

Pictorial guide to the common legumes of the Blue Mountains, Australia.

About this guide

The photographs in this guide show vouchers that were taken from sampling sites in the Blue Mountains around the Bilpin-Katoomba area. These vouchers were identified at the NSW Herbarium.

The genera are sorted alphabetically, but the species within each genus are shown in order of *decreasing* commonality in the field. Each voucher is photographed on a 1 cm grid.

Descriptions and line drawings are from PlantNET < plantnet.rbgsyd.nsw.gov.au >. The glossary of botany terms is also taken from PlantNET.

Acacia spp.



Extremely pungent and stiff leaves.

Description

Decumbent to erect shrub 0.5–2 m high; bark smooth, grey; branchlets \pm terete, at first sparsely to densely hairy. Stipules subulate, 1–2 mm long.

Phyllodes \pm rigid, \pm straight, terete or 4-angled, 0.8–1.5 cm long, 1–2 mm wide, glabrous, midvein prominent and slightly towards the upper margin, apex pungent-pointed; 1 obscure gland along margin; pulvinus obscure.



Inflorescences simple, 1 in axil of phyllodes; peduncles 5–15 mm long, usually glabrous; heads globose, 15–35-flowered, 4–10 mm diam., pale yellow to \pm white.

Pods \pm curved, \pm flat, usually slightly constricted between seeds, 2–6 cm long, 3–5 mm wide, thinly leathery, often brittle with age, smooth to obscurely wrinkled, glabrous; seeds longitudinal; funicle filiform, short.

Acacia suaveolens



Distinctive ribbed pods and leaves with a prominent midvein and mucro at apex.

Description

Prostrate to erect shrub 0.3–2.5 m high; bark smooth, purplish brown or light green; branchlets angled or flattened, glabrous.

Phyllodes narrowly oblanceolate or very narrowly elliptic to linear, straight to slightly curved, 5–15 cm long, 2–10 mm wide, glabrous, \pm glaucous, midvein prominent, lateral veins obscure or not evident, margins \pm prominent, apex acute with a mucro; 1 small gland near base and another normally at mucro; pulvinus 1–2 mm long.

Inflorescences usually 5–10 in an axillary raceme; axis 1–3 cm long; peduncles 1–5 mm long, glabrous; before opening raceme enclosed in imbricate bracts c. 5 mm long; heads globose, 3–10-flowered, 4–7 mm diam., pale yellow to \pm white.

Pods \pm straight, \pm flat, \pm straight-sided, 2–5 cm long, 8–19 mm wide, thinly leathery to brittle, glabrous, pruinose; margins prominent; seeds transverse; funicle expanded towards seed.





Pinnate leaves with fat leaflets, alternate.

Description

Erect or spreading shrub or occasionally small tree to 6 m high; bark smooth or finely fissured, grey or brown; branchlets angled, glabrous to densely hairy.

Leaves with petiole 0.7–4 cm long, with a gland near basal pinnae or to $\frac{1}{2}$ way below; rachis usually 0.7–9.5 cm long, glabrous to densely hairy, often with a gland at apex, interjugary glands absent; pinnae usually 2–8 pairs, 1–10 cm long; pinnules 5–21 pairs, mostly oblong to narrowly oblong, oblong-elliptic or lanceolate, 2–19 mm long, 1–5.5 mm wide, \pm flat, discolorous, dark green and shiny above, paler and dull below, glabrous or ciliate.

Inflorescences in terminal or axillary racemes or panicles; peduncles mostly 3–17 mm long, hairy or glabrous; heads globose, 5–14-flowered, 7–12 mm diam., cream-coloured, pale yellow or bright yellow.

Pods straight or curved, \pm flat except raised, rough and often darker over seeds, \pm straight-sided but often irregularly constricted between some seeds, 3.5–10 cm long, 12–19 mm wide, leathery, glabrous, with prominent pale margins; seeds longitudinal; funicle filiform.



Acacia linifolia



Description

Erect or spreading shrub 1.5–4 m high; bark smooth or finely fissured, greyish; branchlets angled towards apices, finely ridged, glabrous or sometimes hairy.

Phyllodes \pm linear, \pm straight, 2–5 cm long (range: 1.5–7 cm), 0.7–2.5 mm wide (rarely to 3 mm wide), usually glabrous except pulvinus and upper margin near base often sparsely minutely hairy (phyllodes sometimes finely hairy and glabrescent), midvein prominent, lateral veins obscure or not evident, apex acute with a mucro; 1 minute gland 5–15 mm above pulvinus; pulvinus 0.5–2 mm long.

Inflorescences 5–17 in an axillary raceme; axis 2–5 cm long; peduncles 2–5 mm long, slender, glabrous or sometimes hairy; heads globose, 6–12-flowered, 4–5.5 mm diam., pale yellow to \pm white.

Pods straight or curved, \pm flat except raised over seeds, \pm straight-sided or barely constricted between seeds, often more deeply constricted between some seeds, 3–12 cm long, 8–15 mm wide, thinly leathery, glabrous, often \pm pruinose; seeds longitudinal; funicle expanded towards seed.





Noticeable longitudinal veining.

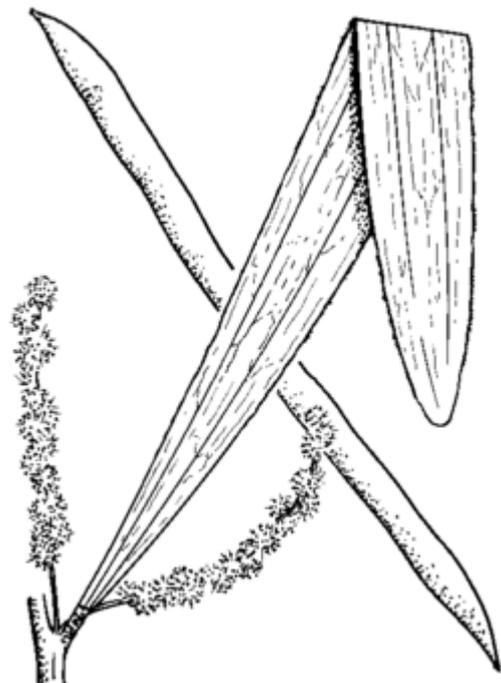
Description

Erect or spreading shrub or tree 1.5–8 m high (sometimes taller, up to 15 m); bark smooth or corrugated, grey; branchlets angled towards apices, glabrous.

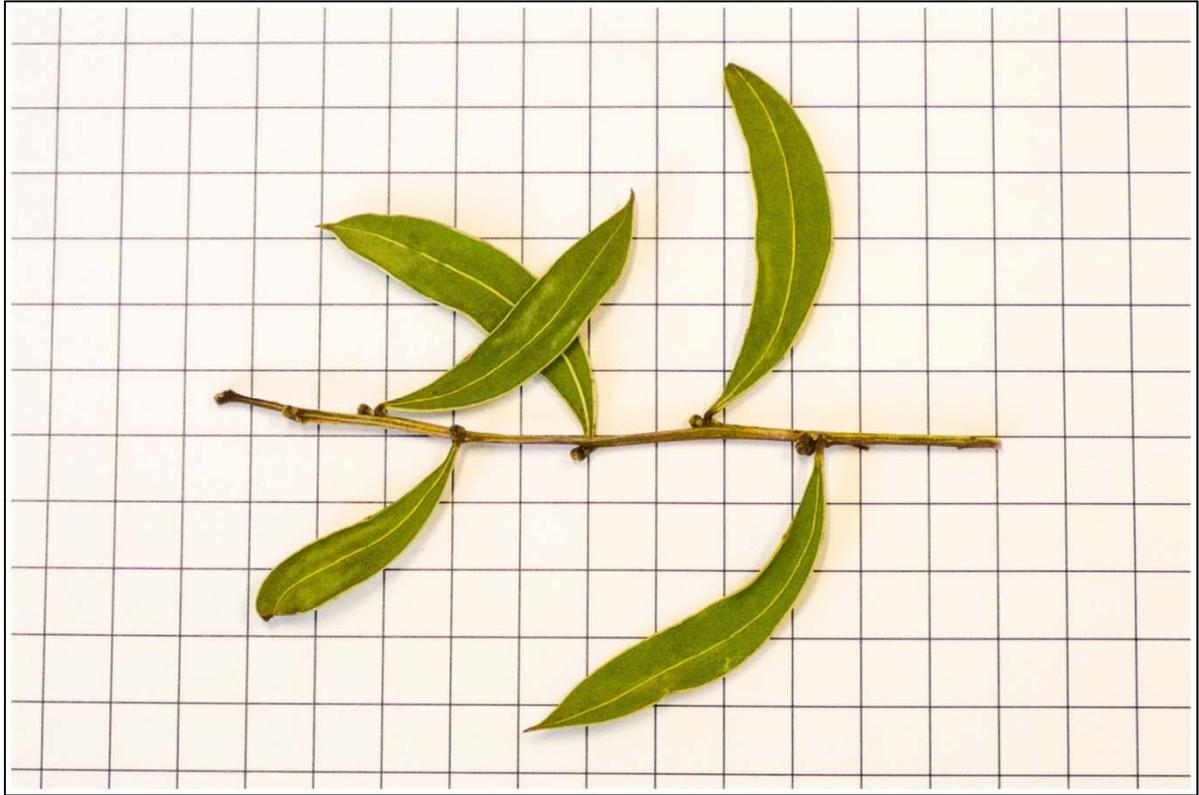
Phyllodes narrowly elliptic to \pm linear, sometimes narrowly oblanceolate, straight or subfalcate, 8–20 cm long, 10–30 mm wide, glabrous, usually 2 or 3 or more longitudinal veins more prominent, minor veins coarsely longitudinally anastomosing, apex \pm obtuse; margins not smooth, \pm resinous and irregularly indented; 1 gland at base; pulvinus 2–5 mm long.

Inflorescences 1 or 2 in axil of phyllodes; peduncles 2–5 mm long, glabrous; heads cylindrical, 4–5 cm long, pale yellow to cream-coloured; flowers scattered on rachis.

Pods \pm straight, usually subterete, 6–14.5 cm long, 3–5 mm wide, slightly woody and brittle when dry, smooth, glabrous; seeds longitudinal; funicle folded several times into a large aril.



Acacia myrtifolia



Description

Prostrate to erect shrub 0.3–3 m high; bark smooth, grey; branchlets angled with prominent ridges, becoming terete, usually reddish, often pruinose, glabrous.

Phyllodes elliptic to narrowly elliptic or obovate to oblanceolate, usually slightly curved, 2–9 cm long, 5–30 mm wide, glabrous, green, midvein and marginal veins prominent, lateral veins faint, apex subacute with a mucro; 1 small gland mostly 5–20 mm above pulvinus; pulvinus < 2 mm long.

Inflorescences 3–8 in an axillary raceme (racemes often indefinite and 'leafy' with 1 or 2 heads appearing simple in axil of phyllodes); axis mostly 1–5 cm long, sometimes to 11 cm long with up to 16 heads; peduncles usually 2–7 mm long (sometimes to 10 mm long), glabrous; heads globose, 2–8-flowered, 6–13 mm diam., pale yellow to \pm white.



Pods slightly or strongly curved, \pm flat, \pm straight-sided or barely constricted between seeds, 4–11 cm long, 2.5–5 mm wide, thinly woody to firm and brittle when dry, glabrous; margins prominent, pale, \pm undulate; seeds longitudinal; funicle expanded towards seed.



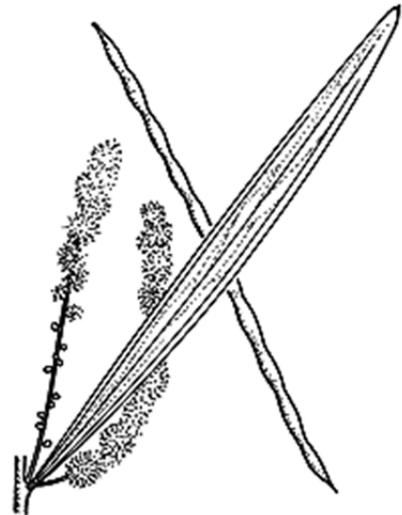
Description

Erect or spreading shrub or tree 3–8 m high; bark smooth, grey with paler mottles or horizontal streaks, sometimes becoming rough; branchlets angled towards apices, densely hairy with appressed to erect hairs to glabrous, with lenticels.

Phyllodes narrowly elliptic to linear, straight or slightly curved, usually 5–15 cm long and 2–10 mm wide, glabrous or with appressed hairs (the hairs often remaining concentrated near base), 1–4 longitudinal veins more prominent, minor longitudinal veins sparsely to moderately anastomosing (best seen with a hand lens), apex acute; glands absent or 1 inconspicuous gland at base; pulvinus 0.5–2.5 mm long.

Inflorescences 2 in axil of phyllodes; peduncles 1–3 mm long, hairy or glabrous; heads cylindrical, 3–8 cm long, pale yellow to \pm white; flowers scattered on rachis.

Pods straight to strongly curved, raised over and constricted between seeds, mostly 6–12 cm long, 2–4 mm wide, firmly papery, longitudinally ridged, appressed-hairy to glabrous; seeds longitudinal; funicle short and expanded into an aril.



Acacia brownii



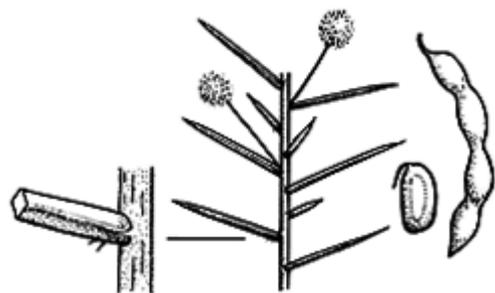
Description

Erect or spreading shrub 0.3–1 m high; branchlets \pm terete, glabrous or sparsely hairy. Stipules subulate, c. 1 mm long.

Phyllodes \pm rigid, \pm straight, terete or 4-angled, 0.8–2 cm long, to c. 1 mm wide, glabrous, midvein prominent, apex pungent-pointed; 1 obscure gland along margin; pulvinus obscure.

Inflorescences simple, 1 in axil of phyllodes; peduncles 4–15 mm long, usually glabrous; heads globose, 12–30-flowered, 5–10 mm diam., bright yellow.

Pods \pm curved, \pm flat, slightly or irregularly more deeply constricted between seeds, 1.5–8 cm long, 3–5 mm wide, leathery, often brittle with age, \pm smooth to wrinkled, glabrous; seeds longitudinal; funicle filiform.





Description

Erect tree or sometimes shrub 3–10 m high; bark smooth, grey or brown; branchlets terete with ridges, angled towards apices, \pm pruinose, hairy or glabrous.

Leaves \pm sessile on pulvinus, ash grey-green or bluish, with rachis mostly 0.3–2.5 cm long, hairy to glabrous, prominent jugary glands present except at lowermost 1 or 2 pairs of pinnae, interjugary glands absent; pinnae usually 2–4 pairs (range: 1–6 pairs), 1–3 cm long; pinnules mostly 8–24 pairs (sometimes 4–7 on shorter pinnae), closely spaced, narrowly oblong, mostly 3–8 mm long and 0.7–1.6 mm wide, glabrous or occasionally ciliate.



Inflorescences 8–36 in axillary racemes with axis 3–10 cm long or in panicles; peduncles 3–7 mm long, glabrous; heads globose, 11–25-flowered, 3.5–7 mm diam., bright yellow.

Pods straight or sometimes slightly curved, \pm flat, \pm straight-sided but often irregularly constricted between seeds, 3–10 cm long, 7.5–15 mm wide, leathery, glabrous, usually \pm pruinose; seeds longitudinal; funicle filiform.

Acacia hispidula



Description

Erect or spreading shrub 0.5–2 m high; branchlets \pm terete, densely hispid.

Phyllodes \pm elliptic to narrowly elliptic, asymmetric, usually slightly curved, 1–3 cm long, 3–10 mm wide, densely hispid to \pm glabrous, midvein prominent, lateral veins faint forming an obscure open reticulum, margins thickened and with prominent tuberculate-based hairs, apex acute with a mucro; 1 minute gland 2–6 mm above pulvinus; pulvinus to 1 mm long.



Inflorescences simple, 1 in axil of phyllodes; peduncles 4–7 mm long, hairy; heads globose, 10–20-flowered, 5–8 mm diam., pale yellow to nearly white.

Pods \pm straight, \pm flat, 1.5–2.5 cm long, 6–10 mm wide, thickly leathery to thinly woody, glabrous; seeds 1 or 2, longitudinal; funicle expanded towards seed.



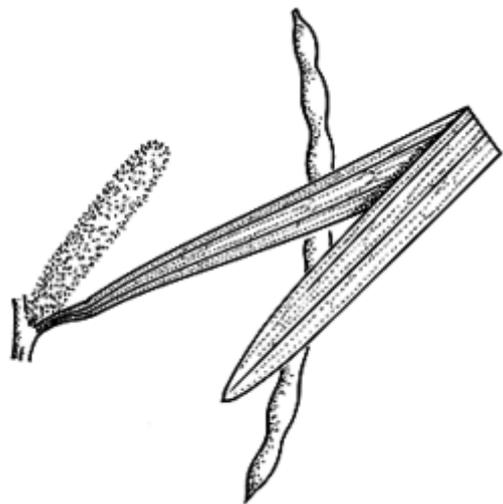
Description

Shrub or tree to 8 m high; bark smooth or finely fissured, greyish; branchlets angled towards apices, glabrous or sparsely appressed-hairy on new growth.

Phyllodes \pm straight or sometimes slightly curved, 4–20 cm long, 4–30 mm wide, \pm glabrous, several longitudinal veins prominent, minor veins longitudinally anastomosing, apex acute to obtuse with a mucro; 1 gland near base; pulvinus 3–5 mm long.

Inflorescences 1 or 2 in axil of phyllodes; peduncles 0–2 mm long, glabrous; heads cylindrical, 2–4.5 cm long, bright yellow or sometimes paler.

Pods straight to strongly twisted, raised over and slightly, or sometimes more deeply, constricted between seeds (\pm terete when fresh), usually 4–15 cm long (sometimes to 19 cm long), 2.5–6 mm wide, thinly leathery or firmly papery and brittle when dry, longitudinally ridged-wrinkled when dry, glabrous or sparsely hairy; seeds longitudinal; funicle folded and thickening into a large aril.



Acacia trinervata



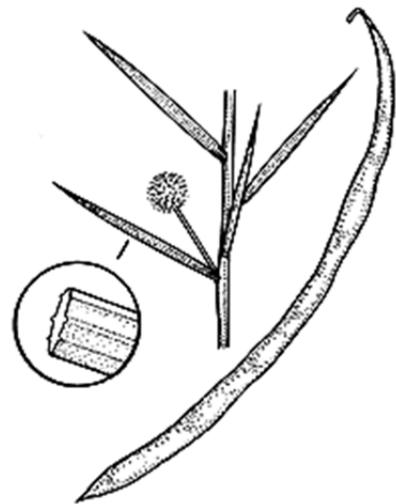
Description

Erect or spreading shrub 1.5–3 m high; branchlets angled towards apices, glabrous.

Phyllodes \pm rigid, very narrowly elliptic to \pm linear, straight or slightly curved, 1.5–5 cm long, 1–3 mm wide, glabrous, sometimes scurfy at first, 2 or 3 longitudinal veins prominent, apex pungent-pointed; 1 inconspicuous gland 0–3 mm above base; pulvinus < 1 mm long.

Inflorescences simple, 1 in axil of phyllodes; peduncles usually 10–20 mm long, \pm glabrous; heads globose, 20–30-flowered, 5–7.5 mm diam., bright yellow.

Pods straight to curved, sometimes curled back or twisted, slightly raised over seeds, \pm straight-sided to slightly constricted between some seeds, 6–12 cm long, 1–3 mm wide, firmly papery to thinly leathery, glabrous or minutely hairy; seeds longitudinal; funicle folded 3 or 4 times, expanded towards seed (arilate).





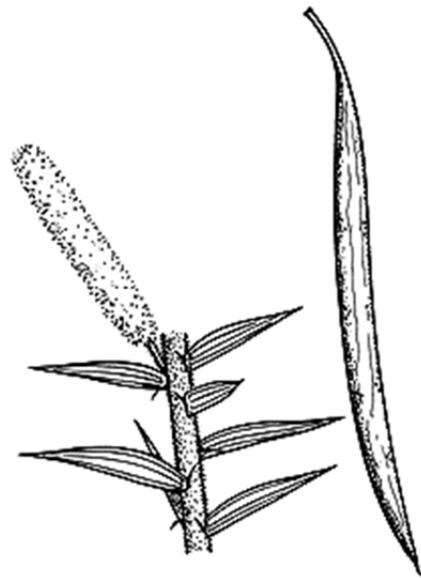
Description

Erect or spreading shrub 1–3 m high; bark smooth or finely fissured, grey-brown; branchlets \pm terete, at first densely hairy, glabrescent. Stipules \pm spinescent, 1–4 mm long.

Phyllodes sometimes whorled or clustered, rigid, \pm lanceolate, straight or slightly curved, 1.5–4 cm long, 2–6 mm wide, usually 3 or 4 longitudinal veins prominent, the upper vein becoming marginal towards the pungent-pointed apex; glands absent; pulvinus < 1 mm long.

Inflorescences 1–3 in axil of phyllodes; peduncles 2–7 mm long, hairy; heads cylindrical, 2–3 cm long, bright yellow or pale yellow. Flowers 4-merous.

Pods straight or very slightly curved, terete (compressed or raised over seeds when dry), straight-sided to slightly constricted between seeds, 4–10 cm long, 3–6 mm wide, firmly leathery to subwoody, longitudinally wrinkled-ridged when dry, sparsely minutely hairy to subglabrous; seeds longitudinal; funicle short and folded once or twice with a cup-shaped aril.



