

Rhododendrons International

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Vireyas



Rhododendrons



Azaleas

Volume 6, 2021, Part 2

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From the Editor

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Parksville, BC
Canada



Rhododendrons International (RI) is an online journal distributed free to all the world's known rhododendron associations for their internal distribution. It can also be accessed without charge on the American Rhododendron Society website at <https://www.rhododendron.org/ri-index.htm>. This sixth volume contains a series of articles originally published in the *Journal American Rhododendron Society* that describe most of the species in many of the lepidote, elepidote and evergreen azalea subsections more available and commonly cultivated. The articles are intended to introduce rhododendron species as opposed to hybrids to rhododendron enthusiasts who may not have easy access to the many books and websites about rhododendron species. Each article contains a brief summary about the cultural potential and characteristics of the species in a different taxonomic grouping, their general identifying taxonomic features and cultural aspects, characteristics and a truss image, and identification of those species most available and having the greatest cultural potential.

Having these articles on each section/subsection online in a single searchable document allows rapid access to the different species and their characteristics by subsection. This capacity will hopefully increase both awareness and interest in species rhododendrons, and encourage their culture. Many gardeners start out growing hybrid rhododendrons, which are the group most available in nursery centres and chapter plant sales, and then as their interest in this remarkable genus grows, gravitate to the culture of species. With over 1000 species in the genus *Rhododendron*, and their habitats ranging from the arctic to alpine areas to the tropics, there is great opportunity for virtually everyone to grow species rhododendrons.

The challenge now becomes as to where to acquire species plants! Specialised nurseries such as Glendoick in Scotland and the Rhododendron Species and Botanic Garden in the USA are two I am most familiar with, and the other main sources might be society plant sales or propagating cuttings and/or seed from plants with provenance obtained from friends, rhododendron societies or businesses! Good luck!

Finally, I would like to express my big appreciation to Sonja Nelson, the volunteer layout editor, for all her hard work in pulling this together. Writing the individual articles extended over a number of years, and formats changed slightly over time, so it was a lot of work for her to bring them altogether in a standardized form.

Part 2: Subgenera *Hymenanthes* (*elepidotes*), *Azaleastrum* and *Choniastrum*

1. The Deciduous Azaleas of Section *Pentanthera* Subgenus *Hymenanthes*

(Modified from the Journal American Rhododendron Society 72: Summer 2018)

In this article, I discuss how the deciduous azaleas are related to other rhododendrons and to each other. Deciduous azalea species are naturally most common in North America, and virtually all rhododendron growers in the east either have them in their gardens or have seen them growing wild, where they put on spectacular floral displays in the spring. While there is only one species growing wild in western North America, many western gardeners at least have deciduous azalea hybrids, both for their impressive flower colours and for their fragrance. I therefore thought it would be interesting to discuss these wonderful rhododendrons in more detail. The *Rhododendron* subgenus *Hymenanthes*, which includes the large leaf, evergreen, *elepidote* (without scales) rhododendrons (what most of us think of when we think of a rhododendron), also includes most of the deciduous azaleas. This subgenus contains two sections (a lower level of plant classification), which collectively have about 157 species.

Subgenus *Hymenanthes* has a wide distribution in the temperate Northern Hemisphere. The subgenus presently has two sections:

1) section *Ponticum*: This section includes what many of us think of when we refer to a rhododendron. It is divided into 24 subsections and about 293 species. This section's species are evergreen shrubs and are mostly small to medium-sized trees (up to 30 m (100 ft) tall), with medium-sized to large leaves (very large, up to 91 cm (three ft) long, in a few species). The flowers are large, and are produced in terminal trusses of 5-40 flowers. Aspects of this section are discussed in the five articles below.

2) section *Pentanthera*: In Goetsch *et al.* (2005), the subgenus was expanded by scientists studying DNA relationships by adding section *Pentanthera*, which

contains most of the deciduous azaleas. However, newer data are showing that the studied genes of rhododendrons in section *Pentanthera* look a lot like those genes in another genetic grouping, even though based on morphology, these two groupings would never be considered close relatives (B. Hall, pers. comm.), which suggests more understanding is needed to clarify systematic relationships.

The current section *Pentanthera* has 18 species. Sixteen of these species are indigenous to North America, with 15 found only in eastern North America.

Section *Pentanthera* (two subsections) This is a group of closely related, highly ornamental deciduous plants that are commonly called “azaleas.”

- subsection *Pentanthera* (17 species)
- subsection *Sinensia* (one species, *R. molle*)

A. Subsection *Pentanthera*

Sixteen of the seventeen species recognized in this subsection (Table 1) are indigenous to North America.

Table 1: The 17 deciduous azalea species in the subsection *Pentanthera*.

- | | |
|----------------------------|-------------------------------|
| 1. <i>R. alabamense</i> | 9. <i>R. cumberlandense</i> |
| 2. <i>R. arborescens</i> | 10. <i>R. eastmanii</i> |
| 3. <i>R. atlanticum</i> | 11. <i>R. flammeum</i> |
| 4. <i>R. austrinum</i> | 12. <i>R. luteum</i> |
| 5. <i>R. calendulaceum</i> | 13. <i>R. occidentale</i> |
| 6. <i>R. canadense</i> | 14. <i>R. periclymenoides</i> |
| 7. <i>R. canescens</i> | 15. <i>R. prinophyllum</i> |
| 8. <i>R. colemanii</i> | 16. <i>R. prunifolium</i> |
| | 17. <i>R. viscosum</i> |

B. Subsection *Sinensia*

This subsection has only one species, *R. molle* (Epithet: with soft hairs), which is native to China and Japan, where it grows from sea level to 2500 m (8200 ft). It flowers in mid-spring, and its blooms are fragrant and yellow with dark red flecks.

Note: Another deciduous azalea is also endemic to eastern North America, *R. vaseyi* (Pink Shell Azalea), and is found in both North and South Carolina), but it belongs to a totally different *Rhododendron* subgenus,



R. molle subspecies *japonicum*. Photo: Susan Lightburn.

namely subgenus *Azaleastrum*. This subgenus and its species are discussed in Part 2 on p.190.

Species Details in Subsection *Pentanthera*

Ignoring their taxonomic relationships, which are currently in flux, the deciduous azaleas in subsection *Pentanthera* are grouped below firstly by flower colour, and secondly by some of their perceived ancestral relationships. The easiest first line of investigation for identification purposes is flower color (Kron 1996). Three main groups can be identified using this criterion:

(1) orange to red (which contains two groups: A and B), (2) pink, (3) white and (4) purple. Within these color groups the timing of flowering and leaf expansion, the type of pubescence (hairs) and characteristics of the flower bud scales are useful characters for identifying species.

1) Orange to red-flowered, with a blotch on the upper corolla lobe, defines two primarily orange to red-flowered groups.

A) The first group, with the only species in the subsection not indigenous to eastern North America, has a Tertiary Period (66 to 2.6 million years ago) disjunct (species widely separated) distribution and comprises *R. luteum* and *R. occidentale*.

R. luteum (Epithet: yellow) (yellow azalea or honeysuckle azalea, ranges from Poland and Austria south through the Balkans and east to the Caucasus) – very fragrant yellow flowers and great late fall leaf colour.



R. luteum. Photo by the author.

R. occidentale (Epithet: western) (western azalea or California azalea, ranges from Southern Oregon to the mountains of San Diego County, California) - sparkling white or pink flowers, marked with a bright yellow to orange spot, with a delightfully sweet and spicy clove fragrance.



R. occidentale. Photo by the author.

B) The second group comprises *R. austrinum*, *R. calendulaceum*, *R. cumberlandense*, *R. flammeum*, and *R. prunifolium*.

[**Note:** On the maps that follow, the verticle bars below the months at the bottom show the flowering period.]

R. austrinum (Epithet: southern)

(Florida flame azalea, honeysuckle azalea, southern yellow azalea, or orange azalea, ranges through Alabama, Florida, Georgia, and Mississippi) – has showy, fragrant flowers in shades of yellow or cream to nearly red that particularly attract hummingbirds. Its flower color varies from yellow to orange with a dark pink tube, and it has a deep yellow to orange blotch on the upper corolla lobe.

[**Note:** in a recent article on this species (Andrews 2021), he pointed out that flower colour is very variable, ranging from white to pink to creamy yellow to bright yellow to gold to coral, all the way to dark orange, just on the Yellow River in Alabama and Florida. It offers a dazzling array of color, a Joseph's coat of many colors, and we are dealing not just with varied expressions of pigment shades but with varied forms and blotches too.]

R. calendulaceum (Epithet: like a *Calendula* (marigold))

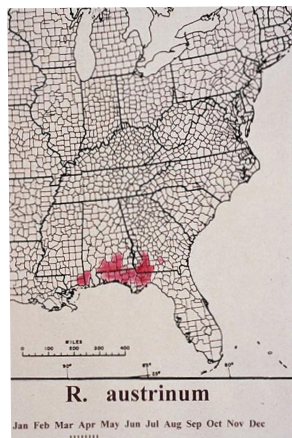
(Flame azalea, ranges from southern New York to northern Georgia) - one



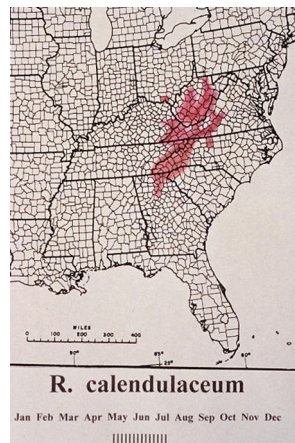
R. calendulaceum 'Roan Yellow'. Photo: Don Hyatt.



R. austrinum 'Gold'. Photo: Don Hyatt.



Range of *R. austrinum*.



Range of *R. calendulaceum*.

of the most spectacular native shrubs with flowers larger than most of the other native azaleas, which are tremendously variable in leaf pubescence and flower color, which is in a range of colors from clear yellow, through shades of orange, to brilliant red. This species flowers early in the spring and is a tetraploid, whereas all other azaleas mentioned here are diploid.

R. cumberlandense (Epithet: after W.F. Baker, Emory University. Atlanta, GA)
(Cumberland azalea, found in Kentucky, Virginia, Tennessee, North Carolina, Georgia and Alabama.) – moderately sized flowers ranging from yellowish-orange



R. cumberlandense. Photo: Don Hyatt.

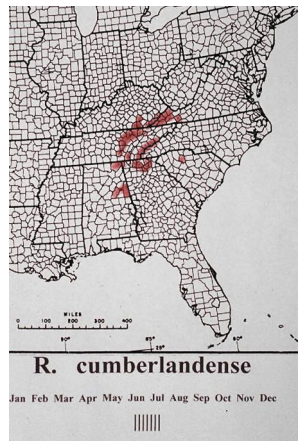
to deep red. Blooms very late, from June into August, after the leaves are fully expanded. Like *R. calendulaceum*, it's variable in flower color but is usually a darker red.

R. flammeum (Epithet: flame-coloured)

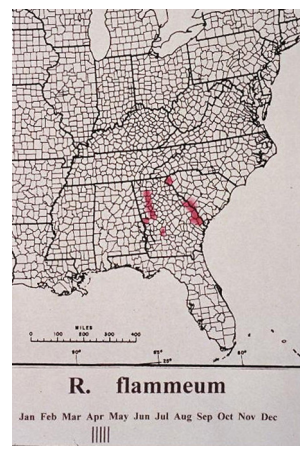
(Oconee azalea, is found from central Georgia to South Carolina) - flowers are not fragrant, open before the leaves have formed and come in shades of yellowish orange, through orange to deep red.



R. flammeum. Photo: Don Hyatt.



Range of *R. cumberlandense*.



Range of *R. flammeum*.

R. prunifolium (Epithet: plum-like leaves)

(Plumleaf azalea, is found on the Georgia-Alabama border) – a late-flowering azalea that has orange to bright red flowers over crisp green leaves in summer to autumn, and tolerates high temperatures well. It is the rarest of the deciduous azaleas.



R. prunifolium. Photo: Don Hyatt.

2) The pink flowering species are *R. canescens*, *R. periclymenoides* and *R. prinophyllum*, which are all early flowering species that bloom

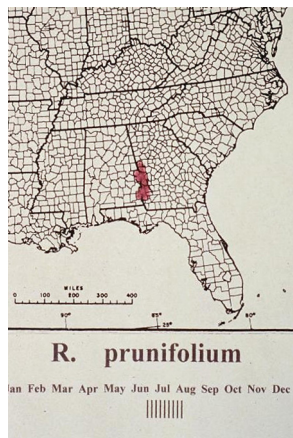
before the leaves are fully expanded. Their flowers range in color from pale pink (almost white) to a deep cherry color and all lack a blotch on the upper corolla lobe.

R. canescens (Epithet: hoary)

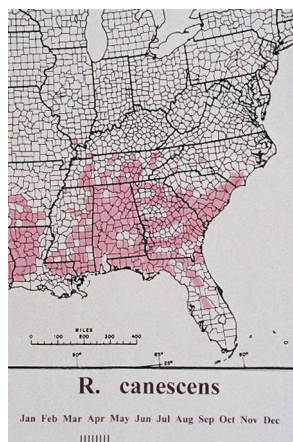
(Florida pinxter or Piedmont azalea, is found in the Carolinas) – has sticky, slightly fragrant flowers, which bloom before the leaves are mature, grow in whorl-like clusters and are pink (rarely white) and trumpet-shaped. Is very variable in pubescence (hairiness) and in corolla color.



R. canescens. Photo: Don Hyatt.



Range of *R. prunifolium*.



Range of *R. canescens*.



R. periclymenoides. Photo: Don Hyatt.

R. periclymenoides (Epithet: like honeysuckle)

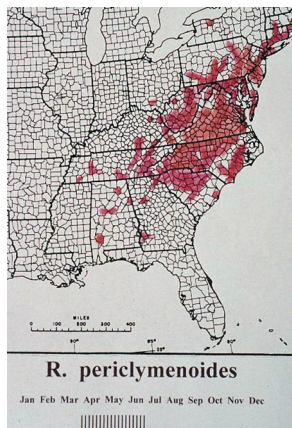
(Pink azalea—or Pinxter flower, is found from Alabama to New Hampshire) - The white to pink flowers open in mid spring as the foliage is expanding, and are slightly fragrant. Their stamens are more than twice the length of the corolla tube.

R. prinophyllum (Epithet: *Prinos* (a subgenus of *Ilex*) winterberry-like leaves)

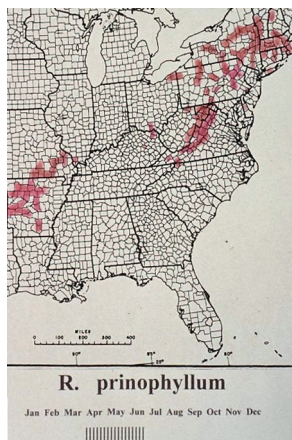
(The early azalea, rose azalea or roshell azalea, is found from southwestern Quebec, through New England to the Appalachian Mountains in Oklahoma and Arkansas) - mid- to late-spring flowering, showy with rose-pink flowers that have a delightful fragrance, with foliage that turns nice shades of purple in the fall. Like *R. canescens*, is often covered with soft unicellular hairs, but this species has a broader corolla tube.



R. prinophyllum. Photo: Don Hyatt.



Range of *R. periclymenoides*.



Range of *R. prinophyllum*.

3) The white species are *R. alabamense*, *R. atlanticum*, *R. arborescens*, *R. colemanii*, *R. eastmanii* and *R. viscosum*. Although the flowers of these species are consistently white, they may occasionally be pale pink or tinged with pink.



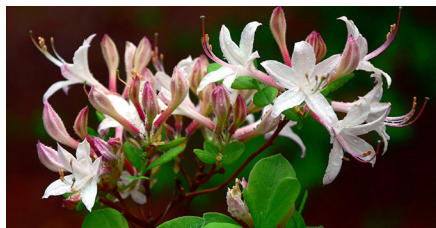
R. alabamense. Photo: Don Hyatt.

R. alabamense (Epithet: from Alabama, USA)

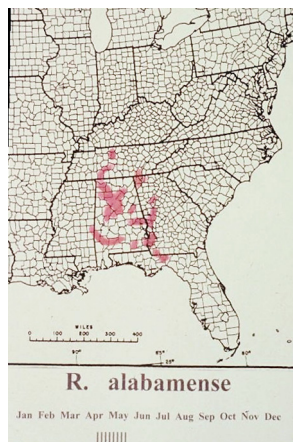
(Alabama azalea, found in Alabama and adjacent states) - unique because it has a lemon-spice fragrance and snowy white flowers sparked by a prominent yellow blotch on the upper corolla lobe.

R. atlanticum (Epithet: from the Atlantic seaboard)

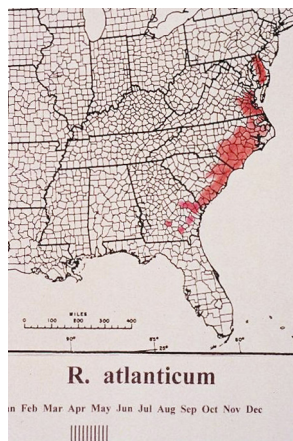
(Atlantic azalea or coastal azalea, is found on the coastal plains from Pennsylvania and Delaware south to Georgia.) – have a strong musky-sweet odour, white flowers that are often blushed with pink on the outside, although some may have a yellow blotch. Often less than a meter (three feet) in height, and an spread extensively by a rhizomatous roots. Its flowers bloom before the leaves expand.



R. atlanticum. Photo: Don Hyatt.



Range of *R. alabamense*.



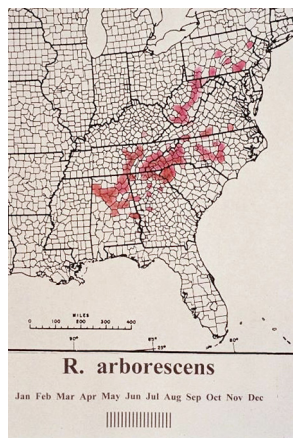
Range of *R. atlanticum*.

R. arborescens (Epithet: becoming tree-like)

(Sweet azalea, is a deciduous azalea found from Pennsylvania south to Georgia and Alabama.) - a late spring and early summer flowering azalea with a sweet-scented aroma and flowers ranging in color from white to pink with red stamens. Foliage turns deep red to purple in fall. The entire plant of *R. arborescens* is smooth and shining due to the lack of soft white (unicellular) hairs that are usually common on plants of *R. viscosum*. Blooms after the leaves have expanded.



R. arborescens. Photo: Don Hyatt.



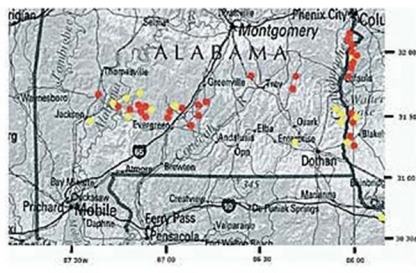
Range of *R. arborescens*.

