



TEMPERATE RHODODENDRONS

Julian Taylor-Whall

- Volume Six -
Undirected Pollination

Temperate Rhododendrons:

- the species and hybrids established outdoors in the leading woodland gardens of England, Scotland and Wales;
- the species curated in accordance with scientific advances and field study evidence published in the three decades since the 1996 Edinburgh revision of the classification;
- the hybrids selected and assessed with the benefit of hindsight rather than hype, disposition and floral beauty the key determinants for inclusion, not their commercial availability.

The texts are illustrated with over 3000 photographs taken by the author.

Volume One reviews and amends the classification of Genus *Rhododendron* to conform with the molecular phylogeny studies of 2005 and 2010, as well as taking account of recent work on polyploidy. A visual guide to help identify the various species follows this updating, along with a glossary of the scientific terminology and a listing of the various seed collecting expeditions.

Volume Two considers Subgenus *Therorhodion* and the species placed within Subgenus *Azaleastrum*.

Volumes Three and Four document the taxa assigned to Subgenus *Hymenanthes*.

Volume Five examines the rhododendrons within the three sections of Subgenus *Lepidorrhodium*.

Volume Six evaluates the Natural Hybrids, plants that have arisen in the wild from undirected pollination and established stabilised populations, as well as the host of seed pan rogues germinated in cultivation.

Volumes Seven and Eight survey the Azaleodendrons, Deciduous and Evergreen Azaleas, Lepidote and Elepidote Hybrids created through directed pollination.



TEMPERATE
RHODODENDRONS

Julian Taylor-Whall

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- Front Cover -
R. lepidotum

- Title Page -
R. x hemidartum

- Contents -
R. x iodes

- Overview -
R. x Sir Charles Lemon

- Introductions From The Wild -
R. x bakeri

- Seed Pan Rogues -
R. x batemanii

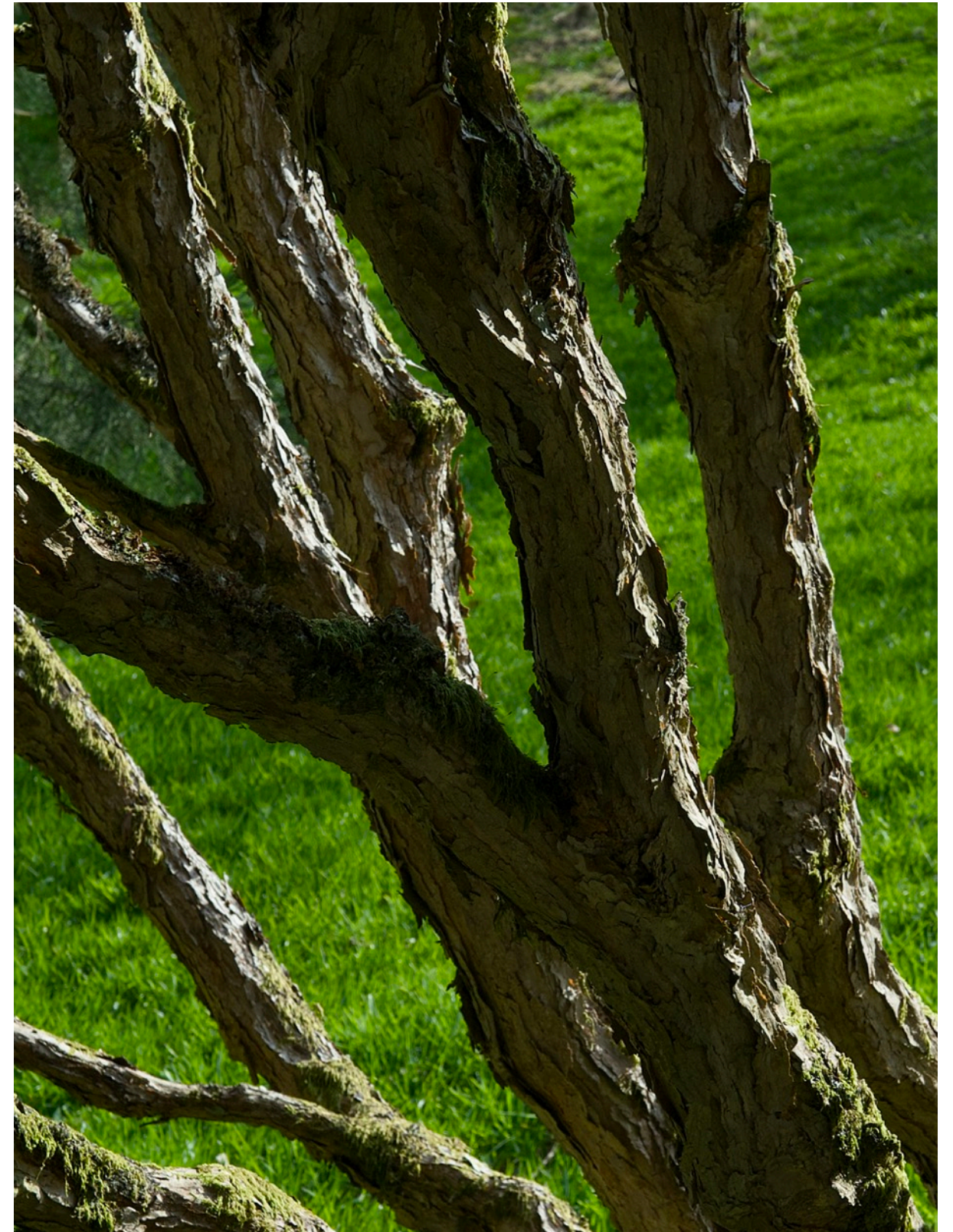
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Overview

Overview:

The intricacies of the pollination process, which were intimately detailed in Volume One, have shown why the hundreds of fully developed viable seeds within a capsule, when still unfertilised ovules, must each be exclusively visited by an individual pollen tube to obtain a complete set of chromosomes, the interaction allowing egg and sperm to embrace, and so develop into the embryo for a new plant. Equally, this also explains why wild-collected seed sourced from a single capsule can all come true, or all be crosses. Have a percentage of natural hybrids amongst the bona fide stock, or show just one rogue in a pan of otherwise identical seedlings. Because a specific quantity of pollen must be set on the stigma in order to fertilise the entire hoard of ovules in the ovary below. And this mass is built-up piecemeal by the pollinators over a random succession of visits, the donors arriving from any number of other corollas, not all of which were necessarily of the same species.

In the first golden age of plant collecting, pioneering explorers like Reginald Farrer, George Forrest, Frank Kingdon-Ward, Joseph Rock, and Ernest Wilson, generally went along with the prevailing botanical state of mind back home: that every new find was a specific species, or in a few rare cases, a variety of a specific species. This is evidenced in their field notes, as only occasionally does the word 'hybrid' appear, even though they must surely have been aware of the true situation on the ground: that natural hybrids occur in the wild wherever rhododendrons are found - in North America; in Asia and the Far East; and in Europe. Yet across a span of decades that only concluded after Chinese hillsides were once again able to be accessed by teams of Western plant hunters - effectively beginning in the mid-1980s - the botanic fraternity basically refused to consider those crosses as anything other than a new-to-science specific species.

But not so the horticulturalists:

'So great an authority as the late Professor Sir I. Bayley Balfour has named as 'species' several plants which came as 'rogues' amongst collectors' seed, and which I, for one, think are merely natural hybrids. It seems strange to me, since natural hybrids do occur in nearly all forms of plant and animal life, in a wild state as well as in cultivation and confinement, that so great a botanist should not have accepted them. He says that these plants, which he calls 'species' may be hybrids, but he must have further proof by the experiment of artificial crossing. With proof of this fact I furnished him, but he still reserved his opinion'.

John Guille Millais,

Rhododendrons and the Various Hybrids, Second Edition, 1924.

As did many others who preceded Sir Isaac, and followed on from him.

But not all.

For the first member of Genus *Rhododendron* conceived via undirected cross-species pollination to be formerly described - by Ignaz Friedrich Tausch, when writing in *Flora*, Volume 19, Part 1 - was *R. intermedium* in 1836.

Minus a small 'x' of course, but in fact, acknowledged to be a natural hybrid from the very get-go.

Populations of this taxon, comprising F1 plants and parental-backcrosses, are found on the mountains of southern Europe, specifically the Pyrenees, the Dolomites, and the Alps - as far east as Austria - wherever the distributions of *R. ferrugineum* and *R. hirsutum* meet. Further away to the east, across the northern provinces of Turkey that fringe the Black Sea, the resident Subsection *Auria* and Subsection *Maxima* rhododendrons of Section *Ponticum* are now also acknowledged to be interbreeding with each other. As are species in Asia and the Far East, where mountain building has been especially rapid in geological terms and in direct consequence, resulted in hybrid swarms of dizzying complexity.



Sir Isaac Bayley Balfour (1853-1922)



John Guille Millais (1865-1931)

In North America too, especially on the Appalachian Mountains that run down that continent's eastern seaboard, the deciduous azaleas of Section *Pentanthera* also crossbreed naturally, their wind-scattered seed creating floristic wonderlands such as that on Gregory Bald, located along the Tennessee-North Carolina border in the Great Smoky Mountains, or around the headwaters of the Choptank River in Delaware.

On the ground in the wild, across areas undisturbed by either landslip, fire, some other natural disaster or the activities of man - the complete removal of all commercially valuable forest trees, for instance; or the building of access roads into remote areas - the presence of natural hybrids among established rhododendron species populations varies considerably, but examples documented in field notes and scientific papers written over the course of the last thirty years include:

1 - A band of hybrids growing between two species populations, often where there is a marginal difference in altitude between the distributions or where a change of terrain has occurred (woodland giving way to open slopes).

- Characteristics may gradually morph from one taxon into the other, these reflective of a progression between two subspecies, except here, more times than not, the taxa are unrelated and could even be morphologically distant.

- Or the whole hybrid group may be intermediate between the two parents.

- Or one feature across the entire band might be reflective of just one of the species involved - a glabrous or tomentose ovary - while a second characteristic could mirror a trait

that was unique to the other parent - indumentum on the underside of the leaf perhaps, or persistent vegetative bud scales - these hereditary attributes dependent on the dominance of specific genes within the chromosome set.

2 - A more complex layer cake, with five striations rather than three: the middle band equalling the half-and-half position between the top and bottom rungs, with the dividing echelons that separate the middle from the bottom, and the middle from the top, populated by individuals where extensive backcrossing has taken place.

- This situation occurs most notably on the mountain slopes of Bhutan between the populations of *R. hodgsonii* and *R. falconeri* - respectively, the top and bottom layers - and *R. kesangiae* - the stabilised and speciated middle band.

- Bridging the populations of *R. kesangiae* and *R. falconeri* are *R. kesangiae* x *R. falconeri* backcrosses, this layer initially composed - at the top - of plants with a *R. kesangiae* x (*R. kesangiae* x *R. falconeri*) pedigree, then changing to straight *R. kesangiae* x *R. falconeri* crosses, before becoming *R. falconeri* x (*R. falconeri* x *R. kesangiae*) lower down the slope and immediately above the pure stands of *R. falconeri*.

- These combinations are then repeated bottom to top in the upper dividing band as altitude is gained, though with *R. hodgsonii* replacing *R. falconeri*.

- Now consider the lifespan of these plants. The number of years required for each to reach flowering size and proffer seed. The generations of interbreeding needed to eliminate genetic variation and attain speciation within the middle *R. kesangiae* band, even if this was ongoing while the parents, grandparents, great-grandparents and so on, continued to annually mature viable capsules.

- Complete the calculation and it will soon become apparent that the snapshot equilibrium encountered today will likely have taken many thousands of years to achieve. If not hundreds of thousands of years.

3 - A completely mixed-up swarm of individuals generated from any number of crosses between several different species, backcrossing with each other and the various parents, partially speciated and with many sets of intermediates.

- Such conglomerations have been widely observed across the mountains of the Salween-Mekong Divide in southeast Tibet and northwest Yunnan.

- Here, specific species including *R. aganniphum*, *R. citriniflorum*, *R. didymum*, *R. eclecticum*, *R. forrestii*, *R. sanguineum*, *R. selense* and *R. temenium*, plus a host of partially stabilised hybrids, are involved in a complete free-for-all, high up on the hillsides, where any disturbance of the landscape by man has been minimal.

- These populations are extensive, cover large areas of ground, and are still very much in flux, offering a snapshot perhaps of the entire Sino-Himalayan region as it was millennia ago, before the majority of rhododendrons stabilised their DNA chains post the mountain-building era and evolved into the strains that are present today.

- Historically, this melee has generated countless botanic descriptions of hybrid taxa that were wrongly given specific species status, these completely skewing the classification of the *Neriiflora* rhododendrons within their Balfourian Series or Slumerian Subsection. The Edinburgh Revision *Hymenanthes* monograph, written in the early 1980s, began to sort out the mess, identifying many of these taxa as hybrids, while sinking others, but it was only

after China's re-opening that cogent field study determinations began to exorcise the wheat from the chaff, the true species from the hybrids.

4 - An area where few or no hybrids are seen on the ground, yet a high percentage of F1 crosses germinate from any collected seed.

- This phenomenon has been reported by an ever-increasing number of modern-day expeditions, beginning with the Sino-British Expedition to the Cangshan in 1981. Included on the team that went to China were David Chamberlain, Peter Cox and Peter Hutchison, experts whose knowledge of the genus is second to none. Yet shooting up in the seed trays sown on their return were hybrids between *R. neriiflorum* and *R. rex* ssp. *fictolacteam*; *R. lacteum* and *R. taliense*; *R. irroratum* and *R. facetum*; *R. haematodes* and *R. rex* ssp. *fictolacteam*; and *R. balfourianum* crossed with *R. taliense* - to list just five of the examples reported, though very few of these pairings were apparent as established specimens on the hillsides where the capsules had been gathered.

- Evidence has shown that where different, but compatible, species grow in relatively close proximity to each other and have flowering periods that are the same or overlap to some degree, cross-pollination will take place. Yet despite the seed being viable, it either fails to germinate, or for a variety of reasons, the juvenile hybrid plants founder, proving unable to establish over time. And this has especially been found to be the case where the land remains undisturbed.

Environmental challenges and susceptibility to disease are the obstacles a newly germinated natural hybrid must overcome if the plant is to achieve maturity, then form and open flower buds, and ultimately bear its own fruit. Seedlings with an untested combination of genes are most likely to succumb to the stresses of natural selection in the first few years of life, as would be expected, for it is then, when competition will be fiercest.

These tribulations will come from the extant parent plant populations close by that are likely to have been in place for thousands of years. They have evolved and adapted to all the vicissitudes that the current climatic conditions can throw at them at that location, be it degrees of frost, wind strength, the depth of snow cover, or the length of the growing season, and any rivals will have been shaded-out if a rhododendron monoculture has been established, while unoccupied planting sites within the thicket, woodland, patch of scrub or rocky scree will prove rare unless an opening has been created through death, disease or seismic misadventure that can successfully be exploited by the newcomer.

Vigour too plays a role, the quest for sufficient sunlight only won if growth is robust enough to avoid being crowded-out by all the other youngsters scrambling to make their way into the radiance, as well as beating the shoots sent out by already established plants nearby, which, sensing a newly-opened gap, will quickly try to fill it. Success therefore might depend on a slightly longer branch length between nodes; wider leaves or stouter stems; hairs, bristles or some other defence to thwart insects from nibbling the emerging foliage: all such, inherited from or enhanced by the mating. Or lost through it.

Seedlings with a different genetic code could also be more susceptible to pathogens and pests than their parents, which again, have spent millennia building up resistance to mildew, phytophthora, rust fungus and all the other local diseases and disorders they might face. An attack could prevent initial establishment or weaken a juvenile specimen so much that it succumbs to pressures otherwise easily shrugged off. Equally, the reverse may prove true, with the new plant demonstrating a greater resistance than its parents and flourishing to such a degree that encroachment on the progenitor populations results, and eventually leads to their forebears decline and replacement. Basically, neo-Darwinism at its finest.

Changes in climatic conditions will also play a role in assisting or hindering the establishment of a natural hybrid seedling, especially when such adjustments occur at an accelerated pace. For although the stresses engendered by higher wind speeds or differing rainfall patterns, a reduction in the depth of snow cover, will effect both parent and offspring alike, tweaked morphologic characteristics may prove better able to weather the new circumstances than those fixed for eons. Again, potentially allowing a descendant to outperform its antecedents to their eventual detriment.

The likelihood of a natural hybrid germinating successfully and growing to flowering size is greatly enhanced if the seed falls on an area of disturbed land.

Tectonic catastrophes and wildfires apart, the most commonly encountered situation is where a group of compatible rhododendrons remain after the tree-cover has all been clear felled by a once-in-a-lifetime violent storm or more likely, the hand of man. Here, the natural selection criteria previously in force and to which the flora was perfectly adapted, no longer fully apply; indeed, the changes may be so great that the extant populations go into rapid or long-term decline regardless of any latent scion competition. Because in this new environment, hybrid seed is no longer at a potential disadvantage. Nor will it lack a suitable planting site.

Where F1 plants do establish, backcrossing with a parent or the creation of F2 seedlings will surely follow, in most cases, just as surely as night follows day. But whether this next generation of offspring or even the original F1 plants will be viable long-term is indeterminate. They may lead to new forms of speciated taxa or become a *sanguineum*-miscellany in miniature. Or they could all be wiped-out by an exceptional weather event. The outcome is impossible to predict. Yet in one area where such reproduction has taken place fairly recently - the trees known to have been cut down around seventy or so years ago - F2 hybrids outnumber the F1 crosses by a factor of four, a botanic circumstance undocumented at any other known location where rhododendron natural hybrids are present, or in fact, within any other class of plant.

Unusual Patterns Of Hybridization Involving A Narrow Endemic Rhododendron Species (Ericaceae) In Yunnan, China (Yong-Peng Ma, Richard Milne, Changqin Zhang and Junbo Yang, *American Journal of Botany*, Volume 97, Number 10, October 2010), detailed a comprehensive field study that had been carried out at Huadianba, on the Cangshan mountains near Dali. At this site, *R. cyanocarpum* was found to be interbreeding with *R. delavayi*, the area the sole location across the entire *R. cyanocarpum* endemic distribution where cross-pollination with another species had resulted in established hybrids. Following a full genetic examination of their DNA, a significant majority of these were determined to be of F2 status, with the parentage equation recorded as being (*R. delavayi* x *R. cyanocarpum*) x (*R. delavayi* x *R. cyanocarpum*).

How representative of the evolutionary practices within Subgenus *Hymenanthes*, or indeed, within Genus *Rhododendron* as a whole, this snapshot picture proves to be unclear, especially as only ten hybrids in total were present at the documented locale, amongst a progenitor population of twenty-five. But scientifically-accepted theory predicts the ascendancy of F2 taxa where significant environmental change has taken place, though whether speciation could be achieved with so few individuals present on the ground is questionable. The hybrid zone itself is also minuscule, an oblong of sloping land between two mountain paths covering no more than 1600 square-metres in total.

Another anomaly population, this found on the slopes of Tiryal Dagi in the Artvin Province of northeastern Turkey, is composed only of F1 unspciated hybrids between *R. ponticum* and *R. caucasicum*. There are no F2 hybrids within the band, or backcrosses with either parent along its edges. And plant numbers are impressive: a clustered swathe of

individuals densely packing the ground between the 1,800m contour, which is the upper limit for *R. ponticum*, and 2,200m, where the bushy tangle of *R. caucasicum* begins. The hybrid is known as *R. x sochadzeae*, it is fertile, and the contents of wild collected capsules germinated in nursery seed pans have produced second-generation hybrids - so, *R. x sochadzeae* X *R. x sochadzeae* - as well as backcrosses with both parents - these therefore, *R. x sochadzeae* X *R. ponticum*, and *R. x sochadzeae* X *R. caucasicum*. Yet none of these three crosses are to be found as established mature plants on Tiryal Dagi.

The reason for this is natural selection.

Within the band of ground they occupy - technically known as the 'ecotone' - F1 plants are superior to their parents, as well as to any backcrosses, and to any F2 hybrids that might germinate. Therefore only seedlings between the two specific species flourish. All the other potential combinations are eliminated should they arise, succumbing to the various environmental challenges proffered by the site before they can grow to flowering size. The hybrid population is therefore unique, heterozygous, composed only of individual F1 plants that are similar to each other, but not identical, as differences in the corolla and leaf colour, as well as in the bark patterning, make clear.

A scientific paper titled *Origin and Maintenance of Rhododendron x sochadzeae, a Fertile F1 Hybrid which Occupies an Ecotone between R. ponticum and R. caucasicum in Turkey* - authored by Richard Milne, Salih Terzioglu and Richard Abbot, which appeared in Volume 28, Number 1-2, of the *Turkish Journal of Botany* in 2004 - has the full story and can be accessed online.

Natural hybridisation in the wild can be symmetric, where the seed parent and pollen parent are reversible - so *R. one* x *R. two*, and *R. two* x *R. one* crosses - which equally populate the hybrid zone. Or the pairing can be asymmetric, where the hybrid population predominantly arises from just one seed parent. This situation often materialises because rhododendrons are in fact protandrous - the male function (production of pollen from the stamens), preceding the female function (the stigma becoming receptive to pollen). Where both parents flower at the same time, protandry would have no effect, but when one taxon begins blooming earlier than the other, it would, because the production of pollen ceases once a stigma becomes receptive. So the grains containing the male 'sperm' could only come from the later flowering species.

Determining the parental combination that resulted in a particular natural hybrid is therefore pertinent and through genetic analysis, now possible, because the inherited nuclear DNA will have readable markers that match with the pollen or paternal parent, while the inherited chloroplast DNA will show a different set of markers that correspond with the seed or maternal parent.

A second reason for the establishment of an asymmetric population of hybrids is related to style length.

This is down to the pollen tubes of short-styled species appearing to lose impetus and running out of steam on their journey down a significantly longer style, which more often than not, results in none entering the ovary chamber.

A third cause - trivial, but equally decisive - is flower tone.

Pollinators will apparently cross from a pale-hued corolla to a more strikingly coloured one, but rarely make the reverse journey, especially where visibility is reduced or a direct flight path impeded.

Where backcrossing is asymmetric - restricted to just one of the F1 parents - gene flow (also termed gene migration or allele flow), might also occur, and an example of such is believed to have taken place between populations of *R. smirnowii* and *R. ungerii* on the coastal hills of northeastern Turkey.

R. smirnowii has pink flowers; *R. ungeronii*, white or pale pink.

On Tiryal Dagi, plants of *R. ungeronii* that sported pink corollas were also found to possess an additive piece of nuclear ribosomal DNA from *R. smirnowii*. Those that displayed white blooms did not.

This was reported in a 1999-published paper titled *Hybridization Among Sympatric Species of Rhododendron (Ericaceae) in Turkey: Morphological and Molecular Evidence* (*American Journal of Botany*, Volume 86, Number 12). The authors - Richard Milne, Richard Abbot, Kirsten Wolff and David Chamberlain - theorised that pink flowering *R. ungeronii* plants could be the result of a backcross with a *R. ungeronii* x *R. smirnowii* hybrid, the gene determining corolla hue being dominant and obtained from *R. smirnowii* via that F1 pairing. However, at another site close by - Savval Tepe - where *R. smirnowii* was not found to be present, the four pink flowering plants of *R. ungeronii* examined did not possess that rDNA additive marker. In this case, therefore, it was suggested that introgression had transpired several generations earlier and that the marker might have been lost through repeated backcrossing. During which time, the population of *R. smirnowii* on Savval Tepe had died out. Which frankly, sounds a little thin.

Where natural hybridisation is stymied at the F1 stage - because of low fertility, hybrid breakdown, or natural selection within the habitat - any gene migration from one parent to the other is completely curtailed. This, along with all those other barriers to establishment detailed above, prevents a currently stabilised species from being genetically swamped into extinction by its hybrid offspring.

But only when the environmental conditions pertaining remain relatively stable.

When this is not the case, and especially where significant land disturbance has taken place, a species population could go into decline or be subject to gene flow.

If this occurs across the entire natural distribution - a realistic possibility for taxa with a restricted endemic range - then extinction could result. And although past historical incidents of this nature cannot be currently documented down to the level of an individual taxon, they must have taken place. For every rhododendron species found in the wild today is descended from a natural hybrid - except one.

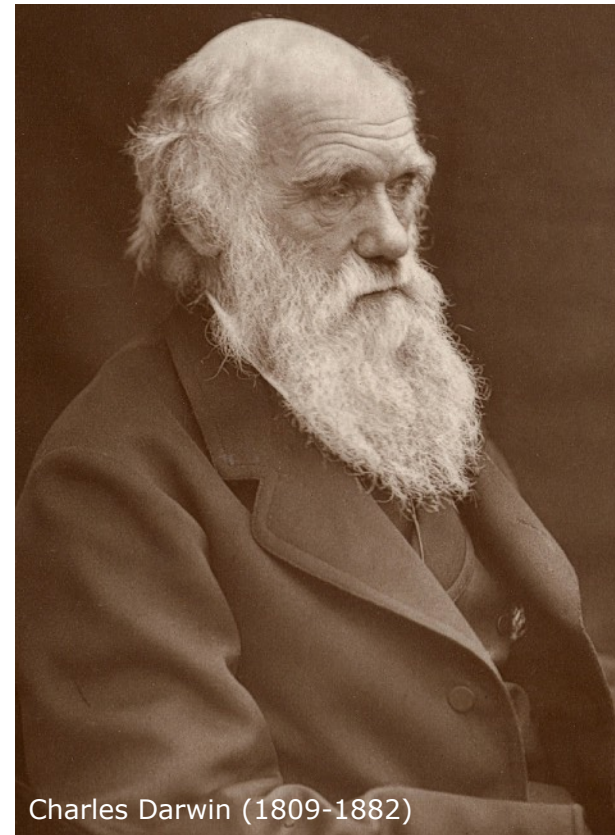
As astounding as that may sound, genetics has confirmed it to be true, providing the scientific evidence that shows that all the members of Genus *Rhododendron* are distantly related to one individual species - *R. camtschaticum* - despite the fact that they can no longer interbreed with it. Because over a geologic, rather than human time frame - so, tens of millions of years - the populations of *R. camtschaticum* divided, speciated, and divided again. Countless times. As they responded to a shifting gamut of environmental challenges and circumstances: land movement and erosion; climate fluctuations; encroachment by other plant species; the fecundity of their pollinators; or the impact of pestilence and disease. Yet perceiving such longterm change in the physical world we live on - as our response to cyclical climate change readily demonstrates - is problematic for humankind. Naming and describing the mechanism through which biological adaptation works therefore, despite those theories of natural selection trashing the precepts of 19th century religious dogma, must be hailed as one of mankind's greatest achievements:

The science of evolution.

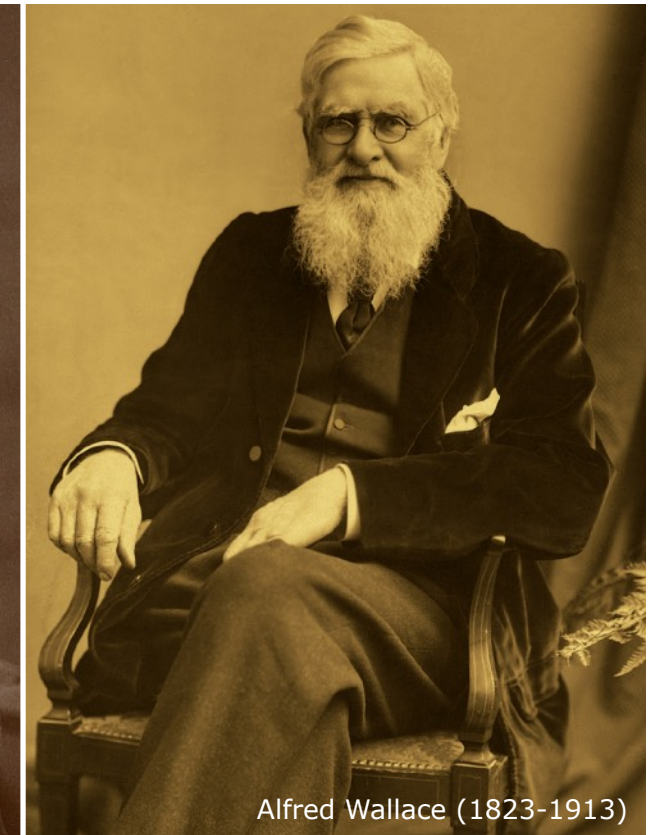
As postulated by Charles Darwin and Alfred Wallace.

Decades before the first chromosome was viewed under a microscope.

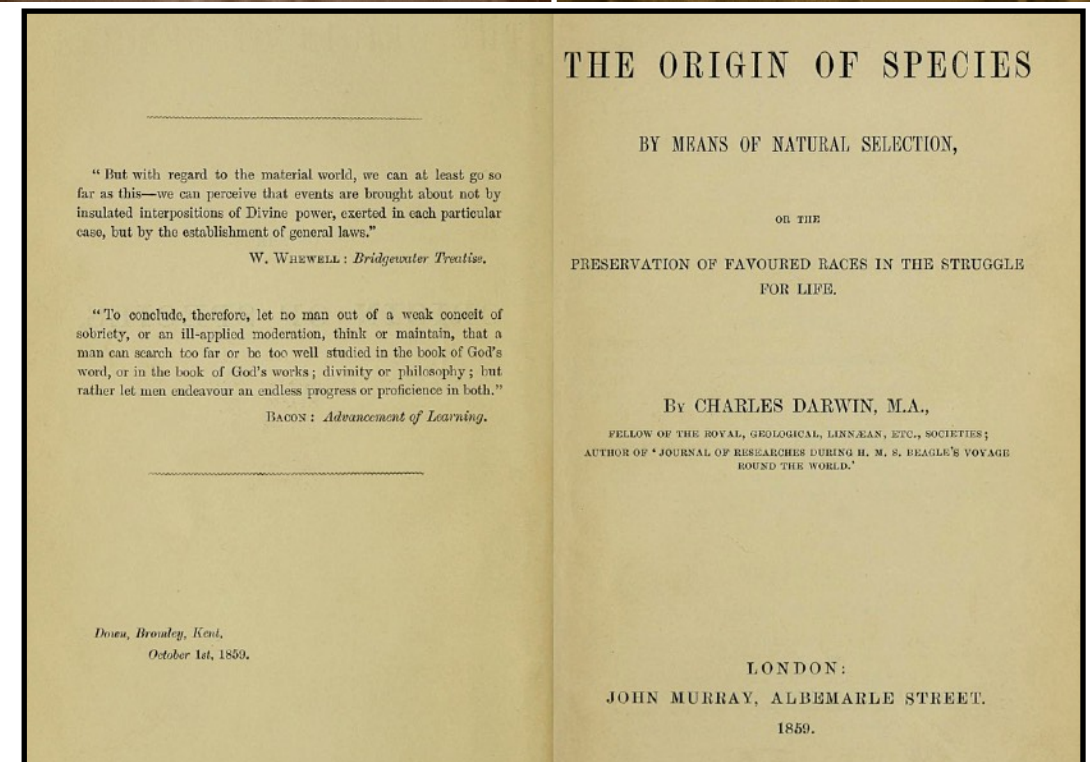
A selection from the potpourri of currently extant natural hybrids introduced into UK gardens from the wild are examined first, followed by a pick of the best seed pan rogues.



Charles Darwin (1809-1882)



Alfred Wallace (1823-1913)





Introductions
From The Wild



R. x candelabrum

R. x candelabrum

Hardiness:

H4-5.

Flowering Period:

April.

Height & Spread:

6m x 4m.

Wild Population Distribution:

Nepal; SE Tibet; Sikkim & Arunachal Pradesh, India; Bhutan.

Growing in pine and rhododendron forests at elevations of 3,050-3,660m.

Seed Collections:

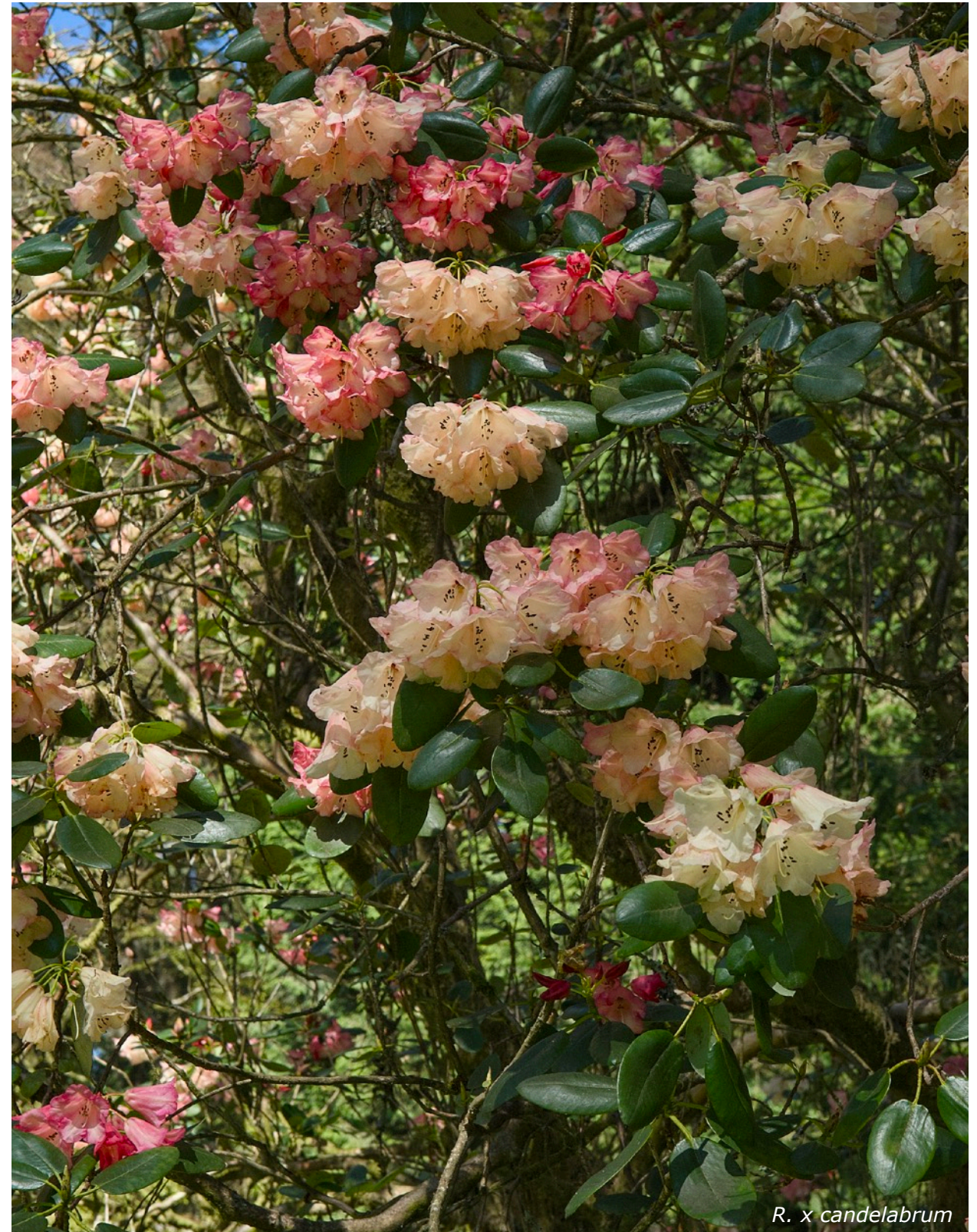
KW 13789	1937
L&S 3066	1937
LS&H 21286	1949
Bowes-Lyon 3286	1966
Bowes-Lyon 6004	1970
AC 5415	2004
KR 8281	2005

R. x candelabrum was discovered by Sir Joseph Dalton Hooker in 1849 at the outset of his botanical exploration of the Sikkim Himalaya. He describes the find in Part 3 of *The Rhododendrons of Sikkim Himalaya*, published in 1851:

“The plant was found in thick pine woods near Lachen village, before I was well acquainted with *R. thomsonii*, of which I fear it is only a pale-flowered variety, found growing at a lower elevation than that species usually inhabits, flowering earlier and in a shady protected situation. The much shorter calyx (of the same peculiar character, however), its glandular margins and ovary, are the only further distinctions I have been able to detect between them, and they are quite unimportant.”

