RHODODENDRONS IN THE PACIFIC NORTHWEST

BY

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The greatest area in America for growing rhododendrons is the Pacific Northwest. This territory extends along the coastal region from British Columbia through Washington, Oregon and northern California. Owing to the warmth of the Japanese current, climatic conditions are mild with an absence of extreme heat and cold, but while the rainfall is generally less than either Boston or New York, the periods of rain are much longer. This moist weather and a naturally acid soil seem to meet their requirements to a remarkable degree.

Whether they come from the higher elevations of the Himalayas, the jagged gorges of Upper Burma or China, or the open moorlands of Tibet, they readily adjust themselves to our garden and woodland.

These facts have long been known to students of horticulture, but are not today generally understood in this country. While England has experimented for more than one hundred years and developed a literature that reflects a long and continued appreciation of rhododendrons, it is only in recent years that we have made worth while contribution.

Not only has plant material representing very numerous species been unavailable, but owing to the embargo that existed for some time, we failed to keep pace with the hybrid developments abroad, especially in England and Holland. Occasionally some individuals imported seed or a few new hybrids, but little or no record was kept.
of their results, so that interested amateurs like myself were at a loss as to what to buy or where to buy.

It was for that purely selfish reason that I first began my importations. I wished to test some of the better things and to determine what was hardy in our locality, what really constituted "garden value," and what the conditions of soil and growth were.

I started with one great advantage in that most of the English rhododendron literature is applicable to our climatic conditions, and the work of the Rhododendron Association in establishing standards was invaluable as a guide. Its ratings, when criticised as not suitable for the United States are misunderstood, for obviously those on hardiness apply only to the British Isles and each rating is so defined. These ratings give one an established starting point and should be even more valuable to the eastern experimenter than to one on the Pacific Coast.

Ratings are as follows:

(A) Hardy anywhere in the British Isles and may be planted in full exposure if desired.
(B) Hardy anywhere in the British Isles, but requires some shade to obtain the best results.
(C) Hardy along the seaboard and in warm gardens inland.
(D) Hardy in south and west, but requires shelter even in warm gardens inland.
(E) Requires shelter in most favored gardens.
(F) Usually a greenhouse shrub.

In our Northwest area a plant with an "A," "B," or "C" rating is hardy in most locations. A plant with a "D" rating is generally hardy, although inclined to be a sparse bloomer except in occasional years. A plant with an "E" rating can be grown in favorable locations, and in my garden *R. Barclayi* "Helen Fox," a large, broad-leaf variety, which is rated "E," blossoms in early March and has never missed a year since it reached a blossoming age. I have, also, grown plants with "F" ratings with light winter protection.

As to "Garden Merit" the English Association's ratings, like all such, are subject to change as standards improve and experience varies, but they can generally be accepted as the best guide available.

On the basis of these ratings, as borne out by local experience, there are no less than two hundred and sixty seven different species of garden merit that can be generally grown out of doors in the Pacific Northwest; nineteen others are suitable for favored locations, and more than four hundred that are questionable or untried.
These numbers in themselves give a general idea of the variety of species, but no figure can impart the beauty and variety of types that are encompassed, ranging from tiny creepers only a few inches high to huge trees.

These naturally divide themselves into definite botanical groups, but for the layman these can be grouped in five general subdivisions:

1. The broad-leaf varieties
2. The narrow-leaf varieties
3. The Alpine or rock garden varieties
4. The Azalea group
5. The Hybrids

The Broad-leaf Varieties

In the broad-leaf division lies the parentage of most of our lovely garden hybrids, and the finest stock comes from India, northern Burma, and western China. Representatives of such series as Barbatum, Fortunei, Irroratum and others do wonderfully well in this area and embrace many lovely varieties. They range from small shrubs to huge tree forms, some of which eventually reach the height of forty to sixty feet (R. Calophytum 30'-40'; R. Barbatum 30'-60'). Conditions under which they grow in their native home, however, vary greatly. Some come from rain forests; others high, open woodlands; and the American grower's chief task is to find the conditions of soil, exposure, sun, and shade best suited to their success. While I have grown several thousand plants of nearly two hundred different species, my experience is too limited to make any dogmatic statements. Generally I have found that the larger the leaf the more shade required. Shade, however, is a comparative term. It varies in density and moisture content, two factors of importance and different in various localities. None seem to do well in "deep shade" or beneath overhanging branches. They do best with the sky overhead, and their shade intermittently broken with sunshine such as comes through tall abutting trees.

