

Azolla pinnata

COMMON NAME

ferny azolla

SYNONYMS

Azolla pinnata subsp. *asiatica*

FAMILY

Salviniaceae

AUTHORITY

Azolla pinnata R.Br.

FLORA CATEGORY

Vascular – Exotic

STRUCTURAL CLASS

Ferns

NVS CODE

AZOPIN

CONSERVATION STATUS

Not applicable

BRIEF DESCRIPTION

A small aquatic free floating perennial fern which forms a conspicuous red (green in shaded areas) mat on the water surface. Plants are 1–3 cm long, triangular in outline, and regularly branched. Leaves green to red. Roots densely covered with branched, fine, hair-like rootlets.

DISTRIBUTION

Introduced and Naturalised. New Zealand: North Island (abundant in the north to the Rotorua Lakes with scattered sites further south to Levin). Indigenous to Africa, Asia, Australia.

HABITAT

Still and slow flowing water bodies in warm areas.

WETLAND PLANT INDICATOR STATUS RATING

OBL: Obligate Wetland

Almost always is a hydrophyte, rarely in uplands (non-wetlands).

DETAILED DESCRIPTION

Tiny free-floating aquatic fern, forming red-coloured mats (green in shaded areas). **Plants** 25 × 20 mm, triangular or 5-angled in outline, regularly branched. **Leaves** usually not overlapping, green turning red. **Roots** to 5 cm long; with fine, lateral rootlets.

SIMILAR TAXA

Azolla rubra—a native floating fern. *A. rubra* is more ovate and irregularly branched. Rootlets are unbranched. In comparison *A. pinnata* has regular 2 pinnate branching and its roots have fine rootlets.

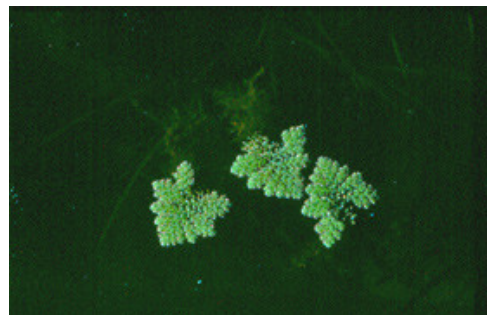
LIFE CYCLE

This perennial reproduces rapidly by fragmentation, forming dense mats across nutrient-rich still waters. Produces spores which may be spread by waterfowl.

Other dispersal mechanisms include downstream via waterflow and into new catchments via contaminated diggers, eel nets, boats and trailers, water fowl, occasionally by wind blown spores.

YEAR NATURALISED

1969



Azolla pinnata. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.



Lake Wairua. Jan 2009. Photographer: Colin C. Ogle, Licence: CC BY-NC.

ORIGIN

Tropical Africa, Asia, Australia

REASON FOR INTRODUCTION

Possibly contaminant of ornamental pond plants, or a natural introduction from Australia being spread by migratory waterfowl.

CONTROL TECHNIQUES

Can be managed using floating booms that push floating plants to one end of a dam or small water body, then remove manually/mechanically. Only short-term control usually achieved.

TOLERANCES

Tolerates low to high nutrient water, high to moderate temperature. Intolerant of low temperatures and heavy shade. Does not dominate in moving water or expose surfaces.

ETYMOLOGY

azolla: From the Greek azo 'to dry' and ollo 'to kill', killed by dryness

pinnata: From the Latin pinna 'feather', in botany pinnatus 'pinnate' refers an arrangement of leaves, veins or branches in rows along a central axis, similar to the structure of a feather.

ATTRIBUTION

Factsheet prepared by Paul Champion and Deborah Hofstra (NIWA).

REFERENCES AND FURTHER READING

Champion P. et al. 2020. Freshwater Invasive Species of New Zealand 2020. NIWA publication.

<https://docs.niwa.co.nz/library/public/FreInSpec.pdf>

Coffey BT, Clayton JS. 1988. New Zealand water plants: a guide to plants found in New Zealand freshwaters. Ruakura Agricultural Centre, Hamilton, NZ. 65 p.

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MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/azolla-pinnata/>