R. colemanii (Epithet ?)

(Red Hills azalea, from the upper coastal plain of Alabama and Western Georgia) - flower color varies widely from white with a yellow blotch on the upper corolla lobe, to uniformly white, pink with yellow blotch, or uniformly pink, to rarely yellow. The outside of the flowers is covered with gland-tipped hairs and the flowers are fragrant with a sweet, musky or lemony odour.



R. colemanii. Photo: Don Hyatt.



Range: Yellow = *R. colemanii* and
Red = *R. alabamense*.

R. eastmanii (Epithet: after C. Eastman of Columbia, SC, its discoverer)

(May white azalea found in South Carolina) - strongly fragrant flowers open after the leaves have expanded, and has stems covered with hairs, or pubescence.



R. eastmanii. Photo by Don Hyatt.

R. viscosum (Epithet: sticky)

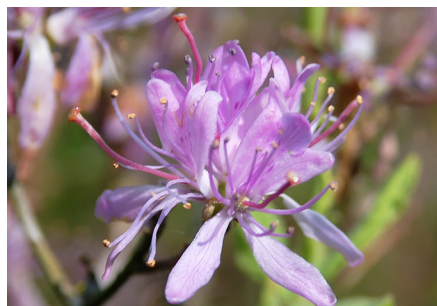
Swamp azalea, or swamp honeysuckle, is found from Maine to Georgia and west to Texas (previously also known as *R. serrulatum*) – has fragrant flowers that are generally white to pale pink, and blooms after the leaves have fully expanded. Has white flowers suffused with pink that have a spicy, sweet fragrance and the plant is usually covered with soft white (unicellular) hairs. This species has the most variable flower characteristics of the southeastern azaleas, which has led to many species names that are not now recognized.



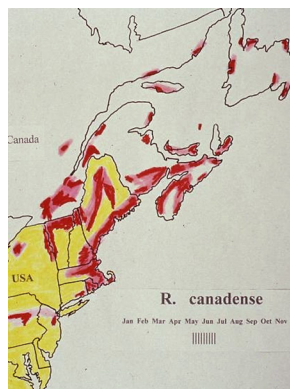
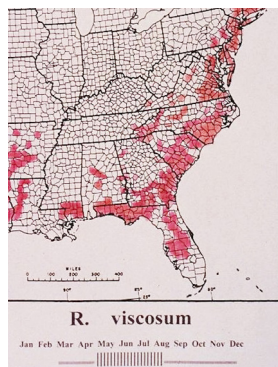
R. viscosum var. *montanum*. Photo: Don Hyatt.

4) The purple flowering *R. canadense*.

R. canadense (Epithet: from Canada) (Rhodora) is found in Canada from



R. canadense. Photo: Don Hyatt.



Newfoundland into eastern Ontario and in the United States, where it occurs naturally from Maine west to high altitudes in the Appalachian Mountains of Pennsylvania and south to New Jersey. Other regional rhododendrons have tubular flowers with five stamens each, while *R. canadense* has ten stamens within a zygomorphic (flowers can be divided by only a single plane into two mirror-image halves) five-lobed purple and rarely white flower.

However detailed phylogenetic analysis revealed that the section *Rhodora* (where it was placed by Chamberlain et al. (1996)) was not a distinct entity, but was rather polyphyletic (derived from more than one common evolutionary ancestor or ancestral group and therefore not suitable for placing all in the same taxon), and it was disassembled, with *R. canadense* moved to section *Pentanthera* (Goetsch et al. 2005).

Acknowledgements

Thanks to Don Hyatt and Loretta Goetsch for their constructive comments.

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2. Subsection *Taliensia* in the Section *Ponticum* Subgenus *Hymenanthes*

(Modified from the *Journal American Rhododendron Society* 73: Spring 2019)

Rhododendron subgenus *Hymenanthes* is a subgenus of the genus *Rhododendron*, with a widespread distribution in the temperate Northern Hemisphere. They are elepidotes (without scales) and the subgenus includes two sections, section *Ponticum*, divided into 24 subsections and about 304 species, and since 2005 section *Pentanthera*. The species in section *Ponticum* are evergreen shrubs and small to medium-sized trees (up to 30 m (100 ft)) tall, with medium-sized to large leaves (very large, up to 91 cm (three ft), in a few species). The flowers are large, produced in terminal trusses of 5-40 together. Plants in this section are the plants that most people think of when they hear the word rhododendrons, and they are widely planted in temperate climate gardens.

In a previous article, I discussed the general characteristics and taxonomic relationships of species of deciduous azaleas in subgenus *Hymenanthes*, section *Pentanthera* (see p. 100). In this article, I present the species in section *Ponticum*, subsection *Taliensia*, one of its subsections with the most species (at least 49). Species of *Taliensia* grow in the wild at higher elevations in the Himalayas and are cold hardy, dislike hot summers and high soil nitrogen, and require good drainage (Cox and Cox 1997). They are generally long-lived, slow growing and have fine foliage, but may take many years to begin flowering. When trekking at elevation in Sikkim, India, with Steve Hootman in 2015, we hiked through huge swaths of the flowering *Taliensia* species *R. wightii* as the dominant shrub just above the tree line, which put on a spectacular display in the mist with sunbirds (*Nectariniidae*) feeding on its flowers!



R. wightii near the treeline in Sikkim. Photo: Glen Jamieson.

Section *Ponticum* (24 subsections, about 304 species, shown by section (McQuire and Robinson 2009))

1. *Arborea* - 12
2. *Argyrophylla* - 12
3. *Auriculata* - 2
4. *Barbata* - 6
5. *Campanulata* - 4
6. *Campylocarpa* - 7
7. *Falconera* - 14
8. *Fortunea* - 27
9. *Fulgensia* -1 (*R. fulgens*)
10. *Fulva* - 4
11. *Glischra* - 11
12. *Grandia* - 15
13. *Griersoniana* -1 (*R. griersonianum*)
14. *Irrorata* - 16
15. *Lanata* - 6
16. *Maculifera* - 14
17. *Neriiflora* - 44
18. *Parishia* - 5
19. *Pontica* - 19
20. *Selensia* - 8
21. *Sherriffii* - 3
22. ***Taliensia*** - 49
23. *Thomsonia* - 15
22. *Williamsiana* - 1 (*R. williamsianum*)

Section *Pentanthera* (2 subsections)

1. *Pentanthera* - 17
2. *Sinensia* - 1 (*R. molle*)

Overview

Warren Berg (1994) stated: “The *Taliensia* subsection is a large, complex group of plants, with uncertain relationships. With the addition of the former *Lacteam* series and 13 new species, it is even more obscured [there are now about 49 species]. Horticulturally speaking, these species include some of the most beautiful plants in the genus. Many have outstanding foliage, with variations of indumentum and tomentum to enhance their charm, as well as many other fine qualities, including hardiness, form, and often compactness. They are usually long-lived and are quite free flowering when mature. In the past, this subsection was rather looked down upon, especially by Kingdon

Ward, because they were so slow to bloom and rather difficult to root. However, with improved propagation methods and a greater tolerance for the time it takes to flower, their popularity in the garden has mushroomed considerably.

Of the 13 new *Taliensia* that Peter Cox mentioned in "The Larger Rhododendron Species, "... *R. bhutanense* is probably the most westerly representative of this subsection. ... *R. wiltonii* may be the most easterly *Taliensia* and possibly the least hardy, because of the lower elevation 2300-3300 m (7500-11,000 feet) at which it grows.

It's very difficult to pick the finest member of this very interesting subsection, but for me it probably comes down to *R. bureavii* or *R. proteoides*. ... I believe there would be very little disagreement that a properly grown, mature *R. bureavii*, in its best form such as the Exbury A.M., is about as handsome as any species in the genus. It normally is easy to grow, when given partial shade. The dark, shiny, bullate foliage, with the rich, rusty red indumentum is absolutely outstanding, even for the most discriminating. When mature, it is free flowering with flushed rose or white suffused rose blooms, fading to white and most often with crimson spots, which enhance its beauty. There are usually 10 to 15 flowers in the truss....

Halfdan Lem was one of the first in the United States to use *R. bureavii* in his crosses. This was with 'Fabia', of which he named one 'Hansel'* and the other 'Gretzel*'. These hybrids, and many since by other hybridizers, all have beautiful foliage and habit, inherited from the *R. bureavii*."

Species of *Taliensia* are dwarf shrubs to small trees (and hence are listed in either Cox (1985) or Cox (1990), often compact and shapely, and are generally long-lived with fine foliage, but are slow growing and many may take years before they start flowering freely. In the wild, their range extends from Bhutan and eastern Tibet to Sichuan and Yunnan, China, from about 2300-4900 m (7500-16,000 ft) elevation (McQuire and Robinson 2009), depending on the species. Consequently, all, except for *R. wiltonii*, are hardy to a minimum of -21 to -24° C (-5 to -10° F) or colder (Cox 1990, Cox and Cox 1997). Leaves are generally glabrous (without hairs) on top, with indumentum usually present below. Taxonomic relationships between species are complex and many remain uncertain. Because of the slowness of many to mature and bloom, it is only relatively recently that their true cultural value has become apparent, with many making fine foliage plants and now showing their fine flowering characteristics. The majority are hardy, adaptable, long-lived and shapely species (Cox 1990).

Species have been organised in a number of ways in the literature, with Cox (1990) and Cox and Cox (1997) not organizing the species into any groups. Cox (1985) suggested a key for the smaller *Taliensia* species on the basis of indumentum, leaf size and shape, flower colour, calyx length and mature height. In contrast, McQuire and Robinson (2009) split the species firstly into four groups based

on leaf characteristics: leaves linear/elliptic (Roxieanum Group), leaves oblong to more or less ovate, leaves lanceolate/oblanceolate, and the Lacteum Group with leaves that have a thin grayish or brown “wash” of hairs that is distinctive to the naked eye. Here, I present descriptions of *Taliensia* species obtained from Cox (1985, 1990), Cox and Cox (1997), McQuire and Robinson (2009) and the Rhododendron Species Foundation (RSF) website, grouped by their leaf characteristics.

Rhododendron*, subsection *Taliensia (about 49 species, 21 discussed, red font species are more available)

Group A (6 species): Leaves linear/elliptic (Roxieanum Group) (narrow with parallel sides or tapering equally at both ends)

R. proteoides

R. roxieanum

Group B (10 species): Leaves oblong (parallel sides and blunt ends) to more or less ovate (egg-shaped).

R. aganniphum

R. aureodorsale

R. bhutanense

R. clementinae

R. principis

R. sphaeroblastum

Group C (14 species): Leaves lanceolate/oblanceolate (lance shaped, tapering more gradually to the tip, or the reverse, tapering more gradually to the leaf base)

R. adenogynum

R. balfourianum

R. bureavii

R. bureavioides

R. elegantulum

R. phaeochrysum

R. pronum

R. taliense

R. traillianum

R. wiltonii

Group D (5 species): Leaves with a thin grayish or brown “wash” of hairs on their underside.

R. beesianum

R. lacteum

R. wightii

Species Details

Group 1) Leaves linear/elliptic (Roxieanum Group) (narrow with parallel sides or tapering equally at both ends)

R. proteoides (Epithet: resembling *Protea* [a genus of South African flowering plants])

A slow-growing and very compact dwarf shrub, 15-30 cm (6-12 in) high in cultivation, eventually forming a low mound. Leaves strongly recurved, with a thick, woolly, rust or cinnamon coloured indumentum. Flowers white to cream flushed rose and spotted. Its closest relative is *R. roxieanum*, and the two species merge in places where they meet in the wild, with this species being at a higher elevation. Although very slow to flower, this species is prized by connoisseurs for its foliage and habit and is used in hybridizing to produce dwarf hybrids with indumentum. The species crosses with *R. aganniphum*, resulting in *R. bathyphyllum*.

R. roxieanum (Epithet: after Mrs. Roxie Hanna, a friend of George Forrest)

The height of this species is very variable, ranging from 15 cm to four m (six inches to 13 ft), depending on variety, but is usually 30 cm to 1.2 m (one to four ft). Its habit is dwarf and



R. proteoides. Photo: Carl Adam Lehmann.



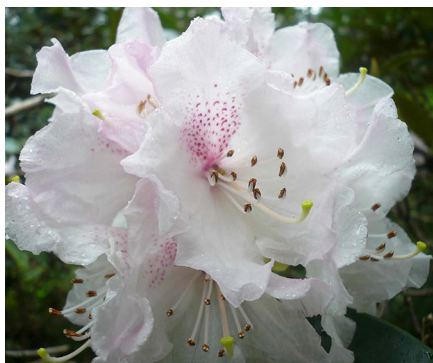
R. roxieanum var. *oreonastes*. Photo: Garth Wedemire.

compact to leggy and upright. Flowers are creamy white or white with a rose blush, with or without crimson spots. There are three varieties: var. *oreonastes*, with its very narrow leaves giving it a porcupine-like appearance, which looks nice when topped with neat rounded trusses; var. *cucullatum* has wider leaves than var. *oreonastes* and a less dense indumentum than var. *roxieanum*, with the latter the largest variety.

Group B. Leaves oblong (parallel sides and blunt ends) to more or less ovate (egg-shaped).

R. aganniphum (Epithet: snowy)

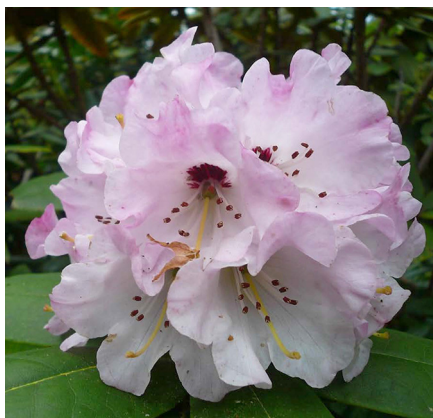
This species is basically a wider-leaved version of *R. adenogynum* with a slightly thinner indumentum and smaller flowers. The indumentum is whitish to pale pinkish-brown when young, becoming a deep red-brown at maturity. Forms differ in the quality of their flowers. Var. *flavorufum* differs from var. *aganniphum* in that its indumentum splits on maturity into irregular patches.



R. aganniphum. Photo: Douglas Justice.

R. aureodorsale (Epithet: ?) (no photo)

This recently introduced taxon is quite different in appearance from *R. clementinae* under which it was originally placed as a subspecies, and it should perhaps be given specific status as it occurs in the wild far to the north and east of the range of that species. It is a very attractive and hardy species with impressively large leaves for a *Taliensia*.



R. bhutanense. Photo: Douglas Justice.

R. bhutanense (Epithet: from Bhutan)

Quite similar to *R. phaeochrysum* var. *agglutinatum* but has loose hairs at the base of the midrib and a distinctive upright foliage posture in the autumn.

0.6 to three m (two to ten ft) compact shrub, with deep pink flower buds that open to pale pink flowers. A relatively new RSF species to cultivation, this

high alpine *Taliensia* has dark red-brown indumentum on the lower leaf surface, with brightly coloured rose to deep pink to almost red flowers in mid-spring. It grows best in very light shade with excellent drainage.

R. clementinae (Epithet: after Clementine, wife of George Forrest)

This is the only member of *Taliensia* with a 6-7 lobed corolla, and in the best blue-leaved forms, the foliage resembles *R. aeruginosum*. The foliage in some forms can also resemble *R. sphaeroblastum* or *R. aganniphum* but these do not have such glaucous young leaves. Although slow to start flowering, this species is worth growing for its foliage alone, reaching a height of 1-4.5 m (three to 15 feet). Flowers are white suffused with pink, with or without crimson spots.

R. principis (Epithet: ?)

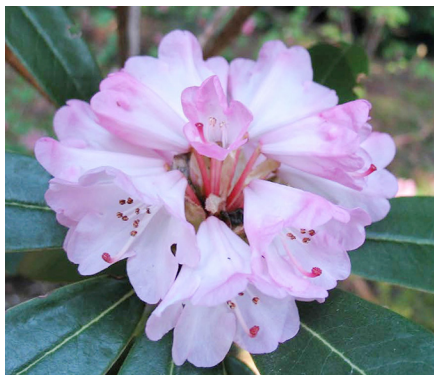
The beautiful foliage of this species has a dense and soft felted whitish to tan indumentum on the lower surface, with pink to white flowers in early spring. It begins blooming at a much earlier age than most other *Taliensia* and is much easier to grow, eventually forming a large upright shrub. It is one of the earliest elepidotes to flower each spring, and so may be damaged by early spring frosts. One of the most westerly occurring *Talienisa*, this species was previously known as *R. vellereum* (Epithet: fleecy).

R. sphaeroblastum (Epithet: with rounded buds, which is misleading!)

This is a fine species in both foliage and flower, reaching a height of 0.6-6 m (two to 20 feet). Flowers are also white suffused with pink, with



R. clementinae. Photo: Steve Henning.



R. principis. Photo: Hank Helm.



R. sphaeroblastum. Photo: Tommy Andersen.

or without crimson spots, and leaves have a white indumentum when young, maturing to a dense, felted reddish-brown. Theqvist (2018) noted that the leaves of this species have a strong, sweet honey scent, which he could smell up to 100 m away when the sun shone on its leaves! Leaves are flatter than *R. clementinae*, and in its narrower leaf forms, merges with *R. phaeochrysum* in appearance.

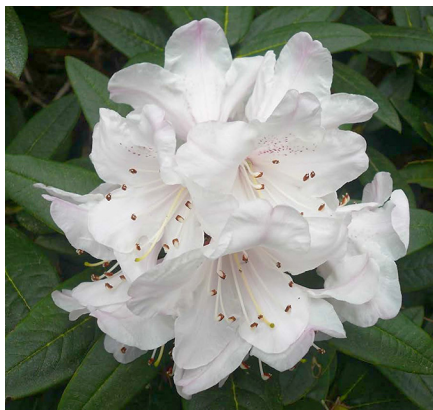
Group 3) (14 species): Leaves lanceolate/oblanceolate (lance shaped, tapering more gradually to the tip, or the reverse, tapering more gradually to the leaf base)

R. adenogynum (Epithet: with a glandular ovary)

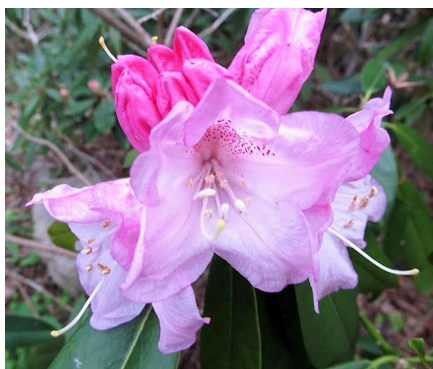
This is a compact plant (1.8-4.5 m (six to 14 ft)) with fine foliage, and Cox and Cox (1997) suggest the paler pink flowered forms are the most pleasing colour. It is freer flowering and starts blooming at a younger age than most *Taliensia*. Flowers are white to rose-purple, with or without purple markings, with a densely glandular calyx and ovary. Similar to *R. balfourianum*, but having narrower leaves and a more spongy, darker olive green-yellow indumentum instead of a silvery to greyish-pink one.