The Narrow-leaf Varieties

The narrow-leaf group, in which I have included such species as R. rubiginosum, yunnanense, lutescens, Davidsonianum, heliolepis, and others, will stand considerable sun and a dryer location.

A number of these have beautiful flowers, but are difficult to place in a garden as they are sometimes inclined to be unshapely. In an open, naturalistic planting, however, they are a real joy, and a number of R. yunnanense planted with our native Salal (Gaultheria Shallon) and Oregon Grape (Mahonia Aquifolium) is a sight worthy of a long pilgrimage.
The Alpines

When we consider the alpines and other rock garden varieties even a general statement is apt to be misleading in that there are many different ideas as to what constitutes a rock garden type.

Low alpines such as *R. myrtilloides*, *pemakoense*, *imperator*, *Calostrotum*, *keleticum*, *radicans*, and similar species have done well in full sun, but I always try to get their roots well under rocks where they are protected from direct sun rays and do not dry out.

Almost all of the Lapponicum series which include such varieties as *R. fastigium*, *impeditum*, *intricatum*, *russatum*, *scintillans*, etc. do well in full sun. I grew them in semi-shade for several years and they were leggy, poorly shaped and sickly, but when moved into full sun sent out new shoots from the base and main stock so that in two years they were shapely, healthy, well-grown plants.

*R. ciliatum* grows to six feet in favorable locations, but when exposed to full sun breaks out at the base and forms one of the best rock plants I know. Occasionally a precocious shoot may try to attain height, but can be easily cut back.

*R. glaucum* is another that shapes better and remains comparatively low in the sun. *R. moupinense*, which I have always protected, as it blossoms in February, has been moved to full sun and shows material improvement. *R. racemosum* does nicely in any location. *R. Tephropeplum* seems to prosper in either sun or shade, but remains lower in the sun. Then there are some like *R. repens* that I have been unable to make happy in any location.

The alpine group is so extensive and varied that it is impossible to discuss it fully at this time, but it offers perhaps more immediate interest than any other group because of its beauty, and the demand for new and interesting rock plants. From it will, no doubt, come varieties and hybrids that can be generally grown throughout the United States, and a wealth of beauty awaits the hybridist.

The Azaleas

Experience on the west coast with deciduous azaleas differs little from that in the east, but in evergreen types we have a great many new comers such as *malatum × Kaempferi* and Japanese crosses of *eriocarpum, indicum (macranthum), scabrum*, and others. These undoubtedly have a very definite place in the future. At present these crosses have become intricate and variations are so slight that the entire group is sadly in need of standardization.

This will come with time, but meanwhile we will continue to grow many varieties, all beautiful and interesting, and hope that out of
PLATE I
A typical rhododendron planting in the Northwest.
them will come more hardy varieties that will be available to a larger section of the country.

The Hybrids

To the average layman a hybrid is just another Rhododendron, but it is in reality something quite different. It is the result of a scientific effort to adjust or improve plants for garden use. It has the heritage of long years of effort in crossing and recrossing species with species or with other proven hybrids. These are grown under garden conditions and take more kindly to garden change. The aims of the hybridist have been varied. Some have sought to improve hardiness, some color, form or foliage, and their success has advanced our standards to a remarkable degree.

It is true that in "hardiness" this advance has not been all that could be desired; for the hybridists have not as yet developed a wide range of Rhododendrons with color and beauty which are capable of withstanding the rigors of our northern winters, as has been done for the more favored climates. But in other ways, such as size and texture of blossom, clearness and beauty of color, and richness of foliage, their results are conspicuous.

In the Pacific Northwest area most of these new hybrids are being grown such as "Blue Tit," "Betty Wormald," "Brittania," "Butterfly," "Cornubia," "Corona," "Dr. Stocker," "Glory of Littleworth," "Goldsworth Yellow," and many others, but their names are still strange to most gardeners, and there are many old favorite stand-bys that have been replaced, not for a whim or a passing fancy, but because of the inexorable advance of science in a field of beauty. I do not depreciate the lovely old favorites as there is a beauty of age in most Rhododendrons for which nothing can be substituted, but I do urge those who are contemplating new acquisitions to study these new plants before making their decisions. I am sure that when they have seen the gorgeousness of a "Beauty of Littleworth" or a "King George" most other white rhododendrons will pale into insignificance.

