



*Rhododendron Williamsianum*

# RHODODENDRONS

by

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To

J. B. STEVENSON

*Facile Princeps*

## FOREWORD

RHODODENDRONS are among the most popular shrubs of the day, but it is more than twenty years since the publication of a book devoted entirely to them. William Watson's little book *Rhododendrons and Azaleas* in the Present Day Gardening series was published about 1912, and E. H. M. Cox's *Rhododendrons for Amateurs* in 1926. Both are out of print. In 1926 I published a small book, *Rhododendrons for Everyone (The Gardener's Chronicle)*, but I do not think any other book on the subject has been published in this country lately.

This is in no sense a new edition of my earlier book; indeed it scarcely follows along the same lines. A large number of new species and hybrids have been introduced since 1926, and although many interesting articles on Rhododendrons have appeared in the gardening papers—notably in *The Gardener's Chronicle* and in the *Journal of the Royal Horticultural Society*—a more comprehensive work for amateurs seems overdue.

I need not apologize for my frequent reference to Rhododendrons in the mountains, for the successful cultivation of exotic plants must depend in no small measure on our knowledge of them in the wild. I have had considerable experience of Rhododendrons as they are found growing in China, Tibet, Burma, Assam and the Himalayas, and have discovered and introduced nearly a hundred species. But as a cultivator I speak with little authority, though I have had the pleasure of

knowing and talking with famous growers, both amateur and professional, and of visiting their gardens, and am indebted to them for a number of useful hints—to none more than to the late Lionel de Rothschild and to Mr. J. B. Stevenson, in whose fine gardens I have spent so many pleasant week-ends studying and admiring Rhododendrons.

I should like to acknowledge my indebtedness to the editors of that mine of useful information, *The Rhododendron Handbook* (1947), which has enabled me to check names, colours and hardiness. For the chapter on Azaleas I relied largely on the excellent lists given there.

I am also deeply indebted to my wife for reading and typing the manuscript, and for valuable criticism and advice.

F. K.-W.

*India.*

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## CHAPTER I

### RHODODENDRONS AT LARGE

ALTHOUGH several species of *Rhododendron* have been known and cultivated in Great Britain for over a hundred and fifty years, the first real enthusiasm for them among horticulturists and botanists alike dates from the latter half of the nineteenth century, kindled by J. D. Hooker's discoveries in Sikkim in 1849-51. Hooker sent to Kew, where his father was then Director, seeds of about thirty species, most of which were brought to flower, including *R. Griffithianum* (*R. Aucklandii* as it was called in those days), *R. Edgeworthii*, *R. formosum* (from the Khasi Hills, Assam), *R. barbatum*, *R. Falconeri* and many others. He also published *Rhododendrons of the Sikkim Himalayas*, a quarto volume containing splendid reproductions of his own exquisite paintings of the plants as he saw them growing in the Himalayas, with descriptions.

Many of the Sikkim *Rhododendrons* had to be grown under glass at Kew; they proved hardy only on the western seaboard. But in the spacious Victorian days, when the cultivation of Orchids was popular among the well-to-do industrialists and manufacturers, there was plenty of glass available. In fact, people who grew plants at all preferred to grow unusual exotics under glass, vying with one another in the size and flamboyance of the blooms they produced. Otherwise gardening had fallen to the new low of bedding out. The hardy plant boom, autumn colouring shrubs, gay in berry and leaf,



and the three-dimensional rock garden were yet to come.

A few Rhododendrons—Azaleas as they were then called—trickled through from Japan, and before the end of the century the brilliant Ghent and Mollis, and the not less delicious Indian Azaleas, were being raised. By the beginning of the twentieth century there were—excluding Azaleas—about a hundred species of Rhododendron in cultivation, European, Oriental, Siberian, Himalayan, Japanese, North American and a few Chinese. This was the position when E. H. Wilson appeared on the scene and started collecting for the firm of Veitch in central and western China. Within a year or two Wilson had sent home about forty species of Rhododendron, and before the first world war began many of these had flowered in Veitch's nursery or elsewhere, giving an entirely new outlook on the incredibly rich Chinese flora. I have enduring memories of crossing the mountains between Yachow and Tatsienlu (which was part of Wilson's country) in 1910 and seeing many splendid Rhododendrons in flower, some of them still half under snow. I was enchanted by their colours and variety, and by the huge bushes they formed in the forests near Tatsienlu.

Among Wilson's triumphant discoveries were the blue flowered *R. Augustinii*; also *R. ambiguum*, *R. yunnanense*, *R. Williamsianum*, *R. discolor*, *R. auriculatum*, *R. rubiginosum* and, among the dwarfs, *R. fastigiatum*, *R. intricatum* and the lemon yellow flowered *R. Sargentianum*.

The effect of this opening of a new chapter was, in horticultural circles, dynamic. People began to hear of Rhododendrons, to discuss them, to grow them, to

collect them, to send out search parties for them and, of course, to hybridize them. Overnight this neglected genus achieved fame. From being the Cinderella of the gardening world—as indeed, judged by the dowdy *R. ponticum*, it well might be—it became the Prince Charming. The Wilson era, like the Hooker era half a century before, was a notable landmark.

The next event in the history of this noble genus happened while Wilson was still active. George Forrest was sent out by Mr. A. K. Bulley (and later by Mr. J. C. Williams) to China to explore south of the Wilson country. Wilson's introductions were distinguished by a stern hardiness which has been the joy of all those who cultivate his plants. Forrest's introductions were distinguished for their number and variety—he was working in a wetter climate nearer the heart of Rhodoland—and his introductions were, on the whole, more tender than Wilson's. But he discovered three species for every one found by Wilson, and introduced some equally notable plants, many of which are perfectly hardy. Among the best of these I need only mention *R. croceum*, *R. eclecticum*, *R. tephropeplum*, *R. oreotrepes*, *R. Martinianum* and such dwarf species as *R. radicans*, *R. cephalanthum*, *R. scintillans*, *R. tsarongense* and *R. russatum*. Forrest himself was probably proudest of the big-leaved trees he discovered, including the well-known *R. sinogrande*, and equally of that remarkable but exasperating scarlet-flowered dwarf, *R. repens*. By the first quarter of the twentieth century the Rhododendron hunt had reached paramouncy.

Not many years after Forrest had begun his discoveries, I joined in the game, first in China, later and more successfully in Tibet, Burma and Assam, thereby keeping up the British tradition; to be followed in turn by the

triumvirate Ludlow, Sherriff and Taylor, who adorned every genus of garden plants they touched.

So we come to the present day, and it is interesting to note that in the first forty years of the present century, that is within a hundred years of Hooker's revelation of the superb plants which for aeons had been flowering unseen in the mountains of Asia, some five hundred new species were discovered by British explorers and brought into cultivation.

The introduction of many dwarf species coincided happily with the rise to favour of the rock garden and the increasing enthusiasm for hardy shrubs, both Summer-flowering and Autumn-berrying. Thus the divorce from the conventional bedding-out gardening of the nineteenth century, which had been pending for some time, was made absolute, brought on as much by the social revolution of the post-war period as by a change of taste in gardening itself.

Apart from the intrinsic interest attaching to the story of plant hunting, there is a practical side to knowing something of the story. The Hooker, Wilson and Forrest eras have each their own significance for the cultivator, if he will learn what plants each introduced and draw the right inference.

The Hooker Rhododendrons have now been cultivated for a century all over the country, and their hybrids have gone overseas wherever these plants can be grown. It is not too much to say that any Sikkim Rhododendron is now a known quantity—its hardiness, behaviour and hybrid worth are well understood. Its uttermost secrets have been revealed; its garden value established beyond doubt. We need have no qualms concerning *R. Thomsonii*, *R. campylocarpum* and *R. cinnabarinum*, for example.

Wilson's introductions, although coming nearly fifty years after Hooker's (a few species from various districts of China having come to the knowledge of western growers during the years between), appealed to a wider public and are now famous for their hardiness, so much so that one would be perfectly safe in buying a Wilson Rhododendron for anyone anywhere.

The modern era brings a considerable number of frailer, but none the less beautiful, species on to the scene: *R. Griersonianum*, *R. bullatum*, *R. megeratum* and others from Forrest, *R. Elliottii*, *R. Johnstoneanum* and several others from myself, and *R. Ludlowii* from the triumvirate already mentioned. On the other hand, very much wider areas have been covered, or rather traversed, reaching from the Assam Himalayas through south-eastern Tibet to north Burma and far western and south-western China. It was during this prolific period that dwarf Rhododendrons were given full recognition, and whole rock gardens, under the influence of Farrer, were built to accommodate the many admirable little grovellers which were being discovered. It is therefore to plants of the post-Wilson era that the gardener who combines a love for Rhododendrons with a bent for rock gardening should look for inspiration.

Thanks mainly to the twentieth-century explorers, we can also map out with some approach to accuracy where any particular *type* of Rhododendron is likely to be found, certainly as regards altitude, more roughly as regards latitude and longitude. For example, the 'Fortune' type appears to be concentrated in mid-west China, where Wilson discovered half the known species; the 'Neriiflorum' type in the wet alpine regions of Burma, Assam and western China; the 'Stenaulum' type in the

sub-tropical rain forest belt of southern China; the 'Triflorum' type in the drier regions of central China; and the big-leaved trees of the 'Grande' and 'Falconeri' types in the cool temperate rain forest belt.

With this information, carefully collected and collated through long years of patient search, we have not only a good idea of where to go in order to find a particular type of Rhododendron, but also of where to go in order to be almost certain of discovering new species. This, of course, involves plotting the routes of all the explorers, and this *must* be done on a large-scale map. Nothing smaller than the quarter-inch (i.e. four miles to an inch) will give any indication of the large and promising areas in Tibet, Assam, Burma and even China which are still untouched—although as regards China, Chinese botanists and explorers have of late years taken a greater interest in their own flora, and the Hu-Yu alliance (Professor Hu, botanist, and Mr. Yu, collector) has already done good work.

And so we come to the post-war world, full of tired and disillusioned people, with their ever growing love of gardening, their small gardens (the decreasing number of big ones is hampered by labour shortage), and with their greater awareness of competing interests outside the narrow circle of daily chores. One notices, too, an increased appreciation of and desire for beauty, too often muddle-headed, because regarded as something to be understood by the intellect rather than felt.

Let us first glance briefly at the distribution of Rhododendrons, a subject dealt with more fully in Chapter II. To begin with, the genus is almost entirely confined to the northern hemisphere, the only exceptions being in the Indonesian region, in the extreme south-east corner

of Asia where it tails off towards Australia. What is at first sight surprising is that none occurs in New Zealand, which, apart from being an island in the vast Pacific far south of the equator and isolated from any other land mass, is admirably suited in climate and soil to support them. But Rhododendron seeds, if carried any distance at all, are wind-borne, and New Zealand has always been separated by deep wide seas from Rhodoland. What is stranger, perhaps, is that there are no Rhododendrons in Chile, although the western slopes of the Chilean Andes seem not less favourable to their growth than does New Zealand. Moreover, there is continuity of land between the two halves of the New World, and North America has about twenty species of Rhododendron. No doubt the explanation here is that Central America was, until quite recently, beneath the sea, and that anyway the whole tropical zone, with no continuous range of high mountains to serve as a bridge, cuts across the low backbone connecting warm temperate North America with the cool heights of the Andes.

A single species—*R. lapponicum*—is found in the extreme north where the outer fringes of Europe, Greenland, Alaska and Siberia ring the frozen polar sea. So far north is it that *R. lapponicum* girdles the earth, a distribution which is called circumpolar. No other species does this.

There are several other northern species, some of which, like *R. micranthum* and *R. chrysanthum*, grow gregariously over wide regions; but the growing season is too short, the Winters too cold, the air too dry for great variation in the northern temperate zone. It is not until we reach the southern mountain rim of the dead heart of Asia, between 25 degrees and 35 degrees north latitude, that

the genus *Rhododendron* finds its spiritual home and breaks out in a war dance of variation.

Even more fantastic than the number and concentration of species (not to mention individual plants) is the variety of shape and size, of flower colour and foliage. In size and shape they vary from ragged mats moulded over the bare cold rocks below the silent snowfields, the twiggy broom-headed heath-forming undershrubs, and the tangled scrub species with tough pleached branches, to neat dome-shaped bushes, or umbrella-like shrubs, and finally to gnarled trees with shiny boles, which fan out into knotted and knobbly branches, twisted as though with rheumatism. But at least in the forest *Rhododendrons* have a distinct and visible trunk which bears aloft the umbrella-like crown, whose ribs, though bent and twisted, have yet the strength of steel; they are, in fact, trees, if rather nightmarish trees.

The leaves vary from less than a quarter of an inch long in some of the dwarf species to twenty inches long in some of the trees; those of *R. sinogrande*, before it reaches flowering age, may have an area of three hundred square inches. Later they grow smaller in size, as though the effort of giving birth had proved too much for them. By this time, however, the total area of leaf surface is much greater, owing to the increasing number of leaves.

Thus we see included in this *grande alliance* prostrate and ascending undershrubs, bushes, erect trees, and finally epiphytes, that is, small diffuse shrubs growing on the branches of big trees, where they perch themselves like roosting birds, often invisible until they break into colourful flower, and almost inaccessible. The only habit *not* vouchsafed to them is the climbing habit; no climbing *Rhododendrons* have so far been discovered.

The structure of the flower, too, is so various that it is surprising to find them all classed as *Rhododendron*; indeed, they lack any underlying unity. The calyx may be large and leafy, or small, or altogether absent; the corolla may be bell-, trumpet- or lily-shaped, butterfly- (or pentagonal-) shaped, salver-shaped, narrow-tubular- or teacup-shaped, and of almost any colour except green or true blue—no 'blue' *Rhododendron* looks true blue when compared with the sky, or with such flowers as *Gentiana verna* or a Cornflower. These matters also are dealt with more fully in the next chapter.

Hardly less interesting than the geographical distribution of *Rhododendrons* is their vertical distribution in the lands where they occur in greatest variety. Generally speaking, *Rhododendrons* are social plants, the societies consisting either of one or two species, like heather in the Scottish Highlands, or of several or many species, as in the Burmese and Chinese alps and in Tibet. Epiphytic species are in the nature of things widely scattered, and throughout the temperate rain forest where epiphytes chiefly occur, tree species are likewise scattered. Apart from epiphytes and *R. Simsii* (a red-flowered *Azalea* which in Burma grows in rocky river beds a few hundred feet above sea-level), the lower strata of *Rhododendron* comprise only trees and large shrubs, which are generally far apart. As one ascends (in the eastern Himalayas or north Burma, for example) *Rhododendrons* increase in number, in variety and in size up to 8,000 or 9,000 feet. Above that, in the Conifer forest, they continue to increase in number and variety, but above 10,000 feet again decrease in size, although a few almost tree-like forms, or at any rate very large shrubs, are found so high as 11,000 or 12,000 feet.



Above 12,000 feet there is a gradual falling off in the number of species (not very obvious at first, when the number of species sometimes exceeds a round dozen), if not in the actual number of plants. Thus, one infers that the best conditions for Rhododendrons in these low latitudes occur somewhere between 10,000 and 12,000 feet.

This increase in altitude in the monsoon belt corresponds, of course, with increasing humidity and a more temperate climate, which is what best suits Rhododendrons. The higher and more constantly high the humidity of the atmosphere, the more the genus flourishes—and in a sub-tropical climate the humidity depends in no small measure on a heavy rainfall. The drier the atmosphere and the lower the Summer rainfall, the fewer will be the species of Rhododendron, although with not *too* dry an atmosphere one or two species may cover vast areas.

It is a well-known fact that Rhododendrons do much better in the mild maritime climate of the west coast of Scotland and Ireland than they do, for example, on the East Anglian coast. That is due to higher humidity in the west.

Temperature also plays a part, but not so important a part. The fact that the atmosphere is always damp near sea-level in the equatorial zone is not in itself sufficient to ensure the presence of Rhododendrons. Here both Summer and Winter temperatures are much too high for them. It is a combination of moderate temperature with high humidity, and a well-marked Winter rest, that is required. Snow in Winter is welcome, since it covers up the plants and protects them from the devastating winds which shriek over the high passes. It is much warmer *under* the snow blanket than on it.

A maximum Summer temperature of about 70 degrees suits most species, but even then they require a great deal of water. Of course, if the atmosphere is saturated, the loss of water from the leaves, even if the temperature is high, will be negligible.

Our climate, on the whole, is suited to a large number of species, though conditions vary considerably in different parts of the country, especially between east, with its continental type of climate, and west, with its maritime climate. Apart from the fact that no species will grow in a chalky soil, a considerable number will flourish in Cornwall's mild and sheltered coves but cannot stand Norfolk's boisterous coast, where the sharp edge of Winter, and Summer's sultry, sun flays them. Other parts of the world where many species would probably do well are New Zealand, Vancouver, the north-eastern Pacific states of the U.S.A., and in southern Chile at the foot of the Andes.

So many factors are involved in the problem of hardiness, and so many surprising exceptions to any rule occur, that trial and error is still the safest way of making sure. If a plant, generally reckoned hardy in your part of the country, will not grow with you, the fault may not lie with the plant—or the climate. But there is no certainty that you cannot grow a plant just because your neighbour cannot grow it.

Beginners are strongly advised to begin at the beginning, with easy plants known by long experience to be tough. Draw up a short list of those species of Rhododendron believed to be hardy in your neighbourhood. You may even start with hybrids. Select those you prefer. You will thus save trouble, expense and disappointment, for Rhododendrons are queer creatures.

Later on you can try those generally regarded as doubtful or difficult, and by the time you are a skilled cultivator you can attempt the impossible.

Unless conditions in your garden are very unfavourable to Rhododendrons, you have a wide choice. If you own a small greenhouse, you can grow several fascinating species in pots. Dwarf alpines also, although perfectly hardy, grow well under glass—until they outgrow their pots. The not quite hardy species which *must* be grown under glass are described in Chapter VIII. Easier than most Rhododendrons, especially some of the newer ones, are the hybrid Azaleas, which for sheer brilliance beat even the best Rhododendrons, though, being deciduous, they lack some of the good qualities of the latter.

## CHAPTER II

### CLASSIFICATION AND DISTRIBUTION

THE OWNER of a small garden who wishes to cultivate a few Rhododendrons is not much concerned with how the thousand-odd species of the genus are classified, particularly if he prefers hybrids to species. But the growing of Rhododendrons is apt to lead to collecting, and before one has amassed a dozen species one will probably become interested in their classification, urged on by the extraordinary variety encountered. A sketch of the principal groups will therefore not be out of place.

First we may note that Rhododendrons differ so profoundly among themselves in flower structure and habit that there is no good reason why they should all be gathered together into a single genus. Since the classification of plants is ultimately based on differences of flower structure, it would be logical to regard as separate genera at least those groups in which the flowers depart most widely and consistently from the typical Rhododendron.

The old distinction between Azalea and Rhododendron was based chiefly on the observation that the leaves of the former last for one season only, while those of the latter persist for two or even three seasons. This distinction, however, was not a good one, nor even valid; it cut across obvious alliances, and the character is of little botanical significance anyway. Moreover some of the earliest and easiest crosses ever made were between

an 'Azalea' and a 'Rhododendron', giving origin to the lovely Azaleodendron hybrids; whereas all experience goes to prove that crosses between two distinct genera are very rare. The present accepted classification of the single genus Rhododendron (including Azalea) is based primarily on the leaves, which may be:

- (i) glabrous—that is, bearing no hairs or scales, though sometimes covered beneath with microscopic wax-like papillae, giving a milk-white sheen (Glabratae);
- (ii) hairy—and then the hairs may be either bristle-like and remote, or closely interwoven and woolly, or plastered into a thin shining crust (Lanatae);
- (iii) scaly—the scales close set or distant, dry or oozing gum (Lepidotae: similar scales may also be present on the shoots and flowers).

A few species may bear both hairs *and* scales on the leaves, the former completely concealing the latter, as in the well-known *R. bullatum* and *R. Edgeworthii*.

Each of the above three groups is further sub-divided into a number of series, still based mainly on leaf character. Each series may contain any number of species, from one to fifty or more, and derives its name from the oldest known species placed in that series. Usually, when the number of species in a series gets out of hand, it is possible to recognize sub-series.