Acacia conferta



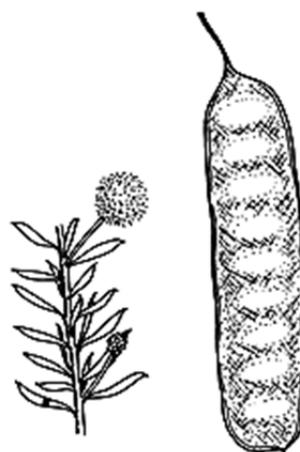
Description

Erect or spreading shrub to 3 m high; branchlets \pm terete, hairy.

Phyllodes alternate, whorled or clustered, linear to very narrowly elliptic, straight or slightly curved, 0.5–1 cm long, 1–2 mm wide, finely hairy at first, usually glabrescent with age, often finely longitudinally wrinkled when dry, veins obscure or not evident, apex acute with a mucro; 1 small gland at base; pulvinus < 1 mm long.

Inflorescences simple, 1 in axil of phyllodes; peduncles 6–15 mm long, c. 0.2 or sometimes to 0.3 mm wide, hairy; heads globose, 20–35-flowered, 4.5–8 mm diam., bright yellow.

Pods straight to slightly curved, \pm flat, mostly \pm straight-sided and sometimes constricted between some seeds, 3–7.5 cm long, 10–15 mm wide, thinly leathery, glabrous, sometimes pruinose; seeds transverse; funicle filiform.



Bossiaea spp.

Bossiaea heterophylla



Notice that the broad leaves are on thin petioles.

Description

Variable, mostly glabrous shrub, mostly < 1 m high, stems flat, often glaucous.

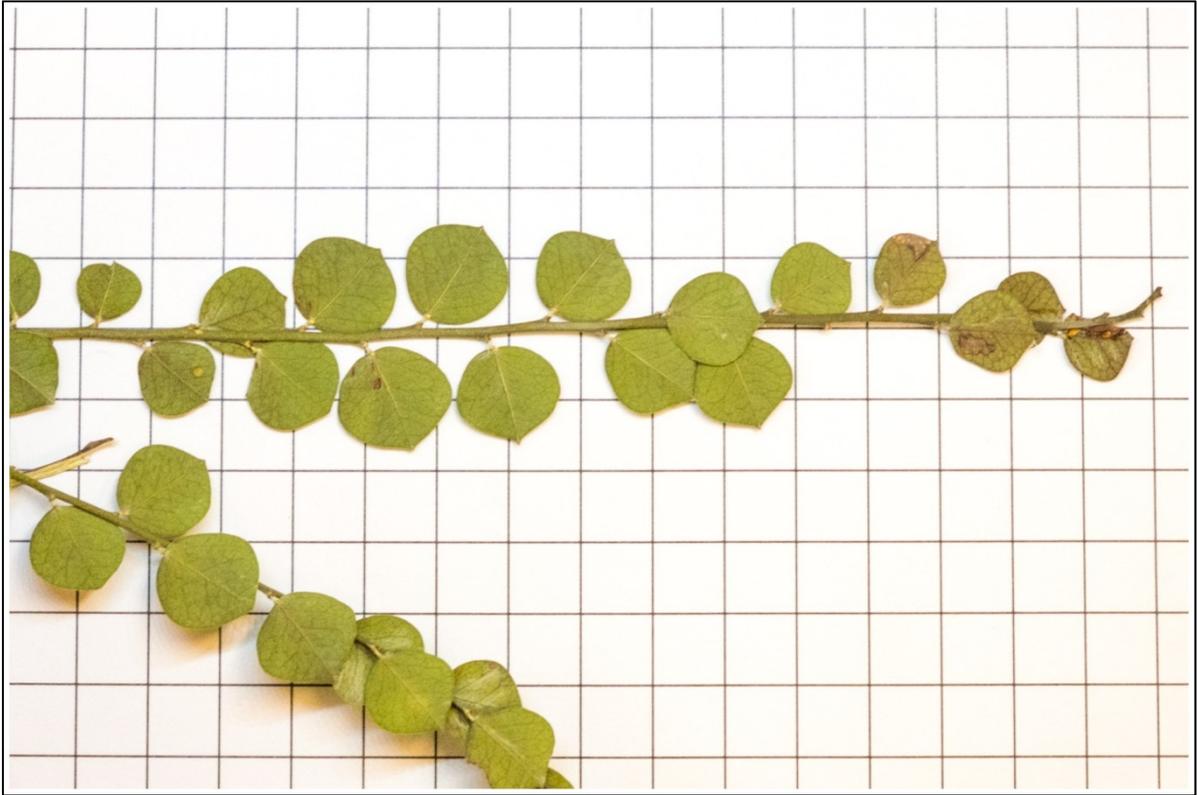
Leaves alternate, distichous, 1-foliolate, often variable in shape on the same plant; lamina ovate to almost linear, 10–30 mm long, margins flat or incurved to involute; stipules triangular, c. 1 mm long.

Flowers 7–15 mm long; pedicels c. 5 mm long; bracts few, \leq 1.5 mm long; bracteoles similar, inserted on lower part of pedicel, \pm persistent. Calyx 4–6 mm long. Standard usually longer than keel, both distinctly longer than wings; standard and wings orange-yellow; keel dark reddish. Ovary stipitate, glabrous c. 8-ovuled.

Pod narrow-oblong, 2–4 cm long.



Bossiaea rhombifolia



Description

Mostly glabrous shrub to 2 m high; branches \pm flat, at least when young.

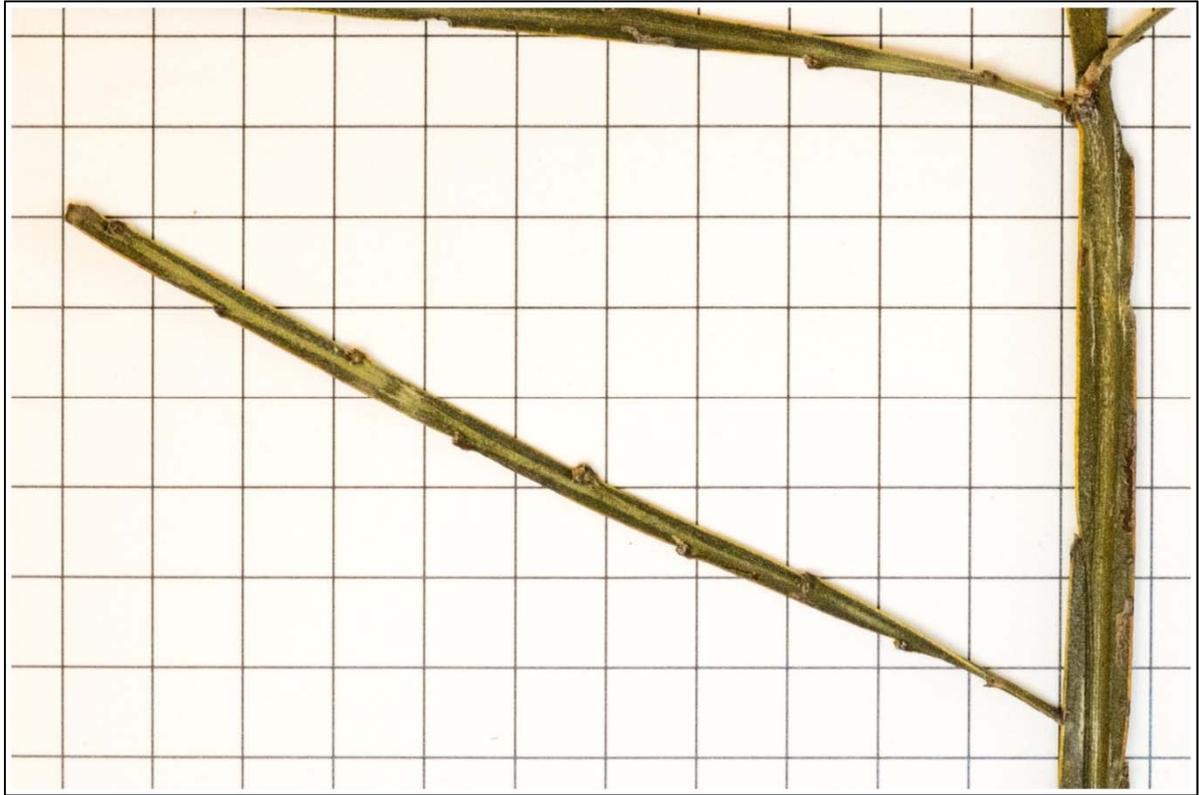
Leaves alternate, 1-foliolate; lamina rhombic to broad- or angular-ovovate, 3–10 mm long; stipules triangular, c. 1 mm long.

Flowers 7–12 mm long; pedicels \leq 5 mm long; bracts few, \leq 1 mm long; bracteoles similar to upper bract, inserted low on pedicel, persistent. Calyx 3–5 mm long. Standard and wings mostly orange-yellow marked with red, shorter than or about as long as the keel; keel mostly dark purplish red. Ovary long-stipitate, glabrous, c. 4-ovuled.

Pod obovate to oblong, 10–25 mm long.



Bossiaea ensata



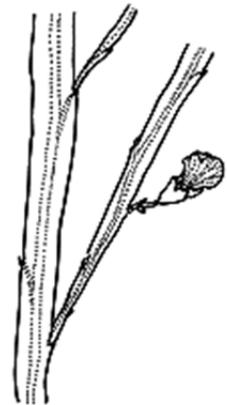
Description

Erect or procumbent shrub to 1.5 m high, \pm glabrous; branches flat, winged, 3–10 mm wide.

Leaves develop on juvenile growth or regrowth, mostly reduced to scales 1–2 mm long.

Flowers mostly 6–10 mm long; pedicels 2–4 mm long; bracts few c. 1–2 mm long; bracteoles 1–1.5 mm long, inserted at or below middle of pedicel. Calyx 3–4 mm long. Petals of unequal length; standard longer than lower petals, orange-yellow inside, red outside; keel shortest, red. Ovary shortly stipitate, glabrous, 6–8-ovuled.

Pod oblong, 2.5–4 cm long; stipe c. 4 mm long.





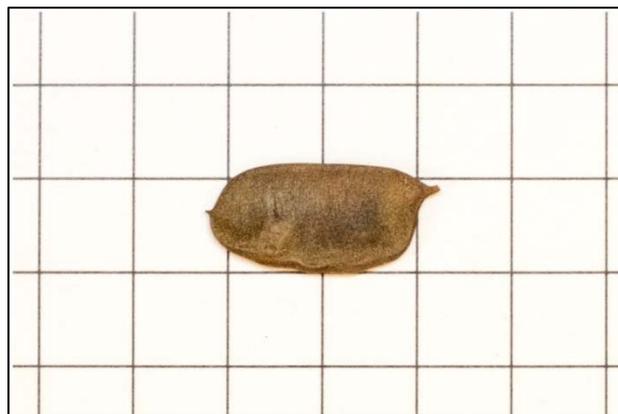
Description

Rigid shrub to 2 m high, branches spinescent, \pm flat, pubescent, at least when young.

Leaves alternate, 1-foliolate; lamina obovate to obcordate, mostly 3–6 mm long, \pm glabrous, venation conspicuous; stipules 1–2 mm long, \pm triangular.

Flowers mostly 8–10 mm long; pedicels < 5 mm long; bracts few, \leq 1 mm long; bracteoles \leq 2 mm long, inserted on lower half of pedicel, caducous. Calyx 3–5 mm long. Petals \pm equal, all yellow or keel and base of other petals purplish brown. Ovary \pm sessile, glabrous, c. 4-ovuled.

Pod obliquely ovate to obovate, 1–2 cm long.



Daviesia spp.

Daviesia corymbosa



Description

Open shrub to 2 m high.

Phyllodes variable, even within populations, obovate or elliptic or narrowly so, or linear, 2–12 cm long, 2–25 mm wide, apex tapered to rounded, base tapered to cuneate, green; venation prominently reticulate.

Racemes umbelliform or corymbose, 5–20-flowered; rachis 10–30 mm long including 5–25 mm peduncle. Calyx 3.3–4.0 mm long including 1.1–1.5 mm receptacle; upper 2 teeth not much wider or more united than lower 3.

Pod 8–9 mm long, c. 6 mm wide.



Daviesia ulicifolia



Description

Divaricate shrub to 2 m high; branchlets spinescent, rarely hispid.

Phyllodes subulate, narrow-elliptic or narrow-ovate, rarely ovate, 5–20 mm long, 0.5–6 mm wide, pungent, apex acute or acuminate, base tapered to rounded, convex with midrib prominent on upper surface; venation obscure.

Racemes umbelliform or shortly racemose, 2–7-flowered on a 0.5–2 mm peduncle, or frequently reduced to 1 flower. Calyx 2.4–3.2 mm long including 0.5–0.8 mm receptacle; teeth equal, acute.

Pod 5–8 mm long, 3.5–5 mm wide.





Noticeable raised leaf venation network.

Description

Multistemmed shrub 1–2 m high, rarely arborescent and to 5 m.

Phyllodes narrow-elliptic or narrow-obovate, sometimes wider or linear, 2–20 cm long, 4–30 mm wide, apex acute to rounded, base tapered to cuneate, margins rarely crenulate, dull green or slightly glaucous; venation pinnate.

Racemes 5–10-flowered; rachis 3–15 mm long including 1–5.5 mm peduncle. Calyx 2.5–5 mm long including 1–2 mm receptacle; upper 2 teeth united in an emarginate lip; lower 3 teeth apically thickened and tinged dark red-brown.

Pod 6–10 mm long, 4–7 mm wide.

Daviesia latifolia



Description

Open shrub 1–3 m, rarely to 5 m high.

Phyllodes wide- to narrow-elliptic, or lanceolate, or ovate, 2–14 cm long, 5–50 mm wide, apex rounded to acuminate, contracted (usually abruptly) to a narrow petiole-like base 3–12 mm long, margins crenulate, undulate, slightly glaucous; venation prominently reticulate.

Racemes many-flowered; rachis 25–80 mm long including 10–20 mm peduncle. Calyx 2.4–3.5 mm long including 0.6–1.0 mm receptacle; upper 2 teeth united into a nearly entire lip.

Pod 7–9 mm long, 4.5–7 mm wide.





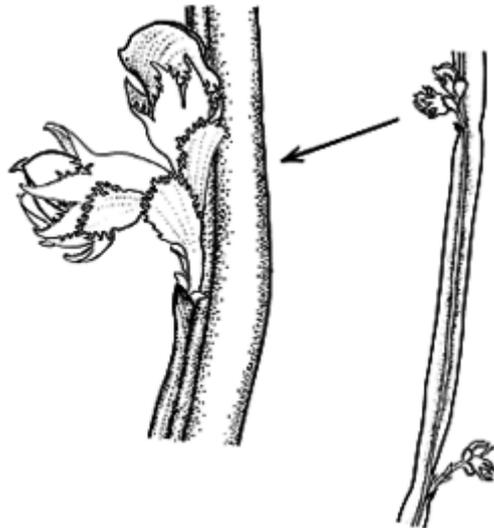
Description

Prostrate or procumbent shrub with woody rootstock, to 1 m diam.; branchlets triangular in section, winged, 1.5–6 mm wide, dark green.

Phyllodes reduced to scales or, in young plants, developed and narrow-obovate to linear.

Racemes condensed, 2–5-flowered; rachis 2.4–5.5 mm long including 0.8–3.5 mm peduncle; bracts markedly fimbriate. Calyx 4.6–5.7 mm long including 0.8–1.1 mm receptacle; teeth subequal, acuminate, slightly fimbriate.

Pod 9–10 mm long, 6–7 mm wide.



Dillwynia spp.

Dillwynia retorta (syn. *ericifolia*)



Description

Erect shrub to 3 m high; stems pubescent to pilose.

Leaves spirally twisted, linear to narrow-oblong, 4–12 mm long, apex shortly acuminate and often curved, smooth or minutely tuberculate, glabrous.

Inflorescences capitate, umbellate or racemose, terminal and in the upper axils, sometimes tightly clustered, 1–9-flowered; peduncles 0–2 cm long, often bearing bracts below the flowers; bracts 1–2 mm long; bracteoles 1–3 mm long. Calyx 3–6 mm long, glabrous externally, often shortly ciliate. Standard 5–12 mm long.

Pod 4–7 mm long; seeds smooth.



Dillwynia elegans



Description

Erect shrub 0.2–2.0 m high; stems hairy with short appressed hairs, especially when young, becoming glabrous with age.

Leaves usually crowded, terete to subterete, linear, 5–22 mm long, smooth or sparsely hairy with tuberculate-based hairs or rarely hairs coarsely tuberculate-based, apex shortly acuminate and often incurved, glabrous or occasionally with hairs.

Inflorescences usually 2-flowered, in the upper axils and often extending well down the branches, pedunculate; bracts 1–2 mm long, bracteoles 0.5–1 mm long, both ovate to lanceolate, often folded, glabrous with ciliate margins and tuft of hairs near apex. Calyx 4–7 mm long, glabrous. Standard 4–7 mm long.

Pods 5–7 mm long; seeds smooth.





Description

Erect shrub 0.3–1 m high; stems with silky, loosely appressed hairs.

Leaves usually spreading, linear, \pm trigonous with a groove along the upper surface, 5–15 mm long, apex obtuse to acute, glabrous or with long, fine hairs, tuberculate.

Inflorescences dense terminal heads, 1–9-flowered; bracts to 4 mm long, pubescent; bracteoles c. 4 mm long, pubescent. Calyx usually 5–6 mm long, hairy, the lower lobes shorter than the tube. Standard 8–10 mm long.

Pod c. 5 mm long; seeds reticulate.



Dillwynia sp. 'trichopoda' (in revision, March 2015)



Description

Prostrate to spreading shrub up to 1 m high, often with long slender branches; stems with minute, antrorse hairs.

Leaves spirally twisted, narrow-oblong, 2–5 mm long, apex shortly incurved and acuminate, smooth to warty, glabrous or with tuberculate-based hairs.

Inflorescences umbellate, terminal, 1–6-flowered; peduncle 5–15 mm long, often bearing bracts below the flowers; bracts and bracteoles 0.5–1.0 mm long, lanceolate, margins either ciliate and/or with glandular lobes. Calyx 4–6 mm long, glabrous externally, shortly ciliate along margins. Standard 4–6 mm long.

Pods 4–5 mm long; seeds reticulate.



Gompholobium spp.

Glycine spp.

Hardenbergia spp.

Hovea spp.

Jacksonia spp.

Gompholobium grandiflorum



Description

Erect ± glabrous shrub to c. 1 m tall; stems smooth.

Leaves 3-foliolate; leaflets linear to narrow-linear, 20–30 mm long, c. 1 mm wide, apex acute, pungent-pointed, margins recurved to revolute; stipules absent.

Flowers solitary or few in short terminal heads; pedicels to 7 mm long. Calyx c. 12 mm long. Corolla 15–25 mm long, yellow; keel minutely ciliate in part. Ovules 6–15.

Pod oblique, obovoid to oblong, to 15 mm long, shortly stipitate.



Gompholobium latifolium



Description

Erect, glabrous shrub to 3 m high; stems smooth.

Leaves 3-foliolate; leaflets linear-lanceolate or oblanceolate, mostly 25–50 mm long, 2–6 mm wide, apex acute or obtuse, minutely mucronate, darker on upper surface; stipules minute or absent.

Flowers solitary or 2 or 3 together, terminal or axillary; pedicels c. 10 mm long, often appearing longer due to suppression of other flowers. Calyx c. 12 mm long. Corolla 20–30 mm long, yellow; keel incurved, occasionally greenish, densely ciliate on margins with white hairs to 1 mm long. Ovules 12–15.

Pod ovoid to oblong, 15–18 mm long, stipitate.



Gompholobium huegelii



Description

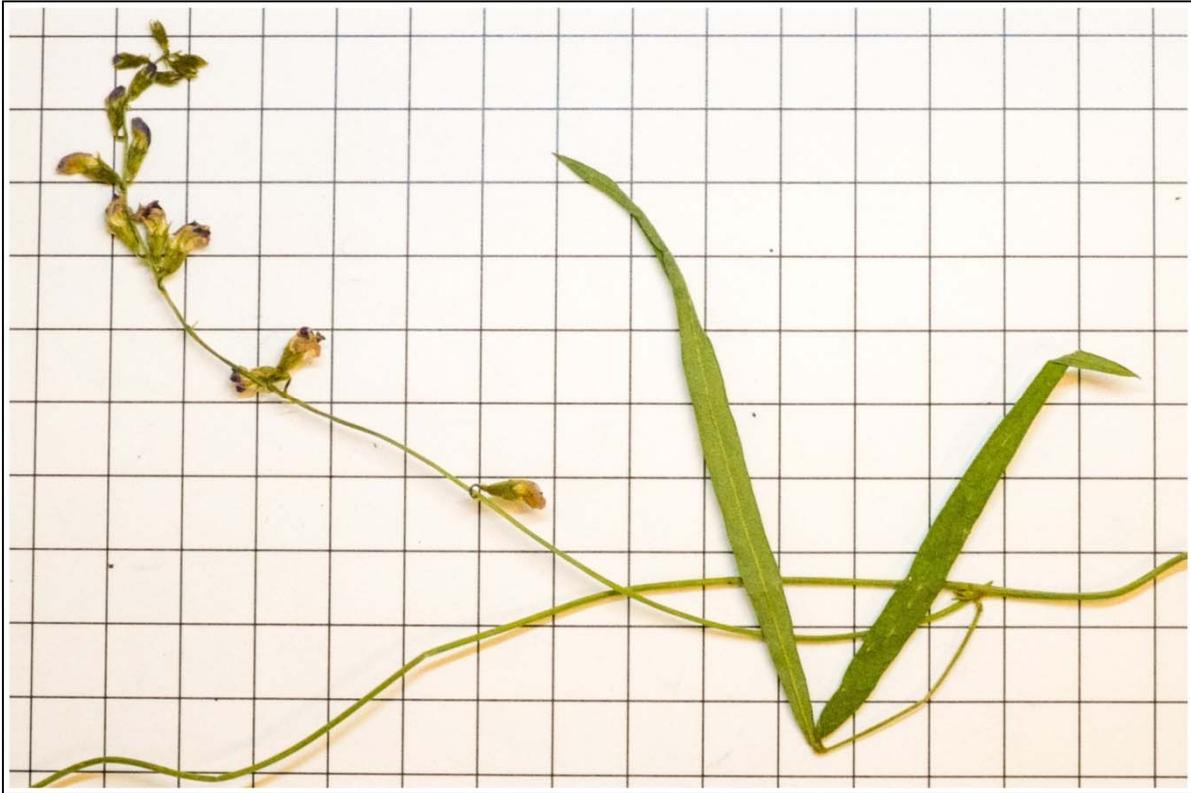
Erect, ± glabrous shrub to c. 1 m high.

