NEW ZEALAND BOTANICAL SOCIETY
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NUMBER 32 JUNE 1993

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Cover illustration
New Zealand Botanical Society

President: Dr Eric Godley
Secretary/Treasurer: Anthony Wright
Committee: Sarah Beadel, Colin Webb, Carol West, Beverley Clarkson, Bruce Clarkson
Address: C/- Auckland Institute & Museum Private Bag 92018 AUCKLAND

Subscriptions

The 1993 ordinary and institutional subs are $14 (reduced to $10 if paid by the due date on the subscription invoice). The 1993 student sub, available to full-time students, is $7 (reduced to $5 if paid by the due date on the subscription invoice).

Back issues of the Newsletter are available at $2.50 each - from Number 1 (August 1985) to Number 31 (March 1993). Since 1986 the Newsletter has appeared quarterly in March, June, September and December.

New subscriptions are always welcome and these, together with back issue orders, should be sent to the Secretary/Treasurer (address above).

Subscriptions are due by 28 February of each year for that calendar year. Existing subscribers are sent an invoice with the December Newsletter for the next year’s subscription which offers a reduction if this is paid by the due date. If you are in arrears with your subscription a reminder notice comes attached to each issue of the Newsletter.

Deadline for next issue

The deadline for the September 1993 issue (Number 33) is 27 August 1993.

Please forward contributions to: Bruce & Beverley Clarkson, Editors NZ Botanical Society Newsletter 7 Lynwood Place HAMILTON
Regional Botanical Society News

■ Auckland Botanical Society

Programme, June - August 1993:

19 June: Fungal foray to Goldie Bush, followed by laboratory session at Mt Albert Research Centre (Dr Ross Beever)
7 July: Annual ABS pot-luck dinner
17 July: Field trip to a new plant fossil field at Putataka, inland from Port Waikato (Mike Eagle)
4 August: Evening meeting: Vegetation monitoring for possum control operations in Northland (Lisa Forrester)
21-22 August: Field trip: Aongatete, Kaimai Range (Catherine Beard)
1 September: Lowland Rarotonga: an assignment to draw weeds (Cathy Jones & Catherine Beard)

Sandra Jones, Secretary, Auckland Botanical Society, 14 Park Road, Titirangi, Auckland 7

■ Canterbury Botanical Society

Journal 26 is now available. It contains 11 articles, spread over 46 pages. The longest article, 16 pages, is on Plant Growth Rule Systems or the architecture of inflorescences by David Robinson of the Department of Mathematics, University of Canterbury. There are 12 figures to illustrate the floral arrangement of several species. The other articles are on the following topics: Pollen content inside a building; Flora of Blue Mountain Station, Marlborough; Chordospartium stevensonii; Orobanche minor; native orchids at Hanmer; Ranunculus sericophyllus; Olearia arborescens X Celmisia sp. hybrid; crumbs of Canterbury - Part I (an account of two small vegetation areas, upper Canterbury plains); tussock form of Festuca novae-zelandiae; and Convention on Biological Diversity, a summary of parts of the Earth Summit in Brazil.

This Journal is available from the Society, PO Box 8212, Christchurch, at a cost of $10.00, includes postage.

Ron Close, President, Canterbury Botanical Society, PO Box 8212, Christchurch

■ Manawatu Botanical Society

Meetings: 7.30 pm 1st Thursday of the month. Seminar Room, Biology Building, Massey University.

Upcoming programme:

Meetings
June: Potential for biocontrol of Calluna vulgaris
July: Workshop on divaricating and small leaved shrubs
August: Trekking in Nepal

Trips
5 June: Nga Manu swamp forest
3 July: Mataroa and Robert Bruce Reserves
7-8 August: Mt Messenger weekend

Peter van Essen, Department of Ecology, Massey University, Palmerston North

■ Nelson Botanical Society News

In March a good crowd visited Beebys Knob in somewhat dubious weather. In the shelter of the forest we saw many of the common plants of the more open grasslands including Ourisia lactea, Microseris scapigera and Celmisia incana. We also met some of the troublesome species pairs such as Raoulia glabra and the white leaf-tipped Raoula subsericea, and “Anaphalis bellidoides” with its large ray-like bracts and the tiny-flowered Helichrysum filicaule. After lunch we ventured out above the treeline. At the
At lower stops the effects of past burning and grazing were evident in the low species diversity. A variety of silver tussock, pingao and tumblegrass (Deyeuxia spiralis) was fighting a wide array of introduced grasses, purple-flowered salsify (Convolvulus solandri) and spinifex (Spinifex sericeus). On the dune terraces pingao (Desmoschoenus spiralis) was cutting a wide array of introduced grasses, purple-flowered salsify (Tragopogon porrifolius) and tangles of Muehlenbeckia complexa. Near Blind River we saw a stand of Olearia solandri. At Marfell's we stepped it out to Cape Campbell, returning only just in time to beat the tide. Interesting plants seen on this trip included Convolvulus verecundus, Plantago raoulii, and the prickly Eryngium vesiculosum.

On Saturday we spent the afternoon close at hand on the shores and beach ridges near the Wairau Diversion. The first stop was in the short tussock and shrublands near the shore. Plants of interest included the coastal tussock (Austrostegus littoralis), silver tussock, pingao and tumblegrass (Deyeuxia billardierel). The only ferns noted were Cheilanthes humilis and Phymatosorus diversifolius, both protected amongst the tangles of Melicytus grassfolius. The second stop was at one of the fossil beaches, Melicytus crassifolius. Protected amongst the tangles of Olearia solandri. At Marfell's we stepped it out to Cape Campbell, returning only just in time to beat the tide. Interesting plants seen on this trip included Convolvulus verecundus, Plantago raoulii, and the prickly Eryngium vesiculosum.

The summit provided grand views of Okiwi Bay and D'Urville Island from rocky outcrops. Here were more interesting plants including 3 species of Dracophyllum (D. longifolium, D. uniflorum and probably D. prostratum), a variety of Hebe rigidula, Chionochloa defracta, Gentiana bellidifolia and even a stunted prostratum), Hebe rigidula, Chionochloa defracta, Gentiana bellidifolia a variety of Phymatosorus diversifolius, billardierei). Cheilanthes humilis both silver tussock, pingao and tumblegrass (Deyeuxia spiralis) was fighting a wide array of introduced grasses, purple-flowered salsify (Tragopogon porrifolius) and tangles of Muehlenbeckia complexa. Near Blind River we saw a stand of Olearia solandri. At Marfell's we stepped it out to Cape Campbell, returning only just in time to beat the tide. Interesting plants seen on this trip included Convolvulus verecundus, Plantago raoulii, and the prickly Eryngium vesiculosum.

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On Sunday we first visited Rarangi and walked the cliff track to Whites Bay. Most of the route was lined by second growth vegetation. The track up from Rarangi was spectacularly lined with Ourisia cuneata in full flower. In the afternoon we visited Onamalutu, a glorious mature kahikatea, where we were greeted by a grand chorus of tuis and bellbirds. We spent several hours wandering the various tracks. Unusual plants included the uncommon Coprosma rubra and seedlings of tawa, many kilometres from the nearest stands.

On Monday we drove to the summit of Altimarlock (5000 feet), near the summit over a light dusting of snow from Saturday. Several stops sampled the altitudinal cline in vegetation. At the summit we saw a range of cushion plants including Luzula colensoi, Haastia pulvinaris, Raoulia bryoides and Chionohebe pulvinaris. At lower stops the effects of past burning and grazing were evident in the low species diversity. Perhaps the most spectacular species was Helichrysum parvifolium, often still in flower. Time and the cool temperatures did not encourage a wide exploration. Still it is worth a revisit nearer the main flowering season.

Coming Field Trips
20 June: Gardens - Atawhai - Julie McLintock
18 July: Motueka sandspit
15 August: Covenants - Motueka Valley - Les Moran

Graeme Jane, 136 Cleveland Terrace, Nelson
Rotorua Botanical Society News

Recent trips
A boat trip on Lake Ohakuri in March attracted 9 people. The day was spent investigating lake edge vegetation with some interesting finds made and some new records. Notable finds were *Hymenophyllum cupressiforme*, and the thermal ferns *Cyclosorus, Cristella, Dicranopteris* and *Nephrolepis*.

Rotorua Botanical Society based their annual Easter camp this year at Gisborne. About 14 people took part in the activities which included, on the first day a trip to a *Pittosporum obcordatum* site. An old pa site on the outlying spur, Areoma Peak, was visited on the second day, and a relaxing third day was spent at Eastwoodhill Arboretum, in all its autumn glory.

A return trip to Mt Tauhara (the venue of the first ever Rotorua Botanical Society outing) was made in May. Several changes were noted, particularly the absence of some species probably removed by possum browsing. Some additions were made to the species list (though most of these were expected). About an hour was spent fossicking around boulders and rock outcrops at the summit for the likes of *Pentachondra acumula* and *Epacris alpina*.

Upcoming events
12 June: AGM (with talk by Willie Shaw on Auckland Islands)
13 June: Mt Ngongotaha (Grant Milligan)
10 July: Sedges and rushes (Chris Ecroyd and Robyn Irving)
14 August: McLaren Falls and Omahau Nursery (Barbara Knowles and Mark Dean)

Robyn Irving, Rotorua Botanical Society, RD 4, Rotorua

Waikato Botanical Society News

The AGM was held on 20 April and following officers and committee elected:

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Paul Champion</td>
</tr>
<tr>
<td>Secretary</td>
<td>David Wardle</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Catherine Beard</td>
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<tr>
<td>Committee</td>
<td>Dieter Adam, Phyllis Leigh, Ron Locker, Helen MacKay, Liz Stanway, David Stephens, Mark Thompson</td>
</tr>
</tbody>
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After the meeting, Cathy Jones and Catherine Beard gave a very entertaining talk on their botanical forays to Rarotonga including a display of their excellent drawings and paintings.