Other plant hunters later extended the wild distribution into central Bhutan, southeast Tibet, Nepal’s Arun Valley and most recently, the northeastern Indian state of Arunachal Pradesh, in fact, finding the taxon wherever the populations of *R. thomsonii* and *R. campylocarpum* meet. For ‘Candelabrum’ is now recognised as a hybrid between these two species, inheriting its glandular features from the designated pollen parent, *R. campylocarpum*, which also reduces the size of the calyx lobes and injects yellow pigmentation into the mix, this resulting in the pink corollas that pale and fade to a sometimes muddy cream.

Speciation may have occurred in some areas, giving small stabilised communities, but seed returned to the UK by Frank Kingdon-Ward, Frank Ludlow and George Sherriff, plus others, has, post its germination, produced a mixed group of subtly different individuals. In cultivation, these plants ultimately develop into very free-flowering small trees, but require the sanctuary of a woodland glade to fully prosper as their hardiness rating matches that of their parents, so extra shelter will be needed for specimens to succeed at sites along the east coast.



R. x candelabrum



R. x candelabrum



R. x candelabrum



R. arboreum x *R. campanulatum*

R. arboreum* x *R. campanulatum

Hardiness:

H5.

Flowering Period:

March-April.

Height & Spread:

8m x 4m.

Seed Collections:

Kumar 739	1975
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Nature's winged pollinators easily beat George Cunningham and Richard Gill by many thousands of years to cross *R. arboreum* with *R. campanulatum*, and their chance hybrids will be found in the wild wherever the distributions of the two species overlap. But as the dearth of introductions attests, rarely have conditions allowed the progeny to prosper and form distinct and stabilised populations unless some natural or hand-of-man disturbance of the natural environment has taken place.

Virenda Kumar's 1975 introduction from Himachal Pradesh is the form most often found in UK cultivation, with variably spotted flowers opening pale pink, but then fading to white. Leaf shape and abaxial indumentum are midway between the two parents, hardiness equally so, the plants developing into small multi-stemmed trees that when mature, reach to between 6 and 8m high. Alternatively, Cunningham's mating - *R. George Cunningham* (the cross made sometime before 1857) - has flowers that are much more heavily spotted, the flecks black rather than reddish-purple, while Gill's cross - 'Mrs Richard Gill' (dated to the early 1900s) - has corollas that open bright salmon rose, these with few if any spots, but displaying some red in the throat.



R. arboreum x *R. campanulatum*



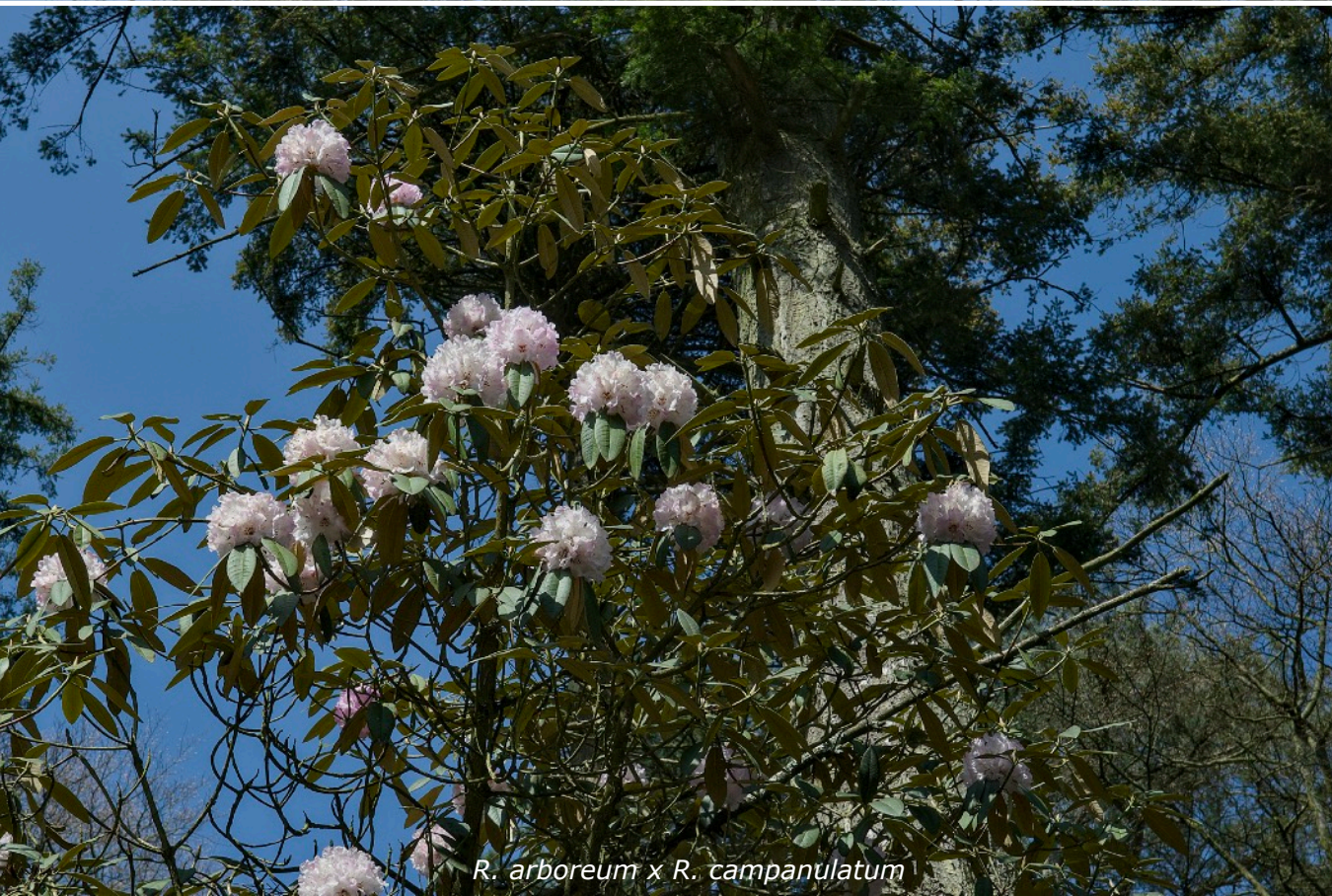
R. arboreum x *R. campanulatum* (Kumar 739)



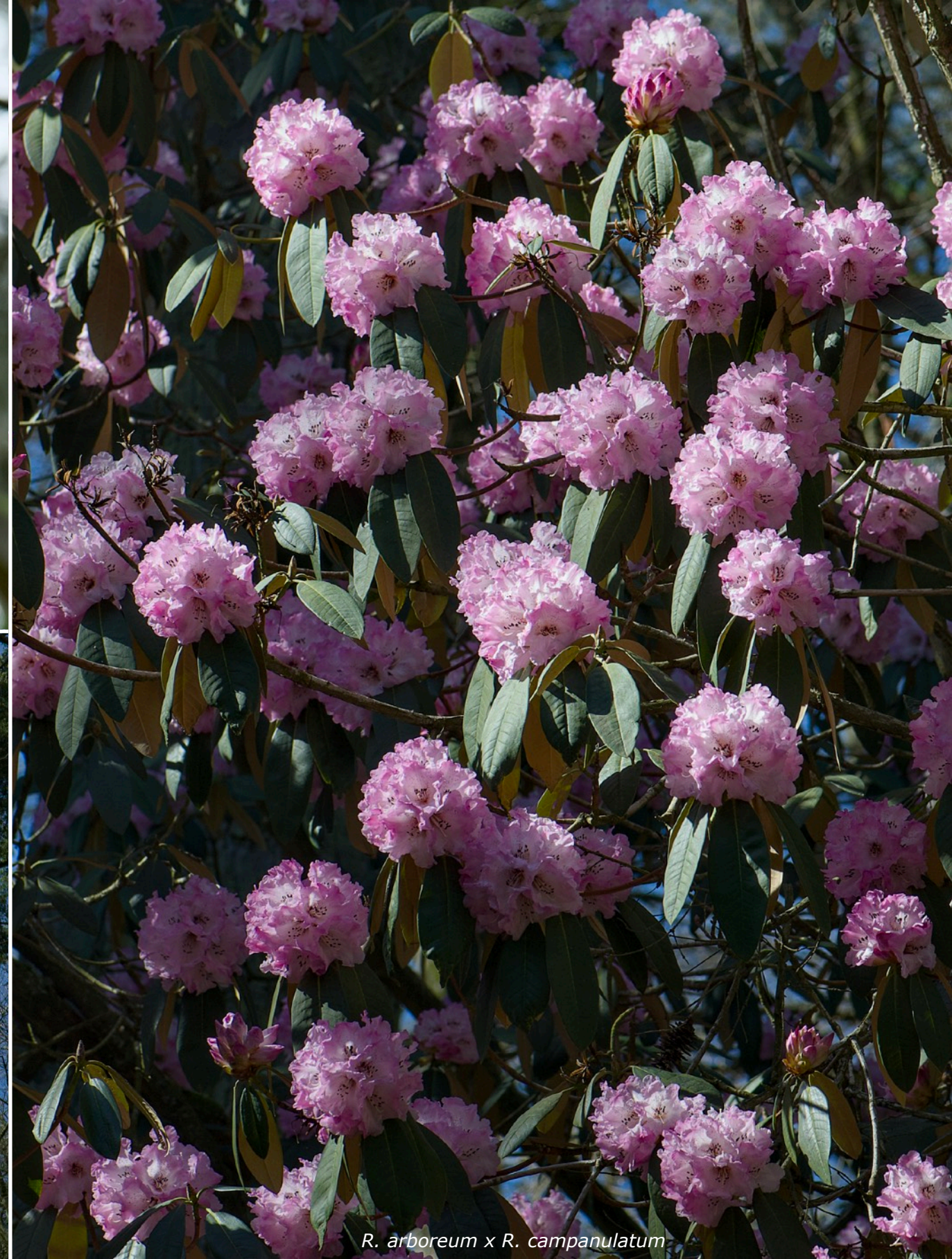
R. arboreum x *R. campanulatum*



R. arboreum x *R. campanulatum*



R. arboreum x *R. campanulatum*



R. arboreum x *R. campanulatum*

R. nitidulum* × *R. nigropunctatum

Hardiness:

H5-6.

Flowering Period:

April-May.

Distribution in the wild:

Mount Emei (Mount Omei), Sichuan, China.

Growing close to the summit at elevations of around 3,000m.

Seed Collections:

KR 185	1980
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Discovered and first collected in 1888 by the German Protestant missionary priest and Confucian scholar, Ernst Faber (1839-1899), it took until 1975 for the natural hybrid to be separated from *R. nitidulum*, where it had been placed after first being designated a form of *R. lapponicum*, namely, *R. parvifolium*. Apparently, due to Mount Emei being one of the four sacred Buddhist mountains of China and the consequent overabundant proliferation of monasteries set around its summit environs - 76 from the Ming and Qing dynasties alone - the host of florally-minded visitors to those sites have returned any number of herbarium specimens to Western botanic institutions and these allowed William and Melva Philipson to distinguish the plant as *R. nitidulum* var. *omeiense* in their 1975 revision of Subsection *Lapponica*, which was published in Volume 34 of *Notes from the Royal Botanic Garden, Edinburgh*, this later incorporated wholesale and without change into James Cullen's full Subgenus *Rhododendron* emendation of 1980 vintage (*Notes*, Volume 39, Number 1). Seed must also have been introduced into the UK, but apart from Keith Rushforth's 1980 collection, no associated field numbers will be found in any of the published listings.

The Philipsons cleaved their newly-named var. *omeiense* from *R. nitidulum* on the basis of 'more prominently mucronate leaf apices, by the frequent presence of darker scales among the golden scales on the under leaf surface, and by the usually smaller calyx (0.5-1.5 (-2.5)mm long)'.

However, updated identification bullet points for *R. nitidulum* set out on page 198 of Volume 5 denote an abaxial leaf surface that is populated by just one type of scale, making it monomorphic, these all similarly sized, of a fawn hue with golden centres, contiguous, near contiguous or overlapping. On page 186, the underside of the *R. nivale* ssp. *nigropunctatum* blade is documented. This has two types of scale, so is dimorphic. They are intermixed, with the majority pale gold and of a similar size, sometimes predominating, set nearly contiguous through overlapping, but with a minority dark brown and larger, closely or widely scattered, the colour contrast between the two often indistinct.

Both species have populations resident on Emei Shan, with var. *omeiense* - the Philipson's chosen epithet reflecting the old Western name for the peak - a natural hybrid between the pair that may have stabilised in places. The cross mirrors the example of *R. × edgarianum*, another undirected pollination, which David Chamberlain extracted - in, *The Rhododendron Handbook 1998* - from the conglomeration of ten previously specific species that were all synonymically bunched together to produce 1975's *R. nivale* ssp. *boreale*. And just like that moniker, the var. *omeiense* appellation is also illegal under the international nomenclature rules, for in 1913 Ernest Wilson and Alfred Rehder used the very same epithet to christen a variety of *R. argyrophyllum* discovered by the plant hunter on Mount Omei a decade earlier and their conception takes precedence within the genus, and cannot be duplicated, hence the hybrid equation used above.



R. nitidulum × *R. nigropunctatum*



R. nitidulum × *R. nigropunctatum*



R. nitidulum x *R. nigropunctatum*

R. x pauciflorum

Hardiness:

H3-4.

Flowering Period:

March-May.

Height & Spread:

2m x 1.5m.

Wild Population Distribution:

SW Sichuan & N Yunnan, China.

Growing at the margins of coniferous forest and on rocky slopes,
at elevations of 2,000-2,600m.

Seed Collections:

McLaren AA 17	1932/1939
McLaren AA 33	1932/1939

R. x pauciflorum was first collected on February 16th 1897 by the Catholic missionary priest François Ducloux. He found the plant growing in the wooded gullies and ravines of the Kin Lin Hills, near Yunnansen, Yunnan, and like many of his colleagues from the Société des Missions Étrangères de Paris, returned dried specimens and possibly seed - under the field number Ducloux 75 - to the Muséum National d'Histoire Naturelle. There, Adrien Franchet, the leading rhodo-savvy French botanist of the time, described the material as *R. scabrifolium* var. *pauciflorum*, publishing the name and the description in Volume 12 of the *Journal de Botanique (Morot)* in 1898.

On February 24th 1897, another of the Paris Foreign Missions Society's priests, Émile-Marie Bodinier, discovered a very similar plant in central Yunnan, but despite gathering specimens just eight days after the Ducloux find - under the collection number 115 - his dried material was not formally assessed until 1903, when Hector Lèveillé penned a botanic description for Volume 39 of the *Bulletin de la Société d'Agriculture, Sciences et Arts de la Sarthe*, in the process naming the rhododendron for Ducloux.

The Bodinier plant grows to around 1m high, much lower than the Ducloux gathering, which can attain a height of 3m in the wild when its environs are heavily shaded. Until recently, most experts believed the two were basically the same entity; that each was a natural hybrid between *R. spinuliferum* and the var. *spiciferum* form of *R. scabrifolium*; and that the hybridisation lottery was responsible for the feature differences between the two. However, molecular evidence published in July 2013 (*Journal of Systematics and Evolution*, Volume 51, Part 4) now discredits this assumption. For while it confirmed the parentage and indicated that the pairing was bidirectional, the results demonstrated that the hybrid swarms of *R. x duclouxii* had resulted from the backcrossing or selfing of *spinuliferum* x *spiciferum* F1 hybrids. Both taxa must therefore be individually maintained.

R. x pauciflorum has corollas that are often more tubular than funnel-shaped, with the stamens and style exerted. Some forms display their blooms on elongated pedicels, but as with any unspiciated natural hybrid, variance is rife.

Cultivated clones usually top out at around 1.6 to 1.8m in height and their hardiness in UK gardens is sufficient for most east coast venues to grow them providing a sheltered spot is selected.



R. x pauciflorum



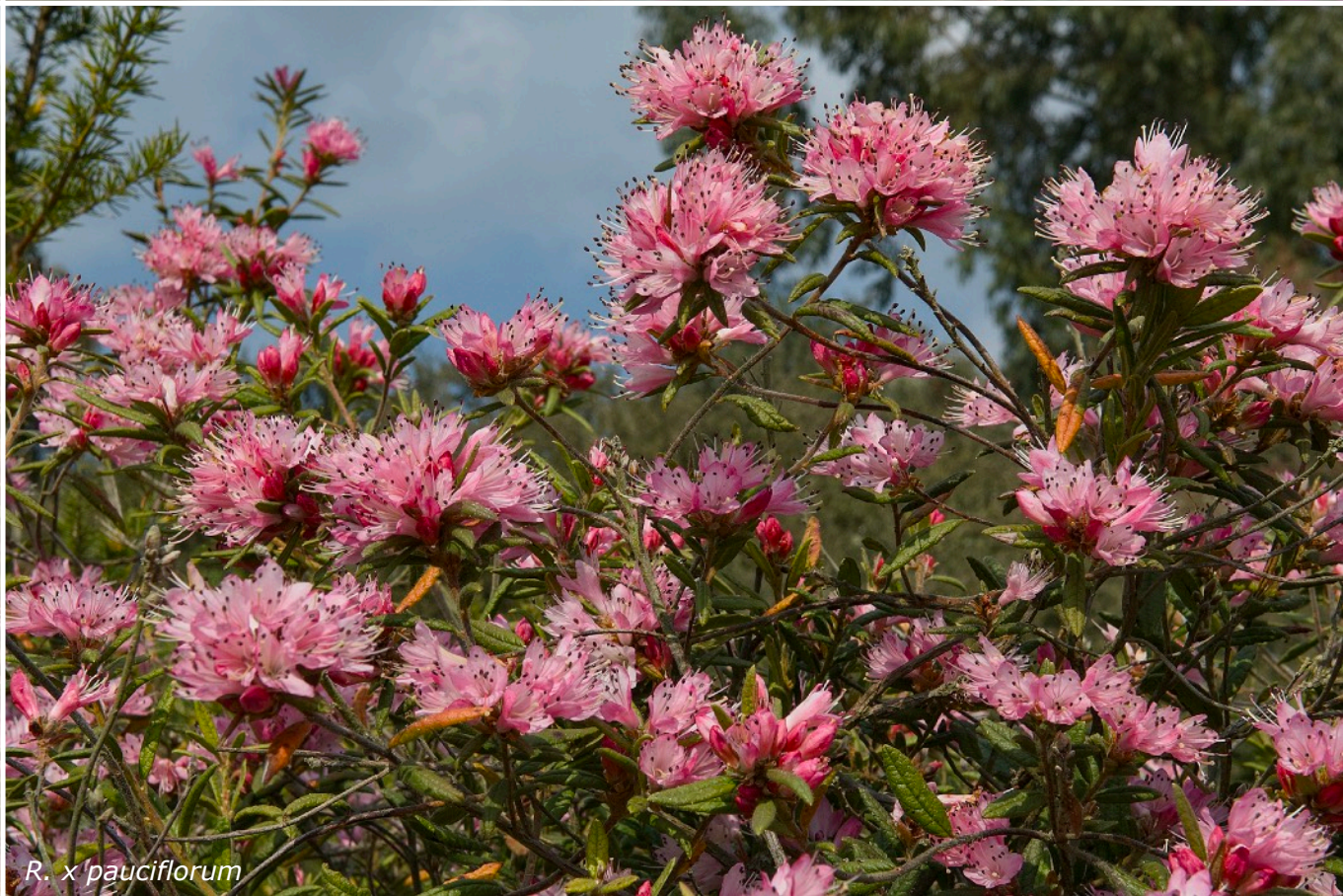
R. x pauciflorum (McLaren AA 17)



R. x pauciflorum (McLaren AA 17)



R. x pauciflorum



R. x pauciflorum

R. x bodinieri

Hardiness:

H4-5.

Flowering Period:

April-May.

Height & Spread:

2.5m x 2m.

Wild Population Distribution:

Guizhou, and E Yunnan, China.

Seed Collections:

McLaren V 139	1932/1939
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It was the French missionary priest Émile-Marie Bodinier (1842-1901) who became the first plant hunter to encounter a population of the species that would ultimately be named for him, discovering *R. bodinieri* on April 4th, 1897, on the summit of Ma-kay Shan, a peak near the village of Sechang-hien in eastern Yunnan. Herbarium specimens were despatched off to the Muséum National d'Histoire Naturelle back in Paris under the field number 1519, which were examined by Adrien Franchet, who then composed a botanic description for the new rhododendron, this text appearing in Volume 12 of the *Journal de Botanique*, published during 1898.

On October 11th, 1913, Julien Cavalerie (1869-1927), yet another priest sent out by the Missions Étrangères de Paris organisation to convert the Chinese heathen from their own to a Western-preferred brand of will-o'-the-wisp - Roman Catholicism - collected specimens of a rhododendron under the field number Cavalerie 1254. These had been gathered in Guizhou Province rather than Yunnan, but in March 1958, Hermann Sleumer, at the Rijksherbarium in Leiden - the National Herbarium of the Netherlands - made the determination that this too was *R. bodinieri*.

Between 1932 and 1939, Henry McLaren - Lord Aberconway, on a more formal note - employed the team of trained Chinese collectors who had previously worked for George Forrest, to search out new rhododendron species for his own garden at Bodnant. One of the gatherings returned - under the field number V 139 - was *R. bodinieri*, and this remains the only documented seed introduction of the species into UK cultivation.

Morphologically, the plant is very similar to *R. yunnanense* ssp. *yunnanense*, the herbarium specimens differing only in their markedly long acuminate leaf tip. But this feature is not consistent across all cultivated plants (as the photographs illustrate). H. H. Davidian retains the taxon at specific status in Volume 1 of *The Rhododendron Species*, though other authors have made the shrub synonymous under ssp. *yunnanense*.

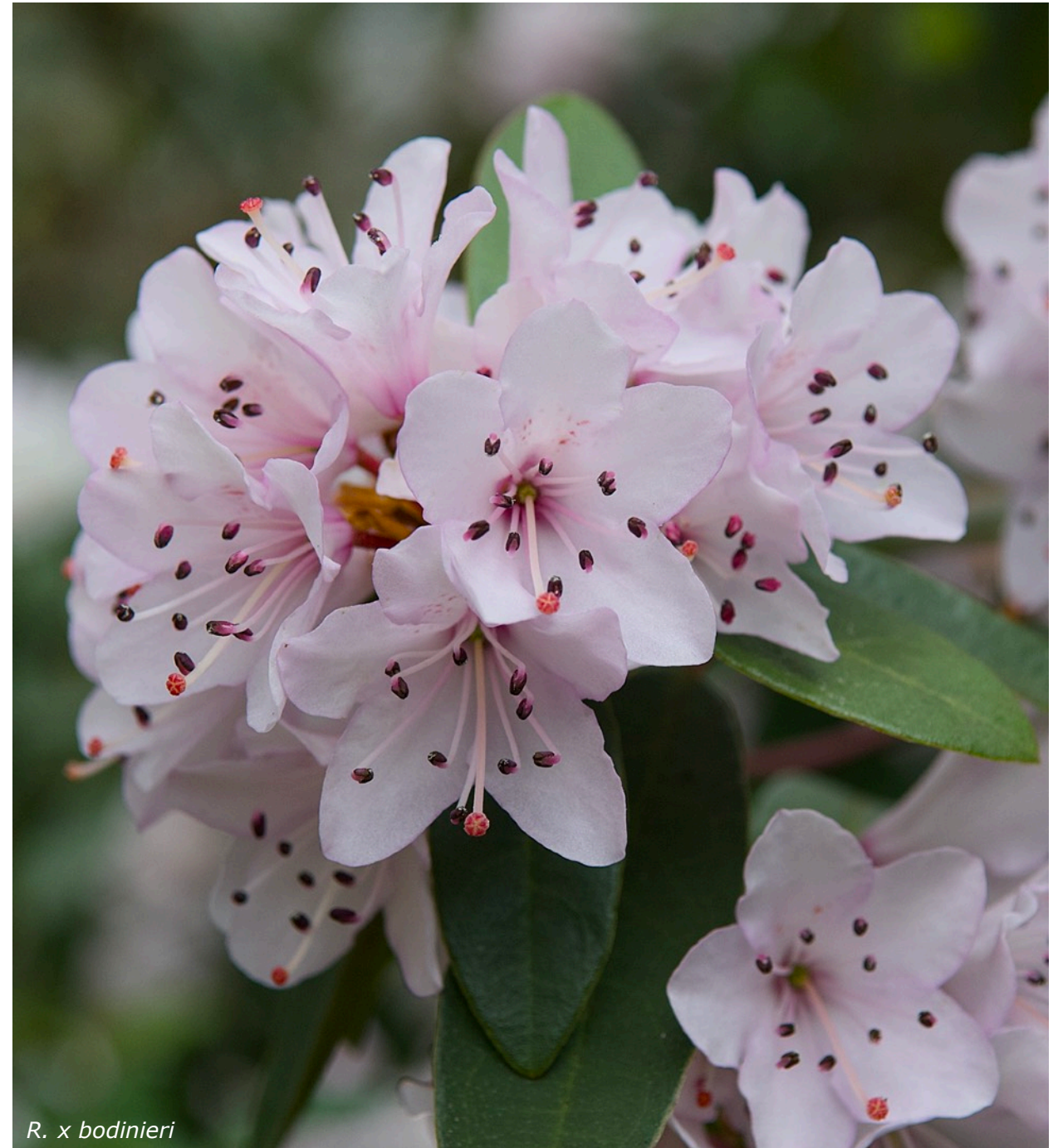
James Cullen, the botanist who wrote the Subgenus *Rhododendron* segment of the 1996 Edinburgh Revision (*Notes from the Royal Botanic Garden, Edinburgh*, Volume 39, Number 1, 1980), described *R. bodinieri* in that text as:

'a curious plant with the individual scales and inflorescence like *siderophyllum* but the scales themselves are very distant, as in *rigidum*. It may be a natural hybrid of the two'.

Crucially, he too did not invoke synonymy, and the suggestion to insert a small 'x' in front of the epithet is appropriate given the varied feature set found across the germinated V 139 seedlings. One other pivotal fact also needs to be considered: *R. yunnanense* ssp. *siderophyllum* is a hexaploid with 78 chromosomes, while *R. rigidum* is a diploid with just

26. So the resultant seedlings from a *siderophyllum* x *rigidum* pairing would be tetraploids with 52 chromosomes, which today can be easily checked in a lab, though breaths are still being held for that determination. *R. yunnanense* ssp. *siderophyllum* input does appear likely as the flowers of some *R. bodinieri* clones often form a compound truss, yet given the amount of variation between cultivated plants, speciation cannot be said to have occurred.

Notwithstanding that fact, *R. x bodinieri* is celebrated herein.



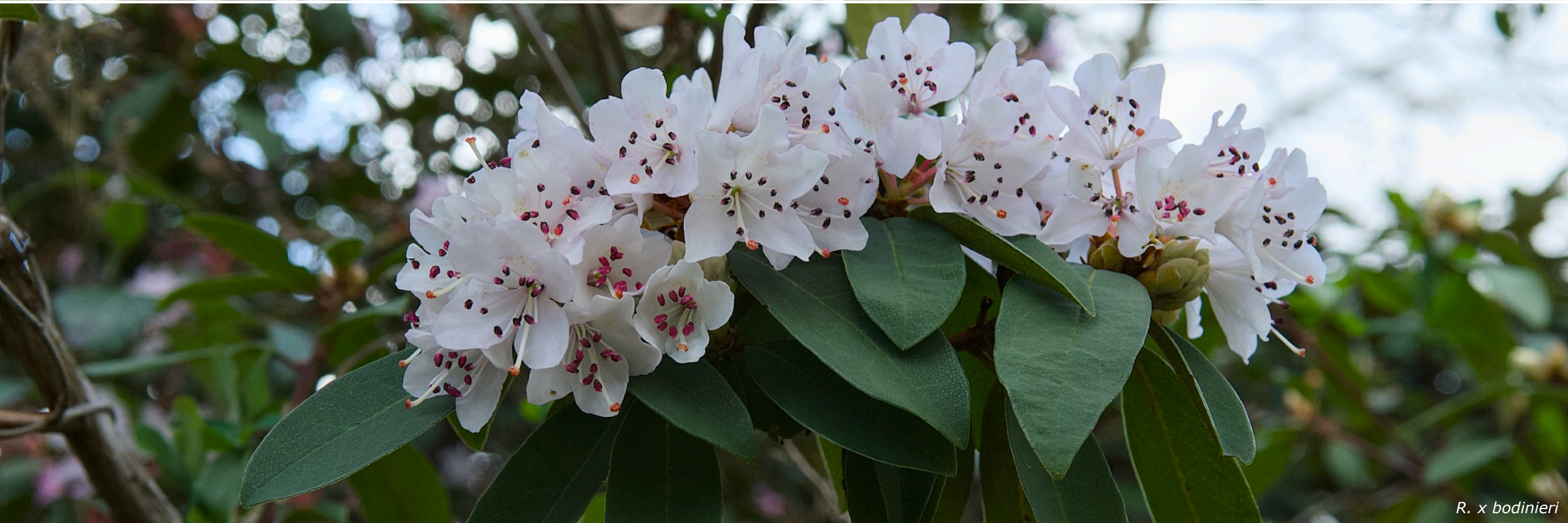
R. x bodinieri



R. x bodinieri



R. x bodinieri (McLaren V 139)



R. x bodinieri

R. x triplonaevium

Hardiness:

H6-7.

Flowering Period:

April.

Height & Spread:

1.5m x 2m.

Wild Population Distribution:

SE Tibet; NW Yunnan, China.

Growing in and at the margins of conifer forest, in rhododendron and mixed thickets, at elevations of 3,300-3,700m.

Seed Collections:

F 14492	1917/1919
F 19574	1921/1922
R 10923	1923/1924
F 25915	1924/1925

R. x triplonaevium was regarded as a specific species by H. H. Davidian in Volume 3 of his *The Rhododendron Species*, published in 1992, and as a synonymic part of the *R. alutaceum* varietal amalgam by the Edinburgh Revision botanists (*A Preliminary Synopsis of the Genus Rhododendron*, authored by James Cullen and David Chamberlain, in *Notes from the Royal Botanic Garden, Edinburgh*, Volume 36, 1978). More recent fieldwork requires these to be treated as natural hybrids - a quintet of such, in fact - and the only one not to have been discovered by George Forrest, is the subject of this current discourse. Instead, credit for the find rightly went to Jean-André Soulié, who encountered the rhododendron at Tsekou, in northwest Yunnan, on June 19th, 1899.

That date is four years earlier than the one given in most texts, the mix-up due to the 'Reçu le 8 Juillet 1903' blue-ink rubber stamp found on the herbarium sheets that were distributed by the Muséum National d'Histoire Naturelle to Kew Gardens, Edinburgh Botanic and probably many other institutions. But even a quick check of these plates via the online herbaria now available at MNHN will show that although the specimens were received in Paris during 1903, they were collected during 1899 under the field number 1029 (the sheet numbers are MNHN-P-P00689319 and MNHN-P-P00689320).

Yet for reasons unknown, this Soulié gathering appears to have been overlooked by the botanists at MNHN, with the description for the once-specific species in fact penned by Sir Isaac Bayley Balfour and George Forrest - *Notes*, Volume 13, 1920 - using both the Soulié specimens, plus additional material gathered by Edinburgh's most revered plant hunter during October 1914 under the field number F 13570. Forrest was - of course - responsible for introducing the shrub into British cultivation, his first batch of seed arriving in 1917, but the taxon has not been reintroduced since the last of just four gatherings was made and returned during 1925, which natural hybrid-wise, speaks volumes.

R. x triplonaevium should be regarded as basically a non-glandular version of *R. x russotinctum*, which has been gifted far superior flowers and foliage. The leaves are long, lanceolate-shaped daggers that are often shiny above, while the upper layer of the abaxial indumentum below is shed in small, rather than large patches. But that is not the only difference with regard to the tomentum, for the hairs found on *R. x russotinctum* are ramiform, with a rosulate under layer, while those located on the underside of the *R. x*

triplonaevium blade are respectively long-rayed and radiate. The inflorescence opens into a tight cluster of between 10 and 14 corollas, the arrangement globular or dome-shaped, and each funnel is slightly larger than those carried on *R. x russotinctum*, these often heavily spotted crimson rather than sporting just a few flecks, and they are nearly always graced with a crimson basal blotch.

Flowering-size specimens of *R. x trifolium* are easily keyed from *R. x triplonaevium* as their pedicels, calyx, ovary and capsules will be found to be sticky, although owners of non-flowering plants will either have to kick their heels for a decade or so until bud set occurs or observe if their shrub has a broadly upright habit, whence it will probably be the former, as the latter has a compact, rounded through spreading mien. But remember: the subject under discussion is a non-speciated natural hybrid.

In UK cultivation, growth of *R. x triplonaevium* will be slow but steady, its hardiness sufficiently robust to allow specimens to be established anywhere across the British Isles where rhododendrons succeed. Moreover, when eventually those flowers do finally arrive, the blooms should be a knockout.



R. x triplonaevium



R. x triplonaevium



R. x geraldii

Hardiness:

H6.

Flowering Period:

Late February-April.

Height & Spread:

6m x 4m.

Wild Population Distribution:

W Hubei & W Sichuan, China.

Growing in mixed woodland, amongst evergreen oaks and bamboo,
at elevations of 1,500-2,400m.

Seed Collections:

W 17	1899/1902
W 517	1899/1902
W 509	1906/1909

There are probably more mislabelled plants of *R. x geraldii* growing in British gardens than any other cultivated rhododendron and with rare exception, all will bear a plastic, metal or paper nameplate that denotes them to be *R. sutchuenense* (though an occasional specimen may sport a *R. praevernium* tag). Responsibility for the confusion rests squarely with Ernest Wilson, the plant hunter who introduced all three rhododendrons, because his seed lots were a mixed bag, containing a harvest from both blotched and unblotched plants, with one field number - W 509, the last 'authenticated' gathering, which was made on his 1906-1909 Arnold Arboretum-sponsored expedition to Hubei and Sichuan - actually germinating plants of all three flavours.

The key rests with the corollas and the leaf underside: minus a basal blotch, but spotted or flecked, and with a semi-persistent indumentum along the abaxial midrib, then *R. sutchuenense* will be to hand; basal blotch present, but the leaves entirely without hairs below, and the plant being examined will be *R. praevernium*; pronounced blotch and spots, plus a hairy lower midrib, and it will be the hybrid decorating your garden. In mitigation, Wilson of course believed all three were just a single taxon, or more correctly, that the two specific species were extreme forms of the same mid-position entity. And that view is not entirely without merit and may yet prove accurate if the geneticists ever do a deep dive.