R. balfourianum (Epithet: after Sir Isaac Balfour, a Regius Professor of Botany, Edinburgh)

Like *R. adenogynum*, this is one of the easiest *Taliensia* to grow and is free flowering at maturity, and differences between the two species are described above. The better forms have rose-coloured flowers in well-filled trusses.



R. adenogynum var. *adenogynum*.
Photo: Douglas Justice.



R. balfourianum. Photo: Frederick Thurber.

R. bureavii (Epithet: after E. Bureau, a French professor)

This is one of the most distinct and easily identified *Taliensia* species, and is closely related to *R. bureavioides*, which differs in its shorter, bent petiole, a larger corolla, and glands but no hairs at the base of the style. It has amongst the finest foliage of all rhododendrons, is easy to grow, and hence is the most popular *Taliensia* species. Plants are 1.2-7.7 m (4-25 ft)

high, with glabrous, dark green, shiny leaves with a dense, deep salmon-pink indumentum turning to a rich rusty red at maturity. Flowers are white to rose.

R. bureavioides (Epithet: resembling *R. bureavii*)

The best forms of this species rival *R. bureavii* in foliage and have superior flowers. It grows to two to five m (six to 16 feet) in height, with white to rose flowers. It was introduced into culture only in 1986, and plants acquired prior to this date under this name are likely *R. bureavii* hybrids.

R. elegantulum (Epithet: elegant)

This 1-1.8 m (three to eight feet), free-flowering at a relatively young age plant with fine foliage is one of the best garden plans in the *Taliensia*. Blake (1989) stated “flowers on my specimen are a delightful light pink with darker spots, in a rounded truss. The chief glory is in the foliage, it unfurls its new growth in a lovely light, silvery cinnamon tomentum with indumentum which deepens to a very rich dark pinkish shade before maturing to a deep cinnamon on the undersides of the leaves. The indumentum is like velvet to touch.” This species is believed to be a natural hybrid, perhaps with *R. adenogynum* (Cox and Cox 1997).



R. bureavii. Photo: Garth Wedemire.



R. bureavioides. Photo: Clause Staune.



R. elegantulum. Photo: Coen Zonnefeld.

R. phaeochrysum (Epithet: dark golden)

This extremely variable species is the commonest *Taliensia* species in the wild, merging and/or hybridizing with *R. aganniphum*, *R. przewalskii* and *R. sphaeroblastum*. With *R. roxieanum*, it produces offspring known as *R. alutaceum*. Many forms of this species are free-flowering at maturity and make great garden plants, if given well-drained, cool soil. Height is one to 4.5 m (three to 15 feet) and flowers are white to pink, spotted, sometimes heavily. There are three varieties: var. *phaeochrysum*, var. *agglutinatum* and var. *levistratum*.

R. pronum (Epithet: prostrate)

This distinct species, like *R. proteoides*, is also very small (15–60 cm (six to 24 in) and a choice container plant. It resembles a dwarf *R. clementinae* or *R. aganniphum*, with a dense, compact habit and bluish or bluish-green foliage. It is easy to grow, but growth starts in April and is easily damaged by frost, so some protection may be needed. Flowers are white to pink and are heavily spotted.

R. taliense (Epithet: from Tali Range, Yunnan)

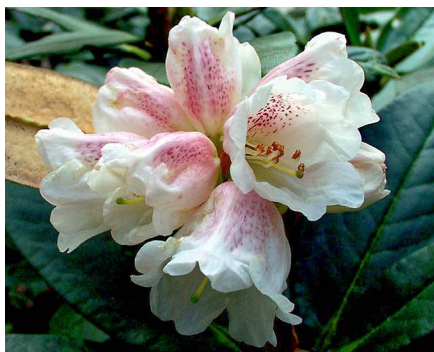
This species is characterised by its tomentose branchlets, a dense, tawny brown to rufous bistrate indumentum and a glabrous ovary. It's becoming more widely grown, and the best forms have creamy flowers with the thickest rufous indumentum, and differs from *R. sphaeroblastum* in its narrower leaves. Its height is 0.8 to four m (2.6 to 13 feet), and so is a dwarf and compact to upright shrub that can get leggy with age.



R. phaeochrysum var. *agglutinatum*.
Photo: Steven Bubert.



R. pronum. Photo: Clause Staune.



R. taliense. Photo: Coen Zonnefeld.

R. traillianum (Epithet: after G.W. Traill, botanist and father in-law of George Forrest)

This species is closely related to *R. phaeochrysum* and differs in its fine, powdery rather than agglutinated or felted indumentum. It is a handsome foliage plant and easy to grow, although its white to rose flowers are relatively small in comparison to its leaves. It is 60 cm to 8 m (two to 26 ft) in height, usually as a stiff upright shrub.

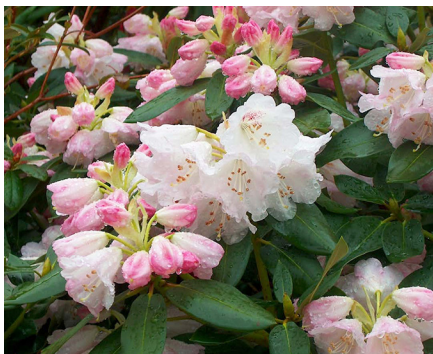
R. wiltonii (Epithet: after Sir Colville Wilton, Chinese Consular Service, Ichang)

This is a one to five m (three to 16 feet) broadly upright shrub with white to pink, spotted and blotched flowers, which is easily identified by its deeply-veined upper leaf surface with a fairly dense, cinnamon to rusty-red indumentum. It is not closely related to other *Taliensia*, but is an attractive, free flowering with age plant that is easy to grow.

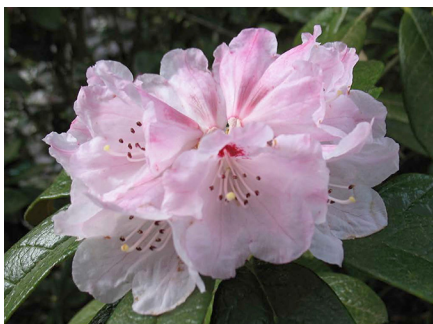
Group D (five species in the Lacteam Alliance): Leaves with a thin grayish or brown “wash” of hairs on their underside.

R. beesianum (Epithet: after Messrs. Bees, nurseryman in Cheshire)

A broadly erect 1.8-9 m (six to 39 feet) stiff shrub that is rare in cultivation and grows best when grafted in a location sheltered from



R. traillianum var. *traillianum*. Photo: Ken Gibson.



R. wiltonii. Photo: Hank Helm.



R. beesianum. Photo: Garth Wedemire.

wind. It has white to nearly red flowers, which separate it from the other species in this group.

R. lacteum (Epithet: milky)

This is one of the finest yellow flowering rhododendrons, but is hard to grow well and does best when grafted. It prefers light shade and a very acid soil. Flowers are a pale to a clear canary-yellow, with or without a blotch and grows to 1.2 to 8 m (four to 26 feet) in height.

R. wightii (Epithet: after R. Wight, superintendent of the Madras Botanic Garden)

This species is also rare in cultivation and is also difficult to grow unless grafted. It is two to six m (two to 20 feet) in height, has white to lemon-yellow flowers, and a pale fawn indumentum that turns brown with age. It differs from *R. lacteum* in leaf shape and smaller flowers. The true species was first introduced in 1971, with plants before that likely a hybrid, probably with *R. falconeri*, that originated in Surrey, that should probably have a cultivar name and which is much easier to grow.

*Name is not registered

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R. lacteum. Photo: Hank Helm.



R. wightii. Photo: Glen Jamieson.

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3. Subsection *Fortunea* in the Section *Ponticum* Subgenus *Hymenanthes*

(Modified from the Journal American Rhododendron Society 73: Summer 2019)

R*hododendron* subgenus *Hymenanthes* is a subgenus of the genus *Rhododendron*, with a widespread distribution in the temperate Northern Hemisphere. They are elepidotes (without scales) and the subgenus includes two sections, section *Ponticum*, divided into 24 subsections and about 304 species, and since 2005, section *Pentanthera*. The species in section *Ponticum* are evergreen shrubs and small to medium-sized trees (up to 30 m (100 ft) tall), with medium-sized to large leaves (very large, up to 91 cm (three ft) long, in a few species). The flowers are large, produced in terminal trusses of 5-40 together. Plants in this section are the plants that most people think of when they hear the word rhododendrons, and they are widely planted in temperate climate gardens.

In a previous article, I discussed the general characteristics and taxonomic relationships of species of deciduous azaleas in subgenus *Hymenanthes*, section *Pentanthera* (see p. 100) and from the evergreen rhododendrons in section *Ponticum*, subsection *Taliensia* (see p. 111). Here I discuss species in subsection *Fortunea*, also in section *Ponticum*.

Subgenus *Hymenanthes*

Section *Ponticum* (24 subsections, about 304 species (McQuire and Robinson 2009))

1. *Arborea* - 12
2. *Argyrophylla* - 12
3. *Auriculata* - 2
4. *Barbata* - 6
5. *Campanulata* - 4
6. *Campylocarpa* - 7
7. *Falconera* - 14
8. ***Fortunea* - 27**
9. *Fulgensia* -1 (*R. fulgens*)
10. *Fulva* - 4
11. *Glischra* - 11

12. *Grandia* - 15
13. *Griersoniana* -1 (*R. griersonianum*)
14. *Irrorata* - 16
15. *Lanata* - 6
16. *Maculifera* - 14
17. *Neriiflora* - 44
18. *Parishia* - 5
19. *Pontica* - 19
20. *Selensia* - 8
21. *Sherriffii* - 3
22. *Taliensia* - 49
23. *Thomsonia* - 15
22. *Williamsiana* - 1 (*R. williamsianum*)

Section *Pentanthera* (2 subsections 18 species)

1. *Pentanthera* - 17
2. *Sinensia* -1 (*R. molle*)

Overview

One of the greatest of plant collectors in the Far East was Robert Fortune (1812-1880), who was born at Kellor in Berwickshire, England. After serving his apprenticeship, he received a thorough training at the Royal Botanic Garden, Edinburgh, under William McNab. He was a skilled gardener, and became the superintendent of the Hothouse Department of the Horticultural Society's gardens at Chiswick, outside London. When hostilities between Britain and China ceased after the signing of the Treaty of Nanking in 1842, the opportunity to collect plants in China became possible and the Society decided to send a collector to Asia. Fortune applied for the position and was accepted. Between 1843 and 1862, he made four trips to China and Japan and wrote four books about his travels.

He discovered and introduced large numbers of specimens of various genera, with his most valuable introductions being *Rhododendron fortunei*, and introducing the tea plant (*Camellia sinensis*) from Chekiang, China, to India in 1855. Fortune returned to Britain in 1862.

He discovered *R. fortunei* growing at 920 m (3000 feet) on his third expedition (1853-1856) to Zhejiang in the mountains of eastern China. The plant was not in flower but was reported by the local Chinese to have beautiful large flowers. Fortune collected a considerable quantity of seed, which he sent back to Chiswick, where a number of vigorous plants were grown and distributed. It was the first of the Chinese rhododendrons to be introduced to Britain.

Later, other forms of *R. fortunei* were collected and it is from one grown by Sir

Edmund Loder at Leonardslee and crossed with pollen from *R. griffithianum*, that the hybrid 'Loderi' was created in 1901. It is still considered to be one of the most beautiful of all rhododendron hybrids. There are more than 30 named clones of the *R. griffithianum* X *R. fortunei* cross, including 'Loderi King George', 'Loderi Venus' and 'Loderi Pink Diamond'. Overall, there are now more than 80 hybrids with *R. fortunei* as a parent!

When Robert Fortune introduced this rhododendron into cultivation nearly a century ago, everyone who saw it in flower must have realized immediately that here was something new and different. Its flower colour of pale lilac (just off white) was not exceptional, nor was its fragrance a new feature among rhododendrons, for many of the Sikkimese species such as *R. maddenii*, *R. dalhousiae* and *R. griffithianum* were even more richly scented and had individual flowers of even larger size than the ample ones of *R. fortunei*. What made *R. fortunei* unique was the modeling of its corolla, the poise of its flower, a charm difficult to describe, but supremely satisfying even to the eye untrained in appreciation of artistic proportions. The fact that there are seven lobes, instead of the five found in most other flowers of the genus, added a sumptuousness that contributed still more to its striking beauty (Nearing 1957).

These seven corolla parts of the flower are a leading feature by which most of the 27 species are brought together in subsection *Fortunea*. Sometimes the lobes number only five, sometimes as many as eight, but the characteristic number for the subsection is seven. Elsewhere in the genus *Rhododendron*, very few species have seven corolla lobes, the only ones with this number regularly being *R. auriculatum*, *galactinum*, *watsonii*, *eritimum* and *metternichii*, while about 10 other species have seven lobes occasionally (Nearing 1957).

McQuire and Robinson (2009) describe *Fortunea* as a very diverse subsection. As trees or shrubs, they have leaves oblanceolate or oblong to orbicular, without hairs (glabrous) and with essentially smooth surfaces, and their usually five to seven-lobed corolla is usually pink or white, funnel or open-campanulate, and sometimes fragrant. Cox and Cox (1997) state *Fortunea* species are characterised by their white to pink flowers and their glabrous leaves, while most species in subsections *Thomsonia* and *Campylocarpa* share their glabrous leaves, these tend to be smaller and more rounded and their flowers are usually red, yellow, or deep pink. Cox (1990) stated the majority of this subsection have larger foliage and are in the main vigorous and hardy, and are perhaps the most heat tolerant after plants in subsection *Pontica*. The flowers are often glandular (sticky), somewhat fleshy, and with a small calyx. In summary, *Fortunea* species contain many useful species for severe climates, with *R. fortunei* being the hardiest species with scented flowers.

McQuire and Robinson (2009) divide the species into three groups, based solely on their leaf shape:

Group A – leaves lanceolate or oblanceolate, usually large, and more than three times as long as broad;

Group B – leaves oblong or obovate; and

Group C – leaves orbicular or rounded, usually relatively small. Species descriptions in the following are largely from McGuire and Robinson (2009), Cox and Cox (1997) and Cox (1990) and the RSF website (<https://rhodygarden.org/cms/plant-database>).

Subsection *Fortunea* (about 27 species, 21 discussed, **red** font species are more available)

Group A (leaves lanceolate or oblanceolate)

R. asterochnoum

R. calophytum

R. davidii

R. fortunei.

R. glanduliferum

R. griffithianum

R. huianum

R. jingangshanicum

R. maoerense

R. praeevernum

R. sutchuenense

R. vernicosum

Group B (leaves oblong or obovate)

R. decorum

R. oreodoxa

R. qiaojiaense

R. serotinum

Group C (leaves orbicular or rounded)

R. faithiae

R. hemsleyanum

R. orbiculare

R. platypodum

R. yuefengense

Species Details

Group A (leaves lanceolate or oblanceolate)

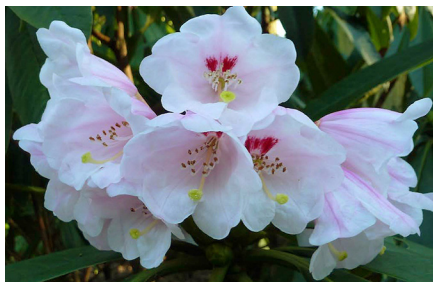
R. asterochnoum (Epithet: with star-like down)

This hardy Sichuan species is a shrub or small tree from 3000-3660 m (10,000-12,000 ft) elevation, and is closely related to *R. calophytum*, differing in the sparse, discontinuous, whitish, stellate indumentum on the leaf lower surface. Its flowers are seven-lobed, about 4.5 cm (two inches) long, white, tinged with rose, and often with a blotch.

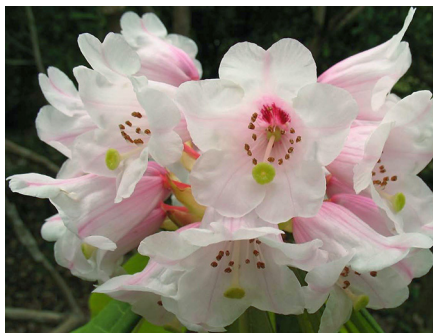
R. calophytum (Epithet: beautiful plant)

This Sichuan species is a shrub or small tree 4.5-15 m (15-49 feet) high from 2400-4000 m (8000-13,000 feet) elevation and is one of the hardiest of the really large growing species. New growth has a sparse silver indumentum that disappears when the leaves mature. The flowers have a long, red pedicel, very short (1 mm; 1/25 in) calyx, are five to seven-lobed, and are white to pink with a deep red blotch and spots. Its 15-20 stamens are very small compared to the style, which has a large, disk-like stigma. The species differs from its nearest relatives *R. sutchuenense* and *R. praeevernum* by having more stamens, a larger stigma and longer leaf pedicels. It flowers from February to April, and so its flowers may be damaged by late frosts.

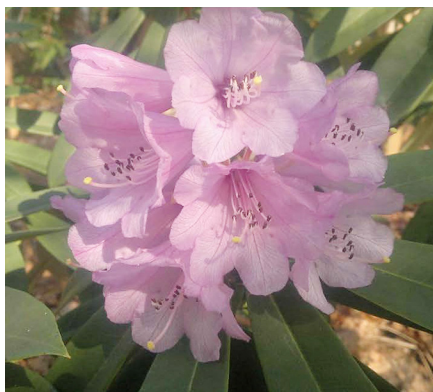
R. davidii (Epithet: after L'Abbe Armand David, early plant collector in W China)



R. asterochnoum var. *asterochnoum*.
Photo: Marc Reuling.



R. calophytum var. *calophytum*. Photo:
Hank Helm.



R. davidii. Photo: Dr. Stephan Bubert.

This rare Sichuan plant in cultivation (reintroduced after 1990, older plants are incorrectly named and are *R. oreodoxa* or hybrids of it) is a one to six m (three to 20 feet) shrub or tree from 1300-4000 m (4300 to 13,200 feet) elevation. Its flowers are seven to eight-lobed, pink to purplish blue, spotted purple, with a 1-2 mm (1/25-2/25 in) calyx and ovary that are both densely glandular. It has longer, narrower leaves and a more glandular ovary than *R. oreodoxa*.

R. fortunei (Epithet: after Robert Fortune)

This 1.8-9 m (six to 30 feet) shrub or tree is from 600-1200 m (2000 to 4000 feet) elevation. Petioles are purplish, bluish or reddish, and the flower is seven-lobed, often wavy, fragrant, and white to pink. This species is hardier than *R. decorum* and *R. vernicosum* and is distinguished from them by leaf shape and petiole colour. There are two subspecies, *fortunei* with obovate leaves, 1.8-2.5 x as long as broad, and earlier flowering, and *discolor*, with oblanceolate leaves, 2.8-5 x as long as broad, which flowers about a month later (June-July) than subsp. *fortunei*. Subsp. *fortunei* is the hardiest scented species and is relatively heat resistant. Subsp. *discolor* Houlstonii Group has smaller, narrower leaves than subsp. *discolor* and flowers in May.