The programme for the next few months is:

20 June: Taupiri Scenic Reserve -trip leader Paul Champion
18 July: Herbarium (WAIK) Workshop - directed by Catherine Beard
22 August: Te Tapui-Te Miro Scenic Reserve - trip leader David Wardle
19 September: Te Purua Scenic Reserve - trip leader Catherine Beard

For further details on these and future field trips etc. see our regular newsletters or contact me.

Paul Champion, President, Waikato Botanical Society, C/- Department of Biological Sciences, University of Waikato, Private Bag 3105, Hamilton

Wanganui Museum Botanical Group

Chairman: Ian Bell
Treasurer: Pat Robinson
Secretary: Joan Liddell, 15 Moore Avenue, Wanganui

Coming Events:

Field Trips and Evening Meetings
1 June: Cathy Jones, DoC, will talk on Rarotonga
4 July: To Kitto’s property Tokomaru West Road to an unusual bush area

5
25th Anniversary celebrations

The Group plans to celebrate its twenty-fifth anniversary during the last weekend of August.

On Saturday 28th there will be an opportunity to look at the native plant garden around the Museum. This garden, which has been tended by members of the group for about 20 years, is to be removed this year in order to facilitate water-proofing of the basement. A new garden will be planted in due course. Afternoon tea will follow at the Bason Botanic Reserve.

A dinner, cutting of the cake, and a slide programme will be held in the museum classroom in the evening.

On the Sunday there will be a field trip to "Westoe", Marton, the home of Diane and Jim Howard. After viewing the garden, the more energetic can go on to a patch of bush.

The Wanganui Museum Botanical Group would like to extend an invitation to all members and ex-members and to the many kind folk who have helped the group with talks and field trips over the years. Billets can be arranged if required. The cost of the dinner is $25 to be paid by August 2nd, to Ian Bell, 115 Mt View Road, Wanganui.

Alf King, Wanganui Botanical Society, PO Box 388, Wanganui

Wellington Botanical Society News

21 June: Evening meeting: Vegetation changes in the Lake Taupo district in pre-European time and into the 19th century. Speaker: Ann Williams, Department of Conservation

3 July: Field trip Karori Reservoir. Leader: Jim Lynch, 'phone (home) 476 6309


7-8 August: Field trip Manawa Karioi-Tapu Te Ranga Marae: Work bee and Noho Marae (overnight stay). Leader: Barbara Mitcalfe, 'phone (home) 475 7149

16 August: Annual General Meeting followed by Composition of forests buried at Pureora and Benneydale, West Taupo, during the Taupo eruption (c. AD 130). Speaker: Bev Clarkson, Research Associate, Manaaki Whenua- Landcare Research, Hamilton.

Wellington Botanical Society Jubilee Award - 1992

The 1992 Jubilee Award of Wellington Botanical Society has been made to Lesley Milicich, Victoria University of Wellington. Lesley receives the full award of $1000 to assist with her study on the taxonomy of Bulbinella in New Zealand. She proposes to collect and study material from Stewart Island as a continuation of the work which she undertook for her PhD.

Congratulations to Lesley and thanks to the other people who applied. Thanks to the subcommittee who considered the applications: Patrick Brownsey (convenor), Olaf John and Rodney Lewington.

Bruce Irwin, who received the 1991 Jubilee Award, has continued his work on description and distribution of the forms of Corybas rivularis, most of which grow in the Taranaki region.

A call for applications for the 1993 Jubilee Award will be made later in the year. Funds for the Jubilee Award are steadily rising but further donations are welcome.

Carol West, 9 Mamari Street, Rongotai, Wellington 3
NOTES AND REPORTS

Plant records

- Apparent Additions to the Adventive Flora

1: Gomphocarpus physocarpus - Victory Road, Laingholm, 24.2.1993, E.D. Hatch. Specimens in AK. Identification confirmed by Ewen Cameron.

In Jack Mackinder’s booklet Adventive Flora of the Waitakere Range, p.2, I listed Gomphocarpus fruticosus in error. I first noted this plant in January 1992 when it was only in flower. This year however I managed to obtain specimens (AK 210703) with both flowers and fruit, and the follicles immediately proclaimed it to be G. physocarpus. Flora NZ 4:p.150.1988, does not list this species from the wild. The Laingholm plant however was growing among gorse and other adventives well down on a crib wall in a most inaccessible place and had certainly not been planted there.

2: Pratia pedunculata - Victory Road, Laingholm, 15.11.1992, E.D. Hatch. Specimens in AK (AK 210580). Identified by Ewen Cameron.

Not listed in Flora NZ 4: Apparently a garden escape and again most unlikely to have been planted where I found it growing, matted in grass beside the road, 100 yards or so below the Gomphocarpus.

E D Hatch, 25 Tane Road, Laingholm, Auckland 7

Comment

- Celmisia X Olearia hybrids: a comment

Sondergaard (1993) has described a putative hybrid between Olearia arborescens and a Celmisia sp. (possibly C. semicordata) and suggested that, whatever species of Celmisia entered into the present hybrid, it seems to be the first time that this combination has been recorded and described.

Prior to Sondergaard’s record some four intergeneric hybrids between Celmisia and Olearia had been reported (Clarkson 1988). Unlike the plant described by Sondergaard (loc. cit.), which was grown from seed collected from a wild plant of Olearia arborescens, these were hybrid plants growing in the wild. Three apparently had Olearia arborescens as one parent, but for the fourth (the plant originally described by Simpson and Thompson [1942]) opinions varied as to which Olearia was involved. Sondergaard’s record is further evidence that, of the non-macrocephalous species of Olearia, O. arborescens has most retained the ability to cross with other members of the Celmisia-Olearia complex.

Several of the features of Sondergaard’s plant, including adventitious roots generating from the base of the plant and the tendency to loss of vigour following flowering, also occur in Celmisia gracilenta X Olearia arborescens (Clarkson 1988).

The name XCelmearia ruawahia ‘Nebulous’ has recently been given to this last-mentioned hybrid in order to more effectively market its horticultural potential in New Zealand and the United Kingdom (Heenan 1993).

References

RETIREMENT

Retiring Ecologist Honoured by Fellowship

Reader in Plant Science, Dr Colin Burrows, who recently retired, has been made a Fellow of the Linnean Society of London, joining only 21 other New Zealanders.

The Society was founded in 1788 with the purpose of “the Cultivation of the Science of Natural History in all its branches”, and is named in honour of the Swedish scientist Carl Linne, often regarded as the founder of modern Botany.

In May colleagues are organising a symposium to mark Dr Burrows’ retirement, and acknowledge his contribution to work on ecology of New Zealand plants, which will be its theme.

Dr Burrows joined the staff of the university in 1960; ecology was his main teaching subject and research interest. In particular he has been deeply committed to studying the ecological problems of Canterbury and New Zealand. He has included alpine grasslands, wetlands and forests in his studies and is responsible for many reports on natural areas suitable for conservation, in Westland and Manapouri - Te Anau, as well as Canterbury.

It could well have been otherwise. Originally from Methven, and a secondary school education at Timaru Boys High, in 1950-52 Colin Burrows studied part-time for his BSc while at Teachers Training College. In 1957 he completed his MSc with First Class Honours in Botany and was awarded a Fulbright Scholarship to go to Stanford University in the USA. Unfortunately his wife become very ill and he couldn’t take up his scholarship. Dr Burrows believes these circumstances had a profound effect on his career. Had he gone, “I would have been a very different scientist”. At that time he was involved in evolutionary biology, but when the position came up at Canterbury “I changed my research thrusts, so I turned out to be an ecologist”.

In 1963 Colin Burrows received the Hamilton Memorial Prize of the Royal Society of New Zealand for his work in evolutionary studies and systematics. In 1967 he was awarded his PhD. His thesis was on the ecology of some alpine grasslands. Since the late 60s, after a sabbatical leave at Cambridge University, he has had a deep involvement with palaeoecology (Quaternary Studies). He has an international reputation and was awarded a DSc for his work in this field. More recently he has returned to present-day ecology with a book on vegetation change and on-going research on seed ecology of native forests.

Dr Burrows sees cycles of public interest in ecology. “I’m long enough in the tooth to observe we’re onto about the third cycle of the ecology bandwagon. It’s becoming more and more apparent that people really have to start listening to ecologists.” Equally importantly, he sees the necessity of many fields of study contributing to the care of the environment. “It must be interdisciplinary. One of the really good things I’ve experienced here has been working with geographers, geologists and zoologists. In fact, I have often worked more in collaborative work than in the department.”

On this theme Dr Burrows thinks his most important recent academic work has been to help initiate the interdisciplinary Environmental Science MSc, working with Professor Jim Cole (Geology), Professor Jane Soons (Geography) and Dr Vida Stout (Zoology). 1992 was the first year the course was offered and Dr Burrows will contribute to it again this year.

This is not the only course that Colin Burrows has helped to initiate. He started the development of Soil Science as a degree subject at Canterbury, and promoted the interdisciplinary course of Peace Studies. “The Cold War was so crazy, there had to be some way of struggling against this thing. My motivation was mainly to do with the nuclear issues, but other people brought into it quite different perspectives. It covered the whole array of possibilities, from your personal state of mind and peacefulness to the very broad global issues.”
Dr Burrows has much enjoyed being part of the Plant and Microbial Sciences department. "I guess the first highpoint was moving from the old site to here because the old site may be a bit picturesque but it was pretty grotty. Old oiled floors, and we lived in what seemed like outhouses, the old prefab buildings by the boilerhouse, so moving here was great." The people in the department - academic colleagues, secretaries, technicians and students - have contributed to an enjoyable working life. "The atmosphere has been very supportive and cooperative. Partly this is because we've had good HODs and it's been a very pleasant working atmosphere."