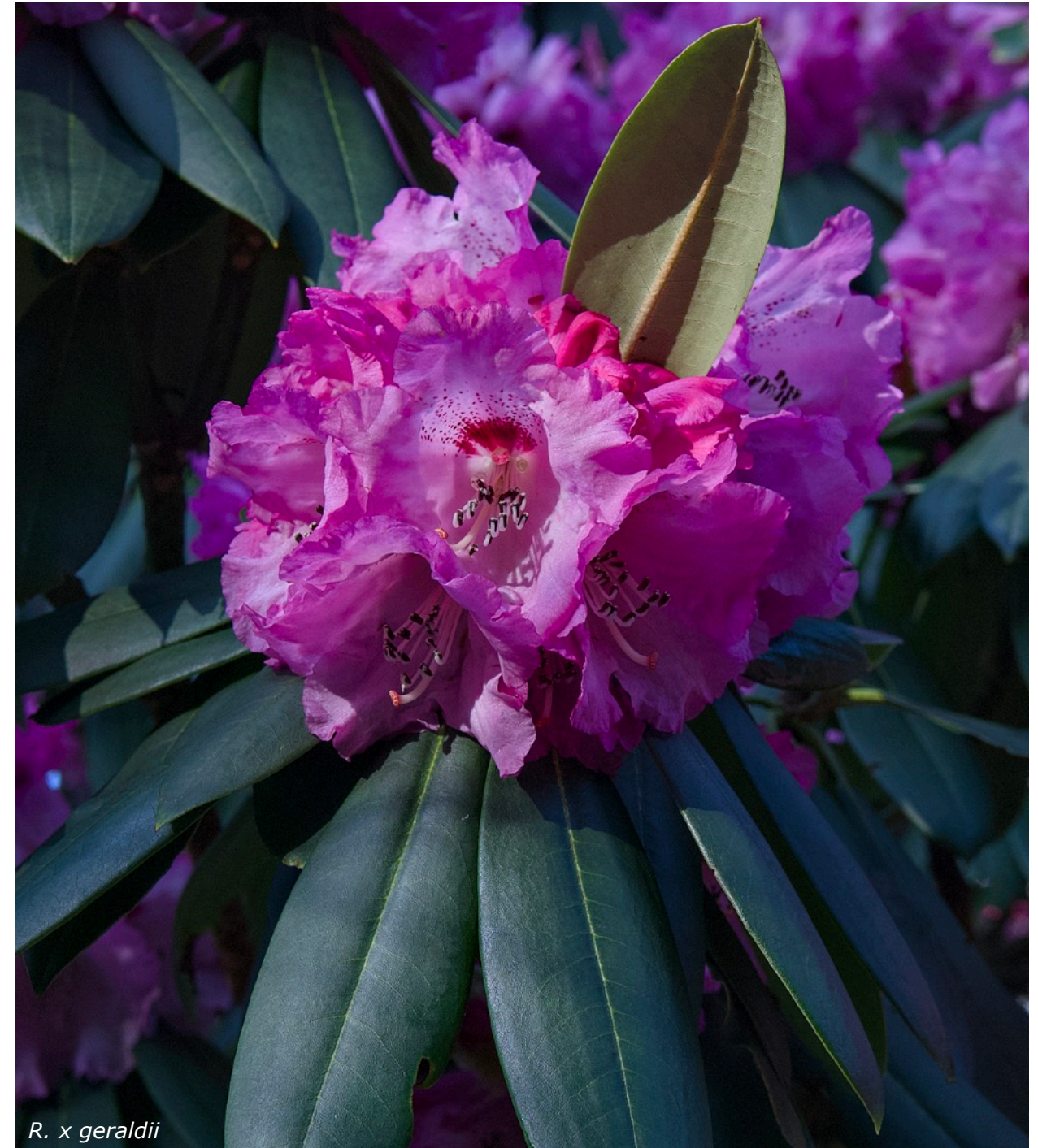
Historically however, the natural hybrid was first botanically described as a variety of *R. sutchuenense* by John Hutchinson in an article for Volume 67 of the *The Gardeners' Chronicle*, published in 1920. 'Geraldii' was then gifted its lower case 'x' by Arthur J. Ivens - of Hilliers Nursery in Hampshire - when writing for the same publication in 1937 (Volume 101). And as all rhodophiles will know, the epithet honours the owner of Wakehurst Place, Gerald Loder - when the estate was still a private garden and not an outstation of Kew - who raised plants from Wilson's seed and was first to exhibit a specimen in bloom (at a Royal Horticultural Society flower show held in London on February 24th, 1920).

And to quote John Hutchinson: 'a very fine plant it is'.

For *R. x geraldii* has inherited the prime qualities of both parents and like the very best hybrid crosses, added a little something extra. Especially those plants that inhabit west coast gardens: mature tree-like specimens; literally awash with a multitude of pink, football-sized flowers in early spring; each conspicuously blotched. But not every year, for such flamboyance takes its toll, with fewer blooms opening in the subsequent two seasons

as the plant rebuilds its strength for another crescendo.

Hardiness levels allow a specimen to be sited wherever rhododendrons thrive across the UK, though the large leaves will require wind shelter wherever that garden may be and the flower buds, protection from spring frosts, given that they often begin opening at the end of February.



R. x geraldii







R. x geraldii



R. x monosematum

Hardiness:

H5.

Flowering Period:

March-April.

Height & Spread:

6m x 4m.

Wild Population Distribution:

W Sichuan & NE Yunnan, China.

Growing in rhododendron thickets at elevations of 2,000-3,800m.

Seed Collections:

W 1522	1903
CCH 3902	1989
SICH 1054	1992
CNW 952	1994
CNW 953	1994
CNW 956	1994

R. x monosematum was first collected by Ernest Wilson on Mount Wu, in western Sichuan, during July 1903, under the field number W 1522. The botanic description, establishing the taxon as a specific species, appears to have been based on a single specimen purchased from the Veitch Nurseries by Kew in 1913, because other plants from that germination more closely resembled *R. pachytrichum*. Written by John Hutchinson, his text, along with a coloured illustration, appear in Volume 142 of *Curtis's Botanical Magazine*, which was published in 1916. Yet Wilson himself makes no mention of the plant or that collection number in *Plantae Wilsonianae*, despite his field notes for the expedition indicating that seed and dried material came from shrubs 2 to 7m in height, these sporting white or pink flowers.

Other specimens - likely those of F. T. Wang, which were gathered at Ping-shan Hsien in April 1931 - have been determined to be natural hybrids between *R. pachytrichum* and *R. strigillosum*, and were considered to be a good match with the Wilson plant (David Chamberlain, *Notes from the Royal Botanic Garden, Edinburgh*, Volume 39, Number 1, 1982). In the years following publication of that Subgenus *Hymenanthes* monograph however, additional field reporting became available, along with more herbarium material and seed. This prompted Doctor Chamberlain to reduce the taxon to a variety of *R. pachytrichum* in 1996 (as set out in *The Genus Rhododendron: its Classification & Synonymy*), and in the RHS *Rhododendron Handbook 1998*, to state that:

"Var. *monosematum* is only known for certain from Emei Shan in western Sichuan, and has apparently arisen as a stabilized backcross from the hybrid swarms of var. *pachytrichum* and *R. strigillosum* that occur close by."

Chinese botanists concede the hybrid nature of the taxon, but believe there to be enough variation within the populations of var. *monosematum* resident on Emei Shan for an association to go either way, and they opt for one with *R. strigillosum* (Tien Lu Ming, *Acta Botanica Yunnanica*, Volume 6, Part 2, 1984, plus the *Flora of China* online entry).

Inserting a small 'x' before the epithet appears therefore to be the most apropos

course to follow, especially given the East-West agreement on the shrub's hybrid nature, and such is adopted herein.

The lack of nectar pouches at the base of the corolla - on most clones - along with a non-setulose abaxial leaf surface - apart from at the base of the midrib - should quickly differentiate *R. x monosematum* from *R. strigillosum*, but the mating with *R. pachytrichum* has only reduced the length of the glandular bristles on the branchlets and petioles, not their presence, and in addition, converted those on the pedicels, calyx lobes, ovaries and capsules into stalked-glandular hairs. However, as *R. pachytrichum* boasts completely non-sticky features on the latter grouping that are variably draped with brown folioliferous hairs (these also long, shaggy, curly and branched), keying the two apart should be a cinch, unless the 'non-stabilised natural hybrid' proviso comes into play.

Cultivated plants of *R. x monosematum* have become far less of a rarity in British gardens over recent years following new introductions from Sichuan and collections made on Wumengshan in northeastern Yunnan. Broadly upright specimens will attain a height of around 4m over twenty years or so, flowering in around a decade if grown from seed. A propensity to bloom early in the season and send out new vegetative shoots soon after will require the frost protection offered by a woodland glade, more so for those gardens along the east coast, but otherwise plants will prove tough, vigorous and grow without problem.



R. x monosematum



R. x monosematum



R. x monosematum



R. x monosematum (SICH 1054)



R. x monosematum (W 1522)

R. x praeteritum

Hardiness:

H5.

Flowering Period:

March-April.

Height & Spread:

3m x 4m.

Wild Population Distribution:

E Qinghai, W Gansu and W Hubei, China.

Seed Collections:

W 1864	1904
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Provenance ties *R. x praeteritum* to two Ernest Wilson collections made in western Hubei during his second Veitch-sponsored expedition between 1903 and 1905: the first coming from capsules of *R. wasonii*, gathered under W 1800; the second, field number 1864, actually sourced from what appears to have been a fairly stabilised population of the natural hybrid. And because only one rogue seedling of *R. x praeteritum* emerged from that 'premier' gathering - this being raised at Kew and found to match with plants from the later accrual - the first 'introduction' is absent from the collections table above.

John Hutchinson, Kew's resident rhodophile of the time, wrote the botanic description that appeared in *The Gardeners' Chronicle*, Volume 71, during 1922, and to paraphrase part of his account:

"despite flowering consistently since 1918, the species has only just been deemed worthy of a name, hence *praeteritum* - passed over or left behind - an epithet intended to commemorate that fact."

Indeed; although even with such a fine choice of accolade, perhaps it was just as well that even then, Latin was a dying language.

Hutchinson associated his newly venerated charge with *R. oreodoxa* and *R. maculiferum*, but failed to mention any linkage with *R. wasonii* even though the two Wilson seed numbers were quoted within the text. Of course, he gave it specific status, and then placed it into Subsection *Fortunea* - the Fortunei Series of the time - despite the reported circle of five nectar pouches at the base of the corolla being completely aberrant within that grouping, (though these are absent from some labelled garden specimens).

Today, Wilson's 1904 introduction is now considered by most Western experts to be a hybrid between *R. wasonii* and *R. oreodoxa*, but this view may change given the discovery of populations of *R. x praeteritum* in eastern Qinghai and western Gansu, as well as in the southwest of Hunan Province. The Hubei plants have also - apparently - been rediscovered. Reported online, and in the 2005 printed edition of *Flora of China*, that country's botanists have also split the taxon in two, describing a form with a densely hairy ovary as *R. praeteritum* var. *hirsutum*, although the reuse of that particular epithet within Genus *Rhododendron* would be illegal under the internationally agreed nomenclature rules.

Unfortunately, the accuracy of the reported fieldwork must be challenged, at least with regard to the 'new' variety:

Gansu and Qinghai provinces adjoin, but they are hundreds of miles distant from Hubei or Hunan. Yet in the three provinces where var. *praeteritum* has been documented to occur - namely, Gansu, Hubei and Qinghai - all the finds are located at 'about 3300m'. In Hubei and Hunan, however, var. *hirsutum* is only found between 1800 and 1900m. Yet with

both types present in western Hubei, this would indicate an altitude gap of some 1400m between the two forms - assuming they grow on the same mountain - which is excessive and may in fact indicate that two different taxa were being studied.

In consequence, until DNA sequencing evidence is available or far more detailed on the ground field study is undertaken, herein, the natural hybrid status assigned by Western botanists is maintained.

R. x praeteritum is a currently rare find in British gardens, but is easy to grow and relatively hardy, with the shrubs developing into 3m-high upright domes that each spring are usually flush with white-tinged-pink corollas in lax trusses of 7 to 10. But as these open early in the season - in February if the weather is mild - they require the shelter provided within a woodland glade if frosting is to be avoided.



R. x praeteritum



R. x praeteritum



R. x praeteritum



R. x praeteritum

R. x haemaleum

Hardiness:

H5.

Flowering Period:

April-May.

Height & Spread:

1.5m x 2.5m.

Wild Population Distribution:

SE Tibet; NW Yunnan, China.

Growing in rhododendron thickets and scrub,
on open moorland, in meadows, and on cliffs and rocky slopes,
at elevations of 3,000-4,450m.

Seed Collections:

F 14166	1917/1919	F 21907	1921/1922	R 10947	1923/1924	R 22236	1932
F 16736	1917/1919	F 21915	1921/1922	R 11022	1923/1924	R 22238	1932
F 18934	1917/1919	F 22677	1921/1922	R 11046	1923/1924	R 23637	1932
F 19958	1921/1922	F 22682	1921/1922	R 11047	1923/1924	R 23639	1932
F 20253	1921/1922	F 22687	1921/1922	R 11049	1923/1924	R 23642	1932
F 21732	1921/1922	F 22724	1921/1922	R 11082	1923/1924	Yu 19306	1937
F 21735	1921/1922	F 22726	1921/1922	R 11177	1923/1924	LS&E 13126	1946/1947
F 21740	1921/1922	R 10276	1923/1924	R 11208	1923/1924	LS&E 13151	1946/1947
F 21819	1921/1922	R 10895	1923/1924	R 21993	1932	R 31	1948/1949
F 21823	1921/1922	R 10911	1923/1924	R 22034	1932	R 101a	1948/1949



The wild populations of *R. x haemaleum* are composed of individual pairings between *R. didymum*, and either *R. sanguineum*, or one of the 'intermediate' forms of that species found in the extensive hybrid swarms that have been documented on the Mekong-Salween Divide in northwest Yunnan and southeast Tibet. Many of the introduced clones - but by no means all of them - display the distinctive black-crimson corollas that are associated with *R. didymum*, yet as a whole, they are devoid of any glandular bristles on the branchlets, petioles, rhachis, pedicels and calyx lobes. Many also lack the small, rigid and shiny leaves, while a few may display semi-persistent leaf bud scales, these plants previously classified by the botanists as *R. haemaleum* var. *mesaeum*, or alternatively, as *R. sanguineum* ssp. *mesaeum*, but reduced to synonymy under *R. sanguineum* ssp. *sanguineum* var. *haemaleum* in the 1982 Subgenus *Hymenanthes* Revision (*Notes from the Royal Botanic Garden, Edinburgh*, Volume 39, Number 2). Other forms, with densely glandular pedicels and ovaries - previously classified as *R. haemaleum* var. *atorubrum*, or as *R. sanguineum* ssp. *atorubrum* - are documented as being intermediate between *R. didymum* and *R. x haemaleum* in the Revision's text, but herein, have been sunk under the latter, for while their glandular morphology reflects traits exhibited by *R. didymum*, none flower in June or July, nor sport a relatively thick abaxial leaf indumentum that may sometimes be bistrate. Moreover, they would react adversely to any application of lime into the soil around their root ball, a known requirement that has proven essential to maintain flourishing specimens of *R. didymum* in cultivation.

George Forrest was the first Western plant hunter to come across an endemic conglomeration of these plants, finding them on the mountains to the northwest of Tsekou in southeast Tibet during August 1904. Viable seed may have been collected along with the dried material - under the field number F 5073 - but if so, the sponsorship deal that paid for the trip saw the contents of any capsules go to A. K. Bulley's Wirral-based Bees Ltd nursery, with only the herbarium sheets returned to Edinburgh Botanic. And as has been reported throughout the first five volumes of this work, with regard to the rhododendrons, virtually nothing emerged alive from the propagating facilities at Ness.

Unfortunately, Ludwig Diels had mistakenly identified Forrest's prime gathering of *R. x haemaleum* as *R. sanguineum* in his *Plantae Chinenses Forrestianae* report for the 1912, Volume 7 edition of *Notes*, so it was not until 1919 that a specific species description penned by Forrest and Isaac Bayley Balfour, appeared in Volume 11 of the publication. This appraisal also took account of the new dried material collected on the Scotsman's fourth tour of duty in China, between 1917 and 1919, which was when the natural hybrid was introduced into British gardens.

In cultivation, as you would expect of a hybrid pairing, *R. x haemaleum* is far less temperamental than its presumptive seed parent, with specimens forming a rounded, wider-than-tall mound to 1.5m in height that is graced with basically upright branches. Drainage needs to be good and the root run ideally kept cool, with gardens in northern England and Scotland, well away from the more sunnier and hotter climes of the south, producing the best plants.

Technically, Joseph Rock's 1948/1949 collection under the field number R 101a has been determined to be an affinity form of the natural hybrid, which, though we shouldn't laugh, is botanically rather comedic.

Just as strange is the lack of modern-day introductions, especially given the host of expeditions that have visited southeastern Tibet and northwestern Yunnan in search of rhododendrons in the three decades between China reopening in the early 1980s and the Nagoya Protocol curtailing such collecting trips: a single gathering; made by Ruddi Perriard at Bala La Ka; appearing on the 2014 ARS Seed Exchange.



R. x haemaleum



R. x haemaleum (R 31)



R. x haemaleum (F 21735)



R. x haemaleum (F 21735)



R. x haemaleum (R 10947)



R. x haemaleum (F 20253)



R. x haemaleum (R 22236)

R. x paradoxum

Hardiness:

H5.

Flowering Period:

April-May.

Height & Spread:

2m x 3m.

Wild Population Distribution:

Erlang Shan, Sichuan, China.

Seed Collections:

None have been officially documented.

Until the early 1990s, when Peter Cox spotted plants similar to *R. x paradoxum* on Erlang Shan in the west of Sichuan, the natural hybrid was not known to exist in the wild, for it had first turned up in a tray of *R. wiltonii* seedlings being grown at Edinburgh Botanic. These had been germinated from an Ernest Wilson collection made on Wa Shan during November 1908, this roughly in the same area of the province as the modern-day finds. W 1353 is the field number, but as the herbarium material - actually collected in June of that year, but confusingly filed under the exact same integer - is most definitely *R. wiltonii* and not *R. x paradoxum*, it is not listed above. Nor are any other introductions, because officially, none have ever been returned.

Sir Isaac Bayley Balfour penned a specific species botanic description in 1922 shortly after the-then 1.5m high shrub had flowered for the first time, his text, completed by Harry Tagg, appearing posthumously in the 1926-published Volume 15 of *Notes from the Royal Botanic Garden, Edinburgh*. The fact that only one plant in the whole pan displayed such morphology clearly caused the two botanists not an iota of concern, despite the warnings coming in from the horticulturalists about natural hybrids and rogue seedlings, although their choice of epithet - translating from the Latin as 'unexpected' or 'paradoxical' - might suggest some privately-held doubts.

Fast-forward six decades and even before *R. x paradoxum* had been found growing close to populations of *R. wiltonii* and *R. pachytrichum* on Erlang Shan, modern-day botanic opinion had, in the main, decided the rhododendron was most likely a natural hybrid, with the Edinburgh Revision Subgenus *Hymenanthes* monograph of 1982 vintage - *Notes*, Volume 39, Number 2 - pigeonholing the taxon in the 'excluded and poorly described species' category. Similar, but not identical, plants have now been recorded germinating in pans of *R. wiltonii* seed collected off the mountain, prompting an assumption that the parentage is most likely to be *R. wiltonii* x *R. pachytrichum*, the latter providing the pollen, the former rearing the seed, though this has not yet been formerly confirmed by a genetic deep dive along the DNA chains.

Cultivated plants in UK gardens attain a height of around 2.2m with a wider spread, are well-filled with foliage and bloom freely once mature. However, those flowers can often become obscured when new vegetative shoots extend and unfurl, but otherwise, such specimens are fully hardy, vigorous and usually grow without problem.



R. x paradoxum (W 1353)



R. x paradoxum (W 1353)



R. x diphrocalyx

R. x diphrocalyx

Hardiness:

H4.

Flowering Period:

April.

Height & Spread:

5m x 3m.

Wild Population Distribution:

NW & W Yunnan, China.

Growing in rhododendron scrub and thickets, woodland and on open hillsides, at elevations of 3,000-3,400m.

Seed Collections:

F 15665	1917/1919
F 24107	1924/1925

R. x diphrocalyx was another natural hybrid first grown as a seed pan rogue before an endemic population was found out in the wild. Raised by Major Edward Magor at Lamellen in Cornwall, the plant appeared in a tray of otherwise normal *R. habrotrichum* seedlings, though it is not known from which of the three George Forrest introductions of 1912-1914 vintage it originated. First flowering occurred in 1918, so the F 9048 gathering made in August 1912 is the most likely source. Specimens of the sore thumb were sent to Isaac Bayley Balfour, who described the taxon as a specific ranked species in Volume 11 of *Notes from the Royal Botanic Garden, Edinburgh*, published during 1919.

On his return to China for the 1917-1919 expedition, Forrest found matching plants on the ground in Yunnan at two locations, one of which - a collection of dried material only, under the field number F 17598 - was initially described as *R. burriflorum* by the plant hunter and Sir Isaac in 1920's Volume 13 of *Note*. This later, and rightly, fell victim to the Synonymy Aurors. A second batch of *R. diphrocalyx* capsules was secured in 1924.

All three 'official' gatherings were from populations established on the mountains of the Shweli-Salween Divide, though as the botanic description confirms, the wide degree of variation implies full speciation is yet to be achieved.

Historically, *R. diphrocalyx* was associated with the membership of the Glischrum Subseries, now of course, Subsection *Glischra*, to which *R. habrotrichum* also belonged. Yet the cross that produced *R. x diphrocalyx* is now believed to have been with a member of Subsection *Neriiflora*, the likely partner either *R. neriiflorum* itself or *R. haematodes* ssp. *catacosmum* (the former suggested by David Chamberlain in his Subgenus *Hymenanthes* text - *Notes*, Volume 39, Number 2, 1982 - the latter hinted-at by H. H. Davidian in 1989's *The Rhododendron Species*, Volume 2). These combinations would account for the bristles and the glands (*habrotrichum*), and the glaucous-papillate epidermis and well-developed coloured calyx (*neriiflorum* or *catacosmum*), although neither assumption has yet been confirmed by field study or genetic analysis.

As the chosen Latin epithet suggests, the lobes of the calyx are one of the principle identification keys: large, cup-shaped and divided to the middle; irregular and often one-sided. Other useful features are the nectar pouches at the base of the corolla, the whitish colouration of the leaf abaxial surface, and the texture of the foliage, midway between coriaceous and chartaceous. Cultivation is straightforward and usually without problem, the plants long-lived, hardy and free flowering, yet decidedly rare in UK gardens.



R. x diphrocalyx



R. x diphrocalyx

R. x agastum

Hardiness:

H4-5.

Flowering Period:

March-April.

Height & Spread:

7m x 3m.

Wild Population Distribution:

Guizhou & W Yunnan, China.

Growing in mixed open woodland, rhododendron forest and on stony slopes, at elevations of 1,800-3,350m.

Seed Collections:

F 16352	1917/1919
McLaren L 49	1932/1939
McLaren L 60	1932/1939
SBEC 119	1981
SBEC 323	1981
CLD 1444	1990
PW 90	1994
PW 95	1994
PW 98	1994
ZH-G 083	2006
JN 12344	2012

The epithet for *R. x agastum* translates as 'charming' and the plant is certainly that, regardless of the variation associated with its unspiciated natural hybrid status. Recently however, the degree of that non-uniformity has been shown to be more than just the usual spread of morphologic character differences that are often apparent in a widely distributed F1 hybrid swarm:

First discovered growing at the head of the Taping-pu Valley in western Yunnan by George Forrest during May, 1913, *R. x agastum* was of course initially described as a specific species, with Isaac Bayley Balfour and William Wright Smith authoring the text that appeared in Volume 27 of *Transactions of the Botanical Society Edinburgh*, this published in 1917. Edinburgh Botanic's premier plant hunter was also the first to introduce the taxon into UK cultivation, though not apparently with the type specimen - under the field number F 9920 - but from a later collection designated F 16352, which was made during the explorations of the 1917-1919 trip.

Confirmation of the taxon's true nature began with the 1981 Sino-British Expedition to the Cangshan, for two members of the team - David Chamberlain and Peter Cox - were able to study specimens of *R. x agastum* up-close and in their natural environment. And unsurprisingly, they found that *R. arboreum* ssp. *delavayi* and *R. decorum* ssp. *decorum* were also present and correct, growing close-by in the vicinity, and therefore the likely parents - just as George Forrest had suspected and documented in his field notes. Genetic data published in a 2007 study written by five Chinese botanists - 'Natural hybridization origin of *Rhododendron agastum* (Ericaceae) in Yunnan, China: inferred from morphological

and molecular evidence' is the translated titled of the Jing-Li Zhang, Chang-Qin Zhang, Lian-Ming Gao, Jun-Bo Yang and Hong-Tao Li-authored paper - concluded that *R. delavayi* mated the seeds, while *R. decorum* provided the pollen. There was also data to suggest that the F1 form of *R. x agastum* had then backcrossed with its parents to generate the sweep of plants found growing today.

Yet just two years later, at other locales in Yunnan, it was discovered that the *R. x agastum* epithet had been applied to plant populations that were pure F1 crosses between *R. irroratum* ssp. *irroratum* and *R. arboreum* ssp. *delavayi*, without any backcrossing having occurred. At these sites, *R. decorum* ssp. *decorum* is rare or completely absent, and its genes did not appear in the hybrid's DNA chain. This information featured in the research paper 'Asymmetric hybridization in *Rhododendron agastum*: a hybrid taxon comprising mainly F1s in Yunnan, China', which was written in 2009 by Richard Milne of Edinburgh University and two Chinese colleagues, Hong-Guang Zha and Hang Sun. Their study deliberately looked at exactly the same gene sequences along the DNA chains of the hybrid and its possible parents as the 2007 investigation had - the internal transcribed spacer region, or ITS; and the chloroplast DNA trnL-F intron spacer - which meant a full comparison with that earlier work could be made.

And the conclusion drawn?

That the *R. x agastum* population of western Yunnan was actually the product of two separate hybridisations with *R. arboreum* ssp. *delavayi*, one involving *R. decorum*, the other *R. irroratum*.

Both forms of the *R. x agastum* cross will be found growing in British gardens, those with a percentage of *R. decorum* blood in their capillaries usually having a higher number of corolla lobes and stamens, plus wider leaves. Out of flower, they all appear remarkably similar, despite coming from different matings, but of course, the botanists will ultimately want to separate out the two and give the *R. decorum* x *R. delavayi* taxon a new name (as the type specimen of *R. x agastum* has corollas with five lobes and ten stamens, so most likely comes from the *R. irroratum* pairing). Garden visitors should also be aware that some of the specimens cultivated under the current epithet are in fact mislabelled plants of straight *R. irroratum*, or possibly *R. papillatum*, even though technically, seed of this Bhutanese member of Subsection *Irrorata* has never officially been introduced into the UK.

'Agastum' first flowered at Lamellen, the Cornish garden of Edward Magor, in April 1929, and although it is not widely planted, mature specimens will be found in most of the major public and private rhododendron collections. Gardeners in the south of the country and along the east coast will see true specimens develop into medium-sized shrubs, around 2 to 2.5m high and wide, while those who tend plots along the west coast can in time, expect a small tree that will hit 4 or 5m in height. Hardiness is midway between whichever permutation of the parents the seed came from, so where any of that troika do well, so too should their offspring.

The three collections made in 1994 by Peter Wharton extended the wild distribution of *R. x agastum* into Guizhou Province, though from which parental combination these plants arose is unknown (at least, by the author of this work). The other five modern-day re-introductions were all sourced from Yunnan.



R. x agastum



R. x agastum



R. x agastum



R. x hodcoeri

R. x hodconeri

Hardiness:

H4-5.

Flowering Period:

April.

Height & Spread:

8m x 4m.

Wild Population Distribution:

Bhutan; NE Upper Myanmar.

Seed Collections:

Cooper 2088a	1914
KW 13681	1937



R. x hodconeri

R. x hodconeri, as the name implies, is a mating of two big-leaved species, with pollen from *R. falconeri* ssp. *falconeri* being placed on the stigma of its subsection relative, *R. hodgsonii*. And like many of its associates, the pairing was made by both Mother Nature's teams of winged pollinators and the hand of man, the former beating the latter by many thousands of years, if not a few aeons.

The directed pollination cross was introduced to the British gardening public in 1926 and has inherited many of the best features of its parents: the coloured and peeling bark; the tree-like stature; the formidable foliage; and the football-sized flower trusses that open in shades of deep rhodamine purple. But unfortunately, each set of those individually-large 28-30 corollas, mirroring a seed parent trait, quickly pale, their hue ending up as a very wishy-washy whitish-pink. Regardless of the fading however, a mature plant hosting hundreds of just-open blooms is a simply magnificent sight. Hardiness too follows the seed parent, allowing specimens to be grown in most UK gardens where rhododendrons succeed providing sufficient wind shelter is present, though like all the large-leaved species and hybrids, individuals prosper best in Gulf Stream-favoured west coast sites.

The 'Hodconeri' cross, as indicated, is also found as a natural hybrid in the wild, with samples from these non-speciated populations gathered-up and introduced into UK gardens by the plant hunters.

Roland Cooper was the first to return seed, a collection from Bhutan listed under the field number Cooper 2088a arriving in 1914, with Frank Kingdon-Ward next, his capsules secured under KW 13681 during the 1937 expedition to northeastern Upper Burma (now the military dictatorship formally known as the Republic of the Union of Myanmar, whose residents - one suspects - might now rather regret turfing out the British back in the 1940s). An RHS Award of Merit was bestowed on one of the offspring from Kingdon-Ward's accrual, the plant named *R. 'Himalayan Child'* by the Crown Estate Commissioners at Windsor in 1981. However, specimens from that same field number have been determined by other eminent doyens to actually be a form of *R. magnificum*, albeit a somewhat strange form, a fine specimen of which can be found growing at Nymans Garden in West Sussex. DNA analysis will someday rule on who is right, and who is wrong, at which point, an ego somewhere is sure to be bruised, if only posthumously. The variation is most evident in the leaf profile, texture and abaxial indumentum colour, but would not be considered outwith the typical morphological range exhibited by other natural hybrids. (The two plants are contrasted on pages 58 and 59).

And then of course, the *R. kesangiae* bombshell exploded.

Now known to be the most widespread large-leaved rhododendron species growing in Bhutan, for decades it was totally overlooked, although in fairness to the plant hunters, populations of this stabilised and speciated taxon were hiding in plain sight between those of *R. falconeri*, and higher up the same hillsides, *R. hodgsonii*.

For *R. kesangiae* has also evolved from a simple *hodgsonii* x *falconeri* pairing and reached a state where adjoining the baseline *R. falconeri* population, there are now unspciated swathes of plants with a *kesangiae* x *falconeri* parentage. Rubbing shoulders, but above these, the stabilised *R. kesangiae* middle echelon of the layer cake will be found, and then, higher still, an equally extensive band of *kesangiae* x *hodgsonii* plants, this conglomeration topped by pure *R. hodgsonii*. However, and rather incredibly it should be noted, neither the IRRC-registered G. Reuthe Ltd 'Hodconeri' cross, nor any of the specimens grown from the Cooper or Kingdon-Ward introductions, match the plants of *R. kesangiae* now widely grown in UK cultivation.



R. x hodconeri





R. x hodconeri (KW 13681) 'Himalayan Child' AM 1981



R. x alutaceum

Hardiness:
H6-7.

Flowering Period:
April.

Height & Spread:
2m x 4m.

Wild Population Distribution:
NW Yunnan, China.

Growing in conifer forest and thickets, and on rocky mountain slopes,
at elevations of 3,200-4,300m.

Seed Collections:

F 17333	1917/1919
F 19827	1921/1922
AC 923	1995
JN 736	1999
JN 12125	2012

R. alutaceum was first found growing at an altitude of 3,660m in open thickets on the Kari Pass, a dip between mountains in the Mekong-Yangtze Divide, northwest Yunnan. George Forrest was the plant hunter who made the discovery during August 1914, recording the shrubs as 4m-tall bushes sporting rose-coloured flowers marked crimson. The field number for the type specimen is F 13098 and Sir Isaac Bayley Balfour and William Wright Smith jointly wrote the species botanic description that appears in Volume 10 of *Notes from the Royal Botanic Garden, Edinburgh*, published in November 1917.

Within 1992's Volume 3 of *The Rhododendron Species*, H. H. Davidian states that *R. alutaceum* is only known from that single collection and though long in cultivation, exactly who introduced it is unknown, with the date of that importation and the location from which such seed was gathered lost to the mists of time or never recorded. However, Forrest's name is offered for consideration, although no associated field number is suggested. But when the entries for *R. globigerum* are removed from the Collectors' Numbers seed lists published in the 1998 RHS *Rhododendron Handbook* - the Edinburgh Revision botanists considered the taxon synonymous with *R. alutaceum* var. *alutaceum*, but reflecting more recent field study, herein, it is treated as a form of *R. roxieanum* - two numbers remain, these dated seventy years before Alan Clark's 1995 reintroduction: F 17333 and F 19827. The first gathering was initially thought to be *R. phaeochrysum*, but this has now been re-examined and catalogued as an affinity form of *R. alutaceum* (cue the laughter tape); the second collection, at first *R. taliense*, but now true *R. alutaceum*. David Chamberlain was responsible for both redeterminations, these included in his full, 1982-published Revision of Rhododendrons II Subgenus *Hymenanthes* text (*Notes*, Volume 39, Number 2), though he states that 'material grown under these numbers in gardens will not necessarily belong to the same taxa as the herbarium specimens'.

Yet *R. alutaceum* remains highly vexatious, especially as the Edinburgh Revision re-arrangement of the deckchairs placed *R. iodes* and *R. russotinctum* under it, at varietal ranking, and sunk *R. triplonaevium* and *R. tritifolium* under the latter variety. Thankfully, field observations carried out in the 1990s have resolved many of these contentions by

documenting that:

'Rather than a stable species, *R. alutaceum* is made up of a multitude of variable plants. Some are extreme forms of *R. roxieanum*, but most are natural hybrids between *R. roxieanum* and species such as *R. phaeochrysum*, *R. beesianum* and *R. aganniphum*.'

Peter & Kenneth Cox, *The Encyclopedia of Rhododendron Species*, 1997.

So the treatment adopted herein is as *R. x alutaceum*, with the two varieties now regarded as *R. x iodes* and *R. x russotinctum*, and the two sunk taxa raised to equal status as *R. x triplonaevium* and *R. x tritifolium*.

Cultivated plants of *R. x alutaceum* are a somewhat rare find in British gardens. Mature specimens, usually broadly upright shrubs to around 2m high with a similar spread, are bolstered by a few clones that have extended their girth out to 4m. All of these bushes are fully hardy, but benefit from dappled shade, especially in the southern counties, if only to prolong the depth of the corolla colour. Flowering is often profuse, a sure acknowledgement of hybrid status, and the blooms delightful. But whether any match with the dried material lodged in the botanic herbariums is open to question.

Of note is the fact that with the reassignment of *R. globigerum* to *R. roxieanum* (see Volume 4, page 193), the wild distribution of *R. x alutaceum* is once again restricted to the northwest of Yunnan.