Leaves 3-foliolate; leaflets oblanceolate to linear, usually 5–20 mm long, 0.5–1.5 mm wide, apex ± acute with a minute, often recurved point, margins revolute; stipules minute, bristly.

Flowers 1-few in terminal racemes; pedicels to 15 mm long, often appearing longer due to suppression of other flowers. Calyx c. 9 mm long. Corolla 15–20 mm long, yellow, often with greenish markings; keel densely ciliate on the margins with hairs ≤ 0.5 mm long. Ovules 12–20.

Pod ovoid, to 15 mm long, stipitate.





Description

Twiner, stems non-stoloniferous; hairy with retrorse, white, grey or dark rusty, soft hairs.

Leaves palmately 3-foliolate, dimorphic; leaflets of upper leaves linear to \pm narrow-elliptic or oblong-lanceolate, 1–8 cm long, 2–10 mm wide, apex obtuse or acute; leaflets of lower leaves (and often in the subalpine plants) oblanceolate to broad-obovate or \pm circular, 0.5–3.0 cm long, 2–8 mm wide; upper surface sparsely hairy to \pm glabrous; lower surface with appressed or spreading hairs; stipels absent on median petiolule.

Racemes 4–18-flowered, 1–3.5 times as long as leaves. Calyx finely pubescent or strigose, 3 lower teeth from two-thirds to equalling the tube. Standard 5–10 mm long, \pm mauve to rose-purple or white.

Pod straight, 1.2–5.3 cm long, 2.5–4 mm wide, without purple flecks, sparsely hairy to glabrous; seeds 4–12.



Hardenbergia comptoniana



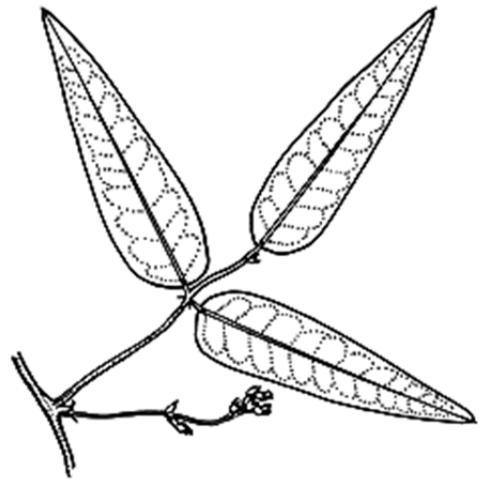
Description

Climbing or prostrate, \pm glabrous shrub; stems long, often slender, twinning and vigorous.

Leaves 3- or rarely 5-foliolate, dark green; leaflets 4–6 cm long (sometimes up to 10 cm long), 0.6–3 cm wide, linear-lanceolate to broad-ovate, acuminate, leathery, venation prominently reticulate; petiole 3–5 cm long; stipels linear to ovate.

Inflorescence dense axillary or terminal racemes c. 12 cm long; flowers c. 1 cm diam., mauve to purplish blue (rarely white or pink); standard petals have 2 small white to greenish blotches near base; wing petals obovate.

Pods, narrow-cylindrical, 30–40 mm long, brown; seeds 6–8, c. 6 mm long, ellipsoid.

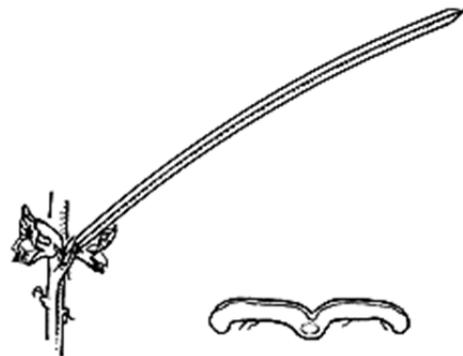




Description

Erect subshrub up to 1.2 m tall, usually with a slender main stem. Indumentum of branchlets, petiole, stipules, pedicel, abaxial surfaces of bract and bracteoles and external surface of calyx moderately dense, brown and variably also silvery, grey or blackish, hairs \pm straight, appressed antrorse; surface of branchlets with scattered, minute, dark green spots.

Leaves erect to suberect, mostly linear to narrow-linear, 3–11 cm long, 1.2–6 mm wide flat or weakly arched each side of shallowly recessed midrib, base obtuse to acute, margins sometimes very slightly crenate, recurved to revolute, apex rounded to obtuse, rarely acute, mucro short, sometimes recurved; upper surface green, dull to sub-glossy, glabrous, smooth or with slightly sunken veins; lower surface with a sparse white or brown indumentum, hairs straight, appressed, midrib indumentum fairly sparse, dark brown, venation faint. Stipules narrow-ovate to lanceolate, 1–2 mm long. Petiole 2–3.5 mm long.



Pod orbicular in profile, 7–10 mm long, 7–10 mm deep, sessile, valves glabrous externally. Seeds ellipsoid to subglobose, c. 3.5–4 mm long, 3 mm wide, dark brown; aril oblong to elliptic, 3–3.5 mm long, 1.5 mm wide, extending c. 50–70 % of the curved length of seed.

Jacksonia chappilliae



Description

Shrub 0.5–2 m high; branches and branchlets stiffly erect, obtusely angled or winged, \pm minutely pubescent, glabrous, green.

Leaves reduced to scales.

Flowers few, in short racemes in upper axils, axes minutely pubescent; pedicels 2–4 mm long. Calyx c. 3 mm long, deep red; teeth oblong-lanceolate, \pm equal. Corolla 4–6 mm long, red and yellow (standard yellow with red markings near base, wings yellow, keel red or sometimes yellow).

Pods elliptic to \pm oblong, 4–7.5 mm long, hairy; stipe 0.8–1.2 mm long; persistent style 2–4 mm long.

Phyllota spp.
Podolobium spp.
Pultenaea spp.
Mirbelia spp.

Phyllota squarrosa



The leaves are noticeably dimpled all over, with hairs near their insertion into the stem.

Description

Erect shrub to c. 1 m high; young growth pubescent.

Leaves narrow-linear, 6–15 mm long, to 1.25 mm wide, apex obtuse to acute, margins revolute.

Flowers crowded in leafy spikes towards the ends of the branches; pedicels c. 1 mm long; bracteoles leafy, lanceolate or linear, 4–15 mm long. Calyx 4–10 mm long, glabrous to pubescent. Corolla 5–11.5 mm long, yellow to orange with or without reddish markings. Ovary villous; style pubescent below the curve.

Pod not seen.





Description

Erect shrub to 3 m high, \pm glabrous or stems and often lower surface of leaves pubescent.

Leaves opposite or almost so, ovate to narrow-ovate in outline, 2–10 cm long, 10–30 mm wide, upper surface reticulate and shining, margins irregularly lobed, sometimes 3-lobed with each lobe pungent-pointed; stipules spinose, curved, 1–3 mm long.

Racemes terminal or axillary, sometimes exceeding the leaves; bracts small, ovate to lanceolate, caducous; bracteoles absent. Calyx 4 mm long, pubescent. Corolla 8–10 mm long, yellow with orange markings or orange-yellow. Ovary stipitate; ovules c. 4.

Pods ovoid to oblong, c. 10 mm long, 2–3 mm diam., straight or curved, \pm pubescent.



Pultenaea tuberculata



Description

Erect to spreading shrub; stems curly-pubescent, obscured by appressed stipules.

Leaves alternate, (narrow-) elliptic to (narrow-) obovate to spatulate or narrowly so, flat to concave, usually 3.2–15 mm long and 1.5–5 mm wide (rarely to 25 mm long and 8 mm wide), apex acute to obtuse, rarely aristate, margins incurved, lower surface darker than upper; stipules 3–6.5 mm long.

Inflorescences subterminal, often dense, leafy, the leaves often wider and/or longer and with enlarged stipules; bracts absent. Flowers 10–16 mm long; pedicels 0.5–1.5 mm long; bracteoles 4–7 mm long, fused to stipules to just below tip, about as long as stipules, subulate, mostly hairy, attached at base of calyx tube; bracteolar stipules oblong, with free, acuminate tips. Calyx 7.5–8 mm long, tube glabrous to sparsely hairy; teeth moderately to densely hairy, acuminate. Ovary hairy only at apex.

Pods c. 5 mm long, turgid.





Description

Erect shrub; stems densely spreading-pubescent.

Leaves alternate, cuneate, often dilated and bilobed at apex, 3–16mm long, 2–13 mm wide, apex truncate, retuse to broad-emarginate, recurved, margins strongly recurved to revolute, upper surface darker than lower; stipules 1–4 mm long.

Inflorescences subterminal to terminal, usually dense, often leafy, often on lateral short shoots; bracts absent or present, not conspicuously imbricate, caducous, 1–3 mm long, 2–3-lobed at apex, hairy. Flowers 7–12 mm long; pedicels 0.5–1 mm long; bracteoles 3–5 mm long, lacking stipules, lanceolate, hairy, attached at base of calyx tube. Calyx 4–5 mm long; lobes acuminate. Ovary hairy.



Pod 5–7 mm long, flattened.



Pultenaea ferruginea



Description

Erect shrub; stems densely spreading-hairy.

Leaves alternate, obovate, 3–15 mm long, 2–7 mm wide, apex obtuse, margins incurved; surfaces concolorous, stipules 2–6 mm long.

Inflorescences subterminal or apparently terminal, dense to somewhat lax, leafy; bracts absent. Flowers 10–15 mm long; pedicels 1–2.5 mm long; bracteoles 4–7 mm long, fused to stipules at base, c. twice length of stipules, narrow-ovate, acuminate, hairy, attached near middle of calyx tube. Calyx 7–12 mm long; lobes acuminate. Ovary hairy only at apex.

Pod c. 6 mm long, turgid.



Mirbelia rubiifolia



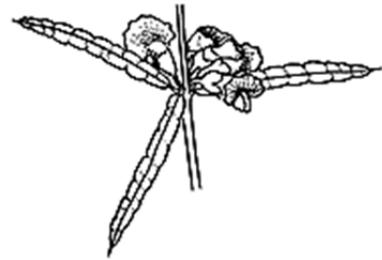
Description

Diffuse shrub to c. 50 cm high; stems angular, glabrous or minutely pubescent.

Leaves in whorls of 3, narrow-ovate to linear-oblong, mostly 10–25 mm long, 2–4 mm wide, apex acute, pungent-pointed, upper surface conspicuously reticulate, lower surface glabrous or with scattered hairs.

Flowers in axillary clusters and umbel-like terminal racemes, shortly pedicellate. Calyx sparsely pubescent. Corolla 8–9 mm long, pink to purple, rarely white. Ovary shortly stipitate, glabrous; ovules 2.

Pod ovoid, usually 5 mm long, apex acute.



Mirbelia platylobioides



Description

Prostrate shrub; stems to c. 40 cm long, silky-pubescent.

Leaves alternate or opposite, narrow-ovate to ovate, 15–40 mm long, 5–15 mm wide, apex pungent-pointed, upper surface strongly reticulate and shining, lower surface silky-pubescent.

Flowers \pm sessile in axillary or terminal, few-flowered racemes or rarely solitary. Calyx 7–9 mm long, silky-pubescent, lobes acuminate, \pm equal to tube. Corolla 14–18 mm long, orange to yellow with a red centre. Ovary sessile, densely pubescent; ovules 10–15.

Pod oblong, 15–20 mm long, pubescent, obtuse, laterally compressed.



Not legumes!

Pittosporaceae

Polygalaceae

Proteaceae

Rutaceae

Unidentified

(Pittosporaceae) *Baillardiera scandens*



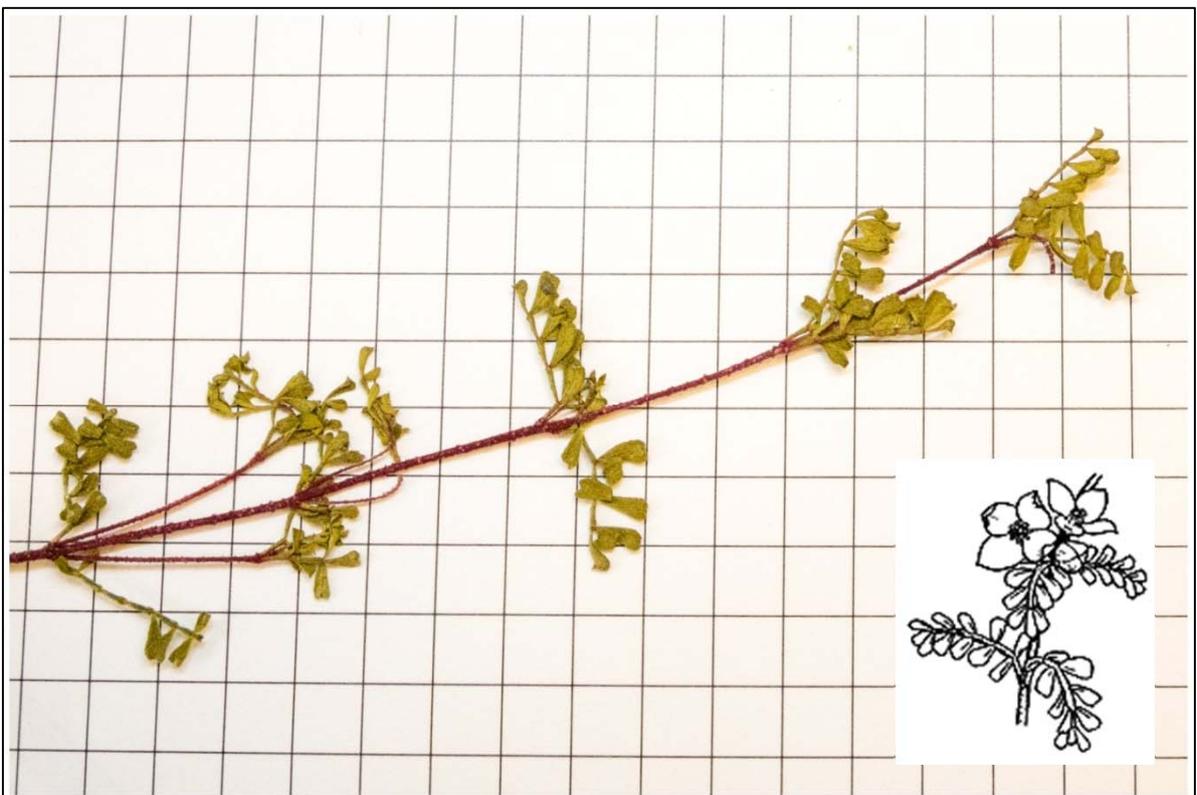
(Polygalaceae) *Comesperma* sp.



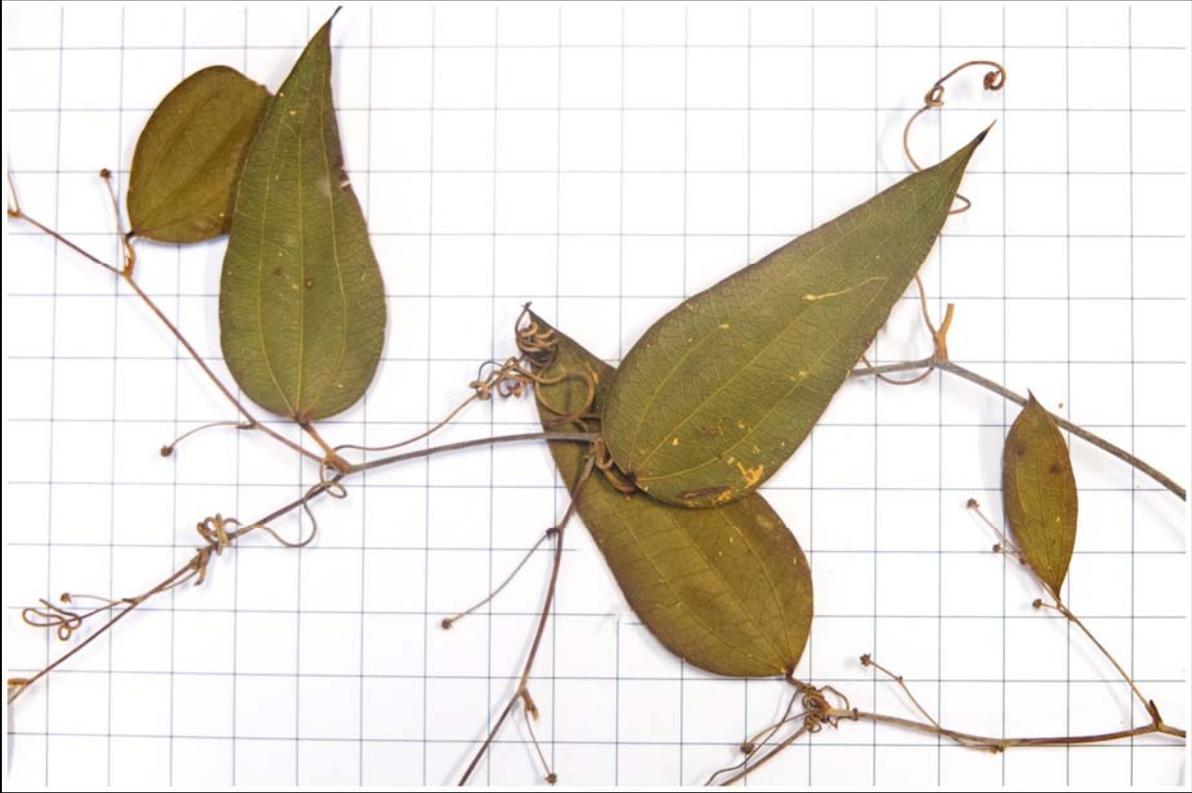
(Proteaceae) *Lomatia silaifolia*



(Rutaceae) *Boronia microphylla*



Unidentified climbing plant (not *Hardenbergia* sp.)