R. glanduliferum (Epithet: gland-bearing)

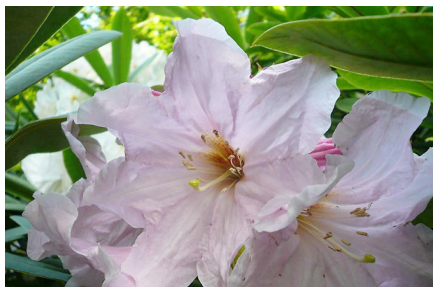
This two m (seven foot) shrub from 2200 m (7250 ft) elevation in Yunnan has flowers with a densely glandular pedicel and calyx and a corolla that is densely setulate (covered in small bristles)-glandular on their outer surface. It was only introduced into cultivation in 1995 and is rare in the wild.



R. fortunei subsp. *fortunei*. Photo: Coen Zonneveld.



R. fortunei subsp. *discolor*. Photo: Kathy & Bill McKay.



R. glanduliferum. Photo: Douglas Justice.

R. griffithianum (Epithet: after W. Griffith, a former superintendent of the Calcutta Botanic Garden)

This one to 15 m (three to 50 ft) species is from Nepal, Sikkim, Bhutan and Assam at an elevation of 1800-2900 m (6000-9500 feet), and has usually smooth but flaking and peeling bark of several colors. Trusses are on a long, stout rachis that is usually slightly glandular. Flowers are five-lobed and very large, sometimes scented, and are white or tinged or veined pink to red, with a large calyx. With all the above characteristics, the species is quite easily distinguished, and although it has some of the largest rhododendron flowers, it is fairly tender, so shade and shelter are often required for its successful cultivation.

R. huianum (Epithet: after Professor Hu, China)

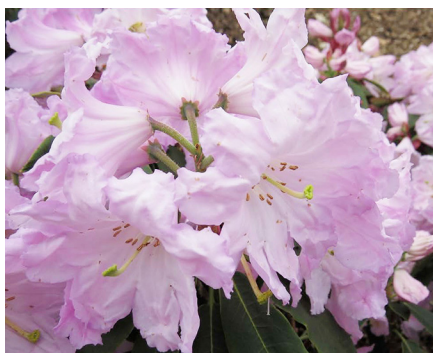
This two to nine m (six to 30 ft) shrub is from Sichuan, Yunnan and Guizhou at an elevation of 1000-2700 m (3250-9000 ft). Its leaves are acuminate (taper to a point), and its flowers are six to seven-lobed, pale or more often deep rose-purple in colour, with nectar pouches. The calyx is large and the ovary and style are both glandular. The above characteristics make it quite distinctive, and it is separated from *R. davidii* by its larger calyx and glandular style. See the profile of this species by Maria Stewart (in the Spring 2019 JARS).

R. jinggangshanicum (Epithet: after Jinggang Shan (Shan = Mountain)

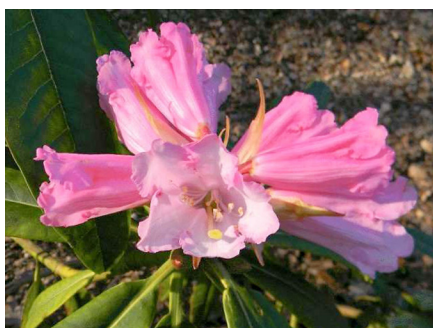
This 2-5 m (6-16 ft) shrub has leathery, cuneate (wedge-shaped), wavy edged



R. griffithianum. Photo: Rinus Manders.



R. huianum. Photo: Rinus Manders.



R. jinggangshanicum. Photo: Theo Damen.

leaves and is from Jiangxi at an elevation of 1100-1200 m (3600-3900 m). It has dark pink flowers and is a new introduction.

R. maoerense (Epithet: from Maoershan, Guangxi)

This species has only recently been introduced into cultivation. It is an eight to twelve m (25-40 ft) tree from an elevation of 1800-1900 m (6000-6300 ft), and its new growth is maroon to deep red. Petioles and pedicels are purplish, with the later glandular. Flowers are seven-lobed, pale pink to white, and the calyx, ovary and style are all glandular.

R. praeevernum (Epithet: before the spring)

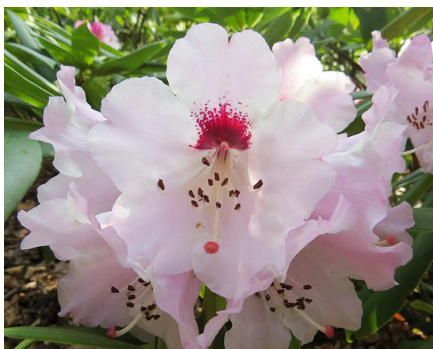
This compact shrub or small tree (1.8-4.6 m (six to 15 ft) high) is from Hubei at an elevation of 1600-2500 m (5000-8200 ft). Its leaves are entirely hairless (glabrous) and its flowers are white to purplish-lilac with a distinctive large purple or crimson blotch at their base. The species merges with *R. sutchuenense* (intermediate forms are called *R. x geraldii*) but in its typical form, has smaller leaves, hairless lower leaves and the prominent blotch. It is an easy and showy species, but flowering from February to April, can be subject to frost.

R. sutchuenense (Epithet: from Sichuan)

This two to six m (6-20 ft) shrub or tree from 1400-2500 m (4500-8000 ft) elevation in Sichuan is large and umbrella-shaped. Its leaves are moderately woolly or hairy on



R. maoerense. Photo: Rinus Manders.



R. praeevernum. Photo: Rinus Manders.



R. sutchuenense. Photo: Everard Daniel.

the underside midrib, and its five to six-lobed flowers are pale pink with red spotting but no blotch, with a reddish stigma and 13-15 stamens. It differs from *R. calophytum* by having no blotch and shorter and wider leaves, and from *R. praevernium* by having a hairy underside midrib, and again no blotch. This is one of the toughest and finest larger-growing species with fine trusses of long-lasting flowers.

R. vernicosum (Epithet: varnished)

Height to one to 7.6 m (three to 25 ft), this southwestern Chinese species from 2700-4300 m (9000 to 14,000 ft) elevation forms a rounded shrub or small tree. Its six to seven-lobed flower is usually pale pink to bright rose with or without crimson spotting. Its distinguishing feature is an ovary and style densely glandular with dark red glands, while all other *Fortunea* species have either white or yellowish glands or are glabrous (no glands). It has no scent, and the upper leaf surface becomes sticky, waxy and shiny if heated over a flame. This species is widely distributed in China, and so clones can differ in hardiness, partly due to the early growth of some forms, as the species usually flowers in April and May.



R. vernicosum. Photo: Ken Gibson.



R. decorum subsp. *decorum*. Photo: Everard Daniel.

Group B (leaves oblong or obovate)

R. decorum (Epithet: ornamental)

This wide-ranging species (north Vietnam to SE Tibet) from 1800-4500 m (6000-15,000 ft) grows to one to nine m (three to 30 ft) in height. The six to eight-lobed flowers are fragrant, white to lavender rose, with a yellow, green or crimson tinge at their base, with or without markings, with tiny short hairs at the base of the



R. decorum subsp. *diaprepes*. Photo: Everard Daniel.

stamens (puberulous). There are two subspecies, *decorum* coming from further north and east than *diaprepes*. Subsp. *decorum* occurs in fairly dry sites where most other rhododendrons cannot survive, is vigorous and is one of the easiest grown species. Subsp. *diaprepes* is a lower altitude variety (up to 3400 m (11,000 ft) elevation) and is less hardy and later flowering, with larger flowers and earlier growth. Different clones flower at different times giving a long flowering season.

R. oreodoxa (Epithet: glory of the mountains)

This southwestern Chinese species is a shrub or small tree 1.5 to 5 m (5-23 ft) high from an elevation of 2300-3800 m (7500-12,500 ft). Its five to eight-lobed flowers are white to rose, with or without purple spots, with a minute calyx and a glabrous (no glands) style. It differs from subsection species by having thin shoots, smaller leaves, no scent and an early flowering. This species is fine, easily grown, vigorous, free-flowering and somewhat frost hardy.

There are three varieties, var. *oreodoxa* with a glabrous ovary; var. *fargesii* with a glandular ovary, wider leaves and lilac to deep pink flowers heavily speckled inside; and var. *shensiense* with a glandular ovary and sparsely rufous-tomentose pedicels.

R. qiaojiaense (Epithet: from Qiaojia County, Yunnan)

This rhodo's name is pronounced "chow-ja-en-se," and it has only recently been introduced from an elevation of 2000-3000 m (6550-9850 ft) in Yunnan, China. Its almost oval leaves have a thick texture, being similar to *R. decorum* and *R. vernicosum*, but with a different flower. The plant seems to branch readily, making what should be a compact, rounded garden beauty. The new growth often has a bronze color. It will most likely bloom white and be fragrant. In its native habitat it grows between 1.8-3.6 m (6-12 ft) tall. It's easy to grow and is best grown in a mix of sun and shade, with relief from hot afternoon



R. oreodoxa var. *oreodoxa*. Photo: Frederick Thurber.



R. qiaojiaense. Photo: Hans Eiberg.

sun. <http://www.rhododendron.dk/> and <http://chimacumwoods.com/the-plants/qiaojiaense/>

R. serotinum (Epithet: late, i.e., autumnal)

This smaller species (2.5-3 m (eight to ten ft)) from Yunnan, China, has seven-lobed flowers that are fragrant, white to flushed rose with a red blotch and red spots. This may be a late-flowering form of *R. decorum* with red throat markings, as it typically flowers from July to September. It has never been collected in the wild, being obtained from French seed from a collection by Delavay.



R. serotinum. Photo: Dr. Stephen Bubert.

Group C (leaves orbicular or rounded)

R. faithiae (no image of flower)

This very rare species (known from only two or three locations in the wild, but listed in the current RSF catalog) is sure to be a widely-grown and popular new species in gardens. It is probably most closely related to *R. hemsleyanum* and the recently introduced *R. serotinum* and shares some of the same characteristics—large, fragrant white flowers in mid-summer, a large habit and impressively big and bold foliage, with the new growth a light burgundy colour. As seen in the wild, this was a spectacular plant with large elliptic leaves to 25 cm (ten inches) or more in length. Probably best with a bit of shade in the afternoon to preserve the summertime flowers.



R. faithiae new growth. Photo: Everard Daniel.

R. hemsleyanum (Epithet: after W.B. Hemsley, an English botanist.)

This three to six m (ten to 20 ft) upright, spreading Sichuan shrub has auricled, deeply cordate (two round lobes forming a deep recess at the base) leaves that are usually undulated and are bright or pale matt-green on top. Cox (1990) suggested the foliage is the best in the *Fortunea*. The flowers are fragrant, mostly white with a yellow-green throat, and a glandular ovary and style. It flowers from May to July and is an exotic, distinctive looking species that needs wind protection, but is otherwise robust.

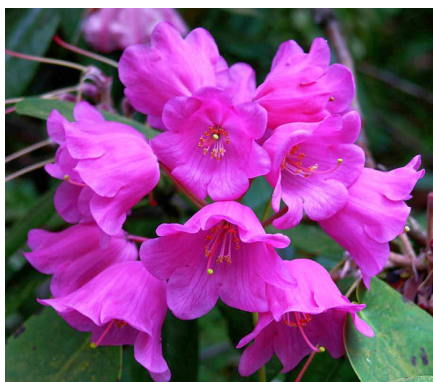
R. orbiculare (Epithet: circular [referring to its leaves])

This 1.2 to three m (four to ten ft) shrub from 1650-4000 m (5400-13,000 ft) in Guangxi, China, is compact and dense in the sun and leggy in the shade. Its distinctive roundish leaves are deeply cordate, glaucous and have long auricles that often overlap, and its flowers are seven-

lobed and deep pink to purplish rose, with no markings. There are two suggested subspecies, *orbiculare* with orbicular leaves and *cardiobasis* with longer, more heart-shaped leaves. However, recent evaluations (S. Hootman, pers. comm.) suggest subsp. *cardiobasis*, from the Dayao Shan, should be a recognised full species with no relation to *R. orbiculare*, while *R. orbiculare* subsp. *orbiculare*, from the Maoer Shan, is a round leaf form of the very variable *R. fortunei*, with coriaceous, pale or olive-green leaves. They have the same upright inflorescences of pale pink, open to funnel-campanulate flowers in mid- to late May, right in the same time frame as “typical” *R. fortunei* and several weeks after *R. orbiculare*, which has completely differently shaped flowers (campanulate). In addition, the growth of the Maoer Shan “*orbiculare*” is much more upright growing and tree-like as you would expect from the species *fortunei*. The species *orbiculare* has a very rounded and bushy habit, usually quite a bit wider than high.



R. hemsleyanum. Photo: Coen Zonneveld.



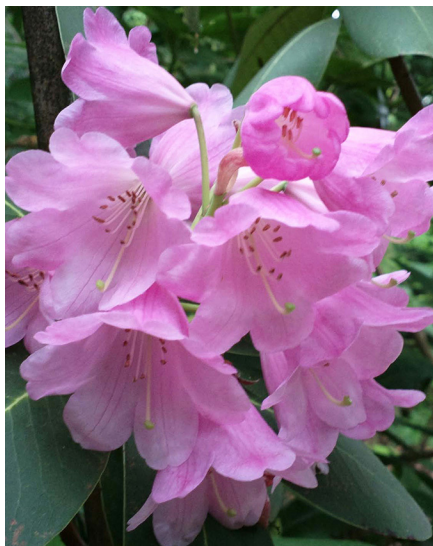
R. orbiculare subsp. *orbiculare*. Photo: Coen Zonneveld.

R. platypodum (Epithet: broad-stalked)

This two to eight m (six to 26 ft) Sichuan species from 1900-2200 m (6000-7000 ft) elevation has distinctive, leathery, broadly elliptic, rounded or oval dark green leaves that extend down the one to two cm (1/3 to 2/3 in) petiole (decurent), that is flattened above, rounded below. Flowers are seven-lobed and pinkish-red or pink.

R. yuefengense (Epithet: from Yuefeng, China)

This 0.5-1.5 m (1.5-5 ft) Guangxi shrub from 1800-2150 m (5950-7100 ft) elevation also has distinctive, glabrous, oval or broadly elliptic leaves with a cordate base, with a petiole that is flattened above, rounded below. Flowers are seven-lobed and a very pale purple, which are white at the base and within. Its growth habit is wider than tall, and is a choice, distinctive species that is easily cultured.



R. platypodum. Photo: Dr. Stephen Bubert.



R. yuefengense. Photo: Dr. Stephen Bubert.

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4. The large-leaf Rhododendrons - Subsections *Falconera* and *Grandia* in Section *Ponticum* Subgenus *Hymenanthes*

(Modified from the Journal American Rhododendron Society 74: Winter 2020)

H*ymenanthes* is a subgenus of the genus *Rhododendron* with a widespread distribution in the temperate Northern Hemisphere. They are elepidotes (without scales) and the subgenus includes two sections, section *Ponticum*, divided into 24 subsections and about 304 species, and since 2005, section *Pentanthera*. The species in section *Ponticum* are evergreen shrubs and small to medium-sized trees (up to 30 m (100 ft) tall), with medium-sized to large leaves (very large, up to 91 cm (three ft) long, in a few species). The flowers are large, produced in terminal trusses of 5-40 together. Plants in this section are the plants that most people think of when they hear the word rhododendrons, and they are widely planted in temperate climate gardens.

In previous articles, I discussed the general characteristics and taxonomic relationships of evergreen species rhododendrons in section *Ponticum*, of subsections *Taliensia* (see p. 111) and *Fortunea* (see p. 124). As discussed in a recently published comprehensive book on the big-leaf rhododendrons (Church and Smith 2015), gardening interest in these rhododendrons was initiated in the large, older English, Irish and Scottish estates where owners used their gardens to impress friends and colleagues. As the fashion to impress others changed from having long rides in carriages to the actual plants in a mixed woodland garden, owners became interested in special, unique showy plants, and began growing exotic, attention-grabbing species. Large-leaf rhododendrons were particularly suited in this regard, with those having the biggest leaves especially desirable. The fact that they were rather difficult to grow, and did especially well in the acid-soil regions of Great Britain, only added to their uniqueness. Today, these plants are available for most to grow in their own gardens, and failing that, can be seen either in the wild in Asia or in many arboreta or community gardens with an interest in rhododendrons.

Felice Blake, a keen Australian gardener, stated:

The genus *Rhododendron* covers an enormous variety of plants from tiny prostrate shrublets to majestic trees which on the whole are slow growing and long lived, and the genus contains many species with superb foliage. When one considers that the flowering season of any individual rhododendron (excluding vireyas) is generally restricted to a few weeks in the year, it always seems puzzling that more consideration is not given to the general appearance of the rhododendrons we grow in our gardens from the point of view of the plants as foliage plants, as after all we look at the foliage throughout the whole year. The average gardener seems only to acquire rhododendrons as flowering plants, and gives no thought whatsoever to the foliage of the plants which he, or she, must look at for all the year around, and this is reflected in so many nurseries stocking rhododendrons which look deadly dull when the plants are not in flower—hence the scarcity of the much more attractive species which in so many instances are just as attractive out of flower as in flower. Some are such beautiful foliage plants that the flowers must be of secondary consideration, and although some species take many years to bloom, this is of little consequence as the plants can be enjoyed the whole year around...

Everyone who has suitable conditions should grow some of the big-leaved species with beautiful indumentum in the *Grandia* and *Falconera* subsections—little does it matter that they take many years to flower. In many of the species in these subsections, the new foliage stands up like cockades of white kid enhanced by red bracts and look as lovely as the flowers they will ultimately bear. Of course, these species thrive best in woodland conditions in cooler areas where they can reach their full potential.... Some of the large leaved species will flower at less than ten years old including *R. grande*, *rex*, *rex* subsp. *fictolacteum*, and *magnificum*, (Blake 1985).

In another article, Blake (1987) stated:

...most of the large leaved species delighted us with their almost incredibly magnificent flower trusses, but just as fascinating as the flowers is the incredible beauty of the new foliage unfurling. As with so many species rhododendrons the foliage of these big ones provides so much year-round interest that the flowering almost becomes a secondary consideration.... For those who garden in areas with warm to hot summers, I think *R. falconeri* is the species to try, amongst the big-leaved ones. There is a much greater chance of growing it to near perfection than say, *R. sinogrande*, which comes into new growth just about at the beginning of summer. I cannot grow the huge leaves on this one in our present garden [in Australia] in the same way they grew at the higher elevation in our old garden. They need an almost perpetual fine mist as the new growth emerges. However, with *R. falconeri* we are blessed with whorls of leaves three feet across, backed with beautiful indumentum. Maybe those in cooler regions could experiment with the species coming into late growth, such as *R. sinogrande*.