R. x alutaceum



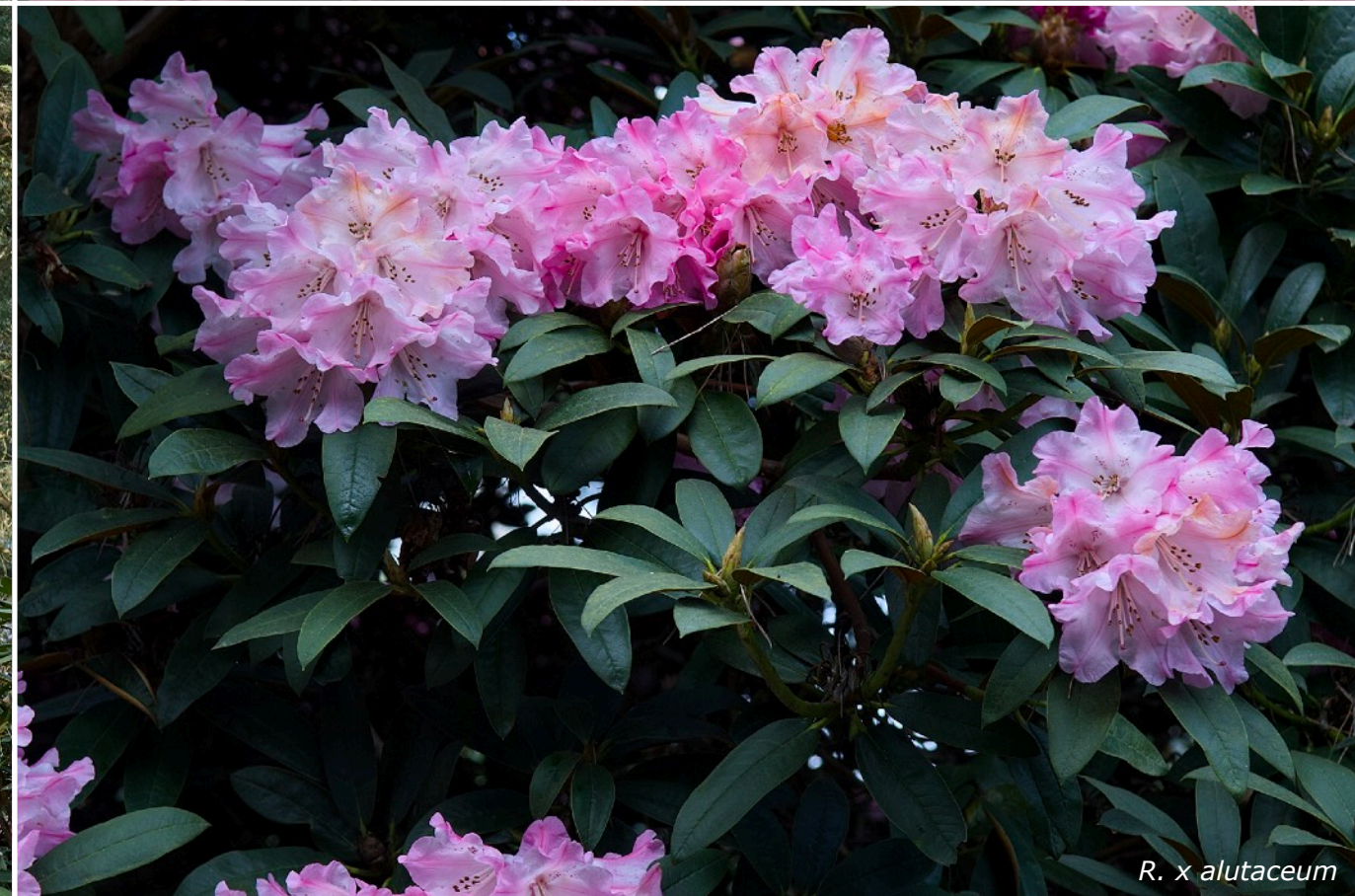
R. x alutaceum



R. x alutaceum



R. x alutaceum



R. x alutaceum

R. x detonsum

Hardiness:

H5.

Flowering Period:

May.

Height & Spread:

4m x 3m.

Wild Population Distribution:

W & NW Yunnan, China.

Growing in coniferous woodland, at the margins of mixed forest, in rhododendron thickets and on mountain slopes, at elevations of 3,000-4,000m.

Seed Collections:

F 5868	1910
F 5871	1910
F 13789	1917
F 29341	1930/1931
CHM 2620	1986
CHM 2638	1986

George Forrest was again the plant hunter who discovered *R. x detonsum*, their May 1917 encounter occurring on the eastern flank of the Sungkwei Divide in northwestern Yunnan, though he had unwittingly introduced the natural hybrid into UK cultivation some seven years earlier in 1910. It just took until 1982 for that fact to come to light.

David Chamberlain, writing in his Subgenus *Hymenantes* monograph (*Notes from the Royal Botanic Garden, Edinburgh, Volume 39, Number 2*) reports that amongst a collection of *R. adenogynum* under the field number F 5868, a seed pan rogue had germinated that was a good match with the later-received type herbarium specimens of 'Detonsum'. This had been raised by Edward Magor at Lamellen, along with a similar rogue from a second 1910-collection of *R. adenogynum* under another Forrest field number, F 5871. H. H. Davidian reports that although these were given the epithet *R. xenosporum*, they were never formally described (*The Rhododendron Species, Volume 3, 1992*). But *R. detonsum* was, by Forrest and Isaac Bayley Balfour, in 1919's Volume 11 of *Notes*, so of course, it takes precedence.

Specimens germinated from Forrest's 1917 introduction - F 13789 - given specific status and assigned to the Taliense Series - today's Subsection *Taliensia* - flowered for the first time in 1930 at Edinburgh Botanic, but over the years, the typical variation associated with any gathering of capsules from a partially speciated natural hybrid population started to become apparent. Equally, despite some forms being top class garden plants, others were a lot less showy. Some of the introductions were also fragrant, others not. And the reason for this became apparent once China had reopened its mountains to Western botanists and horticulturalists in the early 1980s:

On Yulong Shan, the Jade Dragon Snow Mountain near Lijiang, in 1986, the collecting team of Peter Cox, Peter Hutchison and Donald Maxwell McDonald secured capsules of *R. vernicosum* under the field number CH&M 2620, and *R. adenogynum* under CH&M 2638. Both species had been found growing in close proximity to each other, so it came as no

great surprise when around 10% of the seedlings from both lots produced natural hybrids that were near-mirrors of the unscented 'Detonsum' (Peter Hutchison, writing in the book he co-authored with Peter Cox in 2008, *Seeds of Adventure: In Search of Plants*).

Yet when *R. adenogynum* is crossed with *R. decorum*, naturally in the wild where the two species also coexist side by side, or by the hand of man, then scented specimens often result, which are otherwise mirrors of the 'Detonsum' *vernicosum x adenogynum* pride.

In flower or out.

Except that some are fragrant.

So like *R. x agastum*, the *R. x detonsum* epithet currently extends to plants from all four possible crosses - *adenogynum x decorum*, *decorum x adenogynum*, *adenogynum x vernicosum* and *vernicosum x adenogynum* - regardless of which species was the seed or pollen parent, but providing *R. adenogynum* was a direct participant in the mating. Of course, as this rather upsets botanic convention, as well as genetic science - a plant's suite of organelles being exclusively donated by the female parent - three additional epithets will be required in due course to allow members of the assortment to be properly sorted and correctly described.

However, *R. x detonsum*, in all its present forms, has proved easy to grow in most British gardens wherever rhododendrons succeed, with whichever clone that has been set in the soil developing into an upright-spreading bushy shrub that when mature, often hits the 4m height mark. All flower annually with great profusion, the rose-pink clones being the most eye-catching.



R. x detonsum



R. x detonsum



R. x detonsum



R. x detonsum



R. x flavorufum

R. x flavorufum

Hardiness:
H6-7.

Flowering Period:
April-May.

Height & Spread:
2m x 2m.

Wild Population Distribution:

SE Tibet; SW Sichuan & NW Yunnan, China.

Growing in or at the margins of conifer forest,
in rhododendron or mixed thickets, in ravines, on screes and on cliffs,
and on open rocky mountain slopes,
at elevations of 3,200-4,600m.

Seed Collections:

F 14345	1917/1919	F 17466	1917/1919	F 25902	1924/1925
F 14368	1917/1919	F 18920	1917/1919	R 23651	1932
F 14732	1917/1919	F 20286	1921/1922	R 23652	1932
F 14810	1917/1919	R 11133	1923/1924	R 23653	1932
F 15968	1917/1919	R 11143	1923/1924	McLaren S 124	1932/1939
F 16680	1917/1919	R 11150	1923/1924	Cox 6016	1992
F 16753	1917/1919	R 11151	1923/1924	Cox 6070	1992
F 16764	1917/1919	R 11153	1923/1924	SSNY 143	1992
F 16771	1917/1919	F 25697	1924/1925	EGM 213	1993
F 16778	1917/1919			Cox 6516	1994



R. x flavorufum

R. flavorufum was discovered on the mountains to the north of Atuntze, in northwest Yunnan, during June 1917, by Edinburgh Botanic's one-man band, George Forrest. It was described by their master plant hunter jointly with Sir Isaac Bayley Balfour in Volume 11 of *Notes from the Royal Botanic Garden, Edinburgh*, which was published in 1919. However, in Part 1 of the 1978 paper *A Preliminary Synopsis of the Genus Rhododendron*, and in the full Subgenus *Hymenanthes* revision that followed (*Notes*, Volume 36, and Volume 39, Number 2, respectively, the former co-authored with James Cullen), David Chamberlain reduced the taxon's specific status, placing it as a variety of *R. aganniphum*.

Pretty though the flowers are, unquestionably, it is the abaxial leaf indumentum that gets morphological star billing. This mix of hairs is considered to be bistrate - 2-layered - by some botanists; unistrate - single-layered - by other experts; and while most Western doyens have made *R. schizopeplum* synonymous - it has a tomentum that is less split, with the breaks longitudinal across the leaf according to John McQuire and Mike Robinson (writing in their 2009-published *Pocket Guide to Rhododendron Species*) - China's botanists maintain the taxon at varietal ranking, their observations confirming the white-coloured hue of the lower indumentum layer, which becomes visible once the upper layer begins to split (so *R. aganniphum* var. *flavorufum*, and *R. aganniphum* var. *schizopeplum*, as detailed in *Flora of China* online).

It took until 2011, but the formal, varietal status of *R. flavorufum* was ended with the publication of the paper *Hybrid Zones in Rhododendron Subsection Taliensia*.

This was a PhD thesis, written by Tobias Marczewski, which examined the hybrid swarms that exist in the wild between some populations of *R. aganniphum* and those of *R. phaeochrysum*. The morphology of the conglomeration is varied as it contains not only F1 hybrids - crosses between two rhododendron species, *R. aganniphum* x *R. phaeochrysum*, for instance - but also backcrosses, where the hybrid receives pollen from one of its parents - so: (*R. aganniphum* x *R. phaeochrysum*) x *R. aganniphum*; or (*R. aganniphum* x *R. phaeochrysum*) x *R. phaeochrysum* - and within this horde, some individual plants displayed identical features to those found on *R. aganniphum* var. *flavorufum*.

Samples of all the various forms were collected and back at Edinburgh University, Marczewski was able to carry out a full genetic examination of the dried material. The results of those deep dives indicated that the-then *R. aganniphum* var. *flavorufum* was an F1 or later generation backcross to *R. aganniphum*, and that revelation required the taxon to be treated as *R. x flavorufum* even though uniform populations have also been found on the mountains of the Mekong-Salween Divide, in northwest Yunnan (as previously reported by Peter and Kenneth Cox in their *Encyclopedia of Rhododendron Species*, 1997).

Regrettably, no mention is made of *R. schizopeplum* in the Marczewski thesis, but given the noted indumentum differences with *R. x flavorufum*, treatment as a separate natural hybrid - *R. x schizopeplum* - would appear to be appropriate.

R. x flavorufum was introduced into UK cultivation during 1917 under Forrest's type collection, F 14345, along with a second gathering under the field number F 14368. And another twenty or so batches were received up until 1932, thirteen of these from the Scotsman himself, the others from the Austrian-American plant hunter, Doctor Joseph Rock. After which, a sixty-year hiatus followed, this ended when Peter Cox reintroduced seed in 1992.

In British gardens, mature forms of the hybrid are rounded domes growing to around 2m high and wide. Although fairly robust in growth and fully hardy, these take a long time to start flowering and even then, most forms rarely set more than a few buds annually. However, the attraction for rhodophiles in adding *R. x flavorufum* to their collections is the distinctive, abaxially-chequered foliage, and here the plants rarely disappoint.



R. x russo-tinctum

R. x russotinctum

Hardiness:

H6-7.

Flowering Period:

April.

Height & Spread:

1.5m x 2m.

Wild Population Distribution:

SE Tibet; NW Yunnan, China.

Growing in conifer forest, in thickets, and on open mountain slopes,
at elevations of 3,300-4,200m.

Seed Collections:

F 17357	1917/1919
F 19562	1921/1922
F 20425	1921/1922
R 11101	1923/1924
R 11122	1923/1924
F 25928	1924/1925

R. russotinctum was another George Forrest discovery, the premier encounter taking place on the mountains north of Atuntze in northwest Yunnan, during June 1917, with the type specimen returned under the field number F 13971A. The species was described in Volume 11 of *Notes from the Royal Botanic Garden, Edinburgh*, published in 1919, this text jointly composed by Forrest and Sir Isaac Bayley Balfour.

The Edinburgh Revision classification downgraded the taxon from specific to varietal ranking, setting it under *R. alutaceum*, and sinking two other species - *R. triplonaevium* and *R. tritifolium* - under the new combination. However, field observations carried out post publication of the Cullen-Chamberlain-authored *Preliminary Synopsis* paper of 1978 and David Chamberlain's full Subgenus *Hymenanthes* review of 1982 vintage (*Notes*, Volume 36, and Volume 39, Number 2, respectively), have revealed that the whole conglomeration of plants gathered together under the *R. alutaceum* coverall are actually natural hybrids, crosses between *R. aganniphum*, *R. beesianum*, *R. phaeochrysum* and *R. roxieanum*. The insertion of a small 'x' in front of the three varietal epithets and the two sunk taxa, giving *R. x alutaceum*, *R. x iodes*, *R. x russotinctum*, *R. x triplonaevium* and *R. x tritifolium*, has therefore allowed all five epithets to be botanically maintained, at an equal ranking, and ditched the need for the sunk appellations to be sustained under the RHS's stopgap group system, which is only recognised in horticultural circles.

The Edinburgh Revision tinkering meant that most of the recently published botanic descriptions for *R. x russotinctum* were corrupted by the inclusion of features found on *R. x triplonaevium* and *R. x tritifolium*, so their removal has allowed a return to the more precise elucidations found in the 1992-published Volume 3 of H. H. Davidian's *The Rhododendron Species*. Keying the five from each other has therefore also become a piece of cake, as the morphological differences specific to *R. x russotinctum* attest:

1)- The leaf bud scales are persistent, held for up to two years, so the hybrid is swiftly distinguished from both *R. x alutaceum* and *R. x iodes*, which very quickly shed

their scales.

2)- The ovary is both glabrous and densely short-stalked glandular, these two traits immediately cleaving *R. x russotinctum* from *R. x triplonaevium*, which has a densely tomentose yet eglandular ovary.

3)- The young shoots of *R. x russotinctum* are distinctly sticky due to an abundance of stalked glands that are intermixed amongst the brown floccose hairs, and the annual growth internodes are quite long. These characteristics serve to divide the hybrid from *R. x tritifolium*, previously considered its closest ally, which has completely eglandular branchlets and is graced with quite short annual growth internodes, the latter feature also mirrored by *R. x triplonaevium*.

However, bear in mind the fact that introduced seed has been gathered from interbreeding populations of only partially stabilised natural hybrids, so treat accordingly when making an identification.

On that introduction-into-UK-cultivation front, Davidian states that 'there is no record of the species in cultivation', which must have come as shock to Robert Nunn Stephenson Clarke of Borde Hill Gardens, as he had won an Award of Merit for the clone 'Easter Island' in 1980, presenting his plant as *R. russotinctum* F 20425 to the RHS Floral Committee. The answer to the conundrum is that while Davidian is 'historically' correct, all six field number entries in the table opposite were ignored redeterminations made by Doctor Chamberlain during the course of his preparatory work for the Subgenus *Hymenanthes* revamp, with the F 17357 collection first identified as *R. sphaeroblastum*, the F 19562 and F 20425 field numbers tagged as *R. roxieanum*, R 11101 and F 25928 previously listed as *R. globigerum*, and the germinated contents of the R 11122 capsules, once upon a time, bearing markers stating they were *R. dictyotum*. Sticking with such physical objets d'art moreover, in their 2009-published book *A Pocket Guide to Rhododendron Species*, John McQuire and Mike Robinson report that some plants of true *R. russotinctum* growing in British gardens still have labels identifying them as *R. iodes* or *R. triplonaevium*.

So, bottom line: random insect pollination in a swarm of unspeciaded natural hybrids equals total confusion.

Upon which, the three identification bullet points set out above may be applied.

And if the result of such an inspection reveals a plant of *R. x russotinctum* established within your acreage, it will be fully hardy, have taken many years to begin flowering, and those blooms will be carried in a looser, more open truss, with fewer individual corollas in each inflorescence than the two short-internode pretenders.



R. x rusotinctum



R. x russotinctum



R. x russotinctum



R. x russotinctum



R. x russotinctum (F 20425) 'Easter Island' AM 1980



R. x didymoides (R 10900)



R. x didymoides (R 10903)



R. x didymoides (R 11052)



R. x didymoides (R 23636)

R. x didymoides

Hardiness:

H5-6.

Flowering Period:

April-May.

Height & Spread:

1.5m x 2m.

Wild Population Distribution:

SE Tibet; NE Upper Myanmar; NW Yunnan, China.

Growing in open pasture and cane scrub, in rhododendron thickets, amongst rocks and boulders, on rocky slopes and cliffs, at elevations of 3,300-4,300m.

Seed Collections:

F 14268	1917/1919	F 21783	1921/1922	F 25507	1924/1925
F 19569	1921/1922	F 21856	1921/1922	F 25943	1924/1925
F 19982	1921/1922	F 22667	1921/1922	F 25957	1924/1925
F 21746	1921/1922	F 22685	1921/1922	KW 6831	1926
F 21747	1921/1922	R 10903	1923/1924	KW 7500	1926
F 21748	1921/1922	R 10904	1923/1924	R 18464	1929
F 21754	1921/1922	R 10940	1923/1924	R 23636	1932
F 21765	1921/1922	R 10953	1923/1924	Cox 6540	1994
		R 11052	1923/1924		



R. x didymoides (R 10903)

R. x didymoides is a natural hybrid, most probably a cross between *R. sanguineum* and *R. citriniflorum* ssp. *citriniflorum*, but with some backcrossing or input from members of the various hybrid swarms that coexist within and alongside the populations of both named species. On the ground in southeast Tibet and northwest Yunnan, a full spectrum of intermediates can be found between the two named species whose varying features span the extremes, but they are all the product of inter-taxa pollination. True specimens of *R. sanguineum* do not exhibit persistent leaf bud scales, nor do they have dense mats of glandular hairs on their pedicels, calyx lobes, ovaries or capsules, whereas the reverse is the usual norm for individuals of *R. citriniflorum* ssp. *citriniflorum*. The *R. x didymoides* pride offer a variable display, some features being glandular, others not, with the leaf bud scales usually retained.

Clear morphological indications of their hybrid status therefore.

Three other taxa are included within the 'Didymoides' morass, *R. mannophorum*, *R. roseotinctum* and *R. sanguineum* ssp. *consanguineum*, each of which possess a feature set that fits neatly inside the character range defined above, although one is without persistent leaf bud scales. David Chamberlain had previously made them all synonymous under *R. sanguineum* ssp. *sanguineum* var. *didymoides* when writing his Subgenus *Hymenanthes* monograph, firstly in the second part of the *Preliminary Synopsis* paper he co-authored with James Cullen, and then in the revision's fully detailed text (*Notes from the Royal Botanic Garden, Edinburgh*, Volume 37, 1979, and Volume 39, Number 2, 1982).

R. x didymoides had first been found in July 1917 on the Mekong-Salween Divide in northwestern Yunnan: George Forrest was the collector, and the botanic description, a joint text written by the plant hunter and Sir Isaac Bayley Balfour, appeared in 1919's *Notes*, Volume 11. Technically this was for *R. roseotinctum*, which would have had primacy under the nomenclature rules had not John MacQueen Cowan subsequently placed it, along with *consanguineum* and *didymoides*, as subspecies of *R. sanguineum* in his 1940 review of the *Neriiflorum* Series (*Notes*, Volume 20), this allowing Doctor Chamberlain to then decide which of the epithets to maintain, regardless of their initial precedence, when combining them at varietal ranking.

To be grown successfully, specimens of *R. x didymoides* need swift drainage, and a planting site that keeps the roots cool. Some forms are compact dwarf shrubs, never more than 0.6m high and perfect subjects for a northern aspect in the rock garden, while others develop into broadly-upright domes between 1 and 1.5m tall, these often some 2m in diameter. All the various clones are usually free flowering, especially once mature, and as they hail from quite high elevations, hardy across most of the UK.

Technically, the Cox 6540 re-introduction of 1994 vintage has been given an affinity tag, but really?



R. x didymoides (R 10903)



R. × didymoides (R 10903)

R. x eudoxum

Hardiness:

H5-6.

Flowering Period:

April-May.

Height & Spread:

2m x 3m.

Wild Population Distribution:

SE Tibet; NW Yunnan, China.

Growing in bamboo forest and alpine rhododendron thickets,
on rocky slopes and cliffs, at elevations of 3,300-4,300m.

Seed Collections:

F 14245	1917/1919	F 21767	1921/1922	R 10950	1923/1924
F 14774	1917/1919	F 21827	1921/1922	R 11078	1923/1924
F 16301	1917/1919	F 21845	1921/1922	R 22295	1932
F 16711	1917/1919	F 21909	1921/1922	R 23646	1932
F 16751	1917/1919	F 22700	1921/1922	R 23663	1932
F 18937	1917/1919	R 10898	1923/1924	R 6b	1948/1949
F 21738	1921/1922	R 10907	1923/1924	KW 19589	1950
F 21764	1921/1922	R 10932	1923/1924	Cox 6036	1992

R. eudoxum; the two specific species made varieties of it by the Edinburgh Revision texts, namely *R. brunneifolium*, and *R. mesopolium*; and the host of epithets that were previously sunk under all three taxa: are in fact a string of very similar hybrids all of which are crosses between *R. selense* and various members of the *R. sanguineum* hybrid swarm, with some backcrossing thrown in for good measure. They differ from each other in having predominantly tomentose to predominantly glandular ovaries, and in the colour of their abaxial leaf surface indumentum, a cloak that is actually barely discernible on the majority of specimens so thin and patchy is the mantle. Absolutists in the rhodophile ranks will want all three established as individual natural hybrids to preserve their innate horticultural distinctiveness, but that would be carrying hair-splitting into the realms of absurdity as well as ignoring the mass of evidence available in field reports from southeast Tibet and those from the northwest of the neighbouring Chinese province of Yunnan.

It will come as no great surprise therefore, that herein, they are all regarded as just one taxon: *R. x eudoxum*.

George Forrest was of course responsible for making the initial discovery of all three once-specific species: *R. eudoxum*, on the Mekong-Salween Divide, during July 1917; *R. mesopolium*, on the Doker-La near Tsarong sometime during July or August of 1918; and *R. brunneifolium* on the mountains of the Salween-Kiu Chiang Divide, during the course of July 1919. He described all three finds with Sir Isaac Bayley Balfour, that for *R. eudoxum* appearing first, in Volume 11 of *Notes from the Royal Botanic Garden, Edinburgh*, which was published in 1919, and thereby establishes primacy. *Notes*, Volume 13, of 1920 vintage, contains the text for the two synonyms-in-waiting. The Scotsman was also responsible for the introduction of two members of the pride into British cultivation, though his Austrian-American competitor, the explorer, botanist and geographer Doctor Joseph Rock, takes the credit for the third, *R. brunneifolium*.

R. x eudoxum is fully hardy and able to be grown in the majority of British gardens where rhododendrons thrive, developing into a dome-shaped, compact specimen around 1.2m high given time, and flowering freely from a young age. Red forms predominate in cultivation although the corolla colour range is actually fairly substantial, with most hues pleasing to the eye, even those clones where the genetics has opted for tones of magenta intermixed with hues of bluish-crimson (as opposite top left).



R. x eudoxum (R 6b)



R. x eudoxum



R. x eudoxum



R. x eudoxum (R 10950)



R. x eudoxum (R 10950)

R. x bathyphyllum

Hardiness:

H6.

Flowering Period:

April-May.

Height & Spread:

1.5m x 1m.

Wild Population Distribution:

SE Tibet; NW Yunnan, China.

Growing at the margins of pine forest,
in rhododendron thickets and moorland, and on rocky slopes,
at elevations of 3,300-4,300m.

Seed Collections:

F 14718	1917
F 16668	1917/1919
F 16752	1917/1919
F 25739	1924/1925
Yu 10683	1937
C 6541	1994
C 6542b	1994

Initially thought to be close to plants that at that time were classified by the botanists as *R. roxieanum* var. *cucullatum* or *R. alutaceum* var. *rusotinctum*, with the natural hybrid in consequence placed within Subsection *Taliensia*, recent field study has shown that *R. x bathyphyllum* is in fact a cross between *R. proteoides* and *R. aganniphum*. In the wild, both parents will be found growing together and specimens of their joint progeny will be found dotted sporadically about between and amongst the tangle of plants that form those populations. Peter and Kenneth Cox reported that individuals had also emerged as rogues amidst otherwise bog-standard seedlings of *R. proteoides* in their 1997 authored and published *Encyclopedia of Rhododendron Species*.

Stepping forward to bathe in the adulation, George Forrest was once again the first plant hunter to collect and introduce the taxon into science and British gardens, finding specimens on Ka-gwr-pw, near Tsarong, in the Mekong-Salween Divide of southeast Tibet during August 1917. He described the find with Sir Isaac Bayley Balfour in 1919, their outline appearing in Volume 11 of *Notes from the Royal Botanic Garden, Edinburgh*.

Morphologically, *R. x bathyphyllum* is basically mid-way between its two parents, in stature and leaf size. It is also very slow growing, taking many years to reach flowering size, although most clones are then free-flowering, with only a minority producing just a handful of blooms each season. As would be expected given the pairing, the shrubs are very hardy, but like most other high-altitude members of Subsection *Taliensia*, they dislike hot summers and nitrogen-rich soil, the application of any fertiliser, and require excellent drainage to prevent root rot problems. The densely hairy and non-sticky ovary will key cultivated specimens from their pollen parent and previously-believed close associates, while the much larger leaf blades distinguish the hybrid from its matriarch.

Concern has been expressed that specimens associated with the early introductions of *R. x bathyphyllum* - germinated from seed gathered by Forrest and Te Tsun Yu - may not

be 'true' examples of the wild plants given that the capsules came from unspecialised hybrids (a point equally applicable to one of the two modern day collections made by Peter Cox in 1994, namely C 6541). Such an assessment is clearly valid, so in fact, the only really representative plants in cultivation could be those tagged with a C 6542b label, as this gathering of capsules came directly from a specimen of *R. proteoides*. The majority of the germinated seedlings proved to be the hybrid - *R. proteoides* x *R. aganniphum* - with only a small percentage coming up as the true species, which have all been redesignated as C 6542a. This might suggest that an affinity tag should be applied to the other six collections - or would that be a genetic step too far?



R. x bathyphyllum (F 14718)



R. x iodes

R. x iodes

Hardiness:

H6-7.

Flowering Period:

April.

Height & Spread:

1.5m x 2m, through 4m x 5m.

Wild Population Distribution:

SE Tibet; SW Sichuan & NW Yunnan, China.

Growing in fir, pine, rhododendron and mixed forests, in rhododendron, cane and mixed thickets, and in meadows and on open rocky mountain slopes, at elevations of 3,300-4,300m.

Seed Collections:

F 14243	1917	F 18912	1917/1919	R 19	1948/1949
F 15039	1917/1919	F 19567	1921/1922	R 63	1948/1949
F 16729	1917/1919	F 20426 *	1921/1922	R 64	1948/1949
F 16742	1917/1919	R 11116	1923/1924	R 139	1948/1949
F 16745	1917/1919	R 23562	1932	R 141	1948/1949
F 16779	1917/1919	R 23575	1932	CNW 429 *	1994
F 17447	1917/1919	R 23660	1932	CNW 430 *	1994

Collected by George Forrest in October 1917 and introduced into British gardens later that same year under the field number F 14243, *R. iodes* was first found growing on Kagr-pw near Tsarong, in the Mekong-Salween Divide of southeast Tibet. The plant hunter and Sir Isaac Bayley Balfour jointly described the species in Volume 13 of *Notes from the Royal Botanic Garden, Edinburgh*, published in September 1920, identifying a later gathering from the Doker La, under F 16745, as the type specimen.

Reduced in rank to a variety of *R. alutaceum* in the Subgenus *Hymenanthes* texts of 1978 and 1982 (*Notes*, Volume 36, and Volume 39, Number 2), subsequent field reporting has shown the taxon to be part of a hybrid swarm, its features intermediate with *R. x alutaceum* and *R. x russotinctum*, although the upper stratum of the bistrate abaxial indumentum is persistent, so does not fall-off or become patchy despite some cultivated specimens challenging this concept. The plant is closest to *R. triplonaevium*, but has much smaller leaves that never exceed 12cm in length and are wider in ratio; the tomentum is not detersile (\pm); and the flowers only rarely carry a crimson basal blotch. The deciduous leaf bud scales key *R. x iodes* from the persistently-held *R. x russotinctum*, although the check is less useful for both *R. x triplonaevium* and *R. x tritifolium*, where the degree of retention is variable.

In cultivation, *R. x iodes* is most often a medium-sized shrub growing to between 1.5 and 2m high, with a similar or slightly wider spread. Occasionally, specimens can hit 3 or 4m high in height, with the dome extending-out laterally several metres further. Hardiness is more than sufficient to cope with the UK's maritime climate, although as plants flower in April, the blooms are sometimes hit by a late spring frost. Most clones are free flowering from a relatively young age, open compact, globular to domed-shaped trusses of white heavily spotted crimson corollas, with a few boasting a beautiful flush of pink.

Three affinity determinations in the seed table are marked with an asterisk (*).



R. x iodes



R. x iodes



R. x iodes



R. x agglutinatum

Hardiness:

H6-7.

Flowering Period:

March-April.

Height & Spread:

2.5m x 3m.

Wild Population Distribution:

SE Tibet; W & C Sichuan, & NW Yunnan, China.

Growing in fir forest, rhododendron thickets, and on mountain slopes,
at elevations of 3,000-4,800m.

Seed Collections:

F 15354	1918	R 24295	1932	LS&E 15178	1946/1947	Cox 6146	1992
F 15415	1918/1919	R 24302	1932	LS&E 15179	1946/1947	SICH 1010	1992
F 16319	1918/1919	R 24306	1932	LS&E 15245	1946/1947	SICH 1075	1992
F 16439	1918/1919	R 24359	1932	LS&E 15246	1946/1947	KGB 24	1993
F 16459	1918/1919	R 24363	1932	LS&E 15256	1946/1947	KGB 25	1993
F 16464	1918/1919	R 24365	1932	LS&E 15257	1946/1947	KGB 564	1993
F 16489	1918/1919	R 24366	1932	LS&E 15259	1946/1947	CV 9552	1995
F 16754	1918/1919	R 24395	1932	LS&E 15288	1946/1947	CV 9574	1995
F 19714	1921/1922	R 24410	1932	LS&E 15289	1946/1947	KR 3689	1995
F 19733	1921/1922	R 24414	1932	LS&E 15290	1946/1947	AC 1842	1996
F 19822	1921/1922	R 24512	1932	LS&E 15309	1946/1947	JN 584	1996
F 20213	1921/1922	R 24524	1932	LS&E 15324	1946/1947	AC 4455	2000
F 20347	1921/1922	R 25470	1932	LS&E 15326	1946/1947	AC 4629	2000
F 21020	1921/1922	L&S 1761	1936	LS&E 15327	1946/1947	AC 4801	2001
F 21045	1921/1922	L&S 1770	1936	LS&E 15328	1946/1947	AC 4802	2001
R 11085	1923/1924	Yu 10755	1937	LS&E 15399	1946/1947	AC 4826	2001
R 11108	1923/1924	Yu 13806	1937	LS&E 15443	1946/1947	AC 4848	2001
R 11335	1923/1924	Yu 14636	1937	LS&E 15462	1946/1947	AC 4856	2001
R 11340	1923/1924	LS&T 3902	1938	LS&E 15466	1946/1947	AC 4858	2001
R 11341	1923/1924	LS&T 5010	1938	LS&E 15535	1946/1947	AC 4888	2001
R 11343	1923/1924	LS&E 13753	1946/1947	LS&E 15763	1946/1947	AC 4889	2001
R 11345	1923/1924	LS&E 13795	1946/1947	Cox 5058	1990	SICH 2123	2001
KW 5759	1924/1925	LS&E 13855	1946/1947	Cox 5081	1990	TARRVS 076	2002
R 23321	1932	LS&E 13858	1946/1947	EGM 134	1990	SI04	2004
R 23324	1932	LS&E 14006	1946/1947	CEE 369	1991	MH 369-42	2018
R 23325	1932	LS&E 14024	1946/1947	CEE 370	1991		
R 23618	1932	LS&E 14026	1946/1947	CEE 432	1991		
R 24284	1932	LS&E 15121	1946/1947	CEE 565	1991		

Discovered on the mountains above Muli in southwestern Sichuan by George Forrest during June 1918, *R. agglutinatum* - as the collections table confirms - is now known to have a widespread distribution across west and central Sichuan that extends into northwest Yunnan and southeast Tibet. In Yunnan, on the Mekong-Salween Divide, a plant collected by Forrest in June 1917 was named as *R. dumosulum* and described by the plant hunter and Sir Isaac Bayley Balfour in *Notes from the Royal Botanic Garden, Edinburgh*, Volume 13, published in September 1920. It was made synonymous under *R. agglutinatum* in the preliminary paper of the Edinburgh Revision - *Notes*, Volume 36, 1978, jointly authored by David Chamberlain and James Cullen - as the 1918 find had been named and described by Balfour and Forrest in Volume 12 of *Notes*, this also published in 1920, but some six months earlier in March, which thereby allows it to take precedence. The Subgenus *Hymenantes* changes also reduced the status of *R. agglutinatum* down to a variety of *R. phaeochrysum* and at the same time sunk *R. lophophorum* and *R. syncollum* under the new combination. Both former species had again been collected by Forrest - on the mountains near Atuntze in northwest Yunnan during June 1917 - and jointly described by him and Balfour in *Notes*, Volume 11, which was published in January 1919, so the nomenclature primacy rules would suggest that *R. phaeochrysum* var. *lophophorum* be selected as the epithet rather than var. *agglutinatum*, but clearly the 'stuck together' Latin appellation - this highlighting the plastered nature of the abaxial leaf surface indumentum - was more apt than a monicker referencing the ovary's hairy apex, especially as the latter feature was only applicable to a small minority of the assemblage.

That ranking choice remained in force until the publication in 2011 of the paper *Hybrid Zones in Rhododendron Subsection Taliensia*. This was the subject that Tobias Marczewski had chosen to study for his PhD Thesis and the hybrid swarms that exist between some populations of *R. aganniphum* and *R. phaeochrysum* in Yunnan were targeted for his fieldwork. When samples of the F1 hybrids were analysed - first generation pairings between the two specific species - they were found to be genetically identical to *R. phaeochrysum* var. *agglutinatum*. Redesignating the taxon as *R. x agglutinatum* is fully justified therefore, the wide variation in features outlined in previously-published botanic descriptions now clearly appropriate for a still-stabilising, widely endemic population.

On the ground, observations by other teams have shown that there is a complete intergradation with *R. phaeochrysum* var. *phaeochrysum*, as well as with *R. aganniphum* and *R. przewalskii*. In addition, Peter and Kenneth Cox, writing in their 1997-published *Encyclopedia of Rhododendron Species*, have suggested that those plants currently filed under *R. aganniphum* Doshongense Group, would better be assimilated if they were placed under var. *agglutinatum*. However, many cultivated plants of the horticulturally-recognised Doshongense Group have a near glabrous leaf under surface, while others show a thin, plastered indumentum, so the choice made herein, is to treat the group as another natural hybrid, namely *R. x doshongense*, thereby providing it with full botanic status.

R. x agglutinatum was introduced into UK cultivation by George Forrest in 1918, with a succession of collectors returning more than eighty individual gatherings up until 1947. Peter Cox and Ted Millais reintroduced the hybrid in 1990, post which, almost thirty batches have been sourced since (plus a 2018 gathering made by Hans Eiberg and another by Kristian Theqvist in 2019 that featured on the ARS Seed Exchange). Rounded domes to 2.5m high are the norm for mature specimens in British gardens, these usually well filled with foliage unless grown in dense shade, where plants become somewhat leggy. Specimens are fully hardy, quite vigorous in growth, and while flower bud production is not profuse, the best forms bloom freely, opening globular trusses of white, flushed with pink and spotted crimson, though the abandon of some *R. x alutaceum* clones is never matched.



R. x agglutinatum (F 19822)



R. x agglutinatum (F 19822)



R. x agglutinatum (F 19822)



R. x chlorops (F 16463)

R. x chlorops

Hardiness:

H5.

Flowering Period:

May.

Height & Spread:

4m x 3m.