Colin Burrows has made a significant contribution outside the university as well. He is a former member of the Arthurs Pass National Park Board and is still the Park Botanist. Since 1972 he has been working on the vegetation of Arthurs Pass and one retirement plan is to complete that description of the vegetation and compile lichen, moss and liverwort floras for the park. He has also been the University representative on the Canterbury Museum Trust Board for about ten years.

Dr Burrows claims his retirement plans are "a bit vague" but they do involve more research. "Research has been the highpoint in what I have done. The department has very kindly made some space available in a house in Crayke Road and I'm going to press on." It certainly doesn't sound like a life of idleness: "I've scores of unwritten things to work up, including a book or two. It's good to be able to retire while I've still got my marbles and am reasonably hale and hearty."

Reproduced from Chronicle University of Canterbury 28(3): 3

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BIOGRAPHY/BIBLIOGRAPHY

**Biographical Notes (10): Harry Howard Barton Allan (1882–1957). The early years.**

Harry Allan was born in Nelson on 27 April 1882, the sixth and youngest child of Robert and Emma Maria Allan. He attended Nelson Central School, where the headmaster was F. G. Gibbs, a distinguished amateur botanist referred to in the dedication of Allan's first book as "F. G. G. who revealed to the writer the romance of the world outside of books". From primary school Allan won a scholarship to Nelson College, which he attended from 1897 to 1902, overlapping with J. E. Holloway (1895–1900). He won the Junior Gymnastics Cup (1897), the Simmons Prize for Literature, and in 1902 played in the First Cricket Eleven (1–5). The English and Latin master from 1897 to 1906, Mr Frank Milner, voluntarily coached senior pupils outside normal hours for terms at the University (6); and in 1902 Allan passed in Latin, Pure Mathematics, Mechanics, Jurisprudence, and Constitutional History (7).

Allan then began a career in teaching, first at the small West Coast mining town of Denniston (2), followed by Kings College, Auckland, in 1904 (8) and then Napier Boys' High School (3). In Auckland Allan attended the University part-time and completed his B.A. with passes in English and Mental Science. The degree was conferred in 1905. And it was at Auckland that Allan received his only formal training in botany, "a few greatly appreciated lectures from A. P. W. Thomas" (3). The examinations for the degree of M.A. in Mental Science were passed in 1906 and the degree conferred in 1908. Mental Science (Psychology, Ethics, and Logic) was classified as a Science and was Allan's prerequisite for the degree of D.Sc. (7).

In 1907, at the end of the second term, Allan joined Waitaki Boys' High School where Milner was now headmaster. He was master in charge of the Preparatory Department; and as Captain Allan commanded No. 2 Company of the Cadets. In 1909 he married Louise Arnold of Korere, Nelson; and in 1910 he was promoted to teach botany, entomology and meteorology in the newly established Agriculture Course (9). His first publication, a note entitled *Potatoes, Variety test at Waitaki Boys' High School* appeared in the *[N.Z.] Journal of Agriculture* for 1913. In (6) Allan appears in two photographs: the Agricultural class in 1910, and the Rector and staff in 1913.

In 1916 Allan left Oamaru to introduce an Agricultural Science Course at Ashburton High School and remained there until 1921. His salary was met partly by the Board, partly by donations, and partly by the Department of Agriculture because of his duties in connection with the Experimental Farm. This comprised 136 acres in Albert Street leased to the Department by the Board (10).

In 1916 Allan left Oamaru to introduce an Agricultural Science Course at Ashburton High School and remained there until 1921. His salary was met partly by the Board, partly by donations, and partly by the Department of Agriculture because of his duties in connection with the Experimental Farm. This comprised 136 acres in Albert Street leased to the Department by the Board (10).

At this time the Biologist in the Department of Agriculture was Alfred Hyde Cockayne (1880–1966) who became Allan's friend, as did his famous botanist father, Leonard Cockayne (1855–1934). These two men were to have a major influence on Allan's life. He dedicated his first book (after F. G. G.) to "A. H. C. who..."
guided his first steps in learning to name our plants, and L. C. who taught him that to name was not yet to understand". On 4 September 1917, Leonard Cockayne wrote to Prain at Kew recommending Allan's election as a Fellow of the Linnaean Society; and on 9 August 1918 he referred to "my esteemed friend H. H. Allan, F.L.S. of Ashburton (a new disciple)" in a letter to the soldier-botanist, C. E. Foweraker (11).

The modest beginnings of a notable partnership can be seen in a paper by Cockayne on floristic botany, read in October 1917. Allan is one of several thanked for assistance, having contributed two records: Epilobium pedunculatum var. minutiflorum from "Rakaia river bed, not far from mouth of river"; and Veronica amplexicaulis from "Mount Peel subalpine" (T.N.Z.I. 1918).

Mount Peel rises from the Canterbury Plain some 45 km inland from Ashburton, and Allan had begun a study of its vegetation in order to fill a gap in the phytogeography of eastern South Island. "Observations were made at all seasons during the period 1917–21, some 30 weeks being spent in the field..." (T.N.Z.I. 1926). The motorbike and sidecar shown in Allan's photograph reproduced as Fig. 30 in Cockayne's Vegetation of New Zealand (1928) is considered to be taken at Kitchener Park, Feilding (12) but this, or a similar vehicle could have taken him to and from Mt Peel.

Allan's thesis on The Vegetation of Mount Peel, Canterbury was awarded a D.Sc. (N.Z.) in 1923 (3) and led to two papers in 1926 and 1927 (T.N.Z.I.). But probably the most important outcome of the Mount Peel survey was that it led to a life-long interest in lichens. On 20 October 1920, in search of identifications and literature he sent a box of specimens from Mount Peel and Ashburton to Annie Lorrain Smith, lichenologist at the British Museum (Natural History); and he "became the first local botanist to enquire seriously into a possible field role for New Zealand's lichens in an expanded context of general plant ecology..." (13).

As a member of the Educational sub-Committee of the Ashburton A. & P. Association, Allan was involved with the editing of the Association's magazine; and he also contributed notes on three hawkweeds (1920) and on the root structure of white clover (1921). He was also involved with the lecture programme which included, on 17 July 1920, a talk on Knowing the Soil by L. J. Wild, Lecturer in Chemistry and Physics at Canterbury Agricultural College, Lincoln (14).

Leonard Wild lectured at Lincoln College from 1915 to 1920 and at Christchurch Teachers College in 1921 (15). He then became founding Headmaster of Feilding Agricultural High School, which opened in February, 1922; and in the second term he was joined by his "old friend" Harry Allan, as First Assistant. G. V. Wild, younger brother of the headmaster, recalled that "Allan was an English scholar of great merit, and it was to teach English that he was appointed to Feilding. He was a splendid teacher and an outstanding botanist. I occasionally called on him at his home in Camden Street, where he would be engrossed in his botanical research or writings till the early hours of the morning; but never too busy to talk over the problems of the junior member of staff" (16).

In fact Allan's six years as a teacher at Feilding were arguably the most important of his career and certainly some of the busiest. He not only taught English but Agricultural Botany with its attendant practical work. Thus he applied Raunkiaer's method to the analysis of pastures, and in 1923 received a grant from the New Zealand Institute for research on cocksfoot and ryegrass (Proceedings 1925). But from 1922 to 1928, by working at night and in the holidays, he brought out 23 papers, and was joint author of 9 others, 6 with Cockayne (2). His name appeared in Nature, the New Phytophystologist, the Journal of Ecology, and Genetica. In 1926 he was author of a chapter in Tansley and Chipp's Aims and Methods in the Study of Vegetation, and in 1928 his first book appeared (5). From a relatively unknown secondary-school teacher, he had become an internationally known botanist, particularly for his expansion of the work on wild hybrids begun by Cockayne.

The work in hybrids was encouraged by Dr J. P. Lotsy who visited New Zealand in March-April, 1925, and began publishing Allan's series on Illustrations of wild hybrids in the New Zealand flora in the May-August number (1925) of the Dutch journal Genetica, of which he was co-editor. Lotsy was also adviser to the Netherlands government on the use of Spartina townsendii for reclamation; and Allan showed him the population on the Foxton mudflats which he had studied (N.Z.J.S.T. 1924; N.Z.J.Ag. 1930).

Allan continued his work on forests by first studying the remnants in the neighbourhood of Feilding. In this connection he sent epiphyllous lichens from Kitchener Park to A. Zahlbruchner in Vienna for identification (T.N.Z.I. 1928). Then, in August, 1924 he received a grant from the New Zealand Institute to study the forests of Mount Egmont (Proceedings 1925); and in August, 1925, he sent lichens from Egmont and Feilding to the young Uppsala lichenologist G. E. Du Rietz with whom he had begun corresponding in May that year (13). When Du Rietz came to New Zealand in 1926–27 Allan took him to Egmont where...
they discussed "various problems especially those connected with the significance of the lichen flora and vegetation, and a representative set of lichens was determined by Dr Du Rietz" (Proceedings 1927).