Subgenus *Hymenanthes*

Section *Ponticum* (24 subsections, about 304 species (McQuire and Robinson 2009), numbers behind each subsection name are the number of species in that subsection; bold names are the subsections considered here)

1. *Arborea* - 12
2. *Argyrophylla* - 12
3. *Auriculata* - 2
4. *Barbata* - 6
5. *Campanulata* - 4
6. *Campylocarpa* - 7
7. ***Falconera*** - 14
8. *Fortunea* - 27
9. *Fulgensia* -1 (*R. fulgens*)
10. *Fulva* - 4
11. *Glischra* - 11
12. ***Grandia*** - 15
13. *Griersoniana* -1 (*R. griersonianum*)
14. *Irrorata* - 16
15. *Lanata* - 6
16. *Maculifera* - 14
17. *Neriiflora* - 44
18. *Parishia* - 5
19. *Pontica* - 19
20. *Selensia* - 8
21. *Sherriffii* - 3
22. *Taliensia* - 49
23. *Thomsonia* - 15
22. *Williamsiana* - 1 (*R. williamsianum*)

Section *Pentanthera* (2 subsections, 18 species)

1. *Pentanthera* - 17
2. *Sinensia* -1 (*R. molle*)

Overview

Both *Falconera* and *Grandia* species are large, lax shrubs or trees, with big leaves that have a pronounced underside indumentum, a dense, many flower inflorescence, and six to ten-lobed, often ventricose (swollen on one side), flowers. Closely related to the *Grandia* subsection, the suggested distinction is based on *Falconera*'s funnel- or cup-shaped hairs, but Cox states this doesn't always apply, although the majority of the *Falconera* have a woolly indumentum while the

Grandia have more of a plastered one. The two subsections merge in the close alliance between *R. basilicum* and *R. praestans*. With respect to flowering times, at the RSBG near Seattle, WA, Steve Hootman states:

The big-leaf blooming season kicks off with *R. semnoides*, *rothschildii*, *watsonii* and the very rarely seen *R. pudorosum* in early March, followed by *R. hodgsonii*, *basilicum*, *arizelum*, *coriaceum*, *rex* subsp. *fictolactum*, *sinofalconeri* and *kesangiae*, and wrapping up with *R. rex* subsp. *rex* and *galactinum* in early May.

McQuire and Robinson (2009) divide species of both subsections into two groups, species with or without winged petioles. Species descriptions in the following are largely from McGuire and Robinson (2009), Cox and Cox (1997), Cox (1990), Church and Smith (2015) and the RSF website (<https://rhodygarden.org/cms/plant-database>).

Subsection *Falconera* (about 14 species, 12 discussed, **red** font species are more available)

Falconera have leathery leaves, a seven to ten-lobed corolla, a small calyx, 12-18 stamens and a usually tomentose (hairy) ovary. They are all fine foliage plants, worth growing for their leaves alone until they flower, which can take several years. New growth is fairly decorative. They do not tolerate either very cold or very high temperatures, so grow best in mild temperate habitats.

Group A (leaves with winged petioles)

R. basilicum

R. heatheriae

R. preptum

R. rothschildii

R. semnoides.

Group B (leaves without winged petioles)

Group B1 (smaller species with smoother leaves, corollas five to seven-lobed)

R. coriaceum

R. galactinum

Group B2 (larger species with rugulose leaves, corollas usually eight-lobed)

R. arizelum

R. falconeri

R. hodgsonii

R. rex

R. sinofalconeri

Species Details

1) Group A (leaves with winged petioles)

R. basilicum (Epithet: royal)

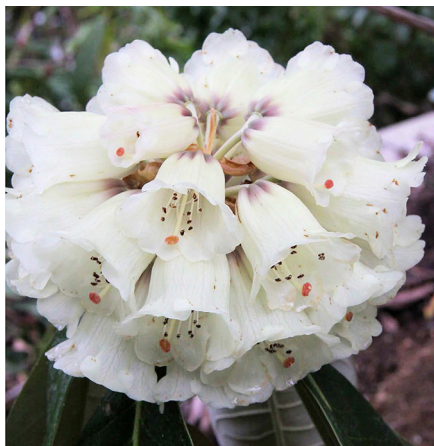
This 2.4-9 m (8-36 ft) species from western Yunnan and Myanmar has leaves with thick, spongy, continuous, brown, fawn or rust-coloured funnel-shaped hairs. The petiole is widened at the base and flat above with marginal wings and ridges. Inflorescences have 10-25 flowers, which are usually white to cream with a prominent blotch, although some are pale yellow to rich flesh-rose, with pink or purple stains or veins. Many cultivars have features halfway between this species and *R. praestans* and may be hybrids. It is a fine foliage, flat-topped tree with beautiful new growth and smooth peeling bark, flowering from March to May.

R. heatheriae (Epithet: after Heather, the wife of Keith Rushforth, its discoverer)

This new species from SE Tibet and Arunachal Pradesh has a coppery indumentum and a very short, winged petiole. It grows to 5-8m (17-26 ft) with rough, flaky bark and leaves 20-30 cm (8-12 in) long. It is closely related to the similar *R. arizelum*. From images on www.rhododendron.dk, flower colour ranges from pink to cream.

R. preptum (Epithet: distinguished)

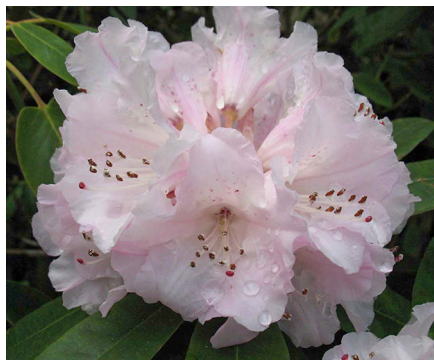
Very similar to *R. rex* subsp. *arizelum* and *R. rex* subsp. *fictolacteum*, this may not be a distinct species, and has only



R. basilicum. Photo: Garth Wedemire.



R. heatheriae. Photo: Claus Staune.



R. preptum. Photo: Hank Helm.

been collected three times in the wild, all decades ago by George Forrest, initially in Myanmar and later in NW Yunnan. Its petioles are slightly winged or ridged, and is really like a large version of *R. rex* subsp. *fictolacteum*. Its flowers are in a truss of 20-30, and are white to mauve-pink, with a crimson blotch and spots, with serrated, rather frilled margins and flowers in April to May.

R. rothschildii (Epithet: after Lionel de Rothschild, Exbury)

This species is not common in cultivation but is a good plant, growing to 3m (10 ft) in gardens and up to twice that in the wild. Its large paddle-like leaves are up to 36 cm (14 in) long, and the species is distinguished by a thin, spotty rufous indumentum underneath its leaves. The flower buds are almost crimson, opening to creamy-white or pale yellow flowers, each with a rich crimson blotch, in April to May. Very similar otherwise to *R. basilicum* and *R. semnoides*, and may be a natural hybrid between *R. praestans* and *R. arizelum*.



R. rothschildii. Photo: John Farbarik.



R. semnoides. Photo: Stephen Bubert.

R. semnoides (Epithet: resembling *R. semnum* (now *R. praestans*))

This species is closely related to *R. basilicum*, differing by having more fimbriated but still cupped hairs in its indumentum. It is also a disputed species, and may be a hybrid. It occurs further north in SE Tibet and NW Yunnan than does *R. basilicum*, and is thus relatively tough and hardy. It flowers in April—May, and its flowers are also white to creamy white, often suffused with pink, and each with a red blotch inside.

2) Group B (leaves without winged petioles)

i) Group B1 (smaller species with smoother leaves, corollas 5-7 lobed)

R. coriaceum (Epithet: leathery)

This species from SW Tibet and NW Yunnan is not the most dramatic nor the best for flower display among the *Falconera*, but is still charming. Its long,

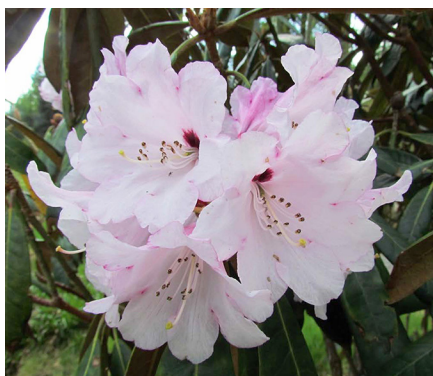
narrow leaves have a silvery or grey indumentum when new, which fades to fawn as the leaf ages, and a white tomentum. The leaves stay on the plant for three to four years, and the white kid-glove like new growth is quite attractive. The best forms have larger, white flushed rose flowers with a crimson blotch, 15-20 in a truss. It's quite similar to *R. rex* subsp. *fictolacteum*, but with thinner stems and branches.



R. coriaceum. Photo: Garth Wedemire.

R. galactinum (Epithet: milky)

This species from West Sichuan does not have the spectacular leaves that other *Falconera* have, being up to only 20 cm (eight in) long, but it does have beautiful flowers, pure white to pale rose, with a rich wine blotch within. It has distinctive short, stubby foliage buds, and unique to the *Falconera*, a glabrous (without hairs) ovary. On the plus side, the species is the hardiest of the *Falconera*.

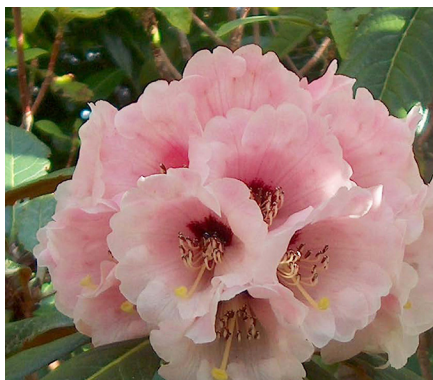


R. galactinum. Photo: Rinus Manders.

ii) Group B2 (larger species with rugulose leaves, corollas usually 8 lobed)

R. arizelum (Epithet: notable)

This fine foliage species from eastern India to western Yunnan is one of the hardier *Falconera*, growing to 3-7.6 m (10-25 ft) in gardens. Its strongly veined dark green leaves have a prominent yellow midrib, are widest towards their tip, and have a tan, velvet-like indumentum. Flowers are cream to a deep soft rose, with 15-25 in a truss. New growth is covered in a soft golden down.



R. arizelum. Photo: Ken Gibson.

R. falconeri (Epithet: after H. Falconer, Supervisor, Saharanpur Gardens, India)

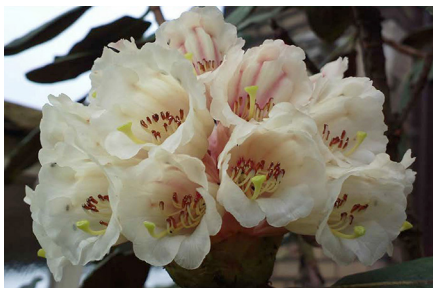
This species from eastern Nepal to Arunachal Pradesh may reach 12 m (40 ft) in favourable locations, with rough, reddish-brown, peeling bark. There are two subspecies, *falconeri* and *eximium*. Subsp. *falconeri* has very large elliptic to obovate leaves up to 30 cm (one foot) long and 15 cm (six inches) wide, often with a scalloped edge, which are matt dark-green with indented veins and a brown or rusty indumentum. Young leaves are covered with silvery hairs that slowly rub off with time. The inflorescence has 15-25 waxy white to creamy-yellow flowers in late April-May, with the rich lemon-yellow forms most attractive, and these flowers last longer than any other rhododendron, up to a month.

Subsp. *eximium* has two main differences—its young leaves are covered in golden hairs on both surfaces for the first year, whereas subsp. *falconeri* has a hairless, matt upper leaf surface when the leaves mature. Also, subsp. *falconeri* is an upright tree whereas subsp. *eximium* is smaller and usually as wide as high. Finally, initially the flowers of subsp. *eximium* are a rose colour, opening pink but fading at their base to a creamy-white.

Overall, this species is one of the best rhododendrons to grow, and one of the highlights in any rhododendron collection. It is not the most hardy species, so a warm, sheltered site is best,

R. hodgsonii (Epithet: after B.H. Hodgson, former East India Company resident in Nepal)

This 3-12 m (10-40 ft) species from eastern Nepal to Arunachal Pradesh has bark that is creamy, mauve pink to cinnamon, peeling in large sheets so it is usually smooth and shiny. Leaves are obovate to elliptic, rough and leathery, with a loose evanescent tomentum on younger leaves giving a greyish cast, with a rich brown indumentum. Growth buds are distinctive with long, acuminate tips, green to purple. Flowers vary in colour (see figure in next page) and tend to fade with



R. falconeri subsp. *falconeri*. Photo: Dr. Stephen Buber.



R. falconeri subsp. *eximium*. Photo: Rinus Manders.



Variations in the wild: *R. hodgsonii* color in Sikkim, India. Photo: Glen Jamieson.

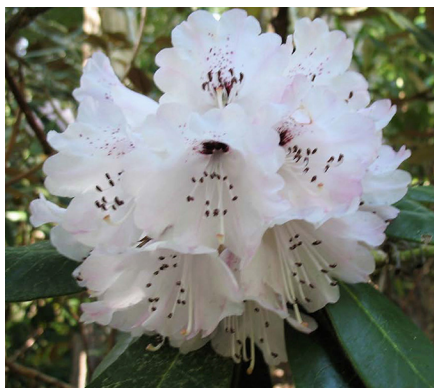
age. Overall, this is a fine species with bold foliage, lovely bark and beautiful flowers in the better cultivars. It is hardier than most *Falconera*, and some consider it more of a character plant than a really beautiful one!

R. rex (Epithet: king)

This 3-12 m (10-40 ft) species from Arunachal Pradesh to western Yunnan has two subspecies, *rex* and *fictolacteum*. The former grows to about 6 m (20 ft) in cultivation with not always the most exciting coloured leaves, but this is made up by their up to 45 cm (18 in) length, all with a greyish-brown indumentum. Flowers are white to rose coloured with a dark basal blotch and spotting within, with 20-30 per truss during April-May. Subsp. *fictolacteum* has smooth leaves, dark green above with a continuous thick dense russet or brown indumentum beneath. Its flowers are similar to those of subsp. *rex*, but are usually paler and smaller, as are its leaves. Both subspecies are considered to be among the more cold-hardy of the big leaf species, along with *R. watsonii* and *R. galactinum*.



R. hodgsonii. Photo: Garth Wedemire.



R. rex subsp. *fictolacteum*. Photo: Hank Helm.



R. rex subsp. *rex*. Photo: Everard Daniel.

R. sinofalconeri (Epithet: Chinese *R. falconeri*)

Growing to six m (20 ft), this relatively new species has smooth, brown flaking bark and is the most southerly member of the *Falconera*. The Chinese version growing north of the Red River in Yunnan has a rounded leaf and a loose, pale indumentum, whereas the Vietnam form from south of this river has a more pointed, elliptic-shaped leaf with tight, darker coloured indumentum. Flower colour ranges from rich yellow to cream, and is one of the better big-leaves for flower colour.



R. sinofalconeri. Photo: Hank Helm.

Subsection *Grandia* (about 15 species, 12 discussed, **red font** species are more available)

These species have foliage reaching the utmost grandeur of the whole genus, with some species reaching an exceptionally large size. Leaves have a plastered or fine woolly indumentum, corollas are seven to ten-lobed, the calyx is very small, there are 14-20 stamens and the ovary is tomentose (with dense woolly hairs, except *R. watsonii*). Because of their large leaves and stature, they all need very sheltered locations and room to reach their full glory, which may take many years before blooming.

1) **Group A** (leaves with winged petioles)

R. praestans

R. watsonii

2) **Group B** (leaves without winged petioles)

R. grande

R. kesangiae

R. macabeanum

R. magnificum

R. montroseanum

R. protistum

R. pudorosum

R. sidereum

R. sinogrande

R. suoilenhense

Species Details

1) Group A (leaves with winged petioles)

R. praestans (Epithet: excellent)

This 6-9 m (20-30 ft) species from SE Tibet, upper Myanmar and western Yunnan has brown flaking bark and leaves 18-38 cm (7-15 in) long, tapering to the base with a coppery, shiny and plastered indumentum and a short petiole. Flowers are white to deep rose, with or without a crimson blotch and spots. It now includes *R. coryphaeum*, and is one of the most wind-resistant and hardy of the *Grandia*, forming a dense shrub with fine foliage.

R. watsonii (Epithet: after W.C. Hanes-Watson, Chinese Customs)

This 2-10 m (7-33 ft) species is usually a shrub rather than tree-like, and has leaves with a very short, distinctly yellowish petiole and a silvery white to fawn, plastered indumentum. About 10-15 flowers in a truss, which are white to flushed pink, with or without a blotch and spots. It comes from W Sichuan and is the hardiest of the *Grandia*, but unfortunately the poorest in flower.

2) Group B (leaves without winged petioles)

R. grande (Epithet: large)

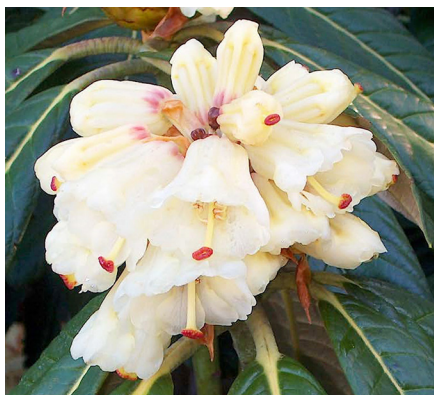
This 6-15m (20-50 ft) tree from eastern Nepal to Arunachal Pradesh has



R. praestans. Photo: Cararae Gardens.



R. watsonii. Photo: Garth Wedemire.

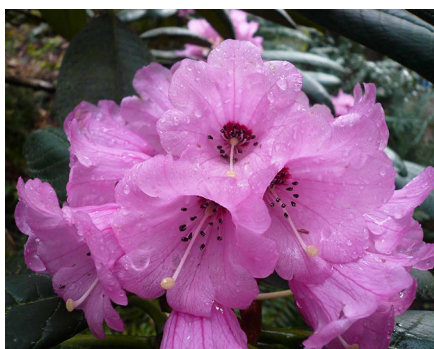


R. grande. Photo: Ken Gibson.

rough flaking bark, with oblong-lanceolate leaves 12-38 cm (5-15 in) long with a shiny silvery indumentum. New growth has a white tomentum and is particularly attractive, and there are nice pink bud-scales on the young growth. Flowering relatively early (February to April), late frosts can hurt the flowers, which are in a truss of 20-25 and can range in colour from cream to deep rose with a purple blotch and spots. It seems particularly sensitive to wind damage, so needs shelter, and is quite variable in both foliage and flower features.