Wild Population Distribution:

NW Yunnan, China.

Seed Collections:

F 16463	1917/1919
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Until the early 1990s, *R. x chlorops* was only known in Western cultivation from specimens with a dubious provenance.

Two gardens, the Royal Botanic Garden, Edinburgh, and Lochinch near Stranraer, which is better known today as Castle Kennedy, had similar plants growing under a George Forrest field number - F 16463 - that had been collected in Yunnan. Except the dried material under that reference in the Edinburgh herbarium was clearly a member of Genus *Acer*. Edinburgh's rhododendron flowered in 1930 and John MacQueen Cowan coined the name 'green-eye' - *chlorops* in Latin - for the plant's epithet, reflecting the tinge of green in the centre of the pale yellow corollas. Specimens were collected in the garden during May of that same year, pressed and dried, with the new type sheet bearing what would turn out to be a clearly prophetic annotation: that the taxon might be a chance hybrid between *R. wardii* and *R. vernicosum*.

The specimen growing in Lord Stair's garden, located close to Scotland's Gulf Stream-moderated west coast, first bloomed in 1931, and in 1938 its crimson-blotched, pale primrose to white flowers were favoured with a Royal Horticultural Society Award of Merit.

Fifteen years later, a description written by Cowan finally appeared in Volume 21 of *Notes from the Royal Botanic Garden, Edinburgh*, published in 1953, which conferred specific status on the taxon, as well as noting the supposed close relationship with *R. vernicosum*. Now jump forward almost forty years to 1992. Which was when a team from Scotland were exploring the Zhongdian plateau in northwestern Yunnan. Here, near Napa Hai, in an area of cut-over hillside dotted with many rhododendrons - the survivors included *R. rubiginosum*, *R. selense*, *R. vernicosum*, *R. wardii* and *R. yunnanense* - David Chamberlain, Peter and Kenneth Cox, Peter Hutchison and Ian Sinclair, found several obvious hybrids that were intermediate between *R. vernicosum* and *R. wardii*, which had cream-coloured flowers: *R. x chlorops*.

Regrettably, although the members of the Sino-Scottish Expedition to Northwestern Yunnan gathered capsules off of both parent species, there are no reports of any seed pan rogues germinating and only one other expedition to date has recorded collecting the hybrid (team member Kristian Theqvist of Finland securing the capsules in 2019 and offering their contents via the American Rhododendron Society's annual Seed Exchange in 2020).

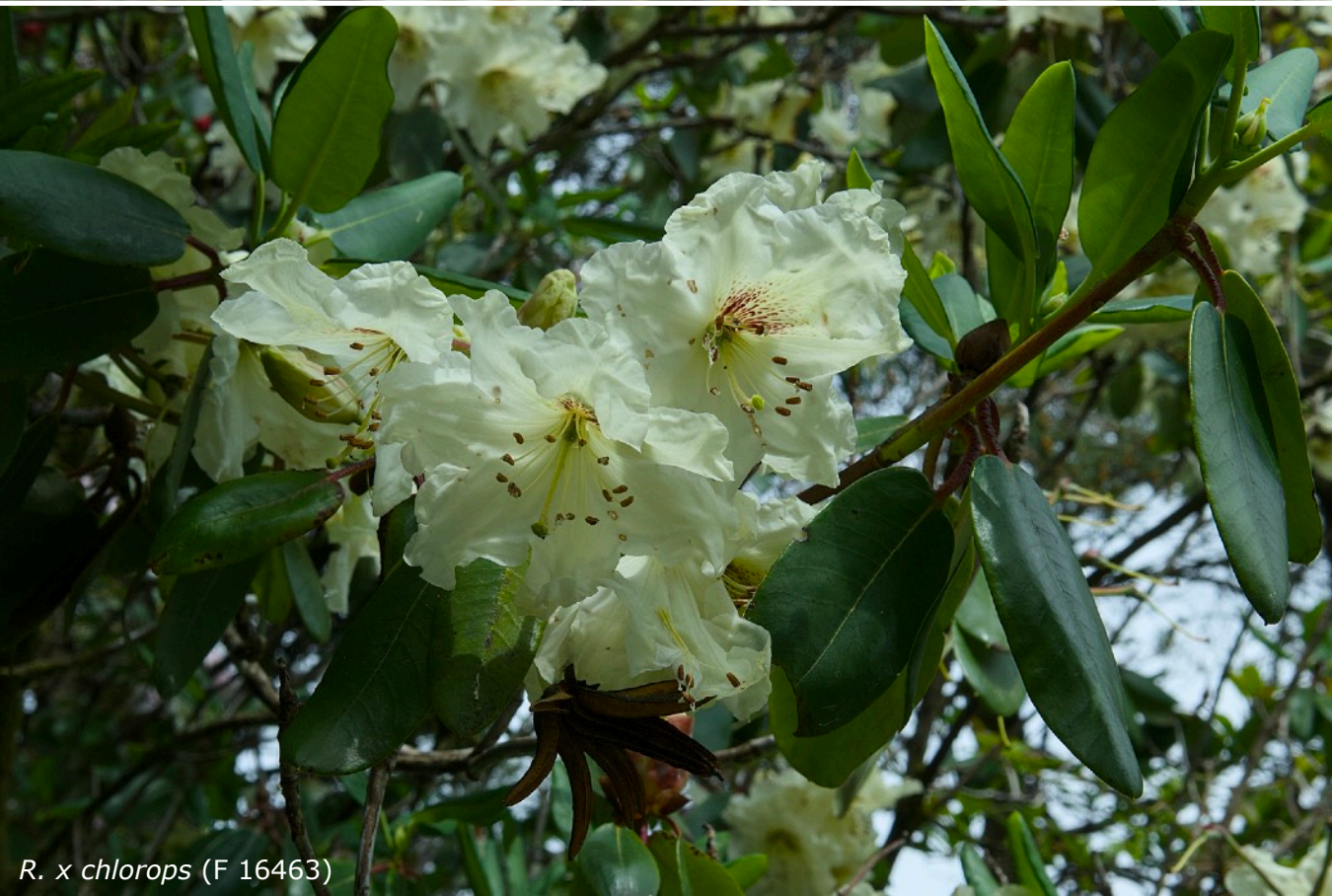
The five forms of 'Chlorops' that have now been identified in British gardens, grown from that tentative Forrest 16463 gathering, currently remain the only mature, flowering examples of the natural hybrid in cultivation and as would be expected, their blooms vary from one clone to another, not only in colour and spotting, but also in shape and size.



R. x chlorops (F 16463)



R. x chlorops (F 16463)



R. x chlorops (F 16463)



R. x chlorops (F 16463)



R. x dictyotum

R. x dictyotum

Hardiness:
H6-7.

Flowering Period:
April-May.

Height & Spread:
2.5m x 3m.

Wild Population Distribution:
SE Tibet; SW Sichuan & NW Yunnan, China.

Growing at the margins of conifer forest,
in rhododendron thickets, and on rocky mountain slopes,
at elevations of 3,300-4,300m.

Seed Collections:

F 14809	1917/1919	Yu 7871	1937
F 16734	1917/1919	Yu 15089	1937
F 16755	1917/1919	KGB 485	1993
R 10933	1923/1924	CNW 231 *	1994
KW 10832	1933	C&N 5760 *	2007



R. x dictyotum

The botanical status of *R. dictyotum* was reduced from specific to varietal ranking in the *Preliminary Synopsis* text for the Subgenus *Hymenanthes* revision that was written by James Cullen and David Chamberlain in 1978 (*Notes from the Royal Botanic Garden, Edinburgh*, Volume 36), with the taxon placed under *R. traillianum*.

Unfortunately however, many of the characteristics that separate the two plants were overlooked in that précis and the subsequent full revision monograph (*Notes*, Volume 39, Number 2, 1982). One example of such would be the abaxial leaf indumentum, which is totally different: on *R. traillianum* it is thin, compacted and powdery, and composed of radiate hairs with pear-shaped arms; yet on *R. dictyotum* the cloak is felted, thin or thick, and composed of long-rayed hairs with broad, ribbon-like arms. In fairness, the variation in indumentum depth was not formally reported until 1999 - when Science Press in Beijing published Volume 3 of *Rhododendrons of China*, this edited by Feng Guomei and Yang Zenghong - and it should be noted that the book's authors continued to maintain varietal status, along with the linkage to *R. traillianum*. But unlike *R. traillianum*, much of the morphology of *R. dictyotum* is highly variable. Such as the branchlets. Which can either be glandular or eglandular, and glabrous through tomentose, and when present, that latter covering of hairs can be equally capricious, as their overall numbers might be few, or many, or an abundance. And the presence or absence of hairs on the petioles, rhachis, pedicels and ovary of the taxon is just as haphazard.

Expert opinion has also shifted, with Peter and Kenneth Cox writing that:

'Further fieldwork needs to be done to ascertain the status of this plant as most cultivated material under this name is incorrectly labelled. It may not actually be directly related to *R. traillianum* being perhaps derived from natural hybrids between *R. beesianum* and *R. phaeochrysum*.'
The Encyclopedia of Rhododendron Species, 1997.

A point John McQuire and Mike Robinson concurred with a decade later:

'Placing this species under *R. traillianum* is open to question; it may be a hybrid of *R. phaeochrysum*.'
A Pocket Guide to Rhododendron Species, 2009.

The obvious conclusion is adopted herein: *R. x dictyotum*.

The shrub was described by Isaac Bayley Balfour, with Harry Tagg posthumously completing his text for Volume 15 of *Notes from the Royal Botanic Garden, Edinburgh*, which was published in 1927. Material collected by George Forrest on the mountains of the Doker La, in the Mekong-Salween Divide, southeast Tibet, was used for the description, this gathering made during June 1918, under the field number F 16734. Now, although these were designated as the type specimens, the plant hunter had actually discovered the rhododendron in fruit, introduced seed and returned dried specimens from those plants the year previously, in September 1917, these listed under F 14809. *R. x dictyotum* has also been found by Frank Kingdon-Ward, Joseph Rock and Te Tsun Yu, as well as more recently, during the autumn of 1993, by members of the Kunming-Gothenberg Expedition, this reintroduction, under their rather inauspicious field number KGB 485, delivering plants with white-flushed-rose corollas. Two affinity-tagged gatherings have also been made - these marked with an asterisk (*) in the seed table - although with specific regard to natural hybrids, such designations should perhaps be considered botanically redundant.

In cultivation, *R. x dictyotum* develops into a rounded dome around 2.5m high, which spreads out slightly wider. Specimens are fully hardy and free-flowering, though they will prove to be a rare find even in the UK's larger rhododendron collections.



R. x dictyotum



R. x dictyotum

R. x himertum

Hardiness:
H5.

Flowering Period:
April-May.

Height & Spread:
1m x 1.5m.

Wild Population Distribution:
SE Tibet; NW Yunnan, China.

Growing in rhododendron thickets and open meadows,
on rocky slopes and cliff ledges, at elevations of 3,100-4,100m.

Seed Collections:

F 16727	1917/1919
F 16728	1917/1919
R 10906	1923/1924
R 23635	1932
R 23645	1932

R. x himertum is decidedly rare in UK cultivation and the plant shown here - the only specimen so far located - although graced with an Edinburgh Botanic label linking it with the Rock 10906 collection and morphologic characteristics that fall within the bandwidth of the botanic description, has one rather glaring anomaly: the corollas are red, not yellow. So if this is indeed a seedling from the aforementioned gathering, either the donor plant was an unsuspected member of the clan or it was pollinated by something a little different growing nearby (matching, perhaps, the postulated F2 status of another *R. x himertum* collection made by the Austrian-American, namely, R 22215 of 1932 vintage).

First collected in July 1918 off of the mountains near Tsarong in southeast Tibet, George Forrest described his find with Sir Isaac Bayley Balfour in Volume 13 of *Notes from the Royal Botanic Garden, Edinburgh*, published in 1920, the 'Himertum' epithet denoting the plant as 'lovely'. John MacQueen Cowan lowered its ranking status to that of a subspecies of *R. sanguineum* in 1940 (*Notes*, Volume 20), despite the fact that the taxon can clearly be associated with the basically yellow-flowering *R. citriniflorum* ssp. *citriniflorum* (although in the main, it has a non-sticky rhachis, pedicel, calyx and ovary, likely inherited from its *R. sanguineum* genes). That picture is further complicated by on-the-ground intermediates between *R. x himertum* and *R. citriniflorum* ssp. *citriniflorum*, plus another group of crosses with *R. temenium* var. *temenium* Gilvum Group.

The Edinburgh Revision's set of changes also dropped the ranking - down another notch to varietal status - and swelled the taxon's ranks with two previously specific species - *R. nebrites* and *R. poliopeplum* - now sunk, and for good measure, added-in a further member of the *R. sanguineum* tribe, ssp. *aisoides*. Plants with a slightly thicker lower surface leaf indumentum, and an ovary sporting mid-length stalked glands, which were previously listed as *R. sanguineum* var. *melleum*, are also, herein, regarded as being synonymous under the 'Himertum' umbrella. And of course, a small 'x' is placed in front of the epithet, as it is unquestionably a natural hybrid.

The plant photographed maintains the broadly upright stature of *R. x himertum* - to around 1m high - is undoubtedly floriferous, and hardy enough to flourish in the woodland at Edinburgh Botanic for several decades. It just doesn't have yellow flowers.



R. x himertum (R 10906)



R. x himertum (R 10906)



R. x transiens

R. x transiens

Hardiness:

H5.

Flowering Period:

May-June.

Height & Spread:

1m x 1.5m.

Wild Population Distribution:

Kanto & Tokai Regions, Honshu, Japan.

Growing on hillsides in thickets or at the margins of deciduous woodland,
at elevations of 200-400m.

Seed Collections:

No authenticated introductions have been documented,
but the 1994 American Rhododendron Society Seed Exchange listed a gathering made by
Shi-nichi Ishida at Hakone, in Kanagawa Prefecture, Honshu.

R. x transiens was formerly described by Takenoshin Nakai in the 1922-published *Trees and Shrubs Indigenous in Japan Proper*, this co-authored with Genichi Koidzumi. The taxon had long been considered a hybrid between *R. kaempferi* and *R. stenopetalum* by Western experts, but Japanese botanists have more recently used DNA gene sequencing techniques to link *R. ripense* and its natural hybrids into the parentage, rather than the two aforementioned taxa.

Ernest Wilson is known to have returned specimens of *R. x transiens* to the Arnold Arboretum, Boston, Massachusetts, in the spring of 1919, at the conclusion of his second expedition to Japan, so Kew may have received one or two plants from across the pond a little while later. However, Wilson knew the shrubs as 'Murasaki Yama-tsutsuji' or 'Purple Hill Azalea' and named them as *R. obtusum* var. *kaempferi* forma. *mikawanum* in the 1921 book he co-wrote with Alfred Rehder, *A Monograph of Azaleas*. This text was basically a reworking of the *R. indicum* var. *mikawanum* description that Tomitarô Makino had outlined in 1909 (within Volume 23 of *Shokubutsu-gaku Zasshi*, the Tokyo Botanical Magazine).

A vague possibility also exists that Charles Maries might have introduced the hybrid into the UK unknowingly during his 1877-1879 Far East collecting trip for the James Veitch & Sons nurseries of Chelsea, with plants or seed crowding under the coverall umbrella of *R. indicum* var. *balsaminaeflorum*. Equally, the herbarium at the Muséum National d'Histoire Naturelle in Paris boasts a specimen dating to 1887 that may be *R. x transiens* - given the dried material was collected near Chichibu, in the Kanto Region of Japan - but the sheet has no other collector-supplied information regarding either any accompanying seed, or live plants.

Wild plants of *R. x transiens* are found in what today can only be described as 'suburban forests', these adjoining the heavily industrialised Kanto and Tokai regions of Japan's main island, Honshu, with the few specimens that remain considered critically endangered. Of note is the fact that while historically, the hybrid has only been known to Western science since 1919, *R. x transiens* has been used extensively by Japan's own horticulturalists - from the Tokugawa Period (1603-1867) onwards - to swell the ranks of the evergreen azalea cultivars.



R. x spilotum

R. x spilotum

Hardiness:

H5-6.

Flowering Period:

April-May.

Height & Spread:

2m x 3m.

Wild Population Distribution:

NE Upper Myanmar.

Growing in alpine woodland,
at elevations between 2,750 and 3,350m (estimated).

Seed Collections:

Farrer 1539	1919
KW 10959 *	1933
CNW 576 *	1994

Reginald Farrer discovered *R. x spilotum* growing in alpine woodland near Nyitadi, in northeast Upper Myanmar, during early May 1920. His field notes record that it was rare on the ground with only isolated specimens occurring, these small trees with only a few bell-shaped flowers. Herbarium material under the field number Farrer 1539 exists on a number of plates at Edinburgh and Kew, at least one of which displays an open seed capsule, so some still-viable ovules recovered from this may have been the origin of the plants now in UK cultivation, which surprisingly, are a good match with the type specimen, but as there is no direct linkage to confirm this, their provenance must remain uncertain.

It has also been suggested that these cultivated plants might have come from two later collections by Frank Kingdon-Ward: KW 10959, which the botanists have tagged with an affinity label (hence the asterisk in the table above, along with another for the Alan Clark, Jens Nielsen and Murray Wilson find of 1994 vintage); or KW 13327, currently determined to be an unknown species, with a tentative Subsection *Barbata* association. But again, any clear morphologic or genetic linkage is missing.

Nonetheless, *R. spilotum* was described as a specific species by Sir Isaac Bayley Balfour based on Farrer's field notes and the dried material he returned (*Notes from the Royal Botanic Garden, Edinburgh*, Volume 13, 1922), with the taxon initially housed within the Neriiflorum Series. Harry Tagg revised this placement for *The Species of Rhododendron*, published in 1930, choosing instead to ally the shrub with the membership of the Glischrum Subseries, and there it remained, as even the Edinburgh Revision botanists decided it was best left unplaced, even though the evidence then to hand indicated that is was more likely a natural hybrid. Peter Cox, writing in the revised, 1990 edition of his book, *The Larger Rhododendron Species*, proposes a parentage of *R. habrotrichum* x *R. martinianum*, as these two species were apparently reported by Farrer to have been found growing nearby when he made the *R. x spilotum* find.

Cultivated plants are free-flowering bushy shrubs 1 to 2m high and twice that in lateral spread, with the best form - growing at Edinburgh Botanic, but propagated and available from the specialist nurseries - a real head-turner, sporting exquisite, white-flushed-pink corollas, each one of which bears an arresting crimson basal blotch. Specimens are fully hardy in most British gardens, benefit from a sunny spot in northern locales, but require dappled shade in the south.



R. x spilotum

R. russatum* × *R. rupicola

Hardiness:

H5-6.

Flowering Period:

April-May.

Height & Spread:

1m x 2m.

Wild Population Distribution:

SE Tibet; W Sichuan & NW Yunnan, China; NE Upper Myanmar.

Growing in rhododendron thickets,
on rocky slopes and cliffs, and in open alpine meadows,
at elevations of 2,500-4,300m.

Seed Collections:

F 21490	1921/1922
F 21529	1921/1922
F 22295	1921/1922
R 11284	1923

In their update of the Subsection *Laponica* rhododendrons for the 1996 Edinburgh Revision classification, William and Melva Philipson - writing twenty years earlier in 1975's Volume 34, Number 1, of *Notes from the Royal Botanic Garden, Edinburgh* - reported on the existence of a huge hybrid swarm of plants on the Chienchuan-Mekong Divide in northwestern Yunnan. Overwhelmingly, this conglomeration was found to be composed of crosses between *R. russatum* and *R. rupicola* ssp. *rupicola*, with such rampant promiscuity repeated wherever in the wild the two rhododendrons met - to the extent that currently, intermediate populations betwixt the two have now been documented on the ground in northeastern Upper Myanmar, western Sichuan and southeastern Tibet.

Herbarium plates and seed introductions confirm that George Forrest alone made a total of twenty-three separate gatherings of this natural hybrid, Joseph Rock nine, and all four of the capsule collections listed above came from high elevations, so as would be expected, the plants that germinated from that horde of seeds have performed best in the UK when grown in the cooler gardens of Scotland and northern England. Mature specimens are spreading shrubs between 1 and 1.5m high, twiggy bushes with small, elliptically-shaped scaly leaves, dotted brown below, while the flowers they bear are lavender-blue through violet-purple in hue, though none are as dark as the corollas found on the best clones of *R. russatum*.

The plant featured here has a provenance traceable to the alpine meadows on Laba Shan - or alternatively, Labako - which is located to the west of the Yangtze Bend at Shiku. Gathered by Joseph Rock during October 1923, the capsules came from a population of plants that were established at an altitude of 4,270m, just 30m below the maximum height at which either of their parents are found. But note, in winter they would have been covered by a blanket of snow and so insulated from the really low temperatures the mountainsides experienced, hence the H5-6 hardiness rating rather than a higher figure.



R. russatum × *R. rupicola* (R 11284)



R. russatum × *R. rupicola* (R 11284)



R. x bellatulum

Hardiness:
H4-5.

Flowering Period:
March-April.

Height & Spread:
3m x 2m.

Wild Population Distribution:
SE Tibet; NW Yunnan, China.

Growing in rhododendron thickets and scrub, at elevations of 2,600-3,800m.

Seed Collections:

F 21770	1921/1922	R 10944	1923/1924	R 11050	1923/1924
F 21828	1921/1922	R 11025	1923/1924	R 11053	1923/1924
F 21839	1921/1922	R 11027	1923/1924	R 11054	1923/1924
F 21886	1921/1922	R 11030	1923/1924	R 11055	1923/1924
F 21887	1921/1922	R 11031	1923/1924	R 11056	1923/1924
F 22708	1921/1922	R 11037	1923/1924	R 11057	1923/1924
R 10910	1923/1924	R 11040	1923/1924	R 11060	1923/1924
		R 11041	1923/1924		

Once designated a variety of *R. eclecticum*, *R. x bellatulum* is now known to be a cross between its former specific species and *R. selense*, which the collection of specimen plants at the Valley Gardens in Windsor Great Park, Surrey, loudly proclaimed to anyone wandering around their ranks, taking-in the varied corolla colours, shapes and trusses, as well as the slightly less obvious differences in the foliage morphology. Longer petioles, shorter calyx lobes and an oblong leaf profile (rather than one resembling the outline of a Jargonelle pear), help distinguish those and other specimens from their seed parent, while mature plants may also be taller, their height reflecting the stature of the pollen parent. A sometimes eglandular calyx, the margins of which are usually without a fringe of glands, can also help key the hybrid from *R. selense*, but it will be the five nectar pouches at the base of the corolla tube that prove decisive in most cases. And vast though the corolla hue range is, in fact, it is no more varied than that displayed by either parent.

R. x bellatulum was discovered and first collected on the Loudre Pass in the Mekong-Salween Divide of northwest Yunnan by George Forrest during June 1921. The varietal description was begun by Sir Isaac Bayley Balfour and completed by Harry Tagg for publication in 1930's *The Species of Rhododendron*. Forrest returned six gatherings from his 1921-22 expedition, with Joseph Rock adding another sixteen lots by the end of 1924. Remarkably, wild seed has not been harvested since that date.

In cultivation, *R. x bellatulum* usually flowers quite early in the season, sometimes opening its buds in the first week of March, so protection from the tail-end frosts of winter is a must-have. Equally, the overall hardiness rating for the taxon indicates that plants will succeed best in woodland gardens situated close to the western seaboard or in the south of England. Note too, that specimens are receptive to the powdery mildew fungus, which the two images below confirm, so site well away from any known hosts.



R. x bellatulum (F 21839)



R. x bellatulum



R. x bellatulum (F 21770)



R. x bellatulum (R 11025)



R. x bellatulum (F 21887)



R. x bellatulum (R 11031)



R. x bellatulum (R 11027)



R. x bellatum (R 11050)

R. x lysolepis

Hardiness:

H5.

Flowering Period:

April-May.

Height & Spread:

1.3m x 1m.

Wild Population Distribution:

SW Sichuan, China.

Growing in oak woodland, at elevations of 3,660m.

Seed Collections:

KW 4456	1921
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R. x lysolepis has only once been collected in the wild: by Frank Kingdon-Ward; during July 1921; under the field number KW 4456. The gathering was made near Muli, in oak woodland above the Litang River in the southwest of Sichuan province, with the dried material and seeds despatched off to the UK later that same year. The botanic description, written by John Hutchinson for *The Species of Rhododendron*, which was published by the Rhododendron Society in 1930, documented plants of an unknown origin growing at the Royal Botanic Garden, Kew, but subsequent determinations have associated all of these individuals with those grown from Kingdon-Ward's introduction.

The Philipsons, in their review of the Subsection *Lapponica* rhododendrons that appeared in the 1975-published Volume 34 of *Notes from the Royal Botanic Garden, Edinburgh* - this assessment later incorporated wholesale into James Cullen's Subgenus *Rhododendron* monograph of 1980 vintage (*Notes*, Volume 39, Number 1) - considered the taxon a natural hybrid, suggesting the parentage as *R. flavidum* x *R. impeditum*. This view was reached after studying Kingdon-Ward's dried material at the Kew herbarium, which although reflecting *R. flavidum* was judged to be a hybrid; and the sheets at Edinburgh Botanic, which indicated the involvement of *R. impeditum*.

In UK cultivation, *R. x lysolepis* is a fairly leggy plant, developing over time into an open, twiggy tangle, around 1m high. For a *Lapponica*, it is easy to grow and fully hardy, with specimens blooming fairly prolifically from a young age. But while the norm is April-May, in some gardens, those corollas begin opening in April and continue to do so, sporadically, through until July, extending, but diminishing the potency of the display. This may be why a once fairly widely planted shrub, is today, a rarity, with a correctly labelled specimen most especially scarce.



R. x lysolepis (KW 4456)



R. x lysolepis (KW 4456)



R. x hemidartum

R. x hemidartum

Hardiness:

H5.

Flowering Period:

March-April.

Height & Spread:

2m x 3m.

Wild Population Distribution:

E & SE Tibet; NW Yunnan, China.

Growing in mixed rhododendron scrub on rocky slopes, in open alpine meadows and on rocky spurs, at elevations of 3,300-4,300m.

Seed Collections:

F 20028	1921/1922
F 21709	1921/1922
F 22886	1921/1922
F 22941	1921/1922
R 11162	1923/1924
R 11179	1923/1924
R 11182	1923/1924

R. x hemidartum was reduced in ranking from its original determination as a bona fide specific species, to become a variety of *R. pocophorum*, in David Chamberlain's 1982-published Subgenus *Hymenantes* monograph, this mirroring the diminution outlined in the *Preliminary Synopsis* advisory paper he had written with James Cullen in 1978 (*Notes from the Royal Botanic Garden, Edinburgh*, Volume 39, Number 2, and Volume 37, respectively). Yet as with many of the taxa described in those texts, following extensive field reporting, expert opinion now considers the rhododendron to more likely to be a natural hybrid, the nature of the patchy abaxial leaf indumentum suggesting input from one of the three *R. floccigerum* subspecies, though the truncate juncture between the style and the ovary as evidenced on *R. coelicum* var. *pocophorum* is maintained.

The taxon was discovered, collected and first introduced by George Forrest in 1921, the find made on the Salween-Kiu Chiang Divide in eastern Tibet during August of that year and the botanic description, begun by Sir Isaac Bayley Balfour shortly before his death in 1922, completed posthumously by Harry Tagg for Volume 15 of *Notes*, which was published in 1927. The Latin name chosen for the epithet translates as 'half-flayed', a reference to the already mentioned covering of hairs on the leaf underside, which while woolly at first, quickly becomes patchy and then shreds.

In cultivation *R. x hemidartum* is fully hardy, quite fast-growing, with specimens developing into rounded domes around 1.8m high, their branches ascending, thick and rigid. In flower, the plant is simply a stunner, especially when the blooms are backlit and the foliage haloed in white light. Most clones are usually robust growers, though one or two have been reported to lack vigour and be susceptible to disease, although these factors have not been observed in gardens where the plant's swift drainage requirements have been met, nor when the new growth, which can come quite early in the season, is cosseted within a woodland and so protected from any late spring frosts.





R. x hemidartum



R. x hemidartum (F 22941)



R. x hemidartum (R 11179)

R. x chamaethauma

Hardiness:

H5.

Flowering Period:

April-May.

Height & Spread:

1m x 2m.

Wild Population Distribution:

SE Tibet; NW Yunnan, China.

Growing on and amongst boulders and rocks, in scrub, in rocky alpine meadows, and on peaty moorland, at elevations of 3,300-4,600m.

Seed Collections:

F 21768	1921/1922	KW 9635	1931	LS&E 15287	1946/1947
F 21916	1921/1922	LS&E 15103	1946/1947	LS&E 15295	1946/1947
F 22706	1921/1922	LS&E 15165	1946/1947	LS&E 15296	1946/1947
R 11003	1923/1924	LS&E 15169	1946/1947	LS&E 15297	1946/1947
KW 5847	1924/1925	LS&E 15209	1946/1947	KW 20925	1953
KW 5879 *	1924/1925	LS&E 15250	1946/1947	KR 3506	1995
KW 8341	1927/1928			KR 3522	1995



R. x chamaethauma

The tangle of botanical epithets associated with this natural hybrid is almost as complicated as its lineage, for over the past hundred years the plant has been described as *R. chamaethomsonii* var. *chamaethauma*, *R. repens* var. *chamaethauma*, *R. chamaethomsonii* var. *chamaedoron*, *R. repens* var. *chamaedoron*, and as *R. repens* var. *chamaedoxa*, although the latter was illegal under the nomenclature rules (check out 'nomen nudum'). Herein, var. *chamaethauma* and var. *chamaedoron* are considered to be one and the same, even though this clashes with the accepted position set out in the Edinburgh Revision texts, but the facts proving that such is actually the case, were first detailed over sixty years ago:

The var. *chamaedoron* epithet was created in 1930 to identify plants similar in most respects to var. *chamaethauma*, except they had a discontinuous covering of hairs on the leaf underside. H. H. Davidian and John MacQueen Cowan, writing in the 1951-52 edition of *The Rhododendron Yearbook*, this text duplicated in Volume 3 of Davidian's tetralogy *The Rhododendron Species*, published in 1992, documented how plants of var. *chamaedoron*, having germinated in the same seed tray, from the same sowing, as individuals of var. *chamaethauma* - all sourced from the same capsule - exhibited contrasting features: some had leaf undersides that were glabrous; others, foliage that was abaxially hairy. Established plants of var. *chamaedoron* growing in the gardens at Edinburgh Botanic and Tower Court, which could be categorically linked with a wild collection field number, were also checked out, and they showed a similar dichotomy. Separation of the two was therefore considered to have been a botanic faux pas, and in consequence, the two *doyens* placed var. *chamaedoron* in synonymy under var. *chamaethauma*.

That the taxon is also a natural hybrid is equally no longer in doubt, for the oft-hairy leaves, minute calyx and highly variable flower colour would concede as much even without the plethora of on-the-ground field reports that detail extensive hybridisation across the Mekong-Salween Divide in both southeast Tibet and northwest Yunnan. Of course, any hope of singling-out the parents from amongst this fray will rest solely with future genetic analysis, but *R. forrestii* var. *chamaethomsonii* has clearly been a significant contributor to the mix. *R. aganniphum*, *R. eclectum*, *R. parvulatum*, *R. sanguineum* and *R. selense* are also potential specific species contenders, though they will have to line-up alongside a host of other mixed-ancestry candidates dotted amongst those vast hybrid swarms, with, of course, backcrossing, yet another distinct possibility.

Field observations have also reported that in a few areas, the endemic populations of *R. x chamaethauma* have now stabilised and speciated, though assignment as a natural hybrid is probably the best taxonomic option available to cover the entire populace.

George Forrest was the first Western plant hunter to introduce seed of *R. x chamaethauma* into UK cultivation - doing so in 1922; with Harry Tagg the first botanist to describe the find - in 1930's *The Species of Rhododendron*. Specimens in British gardens are usually more floriferous than typical *R. forrestii* var. *chamaethomsonii*, despite the buds having a higher tendency to abort, the corollas opening in tones of pink, though crimson, rose-crimson, scarlet-crimson, scarlet, rose-red and rose, with even apple-green blooms being reported. The foliage is slightly smaller than that found on the true species, but overall height, spread and hardiness are about the same, with the latter denoting the need for a more sheltered environment when sited in gardens along the east coast. The shrub is also a slow grower, with some forms taking many years to begin flowering, despite their hybrid nature.

The Frank Kingdon-Ward 1924/1925 collection under the field number KW 5879 has technically been tagged with an affinity determination, hence the asterisk in the table opposite, but once again, really?



R. x chamaethauma

R. x hemigymnum

Hardiness:

H4-5.

Flowering Period:

April.

Height & Spread:

1.8m x 3m.

Wild Population Distribution:

SE Tibet; NE Upper Myanmar.

Growing in mixed scrub and on open rocky slopes, at elevations of 3,350-4,400m.

Seed Collections:

F 19911a	1921/1922
F 21728	1921/1922
F 21837	1921/1922
F 21884	1921/1922
F 25605	1924/1925
F 25845	1924/1925

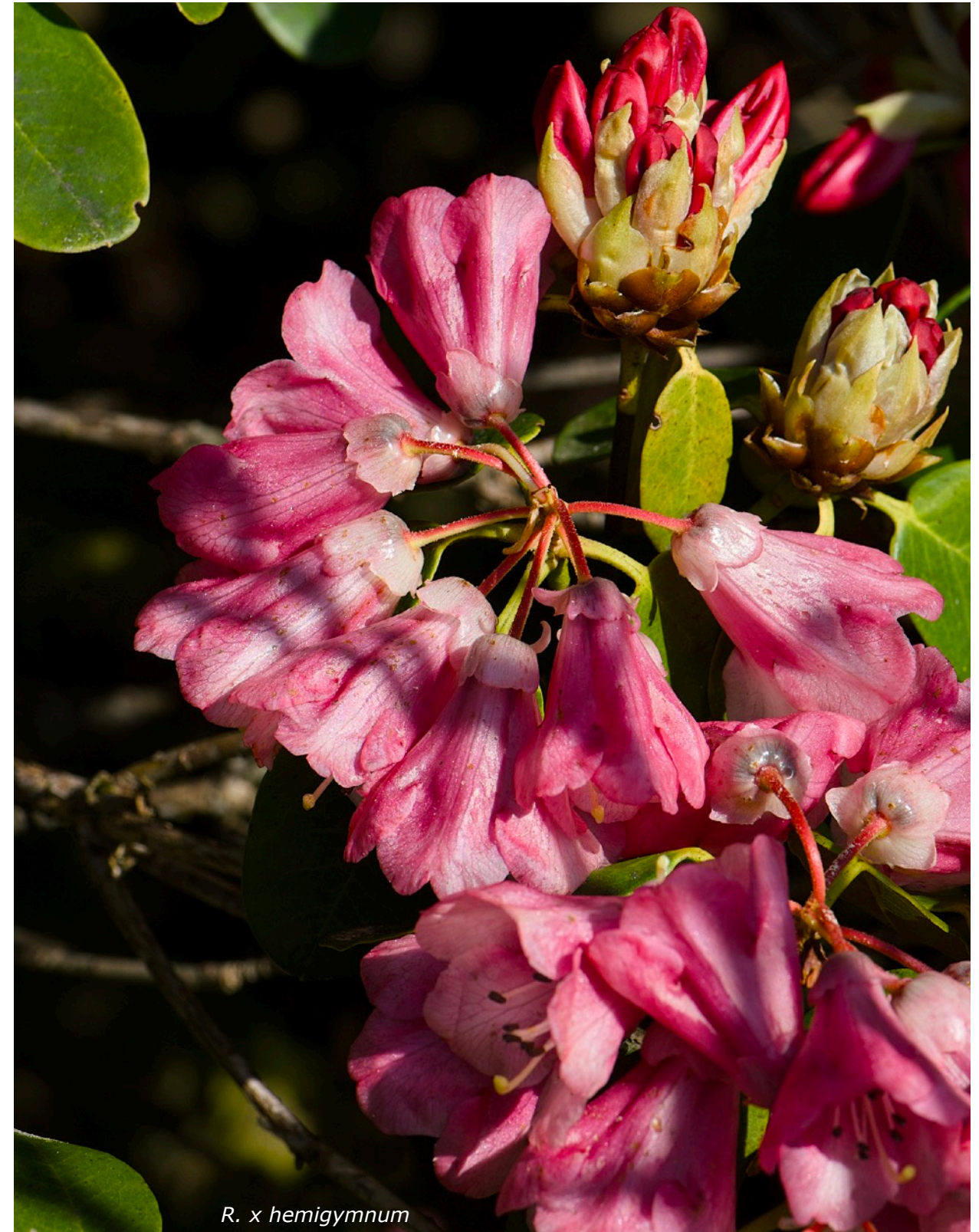
Discovered on the Salween-Kiu Chiang Divide near Tsarong in southeast Tibet during June 1922, the distribution of *R. x hemigymnum* was extended into the northeast of Upper Myanmar in July 1924 when George Forrest and his team of trained local collectors encountered a second population of the plants that were endemic to the Divide's western flank. The plant hunter described his finds, composing a joint text with Harry Tagg for Volume 16 of *Notes from the Royal Botanic Garden, Edinburgh*, this published in 1931, the pair ranking the plant as a variety of *R. chaetomallum*. Their chosen Latin epithet highlights the 'half-glabrous' leaf.