This is equally true of the other colors: blush, pink, rose, red, scarlet, yellow and apricot. Only in the blue and orange ranges does one feel the need of better colors, and even here "Blue Tit" (impeditum × Augustinii) and the new R. Dichroanthum crosses are doing much to make up this deficiency.

Those who are familiar only with the American and early English hybrids have a real treat in store for themselves, for while these earlier varieties had the advantage of being hardy, they were largely from North American stock, R. maximum and R. catawbiense, the first
of which produces small papery flowers, while the Catawbiense crosses have a tendency to revert to a purple or unpleasant magenta shade.

The newer hybrids made with Asiatic species have achieved not only size and texture of blossom, but a clearness and depth of color that must be seen to be fully appreciated. Some even surpass the catalogue descriptions!

Many British hybridists believe that the use of the hardier Asiatic rhododendrons, especially those from the higher altitudes, will eventually produce a race of hybrids beautiful in color and size suitable for general use in our colder sections. Already Mr. C. O. Dexter of Sandwich, Massachusetts, has done much along this line with Fortunei hybrids, but there are still many other sturdy varieties unknown and untried.

Most of these better hybrids, as well as the Asiatic species, are now in west coast arboreta and private collections and should be available to the hybridist who wishes to develop a new field of beauty.

**Culture**

Much has been written about proper soil conditions, but I have seen and purchased rhododendrons grown in almost every conceivable soil from California "gumbo" to loose sand and gravel, so I am led to believe that other than being on the acid side there are other factors that are important. My own experience is that lime in any form is not only unnecessary, but dangerous. My soil is only slightly acid and every attempt to treat it with a lime-bearing fertilizer has been disastrous. I have had splendid success with a soil made up of a mixture of \(\frac{1}{2}\) leaf mold, \(\frac{1}{4}\) peat moss, and \(\frac{1}{4}\) loose sandy soil. Some variation of this formula will meet almost any condition, provided the planting area is well drained.

Rhododendrons need moisture, but at the same time drainage is important, for few if any will prosper in wet, soggy ground. In their natural habitat, most rhododendrons grow in loose, rocky soil with plenty of moisture around their roots, so that if the soil is loose or sandy (with excessive drainage) it is well to add leaf mold or peat moss to aid in retaining the moisture.

The very word pruning is an anathema to rhododendron growers and properly so when considered in the usual sense of the term. However, used judiciously it can do much to improve the plants both in looks and growth. I began experimenting on our native rhododendrons, *R. macrophyllum* (*R. californicum*), cutting out weak or unsightly growths. Now I do not hesitate to do this on finer hybrids and
trim them for shape as well. Sometimes this is done for height or bushiness, sometimes to eliminate crossing branches. Properly done it will help in the development of good growth, appearance and flower.

There is another form of pruning that will help the shapeliness of a rhododendron and that is disbudding. This is better than permitting growth that should later be cut out. Some varieties like "Earl of Athlone" tend to crowd their upward growth and both flowers and foliage are at a disadvantage. By proper disbudding this new growth can be encouraged to spread out, giving much more room for both flowers and foliage.

**Fertilizers**

This is also a controversial subject. Some growers recommend well-rotted cow manure, others oppose it. Some avoid commercial fertilizers in any form. I use both with good results. Of course, I do not mean the promiscuous use of fertilizers, many of which contain ingredients that are poisonous to rhododendrons, but there are good fertilizers available, or one can use an accepted formula.

In selecting a fertilizer it is important to select one with an acid rather than an alkaline reaction, and to get the right proportion of available food minerals with which to supplement the soil.

What constitutes proper soil balance has not been scientifically determined, for as previously stated, I have found them doing well in various soils, but a common factor in all successful formulae that I have tried seems to be a large potash content. Whether this is due to a soil deficiency or a special plant requirement, I do not know.

The formula that seems best for Puget Sound requirements according to my own experience is as follows:

- 10 lbs sulphate of ammonia — Reaction — acid
- 35 lbs superphosphate — neutral
- 20 lbs sulphate of potash
- 20 lbs cotton seed meal — acid
- 15 lbs aluminum sulphate — strictly acid

This I apply at the rate of one handful to a small plant and to larger ones in proportion. This is simply spread on top of the ground over the root area and is best done in early spring. Late summer applications may start new growth that will not harden sufficiently to resist the winter cold and consequently be cut by frosts. Woodland plantings require less treatment, and the usual mulch of leaves and pine needles will generally suffice.