

# Lithothelium kiritea

## FAMILY

Pyrenulaceae

## AUTHORITY

Lithothelium kiritea A.J. Marshall, Aptroot, de Lange & Blanchon

## FLORA CATEGORY

Lichen – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Lichens - Crustose

## INTERIM CONSERVATION STATUS

2024 | Not Threatened | Qualifiers: DPS, DPT | Interim | Marshall et al (2024)

## BRIEF DESCRIPTION

White crustose lichen covering the trunks of exposed cabbage tree (*Cordyline australis*) growing in coastal and lowland sites. Thallus white, with numerous large, prominent, black fruitingf bodies.

## DISTRIBUTION

Endemic: New Zealand - North Island (Auckland, Northland, Te Aupouri, Te Paki), also Tairāwhiti (near Gisborne); South Island, North Westland; Chatham Islands, Rēkohu / Wharekauri / Chatham Island.

## HABITAT

So far *Lithothelium kiritea* has only been recorded from the bark of *Cordyline australis* trees growing in open / exposed conditions (Marshall et al. 2024). The species seems to be a mainly lowland, narrowly coastal species which rarely extending inland for more than a few kilometres. It has an altitudinal range of 1-270 m a.s.l.



*Lithothelium kiritea* on the trunks of *Cordyline australis*, near Nile River, North Westland.  
Photographer: Peter J. de Lange, Date taken: 06/01/2024, Licence: CC BY.

## DETAILED DESCRIPTION

Corticolous on *Cordyline australis*. **Thallus** white to pale buff, appearing whiter with age, darker when fresh and often appearing darker around perithecia, without marginal prothallus. Angular crystals present throughout, fleck-like, 60–150 × 30–60 µm. **Photobiont** — green (genus not evident, probably *Trentepohlia*). **Perithecia** — simple, without pseudostromatic tissues. Conical to globose, usually erumpent from substratum but very occasionally partially covered, 0.8–1.0 mm diam., 0.5–0.8 mm tall, usually 0.15–0.30 mm emergent from thallus. Ascocarp wall completely carbonised, without distinct clypeus, 35–50 µm thick. Ostiole black, rimmed, rim paler than ascocarp, 150–350 µm diameter, usually apical but occasionally skewed. **Hamathecium** — interspersed with oil droplets, IKI–, paraphyses simple, not branched at tips, approx. 1 µm thick. **Asci** — fissitunicate with rounded ocular chamber, tending to slightly sagittiform at maturity, 160–225 × 20–25 µm. **Ascospores** — 4–8/ascus, uniseriate, colourless at first but becoming red-brown with age. Lumina tending towards angular with rounded corners, 3-septate, central two lumina larger than the terminal lumina, 32–40 × 12–15 µm. Spore wall smooth, without granules. **Pycnidia** — not always present, 240–450 µm diameter, black, wall completely carbonised; spermatia acrogenous, filiform, colourless, curved 15–20 × 0.25–0.50 µm.

**Chemistry.** UV negative, no substances detected with TLC.

## SIMILAR TAXA

*Lithothelium australe* is a basicolous, saxicolous (rather than corticolous) species of limestone rocks that is so far believed endemic to the Chatham Islands. This species has grey to dark grey green-tinged rather than a white to pale buff thallus typical of *Lithothelium kiritea* when fresh, and *L. australe* has ascospores measuring 20–26 × 6–8 µm rather than 32–40 × 12–15 µm.

## THREATS

*Lithothelium kiritea* is usually an abundant, at times locally dominant lichen of the trunks of *Cordyline australis* in coastal locations. Currently it is known from a small of New Zealand though abundant in that area (Marshall et al. 2024). It should be looked for elsewhere as this species is more likely overlooked than truly absent, though indications are that it is a 'recent' arrival from overseas, probably Australia - and it should be looked for over there as well (Marshall et al. 2024). Currently the species has a provisional assessment of 'Not Threatened' (Marshall et al. 2024).

## ETYMOLOGY

**kiritea:** From te reo Māori [Māori language] meaning 'white skinned' in reference to the white covering the species applies to the bark of its host phorophyte.

## ATTRIBUTION

Fact sheet prepared by Peter J. de Lange (19 June 2024) based on Marshall et al. (2024)

## REFERENCES AND FURTHER READING

Marshall A.J., Aptroot A., Blanchon D.J., James C.J., de Lange P.J. 2024. New Zealand Lithothelium (Pyrenulaceae) — description of a new species *Lithothelium kiritea* sp. nov., with notes on *L. australe*. Ukrainian Botanical Journal 81(2): 145–154. <https://doi.org/10.15407/ukrbotj81.02.145>

## NZPCN FACT SHEET CITATION

Please cite as: de Lange, P.J. (Year at time of access): *Lithothelium kiritea* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. <https://www.nzpcn.org.nz/flora/species/lithothelium-kiritea/> (Date website was queried)

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/lithothelium-kiritea/>