Six batches of seed have been introduced into British gardens to date, all gathered by Forrest between 1922 and 1924, but none since, the two populations remaining elusive and un-rediscovered by the countless clusters of modern-day collectors.

When considering the taxon for the Edinburgh Revision, James Cullen and David Chamberlain decided that the Jargonelle-shaped leaves and broad petioles were reflective of *R. eclecticum*, while the setose- through stipitate-glandular branchlets and petioles, plus the leaf abaxial indumentum, were characteristic of *R. pocophorum*. As both species had been found growing at the same locations documented for the-then *R. chaetomallum* var. *hemigymnum*, with the plant itself clearly intermediate between the two, it was reclassified as a natural hybrid (*A Preliminary Synopsis of Genus Rhododendron, Part 2, Notes from the Royal Botanic Garden, Edinburgh, Volume 37, 1979*).

Cultivated forms have proved hardy and fast growing, mature specimens being 1.8m high upright shrubs, but spreading much wider. They flower from a young age and annually cover themselves with a mass of crimson or magenta-pink blooms.

A tangential note: dropping the middle 'm' from the epithet, as some authors do, is a spelling error, as a check of the online International Plant Names Index will confirm.





R. x hemigymnum



R. x hemigymnum



R. x hemigymnum



R. x hemigymnum



R. x doshongense (KW 5863)



R. x doshongense (KW 5863)

R. x doshongense

Hardiness:

H6-7.

Flowering Period:

April-May.

Height & Spread:

2.5m x 3m.

Wild Population Distribution:

SE Tibet; NW Yunnan, China.

Growing in spruce forest, in damp bouldery meadows, on rocks, and along the ridgeline in alpine regions, at elevations of 3,600-4,200m.

Seed Collections:

KW 5863	1924
R 23333	1932
R 23338	1932
LS&T 6612	1938
AC 1722	1996
AC 1729	1996
AC 1744	1996
AC 1755	1996
AC 1769	1996
AC 3195	1997
AC 3287	1997
AC 3443	1997
AC 3456	1997
AC 3492	1997
AC 3507	1997
AC 3512	1997
AC 3515	1997

R. x doshongense is named for the location where it was first discovered: the Doshong La pass in southeastern Tibet. Frank Kingdon-Ward made the find in June 1924 and the species was described by Harry Tagg in Volume 15 of *Notes from the Royal Botanic Garden, Edinburgh*, which was published in 1927. The plant was subsequently sunk, synonymically, under *R. aganniphum* var. *aganniphum* in the Subgenus *Hymenanthes* revision's *Preliminary Synopsis* text written by James Cullen and David Chamberlain, this later confirmed in the full monograph (*Notes*, Volume 36, 1978, and Volume 39, Number 2, 1982, respectively), though courtesy of the RHS, rhodophiles were able to maintain the taxon as Doshongense Group. At which point, China re-opened its doors and on-the-ground field observations led Peter and Kenneth Cox to conclude that:

'Doshongense would be better considered a form of *R. phaeochrysum* var. *agglutinatum*.'

The Encyclopedia of Rhododendron Species, 1997.

That taxon, however, was found to be a first generation natural hybrid between *R. aganniphum* and *R. phaeochrysum* during the work undertaken by Tobias Marczewski for his PhD thesis paper *Hybrid Zones in Rhododendron Subsection Taliensia*, which was published in 2011. Moreover, as those responsible for its horticultural status will confirm, sufficient morphological differences exist between *R. phaeochrysum* var. *agglutinatum* and the plants that comprise Doshongense Group to treat both as individual natural hybrids. *R. x doshongense* is therefore adopted herein.

The principal characteristic that distinguishes the two undirected pollinations is the abaxial leaf indumentum:

For *R. x agglutinatum*, it is unistrate, thin and plastered; brown, rusty-brown, cinnamon or fawn in hue; and composed of long-rayed hairs.

For *R. x doshongense*, it is bistrate, thin and plastered, although the undersides can be near glabrous in some cultivated specimens; fawn or whitish in tone; with the upper layer composed of ramiform hairs, and the lower layer, of rosulate follicles.

Far less decisively, glandular hairs may sometimes be found on the *R. x agglutinatum* branchlets and petioles, but these never occur on the young stems and leaf stalks of *R. x doshongense*.

Introduced into UK cultivation under the type specimen number KW 5863 in 1924, two batches of *R. x doshongense* seed arrived from Joseph Rock in 1932, plus one from the Frank Ludlow, George Sherriff and George Taylor expedition of 1938, after which a near sixty-year gap ensued before Alan Clark reintroduced the taxon from northwest Yunnan in 1996 and southeast Tibet in 1997, though none of his contemporaries were able to find the populations.

Currently, at least three growth forms will be found established in British gardens: a low, compact dome, below 1m in height, with oval-shaped leaves; a more rounded form to 1.5m high, with foliage that is oblong-lanceolate in shape; and a taller, wider spreading shrub, topping the 2m mark and spreading out to twice that distance, these bearing an oblong-ovate shaped leaf. Many of these clones have the thin, plastered, abaxial leaf indumentum outlined in previously published botanic descriptions, yet others, as indicated, will be found that have shed virtually every last trace of such by maturity. All are fully hardy, most slow growers, and some have taken many years to begin flowering.



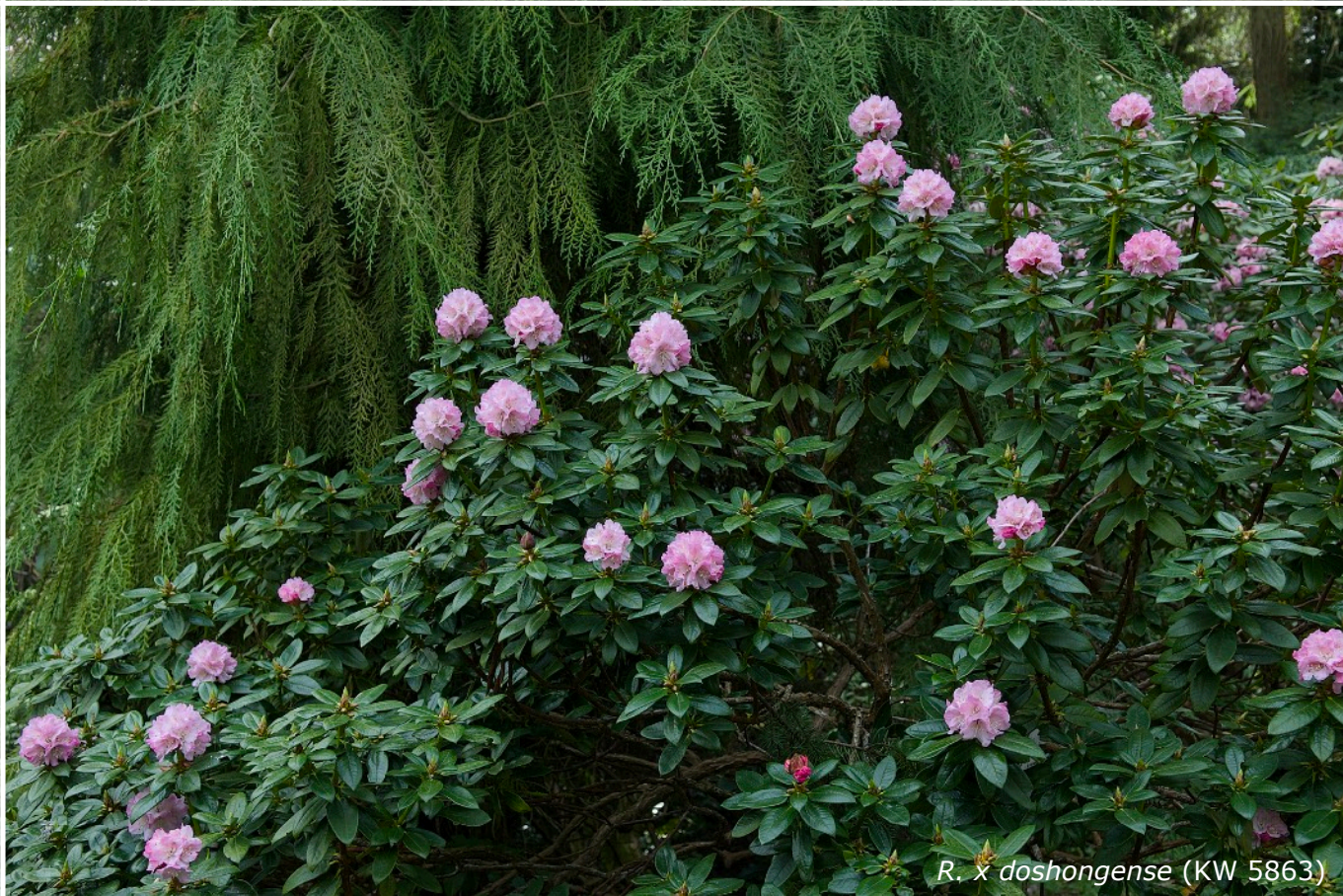
R. x doshongense (KW 5863)



R. x doshongense (LS&T 6612)



R. x doshongense (LS&T 6612)



R. x doshongense (KW 5863)



R. x doshongense



R. x doshongense



R. x doshongense

R. x bakeri

Hardiness:

H5-6.

Flowering Period:

May-June.

Height & Spread:

1.5m x 2m.

Wild Population Distribution:

Upson County, Georgia, USA.

Growing in open woodland at elevations above 900m.

Seed Collections:

No authenticated introductions have been officially listed.

R. x bakeri is a natural hybrid between two North American deciduous azalea species, *R. canescens* and *R. flammeum*, with a wild endemic distribution that is restricted to a single county in the state of Georgia. The United States Department of Agriculture website identifies this as Upson County, while other sources indicate Union County on the border with North Carolina. The plant was originally described as *Azalea bakeri* by W. P. Lemmon and J. A. McKay writing in *Bartonia: Proceedings of the Philadelphia Botanical Club* (Volume 19, 1938), with their nomenclature designation revised to *R. bakeri* in *Azaleas: Kinds and Culture*, by H. H. Hume, when it was published in 1949.

R. cumberlandense, a bona fide deciduous species, was for many years considered synonymous with *R. bakeri* - as it then was - but when the herbarium specimens that Lemon and McKay had based their description on were re-examined, they were determined to be of hybrid origin and in consequence, specific status was returned to the former and a small 'x' placed in front of the latter's epithet. Although very similar, the two can be separated when in flower by examining the hairs on the outer surface of their corolla tubes and lobes: a mix of pubescent and glandular follicles indicates the hybrid; with only sticky stalks found to be present, the species.

R. x bakeri succeeds best in UK gardens in the hotter southern counties, where the higher summer temperatures usually allow the wood to ripen fully before the first autumn frosts hit. A planting position graced with light dappled shade for part of the day would be ideal, although the usual proviso about not allowing the soil to dry out completely should also be followed. Further north, or along the east coast, a site in full sun would be best.

The plant was named for Dr. Woolford Bales Baker (1892-1993), a professor in the Biology Department at Emory University, Atlanta.



R. x bakeri



R. x bakeri

R. x sataense

Hardiness:
H4-5.

Flowering Period:
June.

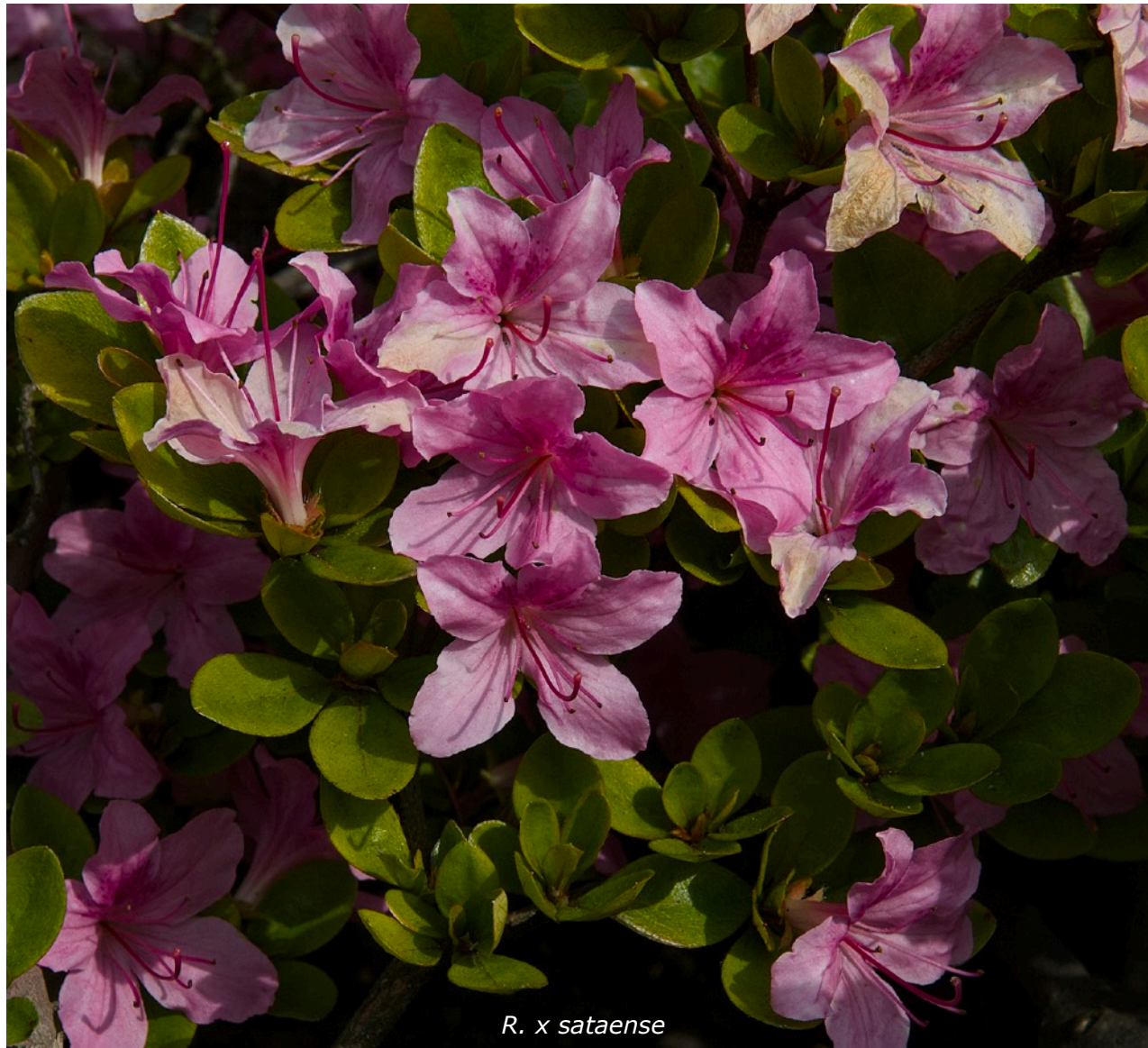
Height & Spread:
1.5m x 2.5m.

Wild Population Distribution:
Takakuma Mountains, S Kyushu, Japan.

Growing in woodland and open meadows at elevations of 300-700m.

Seed Collections:

No authenticated introductions have been officially listed.



R. x sataense

The Japanese botanist Takenoshin Nakai first described *R. x sataense* as a specific species in 1949, writing in Volume 27 of the *Bulletin of the National Science Museum, Tokyo*. Nakai, along with a colleague, N. Maruyama, had collected specimens from Cape Sata on the island of Kyushu - at the southern tip of the Ōsumi Peninsula, in Kagoshima Prefecture - during April 1948. The main population of the natural hybrid is found close by, on the Takakuma Mountains around Kagoshima Bay, where *R. kaempferi* resides at the base of the hills, *R. kiusianum* is clustered around the summits, and *R. x sataense* occupies the slopes in-between, this arrangement conforming to the typical layer cake configuration that can be observed wherever else in the world interbreeding members of the genus have become established.

When growing in areas of unsheltered meadowland, plants of *R. x sataense* will be bushy shrubs between 1 and 2m high, but in shaded, wooded areas, the specimens will be much more open, reaching to 3m or even a little higher. The summer leaves, as would be expected from the endemic distribution, are smaller than those of *R. kaempferi*, but larger than those of *R. kiusianum*, while flower colour variation across the population is extensive, with many individuals - unsurprisingly perhaps - sporting blooms that match with many of the named Kurume evergreen azalea cultivars.

The Edinburgh Revision monograph on what were then regarded as the Subgenus *Tsutsusi* evergreen azaleas, written by David Chamberlain and Sally Rae, and published in Volume 47 of the *Edinburgh Journal of Botany* - the new name for Sir Isaac's *Notes* - appeared in 1990 and placed *R. sataense* as a variety of *R. kiusianum*, despite the authors' Japanese contemporaries determining it to be a variant of *R. kaempferi* (as reported in *The Distribution and Classification of Certain Japanese Rhododendrons*, written by Frank Doleshy and published in the *Journal American Rhododendron Society*, Volume 37, Number 2, 1983). The Doleshy text also indicated that the type specimen collected by Nakai and Maruyama was not reflective of the main population on Mount Takakuma, while in 1997, published research on the anthocyanins and flavonols found in the *R. sataense* flower petals - compounds responsible for the corolla pigmentation - suggested that along with *R. kaempferi* and *R. kiusianum*, *R. eriocarpum* and *R. tosaense*, which are also endemic to southeastern Kyushu, might equally have contributed their genes into the parental mix (*Morphology and Flower Pigments of Wild Evergreen Azaleas in Southern Kyushu*, written by Ikuo Miyajima, Shunpei Uemoto, Yusuke Sakata and Ken-ichi Arisumi, and published in the *Journal of the Japanese Society for Horticultural Science*, Volume 66).

So, although its parentage is clearly more complicated than a straightforward F1 cross between *R. kiusianum* and *R. kaempferi*, *R. x sataense* is without doubt a natural hybrid. Moreover, across some areas of its restricted distribution, the population has stabilised and these plants, at variance with those found at Cape Sata, might deserve an alternative epithet - *R. x takakumatsum* perhaps - if on the ground study deems this to be appropriate.

Dr. John Creech, of the USDA Agricultural Research Service, introduced the natural hybrid into US cultivation during 1961 and UK botanic institutions may later have benefited from the plants and seeds of *R. x sataense* that he had gathered. Specimens at Edinburgh Botanic date from 1977, but no collection details are given. These flower in June, some three weeks after *R. kaempferi*, but in concert with some of the *R. kiusianum* clones growing in the garden, their corollas salmon-red or scarlet-red. Structurally, the shrubs are low bushes to around 1m high with an upright habit, though they spread out much wider, and the tangle of twigs is fairly densely filled with foliage. Hardiness is good, but plants would likely be lost if grown away from the coast in central and northern areas of the UK, or on exposed sites.





R. x sataense



R. x sataense



R. x sataense



R. degronianum* x *R. yakushmanum

Hardiness:

H6-7.

Flowering Period:

Late April-May.

Height & Spread:

2.5m x 3m.

Wild Population Distribution:

Yakushima Island, S Japan.

Growing in conifer forest and on open mountain slopes,
at elevations of 1,200-1,600m.

Seed Collections:

No authenticated introductions have been officially listed.

On the central peaks of Yakushima Island in southern Japan, the skerry part of the Ryukyu Archipelago in the East China Sea and a UNESCO World Heritage Site, from around the 1,200m-contour up to 1,500m, and sometimes to 1,600m in some locales, a band of hybrid rhododendrons will be found that link the populations of *R. degronianum* ssp. *degronianum* and *R. degronianum* ssp. *yakushmanum*. The former subspecies is mainly resident within a mature forest of *Abies* and *Cryptomeria* trees above 1,000m, while the latter taxon frequents exposed slopes and open sites, with specimens often established amongst rocks, from the 1500m-contour up to 1800m. There is no sharply defined division between the three populations however, nor a gradual adaption of features as height is gained and the environmental challenges become greater. This is down to the fact that each autumn, the island is battered by a series of typhoon-strength storms that carry seed, whole capsules and indeed entire snapped-off branches hundreds of metres up or down the sides of the mountains. And some of the seedlings that later germinate, not only survive, but prosper, flower and cross-pollinate with their neighbours, even though sited above or below their climatically 'appropriate' niche locale.

The resulting mixed-up melee of plants - uncomplicated F1 matings; F2 backcrosses; or offspring from even more convoluted pairings - is most definitely not, in any way, what could be described as a stabilised population despite the fact that generally, these hybrids have leaves that are longer and flatter than those of true *yakushmanum*, with a thinner abaxial indumentum, while the blades are smaller, overall, than typical *degronianum*. Moreover, when resident amongst the stands of conifers, sometimes in quite dense shade, they will have a fairly loose and upright habit, this often hitting the 2.5m mark, but when out in the open above the tree line, their profile will be lower and much more compact.

The concluding text of the Edinburgh Revision taxonomy that was published during 1996 - *The Genus Rhododendron: its classification & synonymy* - described these plants as *R. degronianum* ssp. *yakushmanum* var. *intermedium*, while more recently, they have been pigeonholed as *R. degronianum* ssp. *yakushmanum* Intermedium Group. Previously they had been variously listed as *R. degronianum* var. *intermedium*, *R. metternichii* var. *intermedium*, *R. yakushmanum* var. *intermedium* and *R. metternichii* ssp. *yakushmanum* var. *intermedium*. Unfortunately however, that concluding epithet, the common thread that links all six iterations - 'intermedium' - is actually *nom. illegit* under the internationally agreed nomenclature rules. Because in 1836, Ignaz Friedrich Tausch, formally described *R. intermedium* (in Volume 19, Number 1, of *Flora*). That this was the very first natural hybrid to be described, a cross between *R. ferrugineum* and *R. hirsutum*, is merely an entertaining

and delightful happenstance, but it rules out any subsequent use of that same appellation to anoint any other taxon within Genus *Rhododendron*. Equally verboten is categorising plants that are clearly crosses between *R. degronianum* and *R. yakushmanum*, as a subspecies, variety or horticultural group of one of their parents, however 'intermediate' they might be. In consequence herein, they are placed under a coverall banner reflecting that parentage, namely, *R. degronianum* x *R. yakushmanum* - to avoid the linguistically awful result if the naming convention first proposed by Sir Isaac Bailey Balfour and religiously followed for a time by some of the early 20th Century hybridisers - Edward Magor of Lamellen, in Cornwall, for instance - were resurrected and applied, producing *R. x degroniyakshum*, a combination too horrid to even contemplate, yet alone put forward for wider consideration.

Doctor A. F. Serbin was the first Western collector to gather seed from the various colonies of *R. degronianum* x *R. yakushmanum* on Yakushima, completing an ascent of Mount Hanano-Ego in 1959, while in 1965, and again in 1970, Frank Doleshy ventured onto the island's three main peaks and secured viable capsules on each visit. Both gentlemen were members of the American Rhododendron Society, and taking advantage of that organisation's annual seed exchange, shared their bounty with other rhodophiles, some of that largesse ultimately arriving in the UK.

So sited, those plants are taller-growing than *R. yakushmanum*, with a much more erect and open carriage, and as indicated, sport bigger, flatter leaves, sans any recurved margins, which have only a thin cloak of indumentum across their underside. Hardiness is a match with either parent species, so too the requirement for a sunny spot to maximise flower bud production, and although a few clones will tolerate a degree more shade without any noticeable adverse effect, as in the wild, flowering will be inhibited if the sun is obscured for much of the day. When they do open, the *R. degronianum* x *R. yakushmanum* blooms are comparable with the best forms of *R. degronianum*, but are easily outshone by the likes of the 'Exbury' or 'Koichiro Wada' named clones of *R. yakushmanum*.



R. degronianum x *R. yakushmanum*



R. degronianum x *R. yakushimanum*



R. degronianum x *R. yakushimanum*



R. degronianum x *R. yakushimanum*



R. degrobianum x *R. yakushimanum*



R. degrobianum x *R. yakushimanum*



R. degrobianum x *R. yakushimanum*

R. x sochadzeae

Hardiness:
H5-6.

Flowering Period:
May-June.

Height & Spread:
2m x 4m.

Wild Population Distribution:
Georgia; The Caucasus; NE Turkey.

Growing on wooded mountain slopes at elevations of 1,700-2,400m.

Seed Collections:

ACH 102	1962	ACH 130	1962
ACH 103	1962	ACH 131	1962

A natural hybrid born of a *R. ponticum* x *R. caucasicum* cross, *R. x sochadzeae* was introduced into British gardens by John Apold, Peter Cox and Peter Hutchison in 1962, with four batches of seed returned from the hills of Artvin Province in the top northeastern corner of Turkey, up against the border with Georgia. The flowers vary in colour from pink to white and are often muddy, while the ovaries are variably tomentose, the presence of such hairs keying the hybrid from *R. ponticum*. The leaves however, are glabrous, with only vestigial traces of the plastered or compacted leaf indumentum of *R. caucasicum*.

Named for the Georgian botanist Moisej Sochadze, the plant was formally described by Anna Lukianovna Kharadze and Mal'vina Teofil'evna Davlianidze in the 1969-published Volume 27 of *Zametki po Sistematike i Geografii Rastenii, Tiflis*, which also reported that significant populations of *R. x sochadzeae* will be found wherever the distributions of the two parent species meet or overlap, be that in Turkey, Georgia, or across the wider expanse of the Caucasus Mountains.

In UK cultivation, the taxon has been found to be only a fraction hardier than *R. ponticum* itself, but the best forms of the hybrid, with pure white flowers, outshine the usually washed-out blooms of its seed parent - unless the comparison is made, not with the naturalised forms colonising much of the British upland countryside (whose genes can be traced back to the Iberian Peninsula and are often diluted through hybridisation with other garden-grown rhododendrons), but with a clone of the 'true' *R. ponticum*, ideally one sourced from the Turkish capsules collected under ACH 205.

R. x sochadzeae can likely lay claim to being the most studied rhododendron natural hybrid on the planet, as it features in numerous scientific papers, books and botanic journals. All these texts focus primarily on the maintenance of isolating barriers between inter-fertile species, but in doing so, they document a unique attribute known only from the *R. x sochadzeae* populations on Tiryal Dagi, this one of the Black Sea coastal mountains in Artvin Province. For here, despite the hybrid band butting-up tightly to the stands of both parents, there are no backcrosses with *R. ponticum*, nor with *R. caucasicum*, and not a single F2 plant with a 'Sochadzeae' x 'Sochadzeae' lineage. In fact, so perfectly is the hybrid adapted to the hillside terrain between the two specific species distributions that any seedling other than one from a straight F1 cross is eliminated through the forces of natural selection prevalent at that locale. So the entire *R. x sochadzeae* endemic population remains unspiciated, is composed of individual plants that while outwardly similar, are not identical mirror-image clones, and which do not come true when self-pollinated.



R. x sochadzeae (ACH 102)



R. x sochadzeae (ACH 102)



R. x sochadzeae (ACH 102)



R. pachysanthum x *R. morii* (RV 72/001)

R. pachysanthum* x *R. morii

Hardiness:

H5-6.

Flowering Period:

Late March-April.

Height & Spread:

1.5m x 2m.

Wild Population Distribution:

Nanhu Da Shan, Taiwan.

Growing at and above the tree line, amongst bamboo,
at elevations of 2,900-3,400m.

Seed Collections:

RV 72/001	1972
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R. pachysanthum, without question one of the most stunning and distinctive of the rhododendron species native to Taiwan, has, to date, only been introduced once into UK cultivation: from capsules gathered on Nanhu Da Shan by John Patrick and Chien Chang Hsu under their Rhododendron Venture field number 72/001. Unfortunately, there was just one small hangup with the plants that germinated from that collection: they proved to be a little more variable than was expected. Because shooting up in the seed pans amongst the true species were a group of natural hybrids, though as juvenile plants these were near indistinguishable from the real deal.

Field reporting by Philip MacDougall, Jens Nielsen and Rama Lopez-Rivera however, has now established that these *R. pachysanthum* x *R. morii* hybrids are found on the Nanhu Da Shan hillside in a wide band between the two species, this beginning just before the edge of the tree line at around 2,900m and extending upwards to around the 3,400m contour. Below the layer cake's cream and strawberry jam filling, amongst the firs and the junipers, *R. morii* will be found, while above its sugary confection, on the steep and open scree slopes, *R. pachysanthum* takes over, the natural hybrids sharing their slopes with stands of bamboo and scattered specimens of *R. rubropilosum*, an evergreen azalea species from Subsection *Tsutsusia*.

Out in the wild, as well as in UK gardens, mature specimens of the undirected cross sport leaves whose undersides are initially cloaked with a pale brownish tomentum. This is quickly shed however, except along the midrib, thereby providing a clear morphological distinction with *R. pachysanthum*. Also, the flowers display a large crimson blotch on the upper lobe, with the corollas held in a looser, more open truss, and in cultivation, the RV 72/001 natural hybrids are lower growing and wider spreading than their *R. pachysanthum* seed pan neighbours. Yet are equally hardy and vigorous. And also very free flowering, with the blotched corollas eye-catching en masse. 'Loch Tummel' is the name given to one such clone grown from Patrick and Hsu's seed, this selected and registered by Peter and Kenneth Cox of Glendoick Gardens in the early 1980s.

Returning to the field reporting, on Nanhu Da Shan, as the population of hybrid plants progress up the mountainside, their abaxial indumentum colour deepens - to the familiar rusty-brown of the seed parent's leaves - and its persistence increases to permanence. Equally, the corolla blotch moderates into flares, flecks or spots, and the flower truss tightens up, becoming far more compact. Which, in addition to extended pollinator flight paths, explains how capsules with both pure *R. pachysanthum*, and the *R. pachysanthum* x *R. morii* cross, ended up mixed together in the RV 72/001 gathering.



R. pachysanthum x *R. morii* (RV 72/001)



R. pachysanthum x *R. morii* (RV 72/001)



R. pachysanthum x *R. morii* (RV 72/001)



R. pachysanthum x *R. morii* (RV 72/001)



R. x pubicostatum

R. x pubicostatum

Hardiness:

H5-6.

Flowering Period:

April.

Height & Spread:

6m x 4m.

Wild Population Distribution:

Wumengshan, and Jiaozi Xie Shan, Yunnan, China.
Growing in *Abies* forest or rhododendron thickets,
at elevations of 2,200-4,000m.

Seed Collections:

CNW 922	1994	AC 897 *	1995	AC 2052	1996
CNW 984	1994	AC 914	1995	AC 2061	1996
AC 875	1995	AC 2051	1996	C&N 6180	2007

R. pubicostatum was described by the Chinese botanist Tien Lu Ming in 1981, his text published in Volume 3, Part 1, of *Acta Botanica Yunnanica*, and until 2007, the taxon was only known from one location, Wumengshan, a mountain massif located near Luquan, in the northeast of Yunnan province. Botanically, the peak is an acknowledged hotspot, home to many unique plants, including species, varieties and special forms of rhododendron - *R. bureavii*, *R. heliolepis*, *R. lacteum*, *R. sikangense* var. *cookeanum*, for instance, as well as *R. sphaeroblastum* var. *wumengense*, to name but a few - these often found growing together, intermingled in a tangle, so as you would expect, there are also a wash of natural hybrids present, with *R. x montiganum* and *R. x pubicostatum* chief among them.

Knowledgeable Western observers now believe the latter hybrid to be a pairing between *R. bureavii* and *R. sikangense* var. *cookeanum*. Morphologically, the shrub's most distinctive feature is its abaxial leaf indumentum: highly deterrent; easily rubbed off when the wind causes clusters of leaves to brush against each other; resulting in a continuous juvenile covering of hairs ultimately reduced to a scattering of tufts; which by maturity, are only present and persistent close to the midrib.

R. x pubicostatum was first introduced into British gardens in late 1994, two seed lots arriving through the efforts of Alan Clark, Jens Nielsen and Murray Wilson while on an expedition sponsored by Muncaster Castle Gardens of west Cumbria. The seven other collections returned to date were also made by Alan, the last with Shelagh Newman of the Lakeland Horticultural Society, all gathered on Wumengshan apart from that final batch of capsules, which were secured on nearby Jiaozi Xie Shan, both peaks sited within a national nature reserve that bestrides the border between Dongchuan district and Luquan County, around 150 kilometres north of Kunming City (remember to pre-book the bus). Note too that the AC 897 collection comes with a botanically applied affinity tag, hence the asterisk.

In British gardens, the oldest specimens of *R. x pubicostatum* are now approaching or have surpassed 3m in height, while spreading out much wider. They are fully hardy and free flowering, with the best forms as florally stunning as either parent.



R. x pubicostatum



R. x pubicostatum

R x balangense

Hardiness:
H5-6.

Flowering Period:
April-May.

Height & Spread:
9m x 4m.

Wild Population Distribution:
Wolong Valley & Balang Shan, NW Sichuan, China.
Growing on steep, partially wooded hillsides, and in thickets,
at elevations of 2,350-3,400m.

Seed Collections:

CCH 4021	1989	EN 3520	1985 (±)
CEE 459	1991	EN 3530	1985 (±)
EN 3107	1985 (±)	JN 12019	2012

Wen-pei Fang, the noted Chinese botanist and internationally renowned expert on all-things *Ericaceae*, wrote the botanic description for *R. balangense* that can be found in Volume 21, Part 4, of *Chih su fen lei hsüeh pao* - or *Acta Phytotaxonomica Sinica* (for those lacking Chinese language skills) - which was published in 1983. As a specific species, the rhododendron was originally placed within Subsection *Taliensia*, but doyen's opinion then migrated it into Subsection *Grandia*, after a clearer, more distinct morphological alliance with *R. watsonii* was highlighted.

Further field study however, has shown that the taxon is more likely a cross between plants in a hybrid swarm of *R. watsonii* and one of the Subsection *Taliensia* species, *R. rufum*, *R. prattii* and *R. longesquamatum* mooted as the presumptive candidates. A mating with the latter would account for the 10-12 stamens, 5-6-lobed corollas and - far more importantly - the persistent leaf bud scales, and Peter Hutchison, writing in the 2008-published book *Seeds of Adventure*, which he co-authored with Peter Cox, suggests this to be the case. Warren Berg, an American rhododendron enthusiast, collector and hybridiser, had earlier reported that a plant of *R. longesquamatum* was growing no more than 3m distant from a specimen of *R. balangense* on the steep wooded slopes of Balang Shan (in the Wolong Valley of western Sichuan), this the only location where to date, the latter taxon has been found and is known to be endemic (*Journal American Rhododendron Society*, Volume 41, Number 3, 1987).

For Chinese botanists, *R. x balangense* remains a specific species listed in Subsection *Taliensia*, and while some Western experts consider it to have stabilised and speciated, others believe that is not yet the case. Whichever view proves correct, the plant is not easily categorised, for morphologically, it is a bad fit with either subsection. Phylogenetic evidence, when such is available, will show where best to place it, along with its correct status, but until that is presented, the natural hybrid option is adopted herein.

