

## LITHOTHELIUM

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*Lithothelium* Müll.Arg., *Bot. Jahrb. Syst.* 6: 386 (1885); from the Greek *lithos* (rock) and *thele* (a nipple), in reference to the habitat of the type species and the shape of the ascomata.

Type: *L. cubanum* Müll.Arg.

*Pleurotrema* Müll.Arg., *Bot. Jahrb. Syst.* 6: 388 (1885). T: *P. polysemum* (Nyl.) Müll.Arg. [= *L. polysemum* (Nyl.) Aptroot]

*Plagiocarpa* R.C.Harris, *Michigan Bot.* 12: 34 (1973). T: *P. septemseptata* R.C.Harris [= *L. septemseptatum* (R.C.Harris) Aptroot]

Thallus lichenised, continuous, corticate or not, lacking pseudocyphellae and a hypothallus. Ascomata perithecioid, black, solitary or with fused ostioles and/or walls. Ascomatal wall completely carbonised, without a clypeus, lacking crystals, comparatively thin (to 100 µm thick). Hamathecium not interspersed with oil droplets, IKI+ blue, or IKI+ blue above and orange below, or IKI-. Asci with or without a rounded or sagittiform (annular) ocular chamber. Ascospores 4–8 per ascus, with 3 or more distosepta, colourless or red-brown; endospore formation not angular, without a trace of eusepta. Conidiomata common, pycnidial. Microconidia curved-filiform.

Chemistry: No substances detected.

This genus of c. 25 species is known from most regions of the world. Several species are pantropical, and a few appear to be restricted to temperate Europe or North America. Most are epiphytes, but others grow on limestone, lava or basalt. Four species are known from mainland Australia, and two taxa are endemic to Christmas Island and Lord Howe Island (McCarthy, 1996, 2001).

A. Aptroot, A monograph of the Pyrenulaceae (excluding *Anthracothecium* and *Pyrenula*) and the Requiellaceae, with notes on the Pleomassariaceae, the Trypetheliaceae and *Mycomicrothelia* (lichenised and non-lichenised ascomycetes), *Biblioth. Lichenol.* 44: 1–178 (1991); P.M. McCarthy, *Lithothelium austropacificum* sp. nov. (Pyrenulaceae) from Lord Howe Island, Australia, *Lichenologist* 28: 290–294 (1996); P.M. McCarthy, The genus *Lithothelium* (Pyrenulaceae) in Christmas Island, Indian Ocean, *Australas. Lichenol.* 49: 7–9 (2001); A. Aptroot, Three new species of *Lithothelium* (Pyrenulaceae) from China and Thailand, with a revised world key and annotated list of species, *Lichenologist* 38: 541–548 (2006).

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|----|---|-----------------------------|
| 1  | Ascospores remaining colourless .....                               | 4. <b>L. obtectum</b>       |
| 1  | Ascospores becoming red-brown .....                                 | 2                           |
| 2  | Ascospores 3-septate (1:):.....                                     | 1. <b>L. decumbens</b>      |
| 2: | Ascospores submuriform.....   | 3                           |
| 3  | Ascomata mostly grouped, with shared lateral ostioles (2:):.....    | 3. <b>L. nanosporum</b>     |
| 3: | Ascomata mostly laterally fused, with separate apical ostioles..... | 2. <b>L. hieroglyphicum</b> |