

## WEEDS OF HOROTANE VALLEY.

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A group of Botanical Society enthusiasts recently visited Horotane Valley to carry out a survey of weeds of the area. The Horotane Valley has a north-westerly aspect. The climate is one of hot dry summers and mild winters with occasional light frosts, when a maximum of not more than 2-3 degrees centigrade is recorded. The prevailing wind is from the north-east. Rainfall averages about 500mm.

Of two areas inspected, one consisted of 2.5 ha of steep hillside orchard and market garden on the upper eastern slopes of the valley rising to 300 m. Some basaltic rock was evident. In this area 80 exotic species on the higher slopes and several native species were recorded. A smaller area of 1 ha with a more northerly aspect, comprising valley floor, was also visited, and from this area we brought our final count to 104 species. As the survey took place in early June it could be reasonably expected that further species would be in evidence during the spring and early summer periods.

The large numbers and great diversity of weed species that were observed in such a relatively small area could be best explained by the following:

The inward movement of large volumes of animal manure for soil conditioning.

The many vegetable containers originating from other regional sources that are used for packing purposes.

The annual influx of large numbers of people for the purchase of fruit and vegetables.

High winds, flooding, birds, insects, cats, hedgehogs, etc, would all be major weed seed dispersal agents.

The upper valley slopes contained a stone fruit orchard which received several applications of herbicide annually. The lower slopes, including the 1 ha of relatively flat land, was double cropped annually with potatoes, spring-summer, and celery, autumn-spring. The soil surface was therefore exposed at frequent intervals throughout the year. Many weed species have comparatively short life cycles, prolific seeding potential, exceptionally high viability and amazing periods of extended dormance. Some e.g. Brassica campestris can germinate after 58 years of soil burial. Various Trifolium species have been known to germinate from seed held in dry storage for 80 years. It is little wonder that we reaped such a "rich harvest" from our survey.

## CHECKLIST

Achillea millefolium	Coprosma robusta
Amaranthus deflexus	Cordyline australis
A. powellii	Coronopus squamatus.
Anagallis arvensis	Cotoneaster spp.
Brassica campestris	Cotula australis
Bromus catharticus	Crepis capillaris
Capsella bursa-pastoris	C. taraxacifolia
Cardamine hirsuta	Cupressus macrocarpa
Cardaria draba	Cytisus scoparius
Carduus tenuiflorus	Dactylis glomerata
Cassinia leptophylla	Daucus carota
Centaurea erythraea	Digitaria sanguinea
Cerastium glomeratum	Epilobium ciliatum
Chenopodium album	Erigeron bonariensis
C. murale	E. floribundus
Cirsium arvense	Erodium moschatum
C. vulgare	Eschscholtzia californica
Clematis vitalba	Euonymus europaeus
Conium maculatum	Euphorbia helioscopia

Euphorbia peplus  
Foeniculum vulgare  
Fumaria officinalis  
Galinsoga parviflora  
Galium aparine  
Geranium molle  
Haloragis erecta  
Hoheria populnea  
Hordeum murinum  
Hypericum perforatum  
Hypochaeris glabra  
H. radicata  
Lamium amplexicaule  
Lapsana communis  
Leontodon autumnalis  
Lepidium ruderales  
Lolium multiflorum  
Malva neglecta  
M. sylvestris  
Matricaria inodora  
Medicago arabica  
M. lupulina  
M. polymorpha  
M. sativa  
Muehlenbeckia australis  
M. complexa  
Myoporum laetum  
Myosotis arvensis  
Oxalis corniculata  
O. latifolia  
O. pes-caprae  
Picris echioides  
Plantago lanceolata  
P. major  
Poa annua  
Polygonum aviculare  
P. convolvulus  
P. persicaria  
Ranunculus sp  
Rosa rubiginosa  
R. crispus  
R. obtusifolius  
Sambucus nigra  
Senecio vulgaris  
Silybum marianum  
Sisymbrium officinale  
Solanum aviculare  
S. nigrum  
Sonchus asper  
Spergula arvensis  
Stellaria media  
Stachys arvensis  
Tagetes sp.  
Taraxacum officinale  
Trifolium dubium  
T. repens  
Ulex europaeus  
Urtica urens  
Veronica persica  
Vicia sativa