

NZPCN Conference 2015 Field Trip Huriawa



Introduction

Huriawa, or Karitane Peninsula, is a rugged headland that protects the small coastal fishing port of Karitane at the mouth of the Waikouaiti River.

It is famous for its pā, built originally by Kāti Mamoe and known as Pa Katata but strengthened and expanded by the Kāi Tahu fighting chief, Te Wera, about 1750. It was regarded as the strongest defensive structure of its type in Otago and one of the most impressive earthworks in Te Waipounamu (South Island) from pre-European times.

The Crown returned ownership of the reserve to Te Rūnanga o Ngai Tahu as part of the historic Ngai Tahu Claims Settlement Act of 1998. Today it is jointly managed by Kati Huirapa Rūnaka ki Puketeraki and the Department of Conservation under a protected private land (PPL) agreement.

History

There were some fortified pā in the south, but the colder southern climate meant that vegetable crops such as kumara, a staple part of the diet in warmer northern areas could not be grown. Thus, Kāi Tahu were primarily hunters and gatherers and ranged far and wide to collect mahika kai (food resources).

Te Wera and his people survived a six month siege by his cousin Taoka thanks to a permanent spring, Te Puna a Te Wera, which supplied the pā with fresh water, and the fact that the pā was well provisioned with preserved food in preparation for an expected attack. They also fished at night to supplement their reserves of dried fish, preserved birds

and fern root. Eventually the pā was abandoned and Te Wera went south to Rakiura (Stewart Island), where he died of

old age.

A whaling station was sited on the Waikouaiti River estuary shore from 1834 to 1848, although little evidence of this remains.

Soon after the arrival of Europeans in Otago (1840s), the Crown acquired the peninsula under the Public Reserves Act for construction of a lighthouse and a children's playground.

During the 1950s and 1960s, excavations by archaeologists found evidence of extensive middens, post holes for palisades, house sites, drains and underground fire pits (ahi komau).

Conservation management

During the time of Te Wera, the peninsula was probably cleared of vegetation, to allow for better visibility of invaders.

Today it is mostly covered with exotic grasses, but native shrubs and trees are regenerating naturally in places.

Gorse, boxthorn, thistles, horehound and cotoneaster are the major weed species. Kaitiaki have started replanting native vegetation to help stabilise soils, improve drainage, stop erosion and to provide habitat for nesting birds. They have established a nursery and are growing plants from local sources. Several local schools are actively involved in this project.

Revegetation may encourage holho (yellow-eyed) and kororā (little blue penguins) to nest and breed here again, especially if they are provided with nesting boxes.

Myoporum laetum

COMMON NAME Ngaio

ETYMOLOGY

myoporum: Shut pore **laetum**: Pleasant

SYNONYMS

Myoporum laetum G.Forst. var. laetum, Myoporum laetum var. decumbens G.Simpson

FAMILY Scrophulariaceae

AUTHORITY Myoporum laetum G.Forst.

FLORA CATEGORY Vascular – Native

ENDEMIC TAXON Yes

ENDEMIC GENUS No

ENDEMIC FAMILY No

STRUCTURAL CLASS Dicotyledonous Trees & Shrubs

NVS CODE HELP

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MYOLAE

CHROMOSOME NUMBER

2n = 108

CURRENT CONSERVATION STATUS HELP

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2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened 2004 | Not Threatened



Ngaio. Photographer: Wayne Bennett



Myoporum laetum, Mahia Peninsula, East Coast Road. Photographer: Gillian Crowcroft

BRIEF DESCRIPTION

Spreading tree bearing glossy yellow-green to dark green heavily spotted oval leaves usually occurring not far from coast. New growth very glossy, dark and sticky. Flowers white with purple spots, at base of leaves. Fruit pink, on a stalk.

DISTRIBUTION

Endemic. Three Kings, North and South Islands. Also on the Chatham Islands where scarce and probably naturalised.

HABITAT

Coastal to lowland forest, sometimes well inland (in Hawkes Bay, Rangataiki and Wairarapa). Often uncommon over large parts of its range.

FEATURES

Decumbent shrub, shrub, or small tree up to 10 m tall and in decumbent forms 2-4 m across. Trunk to 0.3 m diam. Bark light grey to brown, thick and corky, firm, persistent, rough and furrowed. Branches stout, spreading. Leaf buds dark brown, purple-black to almost black, very sticky. Petioles flattened up to 300 mm long. Leaves somewhat fleshy, yellow-green to green, conspicuously white to yellow gland-spotted, (40-)100-120 x (10-)30-40 mm, lanceolate, oblong-lanceolate, oblong to obovate, acute to acuminate, margins crenulate-serrulate in upper half to third, margins sinuate to plain. Flowers in 2-6-flowered axillary cymes. Peduncles up to 15 mm long. Calyx-teeth 2 mm, narrow-lanceolate, acuminate. Corolla campanulate, white, purple-spotted, 5-lobed, lobes hairy on upper surface. Stamens 4. Fruit a narrow-ovoid drupe, 6-9 mm long, white or pale to dark reddish-purple.

SIMILAR TAXA

Ngaio could be confused with Tasmanian boobialla (M. insulare) but is distinct by its serrated gland-spotted leaves. We include var. decumbens G. Simpson within M. laetum, regarding it as merely one extreme of a continuous range of variation present in the species. Aside from leaf shape and size there are no other distinguishing characters. Another species, M. kermadecense, endemic to the Kermadec Islands, is rarely cultivated in New Zealand, for distinctions see under that species.

