—*Cryptocarya meisneri* F. Muell.

Reference—*Telopea* 1 (3): 217-24, 1976.

Derivation—*Cryptocarya* from Greek "kryptos" concealed, "karyon" a nut alluding to the fleshy perianth concealing the hard seed; *meisnerana* after C. F. Meisner who made a close study of the family Lauraceae.

Common Name—Thick-leaved Laurel, Meisner's Laurel.

Standard Trade Name—Northern Rivers Laurel.

A small tree attaining a height of 10 m and 25 cm stem diameter. Stem often twisted.

Outer Bark—Smooth, brown, with vertical rows of small pustules. *Underbark* brown. Outer surface of live bark greenish, orange-brown.

Inner Bark—Blaze on a tree 25 cm diameter *light brown* with a few pale wavy lines on the outer half, but with *conspicuous cream vertical streaks on the inner half*. Fading within two minutes to a uniform fawn. Bark bitter to taste, with a faint watermelon smell. 5 mm thick.

Branchlets—Green and smooth.

Leaves—Blades alternate, elliptical or lance-shaped, 5-9 cm long, drawn out to *long, blunt point at the tip*. *Green and shining above*, paler or sometimes glaucous beneath (a form with glaucous under leaf surfaces is common in Whian Whian State Forest). Leaf stalks 3-5 mm long.

Venation—Midrib and lateral nerves visible on both surfaces in the Tweed Range form, but the *lateral nerves indistinct above* from other areas. Midrib sunken on the upper surface, raised beneath.

Flowers—In short axillary panicles. Flowers small and not numerous. Glabrous outside and minutely hairy inside. Flowering period October to January.

Fruit—Succulent drupe, *black, ovoid, pointed, shiny, with longitudinal ribs*, 1.5 cm long. Fruit ripe March to April.

Habitat—Rainforest on the poorer sedimentary soils.

Distribution—From Hastings River, N.S.W. to Logan River, Southern Queensland. Recorded in N.S.W. from Boorganna N.R., Comboyne, Lorne S.F., Enfield S.F., Yarrawitch, Doyles River S.F., Mt. Boss S.F., Hastings River, Port Macquarie, New England N.P., Dorriggo N.P., Bellinger River, Newry S.F., Pine Creek S.F., Bruxner Park S.F., Orara West S.F., Tuckers Nob, Brooklana, Kangaroo River S.F., Wild Cattle Creek S.F., Moonpar S.F., Gibraltar Range N.P., Washpool S.F., Mt. Belmore S.F., Richmond Range S.F.,¹Wiangaree S.F., Whian Whian S.F., Nullum S.F., Couchy Creek and Murwillumbah.

Timber and Uses—Too small to be of much commercial importance. Should be suitable for small turnery.



Plate No. 13

Cryptocarya meisnerana Frodin

CRYPTOCARYA MICRONEURA Meisn.

Reference—D. C. Prod. XV (1), 73, 1864.

Derivation—Microneura from Greek “mikros” small, “neuros” a nerve, referring to the conspicuous fine network of veins in the leaves.

Common Name—Murrogun, Brown Jack.

Standard Trade Name—Murrogun.

Usually a small tree 30 cm diameter with a height of 20-25 m.

Trunk—Usually fluted or irregular in shape.

Outer Bark—Grey, corky on small trees or grey-brown scaly on larger trees. Underbark light brown. Outer surface of live bark light green on small trees or creamy-brown on larger trees.

Inner Bark—Blaze on a tree 30 cm diameter, outer half yellow-brown to brown, granular and flecked. Pinkish-brown nearer the sapwood with paler vertical stripes and a pale yellow line next to the sapwood. The whole blaze on exposure of only a few seconds changes rapidly to reddish-brown. Astringent taste. No smell. 15 mm thick.

Branchlets—Slender, greenish-black, smooth. Young leaf buds clothed in fawn silky down.

Leaves—Alternate, simple, margins entire, narrowly elliptical, drawn out to a long blunt point at the tip. Upper surface glossy, under surface pale. The younger leaves have a pale glaucous bloom on the underside which turns to a bright, glossy green when heated by a lighted match.

Venation—Midrib and lateral veins distinct on both surfaces. Midrib raised above, creamy-white. The main lateral veins curve unbranched outwards to the leaf margin.

Flowers—In panicles at the ends of the branchlets or in the leaf axils. Flowers—grey, finely downy, about 4 mm long, consisting of a tube and six perianth lobes. Flowering period September to November.

Fruit—Succulent drupe, shiny, black, globose to oval-pointed, 12 mm diameter with faint vertical ribs. Seed single, oval-pointed, smooth, 6 mm long. Fruit ripe December to July.

Habitat—Common in most warm temperate rainforest areas on the poorer sedimentary soils (Coachwood type) and also in the littoral rainforests.

Distribution—From Bateman's Bay, N.S.W. to Mapleton, Queensland. Recorded in N.S.W. from Pebbly Beach, Minnamurra Falls, Mt. Kembla, Bulli, Austinmer, Pittwater, Wyong, Newcastle, Clarence-town, Cedar Brush, Upper Allyn River, Bulahdelah, Myall Lakes N.P., Seal Rocks, Boorganna N.R., Bellangry S.F., Port Macquarie, Carrai S.F., Way Way S.F., New England N.P., Dorriggo N.P., Newry S.F., Pine Creek S.F., Coffs Harbour, Bruxner Park F.R., Orara East S.F., Boundary Creek S.F., Maclean, Copmanhurst, Gibraltar Range N.P., Mt. Pikapene S.F., Woodburn, Casino, Richmond Range S.F., Toonumbar S.F., Beaury S.F., Tooloom S.F., Koreelah S.F., Nothofagus Mtn. F.R., Red Scrub F.R., Alstonville, Limpinwood N.R., Crystal and Couchy Creeks.

Timber and Uses—Timber pale in colour, but too small to be of use.



0 1 2 cm

5

Plate No. 14

Cryptocarya microneura Meisn.

CRYPTOCARYA SP. NOV. (New England N.P.).

Reference—

Derivation—

Common Name—Mountain Laurel.

Standard Trade Name—None.

A small to medium tree up to 15 m tall, 30 cm diameter with thick horizontal branches.

Trunk—Straight, not buttressed.

Outer Bark—*Brown*, smooth to wrinkled due to shallow vertical fissures.

Underbark very thin, mid brown. Outer surface of live bark with *red-pink* and *fawn* vertical stripes.

Inner Bark—Blaze on a tree 30 cm diameter *pale pink with deep pink branching vertical streaks*. Turning *orange-brown with pinkish-brown streaks*. Sapwood boundary white, turning *yellow*. Bitter taste, fish oil smell. 8 mm thick.

Branchlets—Moderately thick, *orange-yellow, smooth* but turning black on drying. Buds and expanding shoots *fawn, hairy*.

Leaves—Alternate, simple, entire, ovate-lanceolate to elliptic, 4-8 cm long, *drawn out to a rounded tip*, tapering at the base. Smooth both sides, or with sparse hairs on the midrib below. Dark green shiny above, *grey dull* beneath. Young leaves pinkish-green above. Leaf stalks 4-6 mm long, *smooth*.

Venation—*Cream midrib*, channelled above, raised below. Main lateral veins five to seven, *not curved*, indistinct above, more conspicuous below. Net veins not visible on fresh specimens but forming a distinct *close network on dried leaves* with about *fifteen reticulations* between the main lateral veins.

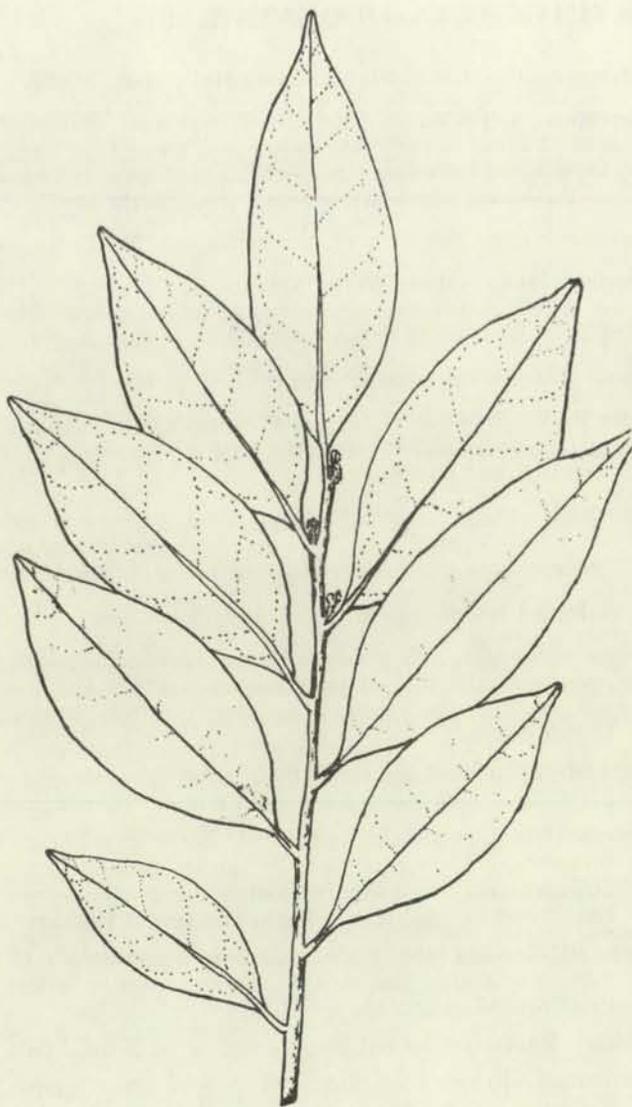
Flowers—*Fawn*, in short axillary panicles up to 1 cm long. Outer surface of buds and stalks *fawn, downy*. Flowering period December to January.

Fruit—Drupe, black, globular, depressed-globular or very broad-pyriform, about 1 cm long, not hairy nor ribbed. (Pers. comm. J. B. Williams). Fruit ripe March and April.

Habitat—*Cool temperate rainforest* at 1100-1350 m altitude. An understorey species with *Doryphora sassafras*, *Elaeocarpus holopetalus* and *Quintinia sieberi* beneath *Nothofagus moorei*.

Distribution—Petroi Plateau, Macleay River to Mt. Nothofagus, McPherson Range. Recorded from Petroi Plateau south of New England N.P.; Cascade's, Wright's Lookout and Weeping Rock tracks in New England N.P. and Deervale (J. B. Williams). Also at Mt. Hyland, Marengo S.F. and Mt. Nothofagus F.R.

Timber and Uses—Not known.



0 1 2 cm.

15

Plate No. 15

Cryptocarya sp. nov. (New England N.P.)

CRYPTOCARYA OBOVATA R. Br.

Reference—Prodromus Florae Novae Hollandiae, p. 402.

Derivation—Cryptocarya from Greek "kryptos" concealed, "karyon" a nut alluding to the fleshy perianth enclosing the hard seed, obovata from Latin "obovatus", reversed egg-shaped, referring to the shape of the leaves which are broadest towards the top.

Common Name—Pepperberry, White Walnut, She Beech.

Standard Trade Name—White Walnut.

A large tree attaining a height of 40 m and a stem diameter of 90 cm. Crown has a rusty brown appearance when viewed from the ground.

Trunk—Usually tall, straight and cylindrical, *often buttressed* at the base.

Outer Bark—*Brown and usually fairly smooth* with numerous vertical lines of pustules. In older trees the bark is sometimes grey with a finely wrinkled and pustular surface.

Inner Bark—Blaze, *outer half mottled brown, with numerous vertical darker wavy lines*, central portion paler. *Inner margin pinkish-brown*, which on exposure *soon changes to a dark brown*. Inner surface pinkish.

Branchlets—Clothed in a brown, velvety down.

Leaves—Alternate, *oblong to obovate*, 6-12 cm long, *rounded or bluntly pointed* at the tip. Upper surface smooth and glossy, *underside usually grey, finely downy*, wax test positive. Leaf stalks 3-8 mm, brown.

Venation—Prominent, the raised midrib, *lateral nerves and net veins* which are covered *with brown hairs* stand out conspicuously.

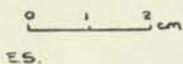
Flowers—White, in panicles, in the forks of the leaves or at the ends of the branches, inflorescences usually shorter than the leaves. Individual flowers about 3 mm long, almost sessile, finely downy. The perianth consists of six oval lobes. Flowering period February to May.

Fruit—Black when ripe, *globular, usually longitudinally ribbed*. 12 mm diameter. Outer portion thin, fleshy, covering a large, hard seed. Fruit ripe March to May.

Habitat—Rainforest on red basaltic soil or on alluvial flats.