Glossary

abaxial: facing away from axis or stem, such as the lower surface of a leaf. cf. adaxial.

abortive: imperfectly developed; infertile.

abscission: the normal shedding from a plant of an organ that is mature or aged, e.g. a ripe fruit, an old leaf. adj. abscissile.

acaulescent: without a trunk.

accessory fruit: a fruit, or group of fruits derived from one flower, in which the conspicuous, fleshy portion develops from the receptacle and is shed with the true fruit(s) attached, e.g. apple, rose hip and strawberry/

accrescent: expanding after flowering, increasing in size with age, e.g. the calyx expanding around the base of a fruit.

achene: a dry indehiscent 1-seeded fruit, from an either superior or inferior ovary of 1 carpel, with the seed not fused to the fruit wall; e.g. as in Ranunculaceae (from a superior ovary) and Asteraceae (from an inferior ovary and usually topped by the pappus and sometimes called a cypsela).

acicular: needle-shaped.

actinomorphic: of a flower with the parts in each whorl particularly sepals, petals and stamens not differing in shape, size or placement. The flower therefore can be bisected symmetrically in several planes. cf. zygomorphic.

aculeate: prickly.

acumen: a long, tapering point.

acuminate: gradually tapering to a point.

acute: pointed, having a short sharp apex, the converging edges forming an angle of less than 90°.

adaxial: facing towards the axis or stem. cf. abaxial.

adhesion: where two dissimilar parts or organs stick together but without organic fusion. adj. adherent. cf. cohesion.

adnate: (1) fusion of unlike parts, e.g. stamens fused to the corolla, cf. connate; (2) of an anther which has a broad point of attachment by which it is rigidly held at the apex of the filament, as in some eucalypts (family Myrtaceae). cf. versatile.

adventitious: term describing any organ arising in an abnormal position, e.g. roots arising from the shoot system.

adventive: introduced accidentally, as most exotic weeds are; often used of introductions that are not fully naturalized.

aerial root: an adventitious root growing from the stem above ground level.

aestivation: arrangement of the sepals and petals or their lobes in the unopened bud. Fig. 11. cf. vernation.

aff.: with affinities to.

agglutinated: stuck together, formed into clumps of cells, e.g. of pollen grains.

aggregate fruit: cluster of fruits derived from a single flower in which the carpels are free, or almost so, from each other. e.g. as in many Ranunculaceae, Annonaceae, Rosaceae. Fig. 18 V–X. cf. multiple fruit.

albumen: see endosperm.

allopatric: of two or more taxa, having different ranges of distribution, not overlapping. cf. sympatric.

alternate: (1) of leaves or flowers, inserted singly at different levels along the branches (commonly used to include spiral arrangement), Fig. 2 A & B; (2) between, as in 'stamens alternate with the petals'.

amphicarpous: with two kinds of fruits; differing in position, character or time of ripening.

amphistomatic: leaves with stomates on both upper and lower surfaces. cf. hypostomatic.

amphitropous: of an ovule with the body bent or curved on both sides so that the micropyle is near the funicle; the embryo sac is curved. Fig. 21 E. cf. anatropous, campylotropous, hemitropous, orthotropous.

amplexicaul (perfoliate): a term used of a leaf base, where it clasps the stem. Fig. 4 F.

ampulliform: swollen at base like flask.

anastomosing: fusing to form a network, as in the veins of a leaf.

anatropous: of an ovule, with the body completely inverted so that the micropyle area is adjacent to the funicle, the embryo sac is more or less straight. Fig. 21 F. cf. amphitropous, campylotropous, hemitropous, orthotropous.

androdioecious: of plants, having bisexual flowers and male flowers on separate plants. cf. andromonoecious, dioecious, monoecious, polygamodioecious, polygamomonoecious, polygamous.

androecium: a collective name for the stamens, the male part of the flower. cf. gynoecium.

androgynaecandrous: inflorescence with male flowers above and below female flowers, as in the spikes of some species of Carex.

androgynophore: a stalk bearing both the stamens and superior ovary, e.g. in Passifloraceae. cf. gynophore.

androgynous: inflorescence with male flowers above female flowers, as in the spikes of some species of Carex.

andromonoecious: of plants, having bisexual and male flowers on the same plant. cf. androdioecious, dioecious, monoecious, polygamodioecious, polygamomonoecious, polygamous.

anemophilous: pollinated by wind.

angiosperms: the flowering plants; plants with ovules enclosed in an ovary.

annual: a plant completing its life cycle within one year from germination to fruiting and then dying.

annular: ring-shaped.

annulus: the elastic ring of cells that initiates dehiscence in the sporangium of a fern.

anomalous: irregular; abnormal.

anterior: away from the axis, toward the subtending (enclosing) bract. cf. posterior.

anther: the pollen-bearing part of the stamen, most often 2-locular with the loculi (pollen cavities) joined by the connective. Fig. 20 A–E.

antheridium: the fertile organ of a male gametophyte or the male organ of a bisexual gametophyte, in which male gametes are formed. cf. archegonium.

anthesis: the time of flowering; the time when pollen is shed.

anthocarp: a false fruit consisting of the true fruit surrounded by the base of the perianth, as in Nyctaginaceae.

anthotelic (= determinate inflorescence): an inflorescence with the inflorescence or parts of the inflorescence ending in a flower or an aborted but distinctly floral bud, e.g. panicle, thyrsoïd, dichasium, monochasium, Fig. 17 A, B, D & E. cf. indeterminate.

antipetalous: opposite the petals.

antisepalous: opposite the sepals.

antrorse: turned towards the apex, e.g. of hairs. cf. retrorse.

apetalous: without petals.

apex: the tip. pl. apices.

apical: of the apex or attached at the apex or top, e.g. ‘ovules attached to an apical placenta’. Fig. 13 G.

apiculate: with a small abrupt point which is demarcated from the organ to which it is attached, e.g. of some anthers.

apiculum: a short, abrupt, flexible point. adj. apiculate.

apocarpous: a gynoecium consisting of two or more carpels which are free and distinct from each other, e.g. as in Ranunculaceae and Dilleniaceae. cf. syncarpous.

apomixis: the process whereby a plant produces viable seed without fertilization. adj. apomictic.

appendage: an attachment developed on and projecting from the surface of an organ, e.g. anthers Fig. 20 H.

appendiculate: with a small appendage or projection.

appressed: pressed closely against another organ, e.g. of hairs on a leaf.

approximate: growing close together; almost so.

aquatic: living in water.

arborescent: tree-like.

archegonium: a multicellular female sex organ producing and surrounding the egg.

arcuate: curved like a bow.

areolate: of surface pattern or venation, divided into many angular or squarish spaces, e.g. the venation and surface pattern in dried specimens in many Lauraceae. Fig. 9 I.

areole: (1) in Cactaceae, a cluster of hairs and/or spines borne at the node of a leafless stem; (2) a space in any reticulated surface, e.g. space between veins. adj. areolate.

aril: an expansion of the funicle into a fleshy or membranous appendage, sometimes partially or wholly covering the surface of the seed, and often brightly coloured, as in some Sapindaceae. Fig. 19 C. adj. arillate.

aristate: having a stiff, bristle-like awn or tip. Fig. 6 B.

aristulate: with a minute bristle.

armed: with spines and/or prickles.

article: (1) part of an organ which separates readily from the rest of an organ, e.g. as in a lomentum; (2) portion of branchlet between whorls of teeth in Casuarinaceae.

articulated: jointed; usually separating at the point of articulation into segments or articles, e.g. see unifoliolate leaf.

ascending: at first spreading horizontally and then becoming erect. Fig. 1 B.

asexual: without that part of the life cycle which involves fertilization and meiosis.

asperate: rough with hairs or points.

asymmetric (oblique): of a leaf, leaf base or other organ, having the sides unequal. Fig. 7 E.

atropous: see orthotropous.

attenuate: narrowing gradually. Fig. 7 A.

auct. non: (auctorum non., Latin) not of author; used to indicate that the preceding name has been misapplied by certain authors and is not that described by the succeeding authority.

auricle: (1) an ear-like outgrowth at the base of the sheath of some grasses and other monocots; (2) an ear-shaped lobe at the base of a leaf or other organ. adj. auriculate. Fig. 7 G.

autotrophic: independent of other organisms in respect of organic nutrition, able to form carbohydrates by process of photosynthesis. cf. parasite.

awn: a bristle-like appendage terminating an organ or inserted on its back. adj. awned. cf. aristate.

axil: the upper angle between one part of a plant and another part, e.g. the stem and a leaf, primary and secondary veins. adj. axillary.

axile: (1) on the axis; (2) of placentation, with the placentas and ovules along the central axis of the ovary in a compound ovary with septa, Fig. 13 C & D.

axillary bud: the bud or buds formed in the angle between the stem and the subtending (enclosing) leaf or bract.

axis: the central stem of a plant or an inflorescence, or the elongated part of the receptacle on which floral organs are situated.

baccate: berry-like, with fruits having the seeds embedded in pulp.

barbed: term describing a bristle or awn with terminal or lateral backward pointing projections, each projection being a barb. Fig. 15 J.

barbellate: minutely barbed.

basal: (1) (radical) attached or grouped at the base, e.g. of leaves in a rosette, Fig. 2 I; (2) of placentation, with the placenta at the base of the ovary, Fig. 13 H.

basifixed: attached at or by the base, e.g. of anthers attached by the base to the filament. Fig. 20 B. cf. dorsifixed, versatile.

basipetal: developing, in sequence, from the apex towards the base (i.e. with the youngest towards the base); e.g. of flowers in an inflorescence. cf. acropetal.

beak: a prominent terminal projection, especially of a carpel or fruit.

bearded: with tufts of hairs or hair-like appendages.

berry: a fleshy or pulpy indehiscent fruit with 1 or more seeds, the seeds embedded in the fleshy tissue of the pericarp; may be formed from either a superior or an inferior ovary. Fig. 18 D & E.

bi-: a prefix: in twos, as in two-; e.g. biternate = twice ternate, bipinnate = twice pinnate.

bicarinate: 2-keeled.

biconvex: both surfaces convex.

biennial: a herb completing the cycle from germination to fruiting in more than one, but less than two, years and then dying.

bifacial: of leaves, flat or channelled with distinct upper and lower surfaces.

bifid (2-fid): divided into two parts, usually to about halfway.

bifoliate (2-foliolate): of a compound leaf, with two leaflets. Fig. 3 J.

bifurcate: with 2 forks or branches.

bilabiate: two-lipped, e.g. of a corolla in which fusion of an upper group and a lower group of petals extends beyond the top of the corolla tube.

bilateral: arranged on opposite sides.

bilocular (2-locular): having two cavities, e.g. of ovary or anther.

binate (2-nate): in pairs.

bipinnate (2-pinnate): of a compound leaf, with the lamina divided twice pinnately, i.e. with the pinnae themselves divided pinnately into pinnules. Fig. 3 B.

bipinnatifid (2-pinnatifid): of a simple leaf, with the primary lobes cut into smaller lobes (i.e. lobes pinnatifid) Fig. 5 T. cf. bipinnate.

biseriate (2-seriate): arranged in two rows or whorls.

bisexual: of a flower, with both stamens and carpels present and functional. cf. unisexual.

biternate (2-ternate): twice ternate, the 3 pinnae each divided into 3 pinnules (a total of 9 pinnules). Fig. 3 M.

blade (lamina): an expanded portion of a leaf.

blastotelic (indeterminate inflorescence): an inflorescence or part of an inflorescence not ending in a flower, i.e. ending in a non-floral bud, e.g. a thyrse, raceme or spike, Fig. 17 C, H & I. cf. determinate.

bloom: the white waxy covering on some fruits, leaves or stems. See also pruinose.

bole: the trunk of a tree below the lowest branch. cf. crown.

boss: a protuberance.

botryoid: a term describing an inflorescence of similar form to a botryum but ending in a flower or floral bud; includes raceme-like, spike-like, umbel-like and other variants.

botryum: a simple inflorescence ending in a vegetative (non-floral) bud in which the main axis bears lateral flowers; includes racemes, spikes, umbels and corymbs.

brackish: slightly salty.

bract: usually a more or less modified leaf, especially a smaller one associated with a flower or part of an inflorescence.

bracteate: (bracteose) with bracts.

bracteole: bract-like structure borne singly or in pairs on the pedicel or calyx of a flower.

branchlet: a small branch.

bristle: a more or less straight stiff hair. Fig. 14 N. adj. bristly. cf. spine.

broom-like: with many branches parallel or almost so and usually erect, as in *Spartium* (Spanish broom).

bulb: a storage organ, usually underground, composed of stem and leaf bases.

bulbil: a small bulb formed in the axil of a leaf or bract and functioning to propagate the plant vegetatively.

bulblet: a small bulb arising from another bulb.

bullate: with the surface blistered or puckered. Fig. 16 F.

burr: a prickly propagule consisting of a seed or fruit and associated floral parts.

buttress: a flange protruding from the lower part of the trunk, frequent in rainforest trees.

C3 plants: plants that use the C3 pathway of carboxylation and do not have specialized Kranz anatomy, i.e. the majority of autotrophic plants. See also Kranz anatomy.

C4 plants: plants that use the C4 pathway of carboxylation and have specialized Kranz anatomy. See also Kranz anatomy.

caducous: falling early, e.g. of stipules. cf. deciduous.

caespitose: growing in tufts.

callosity: a thickened and hardened swelling on the surface of an organ.

callus: (1) a small hard protrusion, e.g. on the labellum of some Orchidaceae; (2) a hard point below the lemma, in spikelets of Poaceae; (3) a protective layer of tissue formed over an injury. pl. calli.

calyculus: the collective term for the involucre bracts (or phyllaries) surrounding a head in the Asteraceae.

calyptra (operculum): a cap-like covering or lid of some flowers or fruits that becomes detached at maturity by abscission; e.g. (1) the cap on the buds of eucalypts, (2) the lid of circumsciss capsules.

calyptra scar: scar left when the calyptra has fallen away, as in eucalypt fruits.

calyx: the sepals of one flower collectively. pl. calyces.

calyx tube: a tube formed by the fusion of the sepals, but sometimes wrongly used in the sense of hypanthium.

cambium: the meristem (growing region) in woody stems and fruits that forms the woody tissue.

campanulate: bell-shaped.

campylotropous: of an ovule, with the body bent or curved to one side so that the micropyle is near the funicle; the embryo sac is curved. Fig. 21 C. cf. anatropous, amphitropous, hemitropous, orthotropous.

canaliculate: with a longitudinal groove or channel.

canescent: whitish or pale grey, usually from a covering of short fine hairs.

canopy: (1) the branches and foliage of a tree; (2) often used as a collective term for the crowns of trees in a forest.

capillary: slender, hair-like.

capitate: (1) shaped like a head; (2) in a head-like cluster.

capitulum (head): a dense cluster of more or less sessile flowers, e.g. in Asteraceae a group of florets sessile on a common receptacle. Fig. 17 O & P.

capsule: a dry dehiscent fruit derived from two or more carpels. Capsules may dehisce in various ways. Fig. 18 L–P. adj. capsular.

carina: a keel. adj. carinate.

carnivorous: capable of trapping and digesting animals.

carpel: a unit of the female part of the flower (gynoecium), consisting of an ovary bearing one or more ovules, a receptive stigma, and often a stalk-like style between them. A flower can have a solitary carpel (and then the terms gynoecium and pistil are synonymous, Fig. 13 A & G) or more than one carpel. If the carpels (pistils) are free the gynoecium is apocarpous or if the carpels are fused the gynoecium (pistil) is syncarpous (or compound).

carpodium: a sterile female flower in which the ovary and ovule is reduced into a club-shaped structure with a short style but lacks the expanded stigma, as in Typha.

carpopore: in a fruit, the stalk of a mericarp. Fig. 18 H.

cartilaginous: hard and tough; gristly.

caruncle (strophile): an appendage of a seed, near the hilum (scar). Fig. 19 D. adj. carunculate.

caryopsis: a dry, indehiscent 1-seeded fruit in which the seed is fused to the wall of the fruit, as in family Poaceae. Fig. 18 S.

cataphyll: (1) a scale leaf associated with a vegetative part of a plant; (2) a leaf composed mostly of a leaf sheath or base with the lamina reduced to a minute awn, e.g. in some Juncus species.

catkin: a dense spike-like inflorescence, usually pendulous, with minute unisexual flowers.

caudate: bearing a narrow tail-like appendage.

caudex: a thick, erect trunk above and/or below ground level, e.g. in cycads.

caudicle: the stalk for a pollinium derived from the anther (as in some orchids); an elastic extension of some pollinia.

caulescent: with a trunk.

cauliflory: the production of flowers or fruits on well-developed trunks or major branches. adj. cauliflorous. cf. ramiflory.

cauline: borne on the more or less elongated aerial portion of a stem, e.g. describing leaves. cf. radical.

cell: the basic unit of plant structure consisting, at least when young, of a protoplast surrounded by a wall.

centrifixed: of a two-branched organ attached by its centre, e.g. a hair.

centrifugal: directed, or developing, from the centre or axis outwards. cf. centripetal.

centripetal: directed, or developing, from the outside towards the centre or axis. cf. centrifugal.

chaff: (1) membranous scales or bracts; (2) thin dry unfertilized ovules among the fully developed seeds of a fruit, as in many eucalypts.

chalaza: the part of an ovule to which the end of the stalk (funicle) is attached. Fig. 21. adj. chalazal.

channelled: with edges curved round (like a gutter).

character: any feature of an organism or taxonomic group that can be measured, counted or otherwise assessed.

chartaceous: papery, opaque and thin.

chasmogamous: of flowers that are pollinated while open. cf. cleistogamous.

chlorophyll: pigment(s) constituting the green colouring matter in plants and absorbing radiant energy in photosynthesis.

chromosome: a thread-like structure in the nucleus of a cell, containing a linear sequence of genes.

cilia: hairs more or less confined to the margins of an organ. sing. cilium. adj. ciliate.

ciliate: having the margin fringed with hairs, resembling an eyelash. Fig. 14 I. cf. fimbriate.

ciliolate: having the margin minutely fringed.

cincinnus: a tight, modified helicoid cyme with short pedicels on the developed side.

circinate (circinnate): spirally coiled with the tip innermost as in the young fronds of many ferns. Fig. 11 A.

circular (orbiculate): a 2-dimensional shape with length and breadth more or less equal. Fig. 5 E.

circumsciss (circumscissile): breaking open along a transverse line so that the top (calyptra) comes off like a lid, as in some capsules. Fig. 18 O.

cladode: a photosynthetic stem whose foliage leaves are usually reduced or absent.

clasping: surrounding or embracing, e.g. stem-clasping, of a lamina surrounding the stem.

class: a major taxonomic rank, between order and division.

classification: the establishing and defining of systematic groups; the assignment of organisms (plants) to groups within a system or hierarchy or ranks or categories. cf. systematics, taxonomy.

clathrate: latticed.

clavate: club-shaped.

claw: a narrow, stalk-like basal portion of a petal, sepal or bract. cf. limb.

cleistogamous: of flowers that remain closed and are self-pollinating and set fertile seed. cf. chasmogamous.

cleistogene: specialized florets produced at the base of some grasses in the leaf sheaths. These modified florets produce fertile diaspores without opening and they are different in appearance and structure from those in the inflorescence.

cline: continuous morphological variation in form within a species, or sometimes, between two species. adj. clinal.

clone: genetically identical organisms produced from a single parent by vegetative reproduction, or by development of ovules without fertilization.

closed forest (rainforest): a forest dominated by broad-leaved trees with dense crowns that form a continuous layer (canopy) and with one or more of the following growth forms.

club: of orchids (family Orchidaceae) when perianth segment swollen apically and that portion often covered in glands or glandular hairs.

cluster bract: a bract subtending a cluster of flowers.

coalesced: with like or unlike parts or organs partially fused in a more or less irregular fashion. cf. adhesion, adnate, cohesion, connate.

cobwebbed: covered with long weak, loosely entangled hairs, resembling a spiderweb; usually whitish. adj. cobwebby.

coccus: one of the segments (usually 1-seeded) of a distinctly lobed fruit which becomes separated at maturity; sometimes called a mericarp. Fig. 18 H & P. pl. cocci.

cohesion: the sticking together of two or more similar parts that are not organically fused. adj. coherent. cf. adhesion.

collateral: situated side by side; adjacent and on the same radius of an axis.

colliculate: of a surface, rough with low rounded protuberances. Fig. 16 A.

columella: the persistent central axis in some fruits and cones.

column: (1) (gynostemium) a structure formed by the union of stamens, style and stigmas, as in Orchidaceae, Asclepiadaceae and Stylidiaceae; (2) the lower part of an awn in grasses, when different in form from the upper part.

coma: a tuft of hairs, especially on a seed or fruit.

community: an assemblage of plants that naturally occur together.

complicate: folded together.

compound: composed of several more or less similar parts, as opposed to simple; e.g. of an ovary formed from several united carpels or of a leaf divided into leaflets. Fig. 3 A–F, I–M.

compressed: flattened in one plane, either dorsally (bringing the front and back closer together) or laterally (bringing the sides closer together).

concavo-convex: concave on one side and convex on the other.

concolorous: with the same colour throughout or on both surfaces. cf. discolorous.

conduplicate: folded flat together lengthwise, e.g. as in aestivation. Fig. 11 C.

cone: (1) a group of sporophylls arranged tightly on a central axis, as in cycads and conifers

conflorescence: a branch system bearing flowers in which the main axis bears uniflorescences, but is itself qualitatively different in structure from the uniflorescences.

confluent: merging or blending together.

conical: cone-shaped, with the broad end at the base.

connate: fusion of similar parts, e.g. petals into a corolla tube. cf. adnate.

connivent: coming into contact or converging.

connective: the sterile part of an anther connecting the loculi.

conspecific: belonging to one and the same species.

contiguous: touching but not fused, adherent, or coherent.

contorted: twisted; a form of imbricate aestivation in which each segment has one edge overlapping the next segment. Fig. 11 E.

contraligule: a tongue-shaped structure produced at the apex of the leaf sheath opposite the blade in Scleria.

convolute: rolled with margins overlapping. Fig. 11 D.

coppice shoot: a shoot developed from a dormant bud in the trunk or larger branches of a tree, the leaves on such a shoot often differ from the adult leaves and are called juvenile leaves (similar to sapling leaves); a common feature of many eucalypts and rainforest trees. Coppiceshoots usually develop after damage to the trunk by fire, cutting etc. Fig. 1 G.

cordate: of a leaf or leaf base, heart-shaped with a basal notch. Fig. 7 F.

coriaceous: leathery.

corm: a short, broad, fleshy, subterranean stem which produces aerial stems, leaves and flowers and in which food reserves are stored.

corolla: the petals of a flower collectively, frequently brightly coloured or white.

corona: any ring of tissue or appendage that stands between the perianth and the stamens, or on the perianth. e.g. as in *Passiflora* species.

cortex: the region of a stem or root surrounding the vascular cylinder but inside the epidermis.

corymb: an inflorescence (without a terminal flower) in which all the flowers are at the same level even though the pedicels arise at different levels. Fig. 17 K.

costa: a rib. adj. costate.

cotyledon: the first leaf or leaves of the embryo, present in the seed.

coumarin: a carbohydrate with a strong smell, as in some seeds and leaves.

crenate: of a margin, with shallow, rounded teeth. Fig. 8 B.

crenulate: finely crenate.

crested: with a terminal ridge or tuft.

crisped: very strongly, and usually finely, wavy. Fig. 8 I. cf. undulate.

crown: the part of a tree or shrub above the level of the lowest branch.

crustaceous: hard, thin and brittle.

cryptogam: a plant whose sexual reproductive parts are not conspicuous; a plant that produces spores, not seeds, in its sexual reproductive cycle, e.g. ferns, mosses, algae. cf. phanerogam.

cuboid: cube-like; a 3-dimensional shape.

cucullate: hooded.

culm: an aerial stem bearing the inflorescence, in grasses, rushes etc.

cultivar: cultivated variety, a variety developed in cultivation. An assemblage of cultivated individuals distinguished by any characters significant for the purposes of agriculture, forestry or horticulture, and which, when reproduced retains its distinguishing features.

cuneate: wedge-shaped, e.g. of a leaf or leaf base. Fig. 7 B.

cupule: a small cup. adj. cupular.

cupuliform: cup-shaped.

cusp: sharp, rigid point.

cuspidate: tapering into a sharp rigid point.