R. x balangense was first introduced into cultivation during 1989 and the resulting plants have adapted well to the UK's maritime climate, growing strongly and flowering in gardens along the east and west coasts. Growth is early however, a trait likely inherited from *R. watsonii*, so spring frost protection is an essential requirement. The plant's leaves are held for longer in cultivation than they are in the wild, resulting in quite bushy specimens, these still young plants, even twenty-five years on from germination.



R. x balangense



R. x balangense



R. x balangense



R. nankingense x *R. maculiferum* (GUIZ 125)

R. nankingense* x *R. maculiferum

Hardiness:

H5-6.

Flowering Period:

May.

Height & Spread:

3m x 4m.

Wild Population Distribution:

Guizhou, China.

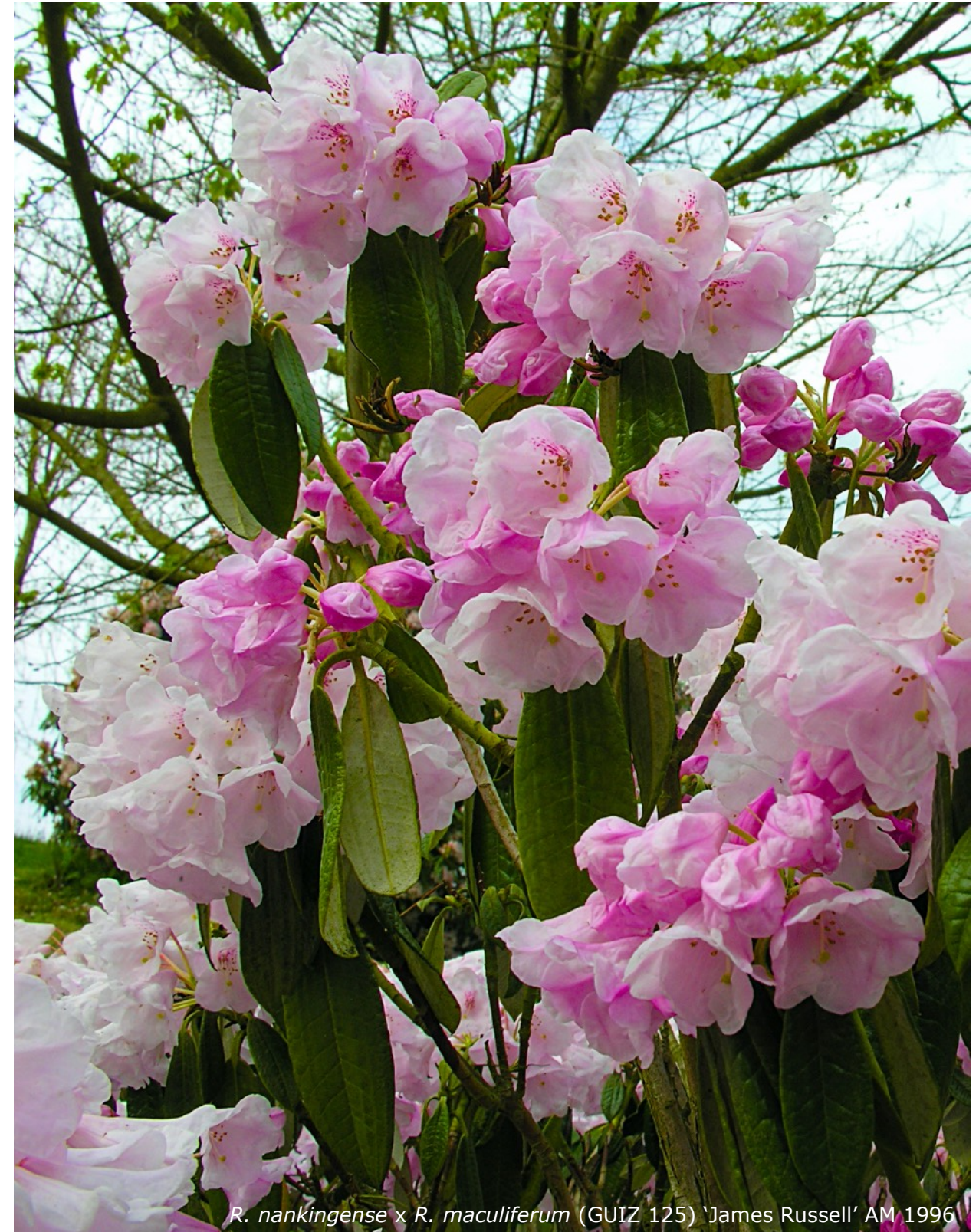
Seed Collections:

GUIZ 125	1985
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Seed of the natural hybrid *R. nankingense* x *R. maculiferum* was collected in China's Guizhou province during a 1985 joint expedition by the Royal Botanic Garden, Kew, and Academia Sinica, the National Academy of the Republic of China, better known in Western circles as Taiwan (one presumes the fact that historically, the academy having been founded in Nanking, the capital of Jiangsu Province in the People's Republic of China, during 1928, helped open the doors and expedite the visas in a time before President Xi Jinping's current round of sabre-rattling heightened cross-border tensions). The UK half of the team consisted of John Simmons and Hans Fleigner, then respectively, the curator and assistant curator of the RBGK, and James Russell from Castle Howard, who would have been well into the redevelopment of the estate's woodland gardens, begun after he moved north following the closure of the renowned Sunningdale Nurseries in 1971, which he had managed post active service with the Herefordshire Yeomanry during the Second World War.

The GUIZ 125 gathering was made on Fan Jin Shan, a 2,572m-high peak along the Wuling Ridge, and is described in the expedition's field notes as a rhododendron species from Subsection *Argyrophylla*. Successfully germinated, the plants were later determined by expert eyes to actually be a cross between *R. argyrophyllum* ssp. *nankingense* and *R. maculiferum*, though morphologically, they clearly favour the former in both leaf and bloom.

In cultivation forty years on, those specimens are developing into broadly upright, dome-shaped shrubs, spreading-out somewhat wider than they grow tall. Growth is vigorous, the plants robust and fully hardy, and season after season, they cover themselves with the most exquisite pale pink-coloured flowers. One such plant, exhibited by Kew's Wakehurst Place, West Sussex, outstation in 1996, deservedly secured an Award of Merit from the RHS and was given the clonal name 'James Russell', in honour of the garden designer, hybridiser, nurseryman and collector, who had passed away just a few weeks earlier.



R. nankingense x *R. maculiferum* (GUIZ 125) 'James Russell' AM 1996



R. nankingense x *R. maculiferum* (GUIZ 125)



R. nankingense x *R. maculiferum* (GUIZ 125) 'James Russell' AM 1996



Seed Pan
Rogues



R. x wightii

R x wightii

Hardiness:

H5-6.

Flowering Period:

Late April-May.

Height & Spread:

6m x 4m.



R. x wightii

Seedlings and young plants of the true *R. wightii* are very slow growing and in cultivation, apt to die off for any number of reasons, most of which remain completely inexplicable. Until the Len Beer, Roy Lancaster and David Morris introduction from Nepal in 1971, the consensus view amongst experts was that no one had raised the true species to flowering-size in a British garden. That assessment was made because those plants that did exist, and bore a label proclaiming them to be *R. wightii*, were actually hybrids, almost certainly propagated from the AM-winning plant that James Mangles had germinated at Valewood, Haslemere, Surrey, and Clara Mangles had then raised to maturity at Littleworth Cross, her home nearby, after her brother's death in 1884. And as is obvious, despite the ungainly and sprawling habit, the flowers can be stunning. Moreover, they are usually produced in prolific quantity and their beauty is quaintly enhanced by the 5- to 7-lobed corollas gathered in what are decidedly wonky, lopsided trusses of up to twenty yellow bells, each individual of which, while technically campanulate in shape, offers more than a

hint of a ventricose inheritance.

It is of course this morphologic characteristic that has prompted the expert doyens to suggest that *R. falconeri* was the pollen provider, its genetic input either gifted out in the wild when grown from Himalayan seed collected by Joseph Hooker during his three-year-long botanic exploration of Sikkim between 1848 and 1850, or from a straightforward Mangles-pollinated hybrid that was mislabelled during the move between gardens. Detractors of the natural hybrid theory point out that most wild populations of *R. falconeri* are found at an altitude below 3,400m, while those of *R. wightii* reside above this elevation. Yet they do meet. And although no matching plants of the hybrid form have yet been found on the ground, if the Mangles plant did come from a wild-collected *R. wightii* capsule, as an F1 natural hybrid it would certainly have fared much better in a Victorian era seed pan than youngsters of the true species did. All of which, as indicated above, were quickly lost to cultivation.

However, to maintain fair and unbiased reporting, mention must be made of a *R. wightii* cross with a pre-1884 conception date, which has long featured on the *International Rhododendron Register and Checklist* database, namely, *R. James Mangles*, the epithet an honorific for its hybridiser. This has 5- to 8-lobed white flowers, modestly suffused with a reddish-purple hue, which are carried in a dense, open-topped truss of 9 campanulate bells. And broadly elliptic leaves, up to 17cm long, which have a very thin tomentum below. The pollen provider is unknown, so it could be a sister rogue seedling. Equally, if anyone alive at that time had the green-fingered skill to germinate and raise a plant of *R. wightii* to flowering-size, it would have been James Henry Mangles.

On a visit to Littleworth Cross at the end of April 1915, expert and author John Guille Millais clearly had doubts about the status of the plant that would ultimately become *R. x wightii*, for in Volume 1 of his book *Rhododendrons and the Various Hybrids*, he writes that:

'For a long time this was the only specimen plant in England. It resembles *R. falconeri* ssp. *eximium* in foliage, but has delicate yellow flowers in a tall somewhat uneven truss. I cannot say that in flower it bears much resemblance to Hooker's description and figure of *R. wightii*, and it is possible that the variety grown at Littleworth is not the true form'.

Indeed. But in 1915, as Millais outlines in his text, the plant was close to 3m high and had a circumference of almost 23m, though imperial non-metric measurements illuminate the discourse.

E. J. P. Magor, of Lamellen, Cornwall, writing in the 1916-published very first edition of *The Rhododendron Society Notes* (Volume 1, Number 1), indicates that hand-pollinated seed from the Littleworth plant was also being distributed: 'seedlings of Rh. Wightii, from seed kindly sent by Miss Mangles, are growing well, though slowly'.

One thing that is agreed by all - *R. x wightii* is far easier to grow than the true species, despite it being not quite as hardy. This means east coast and colder, inland gardens, should provide a more sheltered planting spot, but when happily established, growth is robust and vigorous, the poor habit a direct result of such. Note too that any author who suggests an eventual height of 2.5m is wrong, by at least a factor of two, and that the only other known survivor from Hooker's original introduction of *R. wightii* resides at the National Botanic Gardens Kilmacurragh, in County Wicklow, Ireland.

A number of doyens have suggested that a new name is required for the hybrid in order to fully distinguish it from the species, now that true specimens have successfully been established in UK cultivation. A check of the up-to-date *IRRC* listings will reveal that 'Miss C. Mangles' is currently available.



R. x wightii





R. x batemanii

R. x batemanii

Hardiness: H5. Flowering Period: March-April.

Height & Spread:

4m x 6m.

Sir Joseph Dalton Hooker described 'Mr Bateman's Rhododendron' in Volume 89 of *Curtis's Botanical Magazine*, which was published in July 1863, his text accompanied by a stunning colour illustration. For seed collected by Thomas Booth in Bhutan around 1849 had been sent back to his uncle, the botanist and zoologist Thomas Nuttall, who passed a portion of it on to James Bateman, Esq., a Fellow of the Linnaean Society of London, a landowner, and an accomplished horticulturalist. Successfully germinated and raised to flowering size, the shrub was around 1.3m high when the blooms opened early in 1863, and it was immediately apparent that something 'new' was to hand. Bateman presented the shrub along with a set of dried herbarium specimens to Kew Gardens, where they quickly came to Hooker's attention:

'As a species, it resembles *R. campanulatum* in certain respects, attaining about the same stature, and having the leaves clothed below with similar ochreous tomentum; but the whole habit is far more robust, the foliage larger, and much longer and narrower, the stout branches tomentose; the flowers are of a very different colour and it further differs essentially in the ten-celled ovary'.

Hooker gave it specific status and named it *R. batemanii*, but by the time Volume 3 of his *Flora of British India* arrived on the book stands in 1882, the taxon had been placed under *R. wallichii*. Other authors would later associate it with *R. arboreum*, while some determined it to be a true form of that species. Harry Tagg refuted such suggestions in 1930's *The Species of Rhododendron*, reaffirming the linkage with *R. campanulatum* on the basis of the leaf indumentum, even though the ovary was hairy rather than glabrous. It was made synonymous with *R. campanulatum* in the 1967 *RHS Rhododendron Handbook*.

Part 2 of the Edinburgh Revision's *Preliminary Synopsis* paper technically added the small 'x' in 1979 when listing *R. batemanii* as a probable hybrid between *R. wallichii* and *R. arboreum*, though a cross with *R. campanulatum* was not totally ruled out. H. H. Davidian opted for just that in 1989 (*The Rhododendron Species*, Volume 2), denoting the mating as *R. campanulatum* x *R. arboreum*, and going so far as to describe the rhododendron as a natural hybrid.

But John Guille Millais already had it down cold:

'In *Flora of British India* this Rhododendron is regarded as a form of *R. campanulatum*, but there is little doubt that it is a hybrid between that species and *R. arboreum*. It is probable that it is a natural cross. *R. Batemanii* is quite intermediate between the two species in the character of its branches, habit of growth, and in the shape of the leaves, their nerves, and the felt-like tomentum on their undersides. The flowers also are intermediate in character, being large, rosy-crimson with a few dark blotches on the upper side of the inner tube'.

Rhododendrons and the Various Hybrids, 1917.

In flower, whatever the parentage, *R. x batemanii* is simply outstanding, often covering itself head-to-toe in crimson-red blooms. It is also fairly slow growing, as the specimen featured in the photographs, despite benefitting from the nirvana offered by a west coast garden such as Benmore, can be dated to 1938 and is now well over eighty-five years old. Yet it barely tops 4m in height, although the spread is much greater.



R. x batemanii



R. x batemanii



R. x batemanii



R. x Sir Charles Lemon

R. x Sir Charles Lemon

Hardiness:

H6.

Flowering Period:

Late March-April

Height & Spread:

12m x 8m.

Sir Charles Lemon (1784-1868), the 2nd Baronet Lemon of Carclew - the name of his estate and country house, located in the parish of Mylor, some five miles to the north of Falmouth, which overlooks the Carrick Roads - was one of the sponsors of Sir Joseph Dalton Hooker's expedition to the Himalaya. A founding-member of the Royal Horticultural Society of Cornwall, Lemon had been developing the terrace gardens and pleasure grounds around his home, this work originally begun by his father William (1748-1824), and in the process, he would significantly add to the planting, the focus primarily on rhododendrons. And of course, as a backer of Hooker's trip, he was one of the first people in the country to receive a portion of the bounty from those Sikkim collections, with the initial batch of seedlings recorded as arriving direct from Kew in 1850. The nascent seed pan rogue that now bears his name, was therefore almost certainly germinated that same year or in 1849, and had been planted-out in the grounds by the middle of the decade.

On Sir Charles' death, the estate passed to his sister's third son, the Crimean War veteran, Colonel Arthur Tremayne, who had actually had his horse shot from underneath him by the Russian guns during the infamous Charge of the Light Brigade in 1854. A writer from *The Journal of Horticulture* was invited to tour the grounds of Carclew in 1874 and reported on 'a fine Rhododendron cinnamomeum, quite 10 feet high; the under sides of its leaves are of a rich brown, and its flowers are said to be magnificent'.

Four decades later, it was the turn of John Guile Millais to visit and praise the shrub, which he described as *R. arboreum* var. *Sir Charles Lemon* in the 1917-published first volume of his *Rhododendrons and the Various Hybrids*:

'The original plant of this fine form of *R. arboreum* is at Carclew. It is 27 yards round and 30 feet high. It is a tall growing plant with fine large dark leaves with an orange-brown pubescence to the underside. The flowers are of good size and pure white in colour. It is regarded as one of the best forms of the species. The late Mr Charles Daubuz of Killiow remembers this plant coming as a seedling to Carclew. It came from seed by Sir J. Hooker from India.'

And in the early 1920s, J. C. Williams wrote:

'It may be of interest to Rhododendron growers to have some idea of where in Cornwall the finest specimens of Rhododendron are to be found. Probably the finest specimen of any kind is "Sir Charles Lemon" at Carclew, on account of its great size, of the remarkable refinement of the flower, which is a good white, and of the unusual beauty of the foliage, particularly of the under side of the leaf, which is the most brilliant contrast in colour to the surface of the leaf, which any member of the family gives us as far as I know.'

The Rhododendron Society Notes, Volume 2, Number 4, 1923.

In 1928 the plant was assessed as being close to 35 feet high and remained classified as a form of *R. arboreum*, but publication of the 1934 *Year Book of the Rhododendron Association*, heralded a change of status:



Sir Charles Lemon, c. 1846

For none other than Lionel de Rothschild had noticed that the ovary was near glabrous instead of being densely tomentose with brown hairs and short-stalked glands, which made 'Sir Charles Lemon' a hybrid. And Exbury's master hybridiser suggested that the parentage was probably *R. cinnamomeum* x *R. campanulatum*, especially as the likely pollen provider also had an eglandular ovary virtually bereft of hairs.

That combination has been accepted as the presumed parental lineage ever since, although a full genetic profile is still awaited to positively confirm such.

R. x Sir Charles Lemon opens its blooms towards the end of March if the weather is mild, or in the first weeks of April otherwise, and they are indeed stunning flowers, pure white with a smattering of crimson-purple spots on the dorsal lobes, campanulate bells almost 7cm across. Ten are carried in each rounded truss and a mature specimen will sport hundreds of such gleaming globes. They are set against stiff, matt, mid green leaves; each, a flat, oblong-elliptic blade some 15cm long that is etched with deeply impressed veins angling-out from a sunken midrib. But only when these are lifted by a breeze or observed from below will their true glory be revealed: the rusty-red powdery indumentum that thinly cloaks their underside and covers the raised veins, but not the prominent midrib, whose unblemished run of pale green provides the perfect contrast between light and dark.

As evidenced from the measurements quoted from the John Guille Millais text above, 'Sir Charles Lemon' will ultimately develop into a large shrub or a small tree, hitting 12m in height with a spread of 8m or more. Huge, aged specimens, will be found in nearly ever west coast rhododendron collection from Land's End to Ullapool, with the winter hardiness rating of -21°C allowing the shrub to be cultivated right across the southern counties, as well as in sheltered gardens along the east coast, even when specimens of *R. arboreum* ssp. *cinnamomeum* var. *cinnamomeum* at such locales have been found to be too tender to survive long-term. Naturally, a woodland placement to protect the foliage from strong winds, as well as the blooms from a spring frost, is de rigueur.

Fire gutted the Palladian mansion at Carclew in 1934 and it was never rebuilt, today, standing in ruins, the estate split between a number of farms and other residences. But the Grade II listed terrace gardens remain, watched over by a new Carclew House, far more demure and of modern design, built in 1963. Which means that many of Hooker's now 170-year-old introductions, including the original seedling of *R. x Sir Charles Lemon*, are still in place, dotted about the woodland, and eye-catchingly spectacular when in bloom.

Tangentially, but of equal interest, is a recently published article by Megan Oldcorn, who, at the time of writing, was a PhD student at Falmouth University. Titled *Falmouth's Great Gardens of Empire: Wealth and power in nineteenth century horticulture*, it is freely available online via *Troze*, the Journal of the National Maritime Museum Cornwall. Profiling Lemon and the Royal Horticultural Society of Cornwall, it details how living specimens and seed of exotic plants were sourced by the area's prominent families from the captains of the trading ships that regularly docked at Falmouth's then busy port. A fascinating read, the web address for the pdf is given below.

https://nmmc.co.uk/wp-content/uploads/2018/04/Troze_-_Falmouth_Gardens_1.pdf



R. x Sir Charles Lemon



R. x Sir Charles Lemon



R. x Sir Charles Lemon



R. x planetum

Hardiness:

H5.

Flowering Period:

March-April.

Height & Spread:

6m x 4m.

Sir Isaac Bayley Balfour's wry sense of humour might once more be on display in the epithet he selected for *R. planetum* (*Notes from the Royal Botanic Garden, Edinburgh*, Volume 12, 1920), the Latin translating as 'wandering' and an adroitly correct choice for what we now know to be an undirected pollination. Because several clones are resident in UK cultivation, with some displaying features that trend towards the Subsection *Fortunea* species *R. oreodoxa*, while others have a morphology that is closer to *R. sutchuenense* from Section *Ponticum* Subsection *Calophyta*.

The first of these individuals was discovered in 1912 by J. C. Williams, though not on the mountain slopes of western Sichuan: in the nursery beds of the Veitch emporium at Coombe Wood. Of course, the original seed collection had indeed come from that southeast Chinese province, the capsules being gathered by Ernest Wilson at the start of his second expedition for the horticultural firm in 1903. Williams purchased the plant and installed it in the woodland back at Caerhays, where, seven years later, it flowered in its new Cornish home. And confirmed the suspicion JC had had when making his selection:

Something different had germinated in the seed pan.

Unfortunately, the field number quoted by Williams, which he noted from the nursery bed label - Wilson 1882 - does not correspond with a rhododendron in the collector's *Plantae Wilsonianae* text, so any provenance linking the gathering to one made near Tatsienlu (Kangding), is doubtful, especially given that lack of any corresponding herbarium specimens. However, some doyens suggest that W 1782 is the correct listing, a collection of *R. decorum* that might have come with foliage best described as 'ovate-cordate', but regrettably, such can only be considered speculation unless and until the geneticists are able to prove the linkage with a deep dive along the chromosome chains.

All the forms of *R. x planetum* established in British gardens are free flowering, though the quality of the blooms they display varies enormously, as does the foliage, with the leaves reported as being chlorotic on a number of clones. Mature specimens form small trees to around 6m in height, with an upright spreading structure, the shrubs fairly fast growing and fully hardy. Frost protection will be needed to prevent damage to swelling flower buds however, as in mild years, these can begin to open as early as mid-February.

R. x planetum



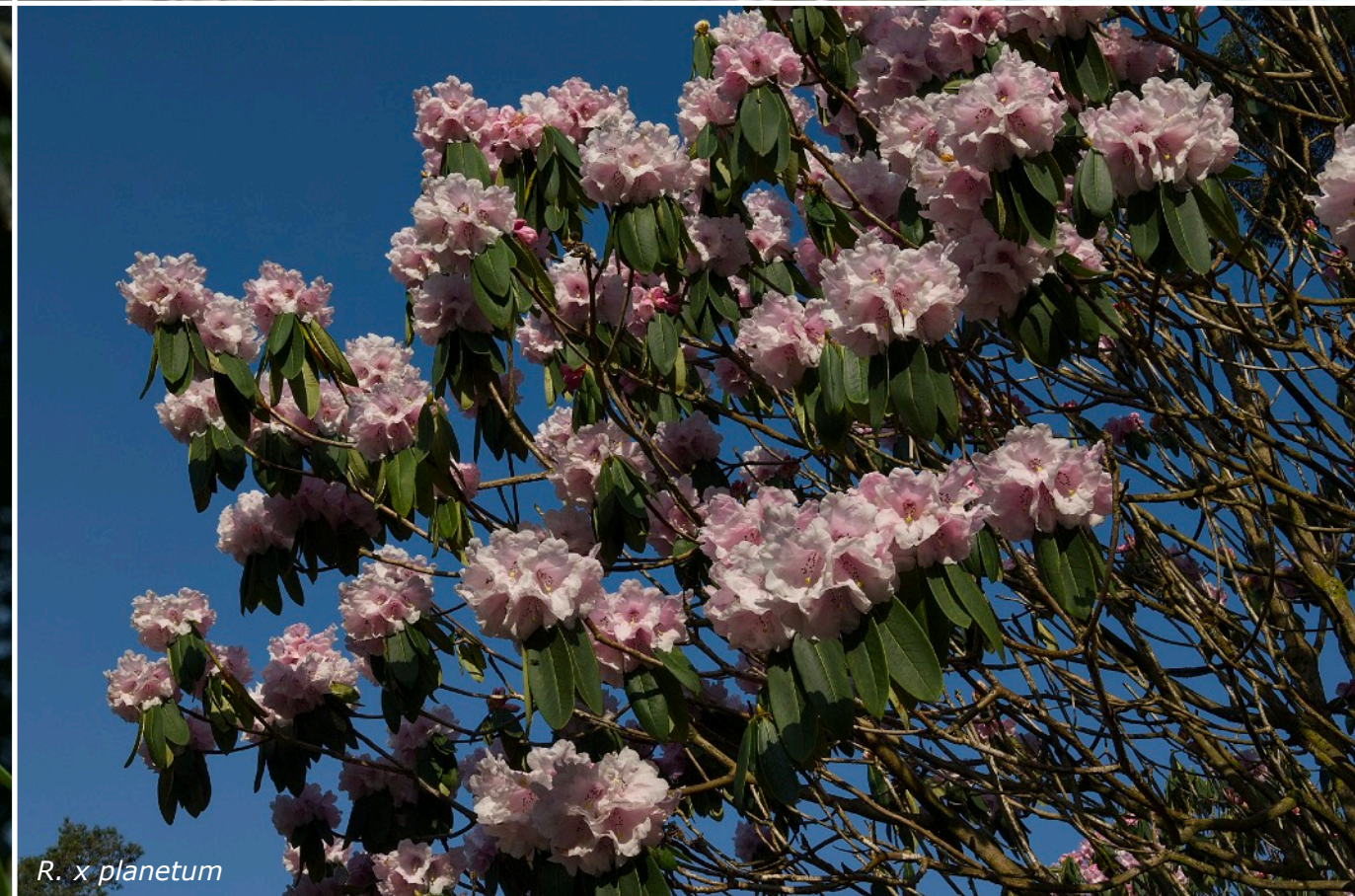
R. x planetum



R. x planetum



R. x planetum



R. x planetum



R. x inopinum

Hardiness:

H5.

Flowering Period:

April.

Height & Spread:

3m x 3m.

R. x inopinum is now widely accepted to be a natural hybrid, with the most likely parentage thought to be *R. wasonii* x *R. pachytrichum*, though a few diehard doyens and rhodophiles continuing to regard this seed pan rogue as a bona fide specific species.

The plant began its existence on Planet Earth in a tray of *R. wasonii* seedlings that were being raised at Edinburgh Botanic from an Ernest Wilson collection, though earlier iterations may have germinated out in the wild and lived their lives un-noticed by the eyes and the acquisitive hands of Man. Traditionally, the field number quoted is W 1866, even though the associated herbarium specimen is not a member of Genus *Rhododendron*, but a honeysuckle, namely, *Lonicera trichogynum*. W 1876 is given as an alternative, this the sole documented gathering of *R. wasonii* Rhododactylum Group, while H. H. Davidian opts for W 1886 in his *The Rhododendron Species* (Volume 3, 1992), but as this is a collection of *Populus tremula* var. *dauriana*, the likelihood that a typo in the manuscript is further confusing matters can probably be taken as an almost undoubted certainty.

The original collection can be dated to Wilson's second expedition to China for the Veitch Horticultural Nurseries that took place between 1903 and 1905, with the gathering made in western Sichuan, though that is as far as the provenance can be stretched and nothing similar has yet been found growing on the ground in Sichuan or elsewhere. The taxon flowered for the first time at Edinburgh in 1922 and received an Isaac Bayley Balfour botanic description that was penned shortly afterwards, this one of the last texts he would fully complete before retirement and his sudden death at the end of that year (it can be found in *Notes from the Royal Botanic Garden, Edinburgh*, Volume 15, 1926).

R. x inopinum varies somewhat in cultivation, just as would be expected from an unspiciated hybrid that was likely first propagated by the nurserymen from selfed-seed, so prospective purchases should seek out the best clone - the Edinburgh Form - from those specialist suppliers still trading in the UK. The original specimen of such was lost to cultivation at the botanic gardens some years ago, but not before it was propagated vegetatively and then widely distributed. Shelter from cold winter wind is required for these plants to succeed along the east coast, but otherwise they are fully hardy, easy to grow and very free flowering.



R. x inopinum



R. x inopinum



R. x inopinum



R. x inopinum



R. x inopinum



R. x inopinum

R x Flavidum White

Hardiness:

H5.

Flowering Period:

April-May.

Height & Spread:

2m x 2m.

R. x Flavidum White has not been found in the wild to date and its parentage can only be guessed at, though most expert opinion plumps for *R. yunnanense* as the likely pollen provider. On the ground in northwest Sichuan that species certainly hybridises with its neighbours, as the field reporting indicates: a pairing with *R. ambiguum* giving the creamy-yellow flowered *R. x wongii*; that with *R. impeditum*, the pinkish-purple blooming and glossy-leaved *R. x lysolepis*. But so far, no one has reported *R. flavidum* growing in close proximity to any lepidote species that could give the cross its low, but erect upright habit, and those pure white, rather than yellow flowers.

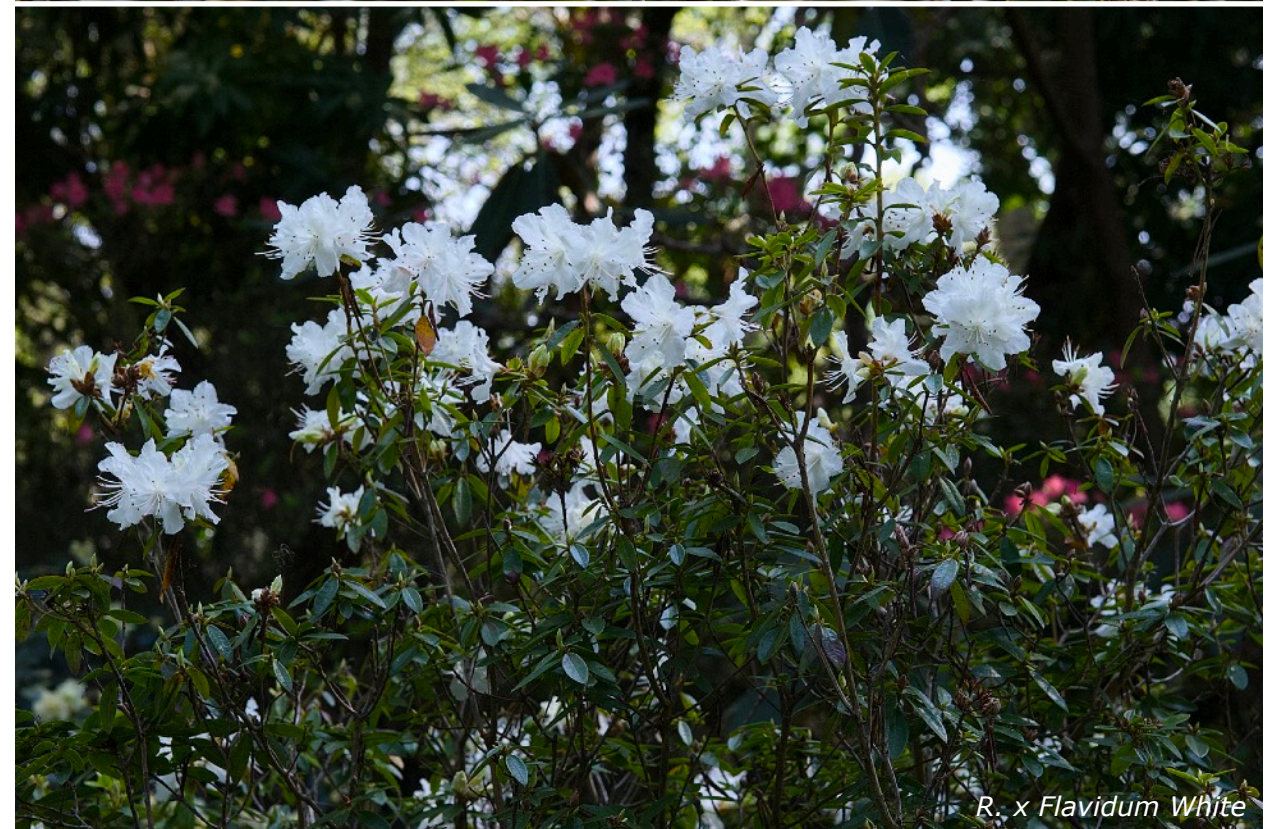
Apart that is, from *R. concinnum*.

This species can display white corollas and it is now known to hybridise widely. It also precedes on the listings both collections of *R. flavidum* made by Ernest Wilson: the 1905 introduction for the Veitch Nurseries under the field numbers W 1766 and W 1773, respectively *R. concinnum* and *R. flavidum*: and that for the Arnold Arboretum in 1908 - W 1201 and W 1202 repeating the species sequence. Moreover, Peter Cox of Glendoick, reports that *R. concinnum* was probably present in the area where he collected seed of *R. flavidum* in the autumn of 1992, though unfortunately, it was not positively identified within the tangle of *R. ambiguum*, *R. x wongii* and a host of other lepidote and elepidote rhododendrons (*Seeds of Adventure*, co-authored with Peter Hutchison and published in 2008).

In UK cultivation, a number of different clones will be found planted in gardens, the labels listing them as either *R. 'Flavidum White'* or *R. 'Flavidum Album'*, the plants varying slightly from each other, but all basically highly floriferous erect shrubs to around 2m tall and wide. These have proved easy to grow and are usually a picture of robust good health, this state of grace in total contrast to true specimens of *R. flavidum*, which have a long demonstrated reputation for being difficult and prone to partial die-back



R. x Flavidum White



R. x Flavidum White



R. x cubittianum



R. x cubittianum

R. x cubittianum

Hardiness:

H3.

Flowering Period:
Late February-April.

Height & Spread:
2.5m x 3m.

The gathering of seed and herbarium material that was classified as *R. cubittii* by Kew's resident rhododendron expert John Hutchinson in 1919's Volume 12 of *Notes from the Royal Botanic Garden, Edinburgh*, was made ten years earlier during March 1909 by the American naturalist George Cubitt. His botanic exploration of the Bhamo District of Kachin State in northeastern Upper Burma - then a British colony, today, of course, the military-dictatorship of Myanmar - had reached Maru-kahtung (Sindum), which was where he stumbled across the plant whose sampled appendages and capsules would later bear his name. Gathered under Cubitt's field number 385, the expedition's written account records it as straight *R. veitchianum*.

That view was endorsed by Doctor James Cullen following a review of the dried material he undertook in preparation for writing the Edinburgh Revision's reworking of Subgenus *Rhododendron*, with the taxon made synonymous and sunk in both the 1978 *Preliminary Synopsis* paper co-authored with David Chamberlain, and the full monograph of 1980 vintage (*Notes from the Royal Botanic Garden, Edinburgh*, Volume 36, and Volume 39, Number 1, respectively), though the eminent rhodophiles of the Royal Horticultural Society were quick to resurrect the epithet as *R. veitchianum* Cubittii Group.