Distribution—From Port Stephens, N.S.W. to Gympie, Queensland. Recorded in N.S.W. from Upper Williams River, Port Stephens, Cape Hawke, Boorganna N.R., Wauchope, Port Macquarie, Carra, S.F., Kempsey, Way Way S.F., New England N.P., Dorrigo N.P., Bellinger River, Pine Creek S.F., Bruxner Park F.R., Orara East S.F., Coramba, Kangaroo River S.F., Wild Cattle Creek S.F., Cloud's Creek S.F., Boundary Creek S.F., Gibraltar Range N.P., Washpool S.F., Iluka, Richmond Range S.F., Toonumbar S.F., Unumgar S.F., Moore Park, Beaury S.F., Koreelah S.F., Nothofagus Mtn. F.R., Mt. Lindesay F.R., Roseberry S.F., Lever's Plateau, Wiangaree S.F., Red Scrub F.R., Lismore, Victoria Park N.R., Mt. Warning N.P., Limpinwood N.R. and Crystal Creek.

Timber and Uses—Pale, soft, close-grained, tough, non-durable in the weather. The sapwood is susceptible to Lyctus attack. Easily worked and therefore useful for plywood, flooring, brush stocks and cases.



ES.

Plate No. 16

Cryptocarya obovata R. Br.

CRYPTOCARYA RIGIDA Meisn.

Reference—D. C. Prod. 15, 508.

Synonym—*Cryptocarya patentinervis* F. Muell.

Derivation—*Rigida* from Latin "rigidus" stiff, the reference is obscure.

Common Name—Brown Beech, Rose Maple.

Standard Trade Name—Rose Maple.

A shrub or small tree in New South Wales reaching a height of about 10 m and a stem diameter of 20 cm.

Trunk—Not prominently buttressed, but with flanged roots.

Outer Bark—Grey to light grey with a very thin, corky layer of dead bark. *Underbark creamy-fawn*. Outer surface of live bark olive green with orange streaks.

Inner Bark—*Blaze* on a tree 10 cm diameter *pink*. An inner, wider band next to the sapwood of a darker pinkish-red. Numerous brownish flecks and fine vertical paler and darker lines pattern the surface. Only the sapwood surface changes to brown after three minutes exposure. Slightly astringent taste. The freshly cut bark has a fragrant odour. 6 mm thick.

Branchlets—Moderately thin, green (drying black), with a grey-brown down. Leaf buds with long fawn to rusty silky down.

Leaves—Alternate, simple, entire, lance-shaped or elliptical, 6-13 cm long, *tapering to a long point* at the tip. Upper surface dark green, often with scattered hairs along the midrib. *Underside downy, grey or nearly white*. Leaf stalk 5-10 mm long.

Venation—*Midrib* channelled above, raised below and *densely hairy*. *Main lateral veins* more distinct below, *curved, five to seven*. Net veins only conspicuous on dried leaves, forming about ten large rectangles between the main lateral veins, subdivided by fainter veins.

Flowers—Downy, in panicles 1-2.5 cm long springing from the forks of the leaves. Flowering period October to March.

Fruit—Fleshy drupe, *smooth shiny black when ripe, oval-pointed*, 11-15 mm wide and 21-24 mm long with a single seed. Seed brownish-black, smooth, dull, oval-pointed, 9-11 mm by 15-20 mm. Fruit ripe January to May.

Habitat—Coastal rainforests, generally on the poorer sedimentary soils, particularly on the margins.

Distribution—From Wyong, N.S.W. to Atherton Tableland, North Queensland. Recorded in N.S.W. from Watagan S.F., Yacaaba, Myall Lakes N.P., Seal Rocks, Chichester S.F., Allyn River, Upper Williams River, Boorganna N.R., Port Macquarie, Mt. Boss S.F., Kempsey, Carrai S.F., Styx River S.F., Ingalba S.F., Way Way S.F., New England N.P., Glenfernzie, Dorriggo N.P., Fernmount, Newry S.F., Urunga, Pine Creek S.F., Boambee, Coffs Harbour, Lower Bucca S.F., Wedding Bells S.F. Conglomerate S.F., Orara East S.F., Orara West S.F., Kangaroo River

S.F., Wild Cattle Creek S.F., Moonpar S.F., Cloud's Creek S.F., Boundary Creek S.F., Gibraltar Range N.P., Washpool S.F., Ewingar S.F., Girard S.F., Whian Whian S.F., Nullum S.F., and Mebbin S.F.

Timber and Uses—In New South Wales, the tree is generally too small to be of much commercial value; but in Queensland, where the tree attains a height of 30 m and a stem diameter of 60 cm the timber is used for veneer, flooring, lining and internal fittings. Sapwood susceptible to attack by borers. Weight 700 kg per cubic metre.



0 1 3 cm.

Plate No. 17
Cryptocarya rigida Meisn.

CRYPTOCARYA TRIPLINERVIS R. Br.

Reference—Prod. 402.

Derivation—Triplinervis from Latin “tripplus” threefold, “nervus” a nerve, referring to the three conspicuous longitudinal veins on the leaf.

Common Name—Three-veined Cryptocarya.

Standard Trade Name—Brown Laurel.

A small to medium tree with a dense crown of dark green leaves.

Trunk—Grey-brown and smooth with *light grey raised vertical lines of corky pustules*. Not buttressed or flanged.

Outer Bark—*Dark chocolate*. Underbark dark brown. Outer surface of live bark dark brown and streaked with light and dark coloured vertical lines, darkening slightly on exposure.

Inner Bark—Blaze on a tree 60 cm diameter, *red-brown with vertical paler streaks on the outer half* and then uniformly red-brown to the sapwood boundary which is marked by a light yellow line. No change in colour on exposure. The bark has a bitter and soapy taste. 20 mm thick.

Branchlets—Green, clothed in fine rusty hairs.

Leaves—Alternate, simple, entire, broadly lanceolate, acuminate, 6-10 cm long. *Two prominent basal nerves run for two-thirds of the leaf length, being rarely opposite at their bases. Rusty coloured hairy tufts are conspicuous in the axils of these nerves. The upper surface of the leaf is glossy and glabrous, but is dull and pubescent beneath.* Leaf stalks 10-12 mm long.

Flowers—Nearly sessile in axillary panicles, perianth tube cylindrical. Flowering period November to December.

Fruit—*Purple-black* when ripe, shiny, *oval, slightly vertically ribbed*, about 12 mm long with the thin succulent outer covering enclosing a single hard ribbed seed, 8-9 mm long. Fruit ripe February to May.

Habitat—A common tree *in the littoral rainforests* growing on almost pure sand behind the coastal dunes and being one of the largest trees present. Also common in riverine rainforests where it reaches its best development; but is also scattered through the dry and basaltic rainforests as a small tree.

Distribution—From Macleay River, N.S.W. to the Daintree River, North Queensland. Recorded in N.S.W. from Smoky Cape, Shark Island, Bundagen F.R., Coffs Harbour, Moonee, Kangaroo River S.F., Iluka N.R., Mt. Pikapene S.F., Casino, Richmond Range S.F., Toonambar S.F., Unumgar S.F., Moore Park, Beaury S.F., Koreelah S.F., Roseberry S.F., Whian Whian S.F., Lismore, Woodburn, Ballina, Broken Head N.R., Cape Byron, Brunswick Heads N.R., Mebbin S.F. and Bilambil.

Timber and Uses—Grey, close-grained, tough and hard. Little used due to its small size; but has been used for cases.



0 1 2 cm.

E.S.

Plate No. 18

Cryptocarya triplinervis R. Br.

CRYPTOCARYA SP. NOV. (Willi Willi).

Reference—

Derivation—

Common Name—Suggest Willi Willi Laurel.

Standard Trade Name—None.

Usually a shrub, rarely a small tree up to 6 m tall and 7-10 cm diameter with a dense glossy dark green crown.

Trunk—Cylindrical, often crooked.

Outer Bark—*Brownish-black*, smooth.

Inner Bark—Not recorded.

Branchlets—Slender, *grey-black*, dull with a *fawn down*. Leaf buds with fawn silky hairs.

Leaves—Alternate, simple, not toothed, *broad elliptical*, 15-25 mm long, gradually tapering at both the base and the tip. *Glossy dark green* on both sides. Leaf stalk 1-2 mm long, dark and furry.

Venation—Midrib, lateral and net veins lighter and visible on both surfaces of dried leaves. *Main lateral veins two to five pairs* with the basal pair somewhat more conspicuous and *extending more than halfway up the leaf*. Net veins forming a close network.

Flowers—White, in short axillary racemes 5-8 mm long consisting of one to three flowers. Stalks and the outside of the sepals and petals sparsely silky-hairy. Sepals and petals 1-2 mm long. Flowering period October to November.

Fruit—Drupe, green possibly turning black, *globular with the remains of the flower forming a knob at the tip*, 8-10 mm diameter, smooth, shiny. Solitary on stalks 2-5 mm long. Containing a single round seed about 6 mm diameter. Fruit ripe April.

Habitat—Confined to *dry rainforest on limestone*. On steep rocky slopes or at the base of limestone cliffs.

Distribution—Restricted to the limestone belt in the Macleay River valley, N.S.W. Recorded from Mt. Sebastopol, Willi Willi Caves N.R., Block and Tackle Spur, Natural Arch and Stockyard Creek in Carrai S.F.

Timber and Uses—Too small to be of use.



0 1 2 cm.
f. 5

Plate No. 19

Cryptocarya sp. nov. (Willi Willi)

ENDIANDRA COMPRESSA C. T. White.

Reference—Qld. Dept. Agric. Bot. Bull. 21, 1919, p. 15.

Derivation—Endiandra from Greek "endon" within, "andros" a man alluding to the inner series of stamens (the male organs) being the fertile ones, compressa from Latin "compressus" pressed together, referring to the laterally compressed, otherwise globular fruit.

Common Name—Queensland Greenheart, White Bark.

Standard Trade Name—Queensland Greenheart.

A tree attaining a height of 30 m and a stem diameter of about 75 cm.

Trunk—*Sometimes buttressed* in large trees.

Outer Bark—*Light grey to almost white, usually smooth*, but sometimes thinly scaly at the base in large trees. *Underbark white*. Outer surface of the live bark dark reddish-brown.

Inner Bark—Blaze on a tree 60 cm diameter, *light brown*, becoming paler towards the inner margin with numerous, very fine pale vertical lines. Surface of the blaze appears to become paler after ten minutes exposure. Texture of bark somewhat granular and brittle, 7 mm thick.

Branchlets—Smooth, green towards the ends.

Leaves—Alternate, simple, not toothed, elliptical or lance-shaped, 8-18 cm long, rounded or drawn into a blunt point at the tip, narrowed towards the base. *Both surfaces glossy*, upper surface dark green, paler beneath. Leaf stalks 5-12 mm long.

Venation—Prominent and distinct on both surfaces. The midrib on the upper surface is sunken for about half its length.

Flowers—Creamy-yellow, in panicles in the forks of the leaves or springing from the branchlets above the leaf scars. Inflorescences 1.5 cm long, usually shorter than the leaves. Individual flowers about 3 mm diameter. Flowering period November to December.

Fruit—Drupe, *bluish-black, round but flattened laterally*, attaining a diameter of 5 cm. Consisting of the outer pulp surrounding a firm shell which encloses the single large seed. Fruit ripe January.

Habitat—Riverine rainforest in New South Wales.

Distribution—Minyon Falls, Whian Whian S.F., N.S.W., to Babinda, North Queensland. The only locality in N.S.W. from which this species has so far been recorded is about 800 m below Minyon Falls.

Timber and Uses—Wood hard, strong and resilient. Suitable for fishing rods and dance floors.

