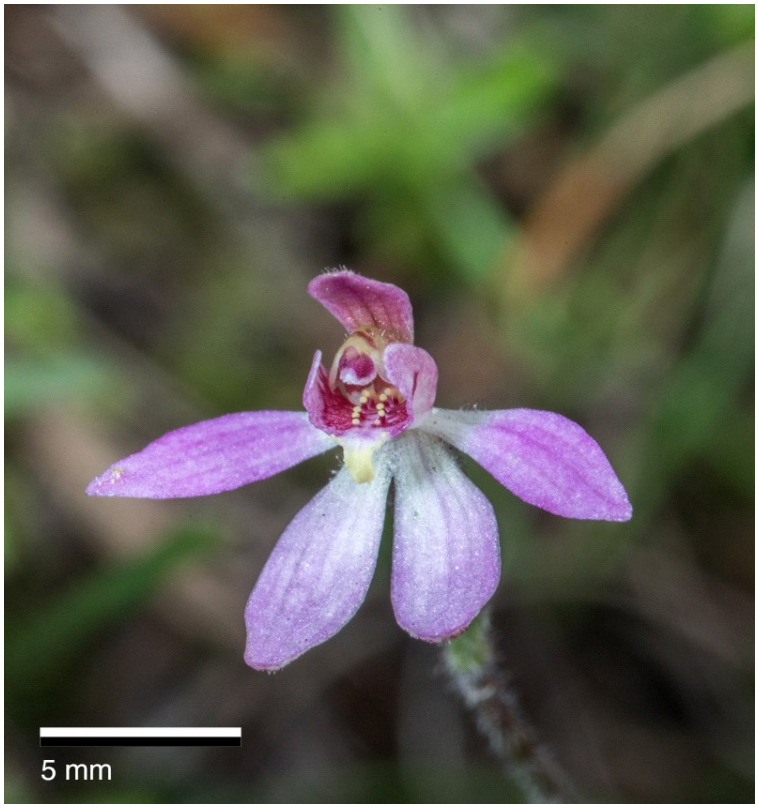
Auckland's threatened plants Vol. VII



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Made on the New Zealand Plant Conservation Network website – www.nzpcn.org.nz

Introduction

This book was compiled from information stored on the website of the New Zealand Plant Conservation Network (www.nzpcn.org.nz).

This website was established in 2003 as a repository for information about New Zealand's threatened vascular plants. Since then it has grown into a national database of information about all plants in the New Zealand botanic region including both native and naturalised vascular plants, threatened mosses, liverworts and fungi.

Funding to develop the website was provided by the New Zealand Government's Terrestrial and Freshwater Biodiversity Information System Programme (TFBIS).

The species information used on the website has come from a variety of sources. The indigenous vascular plant text was written largely by Dr Peter de Lange (former Network Vice President). Peter based the descriptions on a wide range of sources including the Flora of NZ Series (Allan 1961, Moore and Edgar 1970 and Webb et al 1987) as well as numerous other taxonomic treatments. For a full bibliography of information sources see the References at the end of this book.

Where no published treatment was available Peter used herbarium specimens and his own knowledge of the flora to prepare species pages. Various other contributors have provided text and additional information to many species pages including botanists such as Mike Thorsen, John Barkla, Cathy Jones, Simon Walls, Nick Singers and many others. The threatened fungi text was written by Eric Mackenzie and Peter Buchanan (Landcare Research).

More than 200 photographers have kindly provided images to illustrate the website and for use in this book especially John Smith-Dodsworth, Jeremy Rolfe, Peter de Lange, Wayne Bennett and Gillian Crowcroft.

The New Zealand Botanic Region

The information on the Network website, from which this book was compiled, is for species that are indigenous to or naturalised within the New Zealand Botanic Region as defined by Allan (1961). The New Zealand botanic region encompases the Kermadec, Manawatawhi/Three Kings, North, South, Stewart Island/Rakiura, Chatham, Antipodes, Bounties, Snares, Auckland Campbell island/Motu Ihupuku and Macquarie.

About the Network

The Network has more than 800 members worldwide and is New Zealand's largest non-governmental organisation solely devoted to the protection and restoration of New Zealand's indigenous plant life.

The vision of the New Zealand Plant Conservation Network is that '*no indigenous species of plant will become extinct nor be placed at risk of extinction as a result of human action or indifference, and that the rich, diverse and unique plant life of New Zealand will be recognised, cherished and restored*'.

Since it was founded in 2003 the Network has undertaken a range of conservation initiatives in order to achieve its vision.

That work has included:

- Training people in plant conservation
- Publishing plant books, reports and posters
- Raising money for the David Given Threatened Plant Research Trust to pay for plant conservation research scholarships
- Advocacy to raise awareness of the importance of plant life in general and especially New Zealand's status as a Global Centre of Plant Diversity
- Lobbying central and regional government and business to protect indigenous plant life
- Educating people about plant life through the Network website
- Connecting people through the monthly newsletter, the Network conference and the annual general meeting

What is a threatened plant?

The NZ Threatened Plant Committee was formed in 1991 and ever since then it has met at regular intervals to review the status of indigenous vascular plants. It is made up of a small group of botanists that between them have an extensive knowledge of the native plants of New Zealand. This group is chaired by Dr Peter de Lange of the New Zealand Department of Conservation.

This committee applies a set of criteria to each native plant to determine its conservation status. The resulting list of species classified as threatened is published in the NZ Journal of Botany (see for example de Lange et al. 2009). The main threat categories used are: Extinct, Critical, Endangered, Vulnerable, Declining. Other categories used are: Recovering, Relict, Naturally Uncommon, Coloniser, Vagrant and Data Deficient. For vascular plants the threat status used in this book is taken from the 2009 conservation assessment (see de Lange et al 2009).

More recently other committees have been established to review the status of non-vascular plants but their lists are yet to be published.

Pomaderris rugosa

Caption: Kawakawa Bay
Photographer: Gillian Crowcroft

Caption: Close up - Kawakawa Bay
Photographer: G.M. Crowcroft

Common Name(s):
Pomaderris

Current Threat Status (2012):
At Risk - Naturally Uncommon

Distribution:
Endemic. New Zealand: North Island (Herekino, Waiti River (Between Silverdale and Orewa), Rotoroa and Ponui Islands. Coromandel Peninsula; Mayor (Tuhua) Island, west coast of Firth of Thames; Aotea and Kawhia Harbours).

Habitat:
Coastal to lowland. Commonly found in open scrub overlying clay and other impoverished soils and rocks (especially Rhyolite). Also in low scrub within estuaries. The Herekino records are from forestry tracks and are disputed as natural by some botanists. Similarly there is some suggestion that the Silverdale records were the result of deliberate plantings.