cyathium: an inflorescence of reduced unisexual flowers surrounded by involucre bracts, e.g. in *Euphorbia* species. Fig. 17 R.

cylindric: tubular or rod-shaped.

cyme: an inflorescence in which the main axis ends in a flower and further growth of the inflorescence is by one or more branches which themselves end in a flower (the main and lateral branches may bear bracteoles but have no bracts, leaves or nodes). adj. cymose. e.g. dichasium, monochasium. Fig. 17 D & E.

cymule: a small dichasium.

cypsela (an achene): the fruit formed in most Asteraceae; a dry indehiscent 1-seeded fruit formed from inferior ovary of 1 carpel, with the seed not fused to the fruit wall and usually topped by the pappus. Fig. 18 R.

cystoliths: mineral concretions, usually of calcium carbonate on a cellulose stalk, chiefly occurring in specialized hairs in some Urticaceae and Cannabaceae and in Acanthaceae; often appearing as tubercle-based hairs. Fig. 15 B.

deciduous: (1) falling seasonally, e.g. of the leaves and bark of some trees, cf. caducous; (2) a plant losing its leaves for part of the year, cf. evergreen.

decompound: several times divided, compounded, e.g. of inflorescences where the order of branching is more than just the once compound.

decorticating: with bark peeling off.

decumbent: spreading horizontally with the ends growing upwards. Fig. 1 J.

decurrent: extending downwards beyond the point of insertion, e.g. of a petiole extending down the stem as a ridge. Fig. 4 C.

decurved: bent downwards and curved. cf. deflexed.

decussate: in pairs, with successive pairs borne at right angles to each other. Fig. 2 D.

definite: of a constant number; e.g. twice as many stamens as the petals or sepals (or less), or an inflorescence ending in a flower or an aborted floral bud. cf. indefinite.

deflexed: bent sharply downwards. cf. reflexed, decurved.

dehiscent: opening at maturity to release the contents, e.g. of a fruit, anther etc.

deltate: a 2-dimensional triangular shape.

deltoid: triangular, but a 3-dimensional solid.

dendritic: much branched, like the crown of a tree, e.g. of hairs. Fig. 15 F.

dendroid: tree-like in form but not in size. cf. arborescent.

dentate: toothed with rounded or sharp course teeth.

denticulate: finely toothed.

depauperate: impoverished.

depressed: flattened as if pressed down from the top or end, especially of 3 dimensional shapes.

determinate: (1) of growth or branching, with a bud or flower terminating the main axis; (2) of an inflorescence (= anthotelic), with the inflorescence or parts of the inflorescence ending in a flower or an aborted but distinctly floral bud, e.g. panicle, thyrsoid, dichasium, monochasium, Fig. 17 A, B, D & E. cf. indeterminate.

diadelphous: having the stamens united by their filaments into two groups, as in Fabaceae subfamily Faboideae. Fig. 20 F. cf. monadelphous.

diagnosis: a detailed description.

diaspore: the dispersal unit containing the results of sexual reproduction and including non-floral parts (if any)

dichasium: a cyme in which branches appear in regular opposite pairs. Fig. 17 D. cf. monochasium.

dichlamydeous: of a flower, having two whorls of perianth parts, a distinct calyx and corolla. cf. monochlamydeous.

dichotomous: divided into two equal forks, e.g. of the branching pattern of stems or veins. Fig. 9 G.

dicotyledons: a major group of angiosperms (flowering plants) characterized by the embryo usually having two (rarely more) cotyledons (seed leaves). cf. monocotyledons.

didymous: with stamens in 2 equal pairs.

didynamous: in 2 pairs of unequal length.

digitate (palmate): of a compound leaf with 3 or more leaflets arising from one point at top of petiole, Fig. 3 E.

dimorphic: occurring in two different forms.

dioecious: with male and female flowers on different plants. cf. monoecious.

diploid: having two lots of the basic set of chromosomes in the nucleus. cf. haploid, polyploid.

disarticulate: to separate at a joint.

disc: an outgrowth of tissue from the receptacle in the form of a ring or plate, sometimes divided into lobes or separate bodies, occurring between whorls of floral parts; generally glandular.

disc floret (disc flower): usually an actinomorphic flower produced in the central part of the head and with a tubular corolla with more or less equal lobes, as in most Asteraceae. cf. ray floret.

discoïd: (1) disc-shaped, flat and circular; (2) having only disc florets.

discolorous: coloured differently on the two surfaces. cf. concolorous.

disjunct-opposite: a variant of opposite and decussate leaf arrangement in which during development the leaves of a pair become separated on the axis owing to elongation of the nodal region, often giving the appearance of 'alternate' leaf arrangement but distinguished by decussate, not spiral, sequence.

dissected: divided at least partially into segments.

distal: towards the free end or apex, away from the point of attachment.

distichous (2-ranked): arranged in two rows on opposite sides of a stem and in the same plane. Fig. 2 B.

distinct: separate, free.

diurnal: of flowers, opening only during daylight hours. cf. nocturnal.

divaricate: broadly spreading, more or less horizontal. Fig. 1 E.

division: the major taxonomic rank within the plant kingdom (in which the phylum is no longer generally recognised). cf. phylum

domatia: small structures on the lower surface of some leaves, usually consisting of depressions, partly enclosed by leaf tissue or hairs, usually located in the axils of the primary and secondary veins. Fig. 19 A & B.

dorsal (abaxial): relating to the back of an organ, i.e. the surface of a lateral organ facing away from the axis. cf. ventral.

dorsifixed: attached at or by the back. cf. basifixed, versatile.

dorsiventral: term describing leaves in which the upper and lower surfaces differ from each other in texture, presence of hairs, stomates etc. cf. isobilateral.

doubly toothed: with smaller regular teeth on the margins of larger teeth, as in some Prunus species. Fig. 8 D.

drupaceous: term describing a fruit which is a drupe or drupe-like.

drupe: an indehiscent succulent fruit derived from a single carpel in which the pericarp consists of three layers

drupelet: one drupe of a mature fruit composed of a cluster of small drupes, as in blackberries, the 'seed' being a pyrene. Fig. 18 X.

dry sclerophyll forest: an open forest in which scleromorphic (hard-leaved) shrubs form a layer below the trees (usually species of eucalypts). cf. wet sclerophyll forest.

duplicate: folded twice.

dyad: in twos, a pair.

ebracteate: without bracts.

echinate: spiny; bearing stiff, stout, prickly hairs.

ecotype: a plant or group of plants exhibiting certain characteristics of growth or flowering in response to particular environmental conditions.

edaphic: pertaining to the soil.

eglandular: without glands.

elaiosome: an oil body on some seeds; a feature of some seeds dispersed by ants.

ellipsoid: the 3-dimensional equivalent of elliptic.

elliptic: a 2-dimensional shape, oval in outline, broadest about the middle. Fig. 5 D.

elongate: lengthened; stretched out.

emarginate: having a broad shallow notch at the apex. Fig. 6 G.

embryo: the rudimentary plant present in a mature seed or within the archegonium after fertilization and some development.

embryo sac: the female gametophyte, produced within the ovule. Fig. 2 I.

emergent: of a plant, (1) rising above the surrounding plants, e.g. of a tree above the rainforest canopy; (2) rising above the surface of the water.

enation: epidermal outgrowth, projection.

endemic: having a natural distribution confined to a particular geographic region. cf. native.

endocarp: the innermost layer of the pericarp. cf. exocarp.

endosperm: nutritive tissue within the seed, usually surrounding the embryo or to one side of it, and formed within the embryo sac (in angiosperms a product of accessory fertilization). cf. perisperm.

entire: of a margin, neither dissected nor toothed. Fig. 8 A.

entomophilous: pollinated by insects.

ephemeral: short-lived annual.

epi-: a prefix: upon, as in epipetalous = borne on the petals.

epicalyx: a whorl of bracts just below the flower, resembling an extra calyx.

epicarp: the outermost layer of the pericarp.

epicormic: term describing buds, shoots or flowers borne on the old wood of trees, often applied to shoots arising from dormant buds after injury or fire, as in eucalypts.

epidermis: the outer layer of cells of an organ.

epigeal: of germination, having the cotyledon(s) emerging from the seed coat and becoming photosynthetic. cf. hypogeal.

epigynous: of floral parts, especially stamens, inserted on or above the ovary, and arising from tissue that is fused to the ovary wall. Fig. 12 B. cf. hypogynous, perigynous.

epilithic: of plants growing on rocks, e.g. some orchids.

epimatium: the ovule-bearing scale in some conifers, as in Podocarpus species.

epipeltate: of an anther that is dorsifixed (peltate) and in which the part of the anther that is prolonged downwards beyond the attachment point of the filament faces inwards in relation to the centre of the flower. cf. hypopeltate.

epipetalous: borne on the petals.

epiphyllous: growing on leaves, as plantlets on the leaves in some Crassulaceae.

epiphyte: a plant perched, but not parasitic, on another plant. Fig. 1 I. cf. lithophyte.

episepalous: of stamens, borne on the sepals.

equitant: of leaves, folded longitudinally with the two inner surfaces (representing the upper leaf surface) fused except towards the base where it clasps another leaf on the opposite side of the stem; one margin represents the leaf keel and the lamina is vertically orientated; as in Iris. Leaf arrangement, Fig. 2 E; cross section through equitant arrangement Fig. 11 B.

erect: (1) upright, e.g. of a shrub, Fig. 1 A; (2) perpendicular to a surface, e.g. of hairs.

eremean: pertaining to regions of low, irregular rainfall.

ericoid: of leaves, small and sharply pointed like those of the heaths.

erose: of margins, irregular as if nibbled. Fig. 8 E.

espatheate: without spathes.

eusporangiate: of ferns, having sporangia with walls more than one cell thick, originating from a group of cells. cf. leptosporangiate.

evergreen: a plant bearing leaves throughout the year. cf. deciduous.

ex-: a prefix: without, e.g. exstipulate, without stipules.

excentric: not centrally placed, without a fixed centre.

excurrent: running through to the apex and beyond as a mucro, e.g. of the midvein in a leaf.

exine: the outer layer of a pollen grain or spore.

exocarp: the combined epicarp and mesocarp of a fruit. cf. endocarp.

exotic: introduced from outside the area concerned, in the case of N.S.W. usually from overseas.

exserted: projecting beyond the surrounding objects, e.g. of stamens protruding beyond the perianth, or of valves projecting beyond the rim of a capsular fruit. cf. included.

exstipulate: without stipules.

extrafloral: not within the flower, usually applied to nectariferous glands, e.g. as those on the petiole in some *Croton* species and on the phyllodes of some wattles. Fig. 19 E–H.

extravaginal: of a tiller that grows by breaking through the subtending leaf sheath as it grows. cf. intravaginal.

extrorse: of stamens, dehiscing towards the outside of the flower. cf. introrse, latrorse.

f.: an abbreviation for (1) forma if preceding a taxon epithet, or (2) filius (son of) if following the author of the taxon (e.g. L.f. – son of Linnaeus).

facultative: of parasites, optional, cf. obligate.

falcate: sickle-shaped, e.g. of a leaf. Fig. 5 N.

family: a group of one or more genera believed to be related. cf. genus.

farina: a fine mealy powder on the surface of some plants.

fasciated: unnaturally and often monstrously connate or adnate, the coalesced parts often grossly proliferated in size and/or number; e.g. inflorescence of *Celosia*.

fascicled: arranged in bundles or clusters, e.g. leaves. Fig. 2 J.

feldmark: high altitude plant community characterized by scattered, dwarf prostrate plants with a mat or cushion habit.

felted: matted with very short interlocked hairs, having the appearance or texture of felt. Fig. 14 D. cf. tomentose.

fenestrate: windowed or provided with openings.

ferruginous: rusty, rust-coloured.

fertile: capable of reproducing itself; also used of portions of a plant or organ producing reproductive structures.

fertilization: the union of female and male gametes.

fibre: (1) a thread or thread-like body; (2) a long slender, thick-walled cell as in sclerenchyma tissue.

-fid: a suffix: divided to about half-way, e.g. 2-fid, 3-fid, bi-fid, tri-fid.

filament: (1) any thread-like body; (2) the stalk of a stamen.

filiform: thread-like. Fig. 5 A.

filius: (Latin) son, abbreviated to f.

fimbriate: having the margin fringed with long hair-like processes. Fig. 14 J. cf. ciliate.

fistula: the opening of a hollow leaf-base; through which the stem emerges.

flaccid: limp; tending to wilt. cf. turgid.

flexuous (flexuose): bent from side to side in one plane in zigzag form.

floccose: covered with soft woolly hairs which are entangled and tend to rub off.

flora: (1) the assemblage of plant taxa of an area; (2) a book dealing systematically with the plants of an area.

floral: belonging to or associated with a flower.

floral tube: see hypanthium.

floret: (1) a small flower, one of a spikelet or dense cluster, as in Asteraceae; (2) a grass flower, together with the lemma and palea that enclose it.

flower: the sexual reproductive structure of angiosperms, typically consisting of an axis bearing perianth parts, androecium and gynoecium. Fig. 12.

foliaceous: leaf-like.

-foliate: a suffix: number of leaves, as in bifoliate = with 2 leaves.

-foliolate: an adjective used with a number prefix to indicate the number of leaflets forming a compound leaf, e.g. bifoliolate, a leaf with 2 leaflets.

follicle: a dry fruit derived from a single carpel and opening along one suture. Fig. 18 F & G.

forb: a non-woody plant other than a grass, sedge, rush, etc. cf. herb.

forest: a plant community dominated by long-boled trees in close proximity. cf. woodland.

form (forma, Latin): the smallest taxonomic category, generally used for variations occurring among individuals of any population; sometimes abbreviated to f.

fovea: a pit. adj. foveate.

foveola: a small pit. adj. foveolate.

free: not united with any other organ.

free-central: of placentation, with the placenta along the central axis in a compound ovary without septa. Fig. 13 E & F.

frond: the leaf of a fern or cycad; sometimes used for a large compound leaf as in palms.

fruit: the seed-bearing structure in angiosperms, formed from the ovary after flowering. Fig. 18.

funicle: the stalk of the ovule.

fused: joined and growing together.

fusiform: spindle-shaped, i.e. narrower at both ends than at the middle.

galea: in Orchidaceae, a perianth segment or group of perianth segments shaped like a helmet.

gamete: a reproductive cell; a cell or nucleus that fuses with another in sexual reproduction.

gametophyte: the body that bears gametes; produced by the germinating spore. cf. prothallus.

gamopetalous (= sympetalous): with petals united by their margins, at least at the base. cf. polypetalous.

gamophyllous: having the bases of opposite leaves fused around the stem. Fig. 4 E.

gamosepalous: having the sepals united by their margins, at least at the base.

genes: the total complement of hereditary factors contained within an organism: the unit of inheritance.

geniculate: bent like a knee.

genotype: the total complement of hereditary factors (genes) acquired by an organism from its parents and available for transmission to its offspring. cf. phenotype.

genus: a taxonomic group of closely related species or a single species without close relatives; closely related genera are grouped into families. pl. genera.

geophyte: a plant with an underground storage organ (e.g. corm, tuber, bulb or rhizome) and with annually renewed aerial shoots.

gibbous: humped, swollen on one side.

glabrate: glabrous, but obviously having previously had an indumentum.

glabrescent: becoming glabrous.

glabrous: without hairs or scales.

gland: a structure, within or on the surface of a plant, with a secretory function; e.g. surface glands (Fig. 16 E), petiolar or lamina glands (Fig. 19 E–H).

glandular: having glands, e.g. of hairs (Fig. 15 C), of a surface (Fig. 16 E).

glaucous: dull blue-green in colour, with a whitish bloom which can often be rubbed off; sometimes characteristic of young leaves, as in some eucalypts. cf. pruinose.

globose (globular, orbicular, spherical): a 3-dimensional shape, ball-shaped, more or less circular in outline.

glochid: a barbed bristle, as in many Cactaceae.

glomerule: a small compact cluster, e.g. of flowers.

glumaceous: having the nature of or resembling a glume, tending to be chaffy or membranous in texture.

glume: a bract in the inflorescence of some monocots; (1) one of the two bracts at the base of the grass spikelet; (2) also used in Cyperaceae and Restionaceae for the small bracts on the spikelet in which flower is subtended.

glutinous: sticky.

grain: the fruit of grasses, see caryopsis.

granular: of a surface, finely mealy, covered with small granules.

grass: a plant belonging to the family Poaceae.

grassland: low vegetation dominated by grasses.

gymnosperms: plants, such as conifers and cycads, whose seeds are naked, the ovules not being enclosed in an ovary.

gynaecandrous: inflorescence with female flowers above male flowers, as in the spikes of some species of Carex.

gynobasic: of a style, arising near the base of the gynoecium between the lobes of the ovary.

gynodioecious: of plants, having female flowers and bisexual flowers on separate plants. cf. androdioecious, andromonoecious, dioecious, monoecious, polygamodioecious, polygamomonoecious, polygamous.

gynoecium: the carpel (if solitary) or carpels of a flower collectively; the female part of the flower. cf. androecium.

gynomonoecious: of plants, having bisexual and female flowers on the same plant. cf. androdioecious, andromonoecious, dioecious, gynodioecious, monoecious, polygamodioecious, polygamomonoecious, polygamous.

gynophore: the stalk of a superior ovary. cf. androgynophore.

gynostemium: see column.

habit: the general appearance of a plant, including size, shape and growth form. Fig. 1.

habitat: the kind of place in which a plant grows.

hair: an outgrowth of the epidermis, usually elongate and consisting of one or more cells. Fig. 14 & Fig. 15.

half-inferior: of an ovary, partly below and partly above the level of attachment of the perianth and stamens. Fig. 12 C.

halophyte: a plant adapted to living in a highly saline area; a plant that accumulates a high concentration of salt in its tissues.

hamulus: on column of orchid, thread of tissue between pollen-mass and viscid disk on upper part of stigma (rostellum).

haploid: having a single set of chromosomes in the nucleus. cf. diploid, polyploid.

hastate: spear-shaped; of a leaf, with a narrow, pointed lamina with two basal lobes spreading more or less at right angles to the petiole. Fig. 7 I.

haustorium: the absorbing organ of some parasitic or hemiparasitic plants through which substances pass from the host to the parasite.

head (capitulum): a dense cluster of more or less sessile flowers, e.g. in Asteraceae a group of florets sessile on a common receptacle. Fig. 17 O & P.

heath: (1) a plant community dominated by small, closely spaced shrubs, most of which have stiff and often small leaves; (2) a plant with small hard leaves, as in many Ericaceae subfamily Styphelioideae.

hemi-: prefix: half.

hemiantropous: see hemitropous.

hemiparasite: an organism that is partly parasitic on another organism, e.g. mistletoes.

hemispherical: semiglobose.

hemitropous: of an ovule with the body at right angles to the funicle, with the funicle attached near the middle and the micropyle terminal; embryo sac straight. Fig. 21 C. cf. anatropous, amphitropous, campylotropous, orthotropous.

herb: a plant that does not produce a woody stem, although it may be woody at the base. adj. herbaceous. cf. forb.

herbaceous: herb-like, not woody; often applied to bracts, bracteoles or floral parts that are green and soft in texture.

hermaphrodite: of a plant with all flowers bisexual.

hesperidium: fleshy indehiscent fruit derived from a single gynoeceum, with an outer leathery rind and septate interior (e.g. Citrus).

heterogamous: producing flowers of 2 or more kinds with respect to their fertile organs, i.e. combination of male, female or bisexual. cf. homogamous.

heterogeneous: consisting of dissimilar parts.

heteromorphic: of two or more forms.

heterosporous: a plant producing spores of two different kinds in the sexual reproductive cycle. See megaspore, microspore. cf. homosporous.

heterostylous: flowers with styles of different lengths, sizes or shapes in the same species. cf. homostylous.

hilum: the scar on the seed coat where the seed was attached to the funicle.

hip: the false aggregate 'fruit' in *Rosa* species. Fig. 18 V.

hirsute: bearing coarse, moderately stiff, longish hairs. Fig. 14 L.

hispid: bristly. See bristle.

hispidulous: minutely bristly.

hoary: with a dense covering of hairs so that the surface appears whitish or greyish.

holotype: a single specimen chosen by the author of a plant (or animal) name, at the time of original publication, as that to which the name shall apply; the 'voucher specimen' of a name. cf. lectotype which is chosen by a later author.

homosporous: producing only one kind of spore in the sexual reproductive cycle, and hence each with gametophyte producing both male and female gametes. cf. heterosporous.

homostylous: flowers with styles of similar length, size and shape in the same species. cf. heterostylous.

host: an organism on which a parasite lives and by which it is nourished; also applied to a plant supporting an epiphyte.

hyaline: translucent.

hybrid: the offspring of genetically different parents (in a flora, usually applied where the parents are of different species).

hybrid swarm: a variable population resulting from crossing and segregation amongst the offspring of a hybrid or hybrids, including one or both of the parent taxa.

hydrophyte: a plant growing submerged in water, sometimes partly emergent.

hygroscopic: capable of expanding or contracting in response to presence or absence of water or atmospheric moisture.

hypanthium: a cup-like or tubular structure formed above the base, and often above the top, of the ovary with the stamens and perianth parts inserted on the rim. e.g. as in Onagraceae and some Myrtaceae. Fig. 12 D.

hypocotyl: the part of the stem of an embryo or young seedling below the cotyledonary node.

hypodermis: a layer of cells below the epidermis.

hypogynous: inserted below the level of the ovary, e.g. of sepals, petals and stamens. Fig. 12 A. cf. perigynous, epigynous.

hypogean: of germination, having the cotyledon(s) remaining within the seed coat. cf. epigeal.