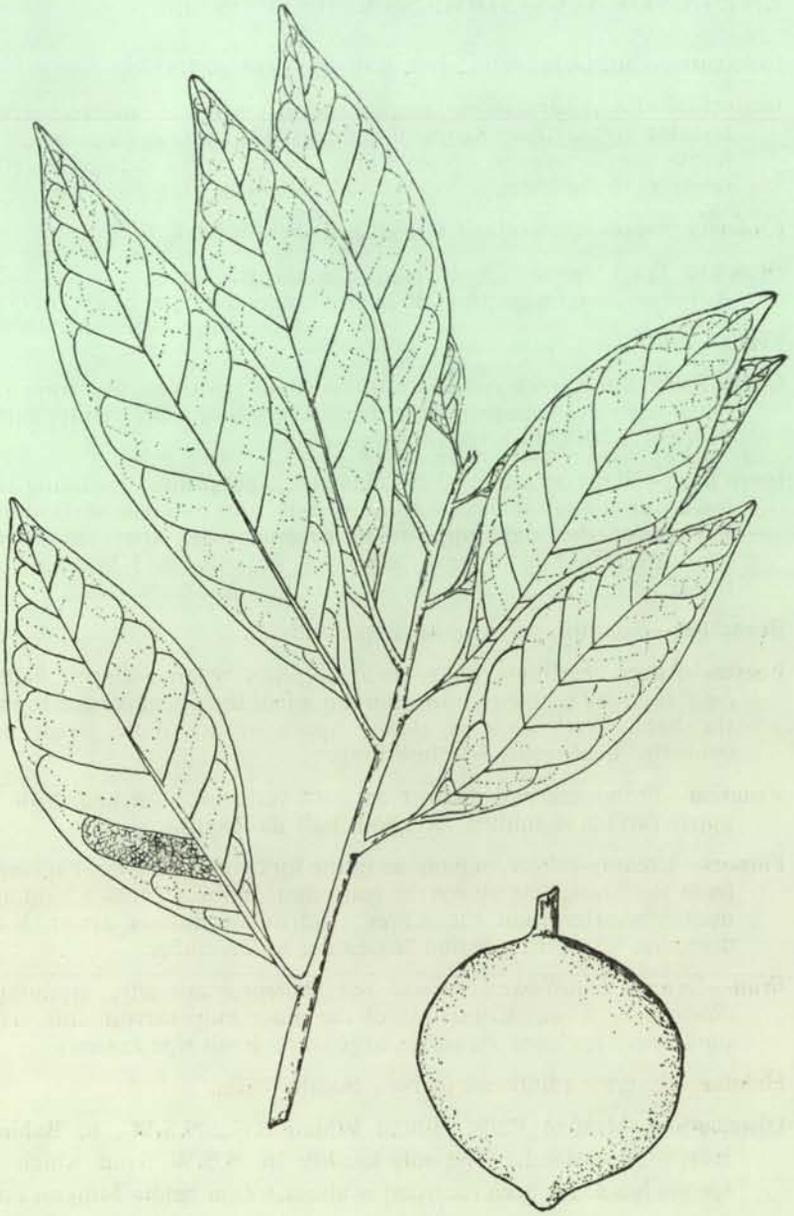


Plate No. 20

Endiandra compressa C. T. White

ENDIANDRA CRASSIFLORA White et Francis.

Reference—Proc. Roy. Soc. Qld. XXXIII, 1921, p. 164.

Derivation—Crassiflora from Latin "crassus" thick, "flora" flower, referring to the thick fleshy nature of the flowers.

Common Name—Dorrigo Maple, Dorrigo Walnut.

Standard Trade Name—Dorrigo Walnut.

A medium sized tree attaining a height of 20 m and a stem diameter of 40 cm.

Trunk—Shortly buttressed, but not fluted.

Outer Bark—Either *smooth and corky or often pitted with numerous irregular depressions* resulting from insect damage. *Underbark thin, pale grey to almost white.*

Inner Bark—Blaze on a tree 25 cm diameter, *deep red* and traversed by *numerous paler vertical lines* becoming paler towards the sapwood. The blaze *soon darkens* on exposure. 10 mm thick.

Branchlets—Green, hairy. *Young shoots densely covered with golden velvety hairs.*

Leaves—Alternate, simple, not toothed, elliptic to ovate, 5-10 cm long, *blunt* or slightly drawn out into a blunt point. *Upper surface smooth and shining, crinkled* due to the prominently raised and rounded leaf surface between the lateral veins. *Lower surface grey.* Leaf stalks 5-12 mm long.

Venation—*Midrib and lateral veins raised and hairy, yellow* when fresh but turning brown on drying.

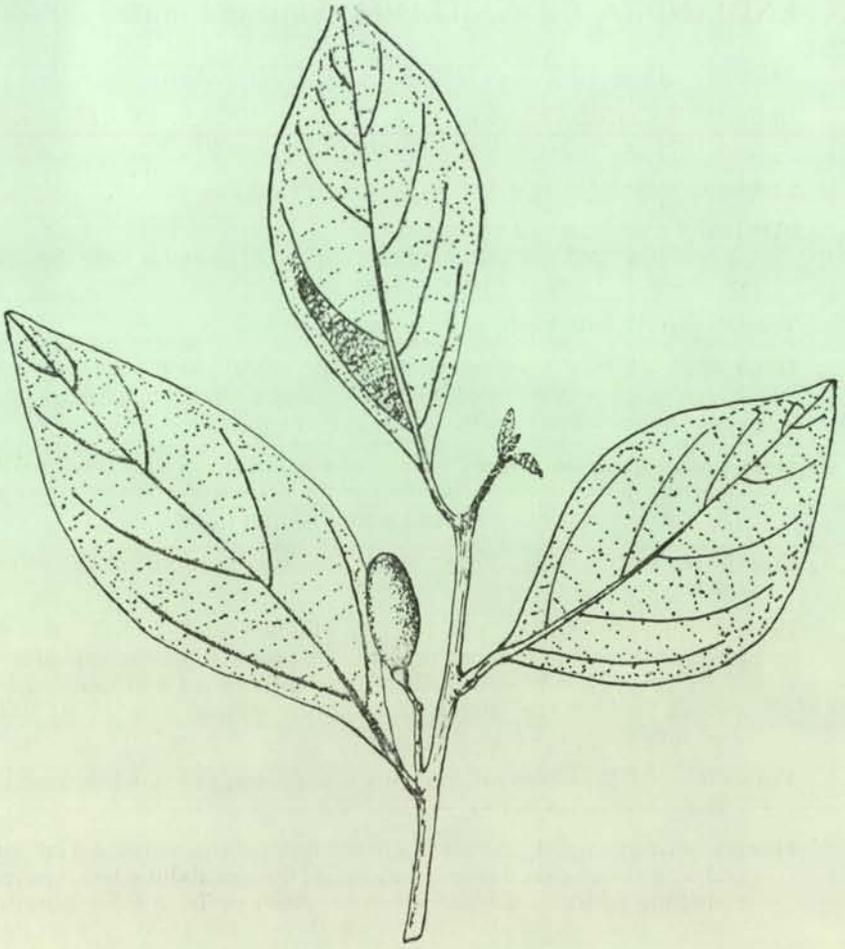
Flowers—Greenish-pink, in racemes in the forks of the leaves, 2-4 cm long and with three to six flowers. Individual flowers about 4 mm diameter consisting of six broad and *somewhat fleshy perianth lobes*, purplish-pink or green in colour. Often only three lobes are dark with three alternating greenish lobes. Perianth tube bell-shaped, about 4 mm long with scattered silvery hairs extending to the underside of the perianth lobes. Perianth tube at first enclosed in two hairy acutely-pointed bracts. Flowering period December to March.

Fruit—Drupe, *blue-black, oval, smooth, 13-25 mm long.* Six perianth lobes reflexed and persistent. Fruit ripe September to December.

Habitat—Prefers the *warm temperate rainforest* on the poorer sedimentary soils of *elevations of 460-760 m.*

Distribution—Mt. Boss (N.W. of Wauchope), N.S.W. to the McPherson Range, Queensland. Recorded in N.S.W. from Mt. Boss S.F., New England N.P., Dorrigo N.P., Bruxner Park F.R., Orara West S.F., Wild Cattle Creek S.F., Moonpar S.F., Gibraltar Range N.P., Wiangaree S.F., Goonimbar S.F., Whian Whian S.F., Mt. Warning N.P., and Limpinwood N.R.

Timber and Uses—Wood pale pink, close-grained. Could be useful for joinery, cabinet making and scaffolding.



0 1 2 cm.

E 5.

Plate No. 21

Endiandra crassiflora White et Francis

ENDIANDRA DISCOLOR Benth.

Reference—Flora australiensis V, 1870, p. 301.

Derivation—Discolor from Latin "dis" unlike, and "color" colour, signifying the unlikeness in colour of the two leaf surfaces.

Common Name—Rose Walnut, Domatia Tree.

Standard Trade Name—Rose Walnut.

A tree attaining a height of 40 m and a stem diameter of 90 cm.

Trunk—*Buttressed*, sometimes to a height of 2 m or more.

Outer Bark—*Brown or greyish-brown, usually smooth* on small and medium sized trees; but on large and *old trees* the surface is *often rough and scarred* by numerous small irregular craters, which are excavated by insects. *Underbark brown*. Outer surface of live bark reddish-black.

Inner Bark—Blaze on a tree 75 cm diameter, *very deep red*, often almost black towards the outer margin, gradually becoming paler towards sapwood, outer half somewhat soft and finely granular, inner half more fibrous. Does not change colour rapidly on exposure. *Pleasantly scented*. 15 mm thick.

Branchlets—Green, smooth, young shoots finely downy.

Leaves—Alternate, simple, not toothed, *elliptical to ovate-elliptic*, 6-10 cm long, blunt or drawn out into a blunt point at the tip, glossy upper surface, *usually pale or grey beneath*, wax test positive. Leaf stalk 5-10 mm, green.

Venation—Midrib and lateral veins pale green on both surfaces, raised and prominent beneath. The numerous net veins are visible on both surfaces. On the underside at the junction of the lateral veins and the midrib are *prominent hollow glands* (domatia), the outer lines of which are *visible on the upper surface*.

Flowers—In panicles in the axils of the leaves or at the ends of the branches. Individual flowers about 2 mm long, the outer part consisting of a bell-shaped, six-lobed, finely hairy perianth. Flowering period October to November.

Fruit—A drupe, *black with green flesh, oval, 20-25 mm long*. Seed oval, 15-20 mm long. Fruit eaten by pigeons. Fruit ripe March.

Habitat—Rainforest on poorer soils, often on alluvial flats near a stream.

Distribution—Scattered trees from Gosford, N.S.W. to Tully, North Queensland. Recorded in N.S.W. from Strickland S.F., Gosford, Upper Williams River, Seal Rocks, Doyles River S.F., Shark Island, Way Way S.F., Urunga, Dorrigo N.P., Fernmount, Bellingen, Pine Creek S.F., Bundagen F.R., Coffs Harbour, Coramba, Wild Cattle Creek S.F., Wedding Bells S.F., Woolli River, Iluka, Woodburn, Whian Whian S.F., and Brunswick Heads N.R.

Timber and Uses—Pinkish, hard. Subject to attack by the Powder Post Borer. Suitable for plywood, flooring, interior joinery, cabinet work. Weight 750 kg per cubic metre.



0 1 2 cm.

F.S.

Plate No. 22

Endiandra discolor Benth.

ENDIANDRA GLOBOSA Maiden et Betche.

Reference—Proc. Linn. Soc. N.S.W. XXLV, 1899, p. 149.

Derivation—Globosa from Latin "globosus" nearly spherical, referring to the round fruits.

Common Name—Suggest Black Walnut.

Standard Trade Name—Ball-fruited Walnut.

A fairly large tree up to 25 m and 40 cm diameter. A good shade and ornamental species when grown in the open, forming a low and bushy crown.

Trunk—Not buttressed or flanged.

Outer Bark—On a tree 30 cm diameter, creamy-white, grey or brown, finely and softly scaly. *Underbark thin, cream.* Outer surface of live bark reddish-black.

Inner Bark—Blaze on a tree 30 cm diameter, *pinkish-red*, freckled red-brown and pink *with vertical and horizontal pale stripes* and fine wavy red and pink lines. Inner margin turns brown after a few minutes exposure and the surface of the blaze darkens slightly after ten minutes exposure due to the darkening of the paler lines. The freshly cut bark has a distinctive and faintly aromatic smell. Very astringent and slightly bitter taste. 15 mm thick.

Branchlets—Slender, *dark green to almost black*, smooth except for the *expanding shoots which have silvery-grey hairs.*

Leaves—Alternate, simple, *lance-shaped or elliptic*, 10-15 cm long, protracted into a *long, blunt point* at the tip. *Glossy both surfaces*, dark green above, paler beneath. Young leaves particularly glossy. Leaf stalks 10-15 mm.

Venation—Midrib and lateral veins creamy-green and raised on both surfaces. The numerous and fine reticulate veins are visible on both surfaces, becoming more conspicuous *on drying*, when the flowers and *leaves turn black.* Leaves have a sweet smell when crushed. Wax test positive.

Flowers—Creamy-white, in small compact panicles. Inflorescences about 2 cm long in the forks of the leaves or on the branchlets. Individual flowers about 3 mm diameter. Flowering period October to December.

Fruit—Drupe, *shiny black, globular, about 5 cm diameter* with a thin yellow fleshy outer covering enclosing a single large seed, 4 cm diameter with striate lines. Fruit ripe April to May.

Habitat—Confined to *riverine rainforest* on rich alluvial soil.

Distribution—Confined to the Brunswick and Tweed valleys, N.S.W. Recorded from Mullumbimby, Brunswick Heads N.R., Billinudgel, Nullum S.F., Crabbes Creek, Palm Vale, Dunbible, Doon Doon Creek, Durobby Creek and Terranora.

Timber and Uses—Wood pinkish when freshly cut, changing to pale pinkish-brown on seasoning, hard and close grained. Little seems to be known about the timber and its possible use.



0 2 4 cm

E. 6.

Plate No. 23

Endiandra globosa Maiden et Betc 12

ENDIANDRA HAYESII. Kosterm.

Reference—Reinwardtia 8 (1), p. 81, 1970

Derivation—Hayesii after H. C. Hayes, eminent N.S.W. rainforest field botanist and collector of this species.