Features*:
Erect, often widely spreading, rarely decumbent, much-branched shrub up to 3 m tall. Adult leaves 10-60 x 5-14 mm, dark green above, pale-grey, rarely rust coloured beneath, narrow-elliptic, narrow-oblong to oblong-lanceolate, obtuse, entire, margins flat in shade leaves, otherwise recurved, petiole to 5 mm; upper surface glabrous to glabrescent, sometimes with simple hairs at first, lower surface densely clothed in sessile and stalked stellate hairs, ferruginous and more conspicuous on veins; margins entire; stipules 1-2 mm long, deciduous. Juvenile leaves similar but usually larger and finely toothed. Inflorescence a rounded to sub-pyramidal, many-flowered panicle, terminal or subterminal, individual clusters compact; outer bracts pale, broadly elliptic, closely hairy; buds elongated, pale; pedicels to 3 mm. long. Flowers c.4 mm. diameter, calyx spreading, lobes 1.5 mm long, cream or pale yellow, fading to golden yellow after anthesis, deciduous; calyx-tube covered with fine close hairs, stellate except for a few simple ones. long; petals 0; style divided to c.1/2 length; petals absent. Anthers oblong. Ovary with dense stellate hairs at apex, wholly immersed in calyx tube at anthesis, ¨ø immersed at fruiting. Capsule c. 3.5 mm. long, nearly ¨ú immersed in calyx-tube, narrow, pale, losing sepals early; operculum > 1/2 coccus-length; cocci opening by opercula occupying ¨ø of their inner faces; seeds long, c.2 x 1 mm, dark brown, ant-dispersed.

Flowering:
October - December (but sporadic throughtout the year)

Fruiting:
November - May

Threats:
Naturally uncommon but rather widespread, often sparsely distributed endemic. Most common on the Coromandel Peninsula but also abundant around the firth of Thames and on the Inner Gulf islands. It is widespread and tolerant of distrubance and often found in pine forests. There are few obvious threats.

***Attribution:**
Description based on herbarium specimens and both Allan (1961) and Webb et al. (2988).

References and further reading:
Allan, H.H. 1961: Flora of New Zealand. Vol. I. Government Printer, Wellington.

Webb, C.J.; Sykes, W.R.; Garnock-Jones, P.J. 1988: Flora of New Zealand. Vol. IV. Naturalised Pteridophytes, Gymnosperms, Dicotyledons. 4. Christchurch, New Zealand, Botany Division, D.S.I.R.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=644

Pouzolzia australis

Caption: Ex. Cult Mt Albert
Photographer: Gillian Crowcroft

Caption: Ex. Cult Mt Albert
Photographer: Gillian Crowcroft

Common Name(s):
Kermadec Nettle Tree

Current Threat Status (2012):
At Risk - Naturally Uncommon

Distribution:
As currently circumscribed by Wilmot-Dear & Friis (2006) Pouzolzia australis is indigenous to Norfolk and Lord Howe Islands as well as the Kermadec Islands, where it is now known only from Raoul and Macauley Islands. While the merger of Boehmeria australis subsp. dealbata with B. australis subsp. australis into Pouzolzia as P. australis seems sensible, the merger of the very distinctive Lord Howe endemic Boehmeria calophleba requires further critical study before it should be universally followed. For a concise explanation of the differences between Boehmeria and Pouzolzia see Wilmot-Dear et al. (2009).

Habitat:
Coastal forest, cliff faces, recent and semi-stable slips, low scrub.

Features*:
Shrub or small tree up to 8 m tall. Branchlets at first covered in fine white pubescence, maturing with age grey. Leaves alternate, 60-200 x 30-60 mm, ovate-ovate-lanceolate, borne on stout petioles 25 to 30 mm long, leaf apex acuminate, upper surface glabrescent, rugulose to almost smooth, undersides finely clad in dense white hairs (so giving a white colour to leaf undersides). Midrib and veins prominent, glabrescent, yellow-green. Inflorescences numerous, sessile, axillary glomerules (clusters). Male flowers with acuminate perianth segments 2-3 mm long, clad in stiff hairs, females with tubular perianth up to 2 mm long, contracted at 2-toothed apex; stigma filiform, protruding. Fruits compressed, broadly winged, the ovoid achenes minute.

Flowering:
Year round

Fruiting:
Year round

Threats:
Formerly threatened with extinction through heavy browsing pressure from goats. Following the eradication of goats from Raoul Island Kermadec nettle tree did not at first recover. Indeed it seems to have declined further and for a decade or so it became very scarce. It was presumed that this was caused by competition from weed species, which had, following the goat eradication, rapidly spread into the type of habitat it was assumed Kermadec nettle tree requires. Current fieldwork now suggests that Kermadec nettle tree is rapidly spreading and colonising new habitats, such that it is no longer considered to be a seriously threatened plant. In May 2011 Pouzolzia was rediscovered on Macauley Island where it had been believed to have gone extinct over a 100 years before.

***Attribution:**
Fact sheet prepared for NZPCN by P.J. de Lange 30 August 2009. Description adapted from Allan (1961).

References and further reading:

Allan, H.H. 1961: Flora of New Zealand. Vol. I, Wellington, Government Printer.

de Lange, P.J.; Gardner, R.O.; Sykes, W.R.; Crowcroft, G.M.; Cameron, E. K. Stalker, F.; Christian, M.L.; Braggins, J.E. 2005: Vascular flora of Norfolk Island: some additions and taxonomic notes. *New Zealand Journal of Botany 43*: 563-596.

Wilmot-Dear, C.M.; Friss, I. 2006: The Old World species of *Pouzolzia* (Urticaceae, tribus Boehmerieae). A taxonomic revision. *Opera Botanica (Nordic Journal of Botany) 24*: 5-114.

Wilmot-Dear, C.M.; Acharya, N.; Kravtsova, T.I.; Friis, I. 2009: *Pouzolzia rugulosa* transferred from *Boehmeria*, and the distinction between *Boehmeria* and *Pouzolzia* (Urticaceae). *Edinburgh Journal of Botany 66*: 51-64.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=51

Prasophyllum hectorii

Common Name(s):
swamp leek orchid

Current Threat Status (2012):
At Risk - Declining

Distribution:
Endemic. North and Chatham Islands. Formerly known in the North Island from Te Paki south to near Waiouru, and from one site on the main Chatham Island. Current records exist for Te Paki, the Waikato and Central Volcanic Plateau.

Habitat:
Coastal to subalpine, in wetlands (0-1100m a.s.l.), and associated slow flowing streams. Usually found partially submerged in or at the margins of pools and streams, where the plants tubers may be seen floating just above the sediment. It is often associated with the sedge genera Baumea and Eleocharis (Cyperaceae) where it easily overlooked unless flowering.

Features*:
Stout orchid of wetlands. Plants sweetly scented, 0.15-1 m tall at flowering, Tuber ovoid usually paired with previous seasons tuber, roots few, stout, peg-like. Stem erect, fleshy, terete, dark green. Leaf solitary, usually overtopping raceme; lamina yellow-green to dark green, fleshy, terete, apex acute. Inflorescence a few to many flowered raceme. Flowers more or less evenly spaced, 10-80-flowered, fleshy-succulent. Perianth yellow, yellow-green to green. Dorsal sepal 6-8 mm, broad-ovate, concave; laterals somewhat longer, narrow-oblong, free to base, margins thin, apex often hooded, sometimes appearing bidentate. Petals slightly shorter, thinner. Labellum yellow, white or black, prominent, narrowed at base to a short, stout claw, ovate, sharply bent at a right angle halfway from base; margin undulate; callus confined to proximal tip. Lateral processes of column oblong, falcate, as tall as rostellum. Anther sessile, overtopped by rostellum. Stigma prominent.

Flowering:
(November -) December - February

Fruiting:
November - May

Threats:
This species has declined from most of its former coastal and lowland wetland haunts as a consequence of drainage, competition from weeds and on occasion excessive collection by botanists and plant collectors. Drainage is still the main threat to the majority of its remaining populations, several large ones of which are entirely on private land. Invasive weeds, particularly royal fern (*Osmunda regalis*) are a problem in the Waikato. Previously recorded as Prasophyllum aff. patens (AK 236408; New Zealand) by de Lange et al. (2004).