This system, although not very elastic, has worked well for over thirty years, during the flood tide of Rhododendron discovery, and is well known to all growers. Mainly founded on the work of that able and enthusiastic botanist, the late Professor Sir I. Bayley Balfour, it has the supreme merit of enabling the collector

roughly to classify his plants, whether in the field, the garden, or the herbarium, even when they are out of flower—which for ten months in the year they habitually are.

Of late years, however, Rhododendrons have been discovered which do not fit well into so rigid a scheme as that covered by the forty-two series at present recognized. A more serious criticism is that this classification was framed for the species of Europe, North America and temperate Asia only. It takes no account of the two or three hundred Malayan species, nor is it by any means certain that they could be accommodated in it.

Finally, as I pointed out at the beginning, many of the plants now called Rhododendrons depart in flower structure so widely from the typical Rhododendron that no botanist would hesitate to separate them, were any other genus in question. Genera have been founded on far more shadowy distinctions than are found among Rhododendrons—one need only mention *Senecio* and *Cremanthodium*, *Androsace* and *Primula*, *Meconopsis* and *Papaver*. But somehow Rhododendron is regarded as sacrosanct; so far as *it* is concerned, the cry is, 'Hands off!'

It appears to me, however, that the time has come to review the whole huge genus, both in the interests of botany and of horticulture, and to regard those series which are characterized by flowers departing widely from the normal as distinct genera.

The great majority of Rhododendrons are evergreen woody plants, trees, shrubs or undershrubs, with conspicuous flowers, red, blue, yellow or white, or of some intermediate shade, borne in loose or in closely packed heads (trusses) at the ends of the shoots. (A few deviate

even from that wide definition.) They form separate Winter resting buds for leaves and flowers the previous Autumn. So far, then, we might agree to call the whole lot *Rhododendron*; and when we find that the majority have a five-lobed corolla, ten stamens and a five-celled ovary, with terminal style rather longer than the stamens, and capitate stigma, it is reasonable to regard *that* as the typical *Rhododendron* flower. No matter if the shape of the corolla varies widely; the parts of the flower are constant, and that is the important point.

When, however, we find *Rhododendrons* with an eight-lobed corolla, eighteen–twenty stamens, and a ten-celled ovary; others with five–eight stamens included inside an obvious corolla-tube; others again with a sharply bent style much shorter than the stamens and a truss reduced to two or three flowers borne on long pedicels, one begins to wonder why such widely divergent plants are not placed in separate genera, a step which would make it easier to say what exactly a *Rhododendron* is!

A book on the selection and cultivation of *Rhododendrons* is not the place in which to pursue these matters to the end; but it might be helpful to suggest that the two series known respectively as 'Grande' (after *R. grande*, the longest-known species) and 'Falconeri' (after *R. Falconeri*) might well be removed from *Rhododendron* into a new genus; 'Cephalanthum' and 'Anthopogon' into another, while critical analysis would certainly reveal other improvements in the direction of a more natural classification.

What to call these proposed new genera? In order to preserve as far as possible the old classification and make the change less onerous to those who have been brought up on it, as well as out of compliment to its chief architect,

I would advocate as little alteration in nomenclature as possible. Thus we might call the 'Grande-Falconeri' genus *Falconodendron*; the 'Cephalanthum-Anthropogon' genus *Anthopogodendron*, and so on with other new genera, including possibly *Maddenodendron* for some of the aberrant 'Maddeni' species. Thus we should have:

Rhododendron . . . . .	? species
Falconodendron . . . . .	26 species
Anthopogodendron . . . . .	30 species
Maddenodendron . . . . .	10-12 species

However, I need not go more deeply into this proposed revision here, which is ultimately a botanical problem, although of course horticulturists need a convenient and intelligible classification as much as anybody.

I have already mentioned some of the characters of the typical *Rhododendron* flower; to these I might add that the pollen is not dry as dust, as pollen usually is, but consists of long, more or less sticky threads; that the seeds are slightly flattened and winged, or (in the alpine species and a few others) dust-like, rounded or angular, not winged; and that the fruit is an elongated capsule, the five boat-shaped valves of which split away from the central axis.

So much for the 'typical', which ought to mean commonest, *Rhododendron*, and in fact here does so, since *R. ponticum* itself is almost typical. But there are so many exceptions that one hesitates to regard *any* structure as typical in the genus as it stands. Even *R. Fortunei*, which is *par excellence* a typical *Rhododendron*, when we come to look at it closely, is found to possess two more lobes to the corolla than it ought by rights



to have, namely seven instead of five. And so also with its nearest and dearest, *R. decorum*, *R. discolor*, *R. diaprepes* and others, making up the series 'Fortunei'.

As to the shape of the corolla, although it is generally bell- or trumpet-shaped, it *may* take on almost any shape a one-piece corolla can take, from tubular to bowl-shaped, cowl-shaped, shield-shaped or helmet-shaped; and, as I have noted above, practically any colour—even *two* colours in some species with fluorescent flowers, or spotted.

I will only add that the genus *Rhododendron* belongs to the family Ericaceae, which includes the Heaths of our native flora and of South Africa; *Enkianthus* of China, Japan and the Himalayas; the *Kalmias* of North America; the many *Gaultherias*, *Agapetes*, *Pentapterygiums* and other striking shrubs of almost world-wide distribution.

Not so *Rhododendron* itself. There is no wild *Rhododendron* in Britain, although *R. ponticum* has practically naturalized itself in the south; but there are four species in continental Europe, two inside the Arctic Circle, six in the Orient or Middle East, three in Siberia, something under twenty in North America extending as far south as the twenty-seventh parallel of latitude, and some twenty-five in Japan and eastern China—say sixty in all.

That leaves over 900 species concentrated in a continuous broad band which, starting in the north-west Himalayas, extends south-eastwards in an ever widening zone spreading far up into eastern Tibet and northern Burma, with a tail hanging down into Assam, embraces all western and central China, then narrows again down the backbone of Malaya to flare out finally in an arc which passes through the mountains of the Indonesian

archipelago. Here the genus reaches its furthest south in northern Australia (one species); indeed, it is only in this long comet tail of south-east Asia that it gets across the equator. There are no *Rhododendrons* in Africa, in Central or South America, or in New Zealand; and only *one* in the whole vast arid and desert region of Asia, or any other arid region of the globe, namely in Afghanistan.

The concentration of nine-tenths of the known species in the wet monsoon mountain zone of Asia is itself significant evidence of their preference for mist and damp, a saturated atmosphere, and a heavy rainfall with Winter snow. But if we could discern their distribution and the number of species *before* the glacial age, we might have the key to their extraordinary rise to dominance in south-east Asia.

About the beginning of the twentieth century, as noted in the first chapter, barely a hundred species were in cultivation. Today there are at least six times that number—or were before the war.

## CHAPTER III

### SPECIES OR HYBRIDS?

THERE are more hybrids than species in cultivation today, yet except in the Azalea group it is doubtful whether any hybrid superior to the parent species has ever been produced. Hybrids with flowers larger than those of either parent, or of a more precious tint, are not uncommon. Strength has been put into the delicate, colour into the pallid, quality into the undistinguished. But for every advantage gained something has been lost. It is true that, generally speaking, hybrids flower at an earlier age than their parents; but probably they also die earlier.

Nevertheless the hybridists are in search of something superior, nothing less, perhaps, than the ideal Rhododendron; and when they have a definite aim in view, limited in scope, they usually achieve it. For hard wear and tear in public parks, for small city gardens, for cold bleak climates, hybrid Rhododendrons are invaluable; nor can it be denied that plants of matchless beauty and great toughness have been produced. For the amateur, too, there is a certain excitement in inaugurating a romantic marriage among the flowers, and patiently awaiting the result. Some of the finest hybrids have been raised by amateur gardeners, as opposed to nurserymen.

Nor can it be doubted that the popularity of hybrids is on the increase. Indeed, it is quite possible that a hundred years hence several thousand hybrid varieties will be

cultivated in Britain, while it may be difficult to find a hundred species. Against that grey prospect, however, must be set the fact that chance hybrids almost never occur, therefore the species will persist in Nature. Further, while species are grown at all, they will tend to survive, except in so far as they are killed by our weather or die of neglect during our wars. But it seems not improbable that cultivated species will be preserved, mainly out of curiosity, in botanical gardens. Moreover, the number of hybrids will not increase indefinitely, since the poorer ones will be discarded as better ones are produced.

All this sounds rather paradoxical in view of the statement above, that hybrids are not superior to their parents. If that is true, why bother to breed them?

The fact is that the modern preference for hybrids over species reflects the changed outlook on gardening, which in turn reflects the social revolution in Britain. In a quiet way, gardening tells the story of that revolution, which has affected every aspect of our lives.

If no hybrid is so good-looking as its parents, it may, as I have suggested, have special advantages. (i) It will flower earlier; (ii) it will flower regularly year after year; (iii) it will flower more freely—that is to say, bear more flowers, and larger flowers. The fact that it will die earlier is of no consequence.

Now these are just the qualities which the people who have gardens will in future demand. The country gentleman, as we knew him during the first half of the twentieth century, is disappearing. Presently there will be few rich people left. Everyone now has to work harder, and so has less leisure for gracious hobbies like gardening. The city man, whether planner or clerk, will have to be

content with a small garden, and there will be little labour to cultivate it. This in turn will react on the gardening profession; skilled gardeners will be rare. Their place will be taken by a multitude of Park Superintendents, excellent administrators no doubt, good with labour, but with little horticultural knowledge or skill. The few exceptions will become fewer. The business man too will rarely be a gardener, and those who do care about their gardens will of necessity be driven to cultivate, as it were, synthetic gardens. They will demand results—and quick results. With labour reduced to a minimum, shrubs will be preferred to herbaceous plants, hybrids to species (the larger the flowers the better). Every operation, from clipping the hedge and mowing the lawn to digging the beds, will be mechanized. Rock gardens will disappear, even the herbaceous border will become scarce; and the gardening which for three centuries has been the pride of England will be reduced to a formula for producing the brightest patch of colour at the least cost during a period of eight months per annum. In the new England which threatens us, who will wait twenty-five years, as many gardeners of our own day have waited, for the flowering of a Rhododendron or a Magnolia? Until a plant flowers, many people regard it as practically non-existent. That a plant, a tree, or a shrub, has form and texture, colour of foliage and shape of bud, does not strike the casual observer, even though he may be genuinely fond of his garden. What he craves is colour, the more violent the better, colour of flower and—less commonly—of Autumn foliage and fruit. A shrub without flowers simply cumpers the earth; only when it flowers and *while* it flowers is it paying a dividend.

This, then, is the reason why people who wish to grow Rhododendrons in the future will turn to hybrids rather than to species; for hybrids can somehow take care of themselves, and will flower without much provocation. It is mainly a matter of time and space. Carried to its logical conclusion, this trend in favour of a planned world must inevitably result in the eclipse of the species as garden favourites. The lack of any deep interest in, and knowledge of, plants and their history is sad to contemplate, but it is a part of the price we must pay for total planning. The interest of future generations in their gardens will be strictly pragmatic and businesslike. Gardening may dwindle to a routine matter of ordering a popular model line of plants from the nurseryman and paying the bill quarterly, with the same reluctant regularity with which one pays the water rate. Indeed, the garden-city dweller may order a reach-me-down garden from the nurseryman as naturally as he orders a suite of furniture from Tottenham Court Road.

We live in an age of Ideal Homes and Ideal Gardens, of mammoth shows and of mass production all round. No wonder the standardized hybrid, which also can be mass produced, is popular.

But the creating of the hybrid belongs to this and to the previous generation, urged on by the will to create, and a compelling curiosity. New species of Rhododendron discovered by plant hunters have been pouring into the country since the opening of the twentieth century, the cost of the expeditions to the distant mountains of Asia being borne, not by governments, but by discerning and keen gardeners, who thus came to have a very direct interest in plant introductions. One hopes that the perennial spirit of enterprise and love of adventure,

which for so many generations has characterized the British people, will not die out completely under the new order.

There is, however, a possibility that the hybrid will not survive so long as the species, plant for plant, and that it may gradually be reduced to its proper proportion by the sheer staying power of the latter; although if the hybrid survives for a generation where the species lives for two, it will be a long time a-dying.

As to the merits of the hybrid, out of many thousands raised, only a small minority prove worthy to be perpetuated. Nor can one decide offhand whether a particular cross will be good or bad although hybridization is by no means an entirely hit-or-miss affair. First, it must flower, though, as I remarked above, one need not have long to wait before it opens its first buds. Then, supposing the flowers are different from those of either parent, and not obviously inferior, only rigorous trials can establish its degree of hardiness. It may split its bark—fatal defect—in the first cold wave; it may prove of weak constitution, unable to withstand the least drought, susceptible to disease (e.g. to honey fungus, a particularly revolting trouble, like mouldy bootlaces buried in the soil), or be shy of bloom—what the gardener calls a ‘bad doer’. Thus several years must elapse before one can pronounce judgment on the merits of a new hybrid and say that it is worth a stake in the country, and a name.

Although as a field botanist I prefer species to hybrids—in Nature, by the way, obvious hybrids are peculiarly rare—I am fully conscious of the important part hybrid Rhododendrons play in the modern world of open spaces and by-pass roads. In view of what I have written, it seems only fair to admit that for anyone who is not

an enthusiastic gardener (but who wants a display of flowering shrubs in his front garden), for city gardens and for garden-cities, for public parks, boulevards, and municipal gardens, as well as for ceremonial occasions at which floral decorations are fashionable, the hybrid has certain advantages over the species. It is usually cheaper to buy, it flowers earlier and with greater regularity, and is of an enduring toughness, recking little of dust and smoke and a dilute solution of daylight. For these advantages it sacrifices colour or form, submits to a dreary foliage which has none of the sparkle so conspicuous in the leaves of the wild plant, and acquires an irritating air of respectability. Nevertheless, if a plant, by sacrificing a coat of paint, gains in hardiness, and if hardiness is what we are looking for, that is a fair exchange.

The Azaleas are in a class by themselves, and are referred to in Chapter VII. Some of them have long been cultivated in the ageless cities of China and Japan by ingenious horticulturists, but many others, of course, have been raised in this country and on the continent by horticulturists no less ingenious, and more knowledgeable, who with infinite patience have combined and recombined characters in order to achieve supreme results. Though the framework is often rather scraggy, and though they make no serious claim to beauty of foliage, the fiery colours of the Ghent Azaleas in massed bloom are a never-to-be-forgotten sight. The man who 'likes' Rhododendrons, without caring much about them, will certainly enjoy these in their stunning Summer court dress of red and gold.

What valid claims, then, have species to superiority over the carefully combined virtues of a well-conceived



hybrid which has come up to expectations? Perhaps the superiority is felt rather than seen, and chiefly by those who, like myself, have known Rhododendrons at home, blazoning the hillsides, rolling like crimson lava down the mountain gullies, frothing in every snow-choked scupper, not in ones and twos, but in thousands and tens of thousands, staining the landscape with royal colour. It seems to me to involve a superiority of fibre, a fineness of texture difficult to put into words, but perhaps best conveyed by the words 'good breeding'. And definitely the foliage of the species is far finer than that of the hybrid—it has an individuality which the latter never has.

But possibly one is inclined to emphasize the difference between hybrid and species beyond warrant. After all, in that fairyland of wet jungle between the Himalayas and the Chinese Alps, where millions of Rhododendrons chop and churn in the gale, many a species, unstable as yet, may have arisen from some chance marriage.

If I have painted too gloomy a picture for the future of gardening, at least the day of reckoning is not yet, and might long be staved off; or it might come so smoothly as not to worry generations as yet unborn. It certainly seems a paradox in this heyday of reconstruction, when gardening was never more popular as a relaxation from austerity, to strike so sombre a note. Therefore—on with the dance.

## CHAPTER IV

### RHODODENDRONS AS TREES

MOST PEOPLE know Rhododendrons as trees, or as bushy shrubs greater in girth than in height. The species which have been known longest in this country are trees like *R. arboreum*, or outspread shrubs like *R. ponticum*. As a boy I saw three Rhododendrons in Surrey, and my idea of a 'typical' Rhododendron—if indeed there is such a thing—was certainly a tree. The present generation, however, is more accustomed to them as shrubs and undershrubs; but I was twenty-five before I ever set eyes on such a thing as a dwarf Rhododendron. Except in the west country, in Scotland and in Ireland, it is probable that tree species—with the single exception of *R. ponticum* (which, though a very big bush, is rarely a tree in this country)—are dying out, while the smaller species are on the increase. Nor is this only because most gardens in these days are small gardens, while large private gardens are rapidly becoming as extinct as the Ammonites, although that is a factor in the situation.

The horrid truth is that nearly all the genuine unmistakable tree Rhododendrons are tender in this country, although most of them do fairly well in mild districts. Hence they are not very popular. It is tragic to raise *R. sinogrande*, for example, from seed collected in China, guarding it jealously for ten years, watching it grow taller and stouter, and then, just as it is about to flower, see it killed to the ground in an unusually bitter

Winter. Yet not without reason one perseveres. There is no more magnificent sight than a fully grown blood-red *R. arboreum* covered with flowers on a snowy lawn in February or March, although if there is snow lying on the ground the flowers will certainly be injured and blackened, thus marring the display. Even after the flowers have fallen, the scarlet corollas lying on the ground in fiery heaps, like red-hot coals, are gorgeous. Where *R. arboreum* will grow or *might* grow, it is worth growing; and that is true of almost all tree Rhododendrons, although few of them flower until they are twenty or more years old, or reach their best until they are at least half a century old. Those who plant tree Rhododendrons plant for posterity.

During the present century a number of remarkable tree species have been introduced from Tibet, Burma, China and Assam, including *RR. giganteum*, *sinogrande*, *fictolacteum*, *Macabeanum*, *magnificum*, *protistum* and *lanigerum*. *R. giganteum* does not seem to be really hardy anywhere in the British Isles, except in a few favoured gardens, and even then it requires shelter. It is said to attain eighty feet in Yunnan, a giant indeed; but it would be very unlikely to reach such a size in this country, even in a hundred years—or ever. George Forrest, who discovered it, said that no one who raised it would live long enough to see it flower, a pessimistic forecast which happily was not borne out, since it first flowered from seed at the age of about fifteen years.

It is an unhappy fact that dwarf alpine Rhododendrons from the mountain tops, described by their discoverers as one to two feet high, are apt to run amok in this country and refuse to stop growing till they are three or four feet high; whereas, on the other hand, trees described

as forty to fifty feet high, after striving valiantly for years, give up the uneasy struggle and stop short at thirty.

The other species named above are all more or less hardy in mild, moist districts on the western seaboard, and even in Surrey, Sussex and Hampshire, given woodland protection, although they may get cut in a severe Winter, *R. sinogrande* particularly. In their homelands they are for the most part small forest trees with gnarled branches. One of the finest is the big-leafed form of *R. fictolacteum*, which I discovered in western China growing in pure stands. *R. Macabeanum*, from the Naga Hills, Assam, bears huge trusses of lemon-yellow flowers, stained plum-juice purple at the base. *R. sinogrande*, first introduced by George Forrest, has, while young, the largest and handsomest leaves of any known Rhododendron; they may reach a length of twenty inches and be half that much across. After the plant has attained flowering age, however, they diminish in size considerably, although it still makes a fine foliage plant.

All the big-leafed species are, in fact, worth growing for their foliage alone, quite apart from their flowers. In this country we have yet to see century-old trees loaded with their enormous hemispherical trusses, white, yellow, crimson or purple. In the mountains of Asia there is no more inspiring sight than a forest of Rhododendrons in full bloom. You may stand on a steep-flanked ridge and, looking half a mile down the slant of the hillside over the sunkissed tops of the trees, see thousands of Rhododendrons lit up with balls of fire, or with the golden glow of yellow lamps, luminous among the shrill greens of Springtime. Higher, a stripe of lingering snow dapples the crest of the ridge, giving a wintry touch to the scene. A breeze springs up, and the flowers rock

gently like coloured foam on the dark glossy waves of foliage, now flecked with ochre and umber as the big leaves curl and turn, exposing their woolly undercoats.