Common Name—Rusty Rose Walnut.

Standard Trade Name—None.

Often a small crooked tree but at Ninyon Falls reaches a height of 35 m and a diameter of 60 cm.

Trunk—Cylindrical except on large trees which may be buttressed at the base.

Outer Bark—Grey to grey-brown, smooth to slightly scaly. *Underbark brown*. Outer surface of live bark dark red with paler red vertical streaks.

Inner Bark—Blaze on a tree 25 cm diameter *deep pink to dark red* on larger trees with cream to yellow-brown vertical lines. Uniform pink near the sapwood which has a yellow boundary. Blaze darkening slightly on exposure. *Astringent* with a fragrant spicy odour. Similar to *E. pubens* except for the astringent taste. 10 mm thick.

Branchlets—Moderately thick, with dense *rusty-brown hairs*. Leaf buds yellow-brown, densely furry.

Leaves—Alternate, simple, not toothed, egg-shaped, 6-13 cm long, tapering quickly at the base and to a blunt point at the tip. *Dull and furry on both sides* but particularly underneath where the *rusty hairs along the main veins* produce a green-brown overall colour. Leaf stalks 5-10 mm, densely rusty-hairy.

Venation—Midrib and lateral veins visible and *depressed above* but raised below with dense rusty hairs. The net veins are also visible below, *thick and raised to form only small spaces*.

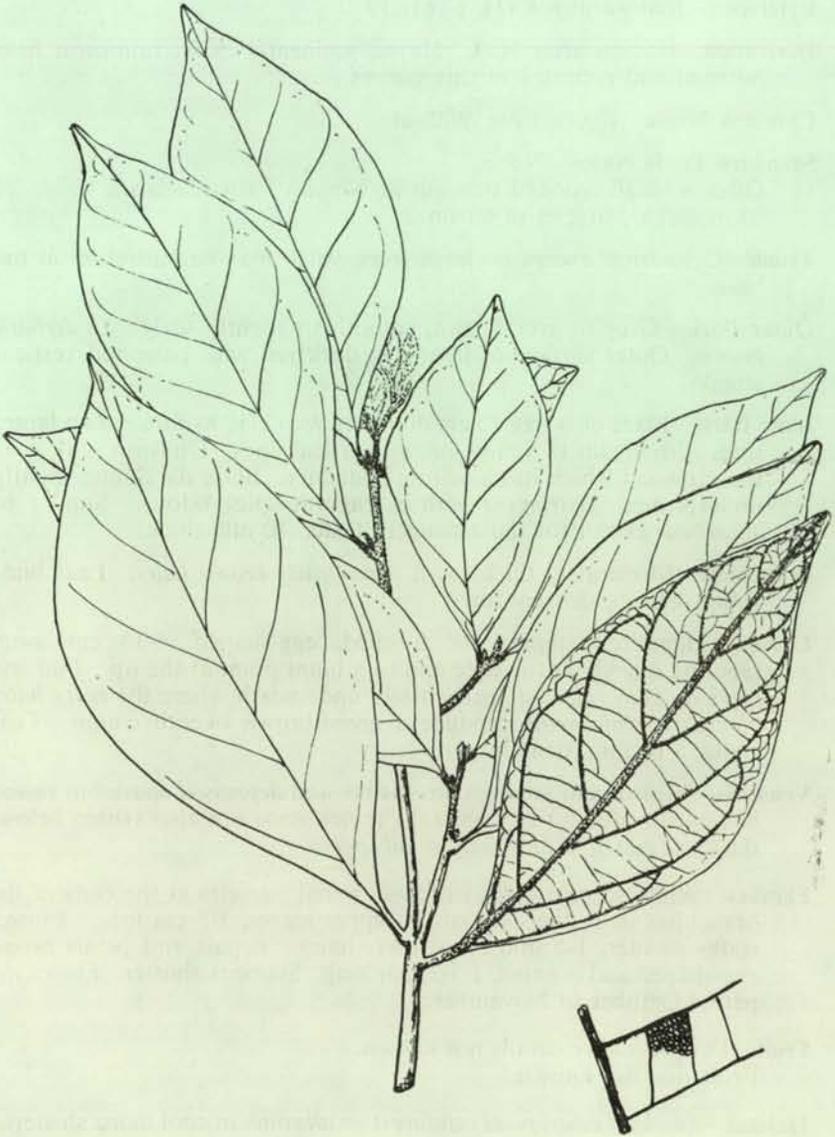
Flowers—White to pale green in few-flowered panicles at the ends of the branchlets or in the axils of the upper leaves, 3-5 cm long. Flower stalks slender, 1-5 mm long, rusty-hairy. Sepals and petals broad egg-shaped and pointed, 1.5-2 mm long. Stamens shorter. Flowering period October to November.

Fruit—Drupe. Other details not known.
Fruit ripe not known.

Habitat—*Lowland subtropical rainforest on alluvium* in cool moist sheltered gullies.

Distribution—Locally abundant from the Clarence River, N.S.W., to Burleigh Heads, Queensland. Recorded in N.S.W. from Maclean, Terania Creek, Rocky Creek on Whian Whian S.F., Minyon Falls F.R., Broken Head N.R., Mebbin S.F., Tyalgum, North Tumbulgum and Bilambil.

Timber and Uses—Wood pink or pale red, moderately hard and free cutting. If treated for borers, it could be used for interior building construction.



0 1 2 cm.
E.S.

0.25 0.5 1 cm.

Plate No. 24
Endiandra hayesii Kosterm.

ENDIANDRA INTRORSA C. T. White.

Reference—Proc. Roy. Soc. Qld., 59, 1948, p. 151.

Derivation—Introrsa from Latin "introrsus" turned inward, referring to the openings of the anthers being on the inner side.

Common Name—Red Plum, Dorrigo Plum, Red Walnut.

Standard Trade Name—Red Plum.

A large tree attaining a height of 40 m and a stem diameter of 90 cm.
Crown dense.

Trunk—Not prominently buttressed, stem cylindrical with the surface often pitted.

Outer Bark—Red-brown, with numerous scattered pustules. *Underbark red-brown.* Outer surface of live bark mottled red, black and yellow.

Inner Bark—*Brownish at first, red towards the sapwood and changing on exposure to red-brown with an orange layer next to the sapwood.* Bark 25-30 mm thick on large trees.

Branchlets—Branchlets and young shoots downy.

Leaves—Alternate or rarely opposite, simple, entire margins, ovate-elliptical, 5-8 cm long, *drawn out to a long blunt point at the tip,* smooth both surfaces, *green above* and clothed in a *grey waxy bloom beneath.* Leaf stalk 10-12 mm long.

Venation—Distinct on both surfaces, midrib yellowish in colour.

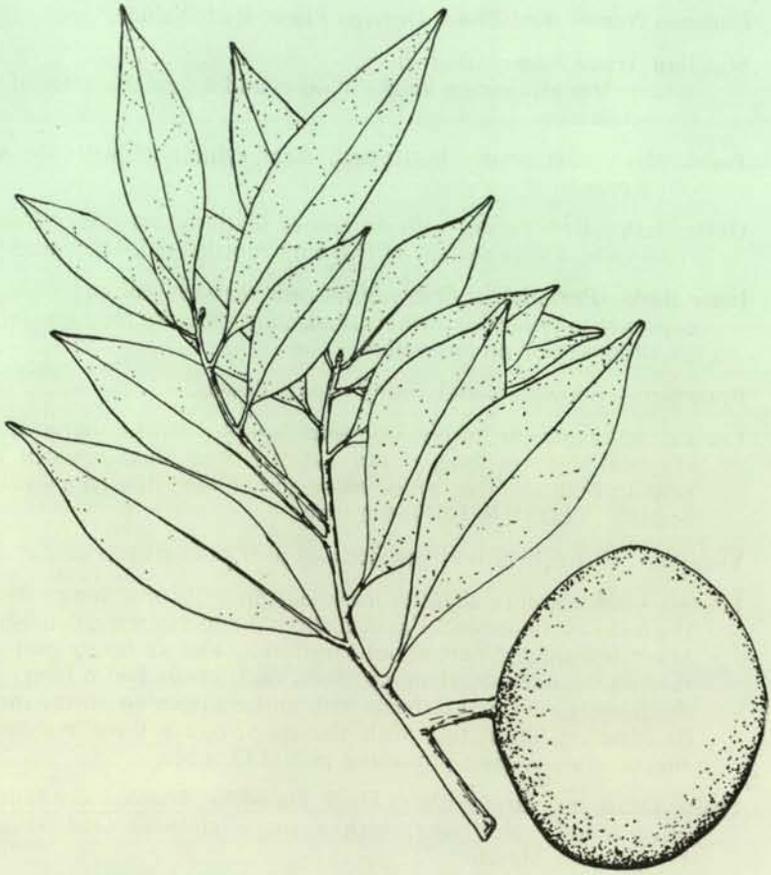
Flowers—Inflorescence slightly branched, up to 12 mm long, situated in the forks of the leaves. Flowers about 3 mm diameter, consisting of a lower bell-shaped part about 2 mm long and an upper part divided into six rounded overlapping lobes, each about 1 mm long. Within the flowers are three stamens with anthers opening on the inner side (introrse). Alternating with the stamens are three minute strap-shaped staminodia. Flowering period October.

Fruit—Drupe, *red turning glossy black, plum-like, 5 cm or more in diameter, often broader than long,* with a single globular seed. Fruit ripe February to March.

Habitat—Occurs in the *warm temperate rainforest on the poorer sedimentary soils.* Usually over 300 m in altitude.

Distribution—From the Eastern Dorrigo to the Nightcap Range, N.S.W. Recorded from Dorrigo N.P., Orara West S.F., Moonpar S.F. and Whian Whian S.F.

Timber and Uses—Pale pink to pinkish-brown, hard and close-grained. It is not durable in the ground and is susceptible to Lyctus attack. Surface checking is common when seasoning. It is used mainly for cases, but should be suitable for lining, cabinet making and handles. Weight 750-800 kg per cubic metre.



0 1 2 cm.

E. 5.

Plate No. 25

Endiandra introrsa C. T. White

ENDIANDRA MUELLERI Meisn.

Reference—D. C. Prodr. XV, 1864, p. 509.

Derivation—Muelleri after Baron Ferdinand von Mueller, one of Australia's greatest collectors and botanists.

Common Name—Mueller's Walnut, Green-leaved Rose Walnut.

Standard Trade Name—Mueller's Walnut.

A large tree attaining a height of 30 m and a stem diameter of 60-75 cm.

Trunk—Shortly buttressed and often flanged.

Outer Bark—*Brown, craterous with loose plates.* Underbark brown. Outer surface of live bark, red streaked with white (dark red in large trees).

Inner Bark—*Red with occasional white streaks* becoming paler next to the sapwood. The blaze shows a thin white or grey line immediately beneath the outer bark. No change in colour on exposure. *Fragrant.* Sapwood white. The blaze of this species is similar to that of *E. discolor.*

Branchlets—Leaf-bearing branchlets green and finely hairy. Young shoots hairy.

Leaves—Alternate, simple with entire margins, 5-9 cm long by 2-4 cm broad, *broadly lanceolate to elliptic* and drawn out to a blunt point at the tip. *Green, smooth and shining on both surfaces,* paler beneath. Leaf stalk 3-6 mm long.

Venation—*Distinct on both surfaces,* mid and lateral veins raised beneath. Numerous small oil glands are visible with the aid of 10 × lens within the reticulations.

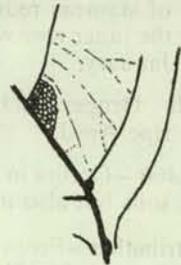
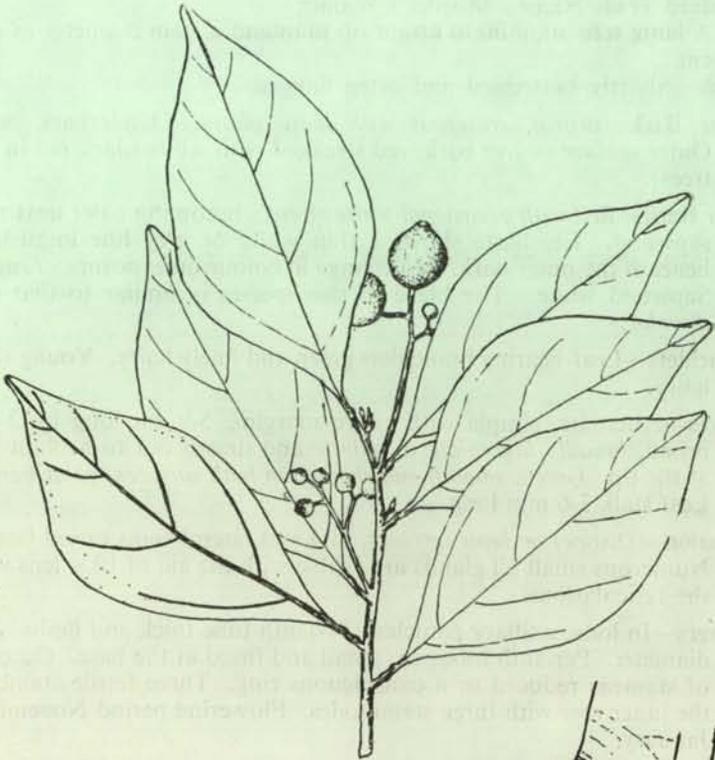
Flowers—In loose axillary panicles. Perianth tube thick and fleshy, 3 mm diameter. Perianth lobes six, small and fused at the base. Outer row of stamens reduced to a conspicuous ring. Three fertile stamens in the inner row with three staminodes. Flowering period November to January.