FLOWERING October - January

FLOWER COLOURS Violet/Purple, White

FRUITING December - June

PROPAGATION TECHNIQUE

Easily grown from fresh seed and semi-hardwood cuttings

THREATS

Not threatened. However, in some parts of the country such as urban Auckland, Wellington and along portions of the Kaikoura coast hybrid swams involving Tasmanian boobialla (Myoporum insulare sens. lat.) are common. The widespread planting of Tasmanian boobialla, or hybrids poses a risk to ngaio in places where it is not common.

WHERE TO BUY

Commonly cultivated and sold by many garden centres. However, some nursery stock offered as ngaio is either Tasmanian boobialla or hybrids involvying that entity (see features).

POISONOUS PLANT

The leaves contain ngaione which has antibacterial properties but is also toxic to livestock, causing liver damage (Brooker et al., 1998). Click on this link for more information about <u>Poisonous native plants</u>.

ATTRIBUTION

Fact Sheet prepared for the NZPCN by: P.J. de Lange (22 April 2011). Description based on Allan (1961)

REFERENCES AND FURTHER READING

Allan, H.H. 1961: Flora of New Zealand. Vol. I. Wellington, Government Printer. Brooker, S. G., Cambie, R. C. and R. C. Cooper (1998). New Zealand Medicinal Plants. Reed: Auckland.

MORE INFORMATION https://new.nzpcn.org.nz/flora/species/myoporum-laetum/

Olearia avicenniifolia

COMMON NAME

Mountain akeake

ETYMOLOGY

olearia: Derived from the latinised name (Olearius) of the 17th century German botanist Adam Oelenschlager **avicenniifolia**: Leaves like mangrove (Avicennia)

SYNONYMS

Shawia avicenniifolia Raoul

FAMILY Asteraceae

AUTHORITY Olearia avicenniifolia (Raoul) Hook.f.

FLORA CATEGORY Vascular – Native

ENDEMIC TAXON Yes

ENDEMIC GENUS No

ENDEMIC FAMILY No

STRUCTURAL CLASS Dicotyledonous Trees & Shrubs

NVS CODE HELP

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OLEAVI

Cypsela. In cultivation. Apr 2007. Photographer: Jeremy Rolfe

CHROMOSOME NUMBER 2n = 108

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2012 Not Threatened

PREVIOUS CONSERVATION STATUSES 2009 | Not Threatened 2004 | Not Threatened

Olearia avicenniifolia. Photographer: John Smith-Dodsworth



BRIEF DESCRIPTION

Bushy small tree bearing leathery narrow pointed dark green glossy leaves that are white underneath and large clusters of white daisy-like flowers that develop into fluffy seeds. Leaves variable, 5-10cm long, much longer than wide, edge nearly smooth. Flower petals white.

FLOWER COLOURS

White

THREATS Not Threatened

MORE INFORMATION https://new.nzpcn.org.nz/flora/species/olearia-avicenniifolia/

Acaena novae-zelandiae

COMMON NAME

Red bidibid

ETYMOLOGY

acaena: From the Greek 'akanthos' thorn, referring to the spiny calyx that many species have **novae-zelandiae**: Of New Zealand

FAMILY

Rosaceae

AUTHORITY Acaena novae-zelandiae Kirk

FLORA CATEGORY Vascular – Native

ENDEMIC TAXON No

ENDEMIC GENUS No

ENDEMIC FAMILY

STRUCTURAL CLASS

Dicotyledonous Herbs other than Composites

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CHROMOSOME NUMBER

2n = 42

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2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened 2004 | Not Threatened

FLOWER COLOURS Red/Pink

MORE INFORMATION https://new.nzpcn.org.nz/flora/species/acaena-novae-zelandiae/



Karitane Peninsula, Otago. Photographer: John Barkla



Acaena novae-zelandiae. Photographer: Melissa Hutchison

Apium prostratum subsp. prostratum var. filiforme

COMMON NAME New Zealand celery

ETYMOLOGY

apium: The ancient Latin name for celery or parsley. Believed to be derived from the Celtic word apon 'ditch' and refers to the watery habitat of many species

prostratum: Prostrate

filiforme: From the Latin filum 'thread' and forma 'shape', meaning threadshaped

SYNONYMS

Petroselinum prostratum (Labill ex Vent.) DC., Helosciadium prostratum (Labill. ex Vent.) Bunge in Lehm., Petroselinum filiforme A.Rich., Apium filiforme (A.Rich.) Hook., Apium australe auct. non Pet.-Thou.

FAMILY

Apiaceae

AUTHORITY Apium prostratum subsp. prostratum var. filiforme (A.Rich.) Kirk

FLORA CATEGORY Vascular - Native

ENDEMIC TAXON No

ENDEMIC GENUS No

ENDEMIC FAMILY No

STRUCTURAL CLASS Dicotyledonous Herbs other than Composites

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APIPVF

CHROMOSOME NUMBER

2n = 22

CURRENT CONSERVATION STATUS HELP

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2012 Not Threatened

Apium prostratum subsp. prostratum var. filiforme showing growth habit. Photographer: Gillian Crowcroft, September 1992, Kennedy

Bay.