The tree Rhododendrons are all forest dwellers, and must be grown in woodland beneath the shelter of deeply rooting trees, since they require protection both from wind and from a hot sun, which rob them of moisture. In the eastern Himalayas the midday sun is much higher in the sky throughout the Summer than it ever is in this country; but it is not the light rays which are malevolent—as a matter of fact, the sun is rarely visible in the alps of Burma during the monsoon. It is the heat rays which, by increasing evaporation from the great leaves, damage the plant. It is drought, far more than heat or cold, which kills Rhododendrons. If the atmosphere is saturated, as it so nearly is throughout the Summer in the monsoon mountains of Asia, the plant cannot lose water through its leaves. The fact that tree Rhododendrons will rarely attain in this country the size they do in their homelands is due to the repressive action of our climate—a too dry atmosphere—always, a too mild Winter, a too cool Summer, and a too cold Spring; but especially to lack of water during the growing season.

Most of the big-leaved tree Rhododendrons are found between 7,000 and 9,000 feet altitude within the cool temperate evergreen rain forest zone of Burma and Assam, associated with Oaks, Chestnuts, Laurels, Hollies, Magnolias, Cherries, Maples, Birch, Bucklandia, and many other broad-leaved trees, a few of them deciduous; and, at higher levels, with Hemlock Spruce, Larch, and even Silver Fir, though this last rarely occurs below 10,000 feet. Winter snow falls, but does not form deep drifts. Frost rarely occurs within the forest and is never

severe. In February or March, when growth sets in, there is unlimited water from melting snow higher up the valley, and frequent passing showers keep the air sweet. There is brilliant sunshine too, for already the sun (now crossing the equator) is by midday 60 degrees above the horizon; warm air from the plains is flowing up the sparkling valleys and the song of birds echoes through the woods.

Some of the tree Rhododendrons form tanglewood forests by themselves, or rather they form almost the entire second tier of forest under the tall, scattered, straight-boled trees; thus *R. sinogrande* at 8,000–9,000 feet, and the glorious *R. magnificum*, as I first saw it in the Adung gorge, are both gregarious species. *R. magnificum* is a rather stunted bushy tree with branches gnarled and twisted as though it had been broken on the rack. The enormous pompoms of flowers lining the cliffs are every shade of rosy crimson, and looking up the steep gorge of the Adung when the river, swollen by melting snow, is roaring over the rocks sending the spray flying and raising a storm of wind strong enough to flutter the lacquered leaves, the fine fury of the forest is indescribably grand.

Nowadays private owners are not so interested in tree Rhododendrons as they used to be. So long as gardens continue to dwindle in size, the plants we can squeeze into them must dwindle too. The modern garden on a building estate would hardly encompass even one tree, and if placed in isolation in the open to be gazed upon, it would resent the treatment as much as did the Monkey Puzzle, without which no suburban garden of last century was complete. Nevertheless, though the private gardener is likely to be less interested in tree Rhododendrons than his predecessor was, this is not to say that

they will cease to be grown. It is inconceivable that they should not be grown. The big gardens are changing hands, that is all. They are no longer privately owned, but publicly owned. Tomorrow they will be represented by our national parks, municipal gardens, botanical gardens, nature reserves, and roads. The man interested in tree Rhododendrons in future will be the Parks Superintendent and the Director of Open Spaces; nor must we omit to mention that valuable body the Roads Beautifying Association.

The Parks Superintendent is concerned to make the parks and gardens under his supervision as pleasant and restful as possible; nor will he ignore the claims of the tree Rhododendron to a place in his plan, although most of the big-leafed species so far collected are none too hardy, except in the south and west. Those who recall the beauty and dignity of the hybrid Rhododendrons in the London parks between the wars will not need to be reminded of the value of these plantings.

However, it must not be imagined that the big-leafed species are the only tree Rhododendrons. One of the earliest to be introduced was the blood-red *R. arboreum*, a tree with quite small leaves, which grows forty feet tall in the Himalayas. Unfortunately this too is hardy only in the mildest districts, though it is not seldom covered with snow in its homeland. Where it can be grown it is still one of the finest species in the country. There are trees in Cornwall, nigh a century old, nearly forty feet high and of great girth, which when covered with hundreds of blistering scarlet dome-shaped flower-heads are incredibly lovely. Its Chinese equivalent, *R. Delavayi*, though as rich in colour, is a smaller tree and rather less hardy.

A remarkable tree is *R. stenaulum*, whose fragrant softly pinkish-purple or rose-purple flowers, with a pale greenish-yellow flash stamped on the posterior lobe, are borne in such prodigal numbers as to lather the whole crown till it glows like a sunset cloud floating in the forest. The stout bole is a tawny red, and as smooth as glass. Growing at only 6,000 feet in the Burmese forests, it is, of course, a greenhouse shrub in this country; if it ever attains the forty feet seen in Burma, it will go through the glass roof.

It is to hybrids of *R. arboreum*, *R. stenaulum* and other tender trees that we must look in the future to beautify our parks and roads. Of course, planting done today will be done with an eye to the future. It is posterity who will reap where we have sown. Nor need we grudge it that advantage. How much poorer should we be today if certain Englishmen had not planted Horse Chestnuts from Persia in England some four centuries ago—although probably there are none of the original trees left alive today. This is equally true of many other trees which grow in our midst. Should we not do likewise?

A big tree Rhododendron raised from seed today might not flower for twenty or thirty years, nor reach its full height and vigour for another twenty-five or thirty years after that, but for the first fifty years of the twenty-first century it might give intense pleasure to thousands yet unborn.

However, there is no need to start from the very beginning, except with entirely new species. There are thousands of young Rhododendron trees in the country already, of all ages, in private gardens and in nurseries, and although many have been killed by heat waves and cold waves and dry waves, as well as by neglect during



the war years, it will be a long time yet before any of these magnificent species become extinct. Some of them have not yet flowered. Rhododendrons up to twenty years of age, more or less, are not difficult to move. Thus a twenty-year-old plant can always be lifted, and so long as it is lifted at the right season—say in early Spring, if the ground is not too frozen, or in the Autumn—with a good ball of soil, it can be replanted anywhere. If it has so far failed to flower, the slight shock administered may encourage it to do so.

That public-spirited body, the Roads Beautifying Association, is also interested in flowering trees. Far from blind to the claims of Rhododendrons to border the new raw roads of Britain, the Association has already planted thousands, and the roads are thereby being transformed into parkways second to none in beauty. But here also only well-tried trees are admissible for so specialized a purpose, where tens of thousands are needed; and few tree Rhododendrons are likely to be chosen, though perhaps *R. Macabeanum* and *R. fictolacteam*, or even *R. Falconeri*, might be planted in the west country. If *one* thoroughly reliable big-leaved tree could be discovered, it would be no small triumph of the explorer. The safest roadside plantings of Rhododendron at present must inevitably be hybrids.

There is, of course, no clear-cut distinction between a large shrub and a small tree, and some of those species here classed as small trees may be more familiar to most people as large shrubs. There can be no doubt, however, that under the best conditions in their homeland, they form trees. The big-leaved mid-forest species are, as previously remarked, all worth growing for their foliage alone—a fact which may reconcile us to the years

of waiting before they are old enough to flower—and though in common with many other plants the leaves grow smaller as the tree grows older, the combination of handsome foliage and gorgeous flowers is irresistible.

It is not easy to recommend even half a dozen tree species as the best of their kind. From the gardener's point of view much depends on his enthusiasm and on the size of his garden. But with such temperamental children, even more depends on the part of the country they are destined for, and the shelter from cold drying winds they are likely to obtain. Remember that shelter from wind and sun is far more important for tree Rhododendrons (and especially for the big-leafed species) than it is for dwarfs growing on the rock garden. They also need proportionately more humus, and abundant water throughout the year. Their greatest peril is that they may split their bark, a disaster caused by a sudden fall in temperature at a time when the roots are active and the wood vessels full of water.

If one intends to grow the largest Rhododendrons obtainable, one may as well grow the best, and I recommend any of the following, although they can be relied on definitely as hardy only on the western seaboard. So here in my opinion they are:

*R. arboreum*—blood-red. It would be *lèse majesté* to ignore this ancient member of a royal family, now so firmly established in our country. I have already referred to its grandeur in bloom. Trees over a century old may be seen in several parts of Great Britain and Ireland. Long may they flourish.

*R. arizelum*. A small gnarled tree allied to *R. Falconeri*, with ivory white, creamy yellow, or rose-coloured

flowers. The underleaf surface is covered with a foxy red fur, very thick. At 9,000 feet in north Burma it paints the steep mountainside with enormous splashes of colour.

*R. barbatum*. An old acquaintance which should not be forgotten. Introduced from Sikkim by J. D. Hooker nearly a century ago. The flowers, in lavish trusses lavishly borne, are as red as those of *R. arboreum*.

*R. calophytum*. A very hardy tree discovered by E. H. Wilson in China. Grows forty feet tall in its homeland and when mature bears splendid trusses of flowers, white or flushed rose, of the 'Fortunei' type. The leaves are large and smooth, lacking the handsome dark fur and crinkly texture of the 'Falconeri' leaf. Can be recommended as a specimen tree in a small garden. *R. discolor* would do equally well.

*R. Elliottii*—blood-red. Discovered by Watt in Manipur sixty years ago. The original plants had undistinguished purplish flowers, but in 1927 I discovered and introduced a form with brilliant scarlet-crimson flowers (K.W. 7725) which at once caught the eye of connoisseurs. This is one parent of some notable modern hybrids. In Manipur it is a rather scraggy tree up to thirty feet high, and none too hardy, except in the west of Britain.

*R. Falconeri*. Another well-known Sikkim Rhododendron which we owe to J. D. Hooker. The chocolate-orange undercoat of the large crinkly serpentine, green leaves is an endearing feature. The flowers, borne in immense trusses, have almost the whiteness of frosted glass, with a deep purple blotch like grape juice at the base. This species attains forty feet in the

Sikkim forest, where it grows abundantly beneath the Fir trees. *R. eximium* is very similar.

*R. fictolacteum*. A splendid tree forty to fifty feet high. I found a whole grove of this species growing at 10,000 feet in western China, so it ought to be quite hardy. The plants raised from my seed (K.W. 4509) have flowered magnificently, and it is reckoned both in foliage and flower the finest form known.

*R. Fortunei*. A small but beautiful Chinese woodland tree, named after one of our most famous botanical explorers. The pale-rose flowers have a lilac flush, and are sweetly fragrant. A great favourite with hybridists, who would like to put more rouge into its pale cheeks. Invincibly hardy.

*R. Griffithianum*. At mention of the name *Aucklandii* a wave of bliss must roll over and submerge anyone who has ever seen it in glorious bloom in the forest, even though the correct name be *Griffithianum*, and waft him lightly to the shores of paradise. There is an ethereal quality about the enormous bell flowers—their vital milk-whiteness, their careless rapture of form, their exquisite, effortless grace as they hang clustered from the leafy shoots, their subtle fragrance—which defies description. I have twice met with this rather rare beauty, once in the eastern Himalayas and once in the Mishmi Hills, both times in full bloom, and I regard it as the most lovely wild Rhododendron I have ever seen. It is so immeasurably superior to its vaunted and innumerable hybrid forms, including *R. x Kewense*, better known as *R. x Loderi*, as to make comparison futile. Sad to relate, it is a slowcoach to grow, and hardy only in the

mildest districts. The first introductions came from its discoverer, J. D. Hooker, eighty years back, so there are some good plants in the country. In 1928 I introduced what is possibly a hardier form from the Mishmi Hills (K.W. 8045).

*R. Macabeanum*. A small scrubby tree with large, broadly oval leaves covered with oyster-grey felt beneath. Flowers in compact dome-shaped trusses, sulphur-yellow with a constellation of purple spots. It is more like *R. Falconeri* than *R. grande*, with which it is associated. Plants flowered in this country twelve years after I collected seeds on Japvo Peak in 1927; in 1935 I introduced it again from further east.

*R. niphargum*. A moderate-sized tree which is gregarious in Tibet. The shallow flowers, though small, are borne in ample trusses and are of a pleasant pinkish-purple with crimson flash. Chiefly remarkable for the snow-white woolly underleaf surface.

*R. sinogrande*. This fine tree, discovered and first introduced by George Forrest from western China, has when young the largest and handsomest leaves of any known species. The cup-shaped flowers, daffodil-yellow with a crimson flash, are borne in immense globe-like trusses, and a tree in full bloom looks as though it were lit up with fairy lamps. It has been collected and introduced again and again from various districts between China and Tibet, but no thoroughly hardy form has been found yet.

On this top note I should be content to end, but I cannot refrain from adding a few more species which appeal to me, and which I consider have a future in our

country, even when they are not so hardy as one could wish. I therefore add:

- R. facetum*. A small, not ungraceful tree of the rain forest, with long, rather narrow unhairly leaves and loose trusses of fiery crimson bell-shaped flowers whose red radiance is a little dimmed by a heavy rash of midnight-purple spots within. It flowers and grows late—July—and the new growth has not always time to ripen before Winter nips it. Coming from the Burmese rain forest it is surprising that it should be so hardy as it is in the west country.
- R. hirtipes*. A small tree with bristly leaves and lax trusses of broadly bell-shaped flowers, pale rose banded with deep rose. When I found it in the forests of Tibet I rated it high, but so far it has failed to attract attention in this country.
- R. lacteum*. Reputed to be the finest yellow-flowered Rhododendron in cultivation, but a slow grower, not an easy 'doer', and not of cast-iron constitution. At its best magnificent.
- R. lanigerum*. A stout and stunted forest tree, which I found once only, in the Mishmi Hills, at 8,000 feet. The woolly leaves are not large for a 'Grande' type, but the dark rose-purple flowers strike a new colour note. In its youth it is reputed somewhat tender.
- R. magnificum*. I have already mentioned the charms of this gorgeous Burmese tree, which I discovered and introduced in 1930.
- R. protistum*. One of George Forrest's discoveries, introduced by him twenty-five years ago. The only specimen I ever came across was a solitary tree, buried deep in the mountains of north Burma

amongst the Blue Pines and other trees. It was in fruit—the wonder is that I spotted it in the dark forest out of bloom—but its splendid leaves betrayed it. Much taller and more stately than the twisted *R. sinogrande*, I thought it one of the handsomest tree Rhododendrons I had ever seen. The flowers are described as cream flushed rose, but my plants (K.W. 7427) have not yet flowered. It is rather tender, but will just do in the mildest districts.

It will be noticed that, with one or two possible exceptions (which might equally well be rated as large shrubs), all *tree* Rhododendrons—and without exception *all* the big-leafed tree species—belong either to the ‘Lanatae’ (hairy-leafed group), or to the ‘Glabratae’ (smooth-leafed group). There are no tree ‘Lepidotae’. This is the more curious because there is every reason to believe, on other grounds, that the big-leafed species are primitives. On the other hand, there is likewise reason to believe, from their distribution, that Rhododendrons came into existence in the frozen north as undershrubs something after the ‘Lapponicum’ type, when a more genial climate prevailed there, that they were pushed around during the ice ages, and that they achieved their present eminence after it had passed away. It is difficult to reconcile this paradox, for the ‘Lapponicums’ have more specialized flowers than the primitives.

## CHAPTER V

### SHRUBS

A LARGE number of everyday *Rhododendrons* are neither trees nor dwarfs, but medium-sized shrubs, up to about fifteen feet high in this country. They have neat figures (this is especially true of many hybrids), and conspicuous flowers which either droop or, being gathered into somewhat prim trusses, stand up. The leaves may be glabrous, hairy, or scaly, and are neither very large nor very small, often rather narrow for their length, but in some species becoming almost circular. Moderate in all things (although it is astonishing how immoderately beautiful many of them are), they come from moderate altitudes, above the sub-tropical, but below the alpine region, haunting rather the mixed forest and pure Conifer forest belts between 8,000 and 11,000 feet altitude.

These are, or ought to be, the plants most commonly grown by the amateur who is not a rock gardening enthusiast, since they make a brave show in bloom, do not take up too much space, and flower while comparatively young. They include some of the best-known and most worth-while species in the country, and the majority, being plants of the Hooker and Wilson eras, have been thoroughly tested. Raised from seed, some of them will flower in their seventh or eighth year; from layers or cuttings, considerably sooner. Six-year-old plants are not extravagantly expensive—considering



the long vista of Springtimes in front of them—provided that they get a little attention.

The amateur may flit freely with a light heart among the 'Cinnabarinum', 'Fortunei', 'Orbiculare', 'Oreodoxa', 'Heliolepis', 'Parishii', 'Haematodes', 'Scabrifolium', 'Campylocarpum', 'Triflorum', 'Thomsonii', and 'Souliei' types, choosing here and there as his fancy moves him, and with little more misgiving among the 'Glischrum', 'Campanulatum', 'Neriiflorum' and 'Trichocladum' types. He should avoid like the plague anything even remotely related to the 'Taliense' or 'Arboreum' types, eschew most 'Sanguineums'—albeit with a sigh of regret, for are they not closely related to the desirable 'Haematodes' and 'Neriiflorums'?—and look with deep suspicion on any of the 'Megacalyx' type, all of which are too lovingly tender to live long. To these demi-pariahs I shall return presently.

Let us begin with some of the best-trying and best-known of the Hooker Rhododendrons, plants which we have grown for three generations.

Most famous of these, and most spectacular in bloom, is *R. Thomsonii*, the doyen of a race characterized by their rounded glabrous leaves, sometimes wax-white beneath, and loosely hanging bell flowers which may be some shade of primrose-yellow, rose, or cream, but in many are a fierce blood red. *R. Thomsonii* itself forms a handsome shrub ten to twenty feet high and almost as much through. It is one of the most beloved of our established species, and when in bloom never fails to elicit squeals of feminine admiration, and gruff approval from those males who regard it as unmanly to gush over plants. The rich scarlet flowers hang in innumerable loose bunches among the pale rounded leaves, sheeting

the bush in fiery splendour until it almost takes one's breath away.

*R. cerasinum* in Tibet is a bush with brilliant scarlet flowers having five circular coal-black glands at the base of the corolla. In north Burma, however, where I found it again, it is a shrubby tree whose flowers are sometimes cream, broadly banded with cherry-red round the rim, sometimes cerise throughout. It belongs to the same clan as *R. Thomsonii*. The combination of colours in the Tibetan plant suggested the name coals-of-fire; that in the Burmese version, cherry brandy, by which names I frequently referred to them. The flower stalk (pedicel) of *R. cerasinum* is peculiarly long and flexible, so that the corolla swings freely; in order to raise the capsule aloft and scatter the seeds, it curves upwards at the lower end, turning through 180 degrees and becoming rigid. This makes the plant quite unmistakable in fruit.