Caption: Near Waiouru. Feb 2007.
Photographer: Colin Ogle

Caption: Near Waiouru. Feb 2007.
Photographer: Colin Ogle

***Attribution:**
Fact Sheet prepared for NZPCN by P.J. de Lange 14 April 2007. Description adapted from Moore and Edgar (1970).

References and further reading:
de Lange, P.J.; Norton, D.A.; Heenan, P.B.; Courtney, S.P.; Molloy, B.P.J.; Ogle, C.C.; Rance, B.D.; Johnson, P.N.; Hitchmough, R. 2004: Threatened and uncommon plants of New Zealand. *New Zealand Journal of Botany 42*: 45-76.

Moore, L.B.; Edgar, E. 1970: Flora of New Zealand. Vol. II. Government Printer, Wellington

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2328

Pseudopanax ferox

Common Name(s):
Fierce lancewood

Current Threat Status (2012):
At Risk - Naturally Uncommon

Distribution:
Endemic. North and South Islands. In the North rather patchy, known from Ahipara, Woodhill Forest (South Kaipara), the Moawhango and southern Rimutaka Range. In the S. Island more widespread but easterly from the Marlborough Sounds to Southland.

Habitat:
Coastal to subalpine (10-800 m a.s.l.) on consolidated sand dunes (dune forest), in grey scrub overlying pumice, on recent alluvial (coarse gravels), limestone outcrops, boulder fall, cliff faces, talus slopes and scarps. Also found as a sparse component of seasonally drought-prone but otherwise cold and wet alluvial forests. This species prefers drier habitats and conditions than P. crassifolius (Sol. ex A.Cunn.) C.Koch.

Caption: Pigeon Island, Lake Wakatipu
Photographer: John Barkla

Caption: Seedlings, Cultivated, Dunedin
Photographer: John Barkla

Features:
Gynodioecious small tree up to 8 m tall. Trunk slender, longitudinally deeply grooved and ridged, bark fawn, mottled grey-white, often finely encrusted with lichens. Seedling leaves patent, 15-40 x 3-6 mm, dark or light chocolate brown to almost black, linear-lanceolate, margins deeply lobed with hooked ends; sapling and unbranched juvenile leaves strongly deflexed, 100-500 x 6-15 mm, light brown mottled with fawn and white near lobes or dark chocolate brown, mottled with fawn and white near lobes, coriaceous, very thick and rigid, margins set with closely-spaced to more or less distant, broadly and broad-based, somewhat raised, rounded, prominently and sharply hooked lobes; midrib raised, 2 mm wide, leaf apex terminating in 2-6 crowded, hooked lobes; leaves at branching stage similar but shorter, sub- to ascending, sometimes more deeply and sharply lobed before passing into adult foliage. Adult leaves 50-150 x 10-20 mm, dark or light chocolate brown, oblong to linear-obovate or broadly lanceolate, narrowing to a stout petiole 10-20 mm long; apex obtuse or mucronate-apiculate, retuse, bluntly serrate to entire, veins evident above. Umbels terminal, compound, staminate and perfect umbels with 5-12 rays, 30-50 mm long; flowers more or less racemosely distributed, trending to umbellules in perfect flowers; pistillate with rays 10-30 mm long, umbellules 2-5-flowered. Stamens 4-5, ovary 5-loculed, 5-ovuled; style branches 5, fused, sometimes free at tips. Fruit 8-9 mm diameter, brown or purple-brown, ovoid, fleshy.

Flowering:
November - April

Fruiting:
December - June

Threats:
Probably warrants a higher threat listing. P. ferox is biologically sparse but it is also threatened by possum, deer and goat browse, because juvenile plants command high prices in the nursery trade accessible populations have and continue to be plundered for seedlings and ripe fruit. Hybridisation with P. lessonii (DC.) K.Koch has been reported from several northern populations, if substantiated, the long-term effect hybridism may have on the viability of P. ferox at these sites has yet to be evaluated. The most secure populations seem to be the one in the southern North Island and a few island populations in the Marlborough Sounds and those in the more remote parts of the south-eastern South Island.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=307

Pseudopanax gilliesii

Current Threat Status (2012):
At Risk - Naturally Uncommon

Distribution:
Endemic. Northeastern Northland and Little Barrier Island

Habitat:
Coastal or lowland hardwood forest and shrubland

Features*:
Shrubby much-branched small tree to 5 m tall; branchlets slender, fleshy, brittle, light green to purpled; bark pale brown, lenticels prominent. Leaves alternate, unifoliate intermixed with trifoliate or irregularly lobed leaves; Petioles 2-8 cm long; lamina coriaceous, glossy green above, paler green below, c. 4-8 cm long, ovate, acute to acuminate, sharply serrate, on long slender petioles to 14 cm long in lower part of branchlet, trifoliate leaflets sessile or on very short petiolule; midvein prominent, lateral veins obvious. Inflorescence a terminal umbel; primary rays 3-6, c. 8 cm long, flowers racemosely arranged. Ovary 5-loculed, each containing 1 ovule (some aborted); style branches 5, connate. Fruit fleshy, subglobose, 6 x 5 mm, style branches retained on an apical disc, dark purple when ripe. Seeds 5 per fruit, narrowly ovate, 5.5-6.5 mm long.

Threats:
Probably a species naturally restricted to the northeastern non-basaltic Northland volcanics. Some habitat has been lost in the past to coastal development.

Caption: Pseudopanax gilliesii east of Whangaroa Harbour
Photographer: Bill Campbell

Caption: Pseudpanax gilliesii at Totara North
Photographer: Bill Campbell

***Attribution:**
Description adapted from Allan (1961) and Webb and Simpson (2001).

References and further reading:
Allan, H.H. 1961. Flora of NZ, Vol. I. Government Printer, Wellington

Webb, C.J. & Simpson, M.J.A. 2001. Seeds of NZ gymnosperms and dicotyledons. Manuka Press, Christchurch.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=647

Pterostylis paludosa

Common Name(s):
Swamp Greenhood

Current Threat Status (2012):
At Risk - Declining

Distribution:
Endemic: North, South and Stewart Islands. In the North Island present from Great Barrier Island to Waiouru. In the South Island confined to the west from north-west Nelson to about Westport.

Habitat:
Peat bogs and heathlands, usually in well-lit sites amongst mosses and sedges.