Fruit—Drupe, *black, oval, 15-20 mm long* with a single large seed. Fruit ripe April.

Habitat—Occurs in warm temperate rainforest on the poorer sedimentary soils but also in the littoral rainforest.

Distribution—From Comboyne, N.S.W. to Mossman, North Queensland. Recorded in N.S.W. from Boorganna N.R., Bellangry S.F., Hastings River, Willi Willi, Way Way S.F., Nambucca S.F., Newry S.F., New England N.P., Dorrigo N.P., Bellingen, Pine Creek S.F., Coramba, Orara East S.F., Wedding Bells S.F., Wild Cattle Creek S.F., Glenfernle, Moonpar S.F., Cloud's Creek S.F., Boundary Creek S.F., Gibraltar Range N.P., Washpool S.F., Richmond Range S.F., Toonumbar S.F., Unumgar S.F., Yabba S.F., Beaury S.F., Koreelah S.F., Roseberry S.F., Wiangaree S.F., Red Scrub F.R., Whian Whian S.F., Lismore, Victoria Park N.R., Mt. Warning N.P., Limpinwood N.R. and Couchy Creek.

Timber and Uses—Heartwood is brown with a faint spicy odour and taste. Could be used for cases and lining.



0 1 2 cm

0 1 2 cm

Plate No. 26

Endiandra muelleri Meisn.

ENDIANDRA PUBENS Meisn.

Reference—D.C. Prodr. XV, 1864, p. 509.

Derivation—Pubens from Latin "puber" downy, referring to the branchlets and underside of the leaves being clothed in hairs.

Common Name—Whitebark Walnut, Possum Apple, Red Apple, Rusty Walnut.

Standard Trade Name—Hairy Walnut.

A tree attaining a height of about 35 m and a stem diameter of 45 cm but more often a low bushy tree.

Trunk—May be flanged or slightly buttressed in large trees.

Outer Bark—Brown, light grey, or almost white, smooth or thinly scaly to corky. *Underbark cream*. Outer surface of live bark red-black.

Inner Bark—Blaze on a tree 30 cm diameter, *pinkish-red but dark red on large trees*, becoming paler towards the sapwood with numerous pale very fine vertical lines extending from the centre towards the *inner margin* which *changes to brown* and sometimes becomes slimy after about eight minutes exposure. Blaze like *Cryptocarya erythroxylon* in colour and sometimes has the same pleasant cider-like odour. No taste, 6 mm thick.

Branchlets—*Densely rusty hairy*, green.

Leaves—Alternate, simple, not toothed, *egg-shaped*, 7-20 cm long, rounded or with a short blunt point. Upper surface glossy and smooth except for the *midrib and lateral nerves* which are *rusty hairy*, *under surface densely rusty hairy*. Leaf stalks densely hairy, 5-20 mm long.

Venation—Distinct on both surfaces but more prominent on the underside where the *midrib and lateral nerves* are made more *conspicuous by the dense covering of brown hairs*. Net veins also visible, *thin, forming large spaces with some fainter dead end veins protruding*.

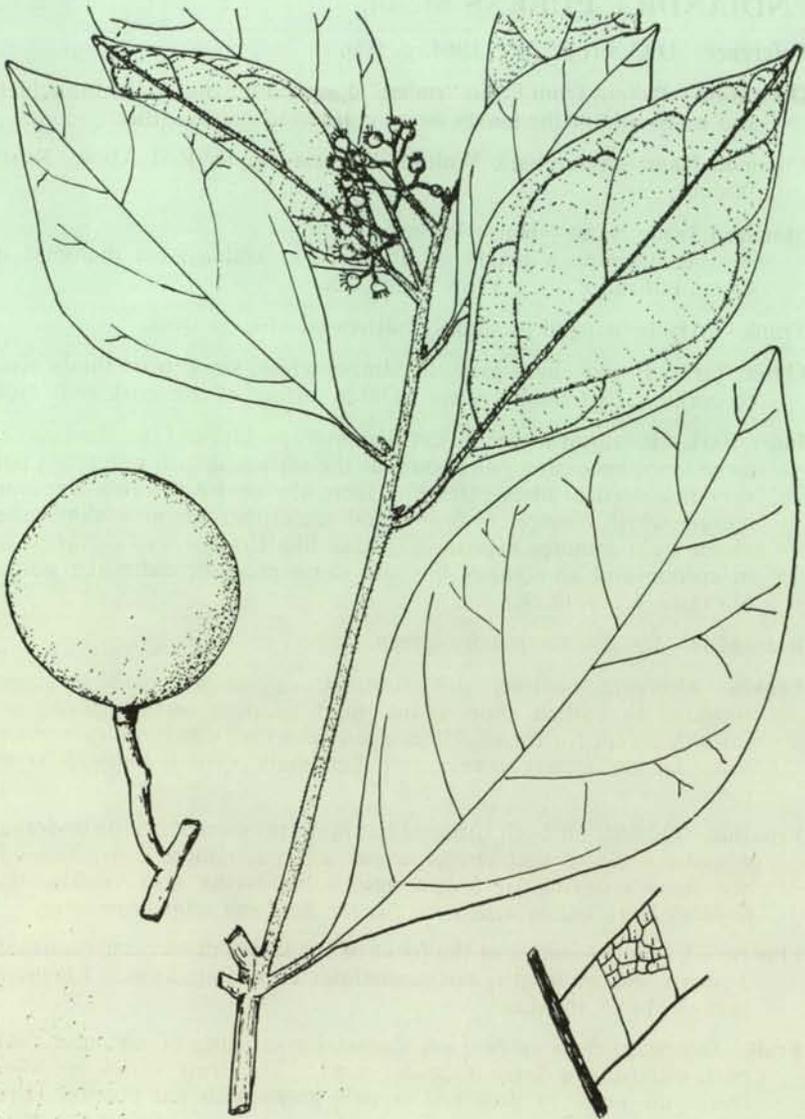
Flowers—In short panicles in the forks of the leaves densely rusty, usually 2 cm or less in length, but sometimes exceeding 5 cm. Flowering period March to May.

Fruit—Drupe, *globose up to 5 cm diameter* consisting of an outer fleshy part enclosing a large globular seed. The fruit varies in colour from *pale green to deep red* or pale green with red cheeks. Fruit ripe October to February.

Habitat—*Alluvial subtropical rainforest*, seeming to prefer the cool moist floors of the valleys close to stream banks.

Distribution—From Bellingen River, N.S.W. to Atherton Tableland, North Queensland. Recorded in N.S.W. from Bellingen Island, Toonumbar S.F., Wiangaree S.F., Red Scrub F.R., Minyon Falls F.R., Booyong, Wollongbar, Victoria Park N.R., Cape Byron, Mt. Warning N.P., Limpinwood N.R., Crystal Creek, Murwillumbah and Bilambil.

Timber and Uses—Wood pale to dark brown, firm and close-grained could be used for cabinet work, indoor fittings and cases; but is usually too small.



0 1 2 cm.
E.S.

Plate No. 27
Endiandra pubens Meisn.

ENDIANDRA SIEBERI Nees.

Reference—Syst. Laurin. 194, 1836.

Derivation—Sieberi after F. W. Sieber, a botanical collector of Prague, Bohemia, who spent seven months in collecting plants in N.S.W. in 1823.

Common Name—Hard Corkwood, Corkwood.

Standard Trade Name—Pink Walnut.

A tree attaining a height of 30 m and a stem diameter of 90 cm.

Trunk—Usually straight and cylindrical, large trees sometimes shortly flanged at the base.

Outer Bark—*Grey, soft and corky*, finely fissured in young trees. The surface rougher and more scaly in larger trees.

Inner Bark—Blaze on a tree 90 cm diameter, *deep red* becoming paler towards sapwood with a distinct narrow darker red outer margin. There are numerous pale transverse lines on the outer half of the blaze, gradually fading towards the inner margin. Bark faintly fragrant, darkening after a few minutes exposure, 4 cm thick.

Branchlets—*Red*, smooth and somewhat slender.

Leaves—Alternate, simple, entire, elliptic-lanceolate, 5-8 cm long, drawn out to a blunt point at the tip. Green both surfaces but slightly paler beneath. Leaf stalks 5-10 mm.

Venation—*Midrib* raised slightly on the upper surface but *flattened beneath*. Lateral nerves visible both surfaces but raised and more conspicuous beneath. Net veins fine and numerous, becoming more distinct when drying. *The margin of both fresh and dried leaves is pale yellow and translucent.*

Flowers—In panicles usually shorter than the leaves. Flowering period June to October.

Fruit—Drupe, *shiny, purplish-black, oval, about 2 cm long*, the thin fleshy outer covering enclosing a single seed. Eaten by pigeons and other birds. Fruit ripe March to August.

Habitat—A common tree on the poorer sedimentary soils in coastal and some tableland rainforests. Also very common in littoral rainforest on deep sands.

Distribution—From Jervis Bay, N.S.W. to the islands of Moreton Bay, Queensland. Recorded in N.S.W. from Jervis Bay, Nowra, Shellharbour, Stanwell Park, Kurnell, La Perouse, Upper Williams River, Myall Lakes N.P., Seal Rocks, Napiac, Forster, Doyles River S.F.,

Mt. Boss S.F., Nulla Nulla Creek, Crescent Head, Shark Island (Lower Macleay), Styx River S.F., Nambucca Heads, New England N.P., Dorrigo N.P., Coffs Harbour, Orara East S.F., Orara West S.F., Wild Cattle Creek S.F., Moonpar S.F., Cangi S.F., Washpool S.F., Iluka N.R., Bungawalbin, Casino, Unumgar S.F., Yabbra S.F., Nothofagus Mtn. F.R., Roseberry S.F., Ballina, Tyagarah, Brunswick Heads N.R. and Burringbar.

Timber and Uses—Light coloured, hard, close-grained, suitable for tool handles, lining, flooring and cabinet work. About 750-800 kg per cubic metre.



cross-section of leaf.

0 1 2 cm.

0 1 2 cm.

E.5.

Plate No. 28
Endiandra sieberi Nees

ENDIANDRA VIRENS F. Muell. ex Meisn.

Synonym—*E. lowiana* Bail.

Reference—Fragm. II, 90, 1860.

Derivation—Virens from Latin "virens" green, referring to the bright green leaves.

Common Name—White Apple, Plumwood.

Standard Trade Name—New South Wales Walnut.

Generally a small tree with light green glossy foliage, 7-10 m high and 20 cm stem diameter, but sometimes much larger.

Outer Bark—Grey to light grey, the surface divided into short vertical soft corky ridges. The soft outer layer of dead bark separates easily from the surface of the live bark which is pinkish-brown with a pattern of short vertical pale stripes.

Inner Bark—Blaze on a tree 10 cm diameter, pinkish-brown with a darker brown band bordering the outer margin and paler at inner margin. Numerous pale vertical lines and markings show on the surface of the blaze which darkens to a brown after ten minutes exposure. Bitter to taste. 4 mm thick.

Branchlets—Green and smooth. Young shoots hairy. Hard, brown gall-like bodies up to 20 mm diameter are sometimes seen on the branchlets; and could be mistaken for fruits at first glance.

Leaves—Simple, alternate, entire, oblong or lanceolate narrowed at both ends, gradually tapering to a point at the tip. Light green and shining upper surface, paler beneath, 6-15 cm long. Leaf stalk 3-12 mm long.

Venation—Distinct both surfaces, lateral nerves and net veins more prominent on the under surface. Midrib slightly sunken on the upper surface and raised on the underside.