Another well-trying Hooker Rhododendron is *R. campylocarpum*, a smaller shrub than its relative *R. Thomsonii*, with neat pale-green rounded leaves. The squat angular buds, like little white china knots at the ends of the twigs, are very charming. Opening their coral-tinted inner buds, which now expand into a loose bunch of pure yellow bell flowers, the bush is quickly swathed in a sunny robe of nile-green foliage and primrose bells. *R. campylocarpum* is the only Sikkim representative of its clan, but none of the six species which have since come out of China and north Burma rival it, or are likely to undermine its deserved popularity, although the Chinese *R. callimorphum*, with flowers of old rose, is likewise a beauty. *R. cyclium*, another rose-flowered species, also comes from China. This and *R.*

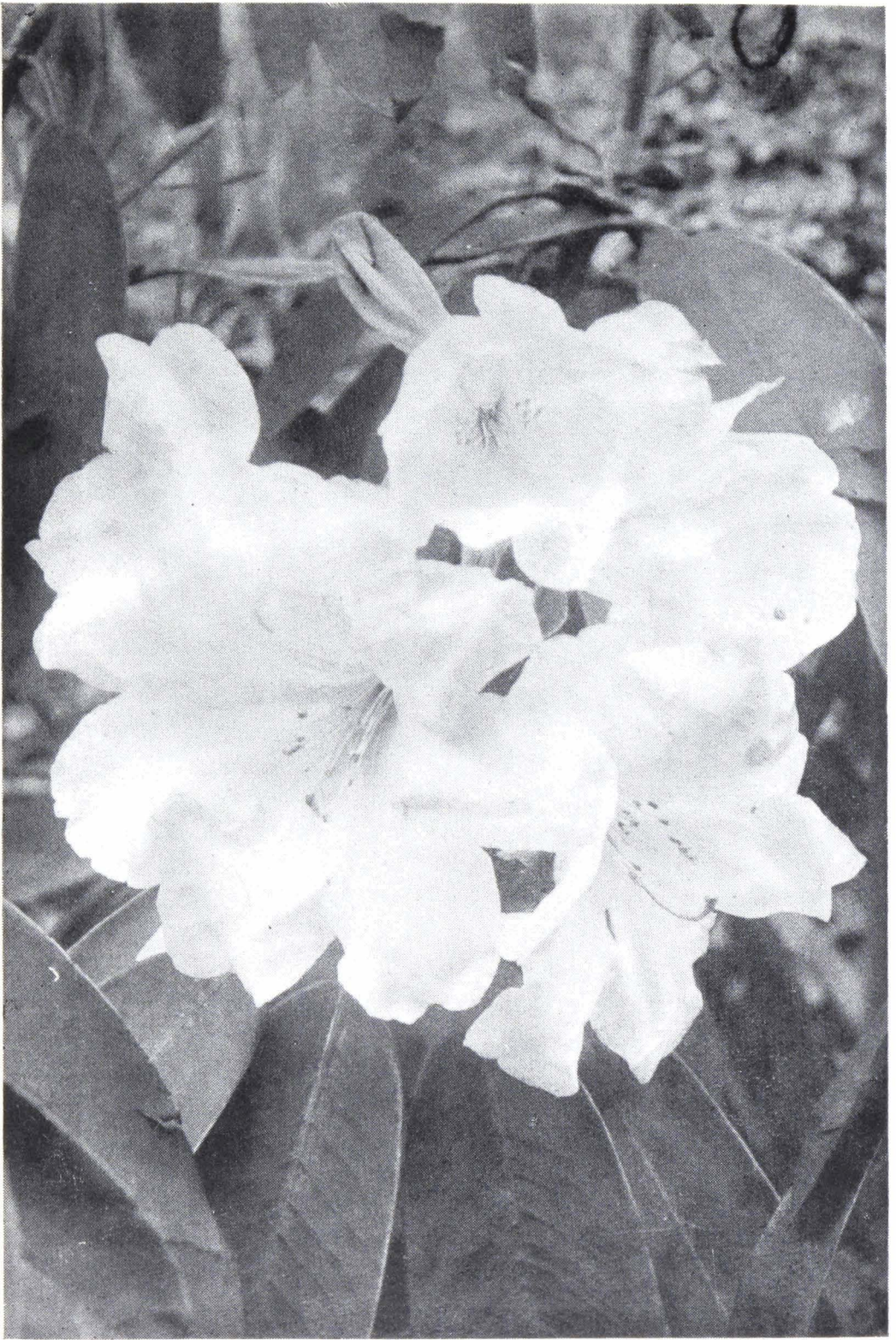
*telopeum* live at higher altitudes than most of their kin, and in the Chinese alps are therefore more stunted, not growing above five feet tall. In Britain they are likely to exceed this.

With *R. cinnabarinum*, yet another Hooker introduction from Sikkim, we strike a new note. *R. Thomsonii*, *R. campylocarpum* and their immediate circle are hairless wonders—they belong to the group called 'Glabratae'. *R. cinnabarinum*, whose name describes its deep red colour, has smoky grey leaves, which on inspection through a lens are seen to be covered, especially on the underside, with tiny dull-coloured metallic scales, almost, but not quite, touching one another. The flowers are tubular instead of bell-shaped, broad at the mouth in *R. cinnabarinum*, but quite narrow in its near relative *R. Keysii*. In this country *R. cinnabarinum* stops short at six to eight feet, but in the eastern Himalayas, where it flowers magnificently in June, it commonly grows twelve to fifteen feet high. The flowers of both the species mentioned vary a good deal in colour—salmon, apricot, rose, as well as orange and cinnabar-red—and when a grove in full bloom is so placed that the afternoon sun can be seen shining through the flowers, it is a gorgeous sight. *R. cinnabarinum* is the type of a select company of four species—*R. concatenans* from Tibet is another of them. Its bell-like flowers glow like burnished copper so that when the wind moves them one almost expects to hear them clang against the armoured leaves. Any more species of this type would be welcome.

There are no more valuable shrubs, thanks to their habit of flowering generously year after year, than the 'Triflorum' type, although *R. triflorum* itself, in its commonest form, is dull and dowdy. The beginner is



*Rhododendron cilpinense*



*Rhododendron Loderi* var. *King George*

recommended to try any of the following, all of which are closely related to it, and distinguished by a light and airy grace, with delicate flowers which seem to float among the sea-green leaves:

- R. Augustinii*. The best form is as near indigo as any *Rhododendron* is, or seems likely to be. Grows ten feet high, making a well-shaped bush, and when placed amongst paler colours—whites, yellows or pinks—is a most distinguished-looking plant.
- R. ambiguum*. Flowers clouded yellow, spotted with misty green. A smaller plant than *R. Augustinii*, but it has a quiet charm of its own.
- R. lutescens*. One of the daintiest of the 'Triflorums', with clouded primrose-yellow flowers, reminding one by their shape, no less than by their colour, of brimstone butterflies. When fully grown it reaches about five feet, and as much through. Flushed with its new foliage, of a bronzy red, it is a pretty object in the dark woodland.
- R. Davidsonianum*. A delightful little bush, the flowers old-rose with carmine freckles.
- R. yunnanense*. This species blooms boisterously; flowers white with a faint flush, stippled and spotted with purplish-rose. In its native land it varies a good deal, both in size and colour, but the bushes are always neat, even when not very symmetrical. Well do I remember the rather arid rocky hillsides round Atuntzu in north-west Yunnan snowed under with puffs of pale *R. yunnanense* shimmering between the dark thorn bushes like a mackerel sky at dusk.

The original form of *R. triflorum* is, as noted above, a paltry thing, the small dim yellow flowers spangled

with a sickly green rash; but the variety *mahoganii*, which has an amber plume overprinted on a lemon-yellow ground, is quite a pretty plant when seen with the sunlight shining through dewy flowers. One cannot go wrong with these 'Triflorums'; they look good form anywhere, grow easily, flower freely, and give satisfaction always. There are other species, such as *R. villosum*, with more lurid flowers, but they are rare or not in cultivation. Those mentioned are certainly the best obtainable.

The 'Fortunei' type includes small trees and large shrubs, none of greater value than Wilson's introductions. Amongst these *R. sutchuenense* (flowers rose lilac) and *R. discolor* (flowers white flushed pink) rank high for hardiness, and if not quite so beautiful as some others, must be accounted first-class all-round plants. Both may reach twenty feet and are proportionately broad. While *R. sutchuenense* is one of the earliest Rhododendrons to flower, coming out at the end of February, *R. discolor* is one of the latest, not flowering till July; in cold districts the former is to be preferred, in mild districts the latter. Six- or eight-year-old plants ought to flower before they are much older.

One of the most lovely of Rhododendrons is *R. decorum*, which has been collected many times, some of the later introductions being quite hardy. It is a small neat shrub of ten or twelve feet, with deliciously fragrant pure white flowers, occasionally flushed shell-pink.

*R. orbiculare* is also a ten-foot shrub, remarkably well proportioned, with rose flowers. The leaves are almost circular, a unique feature. In order to develop its charms fully, this plant must stand by itself on a lawn, and as it

may need shelter from the wind in some gardens, its exact position needs a little thought.

*R. Fargesii*, another of Wilson's introductions, reaches twenty feet, and is a prolific plant, covering itself with its bright purplish-pink flowers in April or May. It is preceded, in March, by *R. oreodoxa*, a plant which spends itself as freely in flowers of much the same colour.

There is a group of smooth rounded-leafed Rhododendrons of which *R. Souliei* is the type, characterized by white, pale yellow, or pale rose shallow tea-cup-shaped flowers, which are peculiarly pleasing, though they all take some years to reach flowering age. Nevertheless, they are hardy and reliable; the wise amateur will select one or other of them. They grow slowly to a height of twelve to fifteen feet. *R. Souliei* itself has small, almost saucer-like flowers, so shallow are they, of a charming shell pink shade. *R. croceum* has similar flowers of a clear canary yellow. In *R. Wardii* the flowers, which in bud are tinged with coral red, open a deeper yellow; this is one of the best of the yellow-flowered species. The nine shrubs just mentioned of the 'Fortunei' and 'Souliei' types are all smooth-leafed species, 'Glabratae', and owe not a little of their charm to the beauty of their young foliage, to the contrast between the smooth dark upper and paler underleaf surface, and to the trim rounded shape of the leaf, no less than to the shape and pastel colouring of the flowers, borne so abundantly in loose trusses.

The species next to be mentioned, 'Lepidotae', have scaly leaves, and it cannot be said that any of them owe much to the beauty of their foliage; even the breaking leaf buds seem uninspired.

*R. heliolepis* gives its name to a group of eight or ten



species with aromatic foliage and narrow bell-shaped purplish flowers borne on long flexible pedicels. They are very free flowering, form low bushes, and are thoroughly hardy. The best are *R. heliolepis* itself, *R. brevistylum*, an intensely aromatic plant with purple-clouded flowers, and *R. rubiginosum*—another Wilson plant—with rose-lilac flowers freckled umber. This last reaches the dimensions of a small tree in China, although it hardly does so in Britain; most of the others are medium-sized shrubs. I recall thickets of *R. brevistylum* at 11,000 feet on the Burma-Tibet frontier whose scaly red-brown leaves filled the air with incense; these plants were in full bloom so late as July.

Let us now turn to the hairy-leaved Rhododendrons, the 'Lanatae', of which a large number are moderate-sized shrubs with flowers of various colours.

One of the hardiest, although by no means from the highest altitude, is *R. venator*, whose flowers are brilliant scarlet. It grows ten or twelve feet high in this country, but hardly half that in its home in Tibet, where the rainfall is heavy. It is strange that it should be so much hardier than its near relatives—*R. Kyawi*, *R. Elliottii* and *R. eriogynum*, all of which have the same magnificently coloured flowers.

The 'Haematodes' type also are mostly scarlet or crimson-flowered species, one of the best being *R. haematodes* itself, though it takes a long time to reach flowering age. The flowers are blood-red and large for the size of the plant, which barely reaches five feet. While young it looks very well on the rock garden. *R. Beanianum*, with dark green deeply engraved leaves felted with thick red fur underneath, also has shining blood-red flowers. It is a sub-alpine shrub and forms

large plants, often perched on isolated rocks, flowering before the snow melts. They look like red-hot ingots in June.

A third species, more erect than the first two mentioned, reaching ten feet and, like them, bearing scarlet flowers, is *R. neriiflorum*. The small sea-green leaves have a waxy white under surface which enhances their beauty.

All these 'Haematodes' have loose trusses with from three to five or six freely swinging flowers, and are of good constitution. There are others in cultivation, but these are probably the best and the best known.

One more species with blood-red flowers—*R. strigillosum*—remains to be mentioned, although it bears no relation to *R. haematodes*. It is a fair-sized shrub which may reach a height of fifteen to eighteen feet. The vermilion flowers are very fine, but opening in February, they are apt to be damaged by frost.

Another species, not distantly related to the last named, is *R. exasperatum*, a curious shrub with coarse rounded-oval very bristly leaves and small brick-red flowers in tight trusses.

There is also *R. vesiculiferum*, a shrub common in the Adung gorge, north Burma, where it forms dense thickets overhanging the river at 8,000 feet altitude. The flowers are purplish-rose, dark or pale, with a blotch like a splash of plum juice, and the long bristles on leaf and shoot are, as the name suggests, gland-tipped.

The seven species last mentioned are all modern introductions compared with the Hooker, and even with the earlier Wilson plants; that is to say, growers have not yet had the same experience of them they have had with the old stagers, nor have they been tried out in so many gardens and under such varied conditions. Nevertheless,

enthusiasts have been so struck with the deep blood-red colour or sealing-wax scarlet of *R. haematodes*, *R. venator*, *R. Beanianum*, *R. neriiflorum* and *R. strigillosum* that these five alone are already responsible for a mixed progeny numbering more than sixty hybrids, which goes to show how popular this colour is with Rhododendron breeders.

To continue our brief descriptions of shrubs, we may note in passing another Hooker plant, *R. campanulatum*, type of a Himalayan group which, unlike most of the eastern Himalayans, has no parallel in China. The flowers vary from almost white to shades of rose, purple and violet, the last being the best form. The leaves have a plaster on the under surface, almost like gold-beaters' skin.

*R. campanulatum* is a good shrub, but again, like so many of the larger shrubs, it takes time to establish itself and flower profusely, though not so long as its class mates, *R. fulgens* (brilliant scarlet flowers), *R. aeruginosum* (brilliant blue-green foliage) and the handsome *R. lanatum* (flowers smoky yellow with smoky brown spots, or clear pink throughout).

Mention must also be made of *R. mollicomum* and *R. pubescens*, small quick-flowering shrubs whose leaves are both hairy and scaly at the same time. They grow from four to six feet high and bear innumerable heads of small flowers in various shades of lilac-purple or rose-crimson. These can be massed with excellent effect.

To return for a minute to the 'Triflorums', *R. oreotrephes* comes from drier country than is usual for the genus, and that in fact is true of the 'Triflorums' in general. It makes a neat rounded bush, and is noted for its small leaves, glaucous when young, and its pale rosy mauve flowers.

A very similar plant, not exceeding four feet, with

somewhat darker flowers, is called *R. timetium*. I remember how the steep cliffs of the Adung gorge in north Burma at 9,000 feet were covered with a thick forest of Rhododendron trees. In May they flowered, and soon there were thousands of rounded blossom heads, white, yellow and rose bobbing and swaying amidst the sea of big leaves, while here and there a cumulus cloud of lilac-purple flashed like a beacon among the paler lights, intensely conspicuous by reason of the contrast.

The bulk of the forest was composed of *R. arizelum*; the lilac-purple belonged to an equally stout tree (otherwise it would scarcely have shown at all) which was later identified, though not by me, as *R. timetium*. I mention this because it struck me as one of the most free-flowering Rhododendrons I have come across, the colour almost tropical in its splendour. (Not that the tropics have a monopoly in colour by any means.) However, I hardly think that this tree and the Chinese shrub mentioned above can *both* be *R. timetium*.

So much then for the more generally grown species. I will now add a note of warning. The beginner is cautioned against hankering after any of the 'Taliense' type. Many of them conform admirably to one's idea of a good garden shrub—not too big and not too small, flowering—when they *do* flower—generously, and with handsome foliage. But they have one fatal defect; they seem to think they will live for ever, and are in no hurry to flower. It is for this reason, and not for lack of charm, that they are taboo. Indeed, their good qualities are patent, but they grow with the most exasperating slowness, and appear to remain exactly the same size for years, continuing to grow leisurely for a human generation without showing a sign of a flower bud. I have seen plants of

*R. vellereum* in Tibet, not three feet high, which must have been fully a quarter of a century old. True, they were smothered beneath a sunset cloud of flowers, rose pink with carmine freckles, but I felt somehow that it was the first time it had ever happened. However that may be, *R. vellereum* in Britain, now come of age, has not yet flowered. *R. Clementinae*, another of that ilk, has rose-coloured flowers, darker or lighter, with crimson spots. *R. phaeochrysum* is noted for its verdigris-green young foliage. Avoid them all.

Even slower in growth is *R. Roxieanum*. Its bayonet leaves, red furred beneath, bristling on short coral-like, stubby shoots, are as sharply pointed as the spines of a sea urchin, and suggest some monstrous marine cactus rather than a Rhododendron. Anyhow, one has to live a long time to see it flower from seed in this country, so I would not recommend the ordinary gardener to buy even a ten-year-old plant.

I cannot, however, refrain from putting in a good word for *R. recurvoides*, a close relative of *R. Roxieanum*, which I found growing at a high altitude in Tibet. The flowers were long since over, but had been borne so generously that even the ripening fruits almost hid the stiff whorls of cinnamon-coated leaves. Now twenty years old in this country, it has already flowered several times, and is highly appreciated by connoisseurs.

Both *R. Roxieanum* and *R. recurvoides* are semi-dwarfs, coming from alpine peaks where the wind mows the heads off the bushes, pressing them down to earth, though they will in course of time—it may be in a hundred years—reach a height of six or eight feet and twice as much through. They form low tangled thickets, the tortured stems interlaced to form a solid fence.



*Rhododendron Loder's White*



*Rhododendron orbiculare*

I need not burden the amateur with any more names of recalcitrants—there are quite a number of them, and all are taboo. It may be, of course, that we do not quite understand these queer monstrosities with telescoped shoots bristling with rapier-like leaves, but until we discover the knack of making them flower, my advice, to the beginner at least, is to admire them from a distance—in botanic gardens and such-like. Whether in flower or not, they are worth more than a passing glance, and for me at least they have all the fascination that cacti have for other people.

One thing about *R. vellereum* which vividly emphasised the effect of shelter was the way it grew inside the forest, where it formed a large shrub—almost a little tree—fifteen to twenty feet high, while on the open slope it would be no more than two to three feet high, both plants carrying the maximum load of bloom in billowy masses. *R. vellereum* was, in fact, one of the first species of *Rhododendron* I saw in bloom, on my way from the arid treeless plateau down to the wooded gorges of Kongbo, and its delicate rose and carmine tints made a great impression on me. The vellum-coloured under-leaf surface of thickly plastered hairs cracks like parchment, and this is a unique feature. I am sorry to be compelled to disfranchise *R. vellereum* too.

The tabu on the 'Taliense' type must unfortunately be extended to include the 'Sanguineums' also, very different in all respects save in their extreme reluctance to flower until middle age—or what would be middle age for most species of their bulk.

The 'Neriiflorums', however, are dwarf bushy undershrubs of cushion-like form, suited to a large rock garden built of large rocks, but not to a miniature rock



garden, where they are apt to dwarf their surroundings. That makes them difficult to place. They are also difficult to grow. Some of them will grow in a sort of way, that is, they will produce leaf buds year after year with great regularity, and expand—outwards rather than upwards—cautiously, fearful lest they overdo it, for twenty years or more, but will never dream of producing a flower bud. The gardener calls them rude names ('sulky brute' is one of the politer terms) and pictures what they will look like when they *do* flower all over—if ever.

*R. aperantum*, which has never yet flowered in Britain, although introduced some twenty-five years ago, is one of the sulkiest. But perhaps the *R. aperantum*, seen by the plant hunter through the mists of alpine Burma, colouring whole mountainsides with yellow, red and white gashes, is already half a century old. Perhaps within fifty years it will look something like that here. Who knows! But it is a long time to wait for the flowering of anything. Most of us want quick results in our gardens—the smaller the garden the quicker we need the result—so I would not advise the beginner to cherish *R. aperantum*, however glowing a description he may read of it. As for its mate, *R. dichroanthum*, so much sought after by the pundits, I would not even grow it on my grave, lest its prone corollas, the debased colour of dirty orange peel, reminded my spirit of hated marmalade.

I suggest, however, that Rhododendrons, so little used for ceremonial purposes nowadays, might effectively be grown in cemeteries, and that the laggard species here dismissed would serve a good purpose watching quietly over the dead, not overstepping their allotted space, and some day flowering graciously.

It would not be easy to select the best six, or even the

best dozen, shrubs from the foregoing ('Rhododendrons you simply *must* have'). Personal preference counts for much, and other things (which includes ease of cultivation) being equal, one would probably choose one's favourite colours.

There I cannot help you much. Colours are difficult ideas to convey, nor are we helped by the paucity of the English language in colour words, so that we must all too often fall back on comparison, as in lipstick, peach, and kingfisher-blue. Even white has its nuances and degrees—there is a deal of difference between snow white and milk white. Here texture plays its part, and I would strongly recommend the amateur gardener to see the plants for himself, preferably in the open, before making his choice. One cannot go far wrong in describing *R. arboreum* or *R. barbatum* as blood red, though some who have blue blood in their veins might demur; but when it comes to shades like lavender, lilac, carmine, olive and the like, not to mention biscuit, beige, and elephant grey, there is room for considerable divergence. Personally, had I to choose a dozen specimen shrub species for my garden, I should reduce the list till I was left with only the following:

<i>R. Thomsonii</i>	or <i>R. cerasinum</i>
<i>R. campylocarpum</i>	or <i>R. Wardii</i>
<i>R. brevistylum</i>	or <i>R. rubiginosum</i>
<i>R. Beanianum</i>	or <i>R. mallotum</i>
<i>R. haematodes</i>	or <i>R. neriiflorum</i>
<i>R. discolor</i>	or <i>R. sutchuenense</i>
<i>R. orbiculare</i>	or <i>R. oreodoxa</i>
<i>R. timetium</i>	or <i>R. oreotrephe</i>
<i>R. Augustinii</i>	

*R. yunnanense*

*R. fulvum*

*R. Fargesii*

The alternatives are useful, giving one a greater chance should any of the species mentioned not be procurable.