In the summer of 1927-28, supported by a grant from the Royal Society, London, Allan made a 3 month survey of hybridism in the mountain plants of South Island. Car transport was supplied by G. H. Cunningham (1892–1962) a mycologist with the Department of Agriculture and they became great friends (17). Material was sent back to Cockayne for comment. Allan also met A. W. Hill, Director of Kew, who visited New Zealand in January, 1928; and he recalled the joy Hill had "in watching from the depths of his armchair Cockayne L. arguing with Cockayne A. for argument’s sake" (T.R.S.N.Z. 1942). Then, in August, 1928, Allan left teaching to become Systematic Botanist at the newly-formed Plant Research Station in Palmerston North. The Director was A. H. Cockayne, and the Head of the Mycological Laboratory was G. H. Cunningham. Allan’s assistant was Victor Zotov, who had been his pupil at Feilding.

This earlier part of Allan’s botanical career was rounded off by his first overseas visit at the age of 48. In 1930, with support from the Empire Marketing Board, he went to Kew. While there he attended the Fifth International Botanical Congress at Cambridge from 16 to 23 August, and spoke on The importance of the jordanon in problems of geographical distribution; and on 23 October he addressed Some remarks on hybridism in the New Zealand flora to the Linnaean Society of London. In the field he accompanied Professor F. W. Oliver to Poole Harbour, the classical locality for Spartina townsendii; and with Lotsy he saw the reclamation work in Holland (N.Z.J.Ag. 1931).

I am grateful to Arthur Healy for lending me Feilding A. H. S. magazines, and to Alan Esler and Andy Thomson for answering questions.


Eric Godley, Research Associate, Manaaki Whenua-Landcare Research, PO Box 69, Lincoln

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**BOOK REVIEW**

**Wild orchids in the far south of New Zealand**


Forty-six species, nearly half of New Zealand’s wild orchid species, are described and illustrated in this book on orchids occurring south of the Waitaki River. The author, Ian St George, has spent many years searching for orchids in the area covered by this book which includes Otago, Southland, Fiordland and Stewart Island.

The species are presented alphabetically, and a brief, simple botanical description, together with notes on habitat, locations, cultivation and history are given. The text is informative and easy to read. The historical notes are always interesting and show the thoroughness of the author’s search of the botanical literature. A full-page detailed drawing is provided for each species. Except for four species, the drawings are of specimens the author has found in the region. They are clear and accurately depict the structure of the flowers.

The book contains a key to the southern species of Thelymitra, notes on pollination (copied from another book “The New Zealand Native Orchids: Natural History and Cultivation” edited by Ian St George with Doug McCrae) and a table on flowering times of the southern orchids. There is an index, a page explaining the meaning of the scientific names, and a map of the region.
The text has few, if any obvious errors. Perhaps the map would have been better placed in the front just before the preface and a few subheadings in the preface would have been helpful to the reader, but any faults are very minor.

Ian has combined his talents as a field botanist, botanical illustrator and botanical historian with his excellent eye for detail to produce this book and I hope we will see more of his work in the future. At $11 this book represents excellent value. The drawings alone are worth having for anyone trying to identify these orchids, wherever they might occur.

Chris E Ecroyd, 33 Raniera Place, Rotorua

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**PUBLICATIONS**

- **People, plants and conservation conference proceedings**

  Comprehensive proceedings of this important conference on botanic gardens are now available from Denis Hicks, RNZIH Wellington Branch, 19 Waddington Drive, Lower Hutt. Cost $20 (includes GST and postage). They contain papers that give a New Zealand perspective on botanic garden management, plant conservation, promotions and fund raising, and collection management.

- **Progress Report : Small-leaved shrubs of New Zealand**

  by Hugh Wilson and Tim Galloway

  Initiated by the Canterbury Botanical Society, written by Hugh Wilson, illustrated by Tim Galloway, and published by Manuka Press in Christchurch, the field guide is now off to Singapore to be printed and bound, for release in the spring. Financial assistance from the Koata Botanical Trust, the New Zealand Lottery Grants Board, the Canterbury Botanical Society, the Wellington Botanical Society, and Trustbank Canterbury, means that the book will be available at an easily accessible price. Details and an order form will be included in the next issue of the Newsletter (we hope!), and also sent to subscribers of the New Zealand Journal of Botany.

  The guide is a detailed identification manual to a fascinating but tricky and controversial part of the New Zealand flora. Produced in hard-covered, field guide-format and of over 300 pages, it is fully keyed and indexed, with some 70 pages of line drawings and a section of colour photographs. It should foster greater interest in the extraordinary range of small-leaved, twiggy shrubs in New Zealand and help in understanding their unusual predominance in our flora and vegetation.

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**DESIDERATA**

- **Request for wood samples of Lophomyrtus bullata**

  Rajni Patel would appreciate wood samples of *Lophomyrtus bullata* for his research on wood anatomy of native trees and shrubs. Please send to:

  Rajni Patel, Landcare Research NZ Ltd, PO Box 69, Lincoln.

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**FORTHCOMING CONFERENCES/MEETINGS**

- **Buzz Group: Informal Meetings of NZ Ecologists**

  *South Islands Weekend, Cass, 8-10 October 1993*

  For some years there has been a tradition of informal meetings to facilitate contact, co-operation, and exchange of bright ideas and enthusiasm between local ecologists from different parts of New Zealand. This year it is the South Island's turn, with a weekend at the University of Canterbury field station at Cass, on the Arthurs Pass road. The meeting will be held on the weekend immediately preceding the symposium to mark Colin Burrows’s retirement (see below) to allow you to cover both events with a single trip.
The weekends involve some time in the field, to give outsiders some idea of the beauty and ecological highlights of the area; some informal presentations of work in progress, by staff and research students; discussions on issues of scientific interest; and socialising. They are open to any interested ecologists of any level, but numbers are strictly limited to about 30 by the available space at the field station. First come, first served. We hope to be able to provide minibuses (around $15 each) and food. We can also hopefully arrange billets in Christchurch on Sunday night for those staying on for the Burrows Symposium.

Anyone interested in attending this meeting should register their interest (form below) to stake a place in the queue; more details will be sent to those on the mailing list. Remember, places are allocated on a first-come basis.

Dave Kelly, Plant and Microbial Sciences, University of Canterbury, Private Bag, Christchurch 1

Seminar to mark Colin Burrows's Retirement: "New Zealand Plants and Environment"
Monday 11 October 1993, University of Canterbury

Colin Burrows retired this year after more than three decades in the Botany Department at the University of Canterbury. To make the occasion we are organising a one-day seminar on the theme of New Zealand Plants and Environment. During the day there will be about a dozen speakers covering various topics related to work that Colin has done over the years, and in the evening there will be a formal dinner. We hope it will provide an opportunity for New Zealand ecologists to gather, review the progress of the last few years and consider directions for the future, as well as socialising of course. There will be NO CHARGE for attendance (user pays be damned!) but there will be a charge for the symposium dinner.

The seminar will begin at 9.15 am; we can collect travellers from the airport early on Monday and/or arrange some billets in Christchurch for Sunday and Monday nights. Morning and afternoon tea will be provided; lunch will be available for purchase, but we need to know approximate numbers beforehand. Book your tickets now and take advantage of the cheap air fares currently on offer!

If you are interested, please notify your interest to us giving the details below, and we will put you on the mailing list for the complete information when the programme is finalised.

Dave Kelly, Plant and Microbial Sciences, University of Canterbury, Private Bag, Christchurch 1

REGISTRATION OF INTEREST (this is indicative, not binding)

I am interested in attending the WEEKEND BUZZ GROUP Y/N
I am interested in coming to the BURROWS SYMPOSIUM Y/N
I am interested in coming to the SYMPOSIUM DINNER Y/N
I am interested in a billet on SUNDAY night Y/N
I am interested in a billet on MONDAY night Y/N

NAME ..................................................................................

POSTAL ADDRESS ..................................................................

PHONE DAY .................. NIGHT .................. FAX .................

Please either
e-mail to KELLY@BOTN.CANTERBURY.AC.NZ
or fax to (3) 3642-083;
or post to Dave Kelly, Plant & Microbial Sciences, University of Canterbury, Private Bag, Christchurch 1
New Zealand Botanical Society
THREATENED AND LOCAL PLANT LISTS (1993 Revision)

E.K. Cameron¹, P.J. de Lange², D.R. Given³, P.N. Johnson⁴, C.C. Ogle⁵

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² Science & Research Division, Department of Conservation, PO Box 10-420, Wellington
³ 101 Jefferys Road, Christchurch
⁴ Manaaki Whenua - Landcare Research, Private Bag 1930, Dunedin
⁵ Wanganui Conservancy, Department of Conservation, Private Bag, Wanganui

ABSTRACT

A revision of the 1990 New Zealand threatened plant list is presented. A total of 315 vascular plant taxa are considered at risk within the New Zealand botanical region using current IUCN Red Data Book categories of threat. Taxa are distributed as follows, Extinct 9 taxa, Endangered 44 taxa, Vulnerable 61 taxa, Rare 98 taxa, Insufficiently Known 46 taxa, and Taxonomically Indeterminate 57 taxa. Using an additional New Zealand system of classification one taxon is ranked as extinct in wild and a further 124 taxa as Local. Twenty-one species previously listed under some level of threat have been deleted from this list.

INTRODUCTION

Lists of New Zealand plants at risk were initiated by Given (1976) and have been periodically revised up until 1990. In July 1991, a Threatened Plants Symposium at Kaitoke identified the need to formalise the revision process (de Lange and Taylor 1991). The present revision is the first part of an intended annual review by an independent committee of experts (the authors), appointed by the New Zealand Botanical Society, and serviced by the Department of Conservation.

The New Zealand Threatened and Local Plant lists serve to assist in planning management actions for conservation of botanical diversity, and to encourage and focus further field studies and research.