Apium aff. prostratum subsp. prostratum var. filiforme. Photographer: Jeremy Rolfe, April 2006, Pautahanui



PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened 2004 | Not Threatened

DISTRIBUTION

Indigenous. In New Zealand known from the Kermadec, Three Kings, North, South, Stewart and Antipodes Islands. Also in eastern Australia as far north as Brisbane and along the whole coastline of southern Australia and Tasmania

HABITAT

Coastal and lowland. Very rarely montane. Common on rock ledges, boulder falls, cliff faces, within petrel scrub on damp seepages, in peaty turf, saltmarshes, within estuaries on mud banks, around brackish ponds, and lagoons. Also found in freshwater systems such as around lake and tarn sides, along streams and rivers and in wet hollows occasionally well inland, and sometimes at considerable elevations.

FEATURES

Perennial, glabrous, prostrate herb. Stems prostrate, sprawling, often ascending though surrounding vegetation, not rooting at nodes; 0.3-1.2 m long, up to 6 mm diam. Leaves dark green to yellow green, basal ones on long, slender petioles up to 500 mm (usually much less); pinnately 3-foliolate to 1-2-pinnate; segments ovate, obovate to cuneate, deeply incised and toothed; Leaves opposite compound umbels similar though with leaflets divided, elliptic, ovate, obovate or more or less cuneate, primary segments elliptic, ovate, obovate, or more or less cuneate in outline, with overall length 0.5-3x the greatest breadth, ultimate segments to tertiary order 8-74 per leaf. Inflorescences in compound umbels, sessile or pedunculate; peduncle usually present. 2-20 mm x 1-3 mm, usually ebracteate, sometimes one present present, this usually shedding early in umbel maturation. Rays 10-20, 0.4-8 mm long. Petals off-white to cream, with yellow-brown mid vein, ovate 0.75-1.5 x 0.5-1.0 mm, constricted at base, apex acute. Stamens about length of petals, filaments pale yellow to cream; anthers whitre or pale yellow, 0.3-0.4 x 0.3-0.4 mm. Ovary glabrous, stylopodium disciform; style 0.25-0.40 mm. Mericarps (1.5-)2.0-2.7 mm long, ovate to ovate-oblong, apex narrowed to persistent withered calyx teeth and style remnant, base broad and rounded to weakly cordate; ribs prominent, broad, rounded and spongy. Surface dull yellow to pale brown.

SIMILAR TAXA

Garden celery (Apium graveolens) is occasionally found wild and can look very similar. It is an erect, biennial herb with filiform ribs on the mericarps (fruits). Water celery (Apium nodiflorum (L.) Lagasca is a species of freshwater systems where it grows along drains, river, stream, lake and pond margins. Its umbels are always bracteolate, and the stems root freely at the nodes. The Chatham Island endemic A. prostratum subsp. denticulatum P.S.Short, differs by its allopatric distirbution, and by the leaves opposite the umbels up to 60 mm long; primary leaflets 3-5, leaflets or segments markedly denticulate with 6-36 secondary segments per leaflet only.

FLOWERING August - March

FLOWER COLOURS Cream, Yellow

FRUITING September - July

LIFE CYCLE Corky mericarps are dispersed by water (Thorsen et al., 2009).

PROPAGATION TECHNIQUE

Easily grown from fresh seed and whole plants. beign edible and pelasant tatsing it could be more widely used as a substitute for celery (Apium graveolens L.).

THREATS

Not Threatened

NOTES ON TAXONOMY

New Zealand plants of Apium prostratum are extremely variable and at least one entity currently included within var. filiforme is apaprently unnamed. These plants are usually found on muddy ground within saltmarshes, in brackish ponds, and sometimes inland around lakes, stream and river sides. The variant has very slender leaves, often purplish petioles and distinct white piliferous to markedly apiculate leaf apices. It has long been known under the tag names White Denticles and Slender. It warrants more study.

REFERENCES AND FURTHER READING

Johnson, A. T., Smith, H. A. (1972). Plant Names Simplified: Their pronunciation, derivation and meaning. Landsman Bookshop Ltd: Buckenhill, UK.

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 2009 Vol. 11 No. 4 pp. 285-309

MORE INFORMATION

https://new.nzpcn.org.nz/flora/species/apium-prostratum-subsp-prostratum-var-filiforme/

Cotula australis

COMMON NAME Common Cotula, soldiers button

ETYMOLOGY

cotula: Little cup, from the Greek kotule (small cup), referring to the cupped area at the base of the leaves **australis**: Southern

SYNONYMS

Cotula venosa Colenso

FAMILY Asteraceae

AUTHORITY Cotula australis (Spreng.) Hook.f.

FLORA CATEGORY Vascular – Native

ENDEMIC TAXON No

ENDEMIC GENUS No

ENDEMIC FAMILY No

STRUCTURAL CLASS Dicotyledonous Herbs - Composites

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COTAUS

CHROMOSOME NUMBER 2n = 36

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2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES 2009 | Not Threatened 2004 | Not Threatened

Catula quatralia. Dista grandari. Jain Smith

Cotula australis. Photographer: John Smith-Dodsworth



Hutt River north of Stokes Valley. Apr 2006. Photographer: Jeremy Rolfe

LIFE CYCLE

Winged cypselae are dispersed by water, attachment and wind (Thorsen et al., 2009).