Let us now take stock of the smallest species, commonly called dwarf Rhododendrons.

## CHAPTER VI

### DWARF RHODODENDRONS

DWARF Rhododendrons are a modern cult, and deserve a chapter to themselves. A dwarf is a person or thing much smaller than the normal or average size of the group to which it belongs. A dwarf may actually be enormous by ordinary standards. Thus a dwarf star can be no miniature; nevertheless, compared with normal stars, it is relatively small, for most stars are incredibly big. But a dwarf Rhododendron is *not* an undersized Rhododendron; it is a normal-sized plant of that particular species or race, just as a Bushman or an Andaman Islander is normal for *his* race, though smaller than the average Englishman. We call the Bushman a pygmy race of man, reserving the term dwarf for one whose lack of inches is abnormal; hence we *ought* to call the relatively wee alpine Rhododendrons pygmies, not dwarfs. On the other hand, the Japanese dwarf trees are genuine dwarfs. However, the term dwarf Rhododendron, like dwarf Aster, dwarf Iris and others is now well understood and in general use. It would be pedantic (as well as a waste of time) to try to change it. Nor, so long as we understand the difference between a dwarf and a pygmy, does it matter.

Dwarf Rhododendrons, so called, vary in size from creepy plants, rising less than three inches above the ground, but spreading outwards with a slow invincible deliberateness, like viscous hot lava, to striving under-

shrubs which may attain three compact feet of twig-giness. Anything over four feet high has already passed out of the dwarf class. Many of the dwarfs are admirable plants for the rock garden, for bordering a narrow path, for massing in a bed, or for pot cultivation.

For the rock garden almost any dwarf species may be used, but undoubtedly the best for a small rock garden are the creepy carpet-weaving kind, and the pygmy crouching bushes. For linings, rounded pygmy under-shrubs less than two feet high look well; and for massed bedding the taller upright-growing three to four feet tall species. Almost any of the smaller Rhododendrons make handsome pot plants.

There should be no difficulty in finding plants to suit all fancies, since there are nearly a hundred dwarf species of Rhododendron known, more than fifty being in cultivation today. Not all of them are on the open market, perhaps, but the majority are. They may cost quite a lot, but that is really an advantage, not only for the plant, but for you too. If you pay ten shillings for a small plant which will not flower for a year or two, you are more likely to spend some time studying its whims and needs than if you had paid only sixpence for it. You want it to stay alive at least until it flowers, and to ensure that, you are prepared to take a little trouble over it.

### *Rock Garden Species*

Generally speaking, the flatter the Rhododendron for the rock garden the better. Those which mould themselves to the shape of the rocks, and when they come to the brink of a cliff fall straight over the edge in a cascade of flowering shoots, are the most desirable. *R. repens* is one of the most brilliant, and is obtainable; but I

hesitate to recommend it for three reasons: first, it is perhaps, the slowest growing species in the world; secondly, it is expensive; thirdly, it is a distinctly sulky plant. It needs an atmosphere which is ever humid to do itself justice. I would say that *R. repens* is definitely one of those plants which never will, in this country, achieve the glory which surrounds it like a halo in its native alps; no, not in a thousand years. It is now rapidly going out of cultivation because not one plant in ten proves itself amenable by flowering freely and regularly. It is unpredictable. I know people who have had plants for twenty-five years which have never produced a flower! It is a mere carpeter, with nothing magic about it. So we will pass over *R. repens*, or leave it to the expert and the connoisseur, and recommend *R. radicans*, *R. patulum*, and perhaps *R. tapetiforme*, whose name, 'carpet-like,' flatters it. They are all rather rare species.

Another excellent type for the rock garden is the low rounded bush of compact habit, like *R. leucaspis*. Crouched between taller rocks, it can be a jewel. The young foliage, at first bronze with a coppery red tinge, gradually changes to a light, airy green which darkens by slow degrees. The whole plant is enveloped in a glorious aura of soft glistening silk hairs which give to it a peculiar lustre. The snow-white shield-shaped flowers, with the clusters of chocolate anthers in the centre, are surprisingly large, but they open so early in the year that they are apt to be damaged by frost or snow. Yet to watch the silver fringed buds opening in the short cold February days, as the virginal flowers quicken to full life, is one of the most inspiring sights in the garden.

Other bushy dwarfs, foam-crested with magic colour, are *R. fastigiatum* (purple), *R. intricatum* (mauve), *R.*

*scintillans* (indigo-violet), and *R. chryseum* (brazen-yellow). The blue-green foliage of *R. intricatum* is an added attraction when in the Autumn every twig is seen to end in a gleaming pearl-like flower bud, thereby further enhancing its beauty. In Spring the buds slowly break open, revealing tight heads of purple or violet flowers, which make a little buttonhole.

*R. moupinense* is rather like *R. leucaspis*, but the flowers are pink with darker spots, the leaves less colourful. This species also is a delight. It can grow up to four feet high, but takes a long time to do it.

Then there is the 'Saluenense' type, with large flattened flowers, solitary or in pairs or triplets, borne upright on long stalks: *R. calostrotum*, *R. riparium*, *R. saluenense* and others belong to this group. The flowers are usually some shade of purple and are borne so generously as to hide the foliage.

*R. campylogynum* or, better, *R. myrtylloides*, should be grown for its leaves alone, but its curious flowers, like miniature ship's ventilators hoisted aloft on thin stalks, although not beautiful, are fascinating. The colour, by reflected light, is dull and stodgy—a raw plum purple; but if you grow the plant perched up so that you can see the sunlight shining through the flowers, they are transformed, blushing a lovely deep flesh pink. The tough little box-like leaves, dark green above, silver washed beneath, are charming.

*R. crebreflorum* is less compact, its short bent wiry branches after some years striking out briskly in all directions; but the curious salver-shaped flowers, of a delicate rose or shell pink, are compressed into tight heads, and densely clustered at the ends of the leafy branches, clear of the foliage.

*R. imperator*, although the royal purple flowers are solitary, is often so richly coated with blossoms that no leaf is visible.

These, then, are a few of the best rock garden dwarfs which are obtainable, and may be recommended without qualification. As a matter of fact, *any* dwarf Rhododendron fits well into the rock garden, some better than others, although from the point of view of scale, the larger dwarfs should only be grown among large rocks on a big rock garden.

All Rhododendrons grow comparatively slowly to begin with, and some, like *R. repens* and *R. aperantum*, grow with measured restraint for the first fifteen or twenty years of their lives, by which time they are, or should be, good-sized plants with many growing points, so that the increase in size each Spring, as the new leaf buds break, becomes more apparent. Even so, they may not flower for another decade; the advantage of this is that a dwarf Rhododendron can be grown on the rock garden for years before it outgrows its surroundings, although, of course, unless it flowers while still comparatively young, it is usually not worth its keep.

As a matter of fact, quite a number of dwarf Rhododendrons, especially those belonging to what is known as the 'Lapponicum' series, do flower young—in the second or third year from seed even, if raised under greenhouse conditions—although, of course, they do not make much display until more mature. *R. leucaspis*, *R. moupinense* and several others will produce a flower bud or two while still in their cradles; they may be grown for many years, becoming bigger and better each year. Eventually, if it continues to grow normally, say after fifteen or twenty years, *R. leucaspis* will form a low, more



or less rounded shrublet perhaps two feet across, a glorious sight when smothered under a drift of snow-white flowers; handsome too when the leaf buds, their scales silver-tipped, are breaking, the soft baby fingers, which are the newborn leaves, changing from bronze to mahogany red, and finally to the tart greenness of youth.

It now takes up more room than it warrants, but it is doubtful if you will have the heart to massacre it on that account. You may, if you like, try to move it to the border, where there is more room. As a result of this rough treatment it may die, although if you are careful over the operation, you will succeed in keeping it alive at the expense of a few of the surrounding plants. But probably you will leave it alone until it dies, or ceases to grow in its cramped surroundings, or achieves senility. By this time you should have other plants coming on.

There are several dwarf Rhododendrons which, like *R. leucaspis*, open a flower bud or two when very young—say two or three years old—and continue to produce flowers, more each year, for the next dozen years, before outgrowing even a small rock garden. Of course, they must be given room to grow, but that is not difficult to arrange. Short-lived perennials and bulbous plants such as Lilies can be interplanted with Rhododendrons so as not to leave the space allotted to them bare until they have expanded. Only those bulky species which grow upwards faster than they grow sideways too soon become outsize for the rock garden; and with so many to choose from, these can be dispensed with.

In addition to those already named, any of the following are suitable for the big rock garden:

- R. Williamsianum*, whose habit is like that of *R. leucaspis*. It is a semi-dwarf with almost circular vivid-green leaves and large rose pink flowers like fairy bells.
- R. deleiense*, a loose-limbed shrublet with clusters of funnel-shaped flowers, old rose flushed magenta. It is very near *R. tephropeplum*.

### Edging

A few dwarf Rhododendrons are suitable for edging paths. Not the tall fastigiate kinds, nor those that crawl on their bellies, but certain rather well-knit shrublets with solid pompom heads of flowers. The species I have chiefly in mind is *R. sphaeranthum*. The late Lionel de Rothschild had trimmed a certain path at Exbury with a shell-pink flowered form of this curious little Rhododendron which I had collected in China, and a very charming sight it was. Some of the smaller forms of *R. racemosum* (purplish-rose) also look well. This is perhaps an exceptional use for dwarf Rhododendrons, but there is no reason why they should *not* be planted along paths, just as larger bushes are. One of my earliest recollections is of what used to be called the Rhododendron Walk in Windsor Great Park—a grassy walk by a pond, lined on both sides by large bushes of *R. ponticum*. I do not know whether it still exists.

The following also are suitable: *R. pemakoense* (rosy mauve), *R. impeditum* (jacinth), *R. calciphilum* (purple rose), and *R. Hanceanum* var. *pygmaeum* (lemon).

(It may be noted here that Rhododendrons are accommodating plants. It is not necessary to grow alpine Rhododendrons among rocks, although they often look better there than anywhere else.)

### Bedding

For mass colour, erect shrublets of bushy habit, not less than two feet tall, should be used—plants which grow upwards rather than sideways, but which nevertheless look solid. *R. hippophaeoides*, which grows three feet tall, is good; so also are *R. glaucum*, *R. virgatum*, *R. aureum* and several others. This is not the orthodox way to deal with dwarf Rhododendrons. The orthodox practice is to grow them *all* in the rock garden. Given a large enough rock garden and, more important, very large rocks, there is no reason why even the largest of the dwarfs—the dwarf stars of the Rhododendron galaxy—should not be grown in the rock garden. Still, the gardener should display his plants to the best advantage, and if they can be grown variously, the exercise of a nice discrimination in their arrangement, and in the choice of suitable plants for each place, is desirable.

There are also few dwarf Rhododendron hybrids, although most dwarfs which have been used at stud have been crossed with non-dwarf species. The hybrid progeny of two dwarf parents are apt to despise the miniatureness by which the pygmy races are known the world over and, ignoring their origin, acquire the secret of perpetual growth. Thus, the hybrid called *Prostigiatum*, which is *R. fastigiatum* x *R. prostratum*, promises to be much taller than either of its parents.

Dwarf Rhododendrons may be expected to stand more exposure to wind and sun, but especially to wind, than tree Rhododendrons, which in this country always need shelter. Otherwise there is no difference in their cultivation. On the other hand, prolonged drought is highly inimical to them; they need not merely visible water at

the roots, but invisible water bathing the whole plant, in other words, the water vapour of a damp atmosphere, to do themselves justice. That is why they do so much better in the soft Atlantic climate of western Scotland and south-west Eire than in the eastern counties of England. One has only to consider the conditions under which they grow on the alpine moorlands of the Himalayas, where gentle rain falls throughout the summer and a woolly blanket of cloud hides the sun, to see that this must be so. These high moorlands above the forests are not unlike the Scottish moors, with the substitution of dwarf Rhododendrons for heath. In the summer they are not purple only, but flecked with jacinth, hyacinth, lilac, plum-purple, golden-yellow, foam-white, rosy-pink and many other pastel shades in the wild Lapponicum Sea.

It is the not uncommon experience of those who grow dwarf Rhododendrons to find that after a few years they have grown taller and bulkier than they were expected to, those expectations being based on the reports of the collectors who had discovered them and sent them home. This is not surprising. The dwarf habit is, in part at least, due to external factors: semi-starvation combined with a short growing season; the scythe of the wind; and the pressure of snow which lies on the alpine moors to a depth of several feet throughout the long hard winter. When these inhibitions are removed, the plant is free to expand to the limit of its inherent habit, which may be, and often is, a good deal larger than the wild specimens actually collected by the explorer. Thus, plants described by him as two feet high confound the gardener by paying no attention to his plea that they should stop growing when they reach two feet. Free

now of restraint, they continue to grow till they reach three or four feet; and the reason is largely because here they are well fed and seldom crushed beneath a heavy burden of snow.

On the other hand, after thirty years no one has succeeded in raising a plant of *R. repens* which can be compared with the huge slabs of blazing scarlet one sees in the eastern Himalayas; the wild plants being sometimes possibly a century old and still growing.

It is for this reason that the rock gardener is advised to pay more attention to the creepy-crawly and expanding cushion types than to the more upright, fastigiate, or aspiring types. With the former he knows where he is. True, the crawlers and cushions will continue to spread, though slowly, and in time will overflow their allotted niche in the rock garden, but it will be many years before one need discard from strength and curb their enthusiasm by calling for spades.

The above remarks must not be misunderstood. A dwarf—or, strictly speaking, a pygmy—is a pygmy Rhododendron and will no more grow into a tree by overfeeding than an Andaman Islander will grow into a Zulu, however well fed he may be.

Dwarf Rhododendrons, like other species, can be grown anywhere, so long as the soil is lime free and holds moisture, and the atmosphere is damp all the year round. Leaf mould, with sand to keep it light (but not sand from the sea shore, which often contains broken shells, and hence lime), is the best kind of soil. Rhododendrons, even dwarf ones, also dislike wind, not because it is wind, but because of its drying effect. A really moist wind is welcome; but the east winds we get in this country are often fatal to all but the completely

prostrate species which cling to the earth, nor do dry winds, hot or cold, do even them any good. Consequently one may say that in most parts of Britain *all* Rhododendrons need shelter.

Again, Rhododendrons, dwarf or otherwise, resent drought, and in a hot rainless summer like that of 1947, unless watered regularly, they will die, as in fact not a few did all over the country. The hardy species—those from the north, or from a high altitude in more southern latitudes—can withstand almost unlimited frost and snow. They do not succumb to cold in our country, but to damp during the rest period, that is in our milder winters. Snow they yearn for. It is a protective cover to them during the cold weather, and is especially a protection against wind. Unfortunately snow is too often wanting in Britain at the time when it is most needed.

There are also many sub-tropical or warm temperate dwarf and semi-dwarf species—and these include some of the most beautiful—which are not hardy in Britain. They cannot be grown out of doors except in the very mildest, dampest parts of the country, such as Cornwall and the south-west or Eire, without the protection of a glasshouse. These are referred to in Chapter VIII.

Some of the species from the equatorial mountains of Java, Malaya and New Guinea require not only the winter protection of a glasshouse, but some heat also; they cannot be grown out-of-doors, even in the mildest parts of Britain. Most of the dwarf tropical species, however, although curious and interesting, are not beautiful.

The following dozen species are my first choice for the small rock garden. The collector will get them all. The connoisseur will take his choice of the best. The

uninitiated rock gardener can pick any half dozen and feel he has not been let down.

*R. chryseum*. All is not gold that glitters.

*R. crebreflorum*. The name, aptly enough, means free-flowering.

*R. impeditum*. 'Purple Imp': the glaucous leaves form a beautiful mosaic inlaid with amethyst flowers.

*R. imperator*. 'Purple Emperor': related neither to the butterfly of that name, nor to the hybrid.

*R. keleticum*. As charming as its name implies.

*R. sphaeranthum* or *ledoides*. Two names with but a single plant.

*R. leucaspis*. *Facile princeps*.

*R. charitopes*. Apple blossom strewn over the living earth.

*R. mucronulatum*. Flowers in any mild January, making the dead earth fairyland.

*R. myrtylloides*. Myrtle-leaved and murky-flowered, but able to bedizen the bare rocks.

*R. patulum*. A real carpeter with thread-like stems and prone flowers as big as rock roses.

*R. radicans*. Last, but not least in quality, though least in size. It is as flat and thin as a pancake, but the purple flowers stand erect as soldiers.

## CHAPTER VII

### AZALEAS

THE NAME *Azalea* was originally given to the deciduous *Rhododendrons*; but the genus no longer has botanical status, and the name has lost any meaning it ever had, since modern *Azaleas* may be deciduous or evergreen. Today botanists recognize some seventy species of *Rhododendron*, deciduous and evergreen, as belonging to the *Azalea* group. However, what most people mean when they speak of *Azaleas* are those of a particular group or groups, especially the 'Mollis' hybrids from Ghent (Ghent *Azaleas*), and the 'Indian' *Azaleas*.

Most of the modern garden *Azaleas* are of hybrid origin, although many of the American species (known as Swamp Honeysuckle), as well as the Japanese, are delightful plants. I remember with joy finding my first wild Swamp Honeysuckle—I believe it was *Rhododendron viscosum*—one June in New Jersey, where it grew in the lanes and in the woodlands everywhere round Gladstone, where I was staying with friends.

There are between three hundred and four hundred named *Azaleas* grown today. Immense numbers of the most popular kinds are grafted and grown for the market, both on the Continent and in this country. They demand much the same treatment as any other *Rhododendron*, but will stand more sun. Lime is death to them, and they need shelter. They flower prodigiously year after year, and should be dead-headed (that is, the flower heads snapped off after the flowers are fallen) or they



may easily kill themselves with overwork. Dead-heading at least relieves them of the burden of ripening seeds.

Azaleas, especially the 'Ghent' or 'Mollis' hybrids, should be massed to obtain the best effect. Although they flower well while only one or two feet high, plants of four to six feet make the most notable display in Summer. The colours, of almost every conceivable shade from snow white through cream, canary yellow and buff to gamboge and orange scarlet, and thence through the whole scale of vermilion to crimson, are dazzling. The luminous brilliance of large masses of Azaleas defies description. With Magnolias as a background against which to display themselves they make a royal pageant. But a few Azaleas in the small garden too are a joy.

The following are the principal groups:

### *Ghent Azaleas*

These were originally evolved from crossing the east European and Caucasian *Rhododendron luteum* (also known as *Azalea pontica* and *R. flavum*) with the American *R. calendulaceum*, *R. viscosum* and *R. nudiflorum*. All four species are placed in the same Azalea group, in modern classification.

*Rhododendron luteum* has fragrant yellow flowers, *R. calendulaceum* has flowers of all shades, from yellow and orange to scarlet, and it is not difficult to see the germ of the modern 'Ghent' Azalea in crosses between these two. The flowers of *R. viscosum* vary from white to pale blush pink, and it is the latest-flowering wild Azalea known; while *R. nudiflorum*, with flowers of much the same shade of pink, varying to white, is one of the earliest. Here, then, was excellent material for the

hybridist who aimed at producing plants which would flower through the late Spring and early Summer.

The next stage in this evolution was the introduction of the Japanese *Rhododendron japonicum*, as it is called by botanists today, better known to the layman as *R. molle*, or even *Azalea mollis*, into the ménage. *Rhododendron japonicum*, which grows wild in the foothills of the Japanese alps, also has flowers which vary in colour from red to orange, sometimes blotched. Lastly came *R. occidentale*, another fragrant species with white, occasionally pink, flowers. Both *R. japonicum* and *R. occidentale* belong to the same group as the first four, so that it was very much a family affair.