Features*:
Terrestrial tuberous herb growing in dense colonies. Sterile plants 40-80 mm tall, 2-4-leaved; leaves linear-lanceolate, 25-60 x 7-11 mm, pale green to yellow-green (rarely dark green), margins entire or finely denticulate, apex subacute. Flowering plants 80-900 mm tall.Leaves 3-4, cauline, obliquely erect, pale green to yellowish green; lamina linear-lanceolate, 50-80 x 7-11 mm wide, sessile, sheathing at the base; margins entire or rarely finely denticulate; apex subacute. Pedicel 20-30 mm long, slender. Ovary 9-17 mm long, asymmetric, ribbed. Flower solitary, 18-20 x 5-6 mm, erect, translucent white and pale green to yellow green; galea gibbous at the base then erect before curving forwards in a shallow curve to the apex, the dorsal sepal slightly longer than the petals. Dorsal sepal ovate-lanceolate in outline when flattened, 24-26 x 13-16 mm, prominently expanded in the proximal third then suddenly narrowed and gradually tapered to the acute apex. Lateral sepals erect, tightly embracing the galea, with no lateral gap; upper part of the sinus very shallowly curved when viewed from the side, sloping to a narrow v when viewed from the front, scabrous; conjoined part 9-11 x 6-9 mm wide at the top, narrowed to 4 mm wide at the base, tapered into the free points; free points 9-11 mm long, tapered, erect, the tips extending just above galea. Petals obliquely oblong-lanceolate, 14-20 x 305 mm, falcate, acute, green with a white central area; flange vestigial. Labellum erect, curved suddenly forwards near the apex, raised; basal appendage 2.5-3.0 mm long, decurved, apex penicillate. Column 11.0-13.5 mm long, erect, green and white; column foot 1.5 mm long. Column wings 5.5-7.0 mm long; basal lobe 3.0 x 0.8 mm, at an angle of about 40 degrees, apex obtuse, inner margins incurved, sparsely ciliate; mid-section 2.5 mm long; green; apical lobe linear 1.2 mm long, obtuse. Stigma cordate, 3.0-3.3 x 2.0-2.2 mm, situated just below the column wings, raised. Anther 1.4 mm long, obtuse. Pollinia linear, 2 mm long, yellow, mealy. Capsules narrowly ellipsoid 15-17 x 3.0-3.5 mm, initially yellow green, maturing grey.

Caption: Close up of flower head
Photographer: Ian St George

Caption: Photo by Nick Singers
Photographer: Nick Singers

Flowering:
September to January

Fruiting:
November to March

Threats:
Habitat loss through wetland drainage, and natural succession to taller vegetation. This species requires frequent disturbance to maintain itself. It is especially abundant following peat fires. The species is also at risk from plant collectors.

***Attribution:**
Fact Sheet prepared for NZPCN by P.J. de Lange 14 April 2007: Description based on Jones et al. (1997).

References and further reading:
Jones, D.L.; Molloy, B.P.J.; Clements, M.A. 1997: Six new species of *Pterostylis* R.Br. (Orchidaceae) from New Zealand. *The Orchadian 12*: 266-281.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=143

Ptisana salicina

Common Name(s):
King fern, Para, Tawhiti para, Horseshoe fern

Current Threat Status (2012):
At Risk - Declining

Distribution:
Indigenous to New Zealand and the South Pacific (possibly elsewhere). In New Zealand it is found throughout the north-western half of the North Island from inland Wanganui northwards. The Waikato is probably its stronghold where it is known from many remnants and forested areas in the west.

Habitat:
Favouring lowland, karst habitats (cave entrances and tomo shafts) and dark stream sides, often amongst supplejack (Ripogonum scandens) and parataniwha (Elatostema rugosum).

Features*:
A large, robust fern with fronds to 5 m tall arising from a stout, starchy base that was a traditional food for the Maori. The cane-like leaf stalks are green, 1–3 m long, and have a large basal, ear-like lobe that protects the uncoiling frond. The dark glossy green (or yellow-green in stressed sites) fronds are up to 4 m long by 2 m wide. The frond pinnules are entire, oblong, strap-like, and taper towards the tip. Midribs of the primary pinnae are swollen at the junction with the main stem. The spores are arranged in distinctive boat-shaped sori. The juvenile fronds are less robust, wilting easily on exposure to sunlight, with the strap-like pinnules often lobed or serrated. An unusual form with crested tips to the adult pinnules is sometimes found in the wild around the Kawhia area.

Flowering:
Specimens of suitable age may produce sporangia at any time.

Threats:
Feral and domestic stock, wild pig and goat browse are serious threats throughout its range. Indeed large specimens are only found where there has been intensive animal control, in inaccessible cave and tomo entrances or in steep-walled limestone gorges. Aside from animals the most serious threat to this species comes from plant collectors who have been responsible for the recent loss of several large, reasonably accessible populations near Kawhia.


Caption: Ptisana salicina
Photographer: Wayne Bennett


Caption: Ptisana salicina
Photographer: Wayne Bennett

***Attribution:**
Fact Sheet prepared for NZPCN by P.J. de Lange 1 August 2003.

References and further reading:
Murdock, A.G. 2008: A taxonomic revision of the eusporangiate fern family Marattiaceae, with description of the new genus *Ptisana*. *Taxon 57(3)*: 737-755

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=133

Scandia rosifolia

Photographer: Rebecca Stanley

Photographer: Rebecca Stanley

Common Name(s):
Koheriki

Current Threat Status (2012):
At Risk - Declining

Distribution:
Endemic. North Island, from the Three Kings south to Taranaki in the west and the southern Ruahine Ranges in the east.

Habitat:
Coastal to subalpine (0-1400 m a.s.l.). Usually on cliff faces, clay banks or amongst boulders, often found along cliffs lining river gorges, more rarely in scrub.

Features*:
Semi-erect to somewhat openly sprawling, woody, aromatic shrub up to 1 x 1 m. Stems much-branched, woody at base, dark green to yellow green when young, maturing orange-brown; at first ascending soon spreading, rarely scrambling an rooting from nodes. Leaves alternate, pinnate; petioles 5-20 (or more) mm long, subcoriaceous, slender, seathing base broadly 2 lobed; leaflets 2-5(-8) pairs, 25-80 x 10-40 mm, dark green, glossy above, paler and dull below, subsessile to sessile, obliquely ovate, ovate-lanceolate to narrowly lanceolate, acute to acuminate, margins finely to deeply serrated; each leaflet subtended by a narrow, fleshy pair of stipules. Inflorescences umbellate. Umbels numerous, compound, axillary and terminal, on slender peduncles up to 30 mm long, umbels up to 800 mm diameter (usually much less). Praimry rays numerous, slender up to 30 mm long; secondary rays shorter, umbellules densely flowered. Flowers white. Calyx teeth narrow-triangular. Mericarps 3-4.5 mm long, yellowish buff to pale orange-yellow, dark yellow or orange, ovate to broadly ovate, oblong to broadly oblong to broadly elliptic or circular, surface semi-glossy, finely bullate or reticulate, ribs 5, the two commissural broadly and evenly winged or more broadly winged toward the base; style remnant erect and straight.

Flowering:
September - June

Fruiting:
November - August

Threats:
This species is extremely palatable and it is greedily consumed wherever plants are accessible to browsing animals. It is evident that the current conservation assessment of At Risk/Sparse while possibly biologically accurate is not longer appropriate. This species has declined from significant parts of its range, and while it is still at times locally common, in many locations it is now represented by only small scattered populations or even single plants. The largest populations reflect the situation, they are cliff bound in sites inaccessible to all browsing animals, even possums.

***Attribution:**
Fact Sheet Prepared by P.J. de Lange (1 August 2004). Description based on Allan (1961 - as Angelica rosifolia) and Dawson (1967)

References and further reading:
Allan, H.H. 1961: Flora of New Zealand. Vol. I. Government Printer, Wellington.

Dawson, J. W. 1967: New Zealand Umbelliferae. *Lignocarpa* gen. nov. and *Scandia* gen. nov. *New Zealand Journal of Botany 5*: 400-417.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=314

Schizaea dichotoma

Common Name(s):
Fan fern

Current Threat Status (2012):
Naturally Uncommon

Distribution:
Indigenous. In New Zealand confined to the Kermadec Islands (Raoul Island) and North Island from Te Paki south to Kawhia and Mt Maunganui, and locally around geothermally active sites around Rotorua and Taupo. Widespread from Madagascar east to Australia and across the Pacific.

