



## AUSTROMELANELIXIA <sup>1</sup>

Gintaras Kantvilas <sup>2</sup>

*Austromelanelixia* Divakar, Crespo & Lumbsch, *Fungal Diversity* 84: 110 (2017).

Type: *A. piliferella* (Essl.) Divakar, Crespo & Lumbsch

Thallus foliose, with lobes flattened, dorsiventral, plane to concave; upper surface a shade of olive to dark chestnut-brown, N± reddish brown, maculate, corticate, with a pored epicortex, sometimes with cortical hairs, lacking cilia and pseudocyphellae; lower surface brown to black, with simple rhizines. Photobiont trebouxiooid. Ascomata apothecia, lecanorine, laminal; disc plane to concave, pale to dark brown; proper exciple cupulate. Asci 8-spored, of the *Lecanora*-type: clavate, with a well-developed, amyloid tholus, pierced entirely by a narrow, non-amyloid *masse axiale* with parallel flanks; ocular chamber not developed. Paraphyses rather stout, straight, sparsely branched; apices slightly swollen. Ascospores simple, hyaline, ellipsoid to ovoid. Conidiomata pycnidia, immersed, laminal; conidia bifusiform. Chemistry: depsides (gyrophoric acid and related compounds).

*Austromelanelixia* is a genus of the “brown Parmeliae” consisting of five, exclusively Southern Hemisphere species. It was segregated from the related Northern Hemisphere genus *Melanelixia* chiefly on the basis of molecular data (Divakar *et al.* 2017). In Tasmania, species of *Austromelanelixia* are most likely to be confused with brown species of *Xanthoparmelia* (formerly classified in *Neofuscelia*). These differ chiefly by their N+ bluish green cortical reaction, although there are additional anatomical and chemical characters, mainly pertaining to the upper cortex, which further distinguish these genera.

Key references: Elix (1994); Kantvilas *et al.* (2002); Divakar *et al.* (2017).

1 Thallus with marginal and laminal soredia; a common epiphyte in wet forest, especially on canopy twigs in rainforest at high elevations

2 *A. subglabra*

Thallus with terete isidia and scattered, minute, cortical hairs; rare on rocks in dry areas

1 *A. piliferella*

### 1 *Austromelanelixia piliferella* (Essl.) Divakar, Crespo & Lumbsch

*Fungal Diversity* 84: 111 (2017); —*Parmelia piliferella* Essl., *J. Hattori Bot. Lab.* 42: 83 (1977); *Melanelia piliferella* (Essl.) Essl., *Mycotaxon* 7: 48 (1978); *Melanelixia piliferella* (Essl.) Crespo, Divakar & Elix, *Taxon* 59: 1750 (2010).

Thallus tightly adnate, glossy chestnut-brown, to c. 3 cm wide; lobes plane, to 2 mm wide, discrete and rounded at the apices, crowded and imbricate in the thallus centre, sometimes minutely lobulate at the margins, isidiate; isidia cylindrical, simple or branched, to c. 0.5 tall and c. 0.05 mm wide, very abundant and forming a subcrustose mass in the centre of the thallus; cortical hairs present, minute, hyaline, 20–30 µm long, scattered on the upper surface and at the tips of the isidia. Apothecia and pycnidia unknown.

Chemistry: gyrophoric and 5-O-methylhiascic acids; medulla K–, KC+ red; C+ red, P–, UV–.

Very rare in Tasmania, known from a single collection from dry sandstone bluffs in the Southern Midlands, and consequently listed as “vulnerable” under the *Tasmanian Threatened Species Protection Act 1995*. Extensive investigations of this type of habitat over many decades have not revealed any further localities.

1 This work can be cited as: Kantvilas G (2023). *Austromelanelixia*, version 2023:1. In MF de Salas (Ed.) *Flora of Tasmania Online*. 2 pp. (Tasmanian Herbarium, Tasmanian Museum and Art Gallery: Hobart). <https://flora.tmag.tas.gov.au/lichen-genera/austromelanelixia/>

2 Tasmanian Herbarium, Tasmanian Museum & Art Gallery, PO Box 5058, UTAS LPO, Sandy Bay, TAS 7005, Australia.

On the south-eastern Australian mainland, this species occurs on bark. It could easily be mistaken for any one of several, olive-brown, isidiate species of *Xanthoparmelia*, from which it is most easily distinguished by chemical characters (cortex N–; medulla C+ red).

Hunting Grounds, c. 4.5 km W of Dysart, 42°34'S 147°10'E, 1981, G. Kantvilas 480/81 & P.W. James (BM, HO).

## 2 *Austromelanelixia subglabra* (Räs.) Divakar, Crespo & Lumbsch

*Fungal Diversity* 84: 111 (2017); —*Parmelia subaurifera* var. *subglabra* Räs., *Ann. Bot. Soc. Zool.-Bot. Fenn. Vanamo* 2: 19 (1932); *Parmelia subglabra* (Räs.) Essl., *Bryologist* 76: 307 (1973), *Melanelia subglabra* (Räs.) Essl., *Mycotaxon* 7: 48 (1978); *Melanelixia subglabra* (Räs.) Crespo, Divakar & Elix, *Taxon* 59: 1750 (2010).

Thallus loosely adnate, glossy olive-grey to pale olive-brown, to c. 6 cm wide; lobes undulate to concave, with the margins upturned, to 5 mm wide, discrete and rounded at the apices, crowded and imbricate in the thallus centre, lacking cortical hairs, sorediate; soredia coarsely granular, sometimes becoming corticate and pseudoisidiate, white to pale greyish or ± concolorous with the upper surface, mainly marginal, occasionally also laminal, initially punctiform but often spreading and coalescing along the lobe margins. Apothecia unknown in Tasmania; ascospores reported as 14–18 × 8–10 µm (Elix 1994). Pycnidia unknown.

Chemistry: gyrophoric and 5-O-methylhiascic acids; medulla K–, KC+ red; C+ red, P–, UV–.

Widespread in high rainfall areas, especially at higher elevations, on smooth bark, such as the canopy limbs of rainforest trees and undershrubs. This species is also known from Victoria and southern South America.

N of Pine Lake, 41°43'S 146°43'E, 1973, G.C. Bratt 73/1092 (HO); Russells Road, Mt Maurice, 760 m, 1981, G. Kantvilas 71/81 (HO); Little Fisher River, 41°45'S 146°20'E, 820 m, 1982, G. Kantvilas 304/82 (HO).

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