Ocellularia jacinda-arderniae

COMMON NAME
Jacinda's barnacle lichen

FAMILY
Graphidaceae

AUTHORITY
A.J.Marshall, Blanchon, Lücking et de Lange

FLORA CATEGORY
Lichen – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Lichens - Crustose

CURRENT CONSERVATION STATUS
2019 | At Risk – Naturally Uncommon | Qualifiers: DP

BRIEF DESCRIPTION
Characterised by the coarsely verrucose thallus, the usually sessile ascomata, and the narrow, immersed pore through which the columella is usually visible.

DISTRIBUTION
North Island: So far known from only five locations in North Auckland. This vegetation association is widespread in northern New Zealand, so it is likely that this species will prove to be more wide ranging than current records suggest.

On tanekaha, Kaipara. Photographer: Peter J. de Lange, Date taken: 02/10/2020, Licence: CC BY-NC.

On tanekaha, Kaipara. Photographer: Peter J. de Lange, Date taken: 02/10/2020, Licence: CC BY-NC.

HABITAT
Regenerating coastal kauri (*Agathis australis*) / tanekaha (*Phyllocladus trichomanoides*) forest within North Auckland, North Island. Within this habitat, the main phorophyte of *Ocellularia jacinda-arderniae* is tanekaha. We have also collected *O. jacinda-arderniae* once from kauri, mapou, rewarewa, and toru. The trees are consistently growing in moderate light-levels rather than heavy shade or full sun. Associated associated lichens are typically crustose and include *Chiodecton colensoi*, *Ocellularia bicuspidata* s.lat., *Pyrenula* spp., *Thelotrema circumscriptum*, *T. lepadinum*, *Megalospora* and *Pertusaria* spp. Foliose lichens are uncommon, mostly poorly developed *Parmotrema reticulatum*. Bryophytes are also sparse, mostly species of *Frullania* and *Lejeunea*, *Metalejeunea cucullata*, *Thysananthus anguiformis*, and *Spruceanthus olivaceus*.

DETAILED DESCRIPTION

Thallus in upper portions epiperidermal, in lower portions endoperidermal, 200–250(– 400) µm thick, white to pale grey, continuous to marginally diffuse; surface dull, coarsely verrucose. Cortex partially interrupted, prosoplectenchymatous. Algal layer discontinuous, with scattered or clumped clusters of calcium oxalate crystals, particularly located in the verrucae. Vegetative propagules not seen. Prothallus not seen. **Ascomata** conspicuous, solitary, wart-shaped, prominent to sessile with constricted base, 1.5–1.75 mm in diameter, with narrow pore and hence appearing perithecioid. Pores immersed, 200–400 µm diameter, roundish to elliptical, their margin thin, entire to slightly fissured, off-white. Disc concealed but columella usually visible through the pore, white-pruinose. Thalline margin thick, incurved, concolorous with the thallus. Excipulum entire, fused with thalline margin but occasionally becoming free apically, completely carbonised. Columella well-developed, conical, carbonised, 75–150 µm in diameter. Hymenium up to 300 µm tall, non-inspersed, weakly conglutinated. Paraphyses parallel and unbranched, tips slightly thickened. Epihymenium hyaline, inspersed by grey granules. **Asci** 1-spored, tholus moderately thick, not visible at maturity. **Ascospores** muriform,
oblong-ellipsoidal to fusiform, occasionally slightly bent, hyaline (brown if over-mature), I + amyloid, ends distinctly appendiculate, appendages non-septate, formed by elongated terminal cells resembling germ tubes, one appendage longer (30–45 µm) and bulbous toward the tip, the other shorter (20–30 µm), (160–)200–275 (–300) × 37.5–45.0 µm in size (including appendages) with numerous small, irregular, angular locules (rectangular in immature spores), end cells conical only in immature spores; ascospore wall thin and not obviously halonate at maturity. Pycnidia not seen.
Chemistry: Thallus K-, C-, P+; psoromic acid detected with TLC.

SIMILAR TAXA

Differing from the similar *Ocellularia bicuspidata* s.str. by the coarsely verrucose thallus, the sessile (basally constricted) ascomata with immersed pore lacking a broad marginal rim, and the non-septate ascospore appendages. In the field *Ocellularia jacinda-arderniae* is most likely to be confused with other *Ocellularia* and *Thelotrema* and perhaps some *Pertusaria* species. These are all genera that require microscopy and chemical tests to identify, and some of them, notably *Pertusaria*, are species-rich and generally hard to identify to species rank without a knowledge of spore characteristics and chemistry. While superficially similar to species of *Thelotrema* listed in Galloway (2007), in particular *T. manosporum* Nyl. and *T. saxatile* C. Knight, *O. jacinda-arderniae* differs clearly by the carbonised excipulum lacking periphysoids and the presence of a (carbonised) columella, in addition to the hyaline vs. brown ascospores and the psoromic acid chemistry.

SUBSTRATE

Corticolous

ETYMOLOGY

jacinda-arderniae: Named in honour of Jacinda Ardern (1980–), the 40th Prime Minister of New Zealand, and the third and youngest woman to hold that position. In bestowing this name, we also wish to acknowledge that Ocellularia jacinda-arderniae was discovered in 2018, the 125th anniversary of woman's suffrage in New Zealand, making it all the more fitting that we name a lichen after a prominent female New Zealand politician.

ATTRIBUTION

Fact sheet prepared by Melissa Hutchison (19 August 2021). Brief description, Distribution, Habitat, Features, Similar Taxa and Life cycle sections copied from Marshall *et al.* (2019).

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.
Marshall A.J., Blanchon D.J., Lücking R., de Lange T.J.P. and de Lange P.J. 2019: A new *Ocellularia* (lichenized Ascomycota: Graphidaceae) from New Zealand indicates smallscale differentiation of an Australasian species complex. *New Zealand Journal of Botany 58*: 223-235.

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/ocellularia-jacinda-arderniae/