

# Rhizocarpon geographicum subsp. geographicum

## COMMON NAME

Map lichen

## SYNONYMS

Lichen geographicus, Rhizocarpon geographicum var. neozelandicum, Rhizocarpon geographicum var. knightii, Rhizocarpon neozelandicum

## FAMILY

Rhizocarpaceae

## AUTHORITY

Rhizocarpon geographicum subsp. geographicum (L.) DC.

## FLORA CATEGORY

Lichen – Native

## ENDEMIC TAXON

No

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Lichens - Crustose

## CURRENT CONSERVATION STATUS

2018 | Not Threatened | Qualifiers: SO

## BRIEF DESCRIPTION

Characterised by the saxicolous habit; the bright greenish yellow, areolate thallus dispersed on a black prothallus, that is also often well-developed at margins; subimmersed to sessile black apothecia, on or between areolae; a red-brown to olive green-brown epithecium (K+ purplish red); a colourless to pale-greenish or -brownish hymenium; a dark-brown hypothecium; 8-spored asci; and dark greenish brown to black, muriform (6–24 cells in optical section) ascospores, (20–)22–40(–46) × 10–20(–22) μm and rhizocarpic and psoromic acids in the medulla.

## DISTRIBUTION

**North Island:** Northland (Kawerua, Bay of Islands, Urupukupuka Island, Chicken Island, Great Barrier Island, Goat Island), Auckland (Karekare, Piha, Rangitoto Island), South Auckland (Mt Tarawera, Mt Maunganui, Kaimanawa Ranges), Wellington (Ruapehu, Tararua Mts). **South Island:** Nelson (Cobb Valley, Mt Arthur), Marlborough (Mt Stokes, Chetwode Is), Canterbury (Arthur's Pass, Sebastopol, Mt Cook), Otago (Central Otago mountains, Maungatua, Flagstaff, Dunedin), Southland (Fiordland, West Dome, Takitimu Mts, Lumsden, Hokonui Hills). **Stewart Island:** (Mt Anglem, Mt Allen). **Auckland Islands. Campbell Island:** (Beeman Hill).

Cosmopolitan. Known also from Great Britain, Europe, Scandinavia, the Arctic, Morocco, Tunisia, Turkey, the Ukraine, Asia, North America, South America, Marion I, Bouvetøya, South Georgia, South Shetland Is, South Orkney Is, Antarctica, and Australia,

## HABITAT

A very widespread species, on maritime to high-alpine rocks, and on gravel chippings in bitumen and on walls, bridge cappings and gravestones in cemeteries in lowland and urban habitats.



Banks Peninsula. Photographer: Melissa Hutchison, Date taken: 23/06/2019, Licence: CC BY-NC.



Port Hills, Christchurch. Photographer: Melissa Hutchison, Date taken: 22/03/2020, Licence: CC BY-NC.

## DETAILED DESCRIPTION

**Thallus** crustose, orbicular to irregularly spreading or in coalescing patches, to 20 cm diam., prothallus black, often conspicuous at margins and between areolae. **Areolae** contiguous to dispersed, to 2 mm diam., rarely rounded, ± angular, flat to convex, bright yellow to greenish-yellow, smooth, dull or glossy. **Apothecia** to 1.5 mm diam., between areolae, rounded to angular, flat, matt, rarely subconvex, margins thin, distinct or disappearing. Hypothecium dense, brown-black 100-300 µm tall. Hymenium 100-180 µm tall colourless or faint brownish. **Asci** 100-150 × 20-30 µm containing 8 spores. **Ascospores** muriform with few to many septa 20-40 × 10-22 µm. **Chemistry**: Thallus K-, C- or ±red, Pd- or ±orange-yellow; containing rhizocarpic acid and either psoromic or barbatic acids and sometimes ±gyrophoric acid.

## SIMILAR TAXA

*Rhizocarpon geographicum* subsp. *arcticum* has a whitish yellow to white thallus, rather than the bright greenish yellow thallus of *R. geographicum* subsp. *geographicum*.

## SUBSTRATE

Saxicolous

## ATTRIBUTION

Fact sheet prepared by Melissa Hutchison (31 December 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/rhizocarpon-geographicum-subsp-geographicum/>