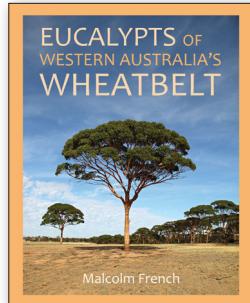


Eucalypts of Western Australia's Wheatbelt

Malcolm French



Identification Key to the Eucalypts

Two choices are given at each step in the key. Choose the most valid choice at each step, followed by the next pair of choices below, until a species name is reached. The key should not be used alone for the identification of species; consultation should be made with the main text and images of the identified species, and of closely related taxa.

1. Adult leaves discolorous (paler on underside)
 2. Rough bark hard and tessellated; fruits urceolate..... *C. calophylla*
 - 2: Rough bark fibrous and in strips; fruits mostly globose to barrel-shaped (*E. marginata*)
 3. Adult leaves glossy, green on upper side *E. marginata* subsp. *marginata*
 - 3: Adult leaves dull, blue-grey to grey-green on upper side *E. marginata* subsp. *thalassica*
- 1: Adult leaves concolorous (same colour on both sides)
 4. Bark minniritchi type (shed in thin longitudinal, reddish strips that reveal greenish bark beneath)
 5. Branchlets, buds and young fruits not glaucous *E. ewartiana*
 - 5: Branchlets, buds and young fruits glaucous
 6. Buds and fruit pendulous; peduncles 18–50 mm long (*E. caesia*)
 7. Flowers pink; fruit 15–20 mm wide; adult leaves 65–140 mm long *E. caesia* subsp. *caesia*
 - 7: Flowers dark pink to red; fruits 17–33 mm wide; adult leaves 100–220 mm long *E. caesia* subsp. *magna*
 - 6: Buds and fruits held erect; peduncles 6–22 mm long
 8. Leaves lanceolate, <13 mm wide *E. crucis* subsp. *lanceolata*
 - 8: Leaves rounded, >15 mm wide
 9. Leaves emarginate; granite rock outcrops NE of Mukinbudin *E. orbifolia*
 - 9: Leaves apiculate; Westonia to Moorine Rock area *E. crucis* subsp. *crucis*
 - 4: Bark not minniritchi type
 10. Buds and fruits in groups of 3 or singular
 11. Buds and fruits singular
 12. Buds and fruits pendulous, on pedicels to 20 mm long; Three Springs, Watheroo area *E. rhodantha*
 - 12: Buds and fruits held rigidly erect, mostly sessile (*E. macrocarpa*)
 13. Leaves mostly >80 mm long; fruits 50–70 mm wide *E. macrocarpa* subsp. *macrocarpa*
 - 13: Leaves mostly <80 mm long; fruits 40–50 mm wide *E. macrocarpa* subsp. *elachantha*
 - 11: Buds and fruits mostly in groups of 3
 14. Adult leaves mostly dull
 15. Fruits somewhat square in cross-section or with four longitudinal ribs
 16. Fruits 30–65 mm wide; flowers red or creamy yellow *E. pyriformis*
 - 16: Fruits 5–22 mm wide; flowers white
 17. Fruits usually glaucous, cuboid in shape, 8–22 mm wide
 18. Leaves ovate to elliptical, 25–70 mm wide, fruits 14–22 mm wide *E. pleurocarpa*
 - 18: Leaves broad-lanceolate to ovate, 15–35 mm wide, fruits 8–15 mm wide *E. conveniens*
 - 17: Fruits not glaucous, oblong to barrel-shaped, 5–11 mm wide
 19. Adult leaves 6–16 mm wide; fruits 5–9 mm wide *E. eudesmioides*
 - 19: Adult leaves 13–35 mm wide; fruits to 7–11 mm wide *E. gittinsii* subsp. *illucida*
 - 15: Fruits round in cross-section and without four longitudinal ribs
 20. Flower stamens arranged in four bundles; fruits 8–12 mm wide *E. ebbanoensis* subsp. *ebbanoensis*
 - 20: Flower stamens arranged in a uniform ring; fruits 12–25 mm wide
 21. Peduncles <10 mm long; fruits 12–18 mm wide, disc level to ascending *E. oldfieldii*
 - 21: Peduncles >10 mm long; fruits 15–25 mm wide, disc strongly ascending *E. burracoppinensis*
 - 14: Adult leaves mostly glossy