hypopeltate: of an anther that is dorsifixed (or peltate) and in which the part of the anther that is prolonged downwards beyond the attachment point of the filament faces outwards in relation to the centre of the flower. cf. epipeltate.

hypostomatic: leaves with stomates on one surface only; usually on the lower surface. cf. amphistomatic.

imbricate: (1) of perianth parts, having their edges overlapping in the bud, see aestivation, Fig. 11 F; (2) of leaves, closely packed and overlapping. Fig. 2 H.

imparipinnate: term describing a pinnate leaf with a single terminal leaflet, and therefore usually with an odd number of leaflets. Fig. 3 C. cf. paripinnate.

in: in nomenclature, where the preceding author published the name in an article or book, authored or edited by the succeeding author.

incised: cut deeply, sharply and often irregularly (an intermediate condition between toothed and lobed).

inclined: orientated at an angle of 45-80°.

included: enclosed, not protruding, e.g. of stamens not projecting beyond the perianth or of valves which do not extend beyond the rim of a capsular fruit. cf. exerted.

incumbent: resting or lying upon.

incurved: of leaf margins, curved inwards or upwards. Fig. 10 B. cf. recurved, involute.

indefinite: variable in number; numerous; of an inflorescence, not terminating in a flower.

indehiscent: not opening at maturity to release seed or pollen.

indeterminate: (1) term describing growth or branching in which the terminal bud persists and produces successive lateral branches; (2) of an inflorescence of part of an inflorescence (=blastotelic), not ending in a flower, i.e. ending in a non-floral bud, e.g. a thyrse, raceme or spike, Fig. 17 C, H & I. cf. determinate.

indigenous: native to the area; not introduced. cf. endemic.

indumentum: a general term for the hairy or scaly covering of plants.

induplicate: of perianth parts, having their edges folded inwards in bud, but without overlapping, see aestivation. Fig. 11 H.

indurated: hardened.

indusium: (1) the tissue covering the sorus of a fern; (2) the pollen-cup of the style of some Goodeniaceae.

inferior ovary: an ovary below the level of attachment of the perianth parts and stamens and completely fused with the hypanthium or at most with a free summit (Fig. 12 B); if less fused see half-inferior (Fig. 12 C). The floral parts of a flower with such an ovary are said to be epigynous.

inflated: swollen; like a bladder.

inflexed: bent inwards.

inflorescence: a general term for the flower-bearing system of a plant, and more particularly for portions of such systems separated from one another by vegetative portions of the plant. Fig. 17.

infraspecific: of taxa, below the level of species

infructescence: the inflorescence in the fruiting stage; the arrangement of fruits, including peduncle, pedicels, bracts and fruit.

inrolled: rolled inwards; see revolute, involute.

insectivorous: trapping and feeding on insects and, by extension, other small invertebrates.

inserted (on): attached to; arising from.

integument: a covering; one of the outer layers of tissue of an ovule.

inter-: a prefix: between, as in interpetiolar stipule, a stipule between the petioles.

intercalary: of a meristem (growing region), situated between regions of permanent tissue, e.g. at the base of nodes and leaves in many monocotyledons.

intercotyledonary inclusion: group of cells or particles between cotyledons.

interfertile: able to interbreed.

intergeneric: between genera, e.g. hybridization.

interjugary: of glands, present on the rachises of bipinnate leaves between the junction of pairs of pinnae or of pinnules. as in some *Acacia* species. cf. jugary.

intermediate leaves: leaves that develop after the juvenile and before the mature leaves in plants which have dimorphic or trimorphic foliage.

internode: the portion of the stem between two successive nodes.

interpetiolar: of stipules, between the petiole bases of two opposite leaves. Fig. 4 J.

interrupted inflorescence: one with flowers in distinct clusters and with bare axis or stem between the clusters.

intracarinal: the surface between keels.

intramarginal: situated inside the margin but close to it, e.g. of veins in the leaves of many Myrtaceae.

intravaginal: of a tiller that grows within the subtending leaf sheath. cf. extravaginal.

intricate: of plants, with many entangled branches. Fig. 1 D.

introduced (exotic): not native to the area; not indigenous. cf. endemic.

introrse: of anthers, dehiscing towards the centre of the flower (check in bud!). cf. extrorse, latrorse.

invagination: the process of forming a pocket by turning in on itself, as in the floral axis of figs (e.g. *Ficus* species where the minute flowers and fruits are actually inside the swollen inflorescence stem, the 'fig'); the resulting multiple fruit is a syconium. Fig. 18 Y.

involucre: (1) a whorl or several whorls of bracts surrounding a flower or an inflorescence (as around the head in many Asteraceae); (2) a layer of tissue enveloping a particular structure, such as sporangia in many ferns, e.g. Hymenophyllaceae.

involute: rolled inwards; of a leaf margin rolled upwards. Fig. 10 C. cf. revolute.

irregular: see zygomorphic.

irritable: responding suddenly to stimuli, e.g. the labellum of some orchids (family Orchidaceae) and trigger plants (family Stylidiaceae).

isobilateral (isolateral, simlifacial): having structurally similar upper and lower surfaces. cf. dorsiventral.

isodiametric: of equal dimensions, e.g. a cube.

isotype: a specimen which is, or is believed to be, a duplicate of the holotype, i.e. part of the same collection.

joint: (1) an articulation, as in a 1-foliolate leaf, Fig. 3 I; (2) a segment of some cladodes, as in many Cactaceae; (3) a node.

jugary: of glands, present on the rachises of bipinnate leaves at the junctions of pairs of pinnae or of pinnules, as in some *Acacia* species. Fig. 19 H. cf. interjugary.

juvenile leaves: the first-formed leaves, especially when they differ from the adult leaves.

karyotype: the gross morphology of the chromosome set, described in terms of number, length, etc.

keel: (1) a ridge like the keel of a boat, usually on the back of an organ; (2) the two fused anterior petals of the pea flower, see Fabaceae subfamily Faboideae.

kernel: the seed of a nut, drupe or pyrene.

kino: reddish exudate from the bark or wood of some trees, see ironbarks in Myrtaceae.

Kranz anatomy: a specialized anatomy associated with the C4 carboxylation pathway in plants. The vascular system is associated with at least two distinct photosynthetic cell types usually arranged in concentric layers. The cell types differ in ultrastructure and in function. Found in some grasses (Poaceae) and chenopods (Chenopodiaceae). See papers for explanation of terms. Refs Carolin, Jacobs, & Vesk (1973 & 1978).

labellum: the distinctive median petal in Orchidaceae, usually differing in size and shape from those either side.

labiate: lipped; where the limb of a corolla or a calyx is divided into 2 parts, called an upper and lower lip.

lacerate: as if torn; irregularly cut or cleft. Fig. 8 F.

laciniate: as if cut into narrow slender teeth or lobes. Fig. 8 G.

lacuna: a gap or cavity.

lamella: a thin plate-like layer. adj. lamellose.

lamina: an expanded portion of a leaf or petal. pl. laminae.

laminated: broadened into a lamina.

lanceolate: lance-shaped; 3-6 times as long as broad and broadest below the middle and tapering to the apex. Fig. 5 I.

lateral: attached to the side of an organ, e.g. leaves on a stem.

latex: a fluid exuded from cut surfaces of the leaves and stems of some plants, usually milky, sometimes yellowish and watery, e.g. as in many species in families Moraceae and Apocynaceae.

latrorse: turned sideways; of anthers, dehiscing longitudinally on the side. cf. extrorse, introrse.

lax: loose, not compact.

leaf: an organ borne on the stem of a plant, usually expanded and green; typically consisting of the more or less expanded lamina and the petiole or leaf stalk.

leaflet: one of the ultimate segments of a compound leaf. cf. pinna, pinnule.

leaf-opposed: arising from the stem opposite a leaf-base, as do some tendrils or inflorescences.

lectotype: a specimen selected from among those cited with the original description to serve in place of a holotype where the holotype is missing or destroyed, or where no holotype was designated.

legume: (1) a pod, a dry dehiscent fruit formed from one carpel and having two longitudinal lines of dehiscence, Fig. 18 I; (2) a member of the family Fabaceae.

lemma: the lower of two bracts enclosing the flower of a grass; male lemma - lemma enclosing a male flower; sterile lemma - an empty lemma.

lenticel: a small raised corky spot or line appearing on young bark, through which gaseous exchange occurs.

lenticular: a 3-dimensional shape like a doubly convex lens, circular in outline.

lepidote: covered with small, membranous scales.

leptomorph: applied to the rhizome system of some bamboos with indeterminate growth in which the aerial shoots arise laterally from an extensive rhizome system.

leptosporangiate: of ferns, having sporangia with walls consisting of a single layer of cells; the sporangium originating from a single cell. cf. eusporangiate.

liana (liane): a woody climbing plant.

lignified: converted into wood, hardened.

lignotuber: a woody swelling, partly or wholly underground, at the base of certain plants and containing numerous cortical buds, as in many eucalypts (Fig. 1 H); see mallee.

ligulate: (1) with a ligule; (2) of ray florets in Asteraceae, with a strap shaped limb.

ligule: (1) a variously shaped appendage facing towards the base of a leaf (especially in grasses), petiole, or perianth segment; (2) the strap shaped corolla lobe or limb in ray florets of Asteraceae.

limb: the expanded and usually flat portion of an organ, e.g. of a petal, or the expanding part of the corolla above a corolla tube.

linear: long and narrow with more or less parallel sides, more than 12 times as long as broad. Fig. 5 B.

linear-lanceolate: more than 12 times as long as broad and broadest in the lowest third and tapering to the apex.

linear-oblongate: more than 12 times as long as broad and broadest in the upper third and tapering to the base.

lineolate: marked with fine or obscure lines.

lithophyte: a plant growing on a rock, e.g. some orchids. cf. epiphyte

littoral: on or growing near the seashore.

loculicidal dehiscence: in capsules, dehiscence in median lines through the walls of the loculi rather than at the partitions between the loculi or at the placentas. Fig. 18 L. cf. septicidal.

loculus: a more or less closed cavity, containing the pollen in anthers (Fig. 20 C) and the ovules in an ovary (Fig. 13). pl. loculi.

lodicule(s): one or two scale-like structures below the stamens and ovary of a grass and regarded as a reduced perianth.

lomentum: a legume that breaks transversely into usually 1-seeded indehiscent articles when mature. Fig. 18 J. cf. schizocarp.

long-creeping: in ferns, a rhizome that elongates rapidly so that the fronds are usually well separated from each other. cf. short-creeping.

longitudinal: of venation, with several veins extending from the base to the apex of the lamina but the veins not more or less parallel with each other. Fig. 9 E.

lorate: of leaves, strap-shaped (moderately long with the two margins parallel).

lunate: crescent-shaped.

lyrate: lyre-shaped, of pinnatifid or pinnatisect leaves with the terminal lobes much larger than the basal ones. Fig. 5 P.

Malesia: a phytogeographic region; including the Malay Peninsula, Malaysia, the Philippines, Indonesia and New Guinea.

mallee: (1) a growth form in which many stems arise from a lignotuber, usually applied to eucalypts; (2) of a plant community dominated by mallee eucalypts.

mangrove: a shrub or small tree growing in salt or brackish water and often with pneumatophores or aerial roots.

marcescent: withering without falling off.

marginal: (1) at or very close to the margin; (2) of placentation, with the placenta along the margin of a simple ovary, as in many legumes, Fig. 13 A.

maritime: belonging to the sea; confined to the sea-coast.

marsh: a waterlogged area; swampy ground without trees.

mealy: covered with coarse flour-like powder.

medifixed: attached by or at the middle, e.g. of anthers, attached to the filament at the middle of the connective.

megasporangium: a sporangium producing megaspores, = ovule in flowering plants.

megaspore: the spore in heterosporous plants that gives rise to a female gametophyte and is generally larger than the microspore; the spore usually not shed but remaining on the parent plant and developing in situ. cf. microspore.

megasporophyll: a specialised leaf upon (or in the axil of) which one or more megasporangia are borne. cf. microsporophyll.

meiosis: the two-stage division of a diploid nucleus in which the genetic recombination occurs and the number of chromosomes characteristic of the species is halved prior to the production of the sexual gametes; this process takes place once in every sexual life cycle.

membranous: thin and translucent.

mentum: a chin-like extension at the base of some orchid flowers formed by the column foot and the bases of the lateral sepals.

mericarp: one segment of a fruit that breaks at maturity into units derived from the individual carpels, sometimes called a coccus. Fig. 18 H & P. See schizocarp.

meristem: a growing region of a plant in which cells divide to produce new cells.

-merous: a suffix indicating that the number of parts in each floral whorl is divisible by the same basic number, e.g. a 5-merous flower is one with the number of sepals, petals and stamens divisible by 5; e.g. 5 sepals, 10 or 5 petals, and 5, 15 or 20 stamens. The number of carpels and their styles or stigmas often does not conform to the basic number.

mesic: requiring abundant water.

mesocarp: the fleshy part of the wall of a succulent fruit; the middle layer of the pericarp in a drupe.

mesomorphic: soft and with little fibrous tissue, but not succulent. cf. scleromorphic.

mesophyll: photosynthetic tissue of a leaf; of vegetation, characteristic of moist habitats and with soft, fairly large leaves predominating.

microphyllous: having small leaves that are usually hard and narrow.

micropyle: the small canal through the integuments (outer layers of tissue) of an ovule, usually at the point furthest away from the funicle (ovule stalk), persisting as a pore in the seed coat.

microspecies: segregate species of a larger species or species-aggregate, e.g. see *Rubus fruticosus*.

microsporangium: the sporangium producing the microspores, within the anthers in angiosperms.

microspore: the spore in heterosporous plants that gives rise to a male gametophyte and is generally smaller than a megaspore; microspores are shed at maturity. cf. megaspore, pollen.

microsporocarp: a body containing the microsporangium, e.g. as in some ferns.

microsporophyll: a specialised leaf upon (or on the axil of) which one or more microsporangia are borne

midrib: term applied to the midvein or primary vein, especially when it is prominently raised or depressed.

midvein: the primary vein which runs from the base to the apex of the lamina, usually the most prominent vein, from which arise the secondary or lateral veins.

minute: very small, usually less than 1 mm long.

mitra: a pointed cap or hood.

monadelphous: of stamens, with their filaments fused into one group, as in many Malvaceae. Fig. 20 G. cf. diadelphous.

moniliform: of a pod or other organ: constricted, so as to resemble a necklace of beads; e.g. hairs, Fig. 15 E.

mono-: a prefix, one: as in monotypic, a genus with 1 species.

monochasium: a cyme with the branches arising singly. Fig. 17 E. cf. dichasium.

monochlamydeous: of a flower, having only one whorl of perianth parts. cf. dichlamydeous.

monocotyledons: a major group of angiosperms, characterized by the embryo usually having one cotyledon (seed leaf). cf. dicotyledons.

monoecious: having male and female flowers on the same plant.

monophyletic: derived from a single ancestral line. cf. polyphyletic.

monopodial: with a persistent terminal growing point producing many lateral organs progressively. cf. sympodial.

monotypic: of a genus, having only one species. cf. unigeneric.

motile: actively moving; self-propelled.

mucilage: a slimy, gummy substance sometimes secreted by hairs or glands. adj. mucilaginous.

mucro: a sharp, usually suddenly constricted, apical point.

mucronate: having a mucro. Fig. 6 K.

mucronulate: a small mucro on obtuse apex.

multicellular hairs: hairs consisting of more than 1 cell.

multiple fruit: a cluster of fruits produced from more than one flower and appearing as a single fruit, often on a swollen axis, as in Moraceae. Fig. 18 Y & Z. e.g. syncarp, syconium. cf. aggregate fruit.

muricate: of a surface, rough with pointed protuberances or short hard tubercles. Fig. 16 B.

muriculate: minutely muricate, rough with minute, short, hard points.

muticous: blunt, awnless, lacking a point.

mycorrhiza: a symbiotic association between a fungus and a plant root.

naked: of flowers, without a perianth; of sporangia, not covered with an indusium; of seeds, not enclosed in an ovary, exposed on the surface of a sporophyll.

napiform: turnip-shaped.

native: naturally occurring in the area, but not necessarily confined to it. cf. endemic.

naturalized: originating elsewhere but established and reproducing itself as though native to the area.

naviculate: boat-shaped.

nectar: a more or less sweet fluid secreted from a specialized gland or nectary.

nectary: a gland that secretes nectar.

neotype: a specimen selected to serve in place of a holotype where none of the material to which the name was originally applied is known to have been preserved.

nerve: a vein, usually applied to rather straight and strong veins.

net veins (reticulate): forming a network or reticulum; e.g. of veins, Fig. 9 H.

neuter: sterile.

nocturnal: of flowers, opening only at night. cf. diurnal.

node: the level of a stem at which one or more leaves arise.

nodulose: with small swellings or knobs.

nomenclature: the names and naming of things; often restricted to the correct usage of scientific names in taxonomy.

nom. cons.: (nomen conservandum, Latin) a name for a taxon that has been formally accepted as the correct name even though it is contrary to the usual principles of botanical nomenclature.

nom. illeg.: (nomen illegitimum, Latin) a name which, at its time of publication, was superfluous (because the taxon to which it was applied had already been named) or had already been applied to another plant.

nom. nud.: (nomen nudum, Latin) a name not published in accordance with the principles of botanical nomenclature (usually without a diagnosis or description of the entity to which it applies and without reference to either); such a name should not be used.

non: (Latin) not of.

nut: a dry indehiscent one-seeded fruit formed from two or more carpels. Fig. 18 T.

ob-: a prefix: the other way around, as in obovate.

obconical: cone-shaped but attached to the narrower end.

obcordate: heart-shaped but attached at the pointed end, e.g. of a leaf lamina

oblanceolate: a 2-dimensional shape, lanceolate but broadest in the upper third. Fig. 5 L. cf. lanceolate.

oblate: almost circular, but with breadth slightly greater than the length. Fig. 5 F.

obligate: of parasites, unable to survive without the host. cf. facultative.

oblique (asymmetric): of a leaf, leaf base or other organ, having the sides unequal. Fig. 7 E.

obloid: a 3-dimensional shape, almost globose but with breadth slightly greater than the length.

oblong: a 2-dimensional shape, rectangular with length greater than breadth. Fig. 5 C.

obovate: a 2-dimensional shape, ovate but broadest above the middle. Fig. 5 M.

obpyriform: pear-shaped but broadest above the middle.

obsolescent: non-functional but not reduced to a rudiment.

obsolete: reduced to a rudiment, or completely lacking.

obtuse: blunt or broadly rounded, the converging edges separated by an angle greater than 90°, e.g. of an lamina apex (Fig. 6 E) or of a lamina base (Fig. 7 C).

occluded: closed, in the sense of fused as in the leaves of *Dianella* species.

ocrea (ochrea): a sheath formed from two fused stipules encircling the node in Polygonaceae. Fig. 4 H. pl. ocreae.

oil glands (oil dots): small structures embedded in a leaf or other organ, secreting a volatile oil, mostly visible as small translucent dots (hand lens needed) against a strong light; usually making the organ aromatic when crushed.

one-foliolate (1-foliolate, unifoliolate): a compound leaf reduced to a single leaflet, usually recognized by the articulated or jointed 'petiole', which is in fact a petiole plus a petiolule. Fig. 3 I.

ontogeny: the development of a single organism, i.e. the sequence of stages through which it passes during its lifetime.

open forest: a forest dominated by trees with relatively narrow isobilateral leaves forming sparsely foliated crowns (usually species of eucalypts); the forest canopy is sparse and often not continuous, allowing sunlight to reach the ground within the forest. cf. closed forest.

operculum (calyptra): a cap-like covering or lid of some flowers or fruits that becomes detached at maturity by abscission; e.g. (1) the cap on the buds of eucalypts, (2) the lid of circumsciss capsules.

opposite: inserted at the same level, as in leaves on the opposite side of the stem (Fig. 2 C & D), or in flowers the floral parts on the same radius. cf. alternate.

order: a taxonomic group consisting of one or more closely related families.

orbicular: orb-shaped, strictly a 3-dimensional shape but often used for a 2 dimensional circular shape, as for leaves (orbiculate).

orifice: a small opening or aperture.

orthotropous: of an ovule, with the body straight and erect so that the micropyle is terminal and the funicle attached at the base; embryo sac straight Fig. 21 A & B. cf. amphitropous, anatropous, campylotropous, hemitropous.

ortho-: a prefix: straight.

orthostichous: arranged in regular vertical rows on a stem or axis. cf. distichous.

orthotropic: mode of growth of vertical branches or leading shoots, especially in conifers where lateral (plagiotropic) branches may have different morphology.

osmophore: a scent-producing gland.

ostiole: an opening or pore, e.g. at the apex of a fig (fruit of *Ficus* species). adj. ostiolate

ovary: the basal portion of a carpel or a group of fused carpels in which one or more ovules are enclosed, and which after fertilization develops into the fruit.

ovate: a 2-dimensional shape, with the length 1–3 times the breadth, and broadest below the middle. Fig. 5 J.

ovoid: the 3-dimensional equivalent of ovate; egg-shaped.

ovule: a structure in seed plants within which one or more megaspores are formed, and which after fertilization develops into the seed.

ovuliferous: bearing ovules (e.g. applied to scales in a megasporangiate cone in gymnosperms).

ovulode: a sterile ovule.

p.p.: (pro parte, Latin) in part; in nomenclature, to denote that the preceding taxon includes more than 1 currently recognized entity, and only 1 of those entities is being considered.

pachymorph: applied to the rhizome systems of some bamboos where growth is determinate and sympodial, the plants forming large clumps with short rhizomes, the culms arising terminally from the rhizomes and new rhizomes arising laterally.

packing bracts: bracts that fill out the spaces between flowers and form the surface of the spike, as in *Xanthorrhoea* species.

