Monocotyledons (32)

Acianthus sinclairii
Astelia solandri
A. trinervia
Carex dissita
Collospermum hastatum
C. microspermum
Cordyline australis
C. banksii
Corybas sp.
Dendrobium cunninghamii
Dianella nigra
Earina autumnalis
E. mucronata
Freycinetia baueriana subsp. banksii
Gahnia lacera
G. pauciflora
G. setifolia
G. xanthocarpa
Isolepis distigmatosa
I. reticularis
Libertia grandifolia
L. ixioides
Microlaena avenacea
Microtis unifolia
Oplismenus imbecillus
Pterostylis alobula
P. banksii
P. "rubricaulis"
Rhopalostylis sapida
Ripogonum scandens
Schoenus maschalinus
Uncinia uncinata

ACKNOWLEDGEMENTS

Thanks to Graeme Hambly for his observations on Tmesipteris, and to Ross Beever for his determination of T. elongata subsp. robusta.

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Garden escapes in Auckland

A.E. Esler

"Garden escapes in Auckland" is about plants that had a place in gardens and have now gone wild, some to the extent of being weeds.

Even my four-year-old grandson knows what a weed is - "It is a nasty plant that we want to get rid of, granddad". He didn't imply that it is an alien plant. The five worst weeds in our Mt Albert garden are native plants. By my definition a weed is an intractable plant that adversely impinges on the activities of man. Two variables are indicated in this statement - biological success, and degree of weediness. Our vocabulary has no adjectives to describe a place on a scale of success or weediness. Success is the sum of several attributes each of which can be given a numerical value on a scale - in this case on a 0-3 scale. Weediness likewise can be assessed by the sum of its components.

What makes a plant species successful?

This can be illustrated by taking moth plant Araujia sericifera as an example and giving it points for each of these features.

1.	Versatility	No obvious genetic variation is apparent except in flower colour. It can endure adverse conditions when young by suspending new growth. Is probably more successful on loose soils.	rating 1
2.	Maturity rate	Flowers in year 2. Flowering to seed ripening takes 3-5 months.	rating 2
3.	Seeding ability	Seeding ability. Possibly only 1% of flowers bear fruit (unsuitable pollinators?) but flowers are very numerous, and each fruit has c. 400 seeds.	rating 3
4.	Dispersal and establishment	Seeds are windborne for long distances. Seedlings establish freely in semi-shade where there are few immediate competitors.	rating 3
5.	Cloning ability	Nil.	rating 0
6.	Recovery	Rapid from trimming or slashing to ground level.	rating 3
7.	Competitive ability	Weak as a seedling but in the canopy of a supporting plant it branches freely in the light and overwhelms the support.	rating 3

Biological success rating of 15 out of 21 is quite high. It is quite a successful plant.

What makes it a weed?

1.	Obstruction	Moderately obstructive beneath, grossly obstructive in the tightly bound canopy. Makes hedges more difficult to trim.	rating 3
2.	Suppression	Seedlings in semi-shade cast considerable shade. Canopy is grossly suppressive by exclusion of light from supporting plant and the ground.	rating 3
3.	Quality impairment	No impairment of produce but it spoils aesthetic value of shrubs and hedges.	rating 2
4.	Health impairment	Oozing latex makes plants unpleasant to handle, and some people suffer skin irritation. Seeds are poisonous to poultry. Human and cattle poisonings are suspected.	rating 1
5.	Environmental damage	Has potential to destroy native plants in scrub and on bush margins, and affect associated fauna.	rating 2

6.	Other	Harbours oleander aphid.	rating 0
7.	Opportunity	a. Extent of suitable habitats Is likely to become more troublesome in mild lowland regions in the northern half of the North Island in shrubberies, hedges and on bush margins. Possibly limited on some soils.	rating 2
		b. Resistance to management practices Is kept under control by normal garden and park hygiene by pulling and digging but attention is often neglected in out-of-the-way places. Herbicide application is mostly not possible or effective. No effective natural enemies.	rating 3

With an index of weedines of 16 out of 24 this is a fairly undesirable plant.

Moth plant is just one of 615 naturalised species counted in Auckland, but it is the highest ranking weed by this assessment. In the same league are 2 species of asparagus, purple pampas grass, elaeagnus, kahili ginger, tree privet, Japanese honeysuckle, kikuyu grass, climbing dock, woolly nightshade and wandering Jew. Waldo Emerson, poet, essayist and transcendentalist said "A weed is a plant whose virtues have not yet been discovered". He got it all wrong. Our prime weeds had virtues, and they were introduced because of those virtues. The vices have become foremost.

Of the 105 naturalised trees and shrubs 104 were brought here for a purpose, climbers 31 out of 40, herbaceous perennials 118 out of 233, annuals 20 out of 204, water plants 9 out of 18, others 11 out of 15.

These 293 escapes from cultivation are 47% of the naturalised flora. Since 1870 plants have been naturalising in urban Auckland at a steady rate of 4 a year, or one every 88 days.