 22. Obligate seeder (mallet), lacking a lignotuber
 23. Buds and fruits smooth; opercula narrowly cylindrical 2–3 mm wide *E. spathulata* subsp. *salina*
 - 23: Buds and fruits 2- or 4-ribbed; opercula mostly conical >3 mm wide
 24. Buds and fruits 2-ribbed;
 25. Buds and fruits held distinctly erect *E. alipes*
 - 25: Buds and fruits loosely pendulous *E. goniocarpa*

- 24:** Buds and fruits 4-ribbed, square in cross-section; Newdegate area (*E. mimica*)
26: Outer operculum shed before flowering *E. mimica* subsp. *mimica*
26: Outer operculum shed at flowering *E. mimica* subsp. *continens*
- 22:** Lignotuber resprouter (mallee)
27: Flower stamens arranged in four bundles
28: Fruits oblong, 12–20 mm long *E. gittinsii* subsp. *gittinsii*
28: Fruits cupular, 7–12 mm long *E. ebbanoensis* subsp. *photina*
- 27:** Flower stamens arranged in a uniform ring
29: Opercula strongly beaked (*E. ser. Incrassatae*)
30: Fruits 12–15 mm wide; adult leaves 15–45 mm wide; Cadoux, Koorda areas *E. ceratocorys*
30: Fruits 6–10 mm wide; adult leaves 5–30 mm wide
31: Adult leaves 5–12 mm wide; fruits 8–10 mm long, 6–8 mm wide *E. captiosa*
31: Adult leaves 10–30 mm wide; fruits 10–15 mm long, 8–10 mm wide *E. incrassata*
- 29:** Opercula weakly beaked to conical to flattened-hemispherical or cylindrical
32: Buds and fruits held erect
33: Opercula equal in width to hypanthium at join, broadly conical to flattened-hemispherical
34: Buds and fruits +/- smooth *E. platycorys*
34: Buds and fruits strongly ribbed *E. corrugata*
33: Opercula narrower than hypanthium at join, narrowly conical to cylindrical
35: Pedicels well defined from fruit, ± terete; fruits smooth *E. orthostemon*
35: Pedicels tapering to fruit, ± flattened; fruits with 2 wings extending from pedicel (*E. suggrandis*)
36: Sepals absent from bud; pedicels 2–5 mm long *E. suggrandis* subsp. *suggrandis*
36: Sepals present on bud; pedicels 4–9 mm long *E. suggrandis* subsp. *promiscua*
- 32:** Buds and fruits pendulous
37: Flower bud hypanthia and fruits conspicuously flared near rim *E. armillata*
37: Flower bud hypanthia and fruits lacking a conspicuous flare near rim (*E. erythronema*)
38: Branchlets conspicuously waxy, flowers usually red *E. erythronema* subsp. *erythronema*
38: Branchlets not waxy, flowers pale creamy yellow *E. erythronema* subsp. *inornata*
- 10:** Buds and fruits in groups of 7 or more
39: Inflorescences occurring in +/- terminal panicles
40: Branchlets non-glaucous; outer stamens lacking anthers (staminodes); branchlet pith glands absent
41: Fruits 4–5 mm wide; buds 4.5–6 mm long *E. cuprea*
41: Fruits 7–10 mm wide; buds 7–12 mm long *E. petraea*
- 40:** Branchlets often glaucous; all stamens with anthers; branchlet pith glands present (*E. loxophleba*)
42: Bark rough on trunk; tree or mallee-like
43: Bark rough up to mid branches *E. loxophleba* subsp. *loxophleba*
43: Bark rough only on trunks(s), often only up to 1–2 metres from base *E. loxophleba* subsp. *supralaevis*
42: Bark mostly or entirely smooth; mallee
44: Buds 5–8 mm long; fruits 4–6 mm wide *E. loxophleba* subsp. *lissophloia*
44: Buds 7–15 mm long; fruits 5–8 mm wide *E. loxophleba* subsp. *gratiae*
- 39:** Inflorescences occurring as a single umbel in each leaf axil
45: Flowers with outer stamens shorter than inner stamens and lacking anthers (staminodes; *E. ser. Heterostemones*)
46: Obligate seeder (mallet), lacking a lignotuber *E. prolixa*
