

WEEDS IN A SUMNER GARDEN

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Not surprisingly, members of the Botanical Society are more interested in native plants than in adventives, but if the local adventive flora is not recorded succeeding generations will have a biased picture of the actual vegetation of our region, and in particular of the gardens of our city. This paper is a contribution towards a balance, being derived from monthly records kept of the standing weed (plants not sown or planted deliberately, or the offspring of such plants) population in my garden.

In February 1996 we moved into an almost new house in Sumner, well up the valley. The section, which had presumably been grassland, was just as it had been left by the builders. The 'garden' was filled with tall weeds. There were areas of good soil but considerable parts of the section had been covered with loess clay and trampled by the builders. This article records the changes in the weed population over the first two years, February 1996 to February 1998, as the ground was gradually cleared and turned into a garden.

There is a steep slope down from the front to the back, which faces northwest. In the lower part of the garden, where decking was to be installed, I contented myself with cutting patches for vegetables and mowing the rest to encourage the grass but discourage seeding. The front has been gradually planted, but for much of the time recorded here I was encouraging weed seeds to sprout and then attempting to remove them before they could produce more seed. Until a fence was erected late in the survey period, the western edge was open to the neighbour's native shrubs and cottage wildflower garden. This was the source of many plants in the following list, which have the status of adventives in the *Flora of New Zealand Vol. 4*, but it is not certain whether all of these were originally sown in the neighbour's garden or might have been weeds there also. Whatever their origin, some of these plants were allowed to remain. The few plants planted by the previous owners have not been included in this survey even when, as in the Pansy, *Viola x wittrockiana*, they have spread by seeding.

As I lack facilities for identifying many grasses, these have been omitted. A number of other plants, particularly seedlings, were not identified, and so were not recorded.

Besides listing all the plants identified, I deemed it valuable to give some indication of the frequency of each species, ranging in number from one plant to a permanent population well into the hundreds, and peak populations, at seed germination, of the order of ten thousand. These numbers are no more than estimates. The first date of appearance is intended to show that the clearing of the ground, which occurred progressively over the months, changed the weed population. Plants marked 'Initial' were present in a census I took before doing any gardening. Several species not recorded then, such as *Rumex pulcher* and *Trifolium subterraneum*, were probably present but not observed, being swamped by taller growth or simply not distinguished from more familiar relatives. In the 'Status' column I have classified the plants as 'Native', 'Agriculture' - plants deliberately introduced to New Zealand for agricultural purposes, 'Garden' - plants introduced for garden use, mostly decorative, and 'Adventive', plants self-introduced, commonly called weeds. In this categorisation I have been guided by the *Flora of New Zealand Vol. 4*. In the final column I have given some indication, of the likely way the plant came to be in my garden. I also record as 'Adopted' a few species that have been adopted temporarily as garden plants and permitted to remain.

List of flowering plants, excluding grasses

Name	First record	Max freq	Status	Source/other notes
ACANTHACEAE				
<i>Acanthus mollis</i>	Oct96	1	Garden	Neighbour's garden
AGAVACEAE				
<i>Cordyline australis</i>	Jan97	3	Native	Local gardens
AMARANTHACEAE				
<i>Amaranthus deflexus?</i>	Initial	80	Adventive	Seasonal
APIACEAE				
<i>Foeniculum vulgare</i>	Initial	15	Garden	Local wild population
<i>Hydrocotyle moschata</i>	Feb97	5	Native	Neighbour's lawn
ARALIACEAE				
<i>Hedera helix</i>	Initial	5	Garden	Neighbour's garden
ASTERACEAE				
<i>Baccharis halimifolia</i>	Jan97	3	Adventive	Local population
<i>Calendula officinalis</i>	Initial	25	Garden	
<i>Chrysanthemoides monilifera</i>	Mar96	5	Adventive	Large and expanding local population. Eradicated on sight
<i>Cirsium vulgare</i>	Initial	10	Adventive	Now few
<i>Conyza albida</i>	Mar96	10	Adventive	Local population
<i>Conyza bonariensis</i>	Initial	1	Adventive	Not seen again
<i>Cotula australis</i>	Apl96	15 000	Adventive	Adopted temporarily as ground cover. Seedling rates to 10 000 per square metre.
<i>Crepis capillaris</i>	Initial	80	Adventive	Still present in quantity
<i>Crepis vesicaria</i>	Initial	50	Adventive.	
<i>Erigeron karvinskianus</i>	Sep96	15	Garden	Spreading but often failing
<i>Galinsoga parviflora</i>	Initial	1	Adventive	Occasional
<i>Gazania linearis</i>	Feb97	1	Garden	Local semi-wild population
<i>Helianthus tuberosus</i>	Initial	1	Garden	Planted?
<i>Hypochoeris radicata</i>	Initial	200	Adventive	Grassed areas
<i>Lactuca serriola</i>	Jan97	1	Adventive	Occasional plants
<i>Lapsana communis</i>	Apl96	15	Adventive	One corner
<i>Pericallis x hybrida</i>	Apl97	2	Garden	Brought in with vegetable plants
<i>Senecio glomeratus</i>	Mar97	1	Native	
<i>Senecio minimus</i>	Nov97	1	Native	
<i>Senecio quadridentatus</i>	Aug97		Native	
<i>Senecio vulgaris</i>	Initial	25	Adventive	Now few
<i>Silybum marianum</i>	Mar96	20	Adventive	Still a few germinating
<i>Sonchus oleraceus</i>	Initial	15	Adventive	Decreasing
<i>Tanacetum parthenium</i>	Initial	8	Garden	Several cultivars

