

PARMELIA

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Parmelia Ach., *Methodus* 153 (1803), *nom. cons.*; from the Greek *parma* (a shield), referring to the apothecia, and *eileo* (enclosed or wrapped around), referring to the thalline exciple of the apothecia.

Type: *P. saxatilis* (L.) Ach.

Thallus foliose, distinctly dorsiventral, loosely to tightly adnate, to 2–60 cm wide. Lobes sublinear to subirregular, 1–25 mm wide; margins entire to variously incised, eciliate; apices rarely subascending. Upper surface grey to grey-green or brownish grey (atranorin and chloroatranorin), smooth to foveolate, often with reticulate or simple maculae, with or without soredia, isidia or dactyls; pseudocyphellae effigurate or linear; upper cortex prosoplectenchymatous, with a non-pored epicortex. Cell walls containing isolichenan. Medulla white. Lower surface black, uniformly rhizinate to margins; rhizines simple, furcate, squarrosely branched or, rarely, dichotomously branched, black. Ascomata apothecial, laminal, sessile to pedicellate, 1–20 mm wide; disc rarely perforate, often radially split with age, pale brown to dark brown; thalline exciple with or without isidia, maculae or pseudocyphellae. Ascospores ellipsoidal, 8 per ascus, 10–15 × 6–10 µm. Conidiomata pycnidial, immersed, laminal or rarely marginal, punctiform. Conidia cylindrical or bacilliform to bifusiform, 5–8 × 1 µm.

Revisions of the family Parmeliaceae have considerably reduced the number of taxa included in *Parmelia s. str.*, which now includes only species formerly placed in *Parmelia* subsect. *Parmelia* and *Parmelia* subsect. *Simplices* [M.E.Hale & S.Kurokawa, *Contr. U.S. Natl Herb.* 36: 121–191 (1964)]. Species are characterised by marginal or laminal pseudocyphellae arranged in patterns, often along ridges on the upper surface, or scattered and often most noticeable at the thallus margins. Thirteen species are known from Australia and are found on bark, soil or rock.

D.J.Galloway & J.A.Elix, The lichen genera *Parmelia* Ach. and *Punctelia* Krog in Australasia, *New Zealand J. Bot.* 21: 397–420 (1983); D.J.Galloway & J.A.Elix, Additional notes on *Parmelia* and *Punctelia* (lichenised Ascomycotina) in Australasia, *New Zealand J. Bot.* 22: 441–445 (1984); M.E.Hale, A monograph of the lichen genus *Parmelia* Acharius *sensu stricto* (Ascomycotina: Parmeliaceae), *Smithsonian Contr. Bot.* 66: 1–55 (1987); J.A.Elix & J.Johnston, New species in the lichen family Parmeliaceae (Ascomycotina) from the Southern Hemisphere, *Mycotaxon* 31: 491–510 (1988); J.A.Elix, New species in the lichen family Parmeliaceae (Ascomycotina) from Australia, *Mycotaxon* 47: 101–129 (1993).

1	Thallus sorediate and/or isidiate.....	2
1:	Thallus lacking soredia and isidia.....	7
2	Thallus isidiate, without soredia (1).....	3
2:	Thallus sorediate.....	4
3	Isidia thin (less than 0.05 mm wide), syncorticate (2).....	7. P. pseudotenuirima
3:	Isidia wide (0.2–0.3 mm wide), epicorticate.....	1. P. crowii
4	Soralia mainly marginal (2:).....	5
4:	Soralia mainly laminal.....	6
5	Lobes narrow (2–3 mm wide); medulla K+ pale yellow-brown; protocetraric acid present (4).....	6. P. protosulcata
5:	Lobes broad (3–7 mm wide); medulla K+ yellow then dark red; salazinic acid present.....	2. P. cunninghamii
6	Soredia derived from elongated, ridged pseudocyphellae (4:).....	11. P. sulcata
6:	Soredia derived from cracks or erumpent dactyls.....	3. P. erumpens

7	Thallus thick (180–250 µm); on rock and soil (1:)	8
7:	Thallus thin (130–200 µm); on bark	9
8	Medulla K+ yellow then red; salazinic acid present (7)	10. P. signifera
8:	Medulla K+ pale yellow-brown; protocetraric acid present	5. P. protosignifera
9	Pseudocyphellae mainly marginal (7:)	10
9:	Pseudocyphellae mainly laminal	12
10	Lobes short, mostly subirregular, irregularly branched; rhizines not projecting beyond lobe margins (9)	13. P. testacea
10:	Lobes sublinear to subirregular, sparingly dichotomously branched; rhizines usually projecting beyond lobe margins	11
11	Medulla K+ yellow then red; salazinic acid present (10:)	9. P. salcrambidiocarpa
11:	Medulla K+ yellow; echinocarpic acid present	4. P. norcrambidiocarpa
12	Lobes 2–5 mm wide; pseudocyphellae fusing (9:)	8. P. queenslandensis
12:	Lobes 4–25 mm wide; pseudocyphellae separate	12. P. tenuirima