R. kesangiae (Epithet: after the Queen Mother of Bhutan, Kesang Dorjii Wangchuck)

Initially thought to be a natural hybrid between *R. hodgsonii* × *R. falconeri*, this 3-15 m (10-50 ft) species has 20-30 cm (8-12 in) dark green leaves with prominent lateral veins and silver-white, sometimes brown, indumentum. Having a weak petiole, wind protection is advisable. Leaf buds are distinct, being squat and round and often red or purple, unlike any other large-leaf species. This is one of the best of the big-leaves for flower colour and all-round display in April-May, with 15-20 flowers with a basal crimson blotch in a truss. Subsp. *kesangiae* has rich rosy-pink flowers, and subsp. *album* has white flowers with bright red nectaries at the base of the tube. The leaves are also shinier with more prominent veins.



R. kesangiae. Photo: Douglas Justice.

R. macabeanum (Epithet: after Mr. McCabe, a former Deputy Commissioner, Naga Hills, NE India)

This big, handsome, robust and easy to grow species from NE India is one of the best big-leaves to start with. Growing 3-9 m (10-30 ft) in gardens, it has a chunky plant form, with glossy dark green leaves with a thick, woolly, whitish or fawn indumentum. Young leaves have a nice white tomentum, and mature leaves can be up to 33 cm (13 in) long and 20 cm (8 in) wide. Trusses have 12-20 flowers, which are



R. macabeanum. Photo: Garth Wedemire.

yellow, yellowish-white to pale greenish-yellow, with or without a purple blotch. It flowers as a relatively young plant, but fairly early in the season, and tolerates windy and colder sites better than most of its relatives. Steve Hootman is now growing the Mt. Saramati alpine form from Nagaland, India, collected at 3700 m (12,000 ft) which may be hardier.

R. magnificum (Epithet: magnificent)

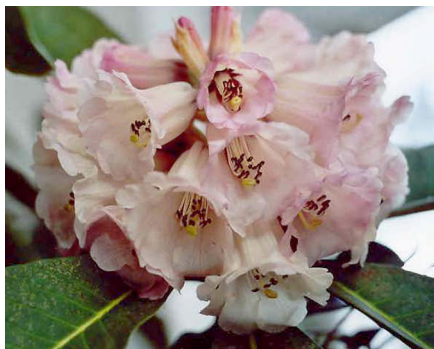
This 3-18 m (10-60 ft) tree along with *R. protistum* is one of the most tender species in *Grandia*, but differs from that species by having longer, narrower leaves and indumentum appearing on much younger plants. It needs protection from both strong winds and early frosts, as it flowers from February to April. It gets its name from its very large leaves, 30-76 cm (12-30 in) long, but these reduce with plant age to about half this size.

The dark green leaves on younger plants have a greyish-fawn indumentum as only a narrow marginal band, and blooming seems to coincide with the onset of the development of an indumentum, which may take 20-35 years. Terminal growth buds are distinctive by being tall, pointy and purple-red at their tips. Emerging new growth occurs relatively late in the season, and is draped by long red bracts as they peel away.

R. montroseanum (after the Duchess of Montrose)

A 3-15 m (10-50 ft) species from SE Tibet with very rough flaking bark, it has rigid, rugulose, shiny, dark green leaves with a silvery-white indumentum. Leaves are up to 46 x 23 cm (18 x 9 in) in cultivation, but up to 60 cm (two ft) long in the wild. New growth appears as silvery-white spears. Flowers are pale pink to a rich purplish pink, crimson veined and

with a crimson blotch, and some feel it has the most beautiful pink flowers of any big-leafs. It is slightly more hardy than *R. sinogrande* and blooming in February-March, needs warmer habitats to avoid winter damage.



R. magnificum. Photo: Dr. Stephan Bubert.



R. montroseanum. Photo: Everard Daniel.

R. protistum (Epithet: gigantic)

Growing to up to 30 m (100 ft) in the wild but to date to only 14 m (45 ft) in cultivation, this species from upper Myanmar and western Yunnan has huge, matt finish leaves that are not shiny. There is no indumentum on the leaves of an immature plant, which can be up to 70 x 30 cm (28 x 12 in) long and wide, but only half this size when the plant is mature. Initially

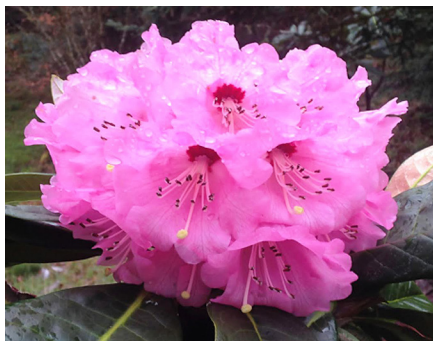


R. protistum. Photo: Jan Valle.

it was thought that the immature and mature forms were separate varieties, *protistum* and *giganteum* respectively, but it's now realised that the differences are age related. Mature plants are fully indumented, which can take decades to occur. Flowers vary in size and colour, from creamy-white to a rich sensuous pink, red and purple, with many spotted within or with a deep crimson blotch and nectar pouches. Trusses can have up to 30 flowers, and with blooming in February-March, frost damage is possible.

R. pudorosum (Epithet: very bashful)

This rare south Tibetan species in cultivation grows 6-12 m (20-40 ft) high in the wild. It is an attractive plant with shiny rugose leaves with a very thin silvery indumentum, and persistent leaf bud scales lasting for several years which give it a shaggy appearance. Its bright pink trumpet flowers are scented, sometimes have a purple blotch, but do not have nectar pouches. Its reasonably hardy, and has this name because it seems to be bashful to flower, taking upwards of 36 years to often do so!



R. pudorosum. Photo: Matt Heasman.

R. sidereum (Epithet: excellent)

This is the Chinese version of *R. grande*, coming from Arunachal Pradesh, upper Myanmar and NW Yunnan, but its leaves are smaller and is hardier, and so it also looks like a large leaved *R. arboreum*. Leaves are a matt green above with a silvery



R. sidereum. Photo: Everard Daniel.

indumentum, and it blooms later than in the season (May to June) than *R. grande*. Flowers are creamy-white to yellow to pale pink, usually with a small red eye or larger blotch, with 12-20 flowers in a truss. The yellow-flowering clones are most recommended.

R. sinogrande (Epithet: Chinese *R. grande*)

This species from NW Yunnan, upper Myanmar, SE Tibet and Arunachal Pradesh has the largest leaves of any rhododendron, up to 91 cm (three ft) long and 30 cm (one foot) wide. They are usually shiny, rugose, are a rich bottle-green with a silver indumentum, have a bold yellow mid-vein, and are thick and leathery. It blooms from March to May and the flowers are ivory-white to true yellow, usually with a crimson blotch and with dark nectar pouches. Its trusses are huge, and flowering is often only in every other year, and deadheading helps achieve annual flowering. It prefers a misty, moist habitat, and needs shelter from strong winds and is sometimes killed at -12°C (10° F)—plants older than 5-6 years seem to be hardier.



R. sinogrande. Photo: Ken Gibson.

R. suoilenhense (Epithet: after Mt. Suoilen in north Vietnam)

Discovered in 1991 as a tree growing to 15 m (50 ft) with bold, broadly oblong shiny leaves up to 30-40 cm (12-16 in) long, indumentum, as with *R. protistum*, only appears when the plant matures, which takes less time (five to eight years) than with *R. protistum* (up to 50 years). Flowers are white with a red blotch, and resemble those of *R. sinogrande*, only smaller. It is a vigorous plant, is reasonably hardy, and blooms in late May, even though from so far south!



R. suoilenhense. Photo: Keith Rushforth.

New Species:

R. titapuriense (Epithet: after Titapuri, a series of sacred lakes lying on the Tibet–Arunachal border) (No photo.)

Discovered in 2001 by Ken Cox, this Arunachal Pradesh Pemako Mountain species in the wild may be as high as 30 m (100 ft). It has dense foxy-brown indumentum, tomentum on younger leaves, and the creamy-white flowers have spots. Occurring at a lower altitude than *R. heatheriae*, it is likely less hardy, but young plants survive at -7° C (19° F). It appears to have some affinity with *R. rex*, and so is likely in the *Falconera*.

R. species nova

Four new species have also been found in Arunachal Pradesh, one perhaps similar to *R. sinofalconeri* and about 12 m (40 ft) tall. The second, named *R. grande* affinity, was about the same size, with a silvery, sometimes buff, indumentum. The third, at the time referred to as *R. magnificum* affinity, has been observed near the *R. titapuriense* population, and the fourth, *species nova* HECC#10010, now being sold by both Glendoick and the RSBG, appears to also be nearest to *R. sinofalconeri*, with very distinct foliage and quite early new growth.

Acknowledgements:

Thanks to Steve Hootman for his constructive comments.

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5. Subsections *Argyrophylla*, *Neriiflora*, and *Pontica* in Section *Ponticum* Subgenus *Hymenanthes*

(Modified from the Journal American Rhododendron Society 74: Summer 2020)

(Photos other than those from Harold Fearing are from Hirsutum.info.)

Species of *Rhododendron* in Subgenus *Hymenanthes*, Section *Ponticum*, are the plants that most people recognize as rhododendrons, being evergreen with relatively wide, leathery leaves. In previous articles, I discussed species in section *Ponticum* subsections that had relatively large numbers of cultivated species (*Fortunea*, *Falconera*, *Grandia*, and *Taliensia*) (see above), and here I discuss species in the remaining subsections that also have a relatively large number of species in them, i.e., *Argyrophylla*, *Neriiflora*, and *Pontica*. Species in these subsections are not particularly closely related, with species in first two found in southeast Asia and species in *Pontica* very widely distributed, being found from Japan across Siberia to Turkey and in both eastern and western North America.

There have been no JARS articles written specifically about most of the species in each of these three subsections, although some articles (e.g., Hardy 1985) have singled out species in the different subsections for some of their desirable features, notably their indumentum, hardiness, small size and resistance to weevils in hybridizing. Other articles (e.g., Smith 1994) showcase specific gardens, or at least parts of gardens, that are dedicated to specific subsections, such as the Younger Botanic Garden at Benmore, Scotland, which has most of subsection *Neriiflora*'s 26 species. Other articles (e.g., Blake 1987) point out how many species such as those in the *Neriiflora*, *Pontica* and *Taliensia* subsections, which while they may take a long time to reach flowering size, reward the discerning gardener with magnificent foliage, particularly in the spring when their young leaves unfurl.

Species descriptions in this article were derived from McQuire and Robinson (2009), Cox and Cox (1997) and the RSF website.

Subgenus *Hymenanthès*

Section ***Ponticum*** (24 subsections, about 304 species (McQuire and Robinson 2009), species in red are the more readily available ones.)

1. *Arborea* - 12
- 2. *Argyrophylla* - 12**
3. *Auriculata* - 2
4. *Barbata* - 6
5. *Campanulata* - 4
6. *Campylocarpa* - 7
7. *Falconera* - 14
8. *Fortunea* - 27
9. *Fulgensia* -1 (*R. fulgens*)
10. *Fulva* - 4
11. *Glischra* - 11
12. *Grandia* - 15
13. *Griersoniana* -1 (*R. griersonianum*)
14. *Irrorata* - 16
15. *Lanata* - 6
16. *Maculifera* - 14
- 17. *Neriflora* - 44**
18. *Parishia* - 5
- 19. *Pontica* - 19**
20. *Selensia* - 8
21. *Sherriffii* - 3
22. *Taliensia* - 49
23. *Thomsonia* - 15
22. *Williamsiana* - 1 (*R. williamsianum*)

Section ***Pentanthera*** (2 subsections, 18 species)

1. *Pentanthera* - 17
2. *Sinensia* -1 (*R. molle*)

Section ***Ponticum***

A. Subsection *Argyrophylla* (20 species, 8 described)

Species in this subsection are shrubs or trees, have rugose, mostly lanceolate leaves that are mostly shiny above and with prominent veins and a yellowish midrib. Trusses are lax with long pedicels, and the corolla does not have nectar pouches, except for *R. ririei*. McQuire and Robinson (2009) divided species into two groups, those having a thin-plastered indumentum and those with a thick wooly indumentum.

Group 1. Thin-plastered indumentum.

R. argyrophyllum

R. formosanum

R. insigne

R. ririei

Group 2. Thick wooly indumentum.

R. adenopodum

R. coeloneuron

R. denudatum

R. pingianum

Species Details

Group 1: Thin-plastered indumentum.

R. argyrophyllum (Epithet: with silver leaves)

This 1-12 m (3-39 ft) species is from Yunnan and Sichuan, China, and there are three main subspecies, subsp. *argyrophyllum*, *hypoglaucum* and *nankingense*. Subsp. *omeiense* differs little from subsp. *argyrophyllum* and may best be considered a variety of it. Subsp. *hypoglaucum* has a blue-grey underside to its leaves and unlike *argyrophyllum*, glandular pedicels; and *nankingense* has broader leaves, shiny and rugose on the upper surface, with usually deep pink flowers. Leaves on the first two subspecies are less rugose and their flowers are typically white, white flushed rose, pink or rose, with or without deeper pink spots. Inflorescences have 6-16 flowers and the species flowers in May. The white to silvery indumentum is the chief characteristic that separates this species from its allies.



R. argyrophyllum. Photo: Coen Zonneveld.

R. formosanum (Epithet: from Formosa (now Taiwan))

This 1.9-5.5 m (6-18 ft) Taiwanese species has trusses of 7-20 white or pink flowers with purple-brown spots and flowers in June, and although moderately hardy, is relatively rare in cultivation. It closely resembles *R. argyrophyllum* subsp. *omeiense* and should perhaps be considered as a subspecies of *R. argyrophyllum*.



R. formosanum. Photo: Stephan Bubert.

R. insignie (Epithet: remarkable)

This 1.6-6 m (5-20 ft) compact species (in sun) from Sichuan, China, has trusses of 6-16 flowers with pale to deep pink, red or white-flushed rose to red down the middle of the lobes, with or without crimson spots. The upper surfaces of leaves are dark green and shiny, while the lower surfaces have a shiny, plastered tawny-grey to copper indumentum, which make it quite distinctive. It is a great garden species that flowers in June. Horticulturally, it is the best of the section with excellent foliage and generally fine flowers.



R. insignie. Photo: Jens Birck.

R. ririei (Epithet: after Rev. B. Ririe of the Chinese Inland Missions)

A 3-12 m (10-40 ft) species from Sichuan, there are 5-10 flowers per truss, with flowers purple, lilac-purple or reddish purple with uniquely for this subsection, five deep purple nectar pouches. The lower surface of leaves is characterized by a thin, compacted silvery-white indumentum, and the growth buds are long, thin and pointed. It is a great plant, but because it flowers early (February to April), being one of the earliest elepidote species to bloom, it can have its flowers damaged by possible winter frosts.



R. ririei Photo: Rinus Manders.

Group 2: Thick wooly indumentum.

R. adenopodum (Epithet: with a glandular pedicel)

This 1.2-3 m (4-10 ft) hardy Sichuanese species has remarkably long and narrowly oblanceolate leaves, glandular pedicels, and a candelabra-type inflorescence of 4-8 shallowly-lobed, pale rose flowers, with or without deeper spots. Its ovary is also densely glandular. It was initially placed in subsection *Pontica* but was moved to this section because of its native geographical location. It looks

rather like a narrow-leaved *R. degronianum* but differs because of its glandular ovary and shallowly-lobed flowers. This species is great for more severe winter climates, as it is hardy and free-flowering, although rather slow growing. It flowers in April to May.

R. coeloneuron (Epithet: with impressed nerves)

This 3-8 m (10-26 ft) species from SE Sichuan and N. Guizhou, China, has leaves whose upper surface is somewhat shining and rugulose with impressed veins, and a lower surface with a dense bistrate (two-layered) indumentum. Its loose, 4-9 flower trusses have long, pink to purplish, spotted flowers. Initially placed in subsection *Taliensia* because it appeared similar to *R. wiltonii*, which

has a unistrate (one layer) undumentum, recent introductions suggest it is better placed in subsection *Argyrophylla*. It's quite similar to *R. floribundum*, and is a hardy handsome plant.



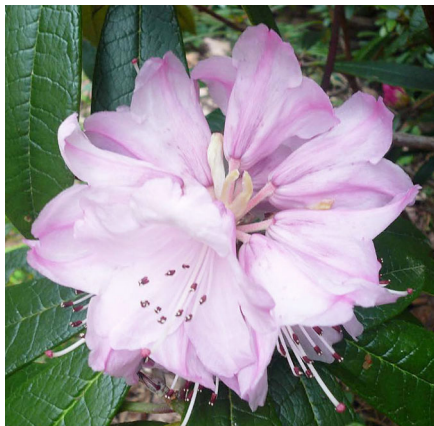
R. adenopodum. Photo: Jens Birck.



R. coeloneuron. Photo: Harold Fearing.

R. denudatum (Epithet: naked)

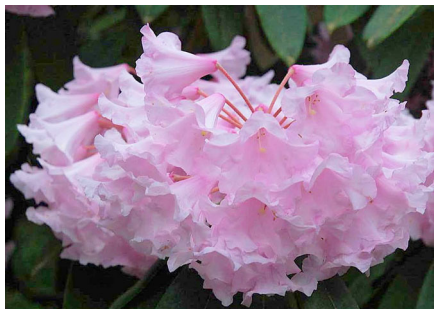
Growing to 2-7 m (6.5-23 ft), this species from central and southern Sichuan, China, has leaves with an upper surface that is olive-green and bullate (puckered), and a lower surface with a white to greyish, woolly indumentum. Its 5-12 flower trusses have flowers that are pink to purplish-lavender, with a large blotch and spots. It is distinct from other species in this subsection because of its convex, bullate olive-green leaves and its blotched and spotted flowers.



R. denudatum. Photo: Douglas Justice.

R. pingianum (Epithet: after Prof. C. Ping, Director of Biol. Science, Science Society of China)

A 4-7 m (13-23 ft) Sichuanese species with olive-green leaves that have a white, matted, thick, woolly indumentum on their lower surface. There are 8-20 flowers in a truss, and flowers are pale purple to pink and are without a nectar pouch. It is similar to *R. argyrophyllum*, differing in its broader leaves, more intensely coloured flowers and its eglandular (not glandular) ovary.



R. pingianum. Photo: Garth Wedemire.

B. Subsection *Neriiflora* (44 species, 7 described)

This is a complex subsection with plants that are prostrate shrubs to small tree; with thin, tomentose branchlets; often peeling, brownish bark; a loose inflorescence often hanging between the leaves; a fleshy flower with five nectar pouches, and ten stamens. This subsection has many species that often grow together in the wild, merging and hybridizing freely, creating a confusing and uncertain taxonomy. The subsection is allied to subsection *Thomsonia* but the species are generally smaller in all their parts. Many species here make good garden plants for cooler areas, but they dislike hot summers, need excellent drainage, and dislike being fertilized. Cox and Cox (1997) group the species into alliances, *Haematodes*, *Mallotum*, *Sanguineum*, *Forrestii*, and *Neriiflorum*, whereas McQuire and Robinson (2009) suggest four main groups, *Forrestii*, *Haematodes*, *Neriiflorum* and *Sanguineum*, with *R. mallotum* in the *Haematodes* group. Here I utilize the latter classification.

