

THE WILD PLANTS IN OUR GARDENL. Scott

A newcomer to New Zealand would have difficulty in developing an understanding of the plants. This could be partly overcome by studying the wild plants in one's garden. In February 1978 I began to list every wild plant - defined as those not planted by my husband nor myself. Specimens, and seeds when available, were collected and preserved. As well, I recorded once a week the plants in flower, and kept notes on habitats, weather, etc. The object of this article is to pass on to those who may be interested, some of the information obtained, always bearing in mind that it relates only to the plants and conditions in our garden.

We are the first occupants of our narrow sloping section which faces east, is 150 ft a.s.l. and 32 perches in area. It is situated 700 yards from the coast at Campbell's Bay, Auckland.

The section is part of a parcel of land purchased for farming by John Scott, my husband's grandfather, about fifty years ago. It was then covered in 15 ft high tea-tree scrub. He and his sons cleared the scrub to create land for pasture. The top half of our section was ploughed and prepared for sowing. Possibly the seed mixture was that for permanent pasture. In the manner of ploughing a ridge was created at the edge and this was still visible before our house was built. The land below the ridge fell away more steeply and was rough grazed. A patch of the scrub still remained. Our northern boundary appears to be a natural hedge, although my father-in-law thinks some shrubs may have been planted.

The land was sub-divided about twenty years ago. At that time my husband acquired the section and cultivated a vegetable patch at the top, mowing the grassland around it. Apart from the remains of the tea-tree scrub (shrubland) the rest was mowed occasionally to keep the weeds down.

Our house was built in 1974. We saved as much as possible of the shrubland. The ground in front was badly disturbed, bringing sticky clay to the surface. The topsoil had been removed and dumped in the north-east corner. A year later a drive of lime rock was constructed and the ground either side smoothed over. Topsoil was spread over the clay but the south side received rather a thin layer, while the north side still had the bulk of it. Natural re-generation has been allowed to take place with frequent mowing of the south side and occasionally of the north side. This has prevented some species from establishing e.g. brush wattle. The proper term to describe the area could only be wasteland. The land at the back of the house which was undisturbed is termed old pasture, and all the disturbed ground poor, average or fertile wasteland.

The total number of 137 species is high. 48 are monocots, 87 dicots and 2 ferns. There are only 20 native species. G.M. Thomson of Dunedin in 1909, in his *A New Zealand Naturalists Calendar* wrote, "In my garden and lawn there are some thirty-six kinds of weeds (not more than other people's, however)". He goes on to write that twenty-one of them are annuals but doesn't describe them further. Assuming he means introduced, dicotyledonous herbs, then it should be with shame that we admit there are sixty-five in our garden.

We wonder if our wasteland had seemed an appropriate place for neighbours to dump their garden rubbish because it is at the front, in deep topsoil (fertile wasteland), that the montbretia, nasturtium and Oxalis pes-caprae grow abundantly. The latter has taken over as our nastiest weed in the vegetable patch after we had just about eliminated an equally nasty one, Calystegia sp. The wasteland with thin topsoil (poor wasteland) harbours the greatest number of different kinds of plants, some of which don't grow elsewhere e.g. Briza minor, Anagallis arvensis, blue flowered form, Schoenus apogon and Scirpus chlorostachyus.

A study of flowering compared to Britain showed that those plants which flower all the year round in Britain, except during mid-winter, flowered all the year in our garden e.g. Bellis perennis, Senecio vulgaris, Euphorbia peplus and Veronica persica. Some plants which flower only during the warmer months in Britain flowered at various times during the year, not related to seasons e.g. Prunella vulgaris, Linaria purpurea, Daucus carota, Stachys arvensis, Leontodon taraxacoides, Crepis capillaris and Sonchus oleraceus. It is puzzling to find a few kinds having a shorter flowering time in our garden e.g. Medicago arabica, and Ranunculus repens. The long dry spells in summer could possibly account for this. Temperature, rainfall and day length all influence flowering.

Logically, the next step was to determine the seasons in Auckland as indicated by flowering in our garden. Flowering by the month is recorded by Fitter, Fitter and Blamey, and this was my yardstick, comparing commencement only. First the seasons in Britain had to be established. Midsummer's Day being in June decided the month of midsummer, while the Irish for September is Mea'n Fhómhair, meaning middle autumn. This makes February early spring.