Criteria for selection

The lists include vascular plant taxa (species, subspecies, varieties) believed to be indigenous to the New Zealand Botanical Region (comprising the main islands, Kermadec Islands, Chatham Islands, and the New Zealand subantarctic islands, but excluding Macquarie Island). Included are plants which are indigenous also to overseas countries, where they may or may not be considered threatened.

The present revision comprises two distinct lists. The list of Threatened Plants concentrates on taxa which are at risk nationally, using the IUCN threat categories listed below. The second list of Local Plants (not an IUCN category) contains taxa sufficiently restricted in distribution to warrant monitoring.

The revision process

A call for submissions on candidate taxa and threat categories was made in the September 1992 New Zealand Botanical Society Newsletter. By the deadline date of 31 January 1993 a total of 145 written submissions were received by the convener (de Lange 1993). Prior to the meeting of the committee most submissions were transferred to a standard form (although the originals were kept). The quality of submissions was variable. While many included detailed information on the former and present range, habitat, population size and floral biology of taxa, most lacked this detail and required some follow-up action from members of the committee. For this reason a threatened plant submission form has been prepared. These are available from members of the committee.
It was agreed that all submissions received were the joint property of the New Zealand Botanical Society and the authors of submissions. Submissions are held on file by the committee convener. We would ask that those seeking to use information contained within these documents, obtain either the permission of the New Zealand Botanical Society Committee or the submission author(s).

Threat categories

The threat categories are those used by the Species Survival Commission of the International Union for Conservation of Nature (IUCN). These categories are:

- Extinct (Ex)
- Vulnerable (V)
- Endangered (E)
- Rare (R)
- Taxonomically Indeterminate (I)
- Insufficiently Known (K)
- Extinct in Wild (ExW)
- Local (L)

Two additional (non-IUCN) categories are used. These are Extinct in Wild (ExW) - which includes taxa which are no longer known from the wild but are still held in cultivation, and Local (L) - which is defined by Given (1981) and used here in the New Zealand Botanical Society Local Plant list. These categories are undergoing revision and a new classification has been proposed (D.R. Given pers. comm., 1993). This new system of classification will be adopted by the committee once it is published.

Nomenclature


As with Given (1990) the taxa listed include a considerable number (95) of undescribed taxa. This is because many of these are under some level of threat and their conservation should not be precluded by lack of a formal name (Given 1990).

Undescribed taxa are listed either by the tag names under which they appeared in Given (1990), or those supplied with the submissions made to the committee. The manner in which tag names are presented follows that used by the Australian Journal of Botany (e.g., Pate et al. 1991). A full annotated list of threatened undescribed taxa is being prepared for later publication by the committee.

Nomenclature changes affecting taxa listed by Given (1990)

<table>
<thead>
<tr>
<th>Given (1990)</th>
<th>This Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acaena &quot;NW Ruahine&quot;</td>
<td>Acaena rorida (Macmillan 1991)</td>
</tr>
<tr>
<td>Chiloglottis gunnil</td>
<td>Chiloglottis valida (Jones 1991)</td>
</tr>
<tr>
<td>Corybas aff. unguiculatus</td>
<td>Corybas rotundifolius (Hatch 1991)</td>
</tr>
<tr>
<td>Geniostoma ligustrifolium &quot;Surville&quot;</td>
<td>Geniostoma rupestre var. crassum (Conn 1980, Connor &amp; Edgar 1987)</td>
</tr>
<tr>
<td>Hebe matthewsii</td>
<td>(in part) Hebe &quot;Bald Knob Ridge&quot;</td>
</tr>
<tr>
<td>Hebe &quot;Unuwhao&quot;</td>
<td>Hebe adamsii (Cheeseman 1925)</td>
</tr>
<tr>
<td>Lepidium obtusatum</td>
<td>Lepidium obtusatum &quot;obtusatum&quot;</td>
</tr>
<tr>
<td>Macropiper &quot;Three Kings&quot;</td>
<td>Macropiper melchior (Sykes 1992)</td>
</tr>
<tr>
<td>Mazus pumilio</td>
<td>Mazus novaezelandiae (Barker 1991)</td>
</tr>
<tr>
<td>Melicytus augustifolius</td>
<td>Melicytus &quot;flexuose&quot;</td>
</tr>
<tr>
<td>Olearia &quot;Glen Hope&quot;</td>
<td>Olearia polita (Wilson &amp; Garnock-Jones 1992)</td>
</tr>
<tr>
<td>Pittosporum michiei</td>
<td>Pittosporum pimeleoides subsp. major (Cooper 1956)</td>
</tr>
<tr>
<td>Pittosporum pimeleoides var. pimeleoides</td>
<td>Pittosporum pimeleoides subsp. pimeleoides (Cooper 1956)</td>
</tr>
<tr>
<td>Pittosporum obcordatum var. kaitaiensis</td>
<td>Pittosporum obcordatum (Clarkson 1991)</td>
</tr>
<tr>
<td>Pomaderris oraria var. novae-zelandiae</td>
<td>Pomaderris paniculosa subsp. novae-zelandiae (Walsh 1992)</td>
</tr>
<tr>
<td>Pomaderris phylicifolia var. polifolia</td>
<td>Pomaderris polifolia (Riessek &amp; von Mueller 1858)</td>
</tr>
<tr>
<td>Pratia physaloides</td>
<td>Colensoa physaloides (Hooker 1853)</td>
</tr>
<tr>
<td>Pseudopanax arboreus var. kermadecensis</td>
<td>Pseudopanax kermadecensis (Sykes 1993)</td>
</tr>
</tbody>
</table>
Comparison with previous lists

This revision recognises 315 threatened taxa using IUCN Red Data Book Threat Categories. A further 124 taxa are ranked as Local and one taxon as Extinct in Wild, providing a combined total of 440 taxa under some level of threat within the New Zealand Botanical Region. Twenty-one taxa previously considered threatened are deleted, and listed separately.

These changes represent an increase of 70 taxa on the figures reported by Given (1990) and comprise about 18% of the New Zealand Flora as estimated by Druce (1992). Of these additions, 48 (51%) are listed either as Taxonomically Indeterminate or Insufficiently Known; committee would make a special plea for further information on these taxa.

Using the lists

In comparison to previously published New Zealand threatened plant lists the committee has adopted a number of annotations to help clarify the decisions reached. All new entries, changes in taxonomic or IUCN rankings are annotated with footnotes. This will enable the user to determine the types of criteria used to effect changes in rank. Another difference is the use of a single * to indicate indigenous taxa known to be conspecific with overseas populations and under no threat outside the New Zealand Botanical Region e.g., Wahlenbergia stricta subsp. stricta. Taxa annotated with ** are those indigenous species threatened both within and outside New Zealand, and/or not recently demonstrated as conspecific with overseas populations e.g., Caladenia aff. iridescens.

Call for submissions

Submissions for the 1994 revision of the New Zealand Threatened and Local Plant List are now sought. These should be made on the appropriate form (available from the convener (P.J. de Lange) or your nearest threatened plant committee representative), and be received no later than 31 January 1994.

ACKNOWLEDGEMENTS

The New Zealand Threatened Plant Committee would like to thank the staff of the following Head Office Divisions of the Department of Conservation; the Protected Species Policy Division (PSPD) and Science and Research (S&R), for meeting the logistic and funding requirements of the committee. In particular we would like to thank Graeme Taylor for organising and booking our flights and accommodation, Richard Sadleir for his support of the committee activities, Carol West and Gillian Crowcroft, for helping proofread the manuscript. Margot Bowden (Librarian, Landcare Research Ltd.) and Fiona Pitt (Museum of New Zealand - Te Papa Tongarewa) are thanked for their assistance with the bibliography. The editing staff and typists (in particular Nesta Black and Joanne Horner) of Science and Research are thanked for their significant contribution to the format of this publication.

Submission acknowledgements

The committee is grateful for the submissions and information received, or supplied on request, from the following people:

BIBLIOGRAPHY


Rae, L. 1992: Conservation update - rarer than the kakapo. *Forest and Bird* issue 265: 5.


NEW ZEALAND THREATENED PLANT LIST (1993)

Key

* Indigenous taxon found naturally overseas and not considered threatened within the overseas part of its range. New Zealand populations have been confirmed as conspecific with overseas counterpart.

** Indigenous taxon known or thought to be threatened outside the New Zealand Botanical Region, or taxon presently treated as indigenous with additional overseas distribution but which may, on revision, prove endemic to the New Zealand Botanical Region.

(!) Addition to list (56 spp.)

EXTINCT (9)

Taxa which are no longer known to exist in the wild or in cultivation after repeated searches of the type localities and other known or likely places.

Chiloglottis formicifera * Orchidaceae\(^1,2\)

Lepidium obtusatum "obtusatum" Brassicaceae\(^1\)

Lepidium obtusatum "Manukau" (!) Brassicaceae\(^1\)

Logania depressa Loganiaceae

Myoporuma debile * Myoporaceae\(^1,5\)

Myosotis traversii var. cinerascens Boraginaceae\(^6\)

Pterostylis nutans * Orchidaceae\(^1,2\)

Stellaria elatinoides Caryophyllaceae\(^1\)

Trilepidia adamsii Loranthaceae

EXTINCT IN WILD (1)

Taxa known or presumed to be extirpated from the wild but which are known to be cultivated.

Carmichaelia prona Fabaceae

ENDANGERED (44)

Taxa in danger of extinction and whose survival is unlikely if the causal factors continue operating. Included are taxa whose numbers have been reduced to a critical level or whose habitats have been so drastically reduced that they are deemed to be in immediate danger of extinction.