THREATS Not Threatened

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

MORE INFORMATION

https://new.nzpcn.org.nz/flora/species/cotula-australis/

Veronica elliptica

COMMON NAME Kokomuka, shore hebe, shore koromiko

ETYMOLOGY

veronica: Named after Saint Veronica, who gave Jesus her veil to wipe his brow as he carried the cross through Jerusalem, perhaps because the common name of this plant is 'speedwell'. The name Veronica is often believed to derive from the Latin vera 'truth' and iconica 'image', but it is actually derived from the Macedonian name Berenice which means 'bearer of victory'. **elliptica**: Elliptic

SYNONYMS

Veronica forsteri F.Muell. nom. illeg., Veronica decussata Moench, Veronica decussata Aiton, Hebe magellanica J.F.Gmel., Veronica marginata Colenso, Hebe elliptica (G.Forst.) Pennell, Hebe elliptica var. crassifolia Cockayne et Allan

FAMILY

Plantaginaceae

AUTHORITY Veronica elliptica G.Forst.

FLORA CATEGORY Vascular – Native

ENDEMIC TAXON No

ENDEMIC GENUS No

ENDEMIC FAMILY No

STRUCTURAL CLASS Dicotyledonous Trees & Shrubs

NVS CODE HELP

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HEBELL

CHROMOSOME NUMBER

2n = 40



Hebe elliptica. Photographer: DoC



Hebe elliptica. Photographer: DoC

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2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened 2004 | Not Threatened

BRIEF DESCRIPTION

Bushy shrub or small tree of coastal areas bearing pairs of dark green glossy leaves with a narrow white-hairy margin. Leaves 12-31mm long by 6-12mm wide. Leaf with narrow gap between leaves at base. Flowers white or purplish, in spike to 5cm long.

DISTRIBUTION

Indigenous. North, South, Stewart, Snares, Auckland and Campbell Islands. In the North Island scarce, known only from the west coast in scattered locations on the south Taranaki coast, on Kapiti Island, and Titahi Bay. Naturalised on Chatham (Rekohu) Island. Indigenous also to the Falkland Islands. Also naturalised on Maatsuyker Island, Tasmania

HABITAT

Grows in coastal areas, often in exposed places on rocks

FEATURES

Bushy shrub to 2 m tall. Branches erect, old stems brown; branchlets green or red-brown or reddish-black (initial cork formation often in regions between decurrencies), pubescent. hairs strictly bifarious or uniform; internodes (1-) 4-13 (-17.5) mm; leaf decurrencies evident (and often with a narrow ridge along medial line). Leaf bud distinct; sinus square to oblong. Leaves decussate or sometimes more or less subdistichous (with petioles twisted so that leaves face in more or less one direction), erecto-patent to patent; lamina broadly to narrowly elliptic or oblong or obovate or oblanceolate, coriaceous, flat or m-shaped in transverse section, (5-) 12-31 (-42) x (3-) 6-12 (-18) mm; apex plicate and mucronate or acute; base cuneate to truncate; margin sometimes cartilaginous, conspicuously longpubescent (with dense, tangled hairs; except at apex), entire or minutely crenulate; upper surface green or dark green, dull or slightly glossy, with many stomata, minutely hairy along midrib; lower surface light green; petiole 1-4 (-8.5) mm, glabrous or sometimes hairy along margins (but hairs much shorter and more sparse than those on rest of leaf margin). Inflorescences with (3-) 6-14 flowers, lateral, unbranched, 1.5-5.1 cm, shorter to longer than subtending leaves; peduncle 0.4-1.7 cm; rachis 1.1-3.6 cm. Bracts alternate (lowermost often a more or less subopposite pair or a slightly offset "whorl" of three), deltoid, acute or subacute. Flowers, hermaphrodite. Pedicels (1.5-) 3-8 (-9) mm. Calyx (3.5-) 4-6.5 mm; lobes lanceolate or ovate or elliptic, obtuse to acute, with mixed glandular and eglandular cilia (eglandular most conspicuous, often long and tangled). Corolla tube hairy inside or glabrous, 3-4 x 3.5-4 mm, shortly and broadly funnelform, shorter than or equalling calyx; lobes mauve or blue at anthesis, ovate or elliptic, obtuse or subacute, patent to recurved, longer than corolla tube. Stamen filaments white or mauve, 4.5-5.5 mm, anthers mauve, 2.4-3.2 mm. Nectarial disc glabrous or densely ciliate. Ovary 1.7-2 mm; ovules 45-61 per locule, in 2-3 layers; style 4-6.5 mm. Capsules, subacute, 5.5-8.5 x (3.5-) 4-5.5 mm, loculicidal split extending 1/4-1/2-way to base (mostly 1/4 - 1/3). Seeds flattened, broad ellipsoid to discoid, winged or not winged, straw-yellow to brown, 0.9-2 x 0.9-1.5 mm, micropylar rim 3-0.5 mm.

FLOWERING

(August-) November-March (-June)

FLOWER COLOURS Blue, White

FRUITING November-April (-October)

LIFE CYCLE

Seeds are wind dispersed (Thorsen et al., 2009).

PROPAGATION TECHNIQUE

Easily grown from semi-hardwood cuttings and layered pieces. An excellent coastal shrub which does well in most gardens but rarely flowers in northern New Zealand. Hebe elliptica is extremely variable, and some critical selection of the range of wild forms is needed. Plants from near Charleston are particularly distinctive in that they retain their flat, creeping habit in cultivation.

THREATS

Not Threatened

TAXONOMIC NOTES

Distinguished from other species by the combination of: large flowers; a prominent leaf bud sinus; robust, elliptic, oblong, obovate or oblanceolate leaves; and leaf margins conspicuously pubescent except on petioles and plicatemucronate apices. Plants vary throughout the species' range in terms of overall size, leaf shape and size, leaf thickness, internode length, branchlet pubescence and flower colour. Moore (in Allan 1961) also reported that some cultivated specimens from South America have terminal. as well as lateral, inflorescences.