There are 56 British herb species in our garden, 34 with an obvious commencement of flowering. When we say July is early spring in Auckland then most of these species commence in the same season as in Britain. Hence a rule of thumb method of using Fitter, Fitter, Blamey is, when it states flowering to be June (midsummer), in Auckland it is quite likely to be November (midsummer). The seasons in Auckland being, by this reasoning, spring: July, August, September; summer: October, November, December; autumn: January, February, March; winter: April, May, June.

Another facet of the study is the change in communities and spread of plants, but this is another story. Suffice to say now that the spread of Oxalis pes-caprae has been incredible. It is now abundant across the front garden and the vegetable patch, while in 1978 it was recorded as sparse.

The summer of 1979/80 was considerably wetter than the previous one. This has affected flowering and also the occurrence of plants preferring damp conditions.

In presenting the list of species, I have tried to give at least one reference for each kind and preferably one which is easily obtained. The botanical and common names are according to Standard Common Names for Weeds in N.Z., when they occur in that publication. Flowering details can be interpreted thus: "Fld Sept-Dec" means flowered September to December inclusive; "a.y.r." means all the year round. Without the Botany Division, DSIR, a number of the plants could not have been identified, nor references given.

DICOTS

- Acacia longifolia (golden wattle)^{13,14} many small trees, shrubland, grown about 6 ft in 5 years, fld July-Sept.
- Albizia lophantha (brush wattle)^{13,14} sparse, did not survive mowing.
- Amaranthus lividus (purple amaranth)^{3,13} sparse, cultivated ground, fld Jan-Mar.
- Anagallis arvensis (scarlet pimpernel)^{2,3} red-flowered, occasionally throughout in bare areas, fld late Sept-early April; blue-flowered, sparse locally in bare areas of poor wasteland, fld late Sept-Nov.
- Aster subulatus (sea aster)^{13,14} sparse, isolated plants, gravel, fld Mar-Oct.
- Atriplex hastata (orache)³ few in cultivated ground, fld late Jan-Mar.
- Bellis perennis (daisy)³ many, old pasture, sparse all other open areas but not on gravel heap, fld a.y.r.
- Calystegia (sepium x sylvatica?) (greater bindweed)⁴ pink flowers, non-inflated overlapping bracts, was abundant & nuisance in cultivated ground, mostly removed by 1979, fld late Nov-Feb.
- C. sylvatica (great bindweed)^{3,4} white flowers, inflated over-lapping bracts; few, hedgerow, fld late Nov-Feb.
- Campis x tagliabuana one straggling plant under tree ferns.
- Cardamine hirsuta (bitter cross)³ sparse, cultivated ground, old pasture in shade, fld late July-Oct.
- Centaurium erythraea (centaury)³ few, locally poor wasteland, occasional gravel, fld Sept-May, mostly Dec-Jan.
- Centella uniflora ⁶ abundant open areas of shrubland, fld Nov-Feb.
- Cerastium glomeratum (annual mouse-ear chickweed)³ sparse, old pasture, poor wasteland, fld Aug-Nov, May 78, Jan 80.
- Chenopodium album (fathen)³ sparse, cultivated ground, fld Dec-Mar.
- Cirsium vulgare (Scotch thistle)^{3,8} sparse, wasteland, gravel, rosette leaves appeared July, fld Nov-Mar.
- Coprosma robusta (karamu)^{6,10} some shrubland, fld July-Oct, fruit Feb-July orange.
- Coronopus didymus (twin cross)³ sparse, cultivated ground, fld Dec-Feb.
- Cotoneaster glaucophylla ⁹ few, shrubland, fld Nov-mid Jan, mostly Dec, fruit scarlet berries from Mar.
- Crepis capillaris (hawksbeard)^{3,8} some, widespread in open, fld a.y.r., mostly late Nov-July.
- Cyathodes fasciculata (mingimingi)^{6,10} few, shrubland, hedgerow, dormant flower buds appear Mar in racemes $\frac{1}{4}$ - $\frac{3}{4}$ inch long, length doubles in Aug, fld late Aug-early Oct.
- Daucus carota (wild carrot)³ many, wasteland, occasional elsewhere, fld a.y.r., mostly Nov-May.
- Erigeron floribundus (broad-leaved fleabane)¹⁴ four isolated plants; two c. 6 ft, edge of old pasture; smaller, edge of gravel path, 1979, fld Feb-May.
- Euonymus japonicus ⁹ one young shrub, shrubland.
- Euphorbia helioscopia (sun spurge)³ some, cultivated ground, fld late Nov-June.
- E. peplus (milkweed)³ abundant, cultivated ground, disturbed and bare wasteland, gravel, fld a.y.r.
- Foeniculum vulgare (fennel)³ some locally, average wasteland, fld Dec-May.
- Fumaria muralis (scrambling fumitory)³ some, cultivated ground, disturbed wasteland, fld a.y.r.
- Galium aparine (cleavers)³ few, hedgerow, shrubland, against walls, fld late Sept-Jan, second generation April 79 mature but not flowering then.
- G. parisiense (slender bedstraw)³ sparse, gravel, infertile wasteland in bare areas, fld Nov-Dec.