Habitat:
Usually associated with lowland kauri (Agathis australis (D.Don.) Lindl.) forest but also found in coastal areas and offshore island under pohutukawa (Metrosideros excelsa Sol. ex Gaertn.) dominated forest (e.g., Mayor (Tuhua) Island). In geothermal areas it is often found under shrubs of Kunzea ericoides var. microflora (G.Simpson) W.Harris.

Features*:
Tufted, widely creeping fern forming diffuse patches in open, often semi-shaded sparsely vegetated ground; usually arising from within thick leaf litter. Stipes 100-350 x 1.-1.5 mm, brown at base, green to dark green, erect, flattened, flabellate in upper portion with stipe forked 3-6(-8) times, smooth. Laminae at apices of stipe ends, pinnate (fertile), 2-7 mm long, bright green to yellow-green. Pinnae in 5-8 pairs, infolded, 2-4 mm long. Description modified from Brownsey & Smith-Dodsworth 2000.

Caption: Schizaea dichotoma
Photographer: Dean Baigent-Mercer

Caption: Schizaea dichotoma
Photographer: Dean Baigent-Mercer

Flowering:
Not applicable - spore producing

Fruiting:
Not applicable - spore producing

Threats:
Not Threatened. A naturally uncommon, biologically sparse species. It can at times be very common but it is usually found as widely scattered populations. There is little doubt that some populations have declined due to land development and other changes in the surrounding vegetation (e.g., Mt Maunganui)

***Attribution:**
Fact sheet prepared for NZPCN by P.J. de Lange July 2005. Description modified from Brownsey & Smith-Dodsworth 2000.

References and further reading:
Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=315

Senecio marotiri

Caption: Cabbage Tree Ridge, Fanal Island
Photographer: Peter de Lange

Caption: Cabbage Tree Ridge, Fanal Island
Photographer: Peter de Lange

Common Name(s):
None Known

Current Threat Status (2012):
At Risk - Naturally Uncommon

Distribution:
Endemic. North Island. Known from several islands in the Bay of Islands, the Poor Knights, Chickens, Mokohinau, Great Barrier and several eastern Coromandel Islands. Recently (2006) discovered on South East (Rangitira) Island in the Chatham Island group. Naturalised in Mt Albert, Auckland.

Habitat:
Strictly coastal. An opportunistic species frequenting sea bird colonies, boulderfalls, coastal turfs, cliff ledges, petrel scrub, pasture, and on smaller islands clearances within tall forest.

Features*:
Erect annual to short-lived perennial herb. Leaves lanate hairy when young becoming sparsely hairy or glabrous with age; lowermost leaves elliptic, long-cuneate, serrate with 3-7 teeh on each side; mid cauline leaves oblanceolate to linear-oblong, remotely dentate, 50-120 x 4-15 mm; uppermost leaves smaller, lanceolate, amplexicaul, entire or few-toothed. Supplementary bracts 9-12, 1.5-3 mm long. Involucral bracts 10-13, glabrous, 6-8 mm long. Ray florets 8-11; ligules yellow, 1-2 mm long. Disc yellow, c.4-5 mm diameter. Cypsela 2.8-3.2 mm long, densely hairy between ribs, tapering at both ends.

Flowering:
October - February

Fruiting:
October - April

Threats:
Not threatened, but rather a naturally uncommon species of sporadic distribution.

***Attribution:**
Fact Sheet prepared for NZPCN by P.J. de Lange 1 November 2008. Description based on Webb et al. (1988) supplemented by observations obtained from fresh specimens and herbarium material

References and further reading:
Webb, C.J. 1988: Notes on the *Senecio lautus* complex in New Zealand. *New Zealand Journal of Botany 26*: 481-484.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=319

Senecio radiolatus subsp. radiolatus

Caption: Point Somes, Chatham Islands
Photographer: John Sawyer

Caption: Point Somes, Chatham Islands
Photographer: John Sawyer

Common Name(s):
Chatham Island groundsel

Current Threat Status (2012):
At Risk - Naturally Uncommon

Distribution:
Endemic. Chatham Island group only

Habitat:
Found on dunes and other coastal sites, such as in crevices where there is little soil, or on bouldery beaches. It is typically associated with the nesting sites of sea birds, and has been found on the lagoon-shore limestone cliffs.

Features*:
Annual to short-lived, stout, grey-green to dark green, fleshy, erect perennial herb. Leaves mostly lanate when young, maturing glabrate or glabrous above, but remaining lanate beneath, base amplexicaul, cuneate; lamina 30-250 x 20-120 mm, dark grey-green, silvery-grey or dark green above, paler beneath, ovate to suborbicular, pinnately lobed to pinnatisect with many narrow to broad entire or few-toothed segments. Uppermost leaves smaller, less divided, narrow-obovate, broadly tapering to base. Supplementary bracts and calycular bracteoles variable, 3-16, 1.5-8 mm long. Involucral bracts 13-20, 4-9 mm long, glabrate. Ray florets 10-20, ligules dark yellow, 1.5-8 mm long. Disc yellow, 5-15 mm diameter. Cypsela 2.2-3.5 mm long, dark brown to black-brown, narrowly elliptic to narrowly oblong-elliptic, narrowed to and often slightly constricted below apex, base cuneate; ribs broad, rounded with narrow u-shaped grooves, hairs medium-length, retrorse, more or less evenly distributed or occasionally restricted to grooves. Pappus caducous, 5-7 mm long.

Flowering:
October - May

Fruiting:
November - June

Threats:
Threatened by loss of its coastal habitat, loss of seabird colonies and browsing by introduced animals (including insects and molluscs).

***Attribution:**
Fact Sheet prepared for NZPCN by P.J. de Lange 11 November 2008. Description based on Webb et al. (1988) supplemented with information obtained from fresh specimens and herbarium material.

References and further reading:
Webb CJ, Sykes WR, Garnock-Jones PJ 1988. Flora of New Zealand. Vol. IV. Botany Division, DSIR, Christchurch.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=682

Senecio repangae subsp. pokohinuensis

Common Name(s):
Mokohinau groundsel

Current Threat Status (2012):
At Risk - Naturally Uncommon

Distribution:
Endemic to the Mokohinau Islands, in the north eastern Hauraki Gulf, North Island, New Zealand

Habitat:
A species usually associated with sites of active sea bird nesting or roosting. It is often associated with the burrows of diving petrels, grey-faced petrels and storm petrels. On Pokohinu (Burgess) Island it also extends into former pasture, and is present as a weed in the remnants of the old light house settlement. In forested areas within sites of recent wind-throw it is often found as an early colonist.

