

# Solorina crocea

## COMMON NAME

chocolate chip lichen

## SYNONYMS

Lichen croceus

## FAMILY

Peltigeraceae

## AUTHORITY

Solorina crocea (L.) Ach.

## FLORA CATEGORY

Lichen – Native

## ENDEMIC TAXON

No

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Lichens - Foliose

## CURRENT CONSERVATION STATUS

2018 | At Risk – Naturally Uncommon | Qualifiers: SO, Sp

## BRIEF DESCRIPTION

Characterised by the terricolous habit; its broadly lobed, rather thick, olive-greenish brown thallus (greyish or whitish when dry in very exposed habitats); and the characteristic orange, veined-ridged lower surface (K+ purple).

## DISTRIBUTION

**South Island:** Nelson (Waiiau Pass), Westland (Copland Ridge), Canterbury (Craigieburn Range, Torlesse Range, Mt Hutt, Mt Peel, Malte Brun Range, Lower Godley Valley), Otago (Young Valley, Arawata Saddle, Mt Sisyphus, E. Matukituki, Treble Cone, Cascade Basin upper Dart Valley, Hunter Valley, St Bathans Range, Pisa Range, Dunstan Mts, The Remarkables, Hector Mts, Garvie Mts, Old Woman Range, Old Man Range, Rock & Pillar Range), Southland (Mt Burns, Hunter Mts).

**Bipolar.** In the Northern Hemisphere, it is a high-arctic circumpolar species, being widespread and common at northern latitudes, particularly in oceanic areas.

## HABITAT

Cushion fellfield and herbfield, 1250–2000 m, on exposed soil, on tops of soil hummocks or stripes and in open, windswept rock pavements, or on shingle ledges. Less commonly it grows in sheltered hollows of soil hummocks or in the lee and at the base of solifluction lobes. As in the Arctic, it prefers disturbed habitats with little competition from other lichens or alpine plants. New Zealand records are the only positively identified Southern Hemisphere populations.

Elsewhere, *S. crocea* occurs in the Northern Hemisphere as an arctic-alpine lichen; circumboreal lichens being known from tundra, soil crust communities and snow banks in Great Britain, Scandinavia, Greenland, Iceland the Faroes, Europe, the Carpathians, Urals, Tibet, United States, Canada and the Aleutian Islands.



Craigieburn skifield, Canterbury. Photographer: Melissa Hutchison, Date taken: 09/12/2023, Licence: CC BY-NC.



Craigieburn skifield, Canterbury. Photographer: Melissa Hutchison, Date taken: 09/12/2023, Licence: CC BY-NC.

## DETAILED DESCRIPTION

**Thallus** foliose, distinctly dorsiventral, 1-10 cm broad. Lobes rounded, margins entire, often slightly raised. **Upper surface** greenish-brown when wet, red-brown when dry, rather scabrid. **Photobiont** rather discontinuous below upper cortex. **Cephalodia** internal in ± ovoid colonies above lower surface. **Medulla** orange (solorinic acid, K+ purple). **Lower surface** bright orange (solorinic acid), tomentose with a reticulum of brown veins often present. **Apothecia** oblong to round, plane, not depressed into thallus, disc dark brown, to 1 cm diam. **Asci** 6-8-spored. **Ascospores** 1-septate, oblong-ellipsoid, hyaline, becoming brown, 25-45 × 10-12 µm. **Chemistry**: Thallus and medulla K+ purple; containing methyl gyrophorate, gyrophoric acid, solorinic acid, norsolorinic acid and solorinine.

## SUBSTRATE

Terricolous

## ATTRIBUTION

Fact sheet prepared by Melissa Hutchison (5 August 2021). Brief description, Distribution, Habitat, and Features 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.

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/solorina-crocea/>