Acaena rorida Rosaceae\(^3,4\)

Amphibromus fluitans * Poaceae\(^5\)

Astelia chathamica Asteliaceae

Atriplex billardioides ** Chenopodiaceae\(^4\)

Atriplex cinerea ** Chenopodiaceae\(^5\)

Austrepyrum calcis subsp. calcis (!) Poaceae\(^3\)

Boehmeria australis var. dealbata Urticaceae\(^3\)

Caleana minor ** Orchidaceae\(^2\)

Carex inopinata Cyperaceae

Carmichaelia kirkii s.l. Fabaceae

Celmisia macmahoni var. macmahonii Asteraceae

Chordospartum muritai Fabaceae

Christella dentata "N.Z." (incl. C. "basket") Thelypteridaceae

Clyanthus puniceus Fabaceae

Cortaderia tibarica Poaceae

Corybas carsei Orchidaceae

Cyathea kermadecensis Cyatheaee

Davallia "Puketii" Davalliacae

Gunnera hamiltonii Gunneraceae

Hebe breviracemosa Scrophulariaceae

Hebe cupressoides Scrophulariaceae\(^3\)

Helichrysum dimorphum Asteraceae

Lepidium banksii Brassicaceae

19
Lepidium kirkii  
Lepidium sisymbrioides subsp. matau  
Leptinella dioica subsp. monoica  
Leptinella nana  
Metrosideros bartlettii  
Muehlenbeckia astonii  
Olearia hectorii  
Olearia polita  
Pennantia baylisiana  
Peperomia leptostachya  
Plectranthus parviflorus * (!)  
Plantago spathulata subsp. picta  
Pterostylis micromega  
Pterostylis nana *  
Sebæa ovata **  
Simplicia laxa  
Tecomanthe speciosa  
Thelymitra matthewsii **  
Wahlenbergia stricta subsp. stricta *  
"X it"  

VULNERABLE (61)

Taxa believed likely to move into the Endangered category in the near future if the causal factors continue operating. Included are taxa of which most or all the populations are decreasing because of over-exploitation, extensive destruction of habitat or other environmental disturbance; taxa with populations that have been seriously depleted and whose ultimate security is not yet assured; and taxa with populations that are still abundant but are under threat from serious adverse factors throughout their range.

Aciphylla dieffenbachii  
Aciphylla traversii  
Alepis flavida  
Asplenium pauperequitum  
Australopyrum calciol subsp. optatum (!)  
Baumea complanata  
Brachyglottis huntii  
Calystegia marginata *  
Chiloglottis valida *  
Chionochloa spiralis  
Chordospartium stevensonii  
Coprosma waima  
Crassula hunua  
Crassula peduncularis *  
Dactylanthus taylorii  
Deschampsia caespitosa ** (!)  
Doodia aspera *  
Eleocharis neozelandica  
Embergeria grandifolia  
Euphorbia glauca  
Hebe acutiflora  
Hebe armstrongii  
Hebe barkeri  
Hebe speciosa  
Hibiscus diversifolius *  
Hydatella inconspicua  
Juncus holoschoenus *  
Lepidium flexicaule **  
Lepidium oleraceum s.l.  
Lepidium "Open Bay Islands" (!)  
Lepidium sisymbrioides subsp. kawarau  
Lepidium "Open Bay Islands" (!)  
Lepidium sisymbrioides subsp. kawarau  
Lepidium sisymbrioides subsp. matau  
Leptinella dioica subsp. monoica  
Leptinella nana  
Metrosideros bartlettii  
Muehlenbeckia astonii  
Olearia hectorii  
Olearia polita  
Pennantia baylisiana  
Peperomia leptostachya  
Plectranthus parviflorus * (!)  
Plantago spathulata subsp. picta  
Pterostylis micromega  
Pterostylis nana *  
Sebæa ovata **  
Simplicia laxa  
Tecomanthe speciosa  
Thelymitra matthewsii **  
Wahlenbergia stricta subsp. stricta *  
"X it"
<table>
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<td>Leptinella featherstonii</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Lycopodium serpentinum **</td>
<td>Lycopodiaceae</td>
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<tr>
<td>Mazus novaezeelandiae</td>
<td>Scrophulariaceae</td>
</tr>
<tr>
<td>Melicytus &quot;flexuosus&quot;</td>
<td>Violaceae</td>
</tr>
<tr>
<td>Myosotis albosericea</td>
<td>Boraginaceae</td>
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<td>Myosotis &quot;lyttonensis&quot;</td>
<td>Boraginaceae</td>
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<td>Myosotis colensoi</td>
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<td>Myosotis oreophila</td>
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</tr>
<tr>
<td>Myosotis &quot;pottsiana&quot;</td>
<td>Boraginaceae</td>
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<tr>
<td>Olearia pachyphylla</td>
<td>Asteraceae</td>
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<tr>
<td>Olearia &quot;Waima&quot;</td>
<td>Asteraceae</td>
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<tr>
<td>Ophioleaeu lpetiolatum *</td>
<td>Ophioglossaceae</td>
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<td>Peraxilla colensoi</td>
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<tr>
<td>Peraxilla tetrapietala</td>
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</tr>
<tr>
<td>Pimelea tomentosa s.s.</td>
<td>Thymelaceae</td>
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<td>Pittosporum dallii</td>
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<td>Pomaderis apetala *</td>
<td>Rhamnaceae</td>
</tr>
<tr>
<td>Pomaderis polifolia *</td>
<td>Orchidaceae</td>
</tr>
<tr>
<td>Prasophyllum aff. patens</td>
<td>Poaceae</td>
</tr>
<tr>
<td>Puccinellia &quot;Central Otago&quot; (!)</td>
<td>Arecaceae</td>
</tr>
<tr>
<td>Rhopalostylis &quot;Chathams&quot;</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Ranunculus recens &quot;Moawhango&quot;</td>
<td>Ranunculaceae</td>
</tr>
<tr>
<td>Rorippa divaricata</td>
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</tr>
<tr>
<td>Senecio scaberulus (!)</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Scutellaria novae-zelandiae</td>
<td>Lamiaeae</td>
</tr>
<tr>
<td>Todea barbara *</td>
<td>Osmundaceae</td>
</tr>
<tr>
<td>Triglochin palustre *</td>
<td>Juncaginaceae</td>
</tr>
<tr>
<td>&quot;Zombi&quot;</td>
<td>Asteraceae</td>
</tr>
</tbody>
</table>

**RARE (98)**

*Taxa with small populations which are not Endangered or Vulnerable but are at risk.* These taxa are usually localized within restricted geographical areas or habitats or are thinly scattered over a more extensive range. Rare plants are often endemics with a narrow distribution whereas vulnerable and endangered plants have often been formerly more widespread.
Cordyline kaspar
Corokia macrocarpa
Crassula ruamahanga
Cryptostylis subulata *
Cyclosorus interruptus
Elingamita johnsonii
Epiobium purpuratum
Gentiana antipoda
Geum pusillum
Grapihamitum nitidulum *
Grammitis rawlingsii
Gratiola nana *
Hebe adamsii
Hebe dieffenbachii
Hebe "George"
Iphigenia novae-zelandiae
Iti lacustris
Lepidium tenuicaule
Leptinella albida
Leptinella pyrethrifolia var. linearifolia
Leptinella rotundata
Linum monogynum var. chathamicum
Luzula crenulata
Macropiper melchior
Marattia salicina *
Meryta sinclairii (!)
Myosotidium hortensia
Myosotis concinna
Myosotis laeta
Myosotis matthewsii
Myosurus minimus subsp. novae-zelandiae
Myriophyllum robustum
Myrsine oliveri
Notospartium torulosum
Olearia chathamica
Olearia traversii
Ourisia modesta
Pachystegia rufa
Phylloglossum drummondii *
Pimelea arenaria
Pittosporum fairchildii
Pittosporum pimeleoides subsp. pimeleoides
Pittosporum turnerii
Plagianthus regius var. chathamicus
Plantago obconica
Poa aucklandica subsp. rakiura
Poa serex
Poa sudicola
Polystichum "Chathams"
Pomatodias hamiltonii
Poranthra microphylla *
Pratia "Woodhill" (!)
Pterostylis plumosa * (!)
Puccinellia antipoda
Ranunculus macropus
Ranunculus godfreyanus
Ranunculus recens "Manaia"
Ranunculus tenuifolius
Ranunculus viridis
Rytidosperma petrosum
Rytidosperma tenue
Stilbocarpa lyallii

Asphodelaceae
Escalloniaceae
Crassulaceae
Orchidaceae
Thelypteridaceae
Myrsinaceae
Onagraceae
Gentianaceae
Rosaceae
Asteraceae
Grammitidaceae
Scrophulariaceae
Asteraceae
Colchicaceae
Brassicaceae
Myrtaceae
Asteraceae
Linaceae
Juncaceae
Myrtaceae
Asteraceae
Boraginaceae
Boraginaceae
Boraginaceae
Boraginaceae
Ranunculaceae
Haloragaceae
Myrsinaceae
Fabaceae
Asteraceae
Asteraceae
Scrophulariaceae
Asteraceae
Lycopectaceae
Thymelaeaceae
Pittosporaceae
Pittosporaceae
Pittosporaceae
Malvaceae
Plantaginaceae
Poaceae
Poaceae
Poaceae
Dryopteridaceae
Rhamnaceae
Euphorbiaceae
Lobeliaceae
Orchidaceae
Poaceae
Ranunculaceae
Ranunculaceae
Ranunculaceae
Ranunculaceae
Ranunculaceae
Poaceae
Poaceae
Araliaceae
Stilbocarpa robusta
Senecio laetus var. esperensis
Senecio marotil
Stellaria decipsiens var. angustata
Stipa petriei
Thelypteris confluent
Thelymitra malvina *
Thelymitra tholliformis
Tupelia antarctica
Utricularia australis
Utricularia delicatula

INSUFFICIENTLY KNOWN (46)

Taxa that are suspected but not definitely known to belong to any of the above categories because of lack of information. An “Insufficiently Known” taxon does not have to be proved to be in any of the three categories - Endangered, Vulnerable or Rare. It is hoped that listing a taxon as “Insufficiently Known” will stimulate others to find out its true category of threat.