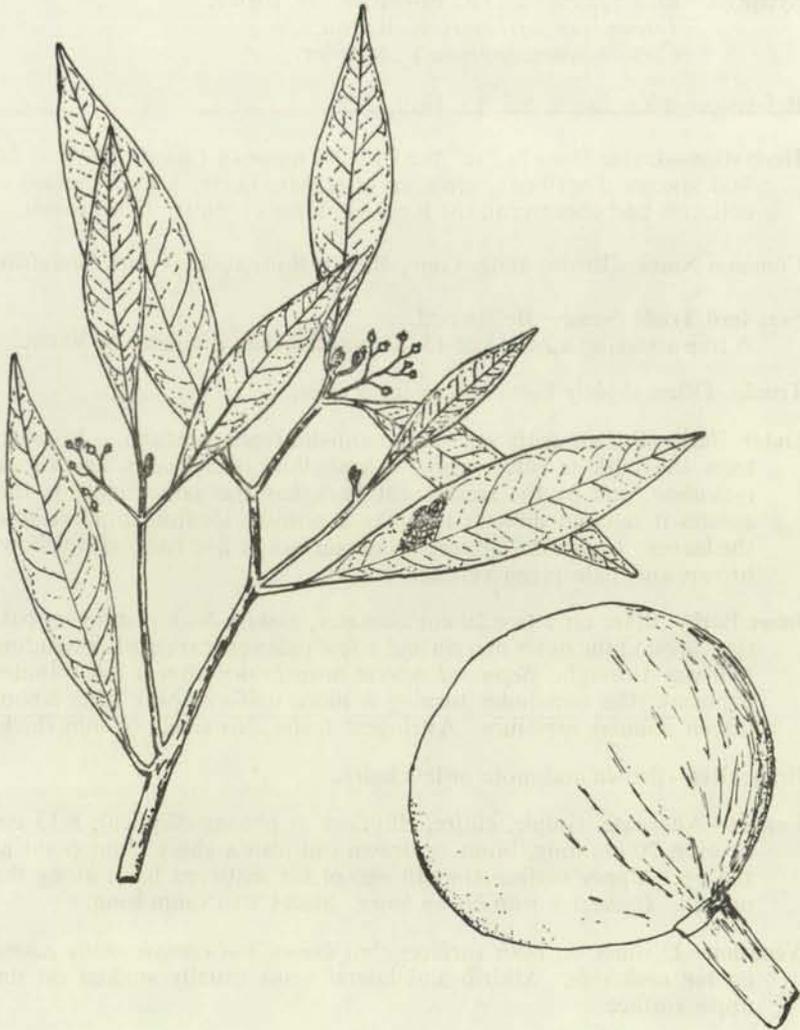
Flowers—Small in axillary panicles much shorter than the leaves. Flowering period March to April.

Fruit—Yellow to orange-red, globular, attaining a diameter of 7-10 cm consisting of the outer yellow pulp and a hard inner shell which encloses the seed. Fruit ripe May to July.

Habitat—In rainforests on the poorer sedimentary soils at low elevations.

Distribution—From Comboyne, N.S.W. to the Daintree River, North Queensland. Recorded from Comboyne, Macksville, Urunga, Thora, Dorrigo N.P., Boambee S.F., Coffs Harbour, Orara East S.F., Waihou F.R. and Sherwood N.R.

Timber and Uses—Wood light coloured, hard and strong, sometimes used for tool handles, weatherboards and flooring.



E.S.

Plate No. 29

Endiandra virens F. Muell. ex Meisn.

LITSEA LEEFEANA (F. Muell.) Merr.

Synonym—*Litsea ferruginea* (R. Brown) F. M. Bailey,
Tetranthera ferruginea R. Brown,
Cyclicodaphne leefeana F. Mueller.

Reference—Phil. Journ. Sci. 15, 1919, 242.

Derivation—*Litsea* from "Litse" the Chinese name of *Litsea chinensis*, the first species described; *leefeana* after Mr. Leefe, a keen botanical collector and observer in the Kennedy District, North Queensland.

Common Name—Brown Bolly Gum, Brown Bollywood, White Sassafras.

Standard Trade Name—Bollywood.

A tree attaining a height of 15-20 m and a stem diameter of 30 cm.

Trunk—Often *slightly buttressed* in large trees.

Outer Bark—Brown with scattered reddish-brown pustules. In older trees the bark is often scaly with shallow depressions like *Litsea reticulata*, and as the freshly cut bark has the same smell as this species it is often difficult to make a positive identification without the leaves. *Underbark brown*. Outer surface of live bark with yellow-brown and pale green vertical streaks.

Inner Bark—Blaze on a tree 20 cm diameter, *pinkish-brown*, showing pale tints around the outer margin and a few pale vertical stripes extending half-way through. *Sapwood margin turns brown* after a few minutes exposure, the remainder turning a more uniform pink after about fifteen minutes exposure. Astringent taste. No smell. 4 mm thick.

Branchlets—Brown and more or less hairy.

Leaves—Alternate, simple, entire, elliptical or oblong-elliptical, 8-13 cm or even 20 cm long, blunt or drawn out into a short blunt point at the tip. Upper surface smooth except for scattered hairs along the midrib. *Underside with brown hairs*. Stalks 10-15 mm long.

Venation—Distinct on both surfaces, but *brown and conspicuously raised on the underside*. Midrib and lateral veins usually sunken on the upper surface.

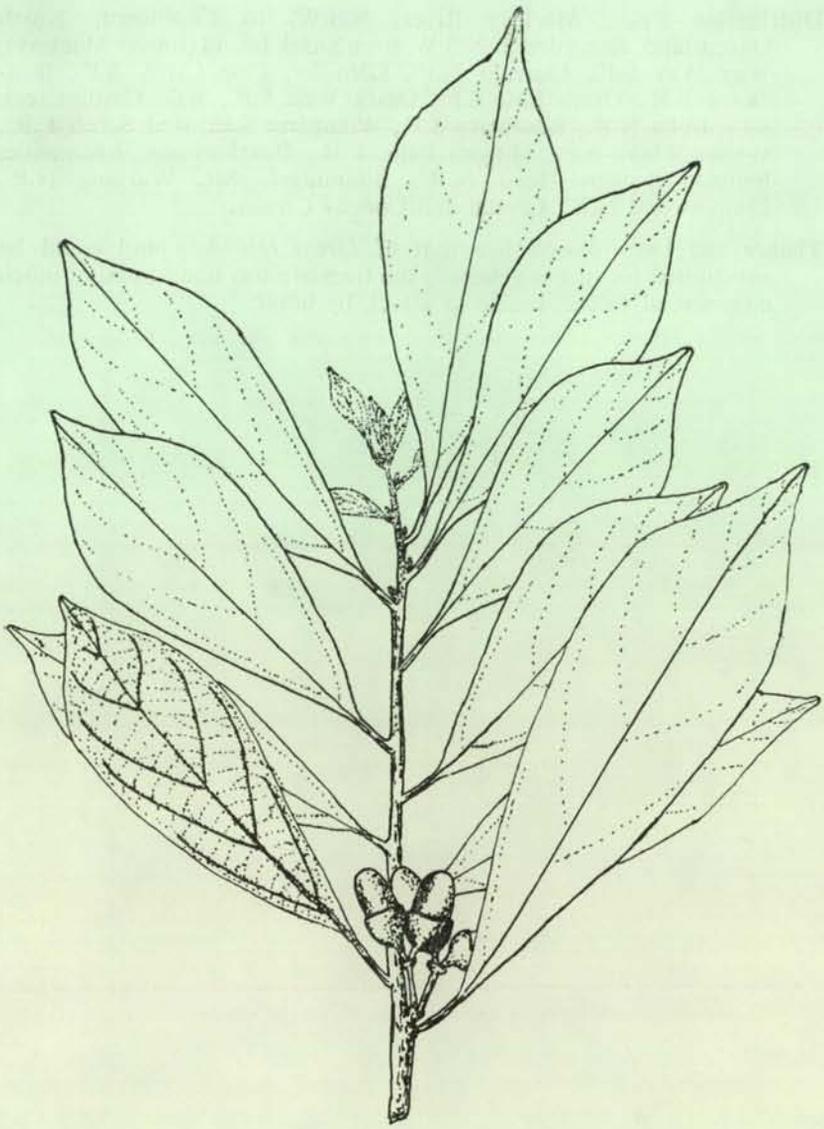
Flowers—Male and female flowers on separate trees. Inflorescences in clusters in the forks of the leaves or at the leaf scars. Flowers two to eight in each cluster on stalks 3-12 mm long. At the summit of each stalk there are four or five oval bracts enclosing four or six bell-shaped flowers 3 mm or over in length. Perianth lobes six, hairy. Flowering period January to February.

Fruit—Drupe, black when ripe, *egg-shaped, about 20 mm long*, seated at the base *in the enlarged cup-shaped perianth tube* and containing a single large seed. Fruit ripe September to October.

Habitat—Common in littoral rainforest on deep sand, also in subtropical rainforest on rich alluvial flats and basaltic hillsides but also in warm temperate rainforest.

Distribution—From Macleay River, N.S.W. to Cooktown, North Queensland. Recorded in N.S.W. from Shark Island (Lower Macleay), Way Way S.F., Dorrigo N.P., Gleniffer, Pine Creek S.F., Bundagen F.R., Orara East S.F., Orara West S.F., Wild Cattle Creek S.F., Iluka N.R., Roseberry S.F., Wiangaree S.F., Red Scrub F.R., Whian Whian S.F., Minyon Falls F.R., Boatharbour, Alstonville, Ballina, Broken Head N.R., Billinudgel, Mt. Warning N.P., Limpinwood N.R., Crystal and Couchy Creeks.

Timber and Uses—Wood like that of *Litsea reticulata* and could be substituted for it, but generally the trees are too small to be of much commercial value. Liable to attack by borer.



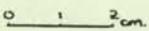
E.S. 

Plate No. 30
Litsea leefeana (F. Muell) Merr.

LITSEA RETICULATA (Meisn.) F. Muell.

Synonym—*Tetranthera reticulata* Meisn.

Reference—Syst. Census Austr. Pl. 1882, p. 4.

Derivation—Reticulata from Latin "reticulum" a small net, alluding to the numerous net veins of the leaves.

Common Name—Bolly Gum, Brown Beech.

Standard Trade Name—Bollywood.

A large tree attaining 40 m in height and a stem diameter of 150 cm.

Trunk—Stem *buttressed or flanged* at the base in large trees.

Outer Bark—Outer surface of bark grey or brown, *often scaly, marked by shallow roundish depressions* and vertical rows of pustules. Some of the indentations on the surface of the bark which are caused by the shedding of the scales are often paler in colour than the surrounding bark, giving the bole a patchy appearance. Outer surface of live bark with green and pinkish-brown patches.

Inner Bark—Blaze *pale brown to pinkish-brown* on young trees, but darker on older specimens. Lighter occasional vertical streaks are only visible on the outer portion. The blaze is always paler towards the sapwood. Soon oxidizes on exposure, a brown marginal line appearing along the end of the blaze next to the sapwood, followed by a *gradual darkening of the whole surface of the blaze*. Bark *bitter* to taste and has the same faint but distinctive smell as the wood. 5 mm thick on a tree 60 cm stem diameter.

Leaves—Alternate, simple, not toothed, obovate, oblong or oblong-elliptic, 5-10 cm long. *Blunt* or scarcely acuminate. The *leaf margins appear pale or semi-transparent* when the foliage is viewed against the light of the sky. Match test on upper surface causes veins on the under surface to become more prominent and the leaf to turn a darker green. Leaf stalks 5-12 mm.

Venation—Midrib, lateral and net veins visible on both surfaces, but raised and more conspicuous beneath.

Flowers—Male and female flowers on separate trees. The inflorescences spring from the forks of the leaves or at the scars of the fallen leaves and seldom exceed 2 cm in length. The inflorescences may consist of several flowers or a single stalk. Flowering period May to July.

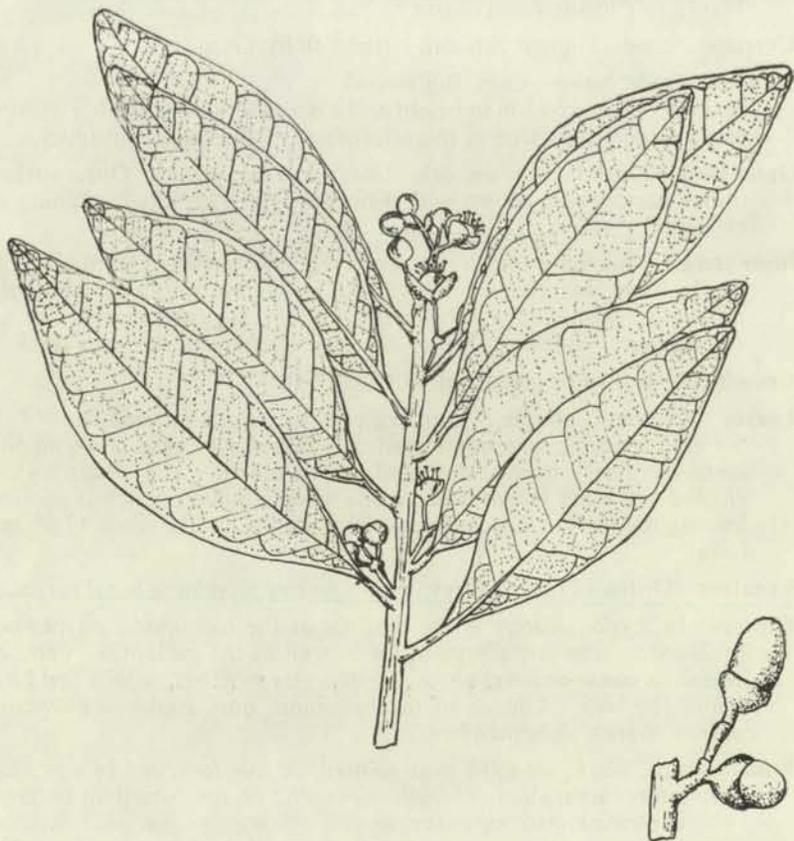
Fruit—Drupe, purple-black, oval, smooth, fleshy, 12-14 mm long, *enclosed for about a third of its length in a cup-shaped receptacle* containing a single oval seed. Fruit ripe November to February.

