Stirtoniella kelica

SYNONYMS
Biatorina stillata, Catillaria kelica, Lecidea kelica, Lecidea stillata, Patellaria stillata

FAMILY
Ramalinaceae

AUTHORITY
Stirtoniella kelica (Stirt.) D.J.Galloway, Hafellner & Elix

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
Thallus crustose, corticolous. Photobiont green, chlorococcoid. Ascomata apothecia, biatorine, mustard-yellow to ochre-yellow, K+ red-purple (pulvinic acid derivatives). Exciple with textura intricata in longitudinal section. Asci Bacidia-type, with rostrate dehiscence. Hypothecium interpenetrated by strands or clumps of photobiont cells. Hamathecium of paraphyses, branching and with many anastomoses, tips surrounded by crystals of pulvinic acid derivates. Ascospores colourless, 1-septate, straight or slightly curved without a perispore. Conidiomata pycnidia, immersed in minute, black thalline warts. Conidia bacillar.

Maninganinga Kauri Walk, Northland. Photographer: Melissa Hutchison, Date taken: 21/01/2020, Licence: CC BY-NC.

Paihia, Nortland. Photographer: Melissa Hutchison, Date taken: 20/01/2020, Licence: CC BY-NC.

DISTRIBUTION
North Island: Northland (Radar Bush, Herekino Gorge, Waipoua Forest, Tutamoe, Bay of Islands, Little Barrier Island, Great Barrier Island), Auckland (Waitakere Ranges, Chelsea), South Auckland (Moehau, Maugatawhiri, Coromandel Peninsula, Kaimai Ranges), Wellington (Kapiti Island, Kaitoke, Tararua Ranges). **South Island**: Nelson (Opara River, Karamea, Kaituna Gorge), Marlborough (d'Urville Island, Queen Charlotte Sound).
Known also from Australia (Tasmania).

HABITAT
On trees and shrubs in mixed broadleaf forest, 140–774 m.

DETAILED DESCRIPTION

Thallus spreading in irregular patches (1–)2–5(–8) cm diam., sometimes delimited by a thin to thick, black, sinuous, prothalline line. **Upper surface** pale greenish grey to grey-white, thick, continuous to minutely areolate, areolae angular, 0.1–1 mm diam., separated by very narrow cracks, smooth or minutely verrucose-papillate, matt or shining. **Apothecia** sessile, (0.1–) 0.5–2(–3) mm diam., round to irregular, solitary to clustered to somewhat conglomerate, large apothecia frequently fragmenting into smaller, contiguous parts, shallowly convex to ±flattened; disc smooth to irregularly wrinkled or pitted, mustard-yellow to ochre-yellow (becoming darker to somewhat reddish in K), convex, exciple becoming excluded from an early stage of development and therefore normally invisible. Exciple of textura intricata in longitudinal section, excipular hyphae reticulate but with a tendency to radiate orientation, with narrow lumina, pigment crystals covering and penetrating deeply between the hyphae, intercellular space otherwise filled with gelatinous matrix. Hypothecium hyaline or pale-brownish, 20–30 µm thick, of intricate, thick-walled, short-celled hyphae, in the uppermost part at the edge to the subhymenium with a layer of ±irregularly globose pigment crystals with slightly different colour than those of the epihymenium, interpenetrated by strands or clumps of microscopic, green algae. Hymenium hyaline, 60–80(–100) µm tall, covered by a layer (12.5–22 µm thick) of mainly bacillar pigment crystals, without inspersion of oil droplets, but with pigment crystals penetrating here and there down to the subhymenium. Interascal filaments relatively few in ascomata with a sporulating hymenium, with many ramifications and anastomoses. **Asci** *Bacidia*-type (i.e. with euamyloid tholus having a conical non-amyloid axial body), 8-spored. **Ascospores** hyaline, narrowly ellipsoidal, straight or slightly curved, 1-septate, without distinct perispore in LM, septum simple without any peculiar features, 15–18–22 × 4– 5.5 µm. Pycnidia widely scattered, immersed in minute, black warts. Conidia bacillar.
Chemistry: Thallus K–, C–, KC–, Pd–; apothecia K+ reddish to purple-red, C–, KC–; containing protocetraric acid (major) and subvirensic acid (tr.); apothecia K+ reddish or purplish red, C– KC–, Pd– or + orange; containing calycin (major or minor), pulvinic dilactone (major) and protocetraric acid (minor).Thallus containing depsidones (protocetraric and subvirensic acids) and apothecia with pulvinic acid derivatives.

SUBSTRATE

Corticolous

Stirtoniella is a monospecific genus included in the family Ramalinaceae, described for the species *Lecidea kelica*, a distinctive corticolous taxon having prominent mustard-yellow to ochre-yellow (K+ purple-red) biatorine apothecia, *Bacidia*-type asci and colourless, 1-septate ascospores without a distinct perispore. Formerly included in *Catillaria* s. lat., it occurs most commonly in northern coastal forest, with a disjunct, southern population around Cook Strait (from Kapiti Island to the northern West Coast and the Marlborough Sounds). It also occurs in Tasmania.

ATTRIBUTION

Fact sheet prepared by Melissa Hutchison (26 August 2021). Brief description, Distribution, Habitat, Features and Extra information sections copied from Galloway (2007).

REFERENCES AND FURTHER READING

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/stirtoniella-kelica/