### *Mollis Hybrids*

These used to be called the 'Mollis-sinensis' Azaleas, but nowadays *Rhododendron sinense* (or *Azalea sinensis*) has no botanical status, being in fact the true *R. molle*—two names for the same species. As hinted above, however, *R. molle* (old style) is really *two* plants—*R. molle* and *R. japonicum*—so that what most of us call 'Mollis-sinensis' hybrids are really 'Molle-japonicum' hybrids in fancy dress—a fact which will not give the layman any sleepless nights. The 'Mollis' hybrids, then, are simply a branch of the great Azalea family, before they married into the 'Ghents', and so became mingled with the most up-to-date hybrids containing all the other ingredients.

The following selection of hybrid Azaleas covers some of the colour range achieved, and will serve as an hors-d'œuvre, but they are probably no better than scores of other named hybrids. They are given without prejudice, and merely indicate a few of my own favourites:

Adriaan Koster	Daffodil yellow
C. B. van Nes	Fiery red
Clara Butt	Deep rose
Coccinea speciosa	Brilliant blood-orange
Fanny	Magenta rose with purplish tint
H. H. Hunnewell	Deep crimson (late flowering)
Ignea nova	Carminc with yellow plume
Magnifica	Creamy white, flushed rose
Marmion	Pale yellow with amber flash
Mrs. G. van Noordt	Salmon
Mrs. Oliver Slocock	Rich orange yellow, suffused terra-cotta
Viscosepalum	Snow white with yellow throat (very fragrant)

### *Indian Azaleas*

The 'Indian' Azaleas, which are equally Chinese or Japanese Azaleas, are hybrids of *Azalea indica* (now called *Rhododendron Simsii*) and *R. indicum* (of Japan), with later additions. The older and more genuine Indian Azaleas were greenhouse plants, but there are modern hardier varieties sold under the name *macrantha*. (*Rhododendron macrantha* is a synonym for *R. indicum*; thus the *Macranthas*' are really forms and varieties of *R. indicum*). All the true Indian Azaleas are evergreen, and all are tender, needing at least greenhouse protection in winter. *R. Simsii* is a sub-tropical species; I have seen it glowing on the rocks in the river bed near Myitkyina in north Burma, a few hundred feet above sea-level. *R. Simsii* has a variety, *eriocarpum*, which has itself given origin to a number of garden Azaleas, known in the trade as Gumpos.

### *Kurume Azaleas*

The 'Kurume' Azaleas, of which one hears a good deal nowadays, are a breed long since raised by the industrious but indiscriminating Japanese from the variable *Rhododendron obtusum* var. *japonicum* (not to be confused with *R. japonicum*). They were introduced into this country by E. H. Wilson some twenty-five years ago. All are hardy dwarf or semi-dwarf evergreens with flowers too often of a sickly magenta or dirty puce, although there are many other colours, including purples, reds, pinks, and even whites. Many of them make good rock garden plants of cushion habit, although the wild *R. obtusum* will attain three feet or more. They are also good edging plants for paths. In Japan every narrow colour shade has a name—and not always the same name. Those interested can select, each according to his desire, from some seventy-five Japanese named varieties known to the fanciers in this country. Those in the know rank Kumo No Uye (salmon), Rasha Mon (scarlet) and Takasago (apple blossom rose) high.

The 'Amoenum' Azaleas are simply forms of *R. obtusum* var. *amoenum*, and it would be doing them no injustice to say that they and the 'Kurumes' are all one, although the 'Kurumes' might try to deny it. Actually the variety *amoenum* was the first of the many varieties of *R. obtusum* to be introduced into English gardens, and is still worth growing as undergrowth in thin woodland for its brilliant magenta flowers.

It will be noted by the observant that while the 'Ghent' and 'Indian' Azaleas are all hybrids—the former often very complex—the 'Kurumes' are all varieties of *one* species.

However, to most of us, Azaleas mean hardy 'Ghent' Azaleas with large butterfly-shaped flowers in all their marvellous array of colours, amber, rose, flame, peach, salmon, the vivid yellows and reds of a tropical sunset. They make an unforgettable picture in their glowing hot ingot-like masses, and every gardener, whether or not he be a connoisseur, should strive to grow at least one clump, which will enrich his garden with incredible colour and scent in June.

The plant hunter in search of alpine Rhododendrons on the Himalayan ranges will meet with few of the Azalea type, which are for the most part plants of the China coast, Japan, and North America. I have already mentioned the crimson Azalea, *R. Simsii* in the river beds of north Burma. Another taller species, common in thickets at 5,000 feet is *R. microphyton*, with tight little heads of purple flowers darker spotted, and leaves like a 'Lapponicum'. But to see wild Azaleas painting the hills, as heather paints the Scottish hills, visit the lakes behind Ningpo, on the China coast, at Easter.

## CHAPTER VIII

### GREENHOUSE RHODODENDRONS

As I have already observed, there are a number of Rhododendrons which can be grown in the open (if at all) only in sheltered gardens in the moist warm western counties, but which need Winter protection over the greater part of the country. These include some of the most graceful and delicious Rhododendrons of south-east Asia. The smaller species, which flower at an early age, are well worth growing if a greenhouse is available, and make beautiful little pot plants. I remember seeing *R. bullatum* in flower within eighteen months of the seed being sown under glass, in the late Mr. Lowinsky's garden; it made an enormous impression on me. The larger trees require a crystal palace like the Palm House at Kew to cover them, and hence are not common in this country.

Among the smaller shrubs, which flower early, grow slowly and form compact plants, one may mention *R. formosum*, *R. chrysodoron*, *R. Simsii* (Azalea), *R. Taggianum*, *R. carneum*, *R. Veitchianum*, *R. Lindleyi* and *R. virgatum*. Most of these will live in the open, if well sheltered, on the Cornish coast or in Devon. Rather taller when grown up, and equally attractive, are *R. ciliicalyx*, *R. burmanicum*, *R. rhabdotum*, *R. Dalhousiae* and *R. Nuttallii*. Most of these are epiphytes in their natural home, that is, they grow on the branches of trees high up in the green roof of the forest. But not necessarily.

I doubt if there is a single species which cannot accommodate itself to a convenient rock perch on an exposed razor edge; it is the perpetual search for light combined with moisture which drives them upwards into the canopy from the crypt-like darkness of the jungle.

They are all mountain plants of rather low altitudes (4,000–7,000 feet) in the sub-tropical belt—comprising dense evergreen broad-leaved rain forest in the lower half, with pine forest in the upper half.

The most inveterate epiphytic species are the most fastidious in cultivation, but the majority appreciate pot cultivation, asking no more—and no less—than any other *Rhododendron*, though definitely requiring, in addition, protection against frost.

Of the species mentioned above: *R. chrysodoron* has flowers of amber-gold unsullied by spots; *R. virgatum*, purplish-rose flowers and narrow oval leaves covered with golden scales like sequins; *R. Nuttallii*, enormous custard-yellow trumpet flowers, sweet-scented and borne in threes and fours, a glorious plant when seen high up in the fork of a tree; *R. Lindleyi*, another epiphyte, with flowers of a cold marble whiteness, sometimes gently suffused with pale rose, also fragrant; *R. Dalhousiae*, with fragrant flowers, white flushed rose; *R. Taggianum*, *R. burmanicum*, *R. carneum* and *R. ciliicalyx*, all with fragrant white flowers, more or less flushed rose, some with a yellow plume like a pale candle flame. *R. ciliicalyx* is a fair sized shrub up to ten feet high. *R. rhabdotum* has unscented creamy-white flowers with rosy-purple bands and is a sleek-looking shrub ten or twelve feet high.

Then there is *R. Boothii*, another epiphyte, with tart yellow curiously flattened flowers, like a pork-pie hat with a stalk, and handsome leaves of deep green vellum;

and *R. megeratum*, a much bushier, more compact and usually epiphytic shrublet, with brazen yellow flowers (creamy white in the eastern Himalayas) and small metallic-looking leaves, quick-silvered beneath. It is fairly hardy, but somewhat exacting in its demands, always wanting the best seats. A third yellow-flowered species is *R. sulfureum*, which I have come across only once in the wild forest region of north Burma.

It will be noted that several, though by no means all, of the epiphytic species are dwarf undershrubs, well suited for the rock garden in shape and size; but few of them are hardy enough for the open except in the very mildest districts, and even then they need protection. Some, like *RR. megeratum*, *chrysodoron* and *Valentinianum*, should do well as rock garden plants in the Isle of Wight, in the Scillies, and in the Channel Islands. But the big-flowered epiphytes, like *R. Nuttallii*, *R. Taggianum* and *R. Lindleyi*, tend to make lanky shrubs six or eight feet tall, with no thickness. If these could be compressed into more maidenly shape they would be vastly improved.

The 'Javanicum' hybrids are warm-temperate house plants, not hardy anywhere in these islands. They have strikingly coloured long-tubed flowers, butter-yellow, tawny-orange, blood-orange, or vermilion, of waxy texture, but with little grace of form, and with stiff leathery leaves undistinguished in appearance. They are derived from several species found in the mountains of Malaya, Java, Sumatra and Borneo. *R. javanicum* itself was introduced over a century ago, and was followed by *R. Brookeanum*, *R. jasminiflorum* and others, in the days when the cultivation of tropical orchids, pitcher plants and other queer epiphytes was all the rage.

In the vast jungles of Malaya and the Indonesian



archipelago there are probably many new species awaiting discovery—remember how extraordinarily difficult it is to see small epiphytic shrubs high up in the dense canopy of the tropical jungle. Even when one picks up freshly fallen corollas, it is often impossible to see the plant, or even to locate the tree on which it is perched, let alone reach it. I recollect in north Burma from time to time picking up the glossy golden corollas of an epiphyte in the gloom of the rain forest and peering aloft in the hope of seeing the plant from which it had fallen, but time and again without result. I became more and more intrigued with these fallen flowers, which were never numerous, often finding odd ones; but it was not until the Autumn, when the plant obligingly flowered a second time, that I at last saw a little bush in full bloom, perched on a lower branch, and was able to collect seed of it—(*R. chrysolepis*).

A considerable number of dwarf alpine species have been discovered on the snow ranges of New Guinea and Papua, but except in their small size and tiny leaves, they bear little resemblance to the more familiar dwarf Rhododendrons of the Himalayas. It is most improbable that any of them would prove hardy in Britain, nor, so far as I can judge from dried specimens, do they compare in beauty with the Himalayan dwarfs.

A magnificent species from New Guinea is *R. Defriesianum*, an epiphyte with peculiarly large gaping flowers of a pale creamy colour. Dried and pressed specimens have reached this country, but no living plants. That connoisseur and able cultivator, the late Lionel de Rothschild, was most anxious to secure this species for his magnificent collection, and probably would have done so had he lived.

But it is not in the tropical jungles only that new species await discovery. In that fantastic Rhododendron fairy-land which is hidden beyond the snowy hills where north Burma, Assam, China and Tibet meet, undoubtedly lurk many unknown species, both hardy and tender. The bold explorer of the future must seek them out.

Although nearly all the low altitude species found in the extra-tropical mountain ranges of south-east Asia—species of the foothills—are, as we might expect, greenhouse Rhododendrons in chilly Britain, yet hardiness is by no means entirely, or even predominantly, a matter of temperature. The right degree of humidity, at least in the growing season, and the correct balance between humidity and available water supply to the roots, are even more important. One might hazard a guess that the right soil bacteria also play no inconsiderable part.

The hardiness of some species, for example *R. leucaspis*, is indeed surprising, when one remembers that it came from a comparatively low altitude in the gorge of the Tsangpo; *R. aureum*, a five-foot shrub with brightly gilt flowers and mahogany-red bark, on the other hand, is less hardy than one would expect. The same is true of the lovely *R. polyandrum*, of which I discovered a pale rose-coloured form in the Assam Himalayas.

My choice of tender Rhododendron species for pot or tub cultivation indoors would be:

*R. bullatum*. For the exquisite shape, colour and fragrance of its large flowers.

*R. chrysodoron*. For its tidy habit, and the sunny yellow of its flowers.

*R. formosum*. For its beauty.

- R. Lindleyi*. For its pure whiteness, though some forms take on a blush tint.
- R. megacalyx*. For the sweet nutmeg fragrance of its large firm flowers, and for its handsome grey-green leaves.
- R. rhabdotum*. For its lily-like flowers.

The lanky *R. Nuttallii* and *R. Dalhousiae* are best grown against a wall.

In these days when there are so many hardy Rhododendrons, greenhouse and temperate house species are less often cultivated than they used to be, although for ceremonial purposes they still have a certain value.

I would not advise anyone to have anything to do with double-flowered Rhododendrons.

## CHAPTER IX

### HYBRIDS

THE SPECIES most used by hybridists during the nineteenth century were *Rhododendron arboreum* and the tough North American species *R. catawbiense* or the closely related *R. caucasicum* from the Middle East. These are among the oldest known Rhododendrons in this country, and date from the days when our garden Rhododendrons numbered less than a dozen species. Already the hybridists were experimenting with whatever material they could lay their hands on. But there was method in their choice of species for crossing.

The blood-red *R. arboreum* is, when full grown—say fifty to sixty feet tall—undoubtedly one of the finest ‘flowering’ trees extant, but unfortunately it is hardy only in the mildest parts of the British Isles, roughly south of the Severn and west of the Solent.

*R. caucasicum*, on the other hand, though not much to look at, is as hard as nails. It is a small shrub with pale flowers, yellow or pink, spotted darker. On mating the two it was found possible to produce a hybrid with something of the toughness of *R. catawbiense*, at the sacrifice of some of the splendour of *R. arboreum*. The well-known hybrid, *R. Nobleanum*, is a cross between *R. arboreum* and *R. caucasicum*.

With the introduction of the beautiful Sikkim Rhododendrons by Hooker in the middle of the nineteenth century a new fillip was given to the hybridists, and the

incomparable *R. Griffithianum* (also called *R. Aucklandii*) for all its lack of hardiness—it is even softer than *R. arboreum*—was soon pressed into service. With the hardy *R. caucasicum* it gave Dr. Stocker, still a first-class plant after nearly fifty years, and with the not-so-hardy *R. arboreum* it gave such magnificent plants as Gill's Triumph and Glory of Penjerrick, hardy only in the far south-west.

The next phase—in the midst of which we now are—was the introduction, from the early years of the twentieth century to the present day, of the Chinese, Tibetan and other species from the mountains of south-east Asia, giving a still greater opportunity to the hybridist, both amateur and professional. (Rhododendrons had by this time become the popular shrubs of the day.)

The main objects in view were to put colour into the tough ones, and toughness into the delicate ones; and when the unique geranium-carmine *R. Griersonianum* came along, it displaced even the plu-popular *R. arboreum* as the star, and was crossed with everything in sight.

The result has been a spate of hybrids, now numbered by the hundred, some good or very good, more bad or indifferent. Moreover, as regards some of the finest in outward appearance, it is still too early to say whether they are as sound as they look, since many of those which steal the flower shows may, for all one can tell at present, develop some fatal blemish, from the popular point of view, later. It must not be forgotten that many of the early hybrids have been on trial for a century or more and tested, under all possible conditions, whereas most of those which have been boosted in recent years are plants of today—little more than names with awards of merit hanging round their necks.

As a matter of passing interest it may be noted that while *R. arboreum*—one of the earliest introductions into this country—has up to date been one parent of about sixty hybrids, and *R. Griffithianum* of about fifty, *R. Griersonianum* has already diffused its blood into more than a hundred hybrids.

Meanwhile the more conservative growers had been busy mating crosses with crosses from the early nurseries, so that improved early crosses were coming along; and these plants are still holding their own all over the country.

The old Waterer hybrids, and the slightly newer Handsworth hybrids, raised by Messrs. Fisher, Son and Sibray of Sheffield, are still in the first class. There may be finer hybrids—there are certainly newer ones—but one cannot name *safer* ones for the beginner, and be certain of finding them on the market.

The following list of fifty hybrids (out of many hundreds) has been selected from among the hardiest. Nor has beauty been neglected. The combination of beauty and hardiness in all colours has not yet been achieved, but there are existing shades of crimson, yellow, blue, violet, cerise, orange-red, carmine and so forth—which might have been included. Some, like *R. Nobleanum* and *R. Shilsonii*, have been grown for a hundred years and tried under all sorts of conditions and are still worth growing; others, like Blue Diamond and Polar Bear, are newcomers, but have already established reputations. The hybrids given in the table are not all equally easy to acquire, nor is it claimed that they are the best obtainable—that is largely a question of taste—only that they are good of their kind. The future will undoubtedly offer more pygmy hybrids for the rock garden.

## RHODODENDRONS

COLOUR	EARLY SPRING (March–April)	MID-SPRING (April–May)	EARLY SUMMER (May–June)
Blood-red Crimson	Ascot Brilliant Nobleanum Shilsonii Cornubia	Bagshot Ruby Doncaster	Cynthia Armistice Day Royal Flush
Pink Rose	Rosa Mundi Riviera Beauty	Pink Pearl Alice Kewense	Duchess of Teck Goldsworth Pink
White	Dr. Stocker Handsworth White Nobleanum album	Duchess of Port- land Multiflorum	Beauty of Little- worth Loderi Polar Bear
Blue Violet		Blue Tit Blue Diamond (both dwarfs)	Sapphire (dwarf)
Lilac Lavender	Praecox	Susan Impeanum (dwarf)	Odoratum Ted Waterer
Yellow	Unique	Cunningham's Sulphur (per- haps a variety of <i>R. caucasi- cum</i> ) Goldsfort China	Smithii aureum Broughtonii aur- eum (Azaleodendron)
Purple		Purple Emperor Cetewayo Purple Splendour	
Blotched Bicolor (dark blotch on pale ground)	Mrs. Furnival	Sappho Alice Martineau Aileen Henderson Butterfly	Beauty of Bagshot Blue Peter Elsie Waterer Glory of Little- worth (Azaleodendron)

Other species of *Rhododendron*, which have been high favourites with the hybridists for outstanding qualities,

and crossed with both species and hybrids in an effort to combine several desirable qualities in a single plant, are:

- R. *Griffithianum* (48). For the size and fragrance of its lovely milk-white flowers, the gracefulness of its leaves, and the whole habit and display of the plant. In fact, *R. Griffithianum* has everything—except hardiness.
- R. *Thomsonii* (42). For the glossy crimson-vermilion of its flowers burning amidst the blue-green foliage.
- R. *Williamsianum* (42). For the colour of its shell-pink flowers, the roundness of its small leaves, and the charmingly neat habit.
- R. *camplyocarpum* (35). For the delicacy of its sulphur-yellow flowers and small tidy leaves.
- R. *discolor* (35). For the size, colour and exquisite shape of its flowers (it comes of a very good family) and for the lateness of its blooming (early July); also for its hardiness.
- R. *dichroanthum* (29). Presumably for the dullness of its flowers, which, it is felt, *ought* to be wonderful but simply are not. If a little colour could be infused into its unhealthy cheeks (from such as *haematodes* or *erigynum*) no doubt a colourful cross could be raised, which, having the crouching *dichroanthum* habit and ironclad hardiness, would be suitable for the rock garden!
- R. *haematodes* (29). For the colour of its flowers, the British Warm coat of its dusky leaves, and the crouching habit; also for its hardiness.
- R. *erigynum* (26). For the brilliance of its crimson flowers, though not for its hardiness.



- R. repens* (25). For its vivid scarlet flowers and prostrate crawliness.
- R. Fortunei* (24). For hardiness, for charm, and for the colour and fragrance of its graceful lilac flowers.
- R. neriiflorum* (20). For its free-flowering habit and small leaves, which mingle with the scarlet crimson bell flowers.
- R. Elliottii* (19). For the sheer brilliance of its large incandescent crimson-scarlet flowers.

The numbers in brackets beside each species is the number of named hybrids which have been raised. These twelve species alone are responsible for nearly four hundred hybrids. Thus the beginner who requires only half a dozen plants has a wide enough choice.

