

Successful Propagation Techniques

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The techniques of striking rhododendrons from cuttings is basically simple and can be mastered by any amateur who is prepared to follow a few guidelines.

I have been a keen grower of rhododendrons for 38 years. My first rhododendrons were hardy hybrids imported from Holland by Mernda Heights Nursery, Olinda. Subsequently, I imported seed of rhododendron species direct from England and also obtained seedlings of species grown from open pollinated seed. I was enthralled with a plant of *R. lochiaie* in bloom at Garden Week in 1949 and again in 1952 but did not obtain my first plant of *R. lochiaie* until 1955; a seedling growing in sandy loam. At the May, 1961, monthly meeting at Olinda, I was one of 40 members of more than 100 present lucky enough to purchase a small seedling of *R. christianaie*. Since then I have tended to concentrate on Vireya rhododendrons. In fact, I have exhibited flowers of Vireyas at every monthly meeting, with rare exceptions, for the past 25 years.

Before the Australian Rhododendron Society was formed, I attended every available lecture on rhododendrons. When the Society was established, I attended every monthly meeting at Olinda, then all the monthly meetings at Camberwell and Nurawading with very few exceptions. At each of these meetings I have taken notes on the lecture and then have carried out tests to prove or disprove the theories expounded under my own conditions. This experience and testing has enabled the development of methods that consistently produce a 100 per cent result for rooting of cuttings. This method

involves greater care and attention to the preparation of the cuttings and applies particularly to Vireya and other lepidotes but can also be applied to non-lepidotes. Surely, this greater attention to preparation is more than justified to obtain a 100 per cent result compared to ridiculously small strikes using rough and ready methods.

Control of Water Loss.

Cuttings of Vireyas can be rooted successfully at any time of the year. If there is a preference, outstanding results will be obtained with cuttings taken mid to late Autumn. The time of the year and bottom heat are not essential. What is important is the condition of the plant and the condition of the cuttings. Once taken from the plant, it is most important that the cuttings be maintained in high humidity or high turgidity and not, repeat not allowed to wilt. In this regard, it should be noted that professional propagators take cuttings at sunrise and before the relative humidity has fallen. James Wells, then President of the World Plant Propagators Society, emphasised this at the Cup Weekend Show at Olinda in 1973. Elsewhere, he added that "Kemp, working at Edinburgh Botanical Gardens, showed that once a cutting or graft had lost water, it was extremely difficult, if not impossible for the plant material to regain the lost water. Therefore, it continued to suffer from a water deficiency which, although not readily noticeable, had a most damaging effect upon the final results".

It is of paramount importance to appreciate that the control of water loss has been recognised as a major factor in the successful propagation of almost any plant by any method.

Side Slice.

One of the best aids to rooting cuttings of rhododendron is the side slice on both sides of the stem. Wounding is a misnomer which was acceptable when the method was first introduced but, in my opinion, is now superseded. It should be borne in mind that many of the best modifications or refinements are made by the practical user. For example, this is particularly so in new

models of motor cars where it is not uncommon for users to suggest modifications that are adopted in later models. The side slice is very important and is most efficiently made with the aid of a kitchen peeler; the one generally used for peeling potatoes and other vegetables. The peeler is used on both sides of the stem to remove a thin slice of the bark to just cambium layer for about 4cm (1 1/2 inches) and not to cut into the bare wood of the stem. These slices facilitate greater absorption of water and cause an accumulation of hormones and other root promoting products in the region of the callus. This results in a well-balanced root system growing out from many points on both sides of the stem for the full 4cm and, the more roots you produce, the better the plant will be. One professional propagator finds difficulty in rooting *R.scabridibracteum* and *R.dianthosmum* and this is because he does not use the side slice. Tests in striking both these species and other densely scaly species utilising the side slice resulted in a 100 per cent strike. Without any doubt, the side slice is most efficient with Vireyas and other scaly species.

Plant Propagating Hormones.

The most efficient plant propagating hormones are the liquid solutions containing 4-Indole-3-Butric acid (IBA) in either a water or alcohol base for improving the root strike. IBA in talcum powder is also very good and I use No.3 strength in both the liquid and the powder for Vireyas and other rhododendrons.

Comprehensive tests in striking batches of Vireya cuttings in water only, with talcum powder only, with and without side slice, with and without IBA in powder or liquid solution and various combinations of these, has conclusively shown that outstanding results (100 per cent), will be achieved consistently using a combination of the concentrated liquid dip for 5 seconds, the side slice and the cutting powder.

The proven method is as follows: The Root Strike liquid, without any dilution in water is poured into a shallow tray, (usually a plastic lid), to a depth of 5 to 10mm. The basal end of the cutting is then dipped for five seconds (or a count