palea: (1) the upper of 2 bracts enclosing the flower of a grass; (2) one of the chaffy scales on the petiole and rachis of many ferns.

palmate (digitate): (1) of a compound leaf with 3 or more leaflets arising from the one point at the top of the petiole, Fig. 3 E & L; (2) of veins in a lamina, radiating from the one point, Fig. 9 C & D. adv. palmately.

palmately trifoliolate: of a leaf, with 3 leaflets arranged palmately, i.e. all the petiolules of about the same length. Fig. 3 L. cf. pinnately trifoliolate.

palmatifid: of a leaf cut into lobes to less than halfway in a palmate form. Fig. 5 U.

palmatisect: of a leaf cut into lobes to more than halfway in a palmate form. Fig. 5 V.

palmativeined: of leaves, palmately veined, i.e. with the (main) veins radiating from one basal point.

palynology: the scientific study of pollen.

panicle: a compound inflorescence with a main axis and lateral branches which are further branched, and in which each axis ends in a flower or flower bud. Fig. 17 A. adj. paniculate.

papilionaceous: (papilionate) butterfly-like; with a corolla like that of a pea, as in the family Fabaceae subfamily Faboideae.

papilla: a small elongated or nipple-shaped protuberance on an organ. pl. papillae.

papillose: of a surface, rough with papillae. Fig. 16 D.

pappus: the group of appendages, usually hairs or scales, above the ovary and outside the corolla in Asteraceae (possibly a modified calyx); often persisting on the fruit and aiding in its dispersal.

parallel: of veins in a lamina, all running in the same direction and equally distant from one another, as in grass leaves. Fig. 9 F.

paraphysis: a sterile filament occurring amongst the sporangia of some ferns. pl. paraphyses.

parasite: an organism growing and feeding upon another organism (the host). A hemiparasite is partly parasitic, partly autotrophic, and has some chlorophyll.

paratype: a specimen or illustration, other than the holotype, that was cited with the original publication of a name.

parenchyma: plant tissue consisting of mature, living cells that are relatively unspecialised in function.

parietal: (1) attached to the wall; (2) of placentation, with placentas on the wall or intruding partitions of a unilocular compound ovary, Fig. 13 B.

paripinnate: term describing a pinnately compound leaf without a single terminal leaflet, and therefore usually with an even number of leaflets. Fig. 3 D. cf. imparipinnate.

partial inflorescence: a portion of an inflorescence, particularly a part sufficiently branched to show the same structural plan as the inflorescence as a whole.

patelliform: knee-shaped; shaped like a small dish, circular and rimmed.

pectinate: comb-like.

pedate: term describing a palmately compound leaf with the lateral leaflets divided again. Fig. 3 F. cf. ternate.

pedicel: the stalk of a flower (above the subtending bract or leaf); bracteoles are sometimes present on a pedicel.

peduncle: the stalk of an inflorescence

pellucid: transparent.

peltate: term describing an organ with a stalk or point of attachment on its lower surface away from the margin, often umbrella-like; e.g. leaves (Fig. 4 A), scales (Fig. 15 H).

pendent (pendulous): drooping, hanging downwards; e.g. of a shrub, Fig. 1 O; of an ovule hanging from the top of the ovary, i.e. in an apical position. Fig. 13 G.

pendulous: see pendent.

penicillate: pinnately arranged veins in which the secondary veins are conspicuous and numerous and are more or less parallel to each other, as in a feather.

penniveined: pinnately arranged veins in which the secondary veins are conspicuous and numerous and are more or less parallel to each other, as in a feather.

pentamerous: of a flower, having five parts in each floral whorl (not necessarily including the gynoecium).

pepo: a fruit with firm skin, pulpy interior, many-seeded and a single loculus, derived from an inferior ovary, e.g. a pumpkin.

perennating: (of a plant) remaining alive for several years; (of an organ) a vegetative part that assists a plant to perennate.

perennial: a plant whose life-span extends over more than one growing season. cf. biennial, annual.

perfoliate: of a sessile leaf or bract, having its base completely surrounding the stem. Fig. 4 F.

perianth: the calyx and corolla collectively; especially when they are similar, individual segments then being called tepals.

pericarp: the wall of the fruit, developed from the ovary wall. cf. endocarp, exocarp, mesocarp.

perigynous: term describing sepals, petals and stamens that are attached to the rim of a lateral or upward expansion of the receptacle, or attached to the rim of a hypanthium which is not fused to the ovary. Fig. 12 D.

perisperm: nutritive tissue within the seed which is formed outside the embryo sac, lies between the embryo sac and the testa. cf. endosperm.

pers. comm.: personal communication; information gained from other than published sources.

persistent: remaining until the part that bears it is fully matured, e.g. of floral parts remaining until fruit is mature; of a leaf base, remaining attached to the plant after the leaf or frond has been shed.

petal: a free segment of the corolla.

petaline: of the petals, e.g. petaline calyptra, the calyptra formed from petals.

petaloid: resembling a petal, especially in colour and texture.

petiole: the stalk of a leaf. adj. petiolate. Fig. 4 B.

petiolule: the stalk of a leaflet. See also terminal petiolule.

phanerogam: a plant with conspicuous reproductive parts; a plant reproducing by seeds. cf. cryptogam.

phenotype: the physical characteristics of an organism; the outward expression of characteristics conferred on an organism by its genotype. cf. genotype.

pheromone: a substance that attracts certain insects, as in the discharge from osmophores.

phloem: the tissue in the conducting system of a plant through which metabolites (products of chemical reactions in the plant) are transported. cf. xylem.

phyllary: an involucre bract of the Asteraceae, collectively the phyllaries surrounding a head form the calyculus.

phyllichnium: in family Casuarinaceae, the ridge of a branchlet article. pl. phyllichnia.

phyllode: a flattened petiole, leaf-like in appearance and function, replacing the lamina, as in many wattles.

phyllotaxy: the arrangement of leaves on a stem (when spiral, often expressed quantitatively as the fraction of the circumference of the stem that separates two successive leaves).

phylogeny: the evolutionary development of a plant group, i.e. its derivation from its ancestors and the relationship among its members. adj. phylogenetic.

phylum: a taxon of high rank, the major unit of classification. cf. division

pilose: hairy with long soft weak hairs which are clearly separated but not sparse. Fig. 14 H.

pinna: a primary segment of the lamina of a compound leaf. pl. pinnae.

pinnate: (1) (1-pinnate) of a leaf, with the lamina divided into pinnae in 2 rows along a rachis, once compound (Fig. 3 C & D) see imparipinnate, paripinnate. cf. bipinnate, tripinnate; (2) of veins, with the secondary veins arranged regularly (Fig. 9 A) cf. penniveined. adv. pinnately.

pinnately trifoliolate: of a leaf, with three leaflets arranged pinnately, i.e. the terminal petiolule usually jointed and longer than the lateral ones. Fig. 3 K. cf. palmately trifoliolate.

pinnatifid: of simple leaves or leaflets, of the lamina cut into lobes on both sides of the midrib. Fig. 5 R. cf. pinnatisect.

pinnatisect: of simple leaves or leaflets, of the lamina cut down almost to the midrib but having the segments confluent with it. e.g. as in the ultimate segments of some fern fronds. Fig. 5 S. cf. pinnatifid.

pinnule: a leaflet of a bipinnate leaf. pl. pinnules.

pistil: a free carpel or a group of fused carpels. See gynoecium.

pistillate: with a female flower.

pistillode: a rudimentary pistil present in some male flowers.

pith: the centremost tissue of a stem, often soft and spongy.

pitted: having numerous small depressions on the surface.

placenta: the part of the ovary to which the ovules are attached.

placentation: the arrangement of the placentas and the attached ovules. Fig. 13.

plagiotropic: mode of growth of lateral branches, growing horizontally away from the leading shoot and maintaining a different morphology, as in some conifers. cf. orthotropic.

plano-convex: with upper surface convex, lower surface more or less flat. Fig. 10 A.

plicate: longitudinally folded. Fig. 11 I.

-ploid: suffix; multiple of a single basic set of chromosomes in the nucleus; e.g. haploid = 1 set, diploid = 2 sets; see also polyploid.

plumose: feather-like, with a central axis and fine hairs arising from it; e.g. (1) the styles in Clematis species, (2) the pappus of some Asteraceae, Fig. 15 K.

plumule: the shoot of the embryo.

pluritubulose: organs with several to many transverse as well as several longitudinal septa (seen by splitting the organ). cf. unitubulose.

pneumatophores: specialized vertical roots produced by some vascular plants which grow in water, water-logged mud or tidal swamps; the roots contain spongy tissue which enables them to exchange gases with the atmosphere through lenticels in their aerial portions, as in many mangroves.

pod: a legume or superficially similar fruit. Fig. 18 I.

pollen: the microspores of seed plants, formed in and shed from the anthers, by which time some nuclear division has taken place to form a gametophyte enclosed in the spore wall.

pollination: the transference of pollen from the anther to the stigma of flowers, and from the microsporangium to the pollen chamber of conifers and cycads.

pollinium: a mass of pollen grains cohering by means of their wavy texture or fine threads, as in Asclepiadaceae. pl. pollinia.

polygamodioecious: of plants, having bisexual and male flowers in some plants and bisexual and female flowers on others. cf. androdioecious, andromonoecious, dioecious, monoecious, polygamomonoecious, polygamous.

polygamomonoecious: of plants, having bisexual and unisexual flowers on the same plant. cf. androdioecious, andromonoecious, dioecious, monoecious, polygamodioecious, polygamous.

polygamous: having bisexual and unisexual flowers on the same plant.

polymorphic: displaying a number of varieties of form.

polypetalous: with free petals. cf. gamopetalous.

polyphyletic: composed of members that originated, independently, from more than one evolutionary line. cf. monophyletic.

polyploid: having more than two lots of the basic set of chromosomes in the nucleus. cf. diploid, haploid.

pome: a fleshy false fruit, formed from an inferior ovary, in which the hypanthium has enlarged to enclose the true fruit, as in Malaceae. Fig. 18 C.

poricidal: opening by pores, e.g. of anthers (Fig. 20 E) or capsules (Fig. 18 N).

porrect: pointed outward.

posterior: toward the axis, away from the subtending bract. cf. anterior.

praemorse: as though the end were bitten off, coarsely erose.

prickle: a hard, pointed outgrowth from the surface of a plant, involving several layers of cells, but not containing a vascular system. Fig. 14 O. adj. prickly. cf. spine, bristle.

proboscis: a snout, a surface projection.

probract: small, leaf-like structure at the base of an inflorescence in family Cucurbitaceae, usually arising opposite a tendril.

processes: outgrowths or projections from a surface.

procumbent: having stems trailing or spreading over the ground. Fig. 1 K.

proliferous: plants which bear adventitious buds on the leaves or flowers, such buds being capable of rooting and forming separate plants. e.g. bulbils, epiphyllous plantlets.

propagule: a structure with the capacity to give rise to a new plant, e.g. (1) a seed, (2) part of the vegetative body capable of independent growth if detached from the plant.

prophyll(s): the first leaf or pair of leaves of a shoot, in some monocotyledons delicate and not differentiated into blade and sheath.

prostrate: lying flat on the ground. Fig. 1 L.

protandrous: of a flower, shedding pollen before the stigma is receptive.

prothallus: the gametophyte stage of ferns and fern allies; usually flattened and delicate.

protogynous: of a flower, with the stigma becoming receptive and ceasing to be receptive before the pollen is shed.

protuberance: a prominently raised area on the surface of an organ, e.g. on bracteoles (as in family Casuarinaceae).

proximal: near to the point of origin or attachment. cf. distal.

pruinose: of a surface, having a waxy bloom that may be rubbed off. cf. glaucous.

pseudanthium: a condensed inflorescence unit in which several flowers resemble a single flower, as in *Centrolepis*.

pseudo-: a prefix: false; apparent but not genuine.

pseudobulb: a thickened bulb-like stem of sympodial orchids with one or several internodes.

pseudopinnate: term describing a lateral shoot resembling a pinnate leaf, i.e. a shoot with limited growth and with simple leaves arranged in 2 rows like the leaflets of a pinnate leaf.

pseudowhorled: of leaves, arranged in clusters on the stem, the clusters separated by regular intervals, usually produced behind a scaly bud. Fig. 2 G. cf. whorl.

puberulous (puberulent): a dense covering of very short soft hairs, minutely pubescent.

pubescent: a somewhat dense covering of short, weak, soft hairs. Fig. 14 B.

pulvinule: the pulvinus at the base of a petiolule.

pulvinus: the swelling at the base of the petiole, often capable of changing form to bring about movement of leaf, sometimes glandular or responsive to touch. A similar swelling near the apex of a petiole is referred to as an upper pulvinus. pl. pulvini.

punctate: marked with dots.

punctulate: minutely dotted.

pungent: (1) ending in a stiff, sharp point; (2) having an acrid taste or smell.

pustulate: covered with small blisters.

pyramidal: pyramid-shaped, broadest at or near the base.

pyrene: the endocarp and enclosed seed of a drupaceous fruit.

pyriform: pear-shaped.

quincuncial: of the arrangement of corolla lobes in a bud, a variant of imbricate aestivation.

raceme: a simple inflorescence ending in a non-floral bud and in which the flowers are stalked, i.e. an indeterminate inflorescence. Fig. 17 H. cf. raceme-like, spike.

raceme-like: applied to a simple inflorescence ending in a floral bud in which the flowers are stalked, i.e. resembling a raceme but determinate; also used for cymes of similar form, particularly where there has been reduction from more complex types. cf. raceme, spike-like.

rachilla: the axis of a grass spikelet above the glumes, also the axis in sedge spikelets.

rachis: the axis of an inflorescence, pinnate leaf, or of a pinna in a bipinnate leaf.

radical (basal): of leaves, clustered at the base of the stem. Fig. 2 I. cf. cauline, rosette.

radicle: the portion of an embryo that gives rise to the primary root system of a plant.

rainforest (closed forest): a forest dominated by broad-leaved trees with dense crowns that form a continuous layer (canopy) and with one or more of the following growth forms

ramiflory: the production of flowers and fruits behind the current foliage on woody branches formed in previous, but recent, seasons. adj. ramiflorous. cf. cauliflory.

rank: (1) a vertical row; (2) leaves that are 2-ranked are in 2 vertical rows, and may be alternate or opposite.

raphe: the part of the stalk of an anatropous ovule that is fused along the side of the ovule.

raphides: needle-like crystals that occur in bundles in the vacuoles of some plant cells.

ray floret (ray flower): a zygomorphic flower in many species of the family Asteraceae, usually formed towards the periphery of the head and with the corolla extended into a strap-shaped ligule. cf. disc floret.

receptacle: the often more or less expanded top of the stalk on which a flower or flower-head arises, Fig. 12 A; an axis on which sporangia arise in ferns.

recurved: curved backwards (and hence usually downwards), e.g. of the margins of a leaf. Fig. 10 D. cf. revolute, incurved, reflexed.

reflexed: bent sharply backwards (and hence usually downwards). cf. deflexed, inflexed.

regular: see actinomorphic.

reniform: kidney-shaped. Fig. 5 G.

replum: a longitudinal partition in fruits of the family Brassicaceae, see silicula, siliqua.

resinous: with a hardened sticky surface.

resupinate: twisted through 180° as in the ovary of most orchid (family Orchidaceae) flowers.

reticulate: forming a network or reticulum; e.g. of veins, Fig. 9 H.

retinaculum: (1) a hook-like structure to which another structure is tethered, as in Orchidaceae and Asclepiadaceae (the structure to which pollen masses are attached) or in Acanthaceae (the persistent stalk of an ovule); (2) the marginal outgrowth from a spadix, as in Zosteraceae. pl. retinacula.

retorse: directed backwards (and thus often downwards).

retuse: having the apex rounded and with a small notch. Fig. 6 H.

revolute: rolled backwards (and thus often downwards), e.g. of the margins of a leaf. Fig. 10 E. cf. recurved, involute.

rhizoid: a thread-like, unicellular absorbing structure, in fern gametophytes and some non-vascular plants.

rhizome: an underground stem, usually growing horizontally. adj. rhizomatous. Fig. 1 N.

rhombic: having the form of a 2-dimensional diamond-shaped figure. Fig. 5 H.

rhomboid: having the form of a 3-dimensional diamond-shaped solid.

riparian: of plants growing by rivers or streams.

root: part of the underground axial system of a plant which does not bear leaves and tends to grow downwards or laterally in the soil. See also adventitious, aerial root.

rootstock: a swollen region at the junction of root system and stem, mostly below ground level.

rosette: a radiating cluster of leaves, usually close to the ground at the base of a plant. Fig. 2 I. See also radical.

rostellum: in orchids, a projection of the upper edge of the stigma in front of the anthers.

rostrate: beaked.

rosulate: clustered into a rosette.

rotate: term applied to a shortly tubular corolla with spreading lobes or limbs.

rudimentary: imperfectly developed and non-functional.

rugose (wrinkled): covered with coarse lines or furrows. Fig. 16 G.

rugulose: with tiny wrinkles.

ruminate: (1) of a surface or tissue, with an irregular, involuted outline, as in a rumen; (2) mottled in appearance.

runcinate: term describing a pinnatifid or pinnatisect leaf with sharply incised lobes or teeth pointing towards the base. Fig. 5 Q.

runner: a slender prostrate stem having a bud at the end which sends out leaves and roots.

rush: a plant belonging to the family Juncaceae or, more loosely, to various monocotyledons.

sac: a pouch. adj. saccate.

s.lat.: (sensu lato; Latin) of a plant name, in the broad sense.

s.str.: (sensu stricto; Latin) of a plant name, in the narrow sense.

sagittate: shaped like an arrow-head, with the two lobes at the base acute and retrorse; e.g. of a lamina or sometimes applied to the base of a lamina. Fig. 7 H.

samara: a dry indehiscent fruit with its wall expanded into a wing. Fig. 18 U.

samphire: (in Australia) any plant of the tribe Salicorniae (family Chenopodiaceae), e.g. Sarcocornia, Halosarcia, Sclerostegia, or, a community dominated by one or more of these species.

saprophyte: an organism deriving its nourishment from dead organic matter and usually lacking chlorophyll. cf. parasite.

scabrous: rough to the touch; having the surface rough with minute hard processes or very short rigid hairs. Fig. 14 K.

scalariform: having a ladder-like pattern

scaberulous (scabridulous): slightly or minutely rough to the touch (diminutive of scabrous).

scale: (1) any thin and often scarios body, often a reduced or rudimentary leaf, e.g. covering a dormant bud, Fig. 3 G; (2) a thin flap of tissue, e.g. at the base of stamens; (3) a small papery surface structure on stems and leaves. Fig. 15 H & I.

scandent: climbing, usually applied in cases where special climbing organs are not developed.

scape: the stem-like flowering stalk of a plant with radical leaves.

scarios: dry and more or less membranous.

schizocarp: a dry fruit which splits into individual carpels, each of which is called a mericarp or coccus. Fig. 18 H.

schizocarpic capsule: a schizocarp in which the individual cocci or mericarps dehisce, as in some Rutaceae. Fig. 18 P.

sclerid: a cell with a lignified, thick and pitted wall.

sclerenchyma: mechanical tissue with heavily thickened cell walls.

scleromorph: a plant whose leaves (or stems, if leafless) are hard in texture, usually having thick cuticle and containing many fibres. cf. xeromorph.

scleromorphic: hard and with a large amount of fibrous tissue. cf. mesomorphic.

sclerophyll: a plant with hard, stiff leaves. adj. sclerophyllous.

scribbles: irregular lines on the barks of some eucalypts, being the old tunnels burrowed by moth larvae between the bark layers and exposed when the outer layer sheds.

scrobiculate: with shallow depressions.

scrub: dense vegetation dominated by shrubs.

scurfy: covered with small bran-like membranous scales.

section: a taxonomic grouping, in rank between genus and species.

secund: flowers or other structures arranged on, or turned to one side of an axis, e.g. inflorescence of many *Grevillea* species.

sedge: a plant belonging to the family Cyperaceae.

seed: the reproductive body formed from a fertilized ovule, and comprising an embryo, with or without endosperm or perisperm, and a surrounding protective seed coat or testa.

segment: a free or almost free part or subdivision of an organ. calyx and corolla segments of flowers called sepals and petals respectively; undifferentiated segments in flowers are called tepals.

segregate: distinct, kept apart: applied to taxa of various rank, e.g. segregate families of family Rosaceae s.lat. are Amygdalaceae, Malaceae and Rosaceae s.str.

semi: a prefix: half.

sens. lat.: see s.lat.

sensu: (Latin) in the sense of.

sepal: one of the outer leaf-like structures surrounding the corolla (if present) and fertile organs of the flower, usually green; collectively the calyx.

sepaline: of the sepals, e.g. sepaline calyptra, the calyptra formed from sepals.

sepaloid: resembling a sepal, i.e. not petaloid.

septal: (of nectaries) at the junction of the septa in the ovary.

septate: divided by internal transverse partitions.

septate-nodulose: used of leaves with prominent transverse septa.

septicidal capsule: dehiscing by splits along the sutures between adjacent carpels. Fig. 18 M.

septum: a partition or cross-wall; pl. septa.

seriate: in series, usually in whorls or apparent whorls; usually applied to floral parts.

sericeous (silky): covered with fine soft more or less straight appressed hairs aligned in the same direction, with a lustrous sheen and satin-like to the touch. Fig. 14 C.

serrate: saw-toothed, finely and regularly toothed.

serrulate: finely saw-toothed.

sessile: without a stalk, e.g. of a leaf without a petiole. Fig. 4 D.

seta: a bristle or stiff hair. adj. setaceous.

setaceous: bristly.

setose: bristly.