Plants with broad, fleshy leaves from Kāpiti Island and Titahi Bay, Wellington, were described by Cockayne & Allan (1926) as a distinct variety, var. *crassifolia*. That variety is not considered sufficiently distinct, given variation in the species, to be formally recognised here.

There are specimens labelled "Lyttleton" in the Armstrong Herbarium at CHR, and two in WELT (44110, Herb. T. Kirk; 5298, G. Mair) apparently from the Chatham Islands. It is not unreasonable that the species occurs/occurred naturally in either area, but if so, it is surprising that its presence in these well collected localities has not been confirmed by subsequent wild collections, and they are omitted from the distribution. According to P. J. de Lange (pers. comm. 2005), there are plantings of *V. elliptica* on Chatham Island and the species is currently naturalised there around Waitangi.

The species hybridises with *V. salicifolia* at some sites where they co-occur, particularly on southern South Island. It is also one parent of a range of ornamental hybrid cultivars, including the widely grown *H. xfranciscana* (Heenan 1994; Metcalf 2001).

ATTRIBUTION

Description adapted by M. Ward from Bayly & Kellow (2006).

REFERENCES AND FURTHER READING

Allan, H. H. 1961. Flora of New Zealand. Volume 1.Wellington: Government Printer.

Bayly, M.J., Kellow, A.V. 2006. An illustrated guide to New Zealand Hebes. Wellington, N.Z.: Te Papa press pg. 262-263.

Cockayne, L. and Allan H. H. 1926. The present taxonomic status of the New Zealand species of *Hebe*. Transactions and Proceedings of the New Zealand Institute 57: 1-47.

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MORE INFORMATION

https://new.nzpcn.org.nz/flora/species/veronica-elliptica/

Phormium tenax

COMMON NAME

Flax, harakeke, korari (maori name for inflorescence).

ETYMOLOGY

phormium: Basket or basketwork **tenax**: Tough

SYNONYMS None

FAMILY Xanthorrhoeaceae

AUTHORITY Phormium tenax J.R.Forst. et G.Forst.

FLORA CATEGORY Vascular – Native

ENDEMIC TAXON Yes

ENDEMIC GENUS No

ENDEMIC FAMILY

No

STRUCTURAL CLASS Monocotyledonous Herbs

NVS CODE HELP

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PHOTEN

CHROMOSOME NUMBER

2n = 32

CURRENT CONSERVATION STATUS HELP

Conservation status of New Zealand indigenous vascular plants, 2017

The conservation status of all known New Zealand vascular plant taxa at the rank of species and below were reassessed in 2017 using the New Zealand Threat Classification System (NZTCS). This report includes a statistical summary and brief notes on changes since 2012 and replaces all previous NZTCS lists for vascular plants. Authors: By Peter J. de Lange, Jeremy R. Rolfe, John W. Barkla, Shannel P. Courtney, Paul D. Champion, Leon R. Perrie, Sarah M. Beadel, Kerry A. Ford, Ilse Breitwieser, Ines Schönberger, Rowan Hindmarsh-Walls, Peter B. Heenan and Kate Ladley.

2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES 2009 | Not Threatened

2004 | Not Threatened



Phormium tenax seed heads (Korari). Photographer: Jeremy Rolfe



Phormium tenax. Photographer: John Sawyer

DISTRIBUTION

Indigenous to New Zealand and Norfolk Island. A broad circumscription has been adopted here - many botanists feel that plants from the Chatham Islands could be distinguished at species rank from the mainland New Zealand species, other distinctive variants occur on the Three Kings and outer Hauraki Gulf Islands, and along the Kaikoura coast. Norfolk Island plants though uniform differ in subtle ways from the New Zealand forms of P. tenax. Further study into this variation is underway.

HABITAT

Common from lowland and coastal areas to montane forest, usually but not exclusively, in wetlands and in open ground along riversides.

FEATURES

Stout liliaceous herb, 1-5(-6) m tall. Leaves numerous, arising from fan-like bases. Individual leaves rather stiff at first, but becoming decurved, somewhat pendulous or "floppy" in upper half to a third, 1-3 x 50-120 mm, usually blue-grey (glaucous) or dark green, lamina margin, entire, somewhat thickened and pigmented black, dark red, pink, yellow or cream. Inflorescence 5(-6) m tall, somewhat woody and fleshy when fresh, long persistent, drying charcoal grey or black, with the fibrous interior becoming progressively more exposed. Peduncle 20-30 mm diam., erect, dark grey-green or red-green, glabrous. Flowers 25-50 mm long, tubular, predominantly dull red but may also be pink or yellow; tips of inner tepals slightly recurved. Ovary erect. Capsules 50-100 mm long, dark green, red-green or black, trigonous in cross-section, erect, abruptly contract at tip, not twisted, initially fleshy becoming woody with age, long persistent. Seeds 9-10 x 4-5 mm, black, elliptic, flat and plate-like, margins frilled or twisted.

SIMILAR TAXA

Could only be confused with the so called mountain flax (Phormium cookianum) from which it is easily distinguished by the erect rather than pendulous seed pods

FLOWERING

(September-) October-November (-January)

FLOWER COLOURS Red/Pink, Yellow

FRUITING (November-) December (-March)

PROPAGATION TECHNIQUE

Very easy from fresh seed. Most commonly grown by the division of rooted fans from established plants.