Group 1. Forrestii Group (3 species, 1 described)

(dwarf creeping or compact shrubs less than 70 cm (26 in) high, with small, glabrous leaves or with a thin discontinuous indumentum)

R. forrestii

Group 2. Haematodes Group (9 species, 3 described)

(leaves with a thick, woolly brown or cinnamon indumentum and usually broadly or oblong obovate)

R. haematodes

R. mallotum

R. piercei

Group 3. Neriiflorum Group (5 species, 1 described)

(shrubs or small trees, ovary slender and usually tapered into the style, leaves small and mostly glaucous (have a bloom), papillate (pimpled) beneath)

R. neriiflorum

Group 4. (Sanguineum Group (9 species, 2 described)

(ovary impressed, i.e., not tapered into the style, with a thinner indumentum than the Haematodes Group)

R. dichroanthum

R. sanguineum

Species Details

Group 1. *Forrestii* Group (3 species, 1 described)

R. forrestii (Epithet: after George Forrest)

Growing to 45 cm (1.5 ft) high and with lateral stems to 60 cm (2 ft), this prostrate species from SE Tibet, NW Yunnan and NE Myanmar has dark green, rigid, leathery rounded leaves 0.6-3.2 cm (0.25-1.25 in) long, that on the underside may be green or a deep purple-pink (a form of persistent immaturity). Flowers are solitary or in pairs, and are fleshy and scarlet



R. forrestii Repens Group. Photo: Jens Birck.

to crimson with a densely glandular ovary. This is a magnificent species but it requires careful siting for success, such as a steep bank away from the sun but not in shade or it will not flower. There is considerable variability in freedom of flowering and quality of flowers between clones. Some growers distinguish between the Repens Group (prostrate) and Tumescens Group (mound-forming).

Group 2. *Haematodes* Group (9 species, 3 described)

(leaves with a thick, woolly brown or cinnamon indumentum and usually broadly or oblong obovate)

R. haematodes (Epithet: blood-like)

This species from NE Myanmar and NW Yunnan is 0.3-1.2 m (1-4 ft) high and has two subspecies, *haematodes* and *chaetomallum*. The bark is light to red-brown, and the former has tomentose branchlets, while the latter subspecies' are bristly. Leaves are smooth on top with a dense, bistrate woolly, fawn to rufous indumentum. Trusses have 4-12 flowers, which are fleshy and



R. haematodes subsp. *haematodes*.
Photo: Coen Zonneveld.

scarlet to crimson. Subsp. *haematodes* is generally hardy, low and prostrate and is one of the finest and most popular low-growing species, but requires good drainage and a site away from hot sun for best results. Subspecies *chaetomallum* has somewhat rugulose (somewhat wrinkled) leaves with their upper surface with

some persistent tomentum, and is often taller with a looser habit and paler and rougher leaves than subsp. *haematodes*. It is not as good a garden plant, and tends to be shorter-lived.

R. mallotum (Epithet: woolly)

Growing to 1.5-4.6 m (5-15 ft), this NE Myanmar and W Yunnan species has roughish, flaking, purplish-grey to grey-green bark and large, stiff leaves that are dark green and rugose (wrinkled) on their upper surface and with a unistrate dense woolly cinnamon-brown indumentum beneath. Trusses have 7-15 flowers, which are fleshy, crimson to cherry-red, with nectar pouches. Blooming is

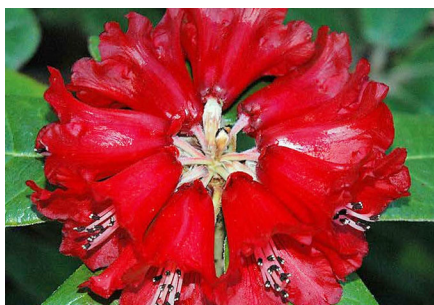


R. mallotum. Photo: Everard Daniel.

in March-April. This species is so distinctive from the other *Neriiflora* species that its taxonomic placing is sometimes questioned, as it has similarities to plants in subsection *Falconera*, namely its early flowers, a tree-like habit, and large, rugose, thickly-indumented leaves. It is an excellent foliage plant, but flowering early, its flowers may be frosted in colder areas. The RSF states “A species known for its stunningly beautiful foliage. ...one of the finest species in the genus. Best in light shade with good drainage.”

R. piercei (Epithet: after Mr. and Mrs. Lawrence Pierce, Washington, USA)

This 1.2-1.5 m (4-5 ft) high Tibetan species tends to be a spreading, straggly shrub with leaves that are shiny and rugulose at maturity, with a thick, woolly, brown, continuous, bistrate indumentum beneath. Trusses have 6-8 fleshy crimson flowers with nectar pouches in March-April. These features make it quite distinctive, and



R. piercei. Photo: Garth Wedemire.

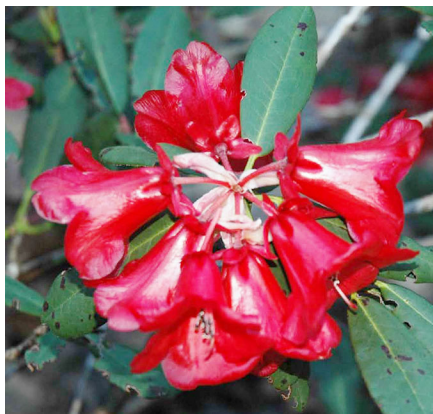
the bistrate indumentum and lack of bristles on its branchlets and petioles separate it from *R. beanianum*, where it was once known as *R. beanianum* var. *compactum*.

Group 3. Neriiflorum Group (5 species, 1 described)

(shrubs or small trees, ovary slender and usually tapered into the style, leaves small and mostly glaucous papillate beneath)

R. neriiflorum (Epithet: with flowers like *Nerium* (oleander))

This 0.6-6 m (2-20 ft) species from W Yunnan, S Tibet and N Myanmar is a compact to loose shrub or small tree with trusses with 5-12 flowers, which can vary in colour from bright scarlet, crimson, rose, straw yellow or tawny orange. It is an attractive species of variable hardiness and is widely planted. There are three recognized subspecies, *neriiflorum*, *agetum* and *phaedropum*. Subsp. *neriiflorum* has flowers in shades of red, and differs from the other species in the group in its usually glabrous (without hairs), glaucous leaf underside, and from subsp. *phaedropum* in its shorter, wider leaves and the absence of glands on the pedicel, calyx and ovary. Subsp. *agetum* has pits and papillae on the lower leaf surface and may not be in cultivation. Subsp. *phaedropum* has red, rose to straw yellow or tawny orange flowers and being a bit more tender than subsp. *neriiflorum*, is not as widely cultivated.



R. neriiflorum subsp. *neriiflorum*. Photo: Garth Wedemire.

Group 4. Sanguineum Group (9 species, 2 described)

(ovary impressed, i.e., not tapered into the style, with a thinner indumentum than the Haematodes Group)

R. dichroanthum (Epithet: with flowers of two colours)

This 0.3-2.4 m (1-8 ft) high species from W Yunnan and N Myanmar has four subspecies: *dichroanthum*, *apodectum*, *scyphocalyx*, and *septentrionale*. Subsp. *dichroanthum* has leaves with a compacted silvery or sometimes fawn indumentum underside with a dark green upper surface. All subspecies have trusses that have 3-8 yellowish-rose, orange,

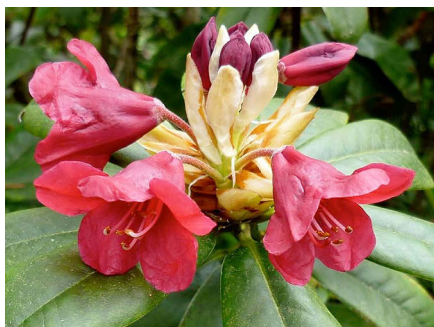


R. dichroanthum subsp. *apodectum*. Photo: Jens Birck.

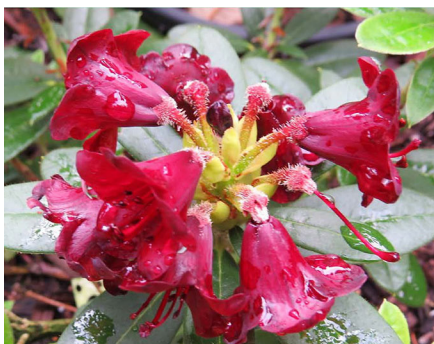
orange-red or pinkish-red flowers with five nectar pouches. Subsp. *apodectum* has the shortest leaves, up to 2.4 times as long as broad, and a somewhat thicker silvery to fawn indumentum. Subsp. *scyphocalyx* has matt obovate leaves and a distinctive cup-shaped calyx, while subsp. *septentrionale* has the longest leaves, more than three times as long as broad. The species flowers from May-late June and is hardy.

R. sanguineum (Epithet: blood-red)

A 0.3-1.5 m (1-5 ft) species from S Tibet and NW Yunnan with narrowly winged petioles; leaves with a thin, continuous, compacted, silvery to grey indumentum; and trusses of 3-6 blackish-crimson, crimson, pink, yellow, or white flowers, with sometimes a mixture of several colours. There are two subspecies, *sanguineum* and *didymum*, with the former having five varieties. Botanical differences between all are slight, differing primarily in flower colour, and so are difficult to separate out of flower. Some plants may even be hybrids. Between the subspecies, *sanguineum* flowers are deep crimson, carmine to scarlet, with a densely hairy, eglandular ovary, blooming from March to May, whereas *didymum* flowers are black-crimson to dark crimson with a densely glandular ovary and blooming from June to July.



R. sanguineum subsp. *sanguineum*.
Photo: Gerdy Van der Lans.



R. sanguineum subsp. *didymum*. Photo:
Rinus Manders.

C. Subsection Pontica (19 species, 10 described)

Species here are prostrate, compact and bushy shrubs to open and upright small trees to 12 m (39 ft), with leaves fairly smooth and not rugose. Trusses are 5-30 glowered, with an unusually long rachis, resulting in a tall truss. Flowers have a corolla that is deeply lobed to half its length, with ten stamens, except for *R. degronianum* var. *heptamerum* which has 14. This subsection has the widest distribution of the genus, stretching from W and E North America to Europe and W and E Asia and Japan. The tall truss and erect pedicels and capsules are the subsections most distinctive features, and the subsection is most closely related to subsection *Argyrophylla* through *R. adenopodum*. The subsection has several of the hardiest, most heat-tolerant and most easily grown rhododendrons, with the result that they have been used extensively in hybridizing.

Group A. (leaf underside always glabrous)

R. catawbiense

R. hyperythrum

R. macrophyllum

R. ponticum

Group B1. (Leaf underside not glabrous, indumentum thin)

R. brachycarpum

R. maximum

Group B2. (Leaf underside not glabrous, indumentum thick)

R. degronianum

R. makinoi

R. smirnowii

R. ungeri

Species Details

Group A. (leaf underside always glabrous)

R. catawbiense (Epithet: after the Catawba River, North Carolina, USA)

This 1-3 m (3-10 ft) shrub from North Carolina and Virginia, USA, has an 8-20 flowered, usually compact truss with flowers usually lilac-purple but occasionally pinkish or white with faint olive-green spots, flowering from May-June. It has a more domed growth than its relatives *R. macrophyllum*, *R. maximum* and *R. ponticum*, and while similar to *R. brachycarpum*, the latter has much more pointed growth buds. It is very hardy and has been used to create a range of “ironclad” hybrids suitable for severe climates.



R. catawbiense. Photo: Harold Greer.



R. 'Catawbiense Boursault'. Photo: Harold Fearing.

R. hyperythrum (Epithet: reddish below)

This is a distinct species not closely related to other species in this group. Coming from northern Taiwan, it grows 1-2.5 m (3-8 ft) high and has recurved leaves whose undersides have minute brownish punctuations (dots). Its 7-12 flower truss has white and rarely pinkish flowers, with or without purple spots. It flowers in April-May, and is an attractive, free-flowering species that is both cold and heat tolerant.



R. hyperythrum. Photo: Harold Fearing.

R. macrophyllum (Epithet: with big leaves)

This is the only large-leaved (6.5-17 cm (2.6-6.7 in) rhododendron species found in western North America, where it grows 1.8-3.7 m (6-12 ft) high and occurs from coastal California to British Columbia, Canada. It has 9-20 white, pink, rose or rose-purple flowers with reddish-brown or yellowish spots in its truss, and flowers from May to June. Unfortunately, many have found it is not an easy plant to grow, even in gardens in its native range, but the

RSF states “Great in the woodland or in areas that are hard to keep irrigated. Tough and easy once established in the woodland garden.”



R. macrophyllum. Photo: Harold Fearing.

R. ponticum (Epithet: from the Pontus, Asia Minor (the northeastern Turkish region on the Black Sea))

This 2-5 m (3-15 ft) species is native chiefly to the Caucasus and northern Turkey, but also Lebanon and a few isolated sites in Spain and Portugal. Its trusses are 6-20 flowered, usually upright and compact, with flowers in June-July of pale to deep lilac-pink to pinkish-purple to lavender or mauve, greenish-yellow spotted or blotched. It is easily distinguished



R. ponticum. Photo: Hans Eiberg.

from its American relatives by being almost completely glabrous, and with no indumentum. This species is a serious problem in the UK where it has naturalized extensively, especially in wetter areas, and because it is capable of regrowth from the roots and stems, it is proving extremely difficult to eradicate, which has led to rhododendrons in general receiving bad publicity there. Outside the UK, this species is rarely a problem as it does not tolerate severe weather well and is susceptible to *Phytophthora* root rot. There are quite a few selected extreme and atypical forms in cultivation which are likely hybrids, as the species crosses easily with many other garden rhododendrons.

Group B1. (Leaf underside not glabrous, indumentum thin)

R. brachycarpum (Epithet: with short fruit)

This 1.2-3 m (4-10 ft) high species from Japan and Korea forms a round and compact shrub in sun, and is distinguished by its yellow or pale green petiole and midrib and its pointed vegetative buds. The 8-21 flower truss has white or flushed pink flowers with green spots in June-July. Its leaves have a thin brown or fawn continuous indumentum, and while a



R. brachycarpum Tigerstedtii Group
Photo: Harold Fearing.

hardy species, its new growth comes early and is easily damaged by frost. The flowers are usually small compared to the size of the leaves, which may be somewhat hidden in the young new growth. There are two subspecies, *brachycarpum* and *fauriei*, but they overlap extensively in range and may not be justifiable. Included in subsp. *brachycarpum* is the cultivated Tigerstedtii Group, which has a greater stature, faster growth, larger leaves and its wider corolla. These plants are among the hardiest of all rhododendrons, having tolerated -45° C (-49° F) in Finland.

R. maximum (Epithet: maximum)

This 1.2-3.7 m (4-12 ft) high hardy species (sometimes a tree to 12 m (40 ft)) from eastern Canada south along the Appalachian Mountains to Georgia, USA, is distinctive because of its large, comparatively narrow leaves, usually with a thin indumentum; its glandular branchlets, petioles and flower parts; and its late flowering in June-July. Its 12-30 flowered truss has flowers of white, pink, rose or rose-purple, usually blotched yellow or greenish-yellow. It is commonly cultivated in eastern North America.



R. maximum . Photo: Harold Fearing.

Group B2. (Leaf underside not glabrous, indumentum thick)

R. degronianum (Epithet: after M. Degron, Director of the French Posts in Yokohama in 1869)

From central and southern Japan, this 0.6-2.5 m (2-8 ft) shrub has recurved leaves deep green glabrous on their upper surface, with a felted fawn to rufous indumentum on their lower surface. Trusses are 6-15 flowered, with five or seven lobed, soft pink to rose, occasionally white, flowers. There

are three subspecies, *degronianum* (five-lobed corolla), *heptamerum* (seven-lobed corolla) and *yakushimanum* (five-lobed corolla), with the former differing from subsp. *yakushimanum* by having a less persistent indumentum, which in the latter is thicker on the stems, midrib, and entire lower leaf surface. Subsp. *heptamerum* is a variable form from isolated mountains, with three recognised varieties.

R. makinoi (Epithet: after T. Makino, a Japanese botanist)

This 1-2.4 m (3-8 ft) high Japanese species has densely woolly branchlets, persistent perulae (leaf bud scales that cover the leaves before their emergence), and distinctive, linear, lanceolate, recurved leaves retained for 4-5 years that have on their upper surface a loose, white tomentum at first, later glabrous, and on their lower surface, a dense, tawny, bistrate indumentum. Trusses in April-May have 5-8 pink, rose or off-white flowers, with or without crimson spots. *R. roxieanum*, especially var. *oreonastes*, can have equally narrow leaves but *R. makinoi* differs in having persistent perulae, young growth with tomentum on its upper leaf surface,

and paler indumentum on its lower leaf surface. Although not the easiest species to grow, it has unusual foliage and is an attractive garden plant.



R. degronianum subsp. *yakushimanum*.
Photo: Harold Fearing.



R. makinoi. Photo: Harold Fearing.



R. makinoi leaves. Photo: Harold Fearing.

R. smirnowii (Epithet: after M. Smirnow, a friend of the discoverer)

This very hardy 0.5-6 m (1.8-20 ft) high species from NE Turkey and adjacent areas of the Caucasus in Georgia and Russia has branchlets with a white, felted tomentum, perulae that is persistent for some years, a dense, whitish, woolly tomentum on the upper leaf surface of new growth, and a thick, woolly fawn or pale brown indumentum on the lower leaf surface. Trusses are 6-15 flowered with pink to rose-purple flowers, with

or without brown to yellow spots, in May-June. Closely related to *R. ungeronii*, from which it differs in its smaller leaves, a deeper-coloured indumentum, deeper-coloured, earlier flowers fewer to the truss and a smaller calyx. It is one of the hardiest rhododendrons and is particularly suitable for NE North America and Scandinavia.

R. ungeronii (Epithet: after Baron F. von Ungern-Sternberg, Professor at Dorpat)

This 1-6 m (3-20 ft) high species also from NE Turkey and adjacent areas of the Caucasus in Georgia and Russia differs from *R. smirnowii* as described above, with which it often hybridizes in the wild. Its trusses have 12-30 pale rose, pink or white flowers, with or without pale green spots, in June-July. It is a fine foliage plant useful for its late blooming, and unlike *R. smirnowii*, thrives and flowers well in shady locations.



R. smirnowii. Photo: Harold Fearing.



R. ungeronii. Photo: Harold Fearing.

Acknowledgements

Thanks to Steve Hootman for his careful, constructive edits.

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6. The Smaller Subsections of Section *Ponticum* Subgenus *Hymenanthes*

(Modified from the Journal American Rhododendron Society 75: Winter 2021)

(Photos are from Garth Wedemire, except those from identified photographers.)