- Hakea salicifolia (willow-leaved hakea)^{13,14} few, shrubland, hedgerow, fld Aug-Sept.
- Hebe stricta (koromiko)^{6,10} sparse, young plants, damp shady wasteland.
- Hoheria populnea (lacebark)^{6,10} seed shed from neighbour's tree produced many seedlings on rarely mowed average wasteland; one young plant c. 18 inch Jan 80, unmowed damp shady wasteland.
- Homalanthus populifolius (Queensland poplar)^{5,14} one plant, fld late Oct-Dec 79.
- Hypochoeris radicata (catsear)^{3,8} many, widespread in open, fld late Oct-May, one plant Aug 79.
- Jasminum polyanthum⁹ one small plant, shrubland, fld Sept-Oct 78.
- Leontodon taraxacoides (hawkbit)^{3,8} many, poor wasteland and gravel, fld mostly Nov-May, occasional flowers June-Oct.
- Leptospermum scoparium (manuka)^{6,10} few, shrubland, fld mostly Feb-Oct, more profuse 78 than 79; one plant grew from seed on gravel, probably germinated 74, by 78 c. 18 inch high, had 2 flowers, died 79.
- Linaria purpurea (purple linaria)³ few, gravel, wasteland against walls; one pink-flowered plant; fld mostly Nov-Jun, one plant a.y.r.
- Linum marginale (Australian flax)^{13,14} few, gravel, fld Oct-Feb.
- Lonicera japonica (Japanese honeysuckle)¹³ some, shrubland, hedgerow, fld mostly late Oct-Feb, occasionally Apr-June 79.
- Lotus angustissimus (slender birdsfoot trefoil)^{3,8} varieties with and without hairs; many locally, old pasture, some, poor wasteland and gravel, fld late Nov-early Feb, more plants 79/80 than 78/79.
- L. pedunculatus (lotus major)^{8,14} some, average wasteland, sparse, old pasture, fld Dec-Jan.
- L. subbiflorus (lotus hispidus¹, hairy birdsfoot trefoil)^{3,8} some locally, poor wasteland, sparse, old pasture, gravel, fld Nov-Feb.
- Malva nicaeensis (French mallow)¹⁴ sparse, average wasteland, trodden area, seedlings late Jan 80, young established plants June 79, sturdy mature Aug 78, fld Oct-Feb.
- Medicago arabica (spotted bur medick)^{3,8} some locally, average wasteland, old pasture, fld mostly late Sept-Nov, second generation sparsely late Jan-May.
- M. lupulina (black medick)^{3,8} many locally, average wasteland, sparse, gravel, fld Nov-Apr.
- M. polymorpha (bur medick)^{3,8} occasional, average wasteland, old pasture, gravel, fld Sept-Nov.
- Mentha pulegium (pennyroyal)³ few locally, shade of hedgerow, old pasture 78/79; many there 79/80, also some edge of cultivated ground and more extensive on old pasture, fld Jan-Mar.
- Modiola caroliniana (creeping mallow)^{13,14} sparse, old pasture, fld Oct-Nov.
- Myosotis sylvatica (garden forget-me-not)³ one plant under hedgerow 79, fld Sept-Nov.
- Myrsine australis (mapou)^{6,10} few, shrubland.
- Oxalis corniculata (yellow oxalis)^{3,6,8} sparse, old pasture, gravel path, fld Sept-May.
- O. incarnata^{8,14} sparse 78, locally abundant 79, edge of acacias, fertile wasteland; fld late Sept-Nov.
- O. pes-caprae (Bermuda buttercup)^{3,8,14} abundant, fertile wasteland, cultivated ground, many poor wasteland but not flowering, fld late June-early Nov.
- Parentucellia viscosa (tarweed)³ few, poor wasteland, fld Nov-Jan.
- Picris echioides (ox-tongue)^{3,8} occasional throughout except shrubland, many cultivated ground 79, fld Dec-May.
- Pittosporum crassifolium (karo)^{6,10} few, shrubland, hedgerow, fld late Aug-Oct.
- P. tenuifolium (matipo)^{6,10} sparse, shrubland.