THREATS

Not threatened although see the discussion below about flax dieback. This die back phenomenon is characterised by abnormal yellowing of the leaves and may result in collapse of flax plants or whole populations.

WHERE TO BUY

Very commonly cultivated throughout New Zealand and in many parts of the world. However, most cultivated material available is a mixture of hybrid, variegated and/or colour mutations. The actual wild forms of the species are now rarely available in mainline garden centres and nurseries.

CULTURAL USE/IMPORTANCE

Harakeke is an important plant used in weaving. For more information go to the <u>Weaving Plant Database</u> run by Landcare Research. A report funded by the Sustainable Farming Fund identified numerous uses for flax to increase its abundance in the landscape including buffering or establishing corridors. For more information read "<u>Integrating</u> New Zealand Flax into Land Management Systems" by Elizabeth McGruddy (2006).

FLAX DIEBACK

'Yellow-leaf' is one of the most serious diseases of harakeke (similar to the 'sudden decline' in cabbage trees). The disease is characterised by abnormal yellowing of the leaves. Scheele (1997) described how "growth of young leaves may be stunted and eventually the whole plant may collapse. Underground, the roots die off, the rhizome tissues collapse and rot spreads towards the crown of the plant".

The cause has been identified as being a phytoplasma (a bacterium), transmitted by the native flax plant hopper. The hopper injects the bacterium into the leaf, while sucking the sap. Yellow-leaf is found in North and South Island, but is more prevalent in North Island (Boyce et al, 1951). For more information read "<u>Integrating New Zealand Flax</u> <u>into Land Management Systems</u>" by Elizabeth McGruddy (2006).

REFERENCES AND FURTHER READING

Boyce, et al. 1951. Preliminary note on yellowleaf disease. NZJ of Science and Technology, 32(3): 76-77 Scheele, S. 1997. Insect pests and diseases of harakeke, Manaaki Whenua Press

MORE INFORMATION

https://new.nzpcn.org.nz/flora/species/phormium-tenax/

Solanum laciniatum

COMMON NAME

Poroporo, bullibulli

ETYMOLOGY

solanum: Derivation uncertain - possibly from the Latin word sol, meaning "sun," referring to its status as a plant of the sun. Another possibility is that the root was solare, meaning "to soothe," or solamen, meaning "a comfort," which would refer to the soothing effects of the plant upon ingestion.

SYNONYMS Solanum laciniatum f. novozelandicum Herasim.

FAMILY Solanaceae

AUTHORITY Solanum laciniatum Aiton

FLORA CATEGORY Vascular – Native

ENDEMIC TAXON

ENDEMIC GENUS No

ENDEMIC FAMILY No

STRUCTURAL CLASS Dicotyledonous Trees & Shrubs

NVS CODE HELP

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CHROMOSOME NUMBER 2n = 92

CURRENT CONSERVATION STATUS HELP

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2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES 2009 | Not Threatened

2004 | Not Threatened



Solanum laciniatum plant in flower. Photographer: John Barkla



Solanum laciniatum. Photographer: John Smith-Dodsworth

BRIEF DESCRIPTION

Fleshy shrub to 4m tall bearing dark green thin wide leaves that are divided into 1-3 large sharp lobes and with large purpleish ruffled flowers that have a projecting yellow centre. Leaves 10-80cm long by 4-6cm wide. Flowers dished, up to 50cm wide. Fruit yellow or orange, 23-30mm long. POISONOUS.

DISTRIBUTION

Indigenous. North, South, Stewart and Chatham Islands. Widespread from the Hauraki Gulf Islands and Auckland south. In the northern part of its range actively spreading northwards caused it would seem through establishment through bird dispersal of fruit from garden plantings. Also present in south eastern Australia and Tasmania. Naturalised in parts of China and Russia.

HABITAT

Coastal to montane (0-400 m a.s.l.). usually in disturbed successional habitats, in shrublands, gullies, alongside riversides, on forested margins and in reverting pasture. Often appears following fires. A common urban weed in many parts of the country.

FEATURES

Erect to spreading, glabrous, soft-wooded shrub up to 4 x 3 m. Stems initially somewhat fleshy, purple-green, dark green to dark purple coloured, maturing with fine, firm, grey chartaceous bark, rather brittle. Leaves in stout petioles up to 50 mm long; lamina 100-800 x 40-60 mm, sometimes even larger, very dark green to purple-green, entire or pinnatisect, (then with 1-4(-6) pairs of lobes almost cut to midrib) on the same plant; lobes up to 50 x 20 mm, lanceolate to linear-lanceolate, or more or less elliptic; base decurrent on petiole; apex obtuse to acuminate. Flowers in 2-10-many-flowered cymes, peduncles up to 20 mm long at anthesis, decurved, slender but robust; pedicels pendent at fruiting. Calyx 5-8 mm long, accrescent; lobes broadly ovate-triangular, mucronate, much < tube. Corolla 50 mm diameter, rotate, violet or white, lobes very borad, margins frilled or ruffled, apices emarginate. Anthes 3-4 mm long. Berry 23-30 mm long, yellow or orange when ripe, fleshy, ovoid, ellipsoid, pendent, stoen cells obvious and frequent similar or shape to seeds. Seeds 2.2-2.5 mm diameter, obovoid though somewhat asymetric.