Generally speaking, it is possible to mate lepidote species with one another and glabrous species with one another, or with hairy species; but it is *not* possible to mate a lepidote with a hairy, or with a glabrous species, i.e. a lepidote with an elepidote species. The presence of scales seems to have a peculiar chilling effect, making the plant sterile with species not so equipped. The single example known of a successful cross between a lepidote species and an elepidote (*R. Griersonianum* x *R. Dalhousiae*) does not justify our drawing any wild inferences. It is an exception; that is all one can say at present. It is the only success amongst scores of failures.

The number of named hybrids is now close to the two thousand mark, but not all of them are yet obtainable in the open market. What the future holds in the way of hybrids no man knoweth, but we may expect some startling varieties in the near future.

## CHAPTER X

### CULTIVATION

THERE is nothing particularly difficult about the cultivation of most *Rhododendrons* in Britain, so long as we remember the conditions, common to all species in Nature, under which they grow. Some are more difficult than others, because the conditions under which *they* grow in Nature are indeed peculiar to them. That this is generally true is proved by the fact that at least one species—*Rhododendron ponticum* to wit—has naturalized itself in the south of England. Moreover, there are many species, and still more hybrids, of iron constitution, which will grow in our city parks even in the smoky north. The *Rhododendrons* in Hyde Park, in the heart of London, are a joy to behold when in full bloom in May and June.

So long as we remember that lime in any shape or form spells death—and this is as true of the water we supply to them as of the soil in which we plant them; so long as we remember that prolonged drought, especially when accompanied by a frozen soil, which prevents the roots from taking up water, and a warm sun, means ruin; so long as we remember to feed our plants, to protect their roots, and to shelter them from dry winds which suck the moisture from their veins as a vampire sucks blood—we shall meet with success.

The above warnings apply to *Azaleas* as well as to *Rhododendrons*, but beyond that minimum, *Azaleas* have fewer fads than *Rhododendrons*.

Rhododendrons thrive best in a cool damp atmosphere. They require abundant water during the growing season, with moderate warmth, and a longer or shorter period of rest. Many prefer to take their rest—and then it is usually a long one—beneath an insulating blanket of snow. They grow only in acid soils which are rich in humus or leaf mould. Most of the dwarf moorland species grow in a kind of peat. They are surface rooters, and the shallow layer of soil in which the roots are embedded needs protection from the sun. The hardiest species come from countries with cold Winters and hot Summers. Some of the most beautiful of all species inhabit the foothills of the Himalayas, where the temperature rarely falls below freezing point, but the damp and clammy atmosphere makes it feel colder than it really is. No Rhododendron can withstand prolonged drought, at least during the growing season; the protection afforded by woodland is an admirable safeguard both against wind and a too hot sun in Summer, and against drying out of the soil. Pine and Birch copse give excellent cover, and enhance the beauty of the scene.

Not only is the chemical composition of the soil important, but so too is its physical texture. This largely governs the water content. Nevertheless, one should not make a fetish of the soil. So far as the well-tried hybrids are concerned, including the Azaleas, they will thrive in any light loam, enriched from time to time with a top dressing of leaf-soil.

It is probable that the right soil bacteria are more important for Rhododendrons and other members of the same family than for most plants, and the most vital constituent of the soil.

Rhododendrons are greedy, or at least gross feeders.

They have to be. A Rhododendron bush growing in the Himalayas at 10,000 feet altitude is about eight months on active service in the year. In that time it will produce a wealth of flowers, ripen an enormous crop of seeds (there can be few plants in the world which consistently provide such a high proportion of viable seed, and in such abundance, as do Rhododendrons, and lay down next season's crop of flowers, complete in every detail though hidden inside the resting buds. These buds live through the Winter, and open immediately the temperature rises above a certain minimum, releasing the water in the soil to them.

It can only do all this if there is an adequate supply of food, with ample water. Hence the necessity for top dressing, or for covering exposed roots with a layer of bracken in Winter and Summer, to keep them from drying out.

Only too often the plant explorer comes across a Rhododendron with ripe seed capsules, but no flowers. How is he to judge its worth without them? True, since it is a Rhododendron, he had best collect seed of it—practically *all* Rhododendrons are worth growing; I know of only one—*R. micromeres*—a stingy-looking scrub with sallow, mean, spotty little flowers, redeemed in Autumn by the brilliant colouring of its leaves, which is not. But one would like to know more; and here the resting flower bud supplies a partial answer—for the flowers are there already in miniature, and give at least a hint of their future colour. If you carefully remove the curved shields which wrap round the pointed bud, picking them off one by one, you will presently reveal the flower buds themselves, each a tiny crumpled nipple, complete with miniature stamens and all. If the open flower is

crimson or scarlet, the bud also will be crimson or scarlet from the very beginning. If the bud is *not* crimson, it will probably be colourless, and then the open flower may be either yellow or white. A few species change down as the buds open, from coral red to yellow; but in most species the colour, if anything, deepens.

The raiser of a new hybrid can likewise take a surreptitious peep at the child of his fancy, some months before it opens its first flower bud.

In order to flower in the Spring a Rhododendron need do little more than drink deeply, through its root system, the necessary water, which in nature is supplied either by rain or from melting snow. The solid material of which the flowers are composed was supplied by the leaves and built into shape the previous Summer. All that is required now is that the buds shall wax fat, the miniature flowers expand and grow, swelling as they imbibe water. To do so they need huge quantities of water and little else. But when after flowering they prepare to bring up their enormous progeny, they need food in bulk. It is now that they open their leaf buds, and expand their new leaves. To produce hundreds of capsules and hundreds of thousands of viable seeds needs a great effort. The plant indeed may so exhaust itself that it is not strong enough to take care of the multitudinous family, and at the same time make preparations for next year's offspring—in other words, build up a new crop of Winter flower buds. The ripening fruits always have priority. Thus it is not unusual for Rhododendrons in the wild to flower well every other year, or even every third year, taking a rest in between and either not flowering at all, or only feebly.

In the garden it is advisable to dead-head small shrubs (that is, remove the entire inflorescence) after flowering,

to enable them to conserve their strength; nature has no means of doing this. Only the Azaleas seem indifferent to the calls on their strength, and whether dead-headed or not almost burst themselves year after year.

Rhododendrons should be planted where they can best be seen. They do not make good hedges, since you cannot prune them, but a row of small rounded bushes, properly spaced, along the front of the garden looks well, so also does a solitary shrub on a small grass plot, which you can walk round. An avenue of big Rhododendrons, too, is a noble sight.

Wherever possible Rhododendrons should be grown on a slope. Never should they be grown in a sheltered hollow, which is hollow indeed, a veritable deathtrap in the Winter. "Sheltered hollow" is simply another name for frost hole, where cold stagnant air lies in wait for the unwary, and cold gimlets of air eddy their way into the souls of Rhododendrons, splitting their bark and doing other unpleasant things to them.

Nor do Rhododendrons like the sun much, which is apt to scorch their leaves, and deprive them too quickly of water.

They abhor wind too, or at least a cold drying wind. Blustering moist winds are less harmful. The pygmy and prostrate species suitable for the rock garden can defy the wind by crouching low, but the larger plants have no remedy other than that provided by the shelter of trees or of a hill. For this reason woodland forms a suitable setting for many species.

Another enemy of Rhododendrons in this country is Spring frost—in the jargon of the day, a cold snap—setting in after the genial mugginess of Winter's end or early Spring has coaxed flower and leaf buds to open.

In the colder parts of the country at least it is advisable for the beginner to plant only those species whose leaf buds break late, say in May or June. Generally speaking, the leaf buds break after the flower buds, but if the plant flowers badly the leaf buds may break earlier than usual and even *with* the flower buds. When buying Rhododendrons, therefore, it is a wise precaution to make sure when flower and leaf buds usually break. To avoid early disappointment those species whose flower buds open unusually early, such as *Rhododendron leucaspis*, *R. mucronulatum* and *R. moupinense* should be avoided in cold districts, welcome as they certainly are where they can be grown.

Frosting of the flowers—a calamity which may occur in any month up to May, and in March or April perhaps more often than in January and February—does the plant no permanent harm. The display is lost for the season, that is all. Late frost damage has on occasion almost ruined the great annual Rhododendron show of the Royal Horticultural Society usually held at the end of April. But frosting of the young leaves is serious. It cripples the plant for a year or two, and may do it permanent harm. For its immediate food supply it now has to depend on its old tired leaves, and they are not likely to be very efficient. Hence the next year's flower and leaf buds may be below par. And so it goes on, cumulatively. Two consecutive frostings of the leaf buds would be fatal to any plant.

Although evergreen, most Rhododendrons do not function in the Winter. A few, like *R. mucronulatum*, will flower in January if the soil is not frozen and they can obtain a little water. *R. leucaspis* also flowers in the Winter, and the great majority flower before May. It is not uncommon to see snow covering Rhododendron trees in full bloom in the Himalayas.

For all their bravado, Rhododendron leaves seem to be poorly protected against cold, that is against loss of water by transpiration when the soil is so cold that the roots cannot make good the loss; for they perform the most abject contortions in Winter. First they droop, until presently they hang stiffly down, almost parallel with the shoot. At the same time the edges begin to curl inwards. The larger-leaved species, especially those which are hairless, twist themselves up into narrow tubes or spills. The alpine species with very small leaves, which turn dark purple, shrivel up. Only those large-leaved species which are covered beneath with a warm woolly felt, resist curling, except in very cold weather—*R. arizelum*, *R. Falconeri*, *R. sinogrande* and others of their kith and kin. On the whole, Rhododendrons look sorry objects in Winter.

The Azalea group, which are deciduous, appear to be a later improvement on the not too well adapted evergreen. Their butterfly-shaped flowers, with a special arrangement of the parts for the express purpose of cross-pollination, also indicate that they are one of the latest models.

The vagaries of Rhododendrons in a climate not their own are sometimes surprising. It is not unusual for species grown in this country to open a few flower buds in the Autumn, some six months after their normal blooming in early Spring. I have often noted the same thing in the Himalayas. But in November 1947 a large specimen of *R. Thomsonii* in Dorset was completely covered with bloom. I myself saw great sprays cut from it, and kept them in water for a fortnight while they continued to open fresh buds. The leaves were as brisk and green as in June. Except for the fact that there had up to early November been no frost, it is not possible to



say what trick of our climate was chiefly responsible for this unusual event. We noted that for the past eighteen months the weather had been abnormal; the pluvial Summer of 1946 was followed by an abnormally cold and snowbound Winter, and that in turn by the brilliant Summer and Autumn of 1947. While the rainy summer of 1946 and late snowy Winter of February and March 1947 were all that a Rhododendron could desire, the same cannot be said of the drought which followed.

From what I have written above, it is clear that (i) Rhododendrons will grow in any part of the country where neither chalk nor limestone vex the gardener, and the water is not "hard"; (ii) they will grow best where the atmosphere is ever moist, that is to say on the western seaboard, the difficulty increasing as we travel inland and eastwards, though nowadays the difficulty becomes merely a reduction in the number of species which can be easily grown; (iii) any good loamy soil is suitable. The soil must retain enough moisture to defy ordinary drought, and for this purpose a good proportion of humus is beneficial, with a top dressing of leaf soil in the Summer and a covering of bracken or straw in Winter—these last precautions because the roots of Rhododendrons tend to come to the surface and dry out; (iv) wind is damaging—not for its violence, but for its physical effect of drawing off more moisture from the foliage than the roots can readily replace. Direct sunshine has grievous effects for the same reason. But the lover of Azaleas and of dwarf or rock-garden Rhododendrons need have no qualms, for his favourites are little troubled by sun or wind. Finally, (v) in times of dearth and drought Rhododendrons must be watered and watered and watered without stint, for it is not only the

soil which is dry and injurious, but also the surrounding air. By thoroughly wetting the soil the air too is made damper. This applies to dwarf species in the rock garden rather than to trees and bushes in the woods, which, having all the overhead protection they require, can fend for themselves.

Rhododendrons do well, and look well, by the lake side or on the river bank, provided there is no scour, which would quickly expose the roots. But the soil must not be soggy and ill-drained.

It is thought that with many species there is a soil fungus intimately connected with the roots (mycorrhiza), which enables them to perform their function and is, in fact, necessary to their existence. In the absence of this mycorrhiza (which name only means 'root fungus') the plant dies. But it is hard to believe that mycorrhiza is present in all species, for example, in some of those which grow in the coarse gravelly soils of the Tibetan plateau. Lime is thought to kill the mycorrhiza and hence, indirectly, the *Rhododendron* plant.

Finally, though *Rhododendrons* require some attention, they are quite capable of looking after themselves when happily placed. Of course, they expect you to feed them with leaf soil, and to protect them with a light cover of bracken or straw in a hard Winter, to see that they get enough water and to dead-head them when they bloom too extravagantly, thereby conserving their strength; but they do not expect you to prune them, nor should you do so. Take it all round, they give less trouble than many other popular shrubs, and are prone to fewer diseases, blights and blisters than most. They are glorious in flower, often beautiful in foliage, inconspicuous in fruit.

## CHAPTER XI

### PROPAGATION

PROPAGATION is a matter which concerns the nurseryman rather than the amateur gardener, who is usually content to buy his plants as growing concerns from him. There are a number of first-class nurseries all over the country, especially in the south, such as Waterer of Knap Hill, R. Wallace and Co. of Tonbridge Wells, Hillier of Winchester, James Russell of Windlesham, Gill of Falmouth; and in the north, Fisher, Son and Sibray of Sheffield, who supply established plants of most of the species in cultivation. Raising new species from seeds, on the other hand, has, during the present century, been mainly done by the landowner who gardens in a big way and supports Asiatic expeditions, and by institutions like Kew, the Edinburgh Botanic Garden, and the Royal Horticultural Society.

Few plants come so readily from seeds as Rhododendrons do, and as I have already observed, few plants set so many good seeds—not that *that* lightens the task of the plant hunter, who often has to dig the alpine species out of the snow in order to get any seeds at all!

I usually collect Rhododendron seeds in October and November, place them in small envelopes which I pack in airtight tins, and post them home. As soon as they arrive they are divided up among the subscribers to the cost of the expedition, and immediately sown in pots—say in February or March—having been three months

on the journey. If fully ripe and quite dry when packed, *Rhododendron* seeds suffer no harm on the long sea voyage through the tropics, and clean sifted seeds usually give at least 95 per cent germination. Of course, nowadays seeds can be sent from the east by air mail, but the saving of time is not great, since it is the overland journey from the interior to the coast which takes so long.

The seeds are thinly sprinkled in a light sandy loam with a high proportion of humus, just covered with soil, and watered regularly. Strong light is excluded by shading the pots with newspapers; this also keeps the soil damp. The seeds germinate in about a month or five weeks, and if the temperature is right and the air kept moist, they will put on two years' growth in the first eighteen months. For the first year the seedlings are kept under glass, either in frames or in the greenhouse. After pricking them out into larger pots, they are grown on in frames, and prepared for planting out in the open in the second or third year, by which time the dwarfed kinds will be already producing one or two flower buds. At this stage, even more than mature plants, they need the shelter of woodland, and no better cover than that provided by *Rhododendron ponticum*, among whose ample growth many a snug retreat may be forcibly excavated without injury to it, exists. *R. ponticum* is not a particularly handsome species, but it grows like a weed, is indifferent to mutilation, and should be retained as cover for more valuable species.

It is an exciting game raising seeds of new *Rhododendrons* from unexplored regions, with no clue to their merits but the collector's description—often couched in the loftiest but vaguest terms. Later his herbarium

specimens—dried with pressed plants with faded colours—arrive to justify—or deny—his optimistic statements, and the grower can proceed to breathe life into these mummies, in the hope of seeing them in his mind's eye more clearly, as one day they really will look in his garden. (I well remember the trembling awe with which some of my backers once inspected the arid herbarium specimens of *R. riparium*, *R. tsangpoense*, *R. viridescens*, *R. cerasinum* and a long string of other species which I had discovered in Tibet, and of which they were raising millions of seedlings. On comparing my descriptions with the laid-out bodies, they were very nice about it. And not less the excitement I myself felt when I first saw dried specimens of the lovely *R. Ludlowii*, named for its intrepid discoverer—although unhappily that unique species, in spite of its alpine habit, has not proved altogether an easy plant, and appears to be now lost to cultivation.)

We need not pursue the fate of our seedlings further. In due course the plants flower. Obviously this method of increase is not applicable to hybrids, which must be propagated by layers, cuttings, or by grafting. These are the ways used by the nurseryman for working up large stocks of a particular plant rapidly; the amateur too can layer his best specimens. If you go round a friend's garden when the Rhododendrons are in bloom, and fall in love with a particularly handsome plant, your friend, being a good gardener, will offer to layer a branch and send you a plant, although you will have to wait a year for it. The trick is done by selecting a thin flexible branch arising close to the ground, giving it a sharp twist so as to break the wood vessels and interrupt the flow of sap to the buds, and then pressing it into the

soil at that point, heaping the earth up about it. It may be necessary to peg it down. In a few months roots will develop at the point of torsion, and in a year or so the branch may be cut away from the parent, leaving it an independent plant. A well-known bush may yield half a dozen layers—a method of increase not applicable to a tree *Rhododendron* with a large trunk.

The nurseryman's method of layering his plants is rather different. He will dig up a popular hybrid, and replant it on its side in a shallow trench (with the soil heaped up round the root system) so as to bring as many branches as possible close to the earth. Thus he will layer twenty or thirty shoots at once, and continue to put down more layers each year, the stock plant thus becoming a mere reproductive agency.

*Rhododendrons*, especially the dwarf species, come easily from cuttings. Vigorous year-old shoots are selected with a heel of wood attached, and plunged into moist sand with a little bottom heat. They quickly form roots and can then be hardened up outside and treated like any other young *Rhododendron* plant.

Some species, however, are very resistant to this form of propagation, though it seems probable that in expert hands, using modern methods with the application of a root-forming hormone, any *Rhododendron* cutting could be persuaded to root. Unless cuttings root easily and with certainty, however, the method is uneconomic.

If the plant explorer could find a method of sending cuttings home by air, he would be able to select the finest form of every plant he discovered, with the certainty that *that*, and not an inferior form, would be introduced and distributed; for the species vary considerably in the field, and there is often a wide gap

between the best and worst forms, especially in depth of colour.

Grafting is much used in the trade to increase stocks, notably in the raising of deciduous hybrid Azaleas. These are raised by the million on the continent, using stocks of *R. ponticum* or some other common and easily grown species.

The plant explorer in the heart of Rhodoland of course observes seedling Rhododendrons coming up in countless thousands all round him. Nowhere are they more abundant than in the cool temperate forest zone, especially where clearings have been made by the natives. It is not unusual in the alps of north Burma to find sections of forest burnt by native hunters, especially along the ridges leading to cliffs known to be the resort of gooral, serow or takin, large areas being thereby cleared of trees. Secondary growth immediately fills the breach, and a dense tangle of light-hungry plants surges upwards. On one occasion in a recently burnt and still blackened area, I saw thousands of Rhododendron saplings growing shoulder to shoulder in a mad scramble for supremacy. This was *R. magnificum*, at an altitude of about 7,000 feet; the plants were then one to three feet high and less than eighteen months old, the recently opened leaves of a gorgeous wine-purple tint. It occurred to me that wood ashes might be of considerable benefit to cultivated plants also.

In the echo-less forest at 8,000 or 9,000 feet altitude, where every rock and tree trunk is cushioned with wet moss and no footfall is heard, *R. sinogrande* can be seen coming up everywhere, on the ground, on the mossy trunks and branches of the trees, on boulders in the torrent, wherever there is an opening, with light and moisture available.

Another place where *Rhododendron* seedlings spring up in abundance is along the bridle paths through the hills. One first notices them growing on the high bank of the mule-road which has been cut out of the cliff face at 4,000–5,000 feet altitude in north Burma. One might never suspect that there *were* *Rhododendrons* in these forests (unless they happened to be in flower), for the forest is so thick it is almost impossible to recognize anything in the dim confusion of trees, tangled lianas and epiphytes. But seedlings coming up on the wet earth banks, among ferns, moss and lycopodium, are conspicuous, and give a valuable clue to the composition of the forest. The first species met with at these low altitudes belong to the 'Maddeni' type, and are epiphytes which grow high up in the pleached roof of the forest, usually invisible from below (*R. dendricola*, *R. taronense* and others).