<i>Taraxacum officinale</i>	Mar96	40	Adventive	Increasing
BETULACEAE				
<i>Betula pendula</i>	Mar96	1	Garden	Neighbour's garden
BORAGINACEAE				
<i>Borago officinalis</i>	Initial	30	Garden	Adopted.
<i>Echium candicans</i>	Sep96	8	Garden	Large local wild population
<i>Echium pininana</i>	Initial	8	Garden	Small local wild population
<i>Myosotis arvensis</i>	Oct96	40	Adventive	
<i>Myosotis sylvatica</i>	Sep96	4	Garden?	Common in gardens
BRASSICACEAE				
<i>Brassica napus</i>	Initial	1000	Adventive	Major weed initially with many plants in seed.
<i>Capsella bursa-pastoris</i>	Initial	200	Adventive	Maximum in spring 96
<i>Cardamine hirsuta</i>	Sep96	10	Adventive	Frequency increasing slowly
<i>Coronopus didymus</i>	Initial	100	Adventive	Frequency increasing
<i>Lepidium africanum</i>	Initial	150	Adventive	Many seeding plants initially, major germination not until April 97. Now not common
<i>Lobularia maritima</i>	Initial	8	Garden	Local wild population
<i>Sisymbrium officinale</i>	Initial	500	Adventive	Major weed initially with many plants in seed.
<i>Sisymbrium orientale</i>	Initial	80	Adventive	Mixed with <i>S. officinale</i> . Now all but extinct
BUDDLEJACEAE				
<i>Buddleja davidii</i>	Mar96	1	Garden	One plant, flourishing
CAPRIFOLIACEAE				
<i>Sambucus nigra</i>	Nov96	1	Adventive	No other local specimen known.
CARYOPHYLLACEAE				
<i>Cerastium glomeratum</i>	Aug96	15	Adventive	
<i>Polycarpon tetraphyllum</i>	Initial	1	Adventive	Occasional plants only, roadside
<i>Silene gallica</i>	Initial	15	Adventive	
<i>Silene latifolia</i>	Oct96	1	Garden?	Neighbour's cottage garden
<i>Spergularia rubra</i>	Initial	40	Adventive	Increasing?
<i>Stellaria media</i>	Mar96	1000	Adventive	Appears in all newly dug round
CHENOPODIACEAE				
<i>Chenopodium album</i>	Initial	800	Adventive	Germination rates of 400 per square metre recorded.
<i>Chenopodium erosum</i>	Oct96	8	Adventive	A few plants in one spot only. Species uncertain
CONVOLVULACEAE				
<i>Dichondra repens</i>	Jan97	6	Native	Adopted as ground cover, but not flourishing

EUPHORBIACEAE

<i>Euphorbia pepus</i>	Initial 200	Adventive	
<i>Euphorbia characias</i>	May96 8	Garden	Neighbour's garden