SIMILAR TAXA

Often confused with the now much less common S. aviculare G.Forst., which in its typical state has narrower leaves which are less frequently pinnatifid, usually much narrower 10-40 mm diameter) with campanulate-rotate flowers with narrower acute tipped lobes, without distinctly frilled (ruffled), smaller seeds (1-2 mm cf 2-3 mm) and a different chromosome number (2n = 46 cf 2n = 92). S. lacinatum differs from S. aviculare f. latifolium (G.T.S.Baylis) G.T.S.Baylis by its broader, wider lobes with frilled/ruffled margins and an emarginate apex, and by the chromosome number (2n = 92 cf 2n = 46).

FLOWERING Throughout the year

FLOWER COLOURS Violet/Purple, White

FRUITING Throughout the year

PROPAGATION TECHNIQUE

Easily grown from fresh seed and semi-hardwood cuttings. Tolerant of heavy shade and full sun, and dry or wet soils and cold tolerant. Extremely fast growing and can become invasive. It should also be noted that as with all poroporo the green fruits are extremely toxic.

THREATS Not Threatened

CULTURAL USE/IMPORTANCE

The fruits of this species and S. aviculare G.Forst. var. aviculare yield important steroid precursors, so both are widely and commericially grown, especially in eastern Europe, Russia and China.

POISONOUS PLANT

As with Solanum aviculare var. aviculare, the yellow or green berries are poisonous but when ripe (orange) they lose much of their toxicity. The symptoms are often delayed up to 6-12 hours and may include a fever, sweating, nausea and abdominal pain. Click on this link for more information about <u>Poisonous native plants</u>.

Fact Sheet Citation

Please cite as: de Lange, P.J. (Year at time of Access): *Solanum laciniatum* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. <u>https://www.nzpcn.org.nz/flora/species/solanum-laciniatum/</u> (Date website was queried)

ATTRIBUTION

Fact Sheet prepared for the NZPCN by P.J. de Lange 12 May 2006. Description by P.J. de Lange with some elements based on Allan (1961) and Webb et al. (1988).

REFERENCES AND FURTHER READING

Allan, H.H. 1961: Flora of New Zealand. Vol. I. Government Printer, Wellington. Webb CJ, Sykes WR, Garnock-Jones PJ 1988. Flora of New Zealand. Vol. IV. Botany Division, DSIR, Christchurch.

MORE INFORMATION

https://new.nzpcn.org.nz/flora/species/solanum-laciniatum/

Tetragonia implexicoma

COMMON NAME

Native spinach

ETYMOLOGY tetragonia: Four-angled

SYNONYMS

Tetragonia implexicoma var. chathamica F.Muell., Tetragonia trigyna Banks et Sol. ex Hook.f.

FAMILY Aizoaceae

Aizoaceae

AUTHORITY Tetragonia implexicoma (Miq.) Hook.f.

FLORA CATEGORY Vascular – Native

ENDEMIC TAXON

No

ENDEMIC GENUS No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Dicotyledonous Lianes and Related Trailing Plants

NVS CODE HELP

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TETIMP

CHROMOSOME NUMBER 2n = 32

CURRENT CONSERVATION STATUS HELP

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2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened 2004 | Not Threatened

DISTRIBUTION

Indigenous. New Zealand: Kermadec Islands (Herald Islets, Raoul, Macauley Islands), Three Kings, North, South and Chatham Islands. Also Australia, Norfolk and Lord Howe Islands



Kapiti Island. June 2005. Photographer: Jeremy Rolfe



Tetragonia implexicoma. Photographer: John Smith-Dodsworth

HABITAT

Coastal to montane. Mostly found in coastal areas occupying a variety of habitats from cobble and sand beaches through coastal forest and shrubland, also found in exposed windshorn vegetation on cliffs and rock stacks. Occasionally found growing well inland, sometimes in farmland where it grows in barberry (Berberris spp.) hedges or on limestone and calcareous sandstone outcrops in otherwise dense forest.

FEATURES

Prostrate or scrambling subshrub forming straggling to dense leafy patches up to 4 m long. Stems long trailing, terete, initially somewhat succulent, and often coloured red or pink, maturing dark green to brown-black and becoming woody with age. Leaves alternate, often clustered, sometimes widely spaced along stems, fleshy, papillose; petiole 3-15(-20) mm long; lamina 20-50(-80) × (8-)10-30(-46) mm, ovate-rhomboid to lanceolate, to linear-lanceolate, adaxially dark green, green to almost glaucescent, abaxially paler, sometimes flushed pink. Flowers solitary; pedicels slender, 5-30 mm long. Perianth lobes 4, (1.8-)2.8-3.0(-3.6) mm long, oblong, abaxially papillose-hairy, adaxially finely papillose, yellow. Stamens 12-20. Ovary semi-inferior; locules and styles 2(-3). Fruit 5-8 mm long, succulent, pink to dark red, subglobose.

SIMILAR TAXA

Tetragonia implexicoma is only ever likely to be confused with the related T. tetragonioides (New Zealand spinach) from which it is most reliably distinguished when fruiting by the pink to dark red fleshy, subglobose fruits rather than the dry, leathery obconic and distinctly horned fruits typical of T. tetragonioides.