Habitat—Found in most rainforest areas except the dry and littoral rainforest type.

Distribution—Illawarra, N.S.W. to Cairns, North Queensland. Recorded in N.S.W. from Shoalhaven River, Minnamurra Falls, Wyong, Tuggerah Lakes, Belmont, Upper Williams River, Upper Aillyn River, John Gould Island N.R., Myall Lakes N.P., Seal Rocks, Yahou Island, Boorganna N.R., Port Macquarie, Willi Willi Caves N.R., Dorrigo N.P., Bellingen, Woolgoolga Creek F.R., Orara West S.F., Wild Cattle Creek S.F., Moonpar S.F., Gibraltar Range N.P.,

Washpool S.F., Mt. Belmore S.F., Richmond Range S.F., Toonumbar, S.F., Beary S.F., Tooloom S.F., Koreelah S.F., Nothofagus Mtn. F.R., Mt. Lindesay F.R., Mt. Glennie, Roseberry S.F., Levers Plateau, Wiangaree S.F., Whian Whian S.F., Broken Head N.R., Mt. Warning N.P., Limpinwood N.R., Crystal and Couchy Creeks and Mt. Cougal.

Timber and Uses—Pale brown, often with yellowish, pink or grey tones, of medium texture, soft and easy to work. The sapwood is very susceptible to Lyctus attack. Can be used for turnery, carving, furniture, joinery, plywood and cases. Weight 400-550 kg per cubic metre.



0 1 2 cm.

E.S.

Plate No. 31

Litsea reticulata (Meisn.) F. Muell.

NEOLITSEA CASSIA (L.) Kosterm.

Synonym—*Neolitsea zeylanica* (Nees) Merrill, *Laurus cassia* L.

Reference—J. Sci. Res. (Jakarta), 1: 85, 1952.

Derivation—*Neolitsea* from Greek "neos" new and "Litse" the Chinese name of *Litsea chinensis*; *cassia*, presumably because of its resemblance to *Cinnamomum cassia*.

Common Name—Suggest Smooth-barbed Bolly Gum.

Standard Trade Name—Grey Bollywood.

A small tree of 12-15 m in height and a diameter of 20-25 cm, common as an understorey tree in the rainforests of the higher altitudes.

Outer Bark—Dark brown, smooth. *Underbark dark brown*. Outer surface of live bark yellow-brown with a tinge of green rapidly darkening on exposure.

Inner Bark—Blaze on a tree 20 cm diameter, *yellow-brown*, granular. The whole blaze darkens when exposed for a few minutes, eventually *turning purplish-black*. The surface of the sapwood changes to tan on exposure. Sapwood white. Sweetly scented. Bark 5 mm thick.

Branchlets—Brown or green, smooth.

Leaves—Alternate, simple, entire, elliptic to elliptic-lanceolate 6-13 × 5-8 cm broad, tip acuminate gradually tapering to base. *Smooth both surfaces*, glossy above, dull and pale beneath. The under surface clothed in a waxy bloom which melts when a lighted match is applied, leaving the under surface glossy. Leaf stalk smooth, green 12-20 mm long.

Venation—Distinct both surfaces, with a pair of prominent basal nerves.

Flowers—In *sessile clusters in the axils* or at the old nodes, on pedicels of 2-4 mm long, usually glabrous as well as the perianths. Perianth segments ovate-oblong, obtuse. Filaments exerted, with a few hairs about the base. Glands of the two inner ones stalked. Flowering period March to September.

Fruit—Drupe, *black*, smooth, oval-pointed, 20 mm long and 14 mm wide, (and hence larger than *N. dealbata*) resting on the persistent perianth tube expanded into an *entire or slightly angular flat disk* without segments (four segments in *N. dealbata*), 5-6 mm diameter. The single seed is also oval-pointed. Fruit ripe May to June.

Habitat—Common as an understorey tree in subtropical rainforest on fertile soil from lowland alluvial flats to mountain plateaux.

Distribution—Gosford, N.S.W. to Atherton, North Queensland. Recorded in N.S.W. from Ourimbah, Gloucester, Coneac, Boorganna N.R., Port Macquarie, Willi Willi Caves N.R., Urunga, New England N.P., Dorrigo N.P., Marengo S.F., Boundary Creek S.F., Gibraltar Range N.P., Richmond Range S.F., Toonambar S.F., Unungar S.F., Beaury S.F., Koreelah S.F., Mt. Lindsay F.R., Mt. Glennie, Roseberry S.F., Wiangaree S.F., Red Scrub F.R., Wollongbar, Victoria Park N.R., Broken Head N.R., Cape Byron, Mt. Warning N.P., Limpinwood N.R. and Couchy Creek.

Timber and Uses—Too small to be of any commercial use. The timber contains characteristic dark fungus-like spots.



0 1 2 cm.
E.S.

Plate No. 32

Neolitsea cassia (L.) Kosterm.

NEOLITSEA DEALBATA (R. Br.) Merr.

Synonym—*Litsea dealbata* Nees.

Reference—Journ. Arn. Arb. XXIX, 1948, p. 198.

Derivation—Dealbata from Latin “dealbatus” whitewashed, alluding to the white undersurface of the leaves.

Common Name—Suggest Hairy-leaved Bolly Gum.

Standard Trade Name—None.

A small tree reaching a height of 12 m and a stem diameter of 20 cm.

Outer Bark—Dark, brown, pustular, slightly scaly in large trees. The scales shedding in irregular flakes. *Underbark mid brown*. Outer surface of live bark creamy-green.

Inner Bark—Blaze *light brown* with a darker sapwood boundary which alone darkens on exposure. No taste, but with a peppery odour. 4 mm thick.

Branchlets—Brown, *leaf-bearing branchlets green, clothed in dense rusty brown hairs*.

Leaves—*Alternate but grouped at the ends of the branchlets* or at the nodes, simple, entire, elliptical, 10-25 × 1-8 cm broad. Protracted into a long point at the tip. *Upper leaf surface smooth, glossy green, under surface with rusty hairs along the nerves, otherwise dull with a grey waxy coating* which melts when heated by a match to expose the glossy green under surface. Oil dots very small (visible with 10x lens) and numerous. Leaf stalk 10-20 mm long, round and densely hairy. *Litsea dealbata* var. *rufa* is an exceptionally hairy variant but all intermediate gradations can be found. In any case, this variety has not been published under *Neolitsea* and therefore cannot be used.

Venation—Distinct on both surfaces but raised and more prominent beneath. *Basal pair of lateral veins conspicuous and extending longitudinally for over half the leaf length*.

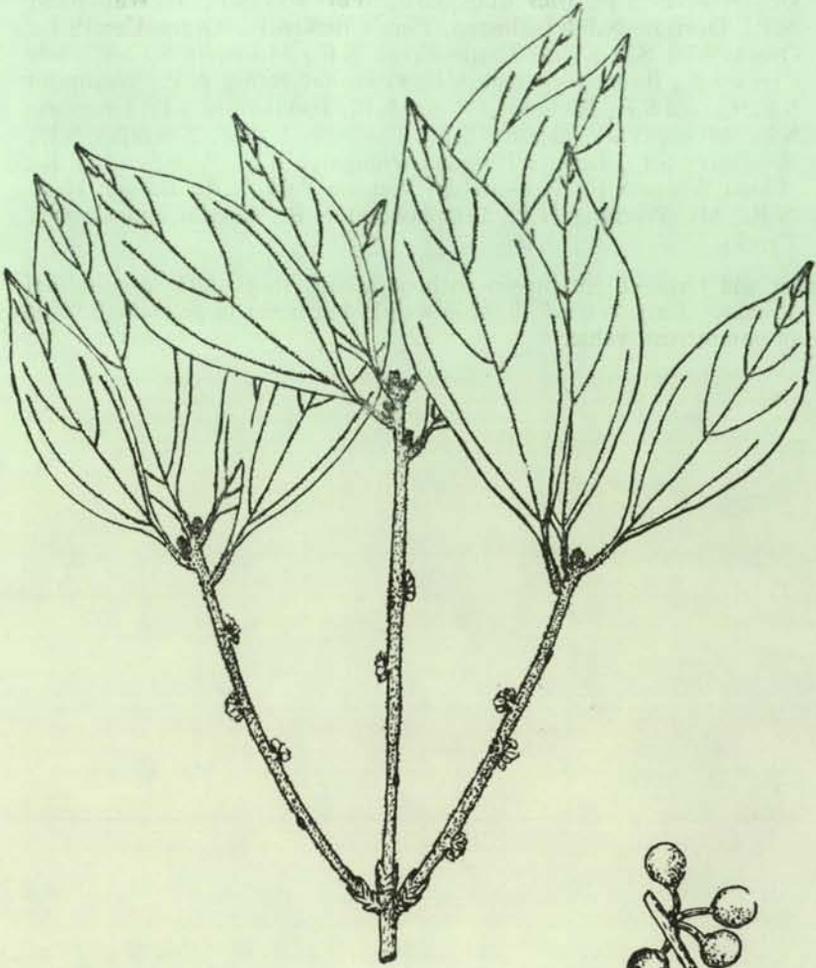
Flowers—*In sessile axillary clusters* often after the leaves have fallen. *Perianth segments* four, *woolly outside*, with long rusty hairs on the margins. Anther filaments longer than the perianth, bearded. Flowering period April to June.

Fruit—Fleshy drupe, *red-purple*, smooth, globular, 6-8 mm diameter, resting on the perianth tube which is enlarged into a *broad flat disc with four segments*. Seed single, smooth, globular, 5 mm diameter. Fruit ripe April to July.

Habitat—A common understorey species in all types of rainforest and in the eucalypt forest ecotone.

Distribution—Illawarra, N.S.W. to Cairns, North Queensland. Recorded in N.S.W. from Loddon Falls (near Bulli), Strickland S.F., Wyong Creek, Williams River, Allyn River, Nundle, Myall Lakes N.P., Seal Rocks, Cape Hawke, Nabiac, Massey's Creek S.F., Wingham, Boorganna N.R., Kendall, Wauchope, Bril Bril S.F., Doyles River S.F., Port Macquarie, Way Way S.F., New England N.P., Dorrigo N.P., Bellingen, Pine Creek S.F., Orara East S.F., Orara West S.F., Wild Cattle Creek S.F., Moonpar S.F., Clouds Creek S.F., Boundary Creek S.F., Gibraltar Range N.P., Washpool S.F., Girard S.F., Richmond Range S.F., Toonumbar S.F., Unungar S.F., Moore Park, Beaury S.F., Tooloom Range, Koreelah S.F., Roseberry S.F., Lever's Plateau, Wiangaree S.F., Red Scrub F.R., Whian Whian S.F., Wollongbar, Victoria Park N.R., Broken Head N.R., Mt. Warning N.P., Limpinwood N.R., Crystal and Couchy Creeks.

Timber and Uses—Light brown with numerous short dark longitudinal streaks. Easy to work, light in weight but never large enough to be of commercial value.



E5.

Plate No. 33

Neolitsea dealbata (R. Br.) Merr.