- Plantago lanceolata (narrow-leaved plantain)³ many, old pasture, poor wasteland, sparse, gravel, shrubland, fld late Sept-Apr, mostly Oct-Nov.
- P. major (broad-leaved plantain)³ one plant, poor wasteland, fld Dec-Mar 78/79.
- Polycarpon tetraphyllum (allseed)³ sparse, pile of gravel, fld Nov-early Mar.
- Polygonum capitatum 8,9,14 few locally, pile of gravel, fld a.y.r., mostly late Oct-Nov.
- Portulaca oleracea (wild portulaca)¹⁴ one young plant, cultivated ground, removed Jan 79.
- Prunella vulgaris (selfheal)³ many, old pasture, few, poor wasteland, gravel paths, fld a.y.r. 78, Jan-Apr & Dec 79; mostly Dec-Apr.
- Ranunculus ficaria var. grandiflorus ¹⁸ one plant, fertile wasteland, 78, increased to about 15 scattered plants with 3 poor wasteland, 79, spread vegetatively by mower? fld June-early Oct.
- R. parviflorus (small-flowered buttercup)^{3,8} few, old pasture, gravel path 78, abundant in one patch, noticed 2 Nov 79 flowering profusely, mowed 5 Dec; fld Oct-Dec.
- R. repens (creeping buttercup)^{3,8} sparse, unmown old pasture by compost bin 78, some locally, old pasture in shade 79, fld Oct-Dec.
- R. sardous (hairy buttercup)^{3,8} some 78, many 79, cultivated ground, and its edge on old pasture, few, poor wasteland, fld a.y.r., mostly Oct-Dec.
- Rumex acetosella (sheeps sorrel)^{3,8} sparse, pile of gravel, fld late Oct-Jan.
- R. conglomeratus (clustered dock)^{3,8} sparse 78, some 79, old pasture, fld late Oct-early Jan mostly, 2nd flowering after mowing, sparse, late Jan-Feb+, one plant Aug 79.
- R. crispus (curled dock)^{3,8} two plants, old pasture, noticed during mowing 5 Dec 79, were flowering.
- R. obtusifolius (broad-leaved dock)^{3,8} few cultivated ground, many locally average wasteland, fld late Oct-Dec 79/80, then 2nd flowering after mowing Jan-Feb+, generally late Oct-Apr, one plant Aug 79.
- R. pulcher (fiddle dock)^{3,8} sparse, scattered throughout in open 78, not seen 79, fld late Nov-Jan.
- Senecio vulgaris (groundsel)³ some, cultivated ground, few, old pasture, fld a.y.r.
- Solanum mauritianum (woolly nightshade)^{8,14} one plant shrubland, removed 78, another appeared in same place 79.
- S. nigrum (blacknightshade)^{3,8} few, cultivated ground, wasteland by wall, fld late Sept-May.
- Sonchus oleraceus (sow thistle)^{3,8} sparse, scattered throughout except gravel paths, fld a.y.r.
- Stachys arvensis (staggerweed)³ abundant, cultivated ground, some, gravelly areas of wasteland, fld a.y.r.
- Taraxacum officinale (dandelion)^{3,8} few, scattered throughout in open except gravel heap, fld a.y.r.
- Trifolium dubium (suckling clover)^{3,8} many, old pasture, average wasteland in bare areas, fld mid Oct-Feb.
- T. repens (white clover)^{3,8} few locally, average wasteland, fld mostly Oct-Feb, some Mar-Jun.
- Tropaeolum majus (garden nasturtium)^{13,14} many locally, fertile wasteland, fld Oct-Jan mostly, sparse rest of year.
- Ulex europaeus (gorse)³ two mature bushes on south boundary, removed 79, fld Apr-Oct; many small plants, poor wasteland, mowing prevents their development.
- Veronica arvensis (field speedwell)³ some, average wasteland, cultivated ground 78, many cultivated ground 79, fld late Sept-early Jan.
- V. persica (scrambling speedwell)³ some, cultivated ground, bare open areas of wasteland, few, old pasture, fld a.y.r.