46: Lignotuber resprouter (mallee)
47: Buds 3–5 mm long; fruits 3–5 mm long, 2–4 mm wide *E. yilgarnensis*
47: Buds 5–12 mm long; fruits 5–13 mm long, 4–8 mm wide
48: Bark rough to upper branches; adult leaves held erect *E. brevipes*
48: Bark wholly smooth or rough on lower stems only; adult leaves not held erect
49: Fruits broadly obconical *E. quadrans*
49: Fruits barrel-shaped to urceolate to oblong-cylindrical
50: Fruit round in cross-section, smooth (*E. celastroides*)
51: Adult leaves grey-green; branchlets glaucous *E. celastroides* subsp. *celastroides*
51: Adult leaves glossy, green; branchlets not glaucous *E. celastroides* subsp. *virella*
50: Fruit square in cross-section, with four longitudinal ribs (*E. calycogona*)
52: Adult leaves glossy, green; branchlets and flower buds not glaucous *E. calycogona* subsp. *calycogona*
52: Adult leaves dull, grey-green; branchlets and flower buds glaucous *E. calycogona* subsp. *miracula*
- 45:** All stamens of similar length and no stamens lacking anthers
53: Peduncles distinctly flattened and distally broadening
54: Tree (usually single-stemmed), including mallets
55: Adult leaves mostly glossy; bark rough or smooth
56: Bark rough on trunk
57: Opercula hemispherical, shorter than hypanthia
58: Bark rough up to mid branches *E. loxophleba* subsp. *loxophleba*
58: Bark rough only on trunks(s), often only up to 1–2 metres from base *E. loxophleba* subsp. *supralaevis*
57: Opercula long-conical to horn-shaped, much longer than hypanthia
59: Fruits campanulate, 6–13 mm wide, held pendulous *E. occidentalis*
59: Fruits barrel-shaped to shortly cylindrical, 3–5 mm wide, held erect *E. arachnaea* subsp. *arrecta*
- 56:** Bark mostly or completely smooth
60: Buds ovoid, opercula broadly conical *E. salubris*
60: Buds cylindrical to fusiform; opercula cylindrical to elongated or beaked

- 61.** Adult leaves linear (*E. spathulata*)
62. Adult leaves bluish; buds and fruits 7-flowered; fruits 4–7 mm long; southern wheatbelt *E. spathulata* subsp. *spathulata*
62: Adult leaves green; buds and fruits 3- or 7-flowered; fruits 6–8 mm long; Salt River system *E. spathulata* subsp. *salina*
- 61:** Adult leaves lanceolate to orbicular
63. Adult leaves orbicular to elliptic (*E. platypus*)
64. Adult leaves orbicular, 20–60 mm wide; peduncles to 55 mm long *E. platypus* subsp. *platypus*
64: Adult leaves elliptical, 16–27 mm wide; peduncles to 70 mm long *E. platypus* subsp. *congregata*
63: Adult leaves lanceolate to narrow-lanceolate
65. Adult leaves with very numerous oil glands obscuring secondary venation
66. Pedicels 1–3 mm long; fruit valves strongly exserted *E. extensa*
66: Pedicels 3–8 mm long; fruit valves around rim level *E. goniocarpa*
65: Adult leaves with secondary venation visible
67. Fruits obconical to campanulate (*E. astringens*)
68. Fruits 7–12 mm long x 7–9 mm wide; central-southern wheatbelt *E. astringens* subsp. *astringens*
68: Fruits 5–9 mm long x 5–8 mm wide; southern coastal *E. astringens* subsp. *redacta*
67: Fruits cylindrical to barrel-shaped
69. Buds 3–4 mm wide; opercula long-conical *E. clivicola*
69: Buds 8–10 mm wide; opercula strongly beaked *E. singulalis*
- 55:** Adult leaves mostly dull; bark smooth
70. Opercula bluntly conical to rounded, about as long as hypanthium *E. accedens*
70: Opercula narrowly conical, much longer than hypanthium (*E. ser. Levispermae*)