Aciphylla leighii
Brachyglottis southlandica var. albidula
Caladenia aff. indienses
Calochilus herbaceus *
Carex chathamica
Carex ventosa
Chenopodium detestans
Chenopodium pusillum
Chionohebe myosotoideae
Centipeda minima
Coryphosma neglecta "Three Kings" (!)
Coryphosma neglecta "Maunganui Bluff" (!)
Coryphosma neglecta "neglecta"
Coriaria pottsiana
Coriaria "Rimutaka"
Crassula colorata var. acuminata
Deschampsia pusilla
Hebe annulata
Hebe "Bald Knob Ridge"
Hebe imbricata
Hebe "Takahē"
Isolepis basilaris (!)
Ischnocarpus novae-zelandiae (!)
Kunzea sinclairii
Lagenifera stipitata *
Leptinella filiformis
Libertia peregrinans
Limosella curdieana
Microsera thomsonii
Muehlenbeckia ephedroides (!)
Myosotis cheesemanii
Myosotis "glaucu"
Myosotis glabrescens
Myosotis laingii
Myosotis "petiolata"
Olearia angulata
Olearia capillaris
Olearia fragrantiissima (!)
Peperomia "Purple Vein" (!)
Pimelea aridula agg.
Senecio dunedinensis (!)
Spiranthes "Motutangi"
Swainsona novae-zelandiae
<table>
<thead>
<tr>
<th>Species Name</th>
<th>Family</th>
<th>Category</th>
<th>Threat Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teucridium parvifolium</td>
<td>Verbenaceae</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Thelymitra &quot;Ahipara&quot; **</td>
<td>Orchidaceae</td>
<td>4,10</td>
<td></td>
</tr>
<tr>
<td>Thelymitra &quot;Rough Leaf&quot; **</td>
<td>Orchidaceae</td>
<td>4,10</td>
<td></td>
</tr>
<tr>
<td>Uncinia purpurata</td>
<td>Cyperaceae</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td><strong>Thelymitra</strong> &quot;Ahipara&quot; **</td>
<td>Orchidaceae</td>
<td>4,10</td>
<td></td>
</tr>
<tr>
<td><strong>Thelymitra</strong> &quot;Rough Leaf&quot; **</td>
<td>Orchidaceae</td>
<td>4,10</td>
<td></td>
</tr>
<tr>
<td>Uncinia purpurata</td>
<td>Cyperaceae</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

**TAXONOMICALLY INDETERMINATE (57)**

This includes: (1) Taxa about which there is doubt regarding taxonomic status and which require further investigation; and (2) genetic variants which are distinct at a level which may not warrant formal taxonomic recognition. Entries are grouped by probable category of threat.

**Endangered (24)**

<table>
<thead>
<tr>
<th>Species Name</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brachyscome &quot;Pareora&quot; (!)</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Cardamine &quot;Tarn&quot; (!)</td>
<td>Brassicaceae</td>
</tr>
<tr>
<td>Carmichaelia arenaria</td>
<td>Fabaceae</td>
</tr>
<tr>
<td>Carmichaelia fieldii</td>
<td>Fabaceae</td>
</tr>
<tr>
<td>Cheesemania &quot;Chalk Range&quot; (!)</td>
<td>Brassicaceae 6,11</td>
</tr>
<tr>
<td>Colobanthus &quot;Pareora&quot; (!)</td>
<td>Caryophyllaceae</td>
</tr>
<tr>
<td>Colobanthus &quot;Tengawai&quot; (!)</td>
<td>Caryophyllaceae</td>
</tr>
<tr>
<td>Craspedia &quot;Kaitorete&quot; (!)</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Dracophyllum &quot;Puketi&quot; (!)</td>
<td>Epsicridaceae</td>
</tr>
<tr>
<td>Deyeuxia &quot;Flaxbourne&quot; (!)</td>
<td>Poaceae 5</td>
</tr>
<tr>
<td>Gentiana &quot;Charleston&quot; (!)</td>
<td>Gentianaceae</td>
</tr>
<tr>
<td>Gentiana &quot;Pareora&quot; (!)</td>
<td>Gentianaceae</td>
</tr>
<tr>
<td>Gentiana &quot;Waitaki&quot; (!)</td>
<td>Gentianaceae</td>
</tr>
<tr>
<td>Geranium &quot;Pareora&quot; (!)</td>
<td>Geraniaceae</td>
</tr>
<tr>
<td>Geranium &quot;Red Hills&quot; (!)</td>
<td>Geraniaceae</td>
</tr>
<tr>
<td>Geranium &quot;Tengawai&quot; (!)</td>
<td>Geraniaceae</td>
</tr>
<tr>
<td>Leptinella &quot;Clutha&quot; (!)</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Leptinella intermedia</td>
<td>Asteraceae 10,11</td>
</tr>
<tr>
<td>Leptinella &quot;Pareora&quot; (!)</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Leptinella &quot;Tengawai&quot; (!)</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Limosella &quot;Opunake&quot; (!)</td>
<td>Scrophulariaceae</td>
</tr>
<tr>
<td>Notothlaspi &quot;Red Hills&quot; (!)</td>
<td>Brassicaceae</td>
</tr>
<tr>
<td>Pittosporum &quot;Surville&quot;</td>
<td>Pittosporaceae</td>
</tr>
<tr>
<td>Pimelea &quot;Turakina&quot; (!)</td>
<td>Thymelaeaceae</td>
</tr>
</tbody>
</table>

**Vulnerable (10)**

<table>
<thead>
<tr>
<th>Species Name</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brachyscome &quot;Ward&quot; (!)</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Gentiana &quot;Brown&quot; (!)</td>
<td>Gentianaceae</td>
</tr>
<tr>
<td>Gentiana &quot;Ward&quot; (!)</td>
<td>Gentianaceae</td>
</tr>
<tr>
<td>&quot;Gingidia patula&quot; (!)</td>
<td>Apiaceae</td>
</tr>
<tr>
<td>Hebe &quot;Awaroa&quot;</td>
<td>Scrophulariaceae</td>
</tr>
<tr>
<td>Hibiscus trionum &quot;NZ&quot; **</td>
<td>Malvaceae</td>
</tr>
<tr>
<td>Melicytus &quot;Egmont&quot;</td>
<td>Violaceae</td>
</tr>
<tr>
<td>Myosotis &quot;Volcanic Plateau&quot; (!)</td>
<td>Boraginaceae</td>
</tr>
<tr>
<td>Pseudognaphalium &quot;compactum&quot; (!)</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Ranunculus &quot;Walhao&quot; (!)</td>
<td>Ranunculaceae</td>
</tr>
</tbody>
</table>

**Rare (10)**

<table>
<thead>
<tr>
<th>Species Name</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brachyglottis saxifragoides</td>
<td>Asteraceae 11</td>
</tr>
<tr>
<td>Carmichaelia nigra</td>
<td>Fabaceae 7</td>
</tr>
<tr>
<td>Chionohebe glabra</td>
<td>Scrophulariaceae 4</td>
</tr>
<tr>
<td>Deyeuxia &quot;Waima&quot; (!)</td>
<td>Poaceae 3</td>
</tr>
<tr>
<td>Limosella &quot;Manutahi&quot; (!)</td>
<td>Scrophulariaceae</td>
</tr>
<tr>
<td>Melicytus &quot;Burnett&quot;</td>
<td>Violaceae</td>
</tr>
<tr>
<td>Myrsine &quot;Burnett&quot;</td>
<td>Myrsinaceae</td>
</tr>
<tr>
<td>Myrsine &quot;Poor Knights&quot;</td>
<td>Myrsinaceae</td>
</tr>
<tr>
<td>Wahlenbergia brockiei</td>
<td>Campanulaceae 4</td>
</tr>
</tbody>
</table>
**Wahlenbergia simpsonii**  
*Campanulaceae*  
Insufficiently Known (12)

**Cardamine** "Rata Peak" (!)  
**Carex allani**  
**Celmisia** "Mangaweka" (!)  
**Craspedia** "Chatham" (!)  
**Dracophyllum viride**  
"Hebe bishopiana"  
**Hebe matthewsii** s.l.  
**Hydrocotyle** "Ototoa" (!)  
**Muehlenbeckia debilis** (!)  
**Phormium** "Surville" (!)  
**Phormium** "Chatham"  
**Pimelea** "Three Kings" agg.  
**Pygmaea armstrongii**  

**Explanation of Footnotes**

1 Repeated systematic surveys have failed to locate taxon in the wild. Taxon is not known in cultivation.
2 Species constrained by either reproductive behaviour or ecological requirements.
3 Apparently less common or more threatened than previously believed.
4 Systematic name change either recently published or revision in process.
5 Possibly adventive.
6 Ecology and distribution better understood.
7 Previous threat(s) lessened by management.
8 More abundant on known sites than previously believed.
9 Island endemic under no immediate threat or less threatened than previously believed.
10 Conservation status uncertain.
11 Taxonomic status uncertain.
12 Taxonomically indistinct.

**NEW ZEALAND LOCAL PLANT LIST (1993)**

**Key**

* Taxon found naturally overseas and not considered uncommon within that range. New Zealand taxon has been demonstrated as conspecific with overseas counterpart.

