Chenopodium detestans

COMMON NAMES
New Zealand fish-guts plant

BIOSTATUS
Native

CURRENT CONSERVATION STATUS
2023 | Threatened – Nationally Critical | Qualifiers: DPT, EF, TO
Jump to previous conservation statuses

CATEGORY
Vascular

STRUCTURAL CLASS
Herbs - Dicotyledons other than Composites

FLOWER COLOURS
Green, Grey

DETAILED DESCRIPTION
Annual to short-lived perennial prostrate, grey-green to reddish-grey, fleshy herb forming patches up to 800 mm diameter, and arising from a stout central, deeply descending tap root. All parts strongly fetid, smelling of rotten fish. Branches 2-8, grey-green, with stems and emergent leaves often suffused with red, rather stiff, margins often distored by fungus pustules. Emergent foliage grey-farinose, maturing grey-green or reddish-grey, rather fleshy; leaves rhombic, or rhomboid-ovate, usually entire except for the basal stem leaves which often possess 1 pair of teeth, apex acute. Flowers grey-green in dense axillary to terminal spike-like clusters, stigma white. Perianth segments 4-5, 0.5-1.0 mm long, divided almost to base, obtuse, scarcely accrescent, incompletely investing fruits. Stamens 1-2 sulphur yellow, not fused at base. Seed, circular, 1-1.2 mm diameter, dark purple-brown to black brown, minutely punctate, margins rounded (obtuse), aligned horizontally in perianth.

Castle Hill Basin. Photographer: Jane Gosden, Date taken: 02/02/2025, Licence: CC BY-NC-SA.

Castle Hill Basin. Photographer: Jane Gosden, Date taken: 02/02/2025, Licence: CC BY-NC-SA.

SIMILAR TAXA
The introduced *Chenopodium vulvaria* (fish-guts plant) is a very similar, equally smelly plant, which can only be reliably distinguished from *C. detestans* by its 5 rather than 1-2 stamens, and sharp (acute) rather than rounded seed margins.

DISTRIBUTION
Indigenous to New Zealand, South Island only.
Historically the species ranged from Canterbury to Otago. Recent (post 1980) collections have only been made from Lake Lyndon (first discovered by T. Kirk in 1877) and the upper Waitaki Valley. In those days this area was extensively farmed for sheep and cattle, and while this was the case, *C. detestans* was common on the shores of Lake Lyndon, in sites frequented by these animals. The species has also been found in New South Wales, Australia, where it may have naturalised.

HABITAT
Open or sparsely-vegetated ground such as clay and salt plans, dried out river and lake beds, and ephemeral tarns.

THREATS
As far as is known *C. detestans* has declined mainly because of a loss of suitable open, sparsely-vegetated habitats. This seems to have been the result of the spread of introduced pasture grasses and weeds, and changes in land use, especially stocking levels. The only recent collections have come from well-stocked sheep farms in the upper Waitaki Valley, where it grows on clay and salt pans. Possibly because of its foul smell the species does not seem to be palatable to livestock, so livestock may help reduce competition from other taller, more palatable plants.

GENUS
Chenopodium

FAMILY
Amaranthaceae

AUTHORITY
Chenopodium detestans Kirk

SYNONYMS
None

ENDEMIC TAXON
Indeterminate

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

FLOWERING
September – March

FRUITING
December - May

LIFE CYCLE AND DISPERSAL
Seeds are dispersed by wind and water (Thorsen et al., 2009).

PROPAGATION TECHNIQUE
As far as is known no one has successfully grown this species. There have been a few attempts to transplant wild plants and strike cuttings but these failed because the plants/cuttings were given too much water. Seed should germinate easily.

ETYMOLOGY
chenopodium: From the Greek chen 'goose' and pous 'foot', referring to the shape of the leaves

NVS CODE
CHEDET

PREVIOUS CONSERVATION STATUSES
2017 | Threatened – Nationally Critical | Qualifiers: DP, EF, TO
2012 | Threatened – Nationally Critical | Qualifiers: DP, EF, TO
2009 | Threatened – Nationally Critical | Qualifiers: TO, EF, DP
2004 | Data Deficient
Jump to current conservation status

REGIONAL CONSERVATION STATUSES
Otago: 2025 | Regionally Extirpated | Qualifiers: HR Help
The regional threat classification system leverages off the national assessments in the NZTCS, providing information relevant for the regional context. Otago conservation status information is sourced from the "Conservation Status of Indigenous Vascular Plants in Otago, 2025" Jarvie S et al. (2025) report.

REFERENCES AND FURTHER READING
Thorsen, M.J.; Dickinson, K.J.M.; Seddon, P.J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics 11*: 285-309.

ATTRIBUTION
Description based on live plants and herbarium specimens

NZPCN FACT SHEET CITATION

Please cite as: de Lange, P.J. (Year at time of access): Chenopodium detestans Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. https://www.nzpcn.org.nz/flora/species/chenopodium-detestans/ (Date website was queried)

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/chenopodium-detestans/

PDF DATE

08 June 2026