71. Bark powdery; branchlets glaucous
72. New seasonal bark creamy yellow; seedlings glabrous; Moora, Three Springs area *E. wandoo* subsp. *pulverea*
72: New seasonal bark orange; seedlings hairy; central-eastern wheatbelt *E. capillosa*
71: Bark not powdery; branchlets not glaucous
73. Lignotuberous tree; opercula 5–11 mm long *E. wandoo* subsp. *wandoo*
73: Obligate seeder (mallet; lignotuber absent); opercula 12–23 mm long
74. Adult leaves 5–10 mm wide *E. densa* subsp. *densa*
74: Adult leaves 10–25 mm wide *E. gardneri* subsp. *gardneri*
- 54:** Mallee (usually multi-stemmed)
75. Operculum rounded, much shorter than hypanthia (*E. ser. Loxophlebae*)
76. Bark rough on trunk; tree or mallee-like
77. Bark rough up to mid branches *E. loxophleba* subsp. *loxophleba*
77: Bark rough only on trunk(s), often only up to 1–2 metres from base *E. loxophleba* subsp. *supralaevis*
76: Bark mostly or entirely smooth; mallee
78. Adult leaves narrow-lanceolate, 7–15 mm wide; shrubby habit to 4 meters tall (Northampton area) *E. blaxellii*
78: Adult leaves lanceolate, 10–33 mm wide; robust habit to 7 meters tall
79. Buds 5–8 mm long; fruit 4–6 mm wide *E. loxophleba* subsp. *lissophloia*
79: Buds 7–15 mm long; fruit 5–8 mm wide *E. loxophleba* subsp. *gratiae*
- 75:** Operculum conical, cylindrical, horn-shaped or beaked, equal in length to much longer than hypanthia
80. Operculum beaked (*E. ser. Incrassatae*)
81. Fruits 12–15 mm wide; adult leaves 15–45 mm wide; Cadoux, Koorda areas *E. ceratocorys*
81: Fruits 6–10 mm wide; adult leaves 5–30 mm wide
82. Adult leaves 5–12 mm wide; fruits 8–10 mm long, 6–8 mm wide *E. captiosa*
82: Adult leaves 10–30 mm wide; fruits 10–15 mm long, 8–10 mm wide *E. incrassata*
- 80:** Operculum conical, cylindrical or horn-shaped
83. Buds and fruits +/- pendulous (*E. ser. Erectae*)
84. Bark rough to mid branches, hard-fibrous, dark grey *E. occidentalis*
84: Bark smooth throughout or with loosely held rough bark near base only
85. Flower filaments cream; adult leaves with secondary venation visible
86. Opercula with a sharp tip, up to three times as long as hypanthia; peduncles 16–42 mm long *E. sporadica*
86: Opercula with a blunt tip, about twice as long as hypanthia; peduncles 12–26 mm long *E. thamnooides*
85: Flower filaments yellowish; adult leaves with very numerous oil glands obscuring secondary venation *E. tephroclada*
87: Branchlets glaucous *E. tephroclada*
87: Branchlets not glaucous
88. Buds to 18–27 mm long; opercula 10–20 mm long; Mt Madden area only *E. depauperata*
88: Buds 25–40 mm long; opercula to 33 mm long; widespread across wheatbelt *E. tenera*
- 83:** Buds and fruits held +/- erect
89. Adult leaves dull; buds ovoid (Moora, Three Springs area) *E. pruiniramis*
89: Adult leaves glossy green; buds much longer than wide (horn-shaped to spindle-shaped)
90. Buds and fruits in groups of 9–31; flowers yellow; fruits distinctly flat-topped *E. macrandra*
90: Buds and fruits in groups of 7; flowers white
91. Adult leaves with very numerous oil glands obscuring secondary venation
92. Buds sessile or nearly so; fruit valves strongly exserted *E. annulata*
92: Buds pedicellate; fruit valves around rim level
93. Stamens inflexed (*E. vegrandis*)
94. Adult leaves linear to narrowly elliptical 3–11 mm wide *E. vegrandis* subsp. *vegrandis*
94: Adult leaves elliptical 13–30 mm wide; Cranbrook, Gnowangerup area *E. vegrandis* subsp. *recondita*