Features*:
Erect, sparingly branched annual to short-lived perennial herb 0.2-1.2 m tall, arising from a stout woody rootstock. Foliage dull glaucous green. Leaves sparsely pilose hairy on undersides only otherwise glabrous; basal leaves cuneately narrowed or shortly petiolate, broadly elliptic-oval or rhomboidal, coarsely toothed, rarely lyrate-pinnatifid. Mid cauline leaves amplexicaul, usually deeply bifid at base, narrow, ovate, elliptic, lanceolate or oblong, pinnately lobed 1-2-pinnatifid with segments lanceolate to oblong, entire or few-toothed, gradually diminishing in size up stem, becoming apetiolate. Uppermost leaves smaller, lanceolate, dentate or pinnatifid. Supplementary bracts 5-9, narrow, 2-5 mm long; lower most usually dentate; margins often slightly villous, apex villous. Capitulum cylindric; involucral bracts 12-20, narrowly lanceolate, 6-9 mm long, glabrescent, with purple-black villous apices. Ray florets 8-14, evenly spaced; ligules 3-6 mm, sulphur yellow; margin involute; apex recurved, incised 3-4 times. Disc yellow 4-5 mm diameter. Cypsela subcylindric, 2.5-3 mm long, grey, slightly narrowed at apex, covered in hairs, but hairs distinctly denser toward apices and between ribs.

Flowering:
Throughout the year

Fruiting:
Throughout the year

Threats:
A narrow range endemic confined wholly to the Mokohinau Islands group

***Attribution:**
Fact Sheet prepared for NZPCN by P.J. de Lange 1 November 2008. Description based on de Lange & Murray (1998).

References and further reading:
de Lange, P.J.; Murray, B. G. 1998: *Senecio repangae* (Asteraceae): a new endemic species from the north-eastern North Island, New Zealand. *New Zealand Journal of Botany 36(4)*: 509-519

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=683

Caption: Burgess Island, Mokohinau
Photographer: Terry Green

Caption: A flowering specimen growing in gravel near Lighthouse
Photographer: Terry Greene, October 1993, Pokohinu (Burgess) Island, Mokohinau Islands group

Senecio repangae subsp. repangae

Caption: Cuvier Island
Photographer: Gillian Crowcroft

Caption: Cuvier Island
Photographer: G.M. Crowcroft

Current Threat Status (2012):
At Risk - Naturally Uncommon

Distribution:
Endemic. North Eastern North Island, on offshore islands only, from Te Wakatehaua to Cuvier (Repanga) Island

Habitat:
Strictly coastal. A species of mainly offshore islands where it grows in the immediate vicinity of seabird colonies (gulls, shags, petrels, diving petrels). Also an opportunist on islands colonising sites where trees have fallen, pasture, and even behaving as a minor weed within lighthouse settlements.

Features*:
Erect, sparingly branched annual to short-lived perennial herb 0.2-1.2 m tall, arising from a stout woody rootstock. Foliage dull dark grey-green. Leaves pilose hairy; basal leaves cuneately narrowed or shortly petiolate, broadly elliptic-oval or rhomboidal, coarsely toothed, rarely lyrate-pinnatifid. Mid cauline leaves amplexicaul, usually deeply bifid at base, narrow, ovate, elliptic, lanceolate or oblong, pinnately lobed 1-2-pinnatifid with segments lanceolate to oblong, entire or few-toothed, gradually diminishing in size up stem, becoming apetiolate. Uppermost leaves smaller, lanceolate, dentate or pinnatifid. Supplementary bracts 5-9, narrow, 2-5 mm long; lower most usually dentate; margins often slightly villous, apex villous. Capitulum subcylindric; involucral bracts 9-17, narrowly lanceolate, 8-14 mm long, glabrescent, with purple-black villous apices. Ray florets (0-)3-9, widely and irregularly spaced; ligules 1-2 mm, sulphur yellow; margin involute; apex recurved, incised 3-4 times. Disc yellow 4-5 mm diameter. Cypsela subcylindric, 2.5-3 mm long, grey, slightly narrowed at apex, covered in hairs, but hairs distinctly denser toward apices and between ribs.

Flowering:
September - March

Fruiting:
September - April

Threats:
Aside from Cuvier (Repanga) Island where it is abundant this subspecies is very uncommon and is known only from small, widely scattered populations.

***Attribution:**
Fact Sheet prepared for NZPCN by P.J. de Lange 1 November 2008. Description based on de Lange & Murray (1998).

References and further reading:
de Lange, P.J.; Murray, B. G. 1998: *Senecio repangae* (Asteraceae): a new endemic species from the north-eastern North Island, New Zealand. *New Zealand Journal of Botany 36(4)*: 509-519.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=320

Solanum aviculare var. aviculare

Common Name(s):
poroporo

Current Threat Status (2012):
At Risk - Declining

Distribution:
Indigenous. Kermadec, North, South and Chatham Islands. In the South Island south to about Banks Peninsula and Westland. Also present on Norfolk (Extinct), Lord Howe (Extinct) and eastern Australia and New Guinea. Naturalised in at least China and Russia, probably elsewhere.

Habitat:
Coastal to lowland (0-400 m a.s.l.). Usually in open shrubland, in and around sea bird nesting grounds, seal haul outs, or along forest margins. Sometimes an urban weed.

Features*:
Small, softly woody shrub up to 3 x 2 m. Branches sparse to many, suberect to spreading, initially dark green, purple-green to reddish-brown, maturing with fine grey, chartaceous bark. Leaves alternate with decurrent, fleshy petioles up to 30 mm long; lamina fleshy-membranous to almost coriaceous, 40-400 x 10-15(-20) mm, dark green, purple-green or rarely yellow-green, narrowly lanceolate to elliptic, entire, or deeply 1-3(-4)- lobed to pinnatifid; lobes/pinnae broadly lanceolate. Flowers axillary in 1-3 few to many-flowered cymes. Calyx lobes short, broad, spreading. Corolla broadly campanulate to rotate, up to 40 mm diameter; tube up to 10 mm long, funnelform, widely flaring at mouth, lobes 10-15 mm, lanceolate; white, lavender, or dark blue , in all cases usually fading to white after anthesis. Filaments up to 5 mm long. Anthers 3-6 mm long, oblong, spreading, yellow, opening by apical slits. Berry 15-25 mm long, broadly ovoid to ellipsoid, maturing yellow or orange, fleshy, pendent; stone cells sparse, inconspicuous. Seeds 1.3-2 mm long, dull to semi-glossy, orange-brown, purple-brown or dark purple brown, obovate to cricular or transversely elliptic, often asymmetric, compressed.

Flowering:
Throughout the year

Fruiting:
Throughout the year

Threats:
It has been observed that var. aviculare is becoming less common in the northern North Island though why is not clear. A full nationwide conservation assessment is needed to clarify its exact status.

Caption: Close up iof Solanum aviculare var. aviculare flowers showing acute corolla lobes
Photographer: Peter de Lange, 9 Dec 2006, Mangaonua Gully, Hamilton.

Caption: Solanum aviculare var. aviculare in flower
Photographer: Peter de Lange, 9 Dec 2006, Mangaonua Gully, Hamilton.

***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.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2263

Solanum aviculare var. latifolium

Caption: Hapuka/Crater Head, Great Island
Photographer: Peter de Lange

Caption: Solanum aviculare var. latifolium shrub
Photographer: Peter de Lange, Dec 1995, Hapuka/Crater Head, Great Island

Common Name(s):
poroporo

Current Threat Status (2012):
At Risk - Naturally Uncommon

Distribution:
Endemic. Three Kings Islands and some islands of the outer Hauraki Gulf south to the Coromandel Peninsula and surrounding islands. Exact distribution in the Hauraki Gulf not clear due to confusion of sterile plants with broad and simple leaved forms of S. laciniatum Aiton.

Habitat:
Coastal. Usually in shaded sites within coastal forest often in and around sea bird nesting grounds (especially petrel burrows) or along forest/petrel scrub margins.

