

*Dedicated to the memory of John Rouse - a very special colleague and friend,
who will be much missed by all who love rhododendrons. - Elizabeth G. Heij,
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**Vireya rhododendron hybrids:
an adventure in variety**

Elizabeth G. Williams & John L. Rouse

**from Rhododendrons 1986-7
with Magnolias and Camellias**

In the genus *Rhododendron* some 270 species form a distinct section, Vireya, which is distributed through the predominantly tropical regions of Malaysia, Indonesia, the Philippines, Borneo and Papua New Guinea. These species are found mainly between latitudes 10°N and 10°S at altitudes ranging from sea level to about 13,000 feet, with a few occurring as far north as Taiwan, and in the south one species, *Rhododendron lochiaie*, native to the coastal mountains of north Queensland in Australia. In tall forests Vireyas may be found as epiphytic shrubs on larger trees, although the same species also occur on the ground in cleared areas. At higher altitudes they occur in profusion on the ground, forming a shrubby ericaceous forest, and in extreme montane conditions may be low bushes, mats or alpine bog plants. The range of altitude-related climate zones to which Vireyas are adapted has been graphically described by Dr. R.M. Withers (1983) in the [yearbook](#) for 1983/4. Here it will suffice to point out that while certain species of this group are adapted to hot, humid tropical jungles, others are adapted to the periodic freezing temperatures of the high mountains or to the more temperate climates of the mid-altitude range.

Vireyas are distinguished botanically by the two long tails on their seeds. Other distinguishing features are the indumentum, a covering of microscopic surface hairs, which is composed of small scales rather than the more typical

hairs found in many other rhododendrons, and a tendency of many species towards a sparse or leggy growth habit.

Although Vireyas show a range of attractive foliage types from narrow and heath-like (*R.stenophyllum*) to broad-oval (*R.orbiculatum*), it is their flowers, with their particular purity and brilliance of colour, which are the principal feature. They range in shape from tubular (*R.loranthiflorum*), to bell-shaped (*R.aequabile*), or trumpet-shaped (*R.lochiaie*), and in size from less than a third of an inch (*R.anagalliflorum*), to over 4 inches (*R.leucogigas*) in length. Flower colours range from white through yellow and orange to brilliant reds and pinks. There are no true blues but two species, *R.stevensianum* and *R.atropurpureum* have magenta flowers.

Vireya species may have a defined flowering season, particularly from the high altitude zones, but species from the lowland areas with little seasonal climatic variation may flower intermittently throughout the year. Thus, in a temperate climate such as that of Melbourne, with careful planning it is possible to have at least one Vireya in flower at any time of the year. The bright golden flowers of *R.laetum*, for example, can provide a welcome splash of sunshine in our winter gardens.

An important feature of Vireyas is their promiscuity. In contrast to many other groups of related plant species in which hybridization does not occur or is achieved only rarely and with great difficulty, many Vireya species can be cross-bred with relative ease to produce a whole new array of flower forms and subtle colour combinations. In fact, as a general rule of thumb, and with the exception of a few species in subsection Pseudovireya, any Vireya species is likely to be cross-fertile with almost any other, provided the lengths of their styles are reasonably similar. That is, pollen from a short-styled species may be unable to reach the ovary of a species with a very much longer style. In nature the species are prevented from hybridizing by their restriction to different geographical regions, different climate zones, and presumably to some extent by the fidelity and restricted foraging of their

natural pollinators. For example, white, perfumed flowers are believed to be predominantly pollinated by moths, while yellow and orange-flowered species are favoured by butterflies. Others, particularly those with red flowers may be more attractive to birds, and some have floral markings visible only in the ultra violet spectrum to which the eyes of bees are known to be sensitive. Natural hybrids do occur, however, particularly where the regions occupied by distinct species are adjacent or overlap. An example grown from seed collected from *R.saxifragoides* in Papua New Guinea by P. Kores is believed to have resulted from pollination by *R.womersleyi*. Both species are found in the same altitude zone between 10,800 and 13,000 feet.

Both amateur growers and professional horticulturists have been hybridizing Vireya rhododendrons since they first came to the attention of the civilized world some 100 years ago. Besides a sense of adventure in making new crosses on the off-chance of breeding a 'winner', there are a number of specific reasons for attempting particular crosses: for example, the introduction of cold hardiness, heat tolerance or disease resistance, improvement of flowers, flower to leaf size ratio, foliage type, propagation qualities or plant growth form, and alteration or extension of the flowering season. All these objectives are primarily horticultural and commercial, but our own major reason for an extensive crossing programme involving the Vireyas has been to investigate compatibility relationships and major breeding barriers within the entire genus *Rhododendron*. A number of interesting new hybrids arising from the programme have provided a welcome bonus.

At this point we need to pause and define types of hybrid. A first generation hybrid resulting from cross-pollination of two distinct pure species is known as an F₁ hybrid. It is usually more or less intermediate between the parent species in a majority of characteristics, although particular features of one species may dominate. Hybrids involving *R.commonae* or *R.lochiaie*, for example, tend to show the red flower colour of these two species even when the other parent may have a distinctly different flower colour such as white or yellow. Being sometimes partially or highly sterile, F₁ hybrids may be of limited