- 93:** Stamens erect
- 95:** Pedicels well defined from fruit, ± terete; fruits smooth *E. orthostemon*
 - 95:** Pedicels tapering to fruit, ± flattened; fruits with 2 wings extending from pedicel (*E. suggrandis*)
 - 96:** Sepals absent from bud; pedicels 2–5 mm long *E. suggrandis* subsp. *suggrandis*
 - 96:** Sepals present on bud; pedicels 4–9 mm long *E. suggrandis* subsp. *promiscua*
- 91:** Adult leaves with secondary venation visible (*E. ser. Levispermae*)
- 97:** Buds 5–10 mm long
 - 98:** Adult leaves mostly dull, light green to grey-green
 - 99:** Branchlets glaucous *E. subangusta* subsp. *cerina*
 - 99:** Branchlets non-glaucous
 - 100:** Fruits 3–6 mm long, 2–5 mm wide *E. subangusta* subsp. *subangusta*
 - 100:** Fruits to 3 mm long, to 3 mm wide *E. subangusta* subsp. *pusilla*
 - 98:** Adult leaves maturing +/-glossy, green
 - 101:** Adult leaves 10–17 mm wide *E. subangusta* subsp. *virescens*
 - 101:** Adult leaves 4–7 mm wide *E. subtilis*
 - 97:** Buds 10–33 mm long
 - 102:** Opercula narrower than hypanthium at join
 - 103:** Adult leaves dull, grey-green *E. hebetifolia*
 - 103:** Adult leaves glossy, green
 - 104:** Bark rough, dark and firm on lower stems; seedlings with rough edges *E. arachnaea* subsp. *arachnaea*
 - 104:** Bark smooth throughout (or ribbony); seedlings glabrous *E. phaenophylla*
 - 102:** Opercula equal in width to hypanthium at join
 - 105:** Bark often powdery; branchlets glaucous; seedlings hairy *E. capillosa*
 - 105:** Bark not powdery; branchlets not glaucous; seedlings glabrous
 - 106:** Adult leaves 5–12 mm wide, green to blue-green
 - 107:** Buds 10–17 mm long; fruits 4–6 mm long *E. xanthonema* subsp. *xanthonema*
 - 107:** Buds 20–30 mm long; fruits 9–13 mm long *E. histophylla*
 - 106:** Adult leaves 10–30 mm wide, blue-green to purplish (*E. pluricaulis*)
 - 108:** Adult leaves blue-green *E. pluricaulis* subsp. *pluricaulis*
 - 108:** Adult leaves distinctly purplish *E. pluricaulis* subsp. *porphyrea*

53: Peduncles terete, angular, slightly flattened, not distally broadening

109: Branchlet pith glands present

 - 110:** Tree (single stem), including mallets
 - 111:** Branchlets, buds and young fruits glaucous *E. vittata*
 - 111:** Branchlets, buds and young fruits not glaucous
 - 112:** Bark smooth throughout
 - 113:** Buds and fruits pendulous, fruits 6–10 mm wide; flowers yellow-green *E. dielsii*
 - 113:** Buds and fruits held erect, fruits 4–5 mm wide; flowers white *E. polita*
 - 112:** Bark rough on lower stem(s)
 - 114:** Buds 14–25 mm long *E. sargentii* subsp. *sargentii*
 - 114:** Buds 3.5–8 mm long
 - 115:** Buds and fruits sessile *E. kondininensis*
 - 115:** Buds and fruits pedicellate (pedicels 2–4 mm long)
 - 116:** Buds 2–3 mm wide; fruits 2–3 mm wide *E. myriadena*
 - 116:** Buds 3–4 mm wide; fruits 3–6 mm wide
 - 117:** Opercula equal in length to hypanthium; fruits obconical *E. melanoxylon*
 - 117:** Opercula shorter in length than hypanthium; fruits cupular to barrel-shaped *E. aequioperta*
 - 110:** Mallee (multi-stemmed resprouter)
 - 118:** Adult leaves mostly dull
 - 119:** Fruits round, 9–15 mm wide, valves deeply enclosed in orifice; flowers pale yellow *E. jucunda*
 - 119:** Fruits obconical to cylindrical to cupular, 5–10 mm wide, valves visible; flowers creamy white
 - 120:** Fruits 7–10 mm wide, adult leaves 15–35 mm wide; bark rough or smooth *E. obtusiflora*