Features*:
Small, softly woody shrub up to 2 x 2 m. Branches sparse to many, suberect to spreading, initially dark green, purple-green to reddish-brown, maturing with fine grey, chartaceous bark. Leaves alternate with decurrent, fleshy petioles up to 30 mm long; lamina fleshy-membranous to almost coriaceous, 150-800 x 30-60(-80) mm, dark green, purple-green or rarely yellow-green, broadly lanceolate, broadly elliptic, broad ovate to broadly rhomboid, usually entire, sometimes sinuate, often deeply 1-2-3- lobed or sparingly and irregularly pinnatifid (often on one side of lamina only); lobes/pinnae broadly lanceolate. Flowers axillary in 1-3 few to many-flowered cymes. Calyx lobes short, broad, spreading. Corolla broadly campanulate to rotate, up to 40 mm diameter; tube up to 10 mm long, funnelform, widely flaring at mouth, lobes 10-15 mm, lanceolate; white, lavender, dark blue or white striped with blue/lavender, in all cases usually fading to white after anthesis. Filaments up to 5 mm long. Anthers 5-6 mm long, oblong, spreading, yellow, opening by apical slits. Berry broadly oval, 20-25 mm long, drooping, at firsty dark green maturing yellow, rather fleshy. Seeds 1.3-2 mm long, dull to semi-glossy, orange-brown, purple-brown or dark purple brown, obovate to cricular or transversely elliptic, often asymmetric, compressed.

Flowering:
Throughout the year

Fruiting:
Throughout the year

Threats:
Not threatened. A widespread but biologically sparse plant which reaches its greatest abundance on the Three Kings Islands (its type locality).

***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.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=321

Sonchus grandifolius

Common Name(s):
Chatham Island sow thistle, Embergeria

Current Threat Status (2012):
At Risk - Recovering

Distribution:
Endemic to the Chatham Islands. Found on the main islands and some islets.

Habitat:
Sand dunes (usually the foredunes), also coastal cliff ledges, clay promontories and talus slopes.

Features*:
Thistle-like herb with stout rhizomes and pale green fleshy leaves up to 1 m long, irregularly divided into toothed lobes. It has a milky sap. Erect flower heads with florets that are light purple to pale yellow. Plant dies down in winter. The plant flowers from December to February and fruits in late summer to autumn.

Flowering:
December - February

Fruiting:
Late summer and autumn.

Threats:
Domestic stock and other browsing animals (including pigs, possums and rodents) are still a threat on Chatham and Pitt Islands. Competition from invasive exotic plants, coastal development and coastal erosion is also a problem in some areas. However, this species has made a spectacular recovery over large parts of its range, and is actively colonising new areas of beach and coastal cliff. It now occurs in numerous secure sites across the Chatham Island group.

Caption: Kaingaroa, Chatham Islands
Photographer: John Sawyer

Caption: Kaingaroa, Chatham Islands
Photographer: John Sawyer

***Attribution:**
Fact Sheet prepared for NZPCN by P.J. de Lange 1 August 2003.

References and further reading:

Garnock-Jones PJ. 2014: Evidence-based review of the taxonomic status of New Zealand's endemic seed plant genera, New Zealand Journal of Botany, DOI: 10.1080/0028825X.2014.902854

Heenan, P.B.; Mitchell, A.D.; de Lange, P.J.; Keeling, J.; Paterson, A.M. 2010: Late Cenozoic origin and diversification of Chatham Islands endemic plant species revealed by analyses of DNA sequence data. *New Zealand Journal of Botany 48*: 83–136.

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

Walls, G.; Baird, A.; de Lange, P.J.; Sawyer, J.W.D. 2002: Threatened plants of the Chatham Islands. Wellington, Department of Conservation.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=62

Sonchus kirkii

Caption: In cult. ex Awhitu.
Photographer: John Braggins

Caption: Ex cult. Kariotahi
Photographer: Gillian Crowcroft

Common Name(s):
Puha, shore puha, New Zealand sow thistle

Current Threat Status (2012):
At Risk - Declining

Distribution:
Endemic. Three Kings, North, South, Stewart and Chatham Islands.

Habitat:
Coastal. Usually on cliff faces in or around damp seepages where it often grows with the blue green alga Nostoc and fern Blechnum blechnoides. This species has a distinct preference for base rich rocks such as basalt, calcareous mudstones, siltstones, limestone or apatite-rich greywacke faces. On some offshore islands this species extends up into coastal scrub and herbfield. It occasionally grows on stabilised sand dunes. Indications are that this species once occupied a wider range of habitats but has retreated to those less suited to other faster growing introduced weeds.

Features:
Biennial to perennial herb (50-)150-600(-1000) mm tall. Taproot stout and swollen above. all parts exuding white latex when ruptured. Stem erect, simple or branched, finely grooved and ribbed, glabrous, hollow. Leaves thick, dull glaucous, lanceolate to narrowly oblong or linear oblanceolate (30-)80-200(-550) x (10-)30-60(-150) mm, margins dentate. Rosette and lower stem leaves pinnatifid to c.1/2 way to midrib; lobes broadly triangular, spreading or deflexed. Upper leaves not lobed, narrowly triangular to linear, or narrowly oblanceolate. Inflorescence cymose to umbellate. Capitula few to many. Involucre 10-15 mm , turbinate to cylindric, bracts imbricate, recurved at fruiting. Florets yellow. Achenes elliptic, brown, strongly flattened, (3-)4 x1-1.8 mm, 3-ribbed on each face, winged, wings and ribs smooth. Pappus hairs, fine, white.

Flowering:
August - April

Fruiting:
September - June

Threats:
Appears to be declining over most of its range but especially in the North Island. The main threat seems to be from competition by faster growing weed species. Specifically there is some evidence that suggests it may be outcompeted by the introduced sowthistles Sonchus asper and S. oleraceus which grow faster, and thus can more quickly colonise the habitats preferred by S. kirkii. The species has also declined markedly along the south Wellington coast. Here it was once very common up until the mid 1980s subsequently it has disappeared from many of its former haunts, partly as a result of weed invasion and quarrying for rock, but it has also vanished from apparently stable, mainly indigenous habitats. The exact reason(s) for this loss are as yet unclear.

References and further reading:

Cameron, E.K. 2000. Native sow thistle *Sonchus kirkii* rediscovered in the Auckland region. Auckland Botanical Society Journal, 55, 21-24.

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

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=205

Sophora fulvida

Caption: South Piha
Photographer: Peter de Lange

Caption: South Piha
Photographer: Peter de Lange

Common Name(s):
kowhai

Current Threat Status (2012):
At Risk - Naturally Uncommon

Distribution:
Endemic to New Zealand, occurring in Northland, Auckland and the Waikato. The southern limit occurs at Mt Karioi on the south side of Raglan Harbour.

Habitat:
Open or disturbed sites, on base-rich volcanic rock, rubble and outcrops, amongst mixed podocarp-hardwood forest.

Features*:
A small kowhai tree to 10 m tall. It has many hairy, small, crowded, yellow-green or grey leaflets. Young branches are also hairy, and juvenile plants do not divaricate. Leaves on adults are up to 140 mm long and bear 60-90, roughly elliptical leaflets, each 1.8 to 7.5 by 1.2 to 4.5 mm. The larger juvenile leaves are almost devoid of hairs, also elliptical in shape and range in size from 2 to 3 by 4 to 6 mm. Flowers are yellow.