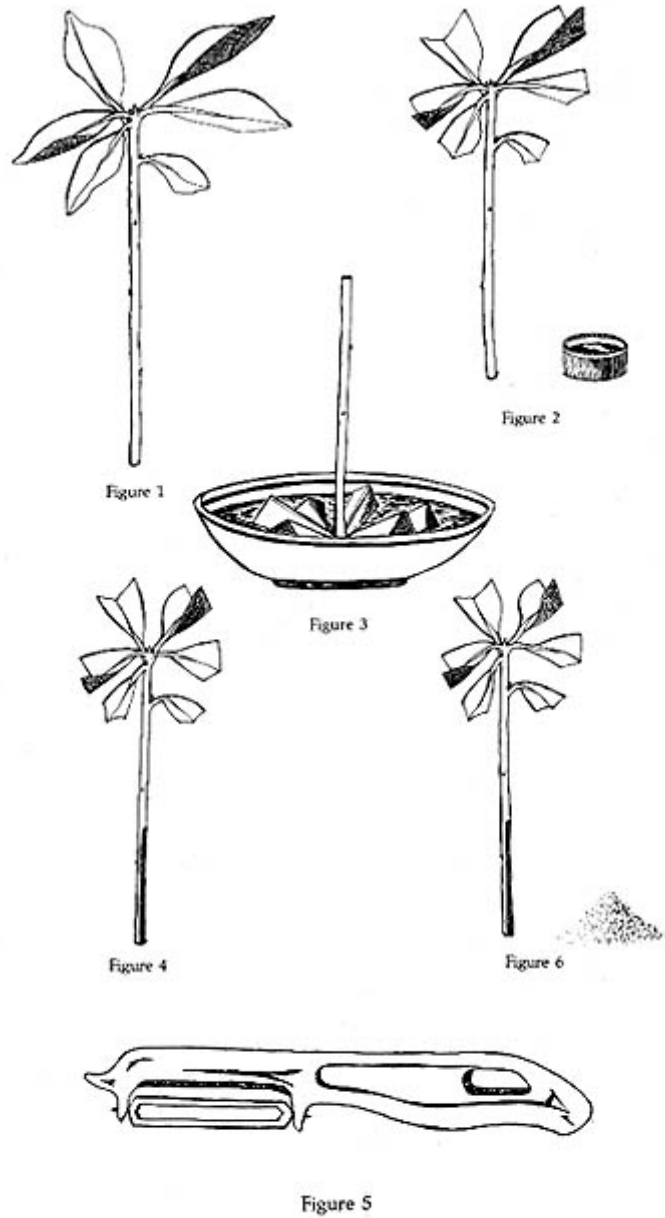
of one to six) before reversing the leaves into a shallow tray of water to allow the dipped end to dry and to prevent the leaves from wilting. This drying process is important and is most important when using the liquid containing the alcohol base. When the dipped basal end is dry, using a vegetable peeler, a slice of about 4cm extending through the bark but not into the wood is taken out of the stem to the base of the cutting. The side slice is then rolled in the cutting powder. The cuttings are then inserted up to half their length in the striking medium and watered thoroughly.

It is logical and proven by experience to put the cutting powder on the bared cambium layer. Most cutting powders consist mainly of 98 per cent talcum powder and this fine powder helps the cuttings establish a close connection with the fine layer of water around every layer of the medium and facilitates keeping the cutting in good condition.

The Medium.

No complicated mixtures are necessary. The best, simplest and easiest to use is ground pine bark. Pine bark has a pH of 5.5, an extreme resistance to decay, absorbs heat and water and has good water retention properties. Pine bark is relatively free from pathogens of fungi and disease and, for these reasons, there is a decided trend towards pine bark for the growing of orchids and other genera. Ground pine bark is available at nurseries, soil suppliers and some supermarkets. It is relatively cheap and most economical.

Initially, I trialled pine bark for eighteen months and it was so successful that I have used nothing else but pine bark for the past eight years.



Summary.

Step by step techniques for the successful propagation of Vireyas from cuttings are:

Medium - The best, simplest most trouble free and easiest to use is ground pine bar. The medium must be kept moist throughout the entire period of root formation.

Timing - Cuttings of Vireyas can be rooted at any time of the year and will

strike from any piece of wood that has clean leaves. Stems immediately below a spent flower will strike readily. Best cuttings are taken from new growth that has ripened-off. If this piece has a flower bud, simply remove the bud to facilitate multiple growths.

Control of Water Loss - Once the cutting has been taken from the plant it is most important to realise that its life support system has been severed. Optimum results will be facilitated if every effort is made to control this loss. The cutting wood is best taken in the cool early morning hours when the stems are turgid, placed in polythene bags and kept out of the sun at all times until the cuttings are made. Laying the cutting material in the sun even for a few minutes will cause serious damage.

Making the Cutting - Reduce the cutting to about 8cm (3 inches) by slicing preferably below a node but not essentially so (Fig.1). The leaves should be reduced in size to lower transpiration.

Liquid Hormone Treatment - Dip basal end of cutting in undiluted liquid No.3 to a depth of 5 to 10mm (1/4 to 1/2 inch) (Fig.2) for five seconds only (or a count of one to six) and then allow the chemical to dry by reversing the leaves in a shallow tray of water (Fig.3).

Side Slice - Without any doubt, the most beneficial results will be achieved with the side slice for about 4cm (1 1/2 inches) on both sides of the stem (Fig.4). This slice is most efficiently made with a vegetable peeler (Fig.5) to remove the bark down to the cambium layer but not into the wood.

Powder Hormone Treatment - When the slivers of bark have been removed to expose the cambium layer, roll the cut edges in striking powder No.3 (Fig.6) and then dibble the cutting into the medium to cover the cut edges and then water.

Bottom Heat - Not essential for Vireyas and other lepidotes but beneficial and will enhance root formation particularly in the early stages.

Humification - Intermittent misting is best but good results will be obtained with polythene enclosed pots, flats or frames. Regular checking helps to prevent losses.

In conclusion, it must be stated with truth and integrity, that these techniques have provided me with outstanding results (generally 100 per cent and invariably not less than 98 per cent), over the past eight years.

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