sheath: a tubular or rolled part of an organ, e.g. the lower part of the leaf in most grasses.

sheathing: clasping or surrounding the stem. Fig. 4 G.

shrub: a much-branched woody plant less than 8 m high and usually with many stems. Tall shrubs are mostly 2–8 m high; small shrubs 1–2 m high; subshrubs less than 1 m high.

sigmoid (sigmoidal): curved in two directions, an S-shaped curve.

siliceous: containing particles of silica.

silicula: a fruit like a silique but less than 3 times as long as broad.

silique: a dry dehiscent fruit derived from a superior ovary of two carpels and with 2 parietal placentas connected by a false septum, usually at least 3 times as long as broad, as in family Brassicaceae. Fig. 18 K.

silky: covered with fine soft more or less straight appressed hairs aligned in the same direction, with a lustrous sheen and satin-like to the touch. Fig. 14 C.

similifacial (isobilateral, isolateral): having structurally similar upper and lower surfaces. cf. dorsiventral.

simple: of a single piece or series; (1) of a leaf, with lamina not divided into leaflets (Fig. 3 H) cf. unifoliolate, compound; (2) of an inflorescence, unbranched with the pedicels arising from the main axis.

sinuate: with a deeply wavy margin. Fig. 8 K. cf. undulate.

sinus: the gap or recess between two lobes or segments.

smooth: of surfaces, without roughness or indumentum.

smut: fungal disease in which black sooty masses of spores cover the affected parts.

solifluction: slow, downward, movement of rock debris or soil saturated with melt-water over frozen subsoil.

solitary: borne singly, not grouped together, e.g. of flowers not grouped into an inflorescence. Fig. 17 L & M.

sorus: a discrete aggregate of sporangia in ferns.

spadix: a spicate inflorescence with a thickened, often succulent axis, the whole often being surrounded by a spathe. Fig. 17 Q.

spathaceous: like a spathe; with a spathe.

spathe: a large bract at the base of a spadix, which it encloses (at least initially) as a sheath.

spatheate: with spathes.

spathella: a closed membranous sac which envelops the immature flower in some family Podostemaceae, rupturing irregularly as the pedicel elongates at anthesis.

spatheole: the ultimate spathe where an inflorescence or portions of an inflorescence are subtended by several spathes.

spathulate: spoon-shaped, e.g. of a leaf. Fig. 5 O.

species: a taxon comprising individuals, or populations of individuals, that show certain common features and are capable of interbreeding to produce fertile offspring. cf. genus.

spicate: in the form of a spike.

spicule: a small slender sharp-pointed process.

spike: a simple inflorescence, terminating in a non-floral bud, in which the flowers are sessile, i.e. a type of indeterminate inflorescence. Fig. 17 I. cf. spike-like, raceme.

spikelet: the small partial inflorescence (unit) in Poaceae, Cyperaceae and Restionaceae, composed of an axis bearing glumes, most of which enclose a small flower. Fig. 17 N.

spike-like: of a simple inflorescence, terminating in a floral bud and having the flowers sessile, i.e. a type of determinate inflorescence. cf. spike, raceme-like.

spine (thorn): a stiff process with a sharp point, formed by a modification of a plant organ that contains vascular tissue, e.g. a lateral branch or a stipule. Fig. 14 P. adj. spinose. cf. prickle.

spinescent: ending in a spine; modified to form a spine.

spinose: bearing spines.

spinule: a small spine.

spinulose: with spinules.

spiral: of leaves or floral organs, borne singly at different levels on the axis, but not in a single vertical line; leaves borne spirally are said to be alternate on the stem. Fig. 2 A. cf. whorled, alternate.

spirodistichous: 2-ranked and arranged spirally up stem.

spongy: having the texture of a sponge, the cells being separated by air spaces and containing air, as in pith or some seed coats.

sporangiate: bearing spores.

sporangiphore: the stalk of a sporangium.

sporangium: a structure in which spores are formed. pl. sporangia.

spore: a unicellular or few-celled asexual or sexual reproductive unit, not containing an embryo. cf. heterosporous, homosporous.

sporocarp: the fruiting body containing sporangia found in water ferns.

sporozeugous: of cells or tissues, in which spores are formed.

sporophyll: a specialized leaf-like organ on which one or more sporangia are borne.

sporophyte: a plant, or phase of a life cycle, that bears the spores formed during the sexual reproductive cycle. cf. gametophyte.

spreading: extending horizontally, e.g. branches; standing out at right angles to axis, e.g. leaves or hairs.

spur: A slender sac-like or hollow protuberance from a part of the calyx or corolla, often secreting nectar. adj. spurred.

squamule: a small scale, often within the sheathing base of a leaf.

squamulose: covered with small scales.

squarrose: usually sharply curved downward or outward in the apical region, e.g. of involucral bracts.

stamen: one of the male organs of the flower, consisting of a pollen-bearing anther and a filament or stalk. adj. staminate. cf. androecium.

staminal: of the stamens, e.g. staminal ring, ring or scar remaining after whorl of stamens have fallen.

staminode: a sterile stamen, often reduced or modified.

staminophore: a band of tissue around the apex of the hypanthium in a eucalypt flower on which the stamens are inserted.

standard: the large upper petal of a pea flower, see Fabaceae subfamily Faboideae.

stellate: star-shaped; e.g. of hairs with radiating branches. Fig. 15 G.

stem: the main axis or a branch of the main axial system of a plant, developed from the plumule of the embryo and typically bearing leaves and generally above the ground.

sterile (barren): (1) without reproductive structures, not producing seed, spores or pollen; (2) of seeds, spores or pollen, not capable of germination. cf. fertile.

stereome: the tissue of a plant that provides mechanical support

stigma: the part of the carpel receptive to pollen, generally terminal on the style. adj. stigmatic.

stilt roots: oblique adventitious roots from the stem, as in some mangroves and palms.

stinging hair: a hollow hair seated on a gland which secretes an irritating fluid, e.g. as in Dendrocnide species.

stipe: (1) a stalk or support, e.g. of a gynoecium or carpel; (2) the petiole of a fern frond. adj. stipitate.

stipel (stipella): a stipule-like organ at the base of a leaflet. pl. stipels, stipellae.

stipitate: stalked; borne on a stipe; of an ovary, borne on a gynophore.

stipule: one or a pair of appendages sometimes developed at the base of a leaf in many dicotyledons; can be leaf-like, scarious or spinose. Fig. 4 I-L.

stolon: a more or less horizontal stem growing above ground and rooting at the nodes. adj. stoloniferous. Fig. 1 M.

stomate (stoma): a pore bounded by two guard cells in the epidermis, especially in leaves, for the exchange of gases between the plant tissues and the surrounding atmosphere. pl. stomates, stomata.

stomium: a region of dehiscence, e.g. of an anther in flowering plants, of a sporangium in ferns.

stone cell: short sclereid cell responsible for the distinctive texture of some tissues, e.g. in the pear fruit.

stramineous: straw-coloured.

striate: striped with parallel longitudinal ridges or lines. Fig. 16 H.

strigose: covered with sharp appressed rigid bristly hairs that are often swollen at the base. Fig. 14 M.

strobilus (cone): fertile stem with short internodes and sporophylls bearing sporangia, for example, as in many species of *Lycopodium*.

striolate: finely striate.

strophiole: see caruncle.

struma: a cushion-like swelling, e.g. at the apex of staminal filaments in *Dianella*.

style: the part of the carpel between the stigma and ovary, often elongated.

stylopodium: a disc-like enlargement of the base of the style.

sub-: a prefix: (1) nearly or almost, as in subequal: (2) below, under.

subsericeous: covered with appressed hairs aligned in the same direction, but lacking a lustrous sheen; like silky but coarser.

subshrub: undershrub; a small and sometimes sparsely branched woody plant less than 1 m high.

subspecies: a taxonomic category below species, differing in minor morphological characters such as size or shape of parts, and either partially or completely isolated, usually by means of geographical or ecological barriers.

subtend: to stand below or close to something, to enclose.

subtending: term describing a leaf or bract whose axil gives rise to a bud (the axillary bud) which may develop into a branch or inflorescence; less commonly (as in *Notelaea* species) more than one bud is subtended in each axil.

subulate: narrow and gradually tapering to a fine apex. Fig. 6 A.

sucker: a vegetative shoot of underground origin. Fig. 1 F.

sulcate: grooved; furrowed.

superficial: on the surface.

superfluous: unnecessary or needless.

superior: inserted above another organ or part; a superior ovary is free from the receptacle, with the perianth and stamens inserted below it or on a perigynous hypanthium. Fig. 12 A & D.

superposed: placed vertically over some other part.

suture: a seam or line as formed at the junction of two margins.

sward: extensive, more or less even cover of a surface, e.g. a lawn grass; cf. tussock.

syconium: a 'fig', the multiple fruit formed in figs (*Ficus* species) by the invagination of the floral axis where the minute flowers and fruits are actually inside the swollen inflorescence stem. Fig. 18 Y. cf. aggregate fruit, syncarp.

symmetric: divisible into two or more equal parts.

sympatric: of two or more taxa, with more or less similar or overlapping ranges of distribution. cf. allopatric.

sympetalous: see gamopetalous.

sympodial: with a growing point which either terminates in an inflorescence or dies each year, the growth being continued by a new lateral branch. cf. monopodial.

sympodium: a stem made up of a series of sympodial branches, so as to imitate a simple axis, as in some species of *Dendrobium*.

syn- (sym-): prefix: with, together.

synandrium: an androecium with the stamens cohering, as in some members of the family *Araceae*. cf. syngenesious.

syngangium: composite sporangium with a number of loculi. pl. syngangia.

syncarp: a multiple fruit consisting of several united fruits, originating from several originally free carpels, usually fleshy. Fig. 18 Z. cf. aggregate fruit, syconium.

syncarpous: a gynoecium consisting of a number of carpels in which at least the ovaries are united; the ovary is then said to be compound. Fig. 12 & Fig. 13 B–F. cf. apocarpous.

syngenesious: of the stamens of one flower fused together by the anthers to form a cylinder around the style, as in *Asteraceae*. cf. synandrium.

synonym: 1 of 2 or more names for the same taxon.

syntype: one of two or more specimens cited by the author at the time of publication of a name for which no holotype was designated.

systematics: the branch of biological science that deals with the giving of names (nomenclature) and classification, the establishing and defining of relationships (taxonomy); often used interchangeably with the term taxonomy.

taproot: the main, descending root of a plant that has a single, dominant root system.

taxon: a term used to describe a member of any taxonomic category, e.g. genus, species. pl. taxa.

taxonomy: the study of the principles and practices of classification, the establishing and defining of relationships; often used interchangeably with systematics, but strictly taxonomy is only part of systematics.

tendrill: a long slender, coiled organ derived from an axis or leaf, or from part of one of these.

tepal: a free segment of a perianth that is not differentiated into a calyx and corolla.

terete: cylindrical and elongated. Fig. 10 H.

terminal: at the apex.

terminal petiolule: the stalk of the terminal leaflet of a pinnately 3-foliolate leaf or an imparipinnate leaf; the stalk is usually jointed at the point where the rachis extension beyond the last leaflet meets the true petiolule of the leaflet. Fig. 3 C & K.

ternate: in threes, e.g. of a single leaf, having the leaflets arranged in groups of three. Fig. 3 K & L. cf. biternate.

terrestrial: of the land as opposed to living in water. cf. aquatic.

tessellated: with colours or shapes arranged in squares to give a chequered appearance, e.g. of bark.

testa: the seed coat.

tetrad: a group of four; as in four pollen grains remaining together at maturity in Ericaceae subfamily Styphelioideae.

tetradynamous: of an androecium, consisting of four stamens of the same length and two of a different length; as in many Brassicaceae.

tetramerous: of a flower, having four segments in each perianth whorl, and usually in each whorl of stamens also.

tetrasporangiate (4-sporangiate): of an anther in which there are 4 pollen sacs (sites of pollen grain formation or microsporangia). cf. unisporangiate.

thallus: the vegetative body of a plant that is not differentiated into organs such as stems and leaves, e.g. algae, the gametophytes of many liverworts, and family Lemnaceae.

thorn (spine): a stiff process with a sharp point, formed by a modification of a plant organ that contains vascular tissue, e.g. a lateral branch or a stipule. cf. prickle.

throat: of a corolla tube or hypanthium, the top where the tube joins the lobes.

thyrses: a compound inflorescence ending in a vegetative (non-floral) bud and with mixed types of branching, the main axis bearing several or many lateral cymes. Fig. 17 C.

thyrsoid: a compound inflorescence which ends in a flower and in which the main axis is raceme-like and the lateral ones cymose, i.e. similar to a thyrse except for the terminal flower. Fig. 17 B.

tiller: the shoot of a grass, usually lateral and basal and more or less erect.

tomentellous: minutely tomentose.

tomentose: covered with dense intertwined hairs. Fig. 14 E. n. tomentum. cf. woolly.

tomentum: a dense covering of intertwined hairs. Fig. 14 E. adj. tomentose.

toothed: of margins, regularly or irregularly incised. Fig. 8 C.

torus: see receptacle.

trabeculate: cross-barred.

tree: a woody plant usually with a single distinct trunk and generally more than 5 m high.

tri-: a prefix: in threes, as in: trifoliolate, having three leaflets; trimerous, with flower parts arranged in threes.

triad: a three-flowered inflorescence of dichasial form. Fig. 17 F.

triangular: a 2-dimensional shape, 3-angled and 3-sided. Fig. 5 K.

tribe: a taxonomic grouping, in rank between family and genus.

trichome: a hair, bristle, scale or other such outgrowth of the epidermis. Fig. 14 & Fig. 15.

trichotomous: branching almost equally into three parts.

trifid: deeply divided into three parts.

trifoliolate: having three leaves. cf. trifoliolate.

trifoliolate: of a leaf, having three leaflets. Fig. 3 K & L. See also palmately trifoliolate, pinnately trifoliolate.

trigonus: triangular in cross-section and with the angles somewhat rounded. Fig. 10 F. cf. triquetrous.

trimerous: of a flower, having three segments in each perianth whorl and usually in each whorl of stamens also.

trimorphic: occurring in three different forms. cf. dimorphic.

tripinnate (3-pinnate): of a compound leaf, with lamina pinnately divided three times, i.e. the pinnules are again pinnately divided. Fig. 3 A. cf. bipinnate.

triplicate: folded three times.

triquetrous: triangular in cross-section and sharply angled; with three distinct longitudinal ridges. Fig. 10 G. cf. trigonus.

tristylous: heterostylous species with styles of 3 different lengths (short, mid, long).

trullate: ovate, but angled; like a brick-layer's trowel; inverse kiteshaped.

truncate: with an abruptly transverse edge as if cut off, e.g. of a lamina apex (Fig. 6 F), or base (Fig. 7 D).

tuber: an underground storage organ formed by the swelling of a stem, e.g. a potato. adj. tuberous.

tubercle: a small wart-like outgrowth, e.g. forming the base of a hair.

tuberculate (warty): having the surface rough with tubercles or small wart-like outgrowths. Fig. 16 C.

tuberoid: a storage organ which is a tuber-like thickening of a root (and generally bears no lateral eyes) as in many terrestrial orchids.

tuberous: swollen; of roots tuber-like.

tumid: swollen; inflated.

tunicate: with coats or tunics; as in bulbs or corms covered with a thin membranous or fibrous outer layers.

turbinate: top-shaped.

turgid: swollen owing to high water content.

turion: a specialized dwarf shoot with modified leaves, and formed by some species in winter. Turions mostly fall from the parent plant, remain dormant over winter, and then sprout to form new individuals.

tussock: a large clump or tuft, usually of a perennial herb, especially grasses.

two-ranked (2-ranked): arranged in two rows on opposite sides of a stem and in the same plane. Fig. 2 B.

type: the designated representative of a taxon constituting a fixed point for the application of its name, for determining priority of usage.

umbel: an inflorescence (strictly an indeterminate one) in which all the flowers or flower-stalks arise from one point at the top of the peduncle. Fig. 17 J. adj. umbellate. cf. umbelliform.

umbellaster: a group of flowers (with the terminal bud ending in a flower) more or less arising from the one point, which may be derived from the condensation of a cyme, thyrsoid or panicle.

umbelliform (umbelloid): having the form of an umbel.

umbo: a conical projection arising from the surface. adj. umbonate.

unarmed: without spines or prickles.

uncinate: terminating in a hooked point.

undershrub: a small shrub, often partially herbaceous.

undulate: wavy, i.e. not flat. Fig. 8 J. cf. sinuate.

uni-: prefix: one: as in unisexual, of flowers with one sex.

uniflorescence: a unit inflorescence forming part of a conflorescence.

unifoliolate leaf (1-foliolate): a compound leaf reduced to a single leaflet, usually recognized by the articulated or jointed 'petiole', which is in fact a petiole plus a petiolule. Fig. 3 K.

unigeneric: of a family, having only one genus. cf. monotypic.

unilateral: of stamens, with anthers grouped to one side of the style.

unilocular: of an ovary, anther or fruit, having only one internal cavity.

unisexual: bearing only male or female reproductive organs, not both. cf. dioecious, monoecious.

unisporangiate (1-sporangiate): of an anther with only 1 pollen sac (area of pollen grain formation, microsporangium). cf. tetrasporangiate.

united: fused together.

unitubulose: organs with complete transverse septa and no obvious longitudinal septa (seen by splitting the organ). cf. pluritubulose.

urceolate: urn-shaped.

utricle: a small bladder; a membranous bladder-like sac enclosing an ovary or fruit.

valvate: (1) opening by valves, e.g. loculicidal and septicidal capsules (Fig. 18 L & M), or of anther dehiscence (Fig. 20 D); (2) of floral parts, with the edges touching but not overlapping, Fig. 11 G. cf. imbricate.

valve: a lid or segment of an anther or capsule which opens or separates at dehiscence.

variety: a taxonomic category below that of species (and subspecies if both used); differentiates variable populations.

vascular plants: plants containing vascular tissue; the more highly evolved plants above mosses and liverworts.

vascular tissue: tissue specialized for the conduction of fluids.

vector: a carrier or transferring agent, e.g. transfer of pollen to the stigma by wind or insect etc.

vein: a strand of vascular tissue; the primary vein or midvein gives rise to secondary or lateral veins and in turn tertiary veins. See venation.

veinlet: a small vein; the ultimate (visible) division of a vein.

velamen: a water-retaining outer layer of aerial roots of some epiphytes, especially orchids.

velum: a membranous covering; a veil.

velvety: very densely covered with fine short soft erect hairs. Fig. 14 A.

venation: the arrangement of veins in a leaf. Fig. 9.

ventral (adaxial): towards the axis or stem. cf. dorsal.

vernation: the arrangement of the unexpanded leaves in a bud. Fig. 11. cf. aestivation.

verrucose: warty.

verruculose: finely warty.

versatile: of an anther, attached near its midpoint to a filament so that the anther swings freely. Fig. 20 A. cf. basifixed, dorsifixed.

verticillate: in a whorl.

vesicle: a bladder-like sac or cavity filled with gas or liquid. e.g. of hairs that are inflated and bladder-like; vesicular hairs often collapse and form a silvery layer on the surface of the organ on which they are formed. Fig. 15 D. adj. vesicular.

vessel: a capillary tube formed from a series of open-ended cells in the water-conducting tissue of a plant.

vestigial: reduced from the ancestral condition and no longer functional. cf. rudimentary, obsolete.

vicariant: of species, one of a closely related group with a replacement pattern in different areas of distribution; e.g. see *Casuarina obesa* and *C. glauca*.

villous: covered with long shaggy hairs, not matted. Fig. 14 G.

virgate: with many long slender ascending almost parallel branches. Fig. 1 C.

viscid: sticky.

viscidium: of orchids, a viscid (sticky) part of the rostellum which is clearly defined and removed with the pollinia to an insect or other pollination vector.

viscous: of a liquid, not pouring freely; having the consistency of syrup or honey.

viviparous: of seed, germinating while the fruit is still attached to the plant, as in Rhizophoraceae. cf. proliferous.

voucher: a specimen preserved (with documentation) to substantiate recorded observations, and to which reference can be made in the future to verify the identity of the plant.

wallum: sandy coastal sites with impeded drainage, usually supporting heath, scrubby communities or swamps.

warty (tuberculate): covered with wart-like protuberances. Fig. 16 C.

weed: a plant growing out of place or where it is not wanted; often characterized by high seed production and their ability to colonise disturbed ground quickly.

wet sclerophyll forest: an open forest in which mesomorphic (soft-leaved) shrubs form a layer below the trees (usually species of eucalypts). cf. dry sclerophyll forest.

whorl: a ring of leaves, bracts or floral parts borne at the same level on a stem or axis. Fig. 2 F. See also verticillate, pseudowhorled.

wing: (1) a membranous expansion of a fruit or seed which aids dispersal; (2) a thin flange of tissue on a stem or petiole; (3) a lateral petal in the family Fabaceae subfamily Faboideae.

woodland: a plant community dominated by short-boled trees (usually species of eucalypts) that are separated from each other and with grasses and other herbs forming a more or less continuous ground cover between them.

woolly: densely covered with matted long hairs. Fig. 14 F. cf. tomentose, villous.

wrinkled: covered with coarse lines or furrows. Fig. 16 G.

xeromorph: a plant having structural features usually associated with plants of arid habitats (such as hard or succulent leaves) but not necessarily drought-tolerant. cf. scleromorph, xerophyte.

xerophyte: a drought-tolerant plant.

xylem: the tissue, in a vascular plant, that conducts water and mineral salts from the roots to the leaves. cf. phloem.

zygomorphic: of a flower with the parts such as sepals and petals differing in shape, size, position and/or number so that the flower can be bisected in one plane only; bilaterally symmetrical. cf. actinomorphic.