 - 120:** Fruits 5–7 mm wide; adult leaves 8–24 mm wide; bark smooth throughout
 - 121:** Branchlets, buds and young fruits glaucous; opercula equal in width to hypanthia at join *E. sheathiana*
 - 121:** Branchlets, buds and young fruits not glaucous; opercula often slightly narrower than hypanthia at join
 - 122:** Adult leaves mostly glossy
 - 123:** Adult leaves ovate, 40–85 mm wide; buds 15–25 mm long; flowers yellow-green *E. grossa*
 - 123:** Adult leaves lanceolate to narrow-lanceolate, 7–23 mm wide, buds 2–15 mm long; flowers white
 - 124:** Buds constricted at the hypanthium-operculum join *E. comitae-vallis*
 - 124:** Buds not constricted at the join
 - 125:** Buds 7–9 mm wide; fruits 7–11 mm wide *E. platycorys*
 - 125:** Buds 2–4 mm wide; fruits 2–6 mm wide
 - 126:** Buds 2–3 mm wide; fruits 2–3 mm wide *E. myriadena*
 - 126:** Buds 3–4 mm wide; fruits 3–6 mm wide
 - 127:** Opercula equal in length to hypanthium; fruits obconical *E. melanoxylon*
 - 127:** Opercula shorter in length than hypanthium; fruits cupular to barrel-shaped *E. aequioperta*
 - 122:** Bark mostly smooth (occasional short stocking of rough bark may be seen)
 - 128:** Buds 5–14 mm long, held erect or pendulous; opercula +/- equal in length or shorter than hypanthium

- 129.** Buds and fruits strongly pendulous; peduncles 18–30 mm long *E. deflexa*
- 129:** Buds and fruits held +/- erect; peduncles 3–17 mm long
- 130.** Opercula striate (lightly ribbed longitudinally)
- 131.** Pedicels 2–5 mm long, fruits 6–8 mm wide *E. pileata*
- 131:** Pedicels 0–2 mm long, fruits 4–6 mm wide *E. phenax* subsp. *phenax*
- 130:** Opercula smooth
- 132.** Opercula broadly conical to flattened
- 133.** Buds 3–5 mm wide; opercula flattened; fruits 4–6 mm wide *E. exigua*
- 133:** Buds 5–6 mm wide; opercula hemispherical to broadly conical; fruits 6–7 mm wide. *E. sp. Southern wheatbelt*
- 132:** Opercula beaked or long-conical
- 134.** Fruits cylindrical to barrel-shaped, 4–5 mm wide; adult leaves held +/- pendulous *E. cylindrocarpa*
- 134:** Fruits cylindrical to cupular, 6–8 mm wide; adult leaves held +/- erect *E. cylindriflora*
- 128:** Buds 14–35 mm long, pendulous; opercula longer than hypanthia
- 135.** Fruit disc conspicuous, level with rim; operculum scar conspicuous; flowers red or cream to pale yellow
- 136.** Flower bud hypanthia and fruits conspicuously flared near rim *E. armillata*
- 136:** Flower bud hypanthia and fruits lacking a conspicuous flare near rim (*E. erythronema*)
- 137.** Branchlets conspicuously waxy, flowers usually red *E. erythronema* subsp. *erythronema*
- 137:** Branchlets not waxy, flowers pale creamy yellow *E. erythronema* subsp. *inornata*
- 135:** Fruit disc not conspicuous, sunken below rim; operculum scar indistinct; flowers cream
- 138.** Fruits conspicuously ribbed, 12–20 mm long, 10–14 mm wide *E. stowardii*
- 138:** Fruits smooth to weakly ribbed, 6–13 mm long, 5–12 mm wide
- 139.** Buds smooth; fruits 5–9 mm wide; seedling leaves linear *E. sargentii* subsp. *onesia*
- 139:** Buds smooth to weakly ribbed; fruits 9–12 mm wide; seedling leaves lanceolate. *E. diminuta*
- 109:** Branchlet pith glands absent
- 140.** Tree (single stem), including mallets
- 141.** Bark rough on stem(s)
- 142.** Opercula about equal in length to hypanthia
- 143.** Bark rough to upper branches; fruit valves around rim level; sandplain habitat *E. todtiana*
