

# Pannaria crispella

## SYNONYMS

*Lecanora pholidotoides* f. *crispella*, *Psoroma sphinctrinum* var. *crispellum*

## FAMILY

Pannariaceae

## AUTHORITY

(Nyl.) Elvebakk, comb. nov

## FLORA CATEGORY

Lichen – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Lichens - Crustose

## CURRENT CONSERVATION STATUS

Not Evaluated

## BRIEF DESCRIPTION

*Pannaria crispella* is a distinctive species, with a very thin (< 0.1 mm), filmy thallus, and strange labyrinth-like apothecia. The cephalodia have radiating, placodioid lobules, and perispores are long apiculate with otherwise smooth walls.

## DISTRIBUTION

**North Island:** National Park, Hawke's Bay, Taranaki. **South Island:** Canterbury (Arthur's Pass).

It is thought that *Pannaria crispella* will probably turn out to be a widespread forest species across much of New Zealand.

## HABITAT

Common corticolous lichen in beech forest, also present on podocarps and recorded spreading over moss.



Corticolous on black beech, Waitonga Falls Raupehu. Photographer: Marley Ford, Date taken: 30/01/2022, Licence: CC BY-NC.



Corticolous on black beech, Waitonga Falls Raupehu. Photographer: Marley Ford, Date taken: 30/01/2022, Licence: CC BY-NC.

## DETAILED DESCRIPTION

**Thallus** squamulose, tripartite, corticolous, forming patches 10–60 cm wide; hypothallus/ prothallus distinct, prothallus forming a peripheral border 2 mm wide, black, fine-textured. **Chlorobiont** squamules initially as 0.1 mm wide, scattered granules on the prothallus, soon expanding to 1 mm wide squamules with weakly incised, obtuse lobes, then coalescing centrally into an areolate and continuous crust, some lobes overlapping, strongly attached, 0.05–0.1 mm thick. **Upper surface** matt, pale greyish green when fresh and dry, salad-green when fresh and moist, young herbarium specimens immediately turning reddish brown after application of water, older herbarium specimens gradually becoming dark brown after long storage, glabrous except for a minute tomentum along margins, seen as pruinose when moist. **Cortex** c. 30 µm thick, upper part thin and sclerenchymatic, lower part pale and paraplectenchymatic, lumina mostly isodiametric, 5–10 µm, or weakly elongated, arranged perpendicularly to the upper surface, walls 2–3 µm thick, Chlorobiont layer c. 30 µm thick, below the cortex, of Trebouxia cells, globose, 5–10 µm diam., chloroplasts papillose. **Medulla** 20–30 µm thick, white; lower cortex absent. **Cyanobiont** Nostoc, in dark grey, placodioid cephalodia growing on the chlorobiont, 0.5–1 mm wide, forming densely addressed, radiating lobules, c. 0.2 mm wide, common. Nostoc cells greyish green, irregularly subglobose to ellipsoid, 4–6 × 2–3 µm, organized within small glomeruli and without visible chain structures. **Apothecia** common, substipitate when juvenile and less than 0.5 mm wide, with smooth brown discs, but soon developing thalline structures consisting of a concave, central squamule, seen as a plug-like structure, mostly also accompanied on the disc by small secondary thalline granules. This develops further into an intricate, labyrinth-like, strongly convex apothecial structure 2–3 mm wide. Thalline excipulum 0.1–0.2 mm broad, crenulate, of small inrolled lobules, 0.1 mm wide, in older apothecia developing a strongly undulating, crispate pattern. **Epithecium** pale brown, c. 15 µm thick; hymenium pale, 100–120 µm, IKI+ blue; hypothecium brownish, 60–80 µm; algal layer discontinuous below the hypothecium, but forming extensions penetrating through the hymenium and forming thalline plugs. **Paraphyses** simple, septate, 1.5–2 µm wide, weakly swollen and fused apically in the epithecium. **Asci** clavate, c. 80 × 15 µm, with 8 spores. **Ascospores** regularly ellipsoid to weakly citriform or ovoid, 14–22 × 9–12 µm, perispores thin and even except for long-apiculate, apical extensions, 22–50 × 10–14 µm. **Pycnidia** not seen. **Chemistry**: Argopsin detected by TLC.

## SIMILAR TAXA

Superficially resembles *P. implexa* but this species has strongly crispate and undulate apothecial margins. Perispores also resemble those of *P. implexa*, but differ in the lengths of the apiculi and the structure of the walls.

## SUBSTRATE

Corticolous

## ETYMOLOGY

**crispella**: Named for its strongly crispate and undulate apothecial margins.

*Pannaria crispella* contains argopsin, which is common in parmelielloid genera, such as *Erioderma*, but rarely reported from other major clades within Pannariaceae.

## ATTRIBUTION

Fact sheet prepared by Marley Ford (2 February 2022). Brief description, Distribution, Habitat, Features and Similar taxa sections adapted from Elvebakk (2022).

## REFERENCES AND FURTHER READING

Elvebakk A. 2022: *Pannaria crispella* comb. nov. and *P. campbelliana* Hue, two overlooked lichens from New Zealand. *Australasian Lichenology* 90: 28-37.

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/pannaria-crispella/>