APPENDIX I
EXPLANATION OF BOTANICAL TERMS

- Acuminate.... having a tapering point.
 Apex the tip.
 Axil the angle formed between the axis and any organ which arises from it, especially of a leaf.
 Axillary growing in an axil (see above).
 Bract a leaf-like organ associated with the flower.
 Calyx tube.... a tube formed by the fusion of the sepals.
 Cyme a head of flowers in which each successive branch ends in a flower after producing one or more axillary branches to continue the branching.
 Drupe a fruit with a fleshy or leathery outer portion covering a hard stone with a kernel such as a plum.
 Entire not toothed around the edges.
 Foveolae small pits found in the vein junctions on the underside of the leaves in certain species.
 Glabrous smooth and not hairy in any way.
 Glaucous greyish-green in colour.
 Globose nearly spherical in shape.
 Inflorescence .. the arrangement of the flowers on their branches to form the flower head.
 Lanceolate... narrow and tapering at each end, about three times as long as broad; and broadest at about one-third of the distance from the base.
 Lenticel corky spots on the bark.
 Node that part of the stem usually resembling a knot from which the leaves arise.
 Oblanceolate.. reverse lanceolate or broadest at about one-third of the distance from the tip.
 Obovate reverse egg-shaped; i.e., shaped like an egg with the broader end at the tip.
 Obtuse blunt and not pointed.
 Ovate shaped like an egg with the broader end at the base.
 Ovoid resembling an egg in outline.
 Panicle a loose flower cluster with a central stalk and side branches which in turn are branched.
 Pedicel the stalk of each single flower.
 Peduncle the stalk of a cluster of flowers.
 Perianth..... the floral envelope of petals and sepals or either petals or sepals if one of the organs is missing.
 Perianth tube the uniting of the parts of the perianth to form a tube.
 Pustule a slight elevation or blister, generally referring to the bark surface.
 Reticulate resembling the pattern of a net, commonly used to describe the venation of a leaf.
 Sessile not stalked.
 Staminode... an infertile stamen which does not produce pollen.
 Triplinerved .. with three roughly parallel veins extending for the length of the organ, generally a leaf.
 Underbark .. dead bark beneath the outer surface.

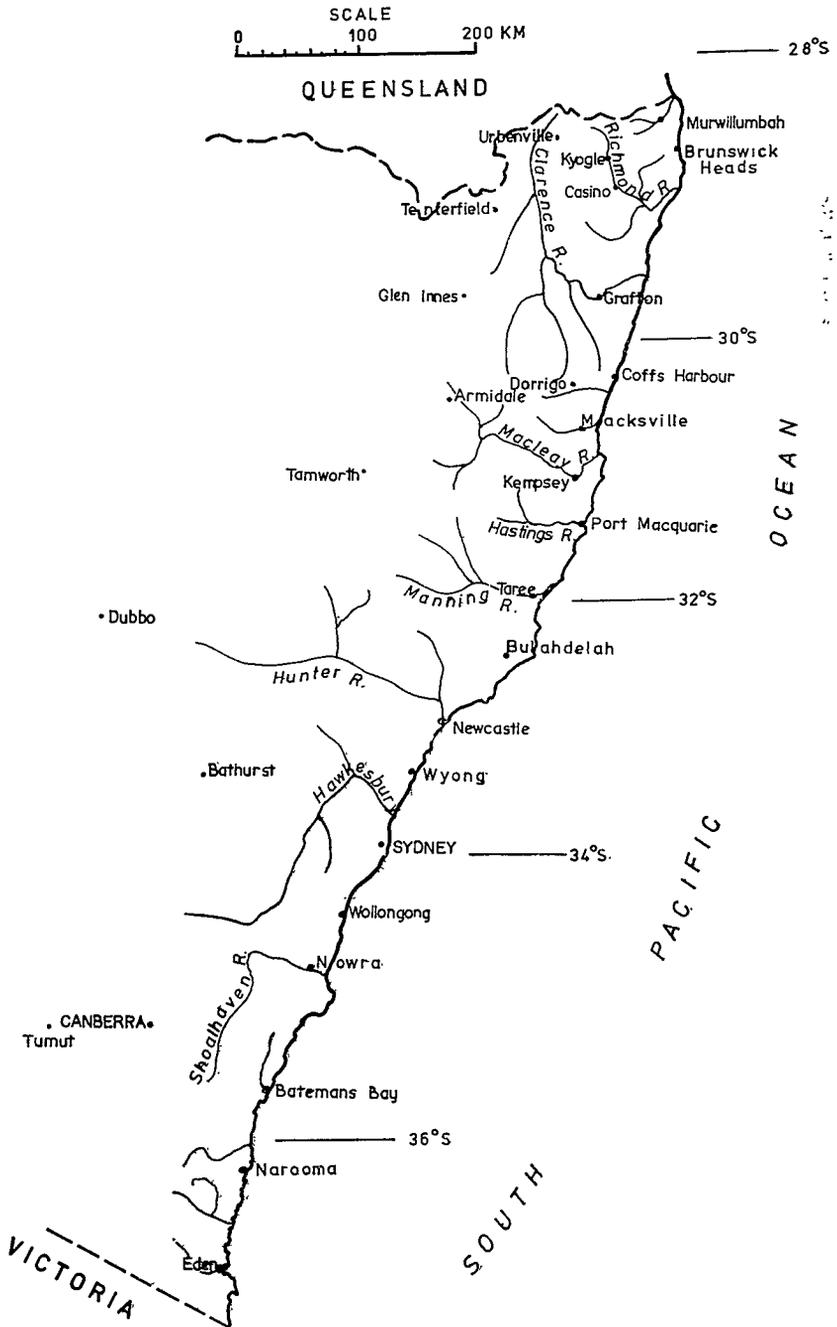
APPENDIX II

LIST OF LOCATIONS OF STATE FORESTS, FLORA RESERVES
(INCLUDING FOREST PRESERVES), NATIONAL PARKS & NATURE
RESERVES

Forest	Location
Bagawa S.F.	23 km NW of Coffs Harbour.
Banda Banda F.R.	40 km WSW of Kempsey
Barcoongere S.F.	35 km SE of Grafton.
Barrington Tops N.P.	95 km W of Taree.
Beaury S. F.	20 km SW of Urbenville.
Bellangry S.F.	27 km NW of Wauchope.
Bellinger River S.F.	13 km SSW of Dorrigo.
Bielsdown S.F.	4 km N of Dorrigo.
Big Fella Gum Tree F.R.	8 km SSW of Kendall.
Black Ck F.R.	30 km SW of Port Macquarie.
Boambee S.F.	6 km SW of Coffs Harbour.
Bodalla S.F.	8 km NW of Narooma.
Boonoo Boonoo S.F.	15 km NNW of Tenterfield.
Boorganna N.R.	32 km N of Taree.
Boundary Ck S.F.	40 km NNW of Dorrigo.
Boyne S.F.	8 km N of Bateman's Bay.
Bril Bril S.F.	34 km NW of Port Macquarie.
Broken Bago S.F.	20 km WNW of Port Macquarie.
Broken Head N.R.	20 km SSE of Brunswick Heads.
Brunswick Heads N.R.	1 km N of Brunswick Heads.
Bruxner Pk F.R.	6 km NW of Coffs Harbour.
Buckra Bendinni S.F.	27 km WNW of Macksville.
Bulga S.F.	37 km NW of Taree.
Bundagen F.R.	11 km S of Coffs Harbour.
Bungabee S.F.	15 km NE of Casino.
Cangt S.F.	48 km W of Grafton.
Carrai S.F.	52 km W of Kempsey.
Chapman's Plain F.R.	20 km NNW of Dorrigo.
Cherry Tree S.F.	30 km SW of Casino.
Chichester S.F.	53 km WNW of Bulahdelah.
Cloud's Ck S.F.	24 km NNW of Dorrigo.
Comboyne S.F.	42 km SW of Port Macquarie.
Conglomerate S.F.	21 km NNW of Coffs Harbour.
Dingo S.F.	30 km NW of Taree.
Donaldson S.F.	16 km N of Urbenville.
Dorrigo N.P.	3 km SE of Dorrigo.
Doyles River S.F.	75 km W of Port Macquarie.
Edinburgh Castle S.F.	10 km E of Urbenville.
Ellis, S.F.	29 km NW of Dorrigo.
Ewingar S.F.	42 km E. of Tenterfield.
Forestland S.F.	15 km SE of Tenterfield.
Gibraltar Range S.F. and N.P.	47 km NE of Glen Innes.
Girard S.F.	32 km NE of Tenterfield.
Gladstone S.F.	25 km NNW of Macksville.
Glenugie S.F. and F.R.	19 km SE of Grafton.
Goonimbar S.F.	25 km W of Brunswick Heads.
Guy Fawkes N.P.	45 km NW of Dorrigo.
Hyland S.F.	31 km NNW of Dorrigo.
Ingalba S.F.	18 km SW of Macksville.
Kangaroo River S.F.	34 km NW of Coffs Harbour.
Killungoondie S.F.	13 km NE of Dorrigo.
Kiwarra S.F.	5 km S of Taree.
Koreelah S.F.	20 km NW of Urbenville.
Lavers Plateau F.R.	35 km NNW of Kyogle.
Limpinwood N.R.	20 km W of Murwillumbah.
Lower Bucca S.F.	14 km NNW of Coffs Harbour.
Madman's Ck F.R.	27 km NNW of Coffs Harbour.

Forest	Location
Marengo S.F.	34 km NW of Dorrigo.
Massey's Ck S.F.	89 km WNW of Bulahdelah.
Mebbin S.F.	24 km NNE of Kyogle.
Minnamurra N.P.	28 km N of Nowra.
Minyon Falls F.R.	17 km SW of Brunswick Heads.
Mistake S.F.	23 km W of Macksville.
Mobong Ck F.R.	16 km NNE of Dorrigo.
Mooball S.F.	8 km SE of Murwillumbah.
Moonpar S.F.	16 km NNW of Dorrigo.
Mt. Belmore S.F.	42 km SW of Casino.
Mt. Boss S.F.	57 km N.W. of Port Macquarie.
Mt. Lindesay S.F. and F.R.	19 km NE of Urbenville.
Mt. Pikapene S.F.	39 km SW of Casino.
Mt. Warning N.P.	10 km SW of Murwillumbah.
Myall Lakes N.P.	13 km SE of Bulahdelah.
Nambucca S.F.	10 km NNE of Macksville.
Never Never S.F.	11 km E of Dorrigo.
New England N.P.	75 km E of Armidale
Newry S.F.	19 km N of Macksville.
Norfolk Falls F.R.	110 km SW of Tamworth.
Nothofagus Mountain F.R.	20 km NNE of Urbenville.
Nulla Five-Day S.F.	48 km NW of Kempsey.
Nullum S.F.	17 km WNW of Brunswick Heads.
Oakes S.F.	40 km NW of Macksville.
Olney S.F.	24 km NW of Wyong.
Orara East S.F.	10 km NW of Coffs Harbour.
Orara West S.F.	18 km W of Coffs Harbour.
Oirimbah S.F.	6 km SW of Wyong.
Pine Brush S.F.	24 km NE of Grafton.
Pine Ck S.F.	16 km SSW of Coffs Harbour.
Red Cedar F.R.	18 km NNW of Dorrigo.
Red Scrub F.R.	24 km SW of Brunswick Heads.
Riamukka S.F.	75 km E of Tamworth.
Richmond Range S.F.	35 km NW of Casino.
Roseberry S.F.	32 km NNW of Kyogle.
Roses Ck S.F.	18 km S of Dorrigo.
Rowley's Ck F.R.	39 km NW of Taree.
Royal N.P.	32 km SSW of Sydney.
Sea Acres Reserve	Port Macquarie.
Shea's Nob S.F.	34 km NNW of Dorrigo.
Sherwood N.R.	34 km NNW of Coffs Harbour.
Stott's Island N.R.	12 km NE of Murwillumbah.
Strickland S.F.	64 km SSE of Newcastle.
Styx River S.F.	53 km E of Armidale.
Toooloom S.F.	19 km SW of Urbenville.
Toonumbar S.F.	23 km WNW of Kyogle.
Tuckers Nob S.F.	13 km SW of Coffs Harbour.
Unumgar S.F.	14 km NE of Urbenville.
Victoria Pk N.R.	36 km ESE of Casino.
Waihou F.R.	30 km NW of Coffs Harbour.
Warung S.F.	107 km SW of Tamworth.
Washpool S.F.	72 km WNW of Grafton.
Way Way S.F.	10 km SE of Macksville.
Wedding Bells S.F.	19 km N of Coffs Harbour.
Whian Whian S.F.	21 km SW of Brunswick Heads.
Wiangaree S.F.	24 km N of Kyogle.
Wild Cattle Ck S.F.	32 km W of Coffs Harbour.
Wilson River F.R.	37 km SW of Kempsey.
Wollumbin S.F.	16 km WSW of Murwillumbah.
Woodburn S.F.	42 km NNE of Batemans Bay.
Woolgoolga Ck F.R.	21 km N of Coffs Harbour.
Yabbra S.F.	16 km S of Urbenville.
Yarrahapinni S.F.	5 km SE of Macksville.

APPENDIX III
MAP OF EASTERN NEW SOUTH WALES



FC of N.S.W. Photofile:

Plate 1—SC 5091; 2—5064; 3—5086; 4—5059; 5—5078;
Plate 6—SC 5081; 7—5085; 8—5077; 9—5079; 10—5084;
Plate 11—SC 5083; 12—5061; 13—5075; 14—5071; 15—5072;
Plate 16—SC 5082; 17—5073; 18—5074; 19—5062; 20—5089;
Plate 21—SC 5080; 22—5069; 23—5076; 24—5088; 25—5087;
Plate 26—SC 5090; 27—5068; 28—5060; 29—5066; 30—5065;
Plate 31—SC 5063; 32—5067; 33—5070; Map—5092.



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