Xanthoria parietina

COMMON NAME
Common sunburst lichen

SYNONYMS
Lichen parietinus

FAMILY
Teloschistaceae

AUTHORITY
Xanthoria parietina (L.) Th.Fr.

FLORA CATEGORY
Lichen – Native

ENDEMIC TAXON
No

ENDEMIC GENUS
No

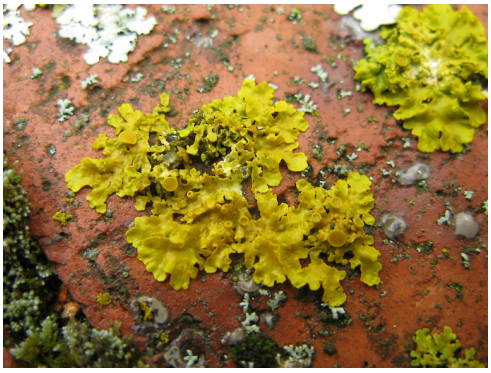
ENDEMIC FAMILY
No

STRUCTURAL CLASS
Lichens - Foliose

CURRENT CONSERVATION STATUS
2018 | Not Threatened | Qualifiers: SO

BRIEF DESCRIPTION
Characterised by the corticolous/lignicolous/saxicolous habit; flat, yellow, yellow-orange or greyish (in shade), dorsiventral, ±rosette-forming to irregularly spreading thalli that are corticate on both upper and lower surfaces. It has entire margins and is attached to the substratum by short hapters (Kondratyuk & Poelt 1997: 174–175). It is usually copiously fertile (especially centrally), and has parietin as the major medullary compound. *Xanthoria parietina* is a very variable species throughout its range in New Zealand, especially in terms of its thallus colour, which varies from grey to yellow-grey to shades of yellow and orange depending on the light conditions of the habitat, with shade forms being pale-grey, and high-light forms being bright-orange, with a whole range of colours in between these two extremes. Murray (1960) recognised many of these colour variants as separate taxonomic entities, a view no longer current. In some habitats thalli develop rather narrow lobes (the exact relationship between these narrow-lobed forms and *X. filsonii* still needs clarification), and in strongly eutrophicated habitats thalli may develop small, hummocky, subimbricate lobes rather than the normal, broad, plane lobes.

Corticolous. Photographer: Melissa Hutchison, Date taken: 10/04/2016, Licence: CC BY-NC.



On brick wall in Christchurch. Photographer: Melissa Hutchison, Date taken: 03/03/2015, Licence: CC BY-NC.

DISTRIBUTION

North Island: Three Kings Islands to Wellington. **South Island**: Nelson to Southland. **Stewart Island**. **Chatham Islands**.

It is not found in beech or podocarp forests either E or W of the Main Divide, nor is it a component of alpine scrub vegetation above treeline, and is generally more common on introduced trees and shrubs and hedges in urban and rural environments than it is on native vegetation in unmodified environments. For this reason James Murray (1960: 199) considered it may have been introduced. Recent molecular work on a wide range of freshly collected specimens worldwide (Scherrer & Honegger 2003: 387) supports this notion, with Australasian, North American and European material all being closely similar, with high sequence identity (up to 100%). It is however a component of the northern coastal flora where it is often present as an epiphyte of both scrub and forest vegetation. It is common and widespread in all main landmasses except Antarctica and the high-Arctic.

HABITAT

Growing on a wide variety of substrata in high-light environments in predominantly coastal and/or lowland areas of New Zealand. A common epiphyte of both introduced and native trees and shrubs. Also on rocks (maritime and inland, both acidic and basic), wooden gates, railings and fences, glass, concrete, plastic nursery shading, bone, painted wood, gravestones and abandoned vehicles. It commonly occurs spreading over gravel chippings and bitumen on roadsides in country areas, where its distribution may be encouraged by ammoniacal enrichment from sheep urine derived from frequent passage of sheep trucks or other farm vehicles. In this habitat it is commonly associated with *Physcia adscendens* and *P. caesia*.

DETAILED DESCRIPTION

Thallus rosette-forming to irregularly spreading, to 10 cm diam., loosely attached, corticolous. **Lobes** 3-6 mm long and 2-5 mm wide, thin, smooth to irregularly wrinkled or weakly plicate or pitted, often distinctly faveolate, with raised, entire, often sinuous margins. **Upper surface** yellow-orange or greenish-yellow to pale greenish-grey in shaded situations, matt or shining, smooth to ± faveolate-plicate. **Lower surface** pale yellowish or whitish, rhizinate. **Rhizines** sparse, short, simple, white. **Apothecia** sessile, ± central, lecanorine, to 5 mm diam., margins thin, persistent, concolorous with thallus, often inflexed, disc plane or subconcave, yellow-orange, matt. **Ascospores** ellipsoid, 11-26 × 6-9 µm.

Chemistry: Parietin (major), emodin, teloschistin, fallacinal and parietinic acid (minor).

SIMILAR TAXA

It is distinguished from *X. incavata* [*Dufourea incavata*] by the thinner, broader, plane or subconvex lobes which are generally without adventitious marginal lobules, by the ±raised margins, and by the wrinkled-pitted or faveolate upper surface. *X. filsonii* (Elix 1988) differs in the narrower lobes which are conspicuously downturned at the margins and apices, and by having teloschistin as the dominant medullary compound. Further screening of New Zealand collections of *X. parietina* is required to see whether some populations are referable to *X. filsonii* or whether this taxon is just part of the chemical variation of *X. parietina s. lat*.

SUBSTRATE

Corticolous, saxicolous, artificial surfaces (timber, glass, concrete, plastic, bone, painted wood, gravestones, and abandoned vehicles)

ATTRIBUTION

Fact sheet prepared by Melissa Hutchison (23 July 2022). Brief description, Distribution, Habitat, Features, and Similar taxa sections copied from Galloway (1985, 2007).

REFERENCES AND FURTHER READING

Galloway D.J. 1985: *Flora of New Zealand: Lichens*. Wellington: PD Hasselberg, Government Printer. 662 pp.

Galloway D.J. 2007: *Flora of New Zealand: Lichens, including lichen-forming and lichenicolous fungi.* 2nd edition. Lincoln, Manaaki Whenua Press. 2261 pp.

Kondratyuk S. and Poelt J. 1997: Two new Asian *Xanthoria* species (Teloschistaceae, lichenized Ascomycotina). *Lichenologist 29*: 173–190.

Murray J. 1960: Studies of New Zealand lichens. II – The Teloschistaceae. *Transactions of the Royal Society of New Zealand 88*: 197–210.

Scherrer S. and Honegger R. 2003: Inter- and intraspecific variation of homologous hydrophobin (*H1*) gene sequences among *Xanthoria* spp. (lichen-forming ascomycetes). *New Phytologist 158*: 375–389.

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/xanthoria-parietina/