Veronica serpyllifolia (turf speedwell)³ some locally, old pasture in slight shade, fld mostly Mar-May, sparse & sporadic rest of year.

MONOCOTS

- Agrostis semiverticillata (water bent)¹¹ sparse, edge of untended grassland beneath acacias, by lime rock drive, fld Nov-Jan.
- A. tenuis (browntop)^{11,15} abundant old pasture, poor and average wasteland, open areas in shrubland, the dominant grass in summer, more profuse 78/79 than 79/80, especially in poor wasteland, fld Dec-Feb.
- Allium triquetrum (three-cornered garlic)³ many, fertile wasteland, sparse shrubland, fld Sept-Nov.
- A. vineale (wild onion)^{3,8} locally abundant cultivated ground, sparse old pasture, fld, bulbils, Nov-Jan.
- Anthoxanthum odoratum (sweet vernal)^{11,15} many scattered, old pasture, poor and average wasteland, fld late Sept-Jan.
- Axonopus affinis (narrow-leaved carpet grass)¹⁵ many locally in 2 areas, old pasture, fld Aug-May.
- Briza maxima (quaking grass)^{11,15} locally abundant, average wasteland, few, clay in shade, fld late Oct-Dec.
- B. minor (shivery grass)^{11,15} abundant, poor wasteland, more 78 than 79, some locally, average wasteland, fld mid Oct-Jan, mostly Nov.
- Bromus breviaristatus (narrow-leaved brome)¹⁶ few scattered, old pasture, wasteland, fld late Oct-Mar.
- B. mollis (soft brome grass)^{11,15} many locally, average wasteland, few scattered, old pasture, fld mid Oct-Jan, began month later 79.
- B. unioloides (prairie grass)¹⁵ sparse, old pasture, fertile wasteland, inflorescence green late Oct-Mar.
- Carex divulsa ¹³ sparse, damp edge of cultivated ground 79, fld Nov-Dec.
- C. flacca ¹³ sparse locally, poor wasteland 78.
- C. lambertiana ⁷ local, two groups of plants, shrubland, fld Nov-Dec.
- C. longebrachiata (Australian sedge)¹⁴ one tuft of plants under tree fern, shrubland, fld Nov-Dec.
- Cordyline australis (cabbage tree)⁷ one mature and one young tree, shrubland, fld mid Oct-Nov.
- Cortaderia sp. one young plant in damp shady wasteland.
- Crocsmia x crocosmiflora (montbretia)¹³ many, fertile wasteland, edge of shrubland, fld Jan-early Feb.
- Cyperus eragrostis (umbrella sedge)^{13,14} sparse, old pasture, fld Dec-Mar.
- C. tenellus ¹³ many locally, poor wasteland, Oct 79, inflorescence Oct-Nov.
- Dactylis glomerata (cocksfoot)^{11,15} some, fertile wasteland, sparse, shrubland, old pasture, inflorescence from mid Oct, fld Nov-Feb.
- Dianella nigra (turutu)⁷ few, shrubland, fld Nov-Dec.
- Digitaria sanguinalis (summer grass)¹⁵ few locally, cultivated ground 79, fld Mar-Apr.
- Festuca arundinacea (tall fescue)^{11,15} abundant, fertile and average wasteland, fld mid Oct-Feb, mostly Nov.
- F. rubra (red fescue)^{11,15} sparse, old pasture, 79, fld Nov-Dec.
- Freesia refracta ¹⁴ sparse, fertile wasteland, fld late Aug-Oct.
- Gladiolus sp. white ⁷⁸, red-flowered 79, sparse, untended grassland under acacias, fld Nov-Dec.
- Holcus lanatus (Yorkshire fog)^{11,15} many, fertile wasteland, some, old pasture, other wasteland, fld late Sept-Jan, mostly Nov.
- Juncus articulatus (jointed rush)^{3,8} sparse, one clump edge of lime rock in shade, inflorescence Dec-Jan.
- J. bufonius ⁸ sparse, small plants poor wasteland, larger plants edge of damp cultivated ground 79, inflorescence Oct-Dec.
- J. effusus ⁸ sparse, poor wasteland.

