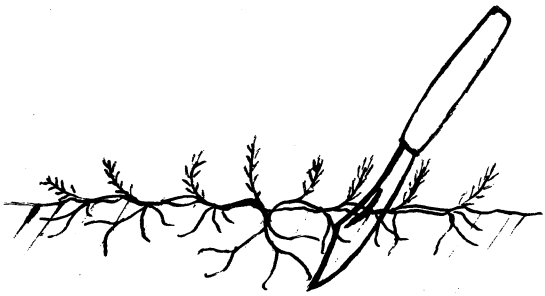
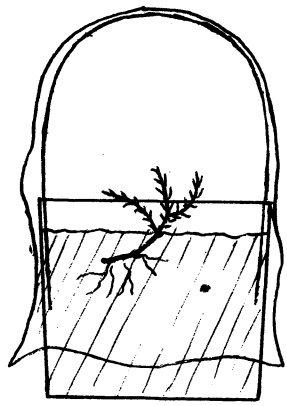


Cut the piece off with a sharp knife. Do not tear it away.



The above methods will enable enthusiasts to grow the majority of native plants without the need to remove any plant from its native habitat.

Stock plants in the nursery are cut to ground level several times per year and they still flourish so taking a few cuttings from a wild plant can do little harm and can give endless pleasure to the grower.

Many people for various reasons may never be able to see the more inaccessable plants unless they are grown in gardens.

Several plants are with us today in cultivation but are quite rare and localised in the wild and may be on the verge of extinction. Tecomanthe speciosa, Hebe speciosa and Clianthus puniceus are three well known plants that are fortunately quite showy and are assured of a place in the garden, but less conspicuous, but equally rare plants, may not be so fortunate - Cotula nana, Cotula rotundata and Gunnera hamiltonii to name three. There must be many more.

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LACK OF DORMANCY IN SEEDS OF NEW ZEALAND PLANTS

M.J.A. Simpson

True vivipary, or the growing out of the embryo from the fruit while still attached to the parent plant is best known in members of the grass family, especially in cultivated cereals where breeders have tried to overcome dormancy in order to grow crops quickly and in diverse climatic conditions. In consequence, sprouting barley and wheat can become a problem to farmers in unsuitable weather conditions. Gardeners may have noted seedlings sprouting from heads of calendulas while still on the parent plant.

Seeds of the Marlborough rock daisy, Pachystegia are known to germinate soon after ripening (see Canty Bot. Soc. J. 12) but in late May of this year Edith Shaw noticed that on her garden plants of Pachystegia insignis var. minor seeds were germinating while still within the capitulum. For Pachystegia to establish in its usual rocky habitat it is necessary for the stiff, pointed achene (or fruit) to fix in a crevice to enable the emergent radicle from the germinating seed to grow down quickly to find sustenance and moisture. Autumn has been a wet season in Christchurch this year and seed heads on Edith's plants probably did not dry out and expand enough to effect the release of seeds in the normal way. However, this complete lack of a resting period in seeds of a plant which naturally grows at altitudes of up to at least 1000 m is interesting.

I can recall seeing a sward of Abrotanella linearis var. apiculata growing at the edge of a sphagnum bog near Lake Monk, Fiordland at c.,600 m in January 1960, where plants displaying both flowers and fruits had, in many of the heads, seeds germinating while still attached to the parent plant. In this instance the site would have been flooded periodically by a fluctuating water table and young seedlings would probably be quickly and efficiently dispersed.

In plants of Euphrasia disperma grown in a pot indoors I noted (Simpson 1978) that a seed germinated while still attached to the parent plant but I have not seen this happen in the field as yet.

Some of our woody plants germinate very soon after ripening and seed fall. Emergent seedlings from fruits that have not yet lost their colour are a familiar sight under trees of the karaka, Corynocarpus laevigatus. Similarly with broadleaf, Griselinia littoralis; this has a seed with a large green embryo at time of seed ripening which germinates quickly on the forest floor on shedding.

Amongst our herbaceous plants the Chatham Island forget-me-not, Myosotidium hortensia also produces seedlings soon after seeds have fallen.

This lack of dormancy would be easier to explain if the species concerned had tropical affinities, but Abrotanella and Griselinia are placed (by Cockayne 1928) in his subantarctic element. Of the plants mentioned here only Corynocarpus has subtropical affinities. Abrotanella and Euphrasia disperma both grow in wet habitats that could periodically dry out and may germinate in response to moisture alone rather than to moisture and temperature or season. Pachystegia is commonly found in xerophytic habitats and its seeds also may be geared to utilise the first available moisture. In laboratory tests seeds of Pachystegia show a high germination percentage when fresh and, stored dry, at least 4% remain viable for up to four years. The oily seed of karaka soon loses its viability but I have no information as yet about the duration of viability in seeds of the other species mentioned.

References

Cockayne, L. 1928: "The vegetation of New Zealand".

Simpson, M.J.A. 1978: Fruit characters and seed germination of Euphrasia disperma Hook.f. N.Z. Jl Bot. 15: 1. 181-3.

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