- 143:** Bark rough on stems and larger branches only; fruit valves strongly exserted; creekline habitat *E. rudis* subsp. *rudis*
- 142:** Opercula much longer than hypanthium
- 144.** Tree; leaves glossy, green; opercula conical *E. longicornis*
- 144:** Mallee; leaves dull, green to grey-green; opercula strongly beaked
- 145.** Juvenile leaves not decurrent; branchlets and buds not glaucous; northern wheatbelt *E. dolichocera*
- 145:** Juvenile leaves decurrent; branchlets and buds often glaucous; central wheatbelt. *E. moderata*
- 141:** Bark mostly or entirely smooth
- 146.** Adult leaves dull, prominent in river channels and major soaks in north *E. camaldulensis* subsp. *arida*
- 146:** Adult leaves glossy; habitat mostly plains and hilltops or salt lake margins
- 147.** Buds and fruits held erect; buds 4–7 mm long
- 148.** Juvenile leaves lanceolate, green, not glaucous; opercula round *E. salmonophloia*
- 148:** Juvenile leaves rounded, grey-green, ± glaucous; opercula conical. *E. salicola*
- 147:** Buds and fruits pendulous; buds 11–24 mm long
- 149.** Fruits urceolate *E. urna*
- 149:** Fruits globular to cupular to obconical (not urceolate)
- 150.** Buds and fruits strongly ribbed..... *E. ornata*
- 150:** Buds and fruits smooth to faintly ribbed
- 151.** Opercula narrowly conical, 5–7 mm wide, smooth to faintly ribbed; fruits 6–11 mm wide *E. falcata*
- 151:** Opercula broadly conical, 6–10 mm wide, smooth; fruits 10–13 mm wide *E. recta*
- 140:** Mallee (multi-stemmed)
- 152.** Adult leaves mostly dull
- 153.** Bark rough on lower stems
- 154.** Fruits cupular, 4–5 mm long..... *E. sp. Mukinbudin*
- 154:** Fruits urceolate to barrel-shaped to globose, 5–11 mm long
- 155.** Opercula hemispherical, equal in length or shorter than hypanthium *E. kochii* subsp. *plenissima*
- 155:** Opercula strongly beaked, much longer than hypanthia
- 156.** Juvenile leaves not decurrent; branchlets and buds not glaucous; northern wheatbelt *E. dolichocera*
- 156:** Juvenile leaves decurrent; branchlets and buds often glaucous; central wheatbelt. *E. moderata*
- 153:** Bark completely smooth (some ribbony bark may accumulate on lower stems)
- 157.** Adult leaves elliptical to lanceolate; opercula about equal in length to hypanthium, bluntly conical .. *E. drummondii*
- 157:** Adult leaves linear to lanceolate; opercula longer than hypanthium, conical to long-beaked
- 158.** Buds and fruits distinctly pendulous; flower filaments united in a ring at base
- 159.** Leaves lanceolate to narrow-lanceolate; fruits broadly hemispherical, disc steeply raised..... *E. synandra*
- 159:** Leaves linear to narrow-lanceolate; fruits cupular to urceolate, disc mostly level *E. beardiana*
- 158:** Buds and fruits held loosely erect; flower filaments free at base
- 160.** Fruits barrel-shaped to urceolate; pedicels robust; opercula horn-shaped. *E. neutra*
- 160:** Fruits hemispherical; pedicels very slender; opercula conical (*E. leptopoda*)
- 161.** Adult leaf intramarginal vein absent; fruit disc moderately to strongly ascending . *E. leptopoda* subsp. *arctata*
- 161:** Adult leaf intramarginal vein visible; fruit disc level to slightly ascending *E. leptopoda* subsp. *leptopoda*
- 152:** Adult leaves mostly glossy
- 162.** Buds 5–12 mm long, 2–5 mm wide, massed on outside of crown, opercula conspicuously red at maturity, mostly coni-