It is evident that most epiphytic *Rhododendrons* can grow on the ground or on rocks as easily as in the tree tops; and that even earthbound trees like *R. sinogrande* aspire to grow on top of their neighbours, while young.

Curiously enough, one rarely sees seedling dwarf *Rhododendrons* on the alpine moorland, or on scree, where scrub *Rhododendron* or *Rhododendron* heath forms a continuous tangled growth. The reason may be, of course, that here the ground is so closely covered already that not another seedling has any chance of survival until a vacancy occurs. There must, I think, be a good deal of natural layering among the densely interwoven stems of these brushwood plants, particularly the 'Lapponicums'. Anyway, the waste of good *Rhododendron* seed in the high wet alpine regions of the eastern Himalayas must be beyond all computation.



It was among dwarf Rhododendrons of the 'Lapponicum' type in the alpine marshes of north Burma, where they grew like Heather on a Scottish moor, that I came across the only authentic natural hybrids I ever remember seeing in quantity.<sup>1</sup>

However, I seem to have wandered far from the business of propagation in the garden, and must pass on to other matters. For details the reader is referred to special articles on the subject in the gardening press.

<sup>1</sup> The parents were *R. chryseum* and an unknown purple-flowered species, and the hybrids had flowers of all colours from crushed strawberry to salmon and apricot (K. W. 9636).

## CHAPTER XII

### ON THE CHOICE OF SPECIES

TODAY there are some 500 or 600 species and varieties of *Rhododendron* in cultivation, and at least as many hybrids. Which will you choose for your small garden? It looks as difficult as choosing the English cricket eleven to play Australia, or since *you* alone are the selection board, and perhaps you know nothing at all about the several hundred candidates, a great deal more so. After all, half the England team "choose themselves" as the saying goes, and only the tail offers a chance for the Englishman to exercise his prerogative as a free subject and write letters to *The Times* signed "Old Blue" or "Onlooker", pointing out the crass errors of the selectors. Perhaps it will help if I give a few hints on how to steer a course through the maze of names which stares at the *Rhododendron* lover from the pages of his catalogue.

In the first place you are governed by the nature of your soil, and hence to a considerable degree by the part of the country in which you live; because if you live on the chalk, you cannot grow *Rhododendrons* at all—not even hybrids—except in pots. So that's that!

If you are not on chalk, but on a clay or gravel subsoil, you can; although with a heavy clay soil, or a light sandy soil, you will need to do some preparatory work. *Rhododendrons* will not grow, certainly will not thrive, in a stiff cold clay or in pure sand. The best possible conditions are found in an acid woodland soil with

plenty of leaf mould well mixed in. If you have a small copse where Oak and Ash—but not Beech—grow, or if you own a moor with Pine and Silver Birch, you can grow Rhododendrons with ease, though you may, of course, suffer from the effects of drought on a light soil.

Assuming then that you *can* grow Rhododendrons, and wish to do so, your choice of species will be limited by the size of your garden, and qualified by your enthusiasm. There are a few private gardens left in the country which have space to accommodate every known species in cultivation and all the best hybrids, and still leave room for the yet undiscovered species, or those which, although known to plant hunters, have not yet been introduced. Nursery gardens which specialize in Rhododendrons are in a class by themselves, since they grow nothing else. But few of us would wish to grow *only* Rhododendrons in our gardens. After all, there are other plants which have charms for us, and many which by flowering at a different season prolong the joy of colour. Rhododendrons may have priority; they must not have monopoly. Besides, in these austere days one *must* devote a part of one's garden, however small it may be, to the production of fruit and vegetables, for although man does not live by bread alone, and a garden is a lovesome thing, we must eat to live and love.

However, the modern garden in a residential district is a plot of land probably not more than twenty by thirty yards (or even less), but possibly as much as a quarter of an acre, or twelve hundred square yards (thirty by forty yards).

A considerable number of Rhododendrons can be grown in a quarter-acre garden, even on the flat; during its early years at least, no shrub need take up more than

one square yard, and if only a quarter of the garden is devoted to Rhododendrons there will still be ample space for a hundred or more, even when they are fully grown.

If one were to build a rock garden on the site, covering, that is to say, some three hundred square yards, for the cultivation of dwarf Rhododendrons only, one might grow every known species and still have space to let.

But here another warning must be given before you compute the number of Rhododendrons your garden will hold. Unless you are a mere collector interested in nothing but the accumulation of species for its own sake (which heaven forbid), or a serious student of botany, you will never be content to grow just one plant of each species. Most Rhododendrons, like Roses, look their best when massed, and this is particularly true of the dwarfs and semi-dwarfs which do naturally grow in masses. That takes up space. Besides, your plants will of course increase slowly in size year by year—although it is astonishing *how* slowly some Rhododendrons grow; like Japanese trees they seem to be born old, looking more and more wizened as the years pass. If you grow your favourites massed rather than singly—and there is no reason why you should not yourself propagate them by layers and cuttings—you will have to be content with fewer species. It is thus that the gardener expresses himself in design of colour and form, especially in the rock garden, where, working with dwarf plants cunningly displayed, he chooses only the best, that is, the most harmonious.

With few exceptions, Rhododendrons are evergreen, some only just so, losing half their leaves in the Autumn and Winter. In a few alpine species the leaves, before

they fall, turn bright blood orange or gamboge, filling the green bush with brilliant light. Many Rhododendrons, and not the big-leaved trees only, are worth growing for their foliage alone, and this is an advantage when you know that they may not flower for five, or ten, possibly not for fifteen years. Of course, you can buy Rhododendrons of flowering age and not have to wait more than a year or two before they flower; but naturally the older they are, the more you will have to pay for them.

Anyone who visits the fortnightly shows of the Royal Horticultural Society in London during the Spring and Summer, and particularly the Rhododendron Show held in April or May, will soon realize the beauty of foliage displayed by these plants in all stages of growth, and not least when the leaf buds are erupting in fountains of jade and silver. Sometimes the young leaves put on purple and fine raiment of glittering hairs. It is only in fruit that Rhododendrons are lacking in distinction; even so, a few trees, which bear big bunches of cigar-shaped fruits boldly erect and covered with orange felt, amongst the silver-plated leaves, make a brave display. Notable for its bright tawny fruits is *R. sidereum*, a small tree with big leaves narrow for their length, and balls of clear yellow flowers like blown glass.

In the nineteenth century, if one wanted to use Rhododendrons for ceremonial decoration—at the opening of bazaars, village fêtes, and all that sort of thing—one had to choose greenhouse plants grown in pots, usually white-flowered fragrant species like *R. formosum*, *R. ciliicalyx* or *R. praecox*. Today one can cut branches from a variety of hardy species or lift whole plants with a ball of earth round the spreading roots, and sink them

in tubs; they can be returned to mother earth after the ceremony. This is how the big nursery firms put up such fine displays, both of flower and foliage, sometimes lifting ten- or twelve-year-old plants and arranging them with great skill. I strongly advise the amateur who intends to take up Rhododendrons to visit the R.H.S. shows in early Summer and study the plants exhibited by Gill, Waterer, Hillier and other famous firms, both in flower and as foliage plants before they reach flowering age. It is much easier to choose living plants than to select from a list of names which probably mean nothing to you. Even if you cannot see them growing in their native haunts, you can see many of them alive at flower shows, and better still, growing in gardens. This is the only reasonable way to choose plants with which you are not well acquainted.

At the annual Rhododendron show of the R.H.S. plants are judged on a system of points, which are awarded, so many for arrangement, so many for flower power, so many for cultivation, rarity, foliage, condition, and so on. As a beginner you need not concern yourself with rarity. A plant is none the worse because it has been grown for a hundred years; rather is it a compliment to its excellence. Only botanists and connoisseurs are interested in new species as such.

I cannot answer for any man's taste except my own, and the selection of species must be left to the reader's judgment. All I can do is to offer to guide him through the clamour of colour shouting for recognition, bidding him halt to admire this or that—partly because I admire it myself, partly, perhaps, because it is voted by those best qualified to judge a good plant. I can help him to distinguish between those species which are easy and

those which are reputed difficult, at the same time warning him against possible disappointment should he be too ambitious, reassuring him should he be too timid.

I have discussed fully the few available tree Rhododendrons suitable for parks, and the many dwarf species for the rock garden, and not much need be added about the choice of these here. I will merely repeat that it is not enough to have a solitary plant of your favourite species growing on the rock garden. The Broom-like 'Lapponicum' type especially needs to be grown in mass, and many of the colours can be mixed without risking a clash. The sharp yellow of *R. chryseum* looks best by itself, but the lavenders and purples of such as *R. fastigiatum*, *R. intricatum* and *R. impeditum* go well together.

On the other hand, both *R. leucaspis* and *R. Williamsianum* make luxuriant cushions and should stand alone. You cannot hope to emulate nature in prodigal display. No garden is large enough, even were it desirable. If a highland glen in the heart of the Grampians, instead of flaming with purple heather, were lacquered with old gold and lavender over an amber and violet crust, dappled here and there blood red, it would vividly suggest the Burmese alps; only the colours must be present in mid-Winter when snow lingers on the crags. But it would not suggest a garden, which owes as much to what is left out as to the selection and arrangement of what is included.

In choosing Rhododendrons for a small garden—when there is no possibility of making a representative collection, and actually no desire on the part of the owner to do so—a few points should be borne in mind, even at the risk of repetition.

Choose plants which, of their kind, are small when

fully grown, otherwise they will tend in time to dwarf other plants, particularly on the rock garden, and throw everything out of scale, if not out of shape. Remember that dwarf species nearly always grow larger in this country, tree species smaller, than nature intended them to be.

Unless you are exceptionally patient, try to procure plants which are guaranteed to flower within a year or two. You will have to pay a little more for them, but it may be worth it. For a small garden I would recommend plants which normally flower young, say under the age of ten. If a *Rhododendron* flowers on the average at the tender age of seven, you may expect it to be fully grown in another fifteen or twenty years, and if properly looked after it will continue to flower well for another ten or fifteen years after that before starting to go downhill. A tree which does not flower till it is over twenty years of age will easily live for a hundred and fifty years without going back on you; it will outlive your children, and perhaps your children's children.

A *Rhododendron* is only in flower for about one month in the year, although some years—or some *Rhododendrons*—are so exceptional as to have *two* flowering seasons, Spring and Autumn. I remember how keenly joy struggled with despair in me when I discovered an epiphytic *Rhododendron* in full bloom—it had delightful flowers the colour of clotted cream—in October 1937, just as I was all set to leave that area; and how unalloyed my happiness became when to my great astonishment I found that the same plant, now smothered in bloom, also bore ripe capsules.<sup>1</sup> The plant had flowered five months previously.

<sup>1</sup> K.W. 13,230.



However, such prodigality is exceptional, and one would be well advised to choose plants which have other charms besides their flowers, and particularly charm of foliage. Most species of *Rhododendron* have, in fact, beautiful leaves, and the breaking leaf buds which follow the flower buds transform the tree.

Some are remarkable for the colour of the thick felted under-surface of the fully grown leaf. In this respect none are more striking than the coppery red of *R. fulvum*, the dusty white of *R. niphargum* or the cinnamon-red of *R. Beanianum*. No less admirable are the hairless wonders, the glaucous-leafed species, the blue-green and grey-green scaly monsters, and those with a wax-white underleaf surface. Plants like *R. aeruginosum*, *R. phaedropum*, *R. phaeochrysum*, *R. concatenans*, *R. oreotrepes*, and a number of others are always beautiful in foliage.

All the frost-resistant *Rhododendrons* look poor dejected creatures when snow lies on the ground and they are embattled against their enemy, dry cold. The leaves hang stiffly down like dead men, or roll themselves up into cheap-looking cigars with a greenish tinge. The tortured framework of branches is revealed in all its ungainly strength (although it must be admitted that *Rhododendron* trees grow in much better symmetry under garden conditions than they do in their native forests). Dwarf species on the rock garden curl up like dried seaweed, a sorry spectacle.

But it is astonishing how quickly, with the return of mild weather and the release of water in the soil, *Rhododendrons* will respond. They rapidly uncurl their leaves, spreading them to the genial sun, the flower buds begin to swell within until one by one the outer bud scales are

pressed aside by the fattening flowers; presently you hear a gentle crepitation in the woods as the scales rain down; and finally the first stains of colour appear in the pinched but now visible corollas; although as noted previously, if the colour is blood-red, it is blood-red from the very start.

The *Rhododendron* season lasts four months, from mid-February to mid-June, with the climax in April–May. You can either choose species which will come into flower consecutively, thus prolonging the season over the whole period, or you can make a selection such that all of them will flower during the same month, say April or May—one crowded hour of glorious bloom. Of course, if you have plenty of room you can combine *both* ideas. With thirty or forty *Rhododendron* plants in your rock garden it is not difficult to arrange several masses of flower to follow one another over a period of three months. Suppose you begin the season with three plants of *R. mucronulatum* and a fat cushion of *R. leucaspis* nearby, all of which should in most years be flowering bravely before February is out. Hard frost, or snow, will delay the flower buds or, if they have already opened during a mild spell, char and kill the flowers; but the risk is worth taking.

In mild Winters the ordinary *R. mucronulatum* may be in full bloom before the end of January; it is the variety known as *acuminatum* which normally flowers in February. Both are deciduous.

By early March several species are in flower or preparing to flower. A mixed clump of *R. scintillans* (lavender blue), *R. telmateium* (rose-purple) and *R. flavidum* (lemon), say ten plants in all, will give increasing pleasure year after year, and none of them will attain

more than three feet. Or, if you prefer it, you can grow half a dozen forms of *R. racemosum* only—a rose-flowered silvery leaved shrublet—and have flowers from March to May.

For April–May the choice is wider. A dozen dwarfs of the ‘Lapponicum’ type, planted among rocks and given space, will gradually meet and mingle, making whirlpools of colour; *R. russatum* (midnight blue) and *R. rupicola* (plum juice) look well together, and to these may be added *R. impeditum* with purple flowers. Say ten plants altogether of these.

If you prefer paler colours and a less heathery type of plant, you can try *R. Sargentianum* (lemon) and *R. pemakoense* (rose lavender). These, however, are not good mixers and look better apart, say three plants of each to do themselves—and you—justice.

By the middle of May the flood tide of alpine Rhododendrons has set in and you have at least two dozen to choose from. A cushion of *R. Williamsianum* deserves a niche at the base of the rock garden, with tufts of *R. imperator* and *R. myrtilloides* towards the higher ground—half a dozen of the former to a couple of the latter. They make a striking contrast. Then, if you admire diluted beetroot tints, you can grow a clump of *R. riparium*—two plants will do for that, as it grows fairly fast and will quickly make a tussock. These will carry you into June.

Finally, to celebrate the end of the Rhododendron season, we have a small choice of delayed-action alpine, including *R. nitens* and *R. keleticum*, both large-flowered dwarfs with the rather aggressive coloured rosy-purple solitary blooms of the ‘Saluenense’ type. No doubt you can bear with one bold plant of each—there is so much

else at this time of year that I see no reason to counsel more than a sprinkling. But if, like me, you cannot stand magenta in any shape or shade, you can substitute *R. charitostreptum*, a dainty lemon-yellow fairy-flowered undershrub of the 'Glaucum' type—have three of that, please. If even that does not satisfy you, I can only suggest that you fall back on the alpine rose (*R. ferugineum*) and coddle a clump of that rather banal Switzer; three plants should satisfy the most pessimistic.

Well, there you have a collection of at most forty small Rhododendrons which will give periodic bursts of colour from February to June; and you can ring the changes on them. I have mentioned only those species which can be easily acquired.

It is possible to make up a similar collection of larger shrubs, spread out so as to give bloom over several months; nor need you choose more than a dozen or so, since large shrubs need not be massed—in fact, they will be seen to better advantage if you can walk round them.

With only a very limited space, remember to choose early flowering Rhododendrons—any you can lay your hands on. It is easy enough to find late Spring and early Summer flowering plants, Rhododendrons included; but Winter colour is more rare, and hence more precious.

The flowering season of species in the wild, and especially of alpine species, varies within fairly wide limits according to altitude, position and weather, and gives only a rough guide to when they will flower in this country. But, as I have already indicated, Rhododendrons in England flower late Winter to early Spring (a few), mid-Spring (the great majority), or late Spring to early Summer (a few).

Another unexpected charm of Rhododendrons is their habit of dropping their spent flowers, still glowing, on the ground, where they lie in thousands, the large fleshy corollas forming lakes of vivid colour under the trees; and they may last for several days. Never shall I forget a forest of Rhododendrons high up in the eastern Himalayas. There was a deep and narrow water-worn trench dividing the crest of the ridge up which we toiled. Our path therefore lay between high banks on which grew scores of venerable Rhododendron trees, whose pleached branches met and tangled overhead, so that we walked through a green tunnel. On the way up, the Rhododendrons were coming into bloom, forming a flux of swirling colours, blood red, rose purple, carmine, primrose yellow, old rose.

A fortnight later I returned from the alps. It was raining stair rods—had been for days—and a torrent of water gushed and gurgled down the trench, tearing the stones from beneath our feet. We plunged into the tunnel, wet, cold and hungry—and immediately found ourselves in a very heaven of hot colour. The fallen flowers lay in wide deep drifts everywhere, red hot craters of thick lava, pools of liquid sunshine luminous even in that pitiless rain, the raked-out cinders of forgotten fires, smouldering red, wave on wave of amber and rose, lavender purple, and milk white, an unforgettable splendour.

It is not enough to choose our favourite Rhododendrons; we must also consider what we are going to grow with them. That, too, might seem to be a personal matter, but it is not altogether so. To begin with, one is limited to those plants which *will* grow under the rather strict conditions imposed—conditions of climate, of soil,

of atmospheric humidity and of light and shade. What sort of company do Rhododendrons keep in the wild?

A garden is like a jewel cut from nature's rough landscape, but the landscape has a wild beauty of its own, and it needs careful trimming if we are to improve it. Nor need we be ashamed to take hints from nature. Beauty is proportion: the rugged mountain scene is beautiful on the grand scale, the garden in miniature, and we must therefore pay attention to detail.

Since Rhododendrons need shelter, we should plant them in the woods, or provide special shelter by putting in a few quick-growing trees amongst them. We must not attempt to associate them with our native Beech (most lovely of British trees), since we know that the beech is pre-eminently a chalkland tree. But flowing Birch and rigid Pine, being trees of light sandy soil, are excellent, and both allow Rhododendrons to display themselves, while giving them all necessary protection. Again, Alder and Willow both denote a too damp soil for the shallow-rooted Rhododendron; but Oaks are a sound choice.

Of exotic shrubs, several species of Magnolia go perfectly with Rhododendrons—the mingling of Azaleas and Magnolias at Kew is magnificent—and of course their kith and kin, the Kalmias, Enkianthus, Gaultherias and so forth are obvious choices.

Nowadays Lilies are commonly interplanted with the smaller Rhododendrons, and the combination is not unpleasing: unfortunately it has become so popular that further experiment has been scotched. There are many herbaceous plants, short-lived perennials and others, which could be tried—for example, Asters, Larkspurs and *Meconopsis betonicifolia*.

But Rhododendrons can also be interplanted with bright-berried shrubs like Sorbus (Rowan), Cotoneaster and Berberis, so as to give a brilliant display of colour in Spring and Autumn. No doubt many happy combinations will be achieved during the years to come, and every true gardener will experiment with the plants he loves; I need do no more than point the path which he must follow.

Finally, I again urge the would-be grower of Rhododendrons to go and see the living plants for himself, and not rely on written descriptions, whether in nursery catalogues or in gardening books.

Catalogue descriptions are terse and to the point, but they tell you very little, though that little is, in the main, true. As for descriptions in books, every writer on gardening writes of the plants as he sees them; either in a burst of unalloyed optimism, or in a grovel of abject pessimism, and no two descriptions of a Rhododendron, for example, ever remotely resemble one another—still less the plant they are describing. Indeed, it always surprises me that writers of gardening books, in which descriptions of the author's favoured—and despised—plants figure prominently, do not guard themselves against a writ for libel by blandly stating at the outset: "The plants described in this book are entirely imaginary. Any resemblance they may bear to plants living or dead is purely accidental." (*N.B.* This does not apply to the present author!)

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