** Indigenous taxon known or thought to be uncommon outside the New Zealand Botanical Region, or taxon presently treated as indigenous but which may, on revision, prove endemic to the New Zealand Botanical Region.

(!) Addition to list (2 spp.)

**LOCAL PLANT LIST (124)**

*This is not an IUCN Threat Category.* This is designed to act as a 'watchlist' for taxa which are sufficiently restricted to warrant noting and some monitoring. It may include taxa which occupy habitats potentially threatened in the future, and those found in sensitive habitats which are prone to damage.

**Acaena pallida** *  
**Aciphylla montana** var. *gracilis*  
**Aciphylla stannensis**  
**Brachyglottis bifistulosa**  
**Brachyglottis perdicioides**  
**Brachyglottis scoladophila**  
**Brachyglottis traversii**  
**Brachyglottis turneri**  
**Bulbinella talbotii**  

**Rosaceae**  
**Apioaceae**  
**Apioaceae**  
**Asteraceae**  
**Asteraceae**  
**Asteraceae**  
**Asteraceae**  
**Asphodelaceae**
Calochilus robertsonii *
Carex edgarae
Carex elingamita
Carex traversii
Carmichaelia appressa
Carmichaelia astonii
Cassinia leptophylla var. amoena
Celmisia haastii var. tormentosa
Celmisia hookeri
Celmisia inaccesa
Celmisia mackaui
Celmisia macmahonii var. hadfieldii
Centrolepis minima
Geraniocephalus pungens
Cheesemania wallii
Chionochloa lanea
Christella "Thermal"
Colensoa physaloides
Coprosma acutifolia
Coprosma obconica subsp. "Surville"
Coprosma propinqua var. martini
Coprosma spathulata subsp. "Surville"
Corybas crypantus
Corybas rotundifolius
Cassulaula mana
Cassulaula multiacaulis
Davallia tasmanii
Desmoschoenus spiralis
Dian扼teris linearis *
Epilobium gunnianum *
Fimbristylis squarrosa *
Fuchsia procumbens
Geniostoma rupestre var. crassum
Gentiana gibbsii
Gentiana lilliputiana
Geranium traversii
Geum diversgens
Haloragis erecta subsp. cartilaginea
Hebe "angustissima"
Hebe "Bartlett"
Hebe biggarii
Hebe "brevifolia"
Hebe elliptica var. crassifolia
Hebe gibbii
Hebe insularis
Hebe ligustrifolia var. "Surville" (1)
Hebe "Mokohinau"
Hebe pareora
Hebe raoulii var. maccaskillii
Hebe townsonii
Hebe "Waitoa"
Helichrysum plumeum
Helichrysum intermediun var. "tumidum"
Homolanthus polyandrus
Hypoeplis amaurorachis *
Ileostylus micranthus
Ipomoea pes-caprae subsp. brasiliensis *
Leptinella dispersa subsp. rupestris
Leptinella calcarea
Leucogenes "Peel"
Leucopogon parviflorus s.l. **

Orchidaceae
Cyperaceae
Cyperaceae
Cyperaceae
Fabaceae
Asteraceae
Asteraceae
Asteraceae
Asteraceae
Asteraceae
Asteraceae
Asteraceae
Asteraceae
Centrolepidaceae
Ranunculaceae
Brassicaceae
Poaceae
Thelypteridaceae
Lobeliaceae
Rubiacceae
Rubiacceae
Rubiacceae
Rubiacceae
Rubiacceae
Asteraceae
Gentianaceae
Gentianaceae
Gentianaceae
Gentianaceae
Rosaceae
Haloragaceae
Scrophulariaceae
Scrophulariaceae
Scrophulariaceae
Scrophulariaceae
Scrophulariaceae
Scrophulariaceae
Scrophulariaceae
Scrophulariaceae
Scrophulariaceae
Scrophulariaceae
Scrophulariaceae
Asteraceae
Asteraceae
Euphorbiaceae
Dennstaedtiaceae
Loranthaceae
Convolvulaceae
Asteraceae
Asteraceae
Asteraceae
Epacridaceae
Macrothelypteris torresiana *  
Mitaracme montana var. heimsii  
Myosotis arnoldii  
Myosotis "pansa"  
Myosotis saxosa  
Myrsine cotii  
Nephrolepis cf. cordifolia **  
Notosparium carmichaeliae  
Olearia allomii  
Olearia coriacea  
Ourisia goulaniaina  
Ourisia spathulata  
Phlylocladus "serpentine"  
Pimelea crosby-smithiana  
Pimelea suteri  
Pisonia brunoniaina **  
Pittosporum pimeleoides subsp. major  
Pittosporum virgatum  
Pleurosorus rufifolius *  
Poa pygmaea  
Pomaderris paniculosa subsp. novae-zelandiae  
Pseudopanax kermadecensis  
Pseudopanax ferox  
Pseudopanax gilliesii  
Pterostylis "linearis"  
Ranunculus brevis  
Ranunculus grahamii  
Ranunculus haasti subsp. pilferus  
Ranunculus maculatus  
Ranunculus recens var. lacustris  
Ranunculus scirthalis  
Ranunculus stylosus  
Raoulia cinerea  
Schizellema cockaynel  
Sicyos australis ** (!)  
Senecio hauwai  
Simplicia buchananii  
Solanum aviculare var. latifolia  
Sprengelia incarnata *  
Stellaria "Poor Knights"  
Tetrachondra hamiltonii  
Thismia rodwayi *  
Urtica linearifolia  
Xeronema callistemon  
Yoania australis  

INSUFFICIENTLY KNOWN (8)

Cardamine “Reporoa Bog slender var.”  
Celmisia cordatfolia var. similis  
Hebe murelli  
Hebe ramosissima  
Helichrysum aggregatum var. "Surville"  
Notosparium glabrescens  
Parsonia "Surville"  
Senecio “Cuvier”  

Explanation of Footnotes

1 Ecology and distribution better understood.
2 Previous threat(s) lessened by management.
3 More abundant on known sites than previously believed.
Systematic name change either recently published or revision in process.

Island endemic under no immediate threat or less threatened than previously believed.

Possibly adventive.

Apparent less common or more threatened than previously believed.

SPECIES NO LONGER CONSIDERED THREATENED (21)

Taxa formerly considered under some level of threat in Given (1990) but which are here rejected from the New Zealand Botanical Society Threatened Plant and Local Plant Lists, because they are more widespread or abundant than previously thought.

Formerly ranked as Endangered:

<table>
<thead>
<tr>
<th>Species</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earina aestivalis</td>
<td>Orchidaceae</td>
</tr>
<tr>
<td>Pittosporum obcordatum var. kaitaensis</td>
<td>Pittosporaceae</td>
</tr>
</tbody>
</table>

Formerly Ranked as Vulnerable:

<table>
<thead>
<tr>
<th>Species</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corybas &quot;short tepals&quot;</td>
<td>Orchidaceae</td>
</tr>
<tr>
<td>Olearia semidentata</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Sporadanthus traversii</td>
<td>Restionaceae</td>
</tr>
</tbody>
</table>

Formerly Ranked as Rare:

<table>
<thead>
<tr>
<th>Species</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Celmisia adamsii var. adamsii</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Coprosma repens &quot;Poor Knights&quot;</td>
<td>Rubiaceae</td>
</tr>
<tr>
<td>Ranunculus urvilleanus</td>
<td>Ranunculaceae</td>
</tr>
</tbody>
</table>

Formerly Ranked as Indeterminate, Insufficiently Known or Taxonomically Indeterminate:

<table>
<thead>
<tr>
<th>Species</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corokia cotoneaster var. &quot;Surville&quot;</td>
<td>Escalloniaceae</td>
</tr>
<tr>
<td>Hebe &quot;Whangarei&quot;</td>
<td>Scrophulariaceae</td>
</tr>
<tr>
<td>Hydrocotyle &quot;Ecroyd&quot;</td>
<td>Apiaceae</td>
</tr>
<tr>
<td>Myoporum laetum var. decumbens</td>
<td>Myoporaceae</td>
</tr>
<tr>
<td>Pachystegia &quot;Ohau Bluff&quot;</td>
<td>Asteraceae</td>
</tr>
<tr>
<td>Sophora microphylla &quot;Chathams&quot;</td>
<td>Fabaceae</td>
</tr>
<tr>
<td>Sophora microphylla &quot;Cook Strait&quot;</td>
<td>Fabaceae</td>
</tr>
</tbody>
</table>

Formerly Ranked as Local:

<table>
<thead>
<tr>
<th>Species</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulbophyllum tuberculatum *</td>
<td>Orchidaceae</td>
</tr>
<tr>
<td>Festuca coxii</td>
<td>Poaceae</td>
</tr>
<tr>
<td>Hebe chathamica</td>
<td>Scrophulariaceae</td>
</tr>
<tr>
<td>Loxsoma cunninghamii</td>
<td>Loxsomataceae</td>
</tr>
<tr>
<td>Nestegis apetala</td>
<td>Oleaceae</td>
</tr>
<tr>
<td>Pomaderris rugosa</td>
<td>Rhamnaceae</td>
</tr>
</tbody>
</table>

Explanation of Footnotes

1 Ecology and distribution better understood.

2 Previous threat(s) lessened by management.

3 More abundant on known sites than previously believed.

4 Taxonomically indistinct.

5 Systematic name change either recently published or revision in process.

6 Taxonomic status uncertain.

Acknowledgments: Thanks to Colleen Pakes, Manaaki Whenua - Landcare Research who typed the text and Antoinette Nielsen who produced camera-ready copy for the printer.