- cal to slightly beaked; fruit disc often whitish (*E. ser. Porantherae*)
163. Adult leaves 2–5 mm wide *E. perangusta*
- 163: Adult leaves 10–20 mm wide
164. Juvenile leaves connate; buds and fruits sessile *E. uncinata*
- 164: Juvenile leaves non-connate; buds and fruits pedicellate
165. Juvenile leaves glaucous
166. Juvenile leaves narrowly-elliptic to oblong, slightly glaucous *E. latens*
- 166: Juvenile leaves ovate to orbicular, strongly glaucous
167. Opercula pointed *E. horistes*
- 167: Opercula blunt *E. albida*
- 165: Juvenile leaves not glaucous
168. Adult leaves olive-green *E. olivina*
- 168: Adult leaves green
169. Juvenile leaves elliptical; operculum broadly conical *E. dissimulata*
- 169: Juvenile leaves narrow-lanceolate; operculum conical to slightly beaked *E. rigidula*
- 162: Buds 7–20 mm long, 2.5–10 mm wide, less conspicuously massed on crown; opercula not conspicuously red at maturity; fruit disc not whitish
170. Bark mostly rough
171. Bark persistent up to branchlets
172. Opercula round; fruits 12–22 mm wide *E. todiana*
- 172: Opercula conical or beaked; fruits 6–10 mm wide *E. decipiens*
- 171: Bark rough up to 2 metres on stems only
173. Adult leaves dull to slightly glossy, green to grey-green
174. Operculum beaked; older plants with an open, straggly habit (Narrogin south and west wheatbelt)
- *E. aspersa*
- 174: Opercula hemispherical to broadly conical; erect, dense-crowned habit
175. Opercula rounded, broader than long, 2–3 mm long *E. kochii* subsp. *plenissima*
- 175: Opercula broadly conical, longer than broad, 3–5 mm long *E. kochii* subsp. *kochii*
- 173: Adult leaves very glossy, green
176. Juvenile leaves very crowded and heath-like; Mt Madden, Ravensthorpe areas. *E. oleosa* subsp. *corvina*
- 176: Juvenile leaves not crowded and heath-like; northern and central wheatbelt
177. Pedicels 4–11 mm long; juvenile leaves on petioles 5–11 mm long, lanceolate *E. longissima*
- 177: Pedicels 1–4 mm long; juvenile leaves on petioles 0–5 mm long, linear to narrow-elliptic
178. Fruits 5–6 mm wide; opercula conical to beaked; far northern wheatbelt *E. kochii* subsp. *borealis*
- 178: Fruits 3–4 mm wide; opercula sharply conical; Marvel Loch area *E. kochii* subsp. *yellowdinensis*
- 170: Bark mostly smooth
179. Adult leaves 4–7 mm wide; pedicels 1–2 mm long *E. quaerenda*
- 179: Adult leaves 6–27 mm wide; pedicels 0–10 mm long
180. Buds and fruits sessile (lacking pedicels) and tightly clustered. *E. obesa*
- 180: Buds and fruits pedicellate
181. Opercula equal in length or shorter than hypanthia
182. Juvenile leaves very glaucous; adult leaves 6–15 mm wide *E. albida*
- 182: Juvenile leaves not glaucous; adult leaves 10–27 mm wide
183. Fruits broadly obconical, disc ascending, valves at rim level *E. pachyloma*
- 183: Fruits barrel-shaped to truncate-globose, disc descending, valves enclosed *E. exilis*
- 181: Opercula longer than hypanthia
184. Opercula beaked
185. Juvenile leaves sessile; buds 10–18 mm long; fruits 6–11 mm long, 5–9 mm wide
- *E. flocktoniae* subsp. *flocktoniae*
- 185: Juvenile leaves petiolate; buds 7–11 mm long; fruits 4–6 mm long, 4–7 mm wide. *E. aspersa*
- 184: Opercula conical
186. Buds and fruit held +/- erect: opercula broadly conical. *E. opimiflora*
- 186: Buds and fruit pendulous: opercula narrowly conical
187. Bud hypanthia smooth; fruits smooth *E. ecostata*
- 187: Bud hypanthia ribbed; fruits ribbed *E. dorrienii*