

MELANOTREMA

Armin Mangold, John A. Elix & H. Thorsten Lumbsch

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Melanotrema Frisch, in A.Frisch, K.Kalb & M.Grube, *Biblioth. Lichenol.* 92: 382 (2006); from the Greek *melanos* (black) and *trema* (a hole), in reference to the carbonisation of the ascomata.

Type: *M. platystomum* (Mont.) Frisch

Thallus endophloeodal to epiphloeodal, usually pale, with shades of grey or with greenish, tan, whitish or olive-brown tones. Cortical structures usually lacking, rarely with a discontinuous protocortex. Photobiont trentepohlioid. Prothallus thin to indistinct, brown. Ascomata ±rounded, apothecioid to perithecioid. Proper exciple fused or free, non-amyloid or amyloid at the base. Hymenium non-amyloid; paraphyses slightly thickened, straight, unbranched, the tips not thickened or thickened; lateral paraphyses absent; columella entire to complex, black, sometimes with a whitish tip. Epihymenium hyaline, rarely pale yellowish. Asci 8-spored, clavate, non-amyloid. Ascospores 1–2-seriate, transversely septate to muriform, hyaline or brown, amyloid; ascospore wall thin to thick. Condiomata present or absent, containing bacilliform conidia.

Chemistry: Lichexanthone, β-orcinol depsidones, or secondary metabolites lacking.

Melanotrema was described to accommodate a group of species with a broad, stump-shaped to reticulate columella and a dark-pigmented proper exciple (Frisch *et al.*, 2006). It is similar to *Redingeria* Frisch in that the species have a proper exciple that lacks lateral paraphyses and calcium oxalate crystals in the upper portions, but all have a columella, lichexanthone, and a similar ascus type. The two genera differ in ascospore structure, and the columella and exciple of *Melanotrema* are usually more noticeably carbonised. The genus lacks distinctive autapomorphies, and further data are required to evaluate the relationships to other genera, including *Ocellularia s. lat.*

Melanotrema occurs on bark in tropical and subtropical rainforest, rarely in mangroves and wet-sclerophyll forest. Currently, the genus includes eight species, three of which are known from tropical, subtropical and warm-temperate eastern Australia (one endemic).

A.Frisch, K.Kalb & M.Grube (eds), Contributions towards a new systematics of the lichen family Thelotremataceae, *Biblioth. Lichenol.* 92: 1–556 (2006).

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| 1 | Ascospores 20–40 µm long; thallus containing the psoromic acid chemosyndrome | 2. M. endomelaenum |
| 1: | Ascospores 12–25 µm long; secondary compounds absent | 2 |
| 2 | Ascospores brown (<i>I:</i>) | 1. M. columellatum |
| 2: | Ascospores hyaline | 3. M. platystomum |