FLOWERING September - June

FLOWER COLOURS Yellow

FRUITING September - July

PROPAGATION TECHNIQUE

Easily grown from rooted pieces, stem cuttings and from fresh fruit. Although edible Tetragonia implexicoma has a decidedly less agreeable, more "soapy" taste. Like T. tetragonioides this species flourishes in a rich soil and does best grown in full sun. It can be used as a very effective ground cover in coastal situations and can be trained up walls and down cliff faces. It is reasonably drought tolerant but will not stand much frost. In New Zealand the species is highly variable and some populations, notably those from the Kermadec and Three Kings Islands have rather small leaves and a more compact growth habit which might be worth utilizing in cultivation.

THREATS

Not Threatened. A widespread and common species throughout most of coastal New Zealand.

ATTRIBUTION Fact sheet prepared for NZPCN by P.J. de Lange 24 October 2011. Description by P.J. de Lange.

MORE INFORMATION

https://new.nzpcn.org.nz/flora/species/tetragonia-implexicoma/

Senecio glomeratus subsp. glomeratus

COMMON NAME

Fireweed

ETYMOLOGY

senecio: From the Latin senex 'old man' (probably referring to the bearded seeds)

SYNONYMS

Erechtites glomerata DC. nom. illegit., Senecio argutus A.Rich. nom. illegit., Erechtites arguta (A.Rich) DC., Erechtites quadridentata var. traversii Allan

FAMILY

Asteraceae

AUTHORITY Senecio glomeratus Desf. ex Poir. subsp. glomeratus

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON No

ENDEMIC GENUS No

ENDEMIC FAMILY No

STRUCTURAL CLASS Dicotyledonous Herbs - Composites

NVS CODE HELP

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SENGLO

CHROMOSOME NUMBER 2n = 60

CURRENT CONSERVATION STATUS HELP

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2012 | Not Threatened



Rimutaka Rail Trail. Dec 2006. Photographer: Jeremy Rolfe



Rimutaka Rail Trail. Dec 2006. Photographer: Jeremy Rolfe

PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened 2004 | Not Threatened

DISTRIBUTION

Indigenous. Three Kings, North, South, Stewart and Chatham Islands. Present in Australia

HABITAT

A weedy species of disturbed ground. Predominantly coastal and lowland but does extend to the subalpine zone. Tolerant of water logged and very dry habitats

FEATURES

Annual to short-lived perennial herb to 2 m tall. Stems erect or ascending to erect, moderately coarse-hairy, becoming sparsely coarse-hairy and/or appressed cottony or nearly glabrous upwards. Mid stem leaves more or less evenly spaced and sized, 50-200 mm long, dark glaucous green to dark green, elliptic to narrow-elliptic, length:width (I:w) ratio 2-7, coarse-dentate to deeply lobate, rarely not dissected, semiamplexicaul; margin with scattered or frequent denticulations or teeth; both surfaces usually coarse-hairy but commonly coarse hairs sparse or absent above mid stem; lower surface green or purple, above mid stem appressed, woolly, cobwebby or more or less glabrous. Uppermost leaves narrow-elliptic, lanceolate or linear, I:w ratio 3-10; dentate or margin appearing entire due to rolling. Unit Inflorescences of many capitula; total number of capitula per stem often 50-300, over topping variable; mature lateral peduncles mostly 4-13 mm long. Calycular bracteoles of capitula 6-12, 1.0-3.0 mm long; peduncle and margin of bracteoles cobwebby to densely woolly at anthesis; involucre 3.0-6.0 x 1.5-2.5 mm; involucral bracts 12-14, glabrous or basally slightly cobwebby, apex erect; stereomes (on drying) gently to moderately convex, green, black at apex, sometimes with a purple zone 1 mm long immediately below tip, sometimes entirely purple. Florets 26-50, c.80% female, dark sulphur yellow; corolla-lobes deltoid, thickened apically; corolla of bisexual florets 3.5-6.5 mm long, 5-lobed; corolla-lobes of female florets 2-4, mostly 0.2-0.3 mm long; corolla-limb commonly deeper cleft on inner face. Cypsela narrow obloid to narrow-ellipsoid, sometimes slightly clavate, < 1/3 of involucral bract length (1.0-1.7 mm long), commonly all medium to dark red-brown, with papillose hairs in lines or narrow bands, I:w ratio of hairs 3; pappus usually > 5 mm long.

SIMILAR TAXA

A distinctive and well marked species not easily confused with any other Senecio species present in New Zealand. The dark glaucous-green, elliptic, usually deeply toothed leaves with often dark purple undersides, distinctive coarse to cobwebbed hairs, and dark sulphur yellow florets serve to distinguish it. This species hybridises with S. hispidulus and S. quadridentatus.

FLOWERING

Throughout the year but most plants peak in summer

FLOWER COLOURS Yellow

FRUITING Late summer to early winter but can present all year

PROPAGATION TECHNIQUE Easy from fresh seed. Can become invasive

THREATS Not Threatened

WHERE TO BUY Not commercially available.

TAXONOMIC NOTES

Rather variable, and in Australia two subspecies (subsp. glomeratus and subsp. longifructus) are now recognised. Chatham Island plants differ consistently from mainland specimens in having less divided often broader leaves and shorter capitula. They warrant further study.

ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange (12 July 2005). Description based on Thompson (2004).

REFERENCES AND FURTHER READING

Thompson, I.R. 2004: Taxonomic studies of Australian Senecio (Asteraceae): 1. The disciform species. Muelleria 19: 101-214.

MORE INFORMATION

https://new.nzpcn.org.nz/flora/species/senecio-glomeratus-subsp-glomeratus/