Flowering:
Flowering occurs from October to November.

Fruiting:
Fruiting in April–May.

Threats:
Competition from weeds, especially on rocky outcrops; animal browse and loss of habitat.

***Attribution:**
Fact Sheet prepared for NZPCN by P.J. de Lange 1 August 2003. Description based on Heenan et al. (2001).

References and further reading:
Heenan, P.B.; de Lange, P. J.; Wilton, A. D. 2001: *Sophora* (Fabaceae) in New Zealand: taxonomy, distribution, and biogeography. *New Zealand Journal of Botany 39(1)*: 17-53.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=206

Sophora molloyi

Caption: Te Humenga, Cape Palliser
Photographer: Peter de Lange

Caption: Kowhai
Photographer: Jeremy Rolfe

Common Name(s):
Cook Strait Kowhai, Molloy's Kowhai

Current Threat Status (2012):
Naturally Uncommon

Distribution:
Endemic. New Zealand: North Island (Cape Terawhiti, Turakirae, Palliser Bay) and the Cook Strait (Stephens, Rangitoto, Chetwode, Titi, Arapawa, and Kapiti Islands)

Habitat:
Coastal. Locally within grey scrub developed on cliff, talus, and active alluvial fans, or in extremely exposed locations, where drought, salt burn, and severe wind damage are significant constraints on plant growth and diversity

Features*:
Bushy, spreading to decumbent shrub, up to 3 m high, with several prostrate, decumbent and/or spreading main branches arising at or near ground level. Divaricating and/or flexuose juvenile branchlets absent; branchlets prostrate, decumbent to spreading, moderately to densely pubescent becoming glabrous with age; hairs appressed, straight. Seedlings and juveniles moderately to densely leafy, leaves with increasing numbers of leaflets. Leaflets of juveniles 2.5-3.5 × 2.0-2.5 mm, rotund to broadly elliptic, sparsely to moderately hairy, not crowded or overlapping. Leaves on adults up to 100 mm long, imparipinnate, subconduplicate, petioles and rachides channelled above, leaflets 23-37. Leaflets on adults 5.0-12.0 x 2.0-6.0 mm, elliptic, elliptic oblong, to broadly elliptic, distal and proximal leaflets similar in size, not crowded or overlapping, distant, upper surface dark green, lower surface light green; apices round to slightly retuse; bases obtuse; petiolules 0.4-0.5 mm long; petioles, rachides, petiolules, and leaflets usually pubescent, hairs c.0.2 mm long, appressed, straight. Inflorescences racemose, with up to 5 flowers, flowers usually hidden among foliage; peduncles and rachides 10-20 mm long; Pedicels up to l5 mm long, each subtended by a bract; bracts 1-2 mm long; peduncles, rachides, pedicels, bracts, and calyces moderately to densely pubescent hairs brown, appressed. calyx 9-12 × 10-16 mm, cupulate, rim shallowly lobed, with deeper notch adjacent to standard. Corolla Yellow; ked Petal blade 26-30 × 7.5-1 1 mm; wing Petal blade 25-30 x 6.5-8.5 mm; standard petal blade 20-23 × 18-21 mm; petals with distinct claws, 4.5-7.5 mm long. stipe 5-7 mm long, glabrous to sparsely pubescent. Ovary 1 8-20 mm long, densely pubescent; hairs 0.2-0.4 mm long, off-white to light brown, appressed. Style 1 1-12 mm long, glabrous to sparsely pubescent. Stigma fringed with short hairs. Filaments 24-30 mm long. Anthers 1.7-2.1 × 0.8-0.9 mm. Fruit 50-100 mm long 4-winged, brown, sparsely to moderately pubescent, with up to 9 seeds. Seeds 4.3-8.8 × 3.0-4.0 mm, oblong, light brown to yellow.

Flowering:
April – October

Fruiting:
June – May

Threats:
A Naturally Uncommon, sparsely distributed, range restricted endemic, secure within its island habitats but possibly threatened in some of its North Island locations by browsing animals such as goats.

***Attribution:**
Description from Heenan et al. (2001).

References and further reading:
Heenan, P.B.; de Lange, P.J.; Wilton, A.D. 2001: Sophora (Fabaceae) in New Zealand: taxonomy, distribution, and biogeography. New Zealand Journal of Botany, 39: 17-53

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=687

Streblus banksii

Caption: Photo by Bec Stanley

Caption: Photo by Bec Stanley

Common Name(s):
Large-leaved milk tree, turepo

Current Threat Status (2012):
At Risk - Relict

Distribution:
Endemic. New Zealand: North and South Islands. In the North Island mainly easterly from about Kaitaia to East Cape, Waikato and northern Hawkes Bay, including islands of the Hauraki Gulf, thence somewhat disjunct reappearing in the Horowhenua to Wellington and the western side of the Wairarapa. Confined to the northern South Island where populations are known from the Marlborough Sounds (mainly islands), Abel Tasman National Park, and also the eastern Golden Bay.

Habitat:
Coastal and lowland forests (0-200 m a.s.l.), preferring deep, fertile soils, large trees are often found on alluvial terraces. On offshore islands it seems more able to tolerate drier conditions and skeletal soils and may at times be found on steep cliff faces, rock ledges, or as stunted shrubs on cobble/boulder beaches.

Features*:
Dioecious, robust tree or large shrub (depending on growing conditions) up to 12 m tall, usually with a broad canopy crown; trunk up to 0.8 m d.b.h., bark dark brown. Branches ascending at first then widely spreading; branchlets somewhat flexuous, wiry and pliant, initially puberulent and very lenticellate, later glabrate. Leaves of juvenile plants variable 20-60 x 10-30 mm, dark green above, paler beneath, elliptic-oblong , margins finely to deeply crenate, usually deeply lobed, pandurate, sinus obtuse; petioles up to 8 mm long. Leaves of adults 35-85 x 20-35 mm, dark green to yellow green, paler beneath, ovate to broadly ovate, ovate-elliptic, obtuse to subacute, margins crenate (very rarely lobed), petioles stout up to 10 mm long. Inflorescences axillary or terminal, spicate, solitary, paired or in threes; staminate up to 30 mm long, densely flowered, flowers rather densely close-set, almost imbricating, grey-green, perianth 4-partite, segments obtuse to rounded; pistillate similar, up to 25 mm long, flowers widely spaced, distichously arranged. Fruits up to 65 mm diameter, drupaceous, broad-ovoid, fleshy, flesh red.

Flowering:
August - October

Fruiting:
October - April

Threats:
It would appear that this species may once have been quite widespread. However, its current distribution is typically sparse and it is rarely common anywhere except on rodent-free offshore islands in the Hauraki Gulf and off the eastern Coromandel Peninsula. In mainland areas and on rodent infested islands plants are damaged by possum and goat browsing, and also by rodents which avidly eat the fruit, seed and emerging seedlings. In remnants being dioecious sex imbalance can be an issue. Successful island rodent eradication's have allowed this species to restablish itself. It certainly responds rapidly to rodent removal.

***Attribution:**
Fact sheet prepared for NZPCN by P.J. de Lange January 2005. Description adapted from Allan (1961).

References and further reading:
Allan, H.H. 1961: Flora of New Zealand. Vol. I. Government Printer, Wellington.

Mitcalfe, B., Horne, C. 2002. Large-leaved milk tree, ewekuri, in the Wellington Region. Wellington Botanical Society Bulletin, 48: 41-43

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=324