FABACEAE

<i>Cytisus scoparius</i>	Sep96 2	Adventive	Local wild population
<i>Galega officinalis</i>	Dec96 1	Garden	Neighbour's cottage garden
<i>Medicago arabica</i>	Mar96 1	Adventive	
<i>Medicago lupulina</i>	Nov96 2	Adventive	
<i>Medicago nigra</i>	Apl96 1	Adventive	Common locally
<i>Trifolium glomeratum</i>	Nov96 8	Adventive	
<i>Trifolium pratense</i>	Initial 2	Agriculture	
<i>Trifolium repens</i>	Initial 1000	Agriculture	Large wild population
<i>Trifolium subterraneum</i>	Oct96 20	Agriculture	Wild population
<i>Vicia sativa</i>	Sep96 2	Adventive	

FUMARIACEAE

<i>Fumaria muralis</i>	Apl96 1	Adventive	
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GERANIACEAE

<i>Erodium moschatum</i>	Initial 20	Adventive	
<i>Geranium rubescens</i>	Initial 100	Adventive	Adopted
<i>Pelargonium sp.</i>	Jan97 1	Garden	Local wild population

JUNCACEAE

<i>Juncus amabilis?</i>	Oct96 6	Adventive	Local wild population. Adopted
<i>Juncus distegus</i>	Jan97 3	Native	

LAMIACEAE

<i>Lamium purpureum</i>	Sep96 4	Adventive	Neighbour's garden
<i>Marrubium vulgare</i>	Mar96 2	Adventive	
<i>Mentha aquatica?</i>	Sep96 3	Garden?	Neighbour's cottage garden
<i>Mentha suaveolens</i>	Initial 20	Garden	Vegetative spread from neighbour's garden
<i>Prunella vulgaris</i>	Dec96 3	Adventive	Neighbour's garden
<i>Stachys arvensis</i>	Jan97 1	Adventive	Not established

MALVACEAE

<i>Hoheria populnea</i>	Jul96 40	Native	Neighbour's garden
<i>Malva nicaeensis</i>	Initial 50	Adventive	Continuous germination.

MYOPORACEAE

<i>Myoporum laetum</i>	Nov96 5	Native	Local garden population
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ONAGRACEAE

<i>Epilobium obscurum?</i>	Nov96 1	Adventive	A succession of single plants.
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OXALIDACEAE

<i>Oxalis corniculata</i>	Jan97 1	Adventive	
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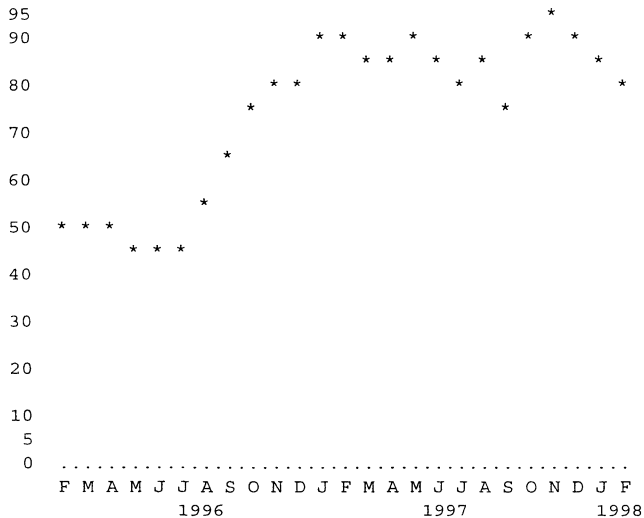
<i>Oxalis exilis</i>	Mar96	6	Native	
PLANTAGINACEAE				
<i>Plantago lanceolata</i>	Initial	100	Adventive	Grassed areas only
<i>Plantago major</i>	Initial	15	Adventive	Adopted for 97
POLYGONACEAE				
<i>Polygonum aviculare</i>	Initial	10 000	Adventive	
<i>Rumex acetosella</i>	Nov96	1	Adventive	
<i>Rumex obtusifolius</i>	Initial	40	Adventive	
<i>Rumex pulcher</i>	Sep96	80	Adventive	Not recorded early, but probably present. Now the commoner dock as a seedling
PRIMULACEAE				
<i>Anagallis arvensis</i>	Initial	100	Adventive	
RANUNCULACEAE				
<i>Clematis vitalba?</i>	Initial	1	Adventive	Eradicated
<i>Consolida ambigua</i>	Initial	25	Garden	Adopted
<i>Ranunculus parviflora</i>	Apl96	20	Adventive	
ROSACEAE				
<i>Acaena</i> sp.	Feb97	1	Native	Local population
<i>Aphanes</i> sp.	May97	1	Adventive	
<i>Chaenomeles speciosa</i>	Apl97	1	Garden	
<i>Cotoneaster</i> sp.	Apl97	1	Garden	Not established
<i>Crataegus</i> sp.	Mar97	1	Agricultural	Local wild population
<i>Prunus cerasifera</i>	Oct96	5	Garden	Not established
<i>Rubus idaeus</i>	Initial	8	Garden	Neighbour's garden
				Vegetative from neighbour's garden
RUBIACEAE				
<i>Coprosma repens</i>	Mar97	2	Native	Substantial local population
				Adopted
<i>Galium aparine</i>	Mar96	40	Adventive	Maximum winter 96
SAPINDACEAE				
<i>Dodonaea viscosa</i>	Oct96	30	Native	Range of colours. Many in local gardens
SCROPHULARIACEAE				
<i>Digitalis purpurea</i>	Oct96	6	Garden.	
<i>Hebe elliptica</i>	Apl96	6	Native	In local gardens
<i>Hebe speciosa</i>	Apl96	12	Native	Neighbours' gardens
<i>Linaria maroccana</i>	Sep96	1	Garden	Neighbour's cottage garden
<i>Linaria purpurea</i>	Aug96	40	Adventive	Adopted
<i>Verbascum thapsus</i>	Initial	5	Adventive	