- Lepidosperma australe (square-stemmed sedge) 7,8 some, shrubland, fld late Oct in open, then Nov-Dec.
- Lolium perenne (perennial ryegrass) 11,15 sparse, old pasture, average wasteland, fld Oct-Jan, Mar 79.
- Paspalum dilatatum (paspalum) 15 many, old pasture, occasional elsewhere, fld late Nov-Apr, June 78.
- Pennisetum clandestinum (kikuyu grass) 15 sparse, stolons spreading plant from next section.
- Phormium tenax (New Zealand flax) 7 two mature plants shrubland, hedgerow, fld Nov-early Jan 78.
- Poa annua (annual meadow grass) 11,15 many, old pasture, average wasteland, sparse elsewhere, fld a.y.r., mostly Aug-Dec.
- P. trivialis (rough meadow grass) 11,15 many, old pasture, few, shrubland, untended grassland under acacias, fld mid Oct-early Jan, mostly Nov-Dec.
- Rytidosperma biannulare 17 some, poor wasteland, gravel, clay in shade, fld Nov-Dec.
- R. caespitosum 17 sparse, Jan 80.
- R. penicillata 17 few, Dec 79.
- Schoenus apogon 7,8 abundant, poor wasteland, inflorescence from Oct, fld Nov, sparsely Jan 80.
- S. tendo 7,8 some locally, shrubland, fld Sept-early Nov.
- Scirpus chlorostachyus 7 two tiny tufts, poor wasteland, Oct-Nov 79.
- Sieglingia decumbens 11,15 some, edge gravel path in shrubland, few, average wasteland, inflorescence, green, Oct-Dec, cleistogamous.
- Sporobolus africanus 8,15 few, average and poor wasteland, fld July-Feb, mostly Oct-Nov.
- Vulpia bromoides (vulpia hair grass) 11,15 few locally, edge of shrubland, inflorescence, green, Nov-Dec, sparse Jan 80, cleistogamous.
- Watsonia bulbillifera (watsonia) 13 sparse, shrubland, fld late Oct-Nov.

FERNS

- Cyathea dealbata (ponga) 12 few, 4 ft high, shrubland, two very young plants, damp shade on clay.
- C. medullaris (manuka) 12 two together about 10 ft high, shrubland.

References

1. N.Z. Weed and Pest Control Society Inc., 1969; Standard Common Names for Weeds in New Zealand.
2. Tutin, T.G. et al, 1972; Flora Europaea.
3. Pitter, R., Pitter, A. and Blamey, M., 1974; The Wild Flowers of Britain and Northern Europe.
4. Ogden, J., 1978; Variation in Calystegia (Convolvulaceae) in N.Z. N.Z. J. Bot. 16, (1).
5. 1974; Palmer's Manual of Trees, Shrubs and Climbers.
6. Allan, H.H., 1961; Flora of New Zealand, Vol.1.
7. Moore, L.B. and Edgar E., 1970; Flora of New Zealand, Vol.2.
8. Healey, A.J., 1976; Identification of Weeds and Clovers. 2nd ed.
9. The Royal Horticultural Dictionary of Gardening.
10. Poole, A.L. and Adams, N.M., 1964; Trees and Shrubs of New Zealand.
11. Hubbard, C.E., 1959; Grasses.
12. Dobbie, H.B. and Crookes, M.W., 1951; New Zealand Ferns.
13. Allan, H.H., 1940; A Handbook of the Naturalised Flora of New Zealand.
14. Beadle, Evans and Carolin, 1976; Flora of the Sydney Region.
15. Lambrechtson, N.C., 1972; What Grass is that?
16. Hitchcock, 1950; Manual of the Grasses of the United States.
17. Connor and Edgar, 1979; Rytidosperma (Notodanthonia) in New Zealand. N.Z. J. Bot. 17.
18. 1930; Curtis Botanical Magazine. 153, 4.