

TRICOTHELIUM

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Trichothelium Müll.Arg., *Bot. Jahrb. Syst.* 6: 418 (1885), from the Greek *trichos* (a hair) and *thelion*, diminutive of *thele* (a teat or nipple), in reference to the setose perithecia which characterise the genus.

Type: *T. epiphyllum* Müll.Arg.

Thallus foliicolous, rarely corticolous or saxicolous (not in Australia). Algae *Phycopeltis*. Perithecia superficial on the thallus, not immersed in thallus-dominated verrucae. Involucrellum well-developed, usually contiguous with the exciple and extending to exciple base level, dark brown, green-black, purple-black or jet-black, rarely yellowish white (not in Australia) with one or more whorls of lax or stiff subapical setae composed of agglutinated hyphae; setae uniformly hyaline, whitish or black, or predominantly whitish but with a black base, or with a black basal half and a whitish apical half, or black apart from whitish tips. Ascospores 3–7-septate, or up to 21-septate or submuriform to muriform (not in Australia).

Trichothelium s. str. comprises c. 29 predominantly or exclusively foliicolous taxa. Most are found only in tropical or subtropical rainforest, although a few occur in southern-temperate regions. Diversity is greatest in the Neotropics, but this at least partly reflects recent intensive field studies, especially in Costa Rica (Lücking, 1998). Comparatively few species are known in the eastern Palaeotropics. However, of the five species in Australia three are mainly Palaeotropical/Pacific, one is pantropical, and one is a Tasmanian endemic.

Species of *Trichothelium* are easily overlooked in the field, and unlike those of *Porina*, colonies are often inconspicuous, being \pm concolorous with the leaf surface. Similarly, perithecia are quite small (mostly 0.1–2 mm diam.) and unremarkable until viewed under a hand lens or dissecting microscope.

Development of the diagnostic perithecial setae is often not uniform within a thallus or colony or in a population at a particular site. Thus in some Australian collections, the setae of a significant minority of perithecia are stunted and tuberculate or, indeed, completely absent.

R.Santesson, Foliicolous lichens I. A revision of the taxonomy of the obligately foliicolous, lichenized fungi, *Symb. Bot. Upsal.* 12(1): 1–590 (1952); R.Lücking, Foliicolous lichens — a contribution to the knowledge of the lichen flora of Costa Rica, Central America, *Beih. Nova Hedwigia* 104: 1–179 (1992); W.M.Malcolm & A.Vězda, New foliicolous lichens from New Zealand 1, *Folia Geobot. Phytotax.* 30: 91–96 (1995); R.Lücking, Additions and corrections to the knowledge of the foliicolous lichen flora of Costa Rica: The genus *Trichothelium* (lichenized Ascomycetes: Trichotheliaceae), *Nova Hedwigia* 66: 375–417 (1998); P.M.McCarthy & G.Kantvilas, *Trichothelium meridionale* (Trichotheliaceae), a new foliicolous lichen from Tasmania, *Australas. Lichenol.* 47: 5–7 (2000).

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| 1 | Ascospores 3-septate..... | 2 |
| 1: | Ascospores 7–9 (–11)-septate | 3 |
| 2 | Perithecia 0.08–0.16 (–0.2) mm diam.; setae usually soft, decurved and \pm uniformly whitish(<i>I</i>)..... | 5. T. nanum |
| 2: | Perithecia 0.14–0.25 (–0.3) mm diam.; setae usually stiff, horizontal or oblique and black with whitish tips | 3. T. javanicum |
| 3 | Ascospores (7–) 9 (–11)-septate; setae narrowly to broadly acute, 10–30 per perithecium, contiguous or fusing laterally to form a subapical plate(<i>I</i> :)..... | 1. T. ake-assii |
| 3: | Ascospores 7-septate; setae narrowly acute or bristle-like, usually 4–10 per perithecium, remaining discrete | 4 |

- 4 Setae whitish; ascospores $25-35 \times 4-6 \mu\text{m}$ (3:). **2. T. alboatrum**
- 4: Setae black; ascospores $28-48 \times 3-5.5 \mu\text{m}$ **4. T. meridionale**