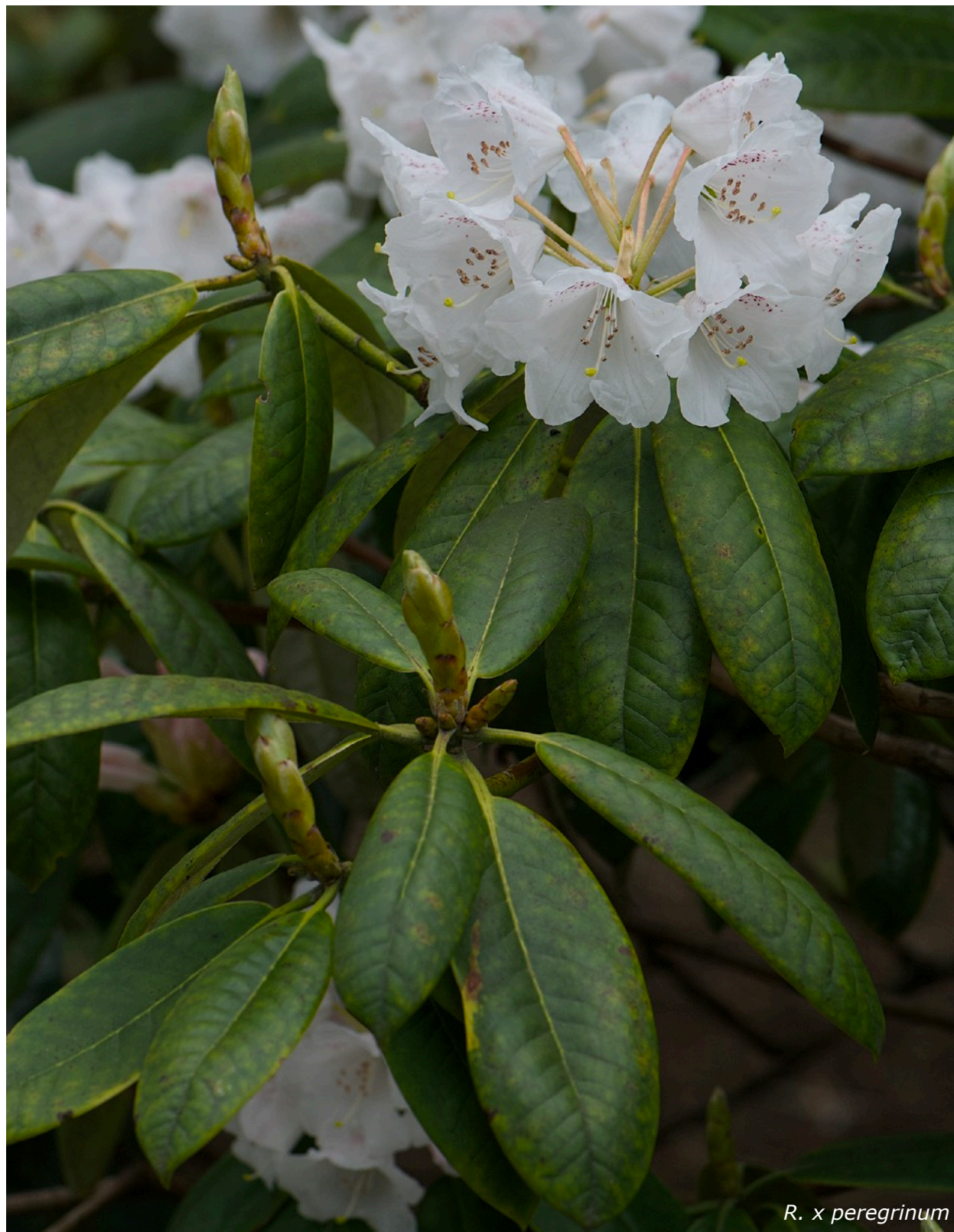
Unfortunately, there is a problem with that workaround.

For the plants grown from Cubitt's capsules, which now adorn many of the Gulf Stream-moderated gardens up and down the UK's western seaboard, are significantly different from the branchlets, leaves and flowers pinned to his herbarium specimen plates.

This fact of life was clearly stated by the authors of *The Rhododendron Handbook 1998* in their entry for *R. veitchianum*, although the term 'seed pan rogue' was avoided. So too was the need to assign a new name to those cultivated plants, for technically, under the strict internationally-agreed nomenclature rules, the *R. cubittii* epithet can only be used when referring to the dried material held by a handful of the world's herbaria, so *R. x cubittianum* is conjured-up herein to maintain continuity.

In cultivation, the natural hybrid will be found to be a fine garden plant despite its use outdoors being restricted to the mildest of UK gardens. Mature specimens are upright to upright-spreading shrubs, each some 2 to 2.5m high, with clusters of dark green glossy leaves carried at their branch tips. A planting position behind a more vertically challenged relative, will therefore, hide the bare lower stems if the smooth, brown and flaking bark is not considered to be as equally arresting as the blooms. Which are simply stunning: white flushed pink, wide-spreading tubular-funnel-shaped corollas, graced with a yellow or pale-orange distinctive blotch.

Seekers of what was previously designated *R. veitchianum* Cubittii Group 'Ashcombe' will find the entry housed within Volume 8, for the plant is actually a full-blown hybrid, its parentage now delineated as *R. x cubittianum* x *R. x cubittianum*.



R. x peregrinum

R. x peregrinum

Hardiness:

H5.

Flowering Period:

March-May.

Height & Spread:

7m x 4m.

Ernest Wilson's October 1910 collection of seed from a then completely unknown large-leaved rhododendron found in fruit at Pan Lin Shan to the west of Kuan Hsien in western Sichuan, not only introduced the stunning blooms and indumented-foilage of *R. galactinum* into UK cultivation, but the less demonstrative attributes of *R. x peregrinum* as well. For the hybrid popped-up amongst a group of *R. galactinum* seedlings germinated from the W 4254 gathering being grown by Edward Magor at Lamellen in Cornwall. Specimens were soon on their way to Edinburgh Botanic for appraisal once it was clear that something new was to hand, which was after the plant had opened its first flower buds in the spring of 1923. A description of the shrub appeared in *The Species of Rhododendron*, published in 1930, with Harry Tagg placing the associated formal Latin text into Volume 16 of *Notes from the Royal Botanic Garden, Edinburgh*, this printed the following year, though it was actually Sir William Wright Smith who had first examined the specimens sent from Lamellen and suggested the name.

It was immediately apparent to the botanists that the new shrub did not fit within the membership of Series Falconeri, as the subsection was then classified, being bereft of the cup-shaped hairs that defined that grouping - as even the far more fimbriate hairs found on *R. galactinum* could still be described as narrowly cup-shaped - so Tagg suggested a relationship with *R. watsonii*, which Wilson had found growing nearby and gathered under the field numbers W 4244 and W 4251. Of course, the closest the description got to the term 'natural hybrid' was when it suggested that the two known species shared a 'proximity of area' and that 'Peregrinum' resembled one in the foliage and was a near ally to the other. So once again, specific status was granted and there was no sign of a small 'x' being appended in front of the epithet.

However, by the late 1970s, a number of botanic doyens, along with a few horticultural experts, were sticking their necks out and suggesting that *R. peregrinum* was probably a hybrid of *R. galactinum*. Even more surprisingly, it was H. H. Davidian who formally added that small 'x' and listed the parentage as *R. galactinum*, most likely paired with *R. watsonii* (*The Rhododendron Species*, Volume 2, 1989).

R. x peregrinum is hardy enough to be successfully grown in most gardens where rhododendrons succeed, wind shelter being the only non-negotiable prerequisite, this required to protect the foliage, although E. J. P. Magor is quoted as stating that his specimen had "been out here for many years in a rather exposed place and suffered not at all". Adding that: "it is more upright in habit and quicker in growth than *R. watsonii* and stouter than *R. watsonii* or *R. galactinum*". Which almost certainly indicates that he had reached his own conclusions about the shrub's ancestry long before the adepts did.

One last point to note: like many if not most of its seed pan rogue contemporaries, *R. x peregrinum* has yet to be found in the wild.



R. x peregrinum

R. x decipiens

Hardiness:

H5.

Flowering Period:

April.

Height & Spread:

3m x 4m.

The likelihood of a chosen, Genus *Rhododendron* Latin epithet being more apropos than that for *R. decipiens* - the deceiving rhododendron - is so remote as to be a downright impossibility. Discovered and named by Charles Carmichael Lacaïta in May 1913, the shrub was found in an *Abies* woodland, growing 'promiscuously' amongst a larger population of *R. hodgsonii*. Two specific locations in Sikkim are given: purple-pink flowered plants were found between Chiabhanjang and the Singalila Ridge, at around 3,300m; and specimens displaying pale pink corollas were encountered at Kalapokri, this locale set between Longlo and Sandakphu, at around 3,000m. Lacaïta's own description of the plant, which can be found in Volume 43 of the *Journal of the Linnaean Society*, which was published in 1916, is illuminating on two counts, despite the technical particulars being written in everybody's favourite dead language:

Firstly, direct reference is made to *R. hodgsonii* regarding the flower colour, although most other characteristics are noted as being nearer *R. falconeri*.

And secondly, doubt is raised over the provenance of the seed collection, with Lacaïta writing that:

'The shape of the capsule, assuming that the specimens collected by Ribu in the autumn really belong to the species I saw in flower on the same ground in spring, apart from any other differences, makes it quite impossible to assign it to a form of *R. hodgsonii*.'

'Ribu' was Lacaïta's trained Lepcha assistant, who, it is known, was dispatched off to Singalila in October 1913, six months after the initial discovery, and tasked with gathering fruiting specimens.

Reviewing the find for 1919's Volume 1, Number 5, of *The Rhododendron Society Notes*, Isaac Bayley Balfour - somewhat strangely, given his later conversations with John Guille Millais on the subject (see page 10) - concluded that a natural hybrid between *R. falconeri* and *R. hodgsonii* was to hand and urged growers of either species to "look at their plants for forms which may match this one".

R. x decipiens also features in a much more recent volume, this written by Udai Pradhan and Sonam Lachungpa and published in 1990: *Sikkim-Himalayan Rhododendrons*. Within the text, additional populations to the north of Lachung, growing at 3,800m, are noted, and the taxon is described in detail and illustrated by line drawing and photograph. Yet despite being remarkably similar, those two outlines, penned some eighty years apart, are subtly different, and this led Peter and Kenneth Cox in their 1997 *Encyclopedia of Rhododendron Species* to suggest that two different natural hybrids were in fact being discussed: *falconeri x hodgsonii* (by Lacaïta); and *hodgsonii x arboreum* (by Pradhan and Lachungpa).

What everyone seems to have overlooked however, are the plants in UK cultivation, albeit few in number, that bear *R. decipiens* labels. For these match with neither description as they were grown from seed collected off of Lacaïta's unspciated natural hybrid (at best), or some other, closer-to-hand rhododendron that masqueraded as the shrub Lacaïta

had seen in the spring (at worst, thanks to Ribu). Of course, the chances that the progeny from these would exactly mirror the parent plant, even if naturally self-pollinated, are remote, but more importantly, they must be considered to be second-generation hybrids and as such, they require a new name.

The labelled specimens of *R. x decipiens* that grow in the Savill and Valley Gardens within Windsor Great Park, appear more like a backcross with *R. falconeri*, as the flowers show little if any resemblance to *R. hodgsonii*, nor, quite frankly, are they an improvement on either of their supposed parents. So, one for the geneticists to solve.

Apart from a final point. Which given the epithet's translation, might mean all of the above conjecture has to be considered highly tenuous and open to question?



R. x decipiens



RH
DECIPENS
TC-5148

R. x decipiens



R. x exquisitum



R. x exquisitum

R. x exquisitum

Hardiness:

H5-6.

Flowering Period:

April-May.

Height & Spread:

2.5m x 2m.

R. exquisitum sprang-up in a tray of seedlings at Exbury Gardens grown from Forrest 20489, this a gathering of *R. oreotrephes* made on the mountains east of Yung-ning, in southwest Sichuan, during July 1921. Edinburgh Botanist's premier plant hunter had found the population of plants on an open and rocky hillside at an elevation of around 3,200m, and his field notes record that all were approximately 1.3m in height and had soft rose, unmarked flowers. However, one of the youngsters growing in Lionel de Rothschild's seedbeds was superior to the rest and it soon caught that connoisseur's eye, and when John Hutchinson, Kew's resident rhododendron expert of the time, visited the estate in the early 1930s, he too was clearly impressed. To the extent that herbarium material was gathered and pen put to paper for a botanic description that appeared in Volume 92 of *The Gardeners' Chronicle*, published in 1932.

Unfortunately, to quote from H. H. Davidian's review of the Series Triflora species that was published in *The Rhododendron and Camellia Year Book 1963*, *R. exquisitum* was 'very similar to *R. oreotrephes* in leaf shape and size, in flower shape, size and colour, and in all other respects'. So similar in fact, that he made it synonymous. And this state was also maintained subsequently by the Edinburgh Revision botanists. Yet a clue as to why the plant was so distinctive had actually been published back in 1950: it was a tetraploid (*Chromosome Numbers in Species of Rhododendron*, written by E. K. Janaki Ammal, D.Sc., I. C. Enoch, B.Sc., and Margery Bridgwater, this published in *The Rhododendron Year Book 1950*). That same paper also denoted *R. oreotrephes* to be a hexaploid. But at the time, the consequences of those different chromosome counts - 52 as opposed to 78 - was still a mystery and in the main, members of the botanical fraternity assumed that the genetic information each plant contained was the same. There was just more of it in the hexaploid.

Twenty years on from when the Edinburgh Revision papers were being written in the late 1970s and early 1980s, geneticists could say with certainty that the two were separate entities, the tetraploid and the hexaploid unable to breed with each other if the cell division process ran without error and produced egg and sperm gametes with half the total number of chromosomes: 26 for *R. exquisitum* and 39 for *R. oreotrephes*. Because this would result in 13 unpaired chromosomes at fusion - conception - and in layman's terms, a very large spanner thrown into the works. For no wild rhododendron has yet been found where the chromosome compliment in each cell equals 65.

So the synonymy imposed back in 1963 and maintained in the Edinburgh Revision texts, cannot, today, be allowed to stand, hence, herein, *R. x exquisitum* has been reinstated as a seed pan rogue natural hybrid.

Those rhodophiles who grow the plant have found it to be unfazed by its position in their gardens, hardy enough for all but the coldest UK locales, with specimens bedecked in very fine flowers from a young age.



R. tsangpoense* x *R. campylogynum

Hardiness:

H5.

Flowering Period:

April-May.

Height & Spread:

1m x 2m.

Most of the seed collected by Frank Kingdon-Ward under the field number KW 5843 germinated true, undeniable specimens of *R. charitopes* ssp. *tsangpoense*, but amongst the majority were a minority, a few individuals later determined to be crosses with a form of *R. campylogynum*. Ward had gathered the capsules towards the end of June 1924, on the Doshong La in southeastern Tibet, and his expedition field notes for the find detail the plant population he sampled as being a dense tangle of shrubs just coming into flower, below 1m in height, growing with other species on the sheltered, broken side of the mountain.

In cultivation, the still un-named natural hybrid - Sir Isaac Bayley Balfour and Edward Magor would likely opt for *R. x tsangpogynum*, which is so awful even John the Baptist would baulk at performing the lustration - maintains many of the features associated with ssp. *tsangpoense*, but the shrubs are lower growing, bushier, and have far shorter pedicels. This last characteristic produces a much more compact inflorescence, with the corollas no longer dangling down between the leaves, but held slightly above the foliage in a flat-topped, dense truss.



R. tsangpoense x *R. campylogynum* (KW 5843)



R. tsangpoense x *R. campylogynum* (KW 5843)



R. tsangpoense x *R. campylogynum* (KW 5843)

R. x Snow Lady

Hardiness:

H5-6.

Flowering Period:

Late March-early April.

Height & Spread:

1.2m x 2m.

While florally 'Snow Lady' may not win-out over the best forms of *R. leucaspis*, in terms of hardiness, the addition of a pollen hit from *R. ciliatum* has worked wonders, giving the natural hybrid a rating down to -18°C, as opposed to the H3-4 value for its seed parent and H4-5 figure for the male partner. For much of its early history however, the hybrid's origin and parentage was obscure, until in 1967, writing in the Fall edition of *The Quarterly Bulletin of the American Rhododendron Society*, the forerunner of *JARS*, Ben Lancaster, a rhodophile from Camas, in Clark County, Washington State, on the US Pacific Northwest coast, set the record straight:

'We had tried to grow *R. leucaspis* for years without success until a collector friend, Mr Tucker, gave us a few cuttings from a plant that had been sent to him by Lionel de Rothschild as *R. leucaspis* many years before. One of these cutting grown plants, which grow well from Yokohama, Japan, to San Diego, California, and in the Eastern Seaboard States, was placed in the Portland Test Gardens. When informed that this plant had been given an award with the request that we give it a name and provide its parentage and botanical description, for ARS registration, we used 'Snow Lady' as a descriptive name giving the parentage as *R. leucaspis* x *R. ciliatum*. We had previously decided that this must be the parentage from a careful comparison of the botanical descriptions of these two species. This was further confirmed when we later observed the same recorded cross made by a friend in Eugene, Oregon, which was an exact duplicate of 'Snow Lady'. Also, 'Snow Lady' was much hardier than its parentage would seem to indicate.'

Mr Tucker was W. G. Tucker, of Portland, Oregon, a Charter Member of the American Rhododendron Society, in fact the recipient of membership card number one; Lionel de Rothschild of course, owner and creator of the fabled Exbury Gardens in the New Forest, near Southampton. The British merchant banker had received seed from all three of Frank Kingdon-Ward's collections of *R. leucaspis*, the first two - KW 6273 and KW 6291 - dated to November 1924, the third - KW 7171 - of 1926 vintage. The capsules had been gathered in the Tsangpo Gorge of southeastern Tibet and until 2001 were the only introductions of the species into UK cultivation. By contrast, *R. ciliatum* has a much wider distribution than *R. leucaspis*, this encompassing Bhutan, Sikkim and eastern Nepal, as well as southeast Tibet. Its flowering period also overlaps that of the Subsection *Boothia* plant.

Given the above, unless Lionel de Rothschild made the *leucaspis* x *ciliatum* pairing at Exbury and later consigned all the seedlings to one of his 'glorious bonfires' after deciding that their flowers did not surpass those of the parents (which, by extension, would imply that his gardening staff were so slipshod in their working practices that some were missed and a later mix-up also occurred, allowing one of the surviving seedlings to be sent out to Tucker in Portland), only one conclusion can be reached: 'Snow Lady' is a natural hybrid, a seed pan rogue that went unspotted in the trays or nursery beds holding the juvenile plants that germinated from one of those three Kingdon-Ward collections.

The morphologic specification for *R. x Snow Lady* details between four and eight

funnel-shaped corollas emerging from each flower bud, the blooms individually 5cm long by 6.5cm across and pure white. The filaments of the ten stamens that compliment each of these are also white-flushed, but topped by chocolate-brown anthers; the tube of the style, likewise pure white and deflexed courtesy of its Subsection *Boothia* heritage, capped by a yellowish stigma; the calyx lobes are flesh-pink in tone, quite large and deeply cleft, while the pedicels are of a somewhat darker hue and scaly. Foliage is dark green and glossy above, minutely lepidote below, the elliptic leaves bearing long setose hairs along the margins, and when they first extend, across the adaxial surface as well. Each blade is between 4 and 7.5cm long, 2 to 4cm wide and the short petioles are both hairy and scaly.

However, 'Snow Lady' has three known faults: the flower buds are not as hardy as the plant itself and will be lost if temperatures fall close -10°C unless buried under snow; the leaves are susceptible to leaf spot; and despite the first failing, the shrubs should be set in full sun to maintain their dense and compact habit, as even in the UK's southern counties legginess will be a problem if more than a modicum of dappled shade becomes a permanent fixture.



R. x Snow Lady



R. x Snow Lady





R. x microleucum

R. x microleucum

Hardiness:

H5-6.

Flowering Period:

April-May.

Height & Spread:

0.6m x 1.5m.

R. x microleucum was found growing in the extensive rock garden at Exbury, Lionel de Rothschild's 200-acre rhododendron wonderland in Hampshire's New Forest, in the early 1930s. The plant is known to have originated from seed collected by George Forrest in northwestern Yunnan, but once again, that is as far as the provenance can be stretched. Linkage to a specific field number - F 22108 is quoted in a number of publications - is tenuous at best, especially as 'Microleucum' differs significantly from *R. polycladum*, the species that is recorded under that integer. The herbarium material for *R. x microleucum* was sourced from a cultivated plant in 1958, and while the dried samplings are clearly those of a dwarf lepidote, unfortunately, the accompanying typed note lists the original wild gathering as F 22808 (a collection of *R. floccigerum* aff). Moreover, the leading '8' has later been amended to a '1' on the sheet by hands unknown.

The muddle over its origin apart, the plant itself - as is obvious - is outstanding, a low bushy tangle of twigs completely covered in white blooms each spring, these providing the ideal counter alongside any of the purple-blue Subsection *Laponica* species, with the side-by-side contrast enhancing both hues.

In UK cultivation, *R. x microleucum* attains half the height of the species that it most closely resembles, *R. orthocladum*, and is a relatively easy subject to grow, the corollas frost-hardy to several degrees below freezing point. In the south, a planting site with an open, northerly aspect, offering a cool root run and protection from the sun's fiercest rays, would be the place to establish a specimen, for although not found to date out in the wild, the natural hybrid would be very much at home on the high alpine slopes of once-independent Tibet or that nation's occupying-power's provinces of Sichuan and Yunnan, so should be nurtured accordingly.

John Hutchinson wrote the taxon's botanic description for a 1933 article published in Volume 33 of *The Gardeners' Chronicle*. His chosen epithet means 'small and white'.



R. x pallescens

Hardiness:

H5.

Flowering Period:

May.

Height & Spread:

1.5m x 2m.

R. x pallescens was described as a specific species by John Hutchinson in Volume 93 of *The Gardeners' Chronicle*, this published in 1933 shortly after Lionel de Rothschild secured an RHS Award of Merit for a white-flushed-pink flowered specimen that is believed to have originated from a Joseph Rock gathering under the field number R 11257 (USDA 59574), which, officially at least, is a collection of *R. anthosphaerum* Eritimum Group. Given that *R. x pallescens* is a scaly-leaved lepidote and *R. anthosphaerum* a member of the elepidote Subsection *Irrorata*, one would have hoped that some level of doubt might have been raised about the two actually being raised in the same seed tray, but apparently not, for the field number now officially reflects this diversity, with just the addition of a concluding 'a' and a small 'x' added for the natural hybrid in *The Rhododendron Handbook 1998 Collectors' Numbers* listings.

That it is such - an acknowledged, undirected pollination between *R. racemosum* and *R. davidsonianum* - is even accepted by H. H. Davidian (in Volume 1 of *The Rhododendron Species*, published in 1982), though the challenge to its antecedence began within the pages of the 1963 edition of *The Rhododendron and Camellia Year Book* and was confirmed in the 1967 edition of *The Rhododendron Handbook*, when the imposition of that small 'x' in front of the epithet took place.

Regrettably, very few specimens now remain in cultivation, fewer still bearing a label, but if the one at the Sir Harold Hillier Gardens, near Romsey in Hampshire, is accurate, then a sparsely leaved shrub to around 1.5m high, displaying terminal and axillary flower buds, will be to hand. The corollas that specimen bears are widely funnel-shaped, pale pink in colour, their margins initially flushed with carmine or white, and the upper lobes spotted.



R. x pallescens



R. x pallescens



R. x pallescens



R. x pallescens



R. campanulatum x *R. thomsonii* (P&L 39)

R. campanulatum* x *R. thomsonii

Hardiness:

H5.

Flowering Period:

March-April.

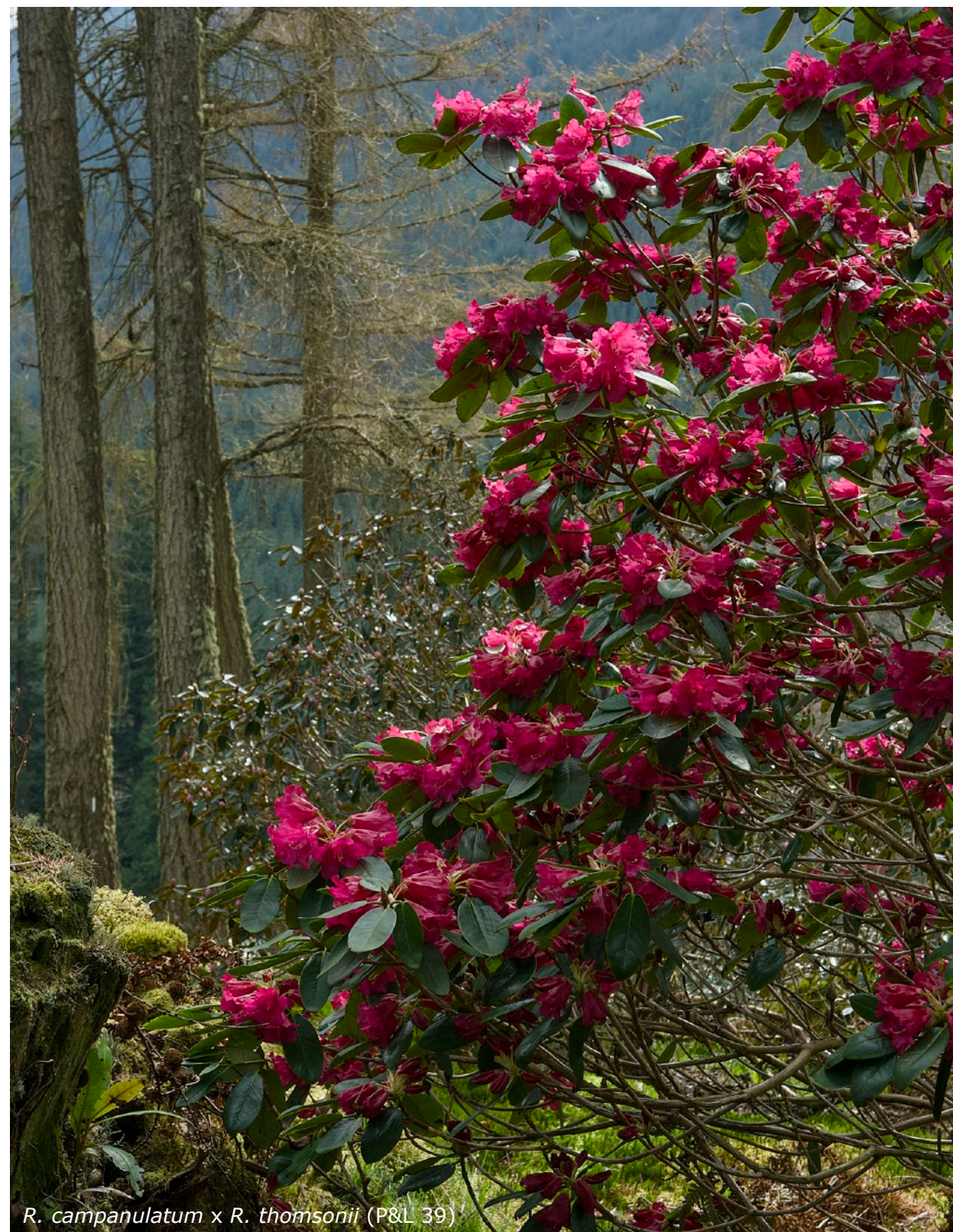
Height & Spread:

4m x 4m.

Collected as *R. campanulatum* in the Indian State of Sikkim by Udai Pradhan and Sonam Lachungpa in 1986, then re-determined to be *R. wallichii* by the expert botanists at the Royal Botanic Garden, Edinburgh - the lack of any abaxial leaf indumentum the likely kicker for the plant's label change - when P&L 39 first flowered, all bets were off: because the dome-shaped specimen growing on the hillside at Benmore Botanic Garden opened an inflorescence that revealed stunning, near red corollas. And annually afterwards, began to cover itself in an increasing multitude of those eye-catching blooms.

The plant is undoubtedly an undirected pollination with *R. thomsonii*, which grows in close association with *R. campanulatum* on the hillsides of Sikkim and often flowers at the same time. Foliage shape, the leaf's fairly glossy upper surface, the yellow coloured rachis and pedicels, plus the large cupular calyx lobes morphologically confirm such a mating. And then of course, there is the corolla pigmentation, which is completely absent from the wide sweep of hues *R. campanulatum* is officially known to display.

Across its four gardens, Edinburgh Botanic boasts only one living plant from the P&L 39 collection and despite much diligent searching elsewhere, no other labelled specimens from the gathering have so far been found. Equally amazing is the fact that the parentage of the cross has never been duplicated by anyone in the hybridising fraternity - at least, according to the two volumes and first fourteen supplements of the current *International Rhododendron Register and Checklist* - despite the practice of directed hand pollination within the genus having been ongoing in Western civilisation for the last two hundred years - though an application of pollen reversing the parentage has been made, this producing the drop-dead gorgeous Louis van Houtte-registered 'Fleur de Roi' - which means that the beautiful shrub featured in the photographs herein, may be the sole representative of its genetic heritage, if not across the entire globe, then almost certainly, throughout the length and breadth of the British Isles.



R. campanulatum x *R. thomsonii* (P&L 39)



R. campanulatum x *R. thomsonii* (P&L 39)



R. campanulatum x *R. thomsonii* (P&L 39)

Photographic Acknowledgements:

Details of where all the plant portraits were photographed is set out below, along with the website details of those collections visited. Thanks is extended to each establishment for allowing images taken in a private-use capacity, to be reproduced here. Gratitude is also due the institutions, organisations and individuals who allowed the portrait photographs of historical and noted figures associated with the genus to appear alongside the text.

Key: AL - above left; AC - above centre; AR - above right; BL - below left; BC - below centre; BR - below right; L - left; R - right.

Arduaine Garden, Oban, Argyll:

<https://www.nts.org.uk/visit/places/arduaine-garden>

p. 75-AL; p. 147-AL; p. 149-R; p. 150-AL; p. 151; p. 161-BR; p. 162; p. 165.

Benmore Botanic Garden, Argyll:

<https://www.rbge.org.uk/visit/benmore-botanic-garden/>

p. 16; p. 17-R; p. 18; p.19; p. 33-BR; p. 35; p.36; p. 45-AR; p. 47-L; p. 48; p. 49; p. 62-BR; p. 63-L; p. 72; p. 75-AR; p. 81-AL, BL, R; p. 82-L; p. 83-BL; p. 96; p. 104-R; p. 105-BL, BR; p. 109-AL, BL, R; p. 133; p. 138-L; p. 139; p. 140; p. 141; p. 146-L; p. 147-BR; p. 148; p. 150-AR, BR; p. 168; p. 169-R; p. 170; p. 171; Back Cover - AR, BR.

Brodick Castle Garden, Isle of Arran:

<https://www.nts.org.uk/visit/places/brodick-castle-garden-country-park>

p. 100; p. 101-L; p. 153-AL, BL.

Branklyn Garden, Perth:

<https://www.nts.org.uk/visit/places/branklyn-garden>

p. 124; p. 125-AR, BR.

Dawyck Botanic Garden, Stobo, Peebles:

<https://www.rbge.org.uk/visit/dawyck-botanic-garden/>

p. 7-R; p. 75-BR; p. 78-L, BR; p. 79; p. 108-L, AR; p. 114; p. 115-BR; p. 116-L, AR, BR; p. 117-AL, R; p. 150-BL.

Exbury Gardens, Hampshire:

<https://www.exbury.co.uk/>

p. 28-R; p. 29-AL, AR, B; p. 147-AR; p. 152-BR.

Glendoick Gardens Ltd, Perth:

<https://glendoick.com/>

p. 46-BR; p. 66; p. 90; p. 91-R; p. 107-R; p. 108-BR; p. 126-AR, BR; p. 127.

Logan Botanic Garden, Stranraer:

<https://www.rbge.org.uk/visit/logan-botanic-garden/>

Front Cover; p. 27-AL, AR.

Muncaster Castle Gardens, Ravenglass, Cumbria:

<https://www.muncaster.co.uk/>

p. 9; p. 20-L, BR; p. 22; p. 23-AL, BL, R; p. 24-AR, BR; p. 25; p. 30-BR; p. 31; p. 32; p. 37; p. 38-BR; p. 39-AL; p. 51; p. 52; p. 53; p. 54; p. 55-BL; p. 56; p. 57; p. 85-BL; p. 87;

p. 120; p. 121-R; p. 122; p. 123-L, R; p. 142; p. 144-AR, BR; p. 145; Back Cover - BL.

The National Portrait Gallery, St. Martin's Place, London:

<https://www.npg.org.uk/>

p. 143-R - Sir Charles Lemon, 2nd Bt, by William Holl Jr, after George Richmond, stipple engraving, 1846 or after.

Nymans Garden, Handcross, West Sussex:

<https://www.nationaltrust.org.uk/nymans>

p. 59; p. 63-AR; p. 69-AL, AR.

Public Domain:

p. 10-ARL - Sir Isaac Bayley Balfour; p. 10-ARR - John Guille Millais; p. 13-ARL - Charles Darwin, photographed by Leonard Darwin around 1874; p. 13-ARR - Alfred Wallace, photographed by the London Stereoscopic and Photographic Company around 1895 and first published in *Borderland Magazine*, April 1896; p. 13-BR - *On The Origin Of Species*, Title Page from the original 1859 publication.

Ray Wood, Castle Howard, North Yorkshire:

<https://www.castlehoward.co.uk/visit-us/the-gardens/the-woodland-garden>

p. 5-Title Page; p. 83-AL, BR; p. 97; p. 99-L; p. 101-BR; Back Cover-AL.

Royal Botanic Garden, Edinburgh:

<https://www.rbge.org.uk/visit/royal-botanic-garden-edinburgh/>

p. 39-BR; p. 42-BL; p. 43; p. 44-L, R; p. 45-AL, BL, BR; p. 65-BL; p. 68; p. 69-BL; p. 70-AR, BL; p. 71-BL; p. 73; p. 74 - BR; p. 75-BL; p. 77-L; p. 78-AR; p. 88-AR, BR; p. 89-L; p. 92-AR, BR; p. 93; p. 95-AR; p. 101-AR; p. 102-BL; p. 103; p.105-AL, AR; p. 111-BL; p. 112; p. 113-A, BL, BR; p. 117-BL; p. 118-AR, BR; p. 119; p. 147-BL; p. 154-L; p. 155; p. 160-BL, AR, BR; p. 164-L.

Royal Botanic Garden, Wakehurst Place:

<https://www.kew.org/wakehurst>

p. 21; p. 26-R; p. 27-BR; p. 34; p. 64; p. 129-R; p. 131; p. 163.

Royal Horticultural Society, Wisley:

<https://www.rhs.org.uk/gardens/wisley>

p. 39-BL; p. 152-AR.

Sir Harold Hillier Gardens, Ampfield, Romsey:

<https://www.hants.gov.uk/thingstodo/hilliergardens>

p. 27-BR; p. 39-AR; p. 60-BR; p. 61-BL, BR; p. 84; p. 86; p. 98-AR, BR; p. 166-R; p. 167-AL, BL, R.

Valley Gardens, Windsor Great Park:

<https://www.windsorgreatpark.co.uk/en/experiences/the-valley-gardens>

p. 15; p. 40-BR; p. 41-L, AR, BR; p. 46-AR; p. 58; p. 61-AL, AR; p. 63-BR; p. 69-BR; p. 70-AL, BR; p. 76-BR; p. 83-AR; p. 94-BL, BR; p. 95-AL, BL, BR; p. 106-AL, BL; p. 110-AR, BR; p. 128; p. 130; p. 134; p. 135-CL; p. 136; p. 137; p. 156-BR; p. 157; p. 158-AL, BL; p. 159.

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About the author:



Julian Taylor-Whall was born in Lowestoft at the end of November, 1957. He received a grammar school education before beginning a three-decades-long career with the BBC at Television Centre in West London. During that time he worked on many of the now classic shows made in the production facilities there, the studios at Lime Grove and Elstree, and at the Television Theatre. He retired early in 2008, moving to a small village in West Cumbria, just outside the Lake District National Park.

Twenty years earlier, in late April 1988, on a day when the hills of Torrison and Applecross were hidden in cloud, a visit to the nearby Inverewe Gardens offered an alternative distraction. By chance, it took place at the peak of the flowering season, during a particularly profligate year for bloom, and turned into an encounter never to be forgotten. Thus did the species and hybrids of Genus *Rhododendron* become yet another enduring passion, along with music, film, photography, and concocting the occasional science fiction novel.

- above -

Observed in the woodland at Muncaster, any resemblance to the author is categorically denied.

- back cover -

<i>R. x chlorops</i> (F 16463)	<i>R. x geraldii</i>
<i>pachysanthum x morii</i>	<i>campanulatum x thomsonii</i>