Escapes from cultivation came from Europe (8) - fennel, stinking iris, cineraria; Temperate Asia (27) - privet, buddleia, honeysuckle; Central and South America (48) - moth plant, pampas, woolly nightshade; Southern Africa (50) - watsonia, boxthorn, asparagus; Australia (28) - acacia, acmena, brush wattle; Others (60) - ginger, barberry, evening primrose. Why are these plants so sucessful in Auckland? Favourable, moderate climate with few constraints by pests and diseases are the main reasons. They also enjoyed garden treatment while building up their populations, and had many untended places to occupy when they went wild. A 50 year lead time is quite usual before control of a garden escape is attempted. Their impact goes unnoticed because they are familiar plants with unsuspected potential to become harmful.

Only now do we make people aware of the problem (educate), assess the impact (evalute) or do anything about the problem (facilitate). Too often weeds are out of control before we start.

Oliver Goldsmith and I were so moved about the changing face of the land that we wrote a poem about it. We called it "In yonder copse"*.

* First published in Horticulture in New Zealand 2(2), 10-12, 1991.

Sweet Auckland! Fairest city of the land.
Before the white man took a hand
In bracken hills and wooded dell,
The needs of man were furnished well.
In yonder copse the native flora grew,
And weeds of gardens were but few.

The sailing ship unloading on the strand
Implanted new life in vacant land.
And so the cultivation was begun,
The first bold steps of introduction done,
For food, ornament and screen,
The kind this land had never seen.

Around the cottage by the lea
Sweet flowers of every kind ran free.
But soon their future raised alarm.
Alas! They had begun to arm
With shoots, and bulbs, and seeds, and spores
To fill the gaps that life abhors.
No blight, or bugs of any kind,
As these had all been left behind.
No chills to nip, or droughty clime,
And soil so rich, Nature's potting shed sublime.

In yonder copse where privets grow,
The wandering Jew is creeping low,
The ginger flowering round the edge,
And strangling vines in every hedge.
On every piece of soil,
They hinder, smother, taint and spoil.
The bushland's scathed, and pastures weak.
Is this the kind of land we seek?

Sweet Auckland! weedy city second to none,
We have lost control. What must be done?
I saw in a dream the answer to our plight;
The boardroom bosses had seen the light!
They learned the words to fix this state
"Educate, evaluate, facilitate".
Ill fares the land to hastening ills a prey
If weeds proliferate, and men delay.

Further information is available in a series of papers under the heading The naturalisation of plants in urban Auckland, New Zealand published in 1987 and 1988.

1. The introduction and spread of alien plants NZJBot 25: 511-522
2. Records of introduction and spread of alien plants NZJBot 25: 523-537
3. Catalogue of naturalised species NZJBot 25: 539-558
4. Nature of naturalised species NZJBot 26: 345-385
5. Success of the alien species NZJBot 26: 565-584
6. Alien plants as weeds NZJBot 26: 585-618

These papers appear in book form - Naturalisation of plants in urban Auckland by A.E. Esler, published by DSIR Publishing 1988. (Copies at Auckland Public Library)
Please note these corrections.

516 1919 → 1929

528 add Tolpis barbata (column 1)
531 delete Trifolium micranthum
543 Dactylis glomerata
546 Setaria
546 Ranunculus sardous Pas
549 Dipsacus A_1O_4 -> B
551 Petrorhagia A_1Z S2
551 Rhaphiolepis
552 Xanthium 1871 -> 1870
555 Sigesbeckia
606 (Andredera) 596 -> 598
349

	Annual	Herbaceous perennial	Woody perennial	Vine
Total species	204	233	105	40
Seedless species	0	31	5	4
Species with inadequate information	0	4	1	0
Total species dispersed by wind	32	15	14	6
birds	2	5	33	10
attachment	26	22	0	1
Total species without dispersal aids				
dust <0.1 mg	15	26	2	0
small 0.1–1.0 mg	89	81	11	1
medium 1–10 mg	29	32	7	3
large >10 mg	11	17	32	15

Farewell

Since this is the last Journal for which I shall be the editor I ask members to grant me leave to write a few non-botanical notes.

To all the authors who have contributed articles over the years my sincere thanks, and especially to those who wrote articles at a time when the viability of the Newsletter was in doubt. Happily it is no longer the case that I need to persuade members to write for the Journal.

The work of two authors I shall always remember with some fondness. Rhys Gardner's early manuscripts became works of art as they were reworked with layer upon layer of white paint. The finished article was always a pleasure to type and, doubtless members will agree, most interesting to read. Now Rhys has a word processor so that the polishing process is no longer visible to the editior but his articles remain a pleasure to type and to read. The orchid notes and historical writing of Dan Hatch are also memorable and particularly welcome were the occasional notes of appreciation when an edition came out, especially so since Dan, as a former editor, was well aware of the amount of work involved.

And speaking of the amount of work involved, let me end by thanking my wife for the enormous amount of time she has put in over the last 14 years. Chris has assisted with proofreading (you would be surprised how many errors slip past the authors), collating, stapling and trimming of each edition, and has compiled the Index to the Journals that appears on the last pages of this edition.

Jack Mackinder