<i>Veronica arvensis</i>	Oct96	1	Adventive	Not established
<i>Veronica persica</i>	May96	20	Adventive	Mainly in vegetable garden
SOLANACEAE				
<i>Solanum laciniatum</i>	Initial	6	Native	Adopted
<i>Solanum nigrum</i>	Initial	30	Adventive	Decreasing
<i>Solanum tuberosum</i>	May96	5	Agriculture	
TROPAEOLACEAE				
<i>Tropaeolum majus</i>	May96	50	Garden	Neighbour's garden
URTICACEAE				
<i>Urtica urens</i>	Apl96	3	Adventive	
VALERIANACEAE				
<i>Centranthus ruber</i>	Jun97	2	Garden	Large local wild population
VITACEAE				
<i>Vitis vinifera</i>	Feb97	1	Garden	From grape pip?

Discussion

The total number of species recorded is 120, from 37 families. More than half the species (68) are recorded as 'Adventive', 5 'Agricultural', 31 'Garden' and 16 'Native', though several of these last species will have reached the garden from domesticated parents.

The numbers of plants recorded as present each month were as follows:



These figures show a general rise of about 50 species in the first spring, followed by some seasonal and climatic variation around a new level of about 85. This increase is presumably due at least in part to the continual exposure of new bare ground as a result of cultivation. My activity and the receiving of plants from friends and relatives also offer the chance of an unofficial import. The building of a fence in late 1997 led to the loss of several species and the drought at the end of 1997 and early 1998 will also have had an effect, probably only temporary. The persistence of many weeds could be read as an indictment of my gardening practices. No well established species has been lost through my efforts.

During 1997 I gave thought to what plants might have been expected but had not yet been recorded. Two plants came to mind; red valerian, *Centranthus ruber*, which is common through Evans Pass, and yarrow, *Achillea millefolium*, common on the berms in the more established parts of Sumner, but not observed in this street. The first came to light almost immediately, and a plant of the second, clearly of some age since it had several rosettes, was revealed by the drought-stricken died-back grass shortly after the end of the survey period. Gorse, *Ulex europaeus*, is not found in the immediate vicinity and broom, *Cytisus scoparius*, is not common. One seedling of the latter was found early on, but none since. Boneseed, *Chrysanthemoides monilifera*, is established on a neighbouring property, and I have removed a number of seedlings. Pride of Madeira, *Echium candicans*, is a characteristic Sumner wild shrub, often adopted by gardeners; a few seedlings have been found, and one allowed to remain.

Conclusion

The observations show that in this part of Christchurch a number of shrubs and small trees occur as weeds; some of them are natives. A few of these, and some native herbs are probably descendants of the pre-colonial vegetation. There is also a good proportion of self-seeding garden plants. However, the weed flora is dominated by adventives, many with a very wide distribution.