Species of *Rhododendron* in subgenus *Hymenanthes*, section *Ponticum*, are the plants that most people recognize as rhododendrons, being elepidote (lacking scales) and evergreen with relatively wide, leathery leaves. In previous articles (Jamieson 2019a,b; 2020a,b), I discussed species in section *Ponticum* subsections that had relatively large numbers of cultivated species (*Argyrophylla*, *Fortunea*, *Falconera*, *Grandia*, *Neriiflora*, *Pontica* and *Taliensia*), and here in this last article on the elepidotes in the Rhododendrons for Beginner's series, I discuss the more commonly cultivated species in 14 subsections that have a relatively small number of species in them: *Arborea*, *Auriculata*, *Barbata*, *Campanulata*, *Campylocarpa*, *Fulgensia*, *Fulva*, *Glischra*, *Griersoniana*, *Irrorata*, *Lanata*, *Maculifera*, *Thomsonia* and *Williamsiana*. Species between these subsections are not particularly closely related, and are distributed mostly in SE Asia.

There have been no JARS articles written specifically about most of the species in each of these three subsections, although some articles (e.g., Valder 1978, Blake 1985, Harvey 1985) have singled out species in the different subsections for some of their desirable features, notably their indumentum, tolerance to high or low temperatures, small size and/or resistance to weevils in hybridizing. Other articles (e.g., Smith 1994) showcase specific gardens, or at least parts of gardens, such as the Crarae Garden, Inveraray, Scotland, that have some of these subsection's species. A few other articles look at specific species and some of their hybrids (e.g., Headlam 1983 for *R. griersonianum*), but most species in the subsection's listed Species descriptions in this article were derived from McQuire and Robinson here are only casually mentioned either in field explorations or as among other rhododendron species in garden culture

Species descriptions in this article were derived from McQuire and Robinson (2009), Cox and Cox (1997) and the RSF website. The more commonly available species are shown in red font.

Subgenus *Hymenanthès*

Section *Ponticum* (24 subsections, about 304 species)

1. *Arborea* - 12
2. *Argyrophylla* - 12
3. *Auriculata* - 20
4. *Barbata* - 6
5. *Campanulata* - 4
6. *Campylocarpa* - 7
7. *Falconera* - 14
8. *Fortunea* - 27
9. *Fulgensia* - 1 (*R. fulgens*)
10. *Fulva* - 4
11. *Glischra* - 11
12. *Grandia* - 15
13. *Griersoniana* - 1 (*R. griersonianum*)
14. *Irrorata* - 16
15. *Lanata* - 6
16. *Maculifera* - 14
17. *Neriiflora* - 44
18. *Parishia* - 5
19. *Pontica* - 19
20. *Selensia* - 8
21. *Sherriffii* - 3
22. *Taliensia* - 49
23. *Thomsonia* - 15
24. *Williamsiana* - 24 (*R. williamsianum*)

Section *Pentanthera* (2 subsections, 18 species)

1. *Pentanthera* - 17
2. *Sinensia* - 1 (*R. molle*)

Section *Ponticum* (Selected species, species in red font more available)

Subsection *Arborea*

R. arboreum

Subsection *Auriculata*

R. auriculatum

Subsection *Barbata*

R. argipeplum

R. barbatum

R. erosum

R. exasperatum

Subsection *Campanulata*

R. campanulatum

Subsection *Campylocarpa*

R. souliei

R. wardii

Subsection *Fulgensia*

R. fulgens

Subsection *Fulva*

R. fulvum

Subsection *Glischra*

R. adenosum

R. habrotrichum

R. recurvoides

Subsection *Griersoniana*

R. griersonianum

Subsection *Irrorata*

R. aberconwayi

R. irroratum

Subsection *Lanata*

R. tsariense

Subsection *Maculifera*

R. morii

R. pachysanthum

R. pseudochrysanthum

R. strigillosum

Subsection *Thomsonia*

R. stewartianum

R. thomsonii

R. sherriffi (Note: sometimes in subsection *Sherriffi* - see comments on p. 187)

Subsection *Williamsiana*

R. williamsianum

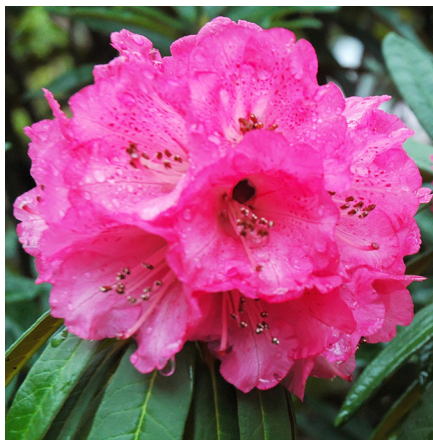
Species Details

Subsection *Arborea* (one of five species described)

Species here are tree-like, with rugose (wrinkled) leaves that have a shiny or matt indumentum that leaves the leaf veins visible. Trusses are rounded and compact and flowers have nectar pouches.

R. arboreum (Epithet: tree-like)

This is a complex species with a number of subspecies and varieties related to their geographical source, having a disjunct distribution over much of India and the Sino-Himalayan region. Subsp. *arboreum* from northern India, Nepal, and Bhutan is a shrub or tree 1.2-8 m (4-60 ft) high with leaves that have a thin-plastered or sometimes woolly indumentum. Trusses are a compact 15-20, deep crimson to red flowers. Subsp. *cinnamomeum* from Nepal has



R. arboreum var. *cinnamomeum*.

leaves with a cinnamon indumentum and white to pink or carmine flowers, while its variety *roseum* has a fawn, more compacted, paler indumentum. Confusingly, var. *roseum* now includes white forms, formerly var. *album* but now forma *album*, which have a white corolla with purple spotting in the throat. Subsp. *delavayi* var. *delavayi* from Yunnan and Upper Myanmar has leaves with a brown or fawn, more spongy indumentum and deep crimson to scarlet flowers, and is more tender than subsp. *cinnamomeum* but hardier than subsp. *arboreum*. Its var. *peramoenum* from Yunnan and Assam has deep rose-crimson to black-crimson flowers and narrower leaves, and var. *albotomentosum* from Mt. Victoria in Myanmar is a neat plant with small, compact, scarlet, unspotted trusses. Subsp. *zeylanicum* from Sri Lanka has crimson to pink flowers, although it is very variable in the wild with extreme forms having flatter leaves or a whitish indumentum. It flowers relatively late, in June to July, and is relatively tender. Subsp. *nilagiricum*, from southern India, is intermediate between subsp. *delavayi* and *zeylanicum*, having narrower, less rounded leaves than the latter subspecies. Although rare in cultivation, it tolerates hot, dry climates well.

Subsection *Auriculata* (one of two species described)

The two species in this subsection are small trees that have hairy, sticky young growth, with non-shiny leaves that have scattered, sometime non-persistent, hairs on their underside, and a seven-lobed corolla.

R. auriculatum (Epithet: eared)

This 1.8-10 m (6-33 ft) high species from Sichuan and Guizhou, China, has long, conical-shaped foliage buds, leaves glabrous on the upper surface and isolated, long, thread-like hairs and glands on their lower surface. Leaf bases are auriculate (eared). Trusses have 6-15, white, rose-pink or creamy-white fragrant flowers with a greenish blotch at their base that flower relatively late, i.e., in July to August.

This is a distinctive species, identified by its long, vegetative buds, auricled leaves, general stickiness of its branchlets, leaves and flowers, and its very late flowers and growth. On the negative side, although hardy during the winter and is summer heat tolerant, it can be impacted by early fall frosts because its late growth remains soft well into autumn, and its late new growth can also be affected by summer drought.



R. auriculatum. Photo: Bjorn Roepstorff.

Subsection *Barbata* (four of six species described)

These species are shrubs or small trees, with smooth, flaking, red to brown bark. Young shoots and leaf petioles are usually barbed, leaves are rugulose (somewhat wrinkled) and almost always strongly concave. Trusses are compact, and flowers have nectar pouches and are usually red.

R. argipeplum (Epithet: with a white-covering)

This shrub or tree from Sikkim and Bhutan is 1.2-7.6 m (4-25 ft) high with smooth reddish or brown flaking bark and dark green, long oblong-lanceolate or oblanceolate, rugulose, convex, glabrous leaves with a thin, woolly discontinuous indumentum in small patches or shreds, white at first but darkening with age. This indumentum differentiates it from *R. barbatum*. The compact truss has 10-19, scarlet or crimson flowers, with flowering from February to April. All plants with rounded leaves, recently called *R. argipeplum*, are now considered to be *R. erosum*.



R. argipeplum. Photo: Mark Joel.

R. barbatum (Epithet: bearded)

From Nepal, Sikkim and Bhutan, this 2.4-18 m (8-60 ft) high species has smooth reddish or brown flaking bark and dark green, somewhat shiny leaves that are pale green underneath, with a bristly petiole. Compact trusses have 10-20, crimson or scarlet flowers, with flowering from February to April. This species is variable in the density and length of its bristles, and in some these are actually absent. It's a fine, easily-grown species, but needs wind protection. Closely related to *R. argipeplum*, it differs in the absence of indumentum on the lower leaf surface.



R. barbatum.

R. erosum (Epithet: eaten away)

This 2.4-9 m (8-30 ft) high, fairly compact species from S Tibet has smooth brown flaking bark, glandular branchlets, and oval to oblong-obovate leaves with a densely or moderately woolly, continuous or discontinuous hair indumentum. Petioles are often bristly, and often glandular. Trusses have 10-15 deep crimson, scarlet or rose-pink flowers in March to April, and flower-bud scales are sticky. It includes plants with rounded leaves formerly designated as *R. argipeplum*, but differs from this species in its larger, wider leaves with a pronounced cordulate (round lobed) base. It differs from *R. exasperatum* in its less bristly branchlets and in the presence of an indumentum rather than bristles on the lower leaf surface, and from *R. argipeplum* in its larger, wider leaves with a pronounced cordulate base. It is a fine foliage plant, with copper to plum-coloured new growth.



R. erosum. Photo: Rhododendron Species Foundation.

R. exasperatum (Epithet: rough)

A 1.5-4.5 m (5-15 ft) high species from SE Tibet, Assam and N Myanmar with smooth, brown flaking bark and young growth that is bronzy brown to light reddish pink. Rounded smooth obovate or oval, large, stiff, dark green, convex, glabrous leaves have a waxy, slightly glaucous upper surface and a lower surface with scattered bristles. Trusses are very compact with 10-15 brick red, scarlet or rose-pink flowers and persistent, sticky flower-bud scales, and an often glandular pedicel. This distinct species characterized by its large, wide, stiff leaves, glandular bristly on their lower surface, can be distinguished from *R. erosum* by its persistent perulae and more colourful young growth. Although a fine foliage plant, its new growth comes early and can be affected by frosts.



R. exasperatum. Photo: Bent Ernebjerg.

Subsection *Campanulata* (one of four species described)

These shrubs have rough bark, elliptic or ovate leaves with a brown, felted indumentum that partly or wholly obscures the veins, and mauve-tinged or white trusses without nectar pouches.

R. campanulatum (Epithet: bell-shaped)

This species from Kashmir to Bhutan has two subspecies, *campanulatum* and *aeruginosum*. Subsp. *campanulatum* is 03.-5.5 m (1-18 ft) high with elliptic to oblong-oval, dark green leaves with a thin, suede-like, brownish, continuous, unistrate (one layer) indumentum. Petioles are purple, and trusses of 6-12 flowers have shades of mauve or lilac, and are rarely white.

The smaller, generally lower-growing subsp. *aeruginosum* from Sikkim and Bhutan is 0.3-2.8 m (1-9 ft) high with bluish-green, smaller, more convex leaves that have a metallic lustre (bloom) when young, and a thick, smooth, somewhat silky, bistrate (two layers) indumentum. Trusses have 8-18 lilac, rose, purplish or pink flowers. Both subspecies flower from April to May. Both subspecies are desirable plants, although the more western, large-leaved forms of subsp. *campanulatum* are the most handsome and have the best flowers.



R. campanulatum subsp. *aeruginosum*.

Subsection *Campylocarpa* (two of seven species described)

These species have usually glandular branchlets, small, roundish leaves that are glabrous on both sides, and white, pink or yellow flowers that are campanulate (saucer-shaped).

R. souliei (Epithet: after Pere J.A. Soulie, Tibetan French Foreign Mission)

A 1-5 m (3-16 ft) high Sichuan species has glabrous leaves and trusses of 5-9 pink, rose, deep rose or white-tinged pink flowers, usually without a small crimson blotch. Flowering is in May to June. It is one of the most attractive species in flower, but needs

perfect drainage and protection for its early spring growth and grows best in cool climates with low rainfall.



R. souliei.

R. wardii (Epithet: after F. Kingdon-Ward, collector and explorer)

This species from Yunnan Tibet and Sichuan has two varieties, *wardii* and *puralbum*. Var. *wardii* is a 0.6-7.5 m (2-25 ft) plant with a bowl- or saucer-shaped, yellow to lemon-yellow flowers, with or without a crimson blotch, in a truss of 5-24 flowers, and a style that is glandular to its tip. The Litiense Group in this variety used to be considered a separate species but no

longer, as intermediates exist, although the extremes are quite distinctive. It has yellow or pale yellow flowers without a blotch in a truss of 5-7 flowers, and is one of the best medium-sized yellow flowered species. Var. *puralbum* is often smaller, being only 1.5-4.6 m (5-15 ft) high and has pure white or rarely ivory-white flowers in a truss of 5-8 flowers. Both varieties flower in May-June.



R. wardii.

Subsection *Fulgensia*

R. fulgens (Epithet: shiny)

This rounded compact shrub 0.6-4.5 m (2-15 ft) high species from Nepal, Sikkim, Bhutan and Assam has smooth, reddish brown flaking bark and shiny leaves with cordate bases and a thick, woolly reddish brown or dark brown continuous indumentum. Trusses of 8-14 deep blood-red, crimson, cherry red, deep scarlet or scarlet flowers, with five black-red or deep crimson nectar pouches; flowering is in March to April. McQuire and Robinson (2009) note

that this species' closest relatives are in subsection *Barbata*, from which it differs in its relatively thick indumentum and the absence of bristles. It is a desirable species, although flowers are on the small side and it flowers early. Out of flower it could be confused with *R. campanulatum*, but it differs in its smooth bark.



R. fulgens. Photo: Rhododendron Species Foundation.

Subsection *Fulva* (one of two species described)

These large shrubs or small trees have leaves with a dense matt grey to brown indumentum and pink or white flowers, usually with a basal blotch.

R. fulvum (Epithet: tawny)

This species has two subspecies, *fulvoides* and *fulvum*, with the former a 1.2-7.6 m (6-25 ft) plant from Yunnan, Tibet and Assam. Both subspecies are similar, but *fulvoides* has a granular (spotted) yellowish, fawn or spotted indumentum and leaf upper surfaces that are matt and somewhat rugulose. Its white or white flushed with rose or pink flowers, with or without a crimson blotch and spots, are in a truss of 8-20 flowers. Subsp.

fulvum has flowers that are white, pink or rose, usually with a crimson blotch, on a plant that is 1- 12 m (3-40 ft) high, leaves with a shiny upper surface. It is a desirable plant, free-flowering when mature. Both subspecies flower in March to April. Subsp. *fulvum* is considered to have the better foliage, but both subspecies are desirable plants when well-grown.



R. fulvum.

Subsection *Glischra* (three of eleven species described)

These shrubs or small trees have rough bark, densely glandular young shoots, rugulose leaves with the underside of leaves at maturity having bristles at least on the midrib. Flowers almost always have a basal blotch.

R. adenosum (Epithet: glandular)

This 2-5 m (6-16 ft) high species from Sichuan has relatively small leaves for the subsection, which are recurved and an upper surface that is roughish to the touch, and an underside that is moderately or densely glandular (hairy). Trusses have 4-8, white-tinged pink or white flowers, with or without crimson spots, in April to May. This is a relatively new, free-flowering species at maturity that is worth growing.

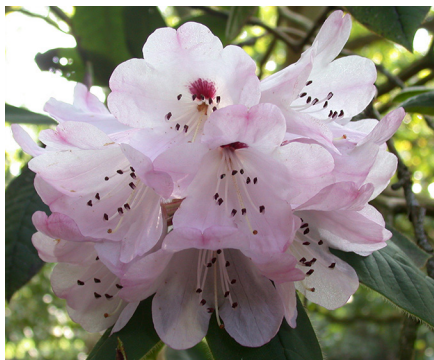


R. adenosum.

R. habrotrichum (Epithet: with soft hairs)

This 1-3.7 m (3-12 ft) high species from Yunnan, Myanmar and Tibet has branchlets rather densely crimson-purple with reddish-purple bristles, and recurved, oblong/ovate leaves. Petioles are also rather densely crimson-purple, setose (bristly with stiff hairs) and glandular. Trusses have 8-15 pale to deep rose, white or white suffused with crimson or rose flowers in April-May. This species is one of the

finest in the subsection for both foliage and flower, flowering from quite a young age, but does require good drainage. It has crimson-purple leaf/branchlet glands (hairs) and much wider leaves than *R. adenosum*.



R. habrotrichum. Photo: Hans Elberg.

R. recurvoides (Epithet: resembling *R. roxieanum* var. *oreonastes*)

This smaller species (0.6-1.5 m (2-5 ft) high) species from Myanmar is much more densely growing and with the smallest leaves in the subsection. Leaf bud scales are persistent, and leaves are rugulose and shiny, with a thick, woolly, yellowish-brown or dark brown indumentum. Petioles are densely bristly, and trusses of 4-7, rose, white or white suffused with pink

flowers have reddish spots in April-May. This species has only been collected once, by Kingdon-Ward in 1926, and may be a natural hybrid, and is one of the finest dwarf species for foliage, rarely reaching one m (three ft) in cultivation. It is very distinctive from other lower-growing species with its bristly stems, pedicels and petioles.



R. recurvoides.

Subsection *Griersoniana* (one species)

R. griersonianum (Epithet: after R.G. Grierson, friend of George Forrest)

This 1.2-3 m (4-10 ft) high species from Yunnan and Myanmar is a lax, upright shrub with long, conical and tapered foliage buds and long matt leaves, with a thick, woolly fawn or brown indumentum that is easily rubbed off. Trusses of 5-12, bright geranium-scarlet or rich carmine, almost vermilion or bright rose, flowers are hairy of the outside, with flowering in June to July, and even August if shaded. The whole plant appears hairy, especially on the new growth. This is a distinct species with no close relatives, identifiable by its long, conical vegetative and flower buds, narrow leaves with a long petiole, and late, red flowers. However, it is not very hardy and its late growth is vulnerable to early autumn frosts. It has been used extensively in hybridizing.



R. griersonianum.

Subsection *Irrorata* (two of sixteen species described)

Shrubs or small trees that have long leaves relative to their width, with an acuminate (tapering to a point) tip, and usually five-lobed flowers without nectar pouches.

R. aberconwayi (Epithet: after the first Lord Aberconway, former President of the RHS)

This 0.3-2.5 m (1-8 ft) high species from Yunnan has remarkably rigid leaves that have tips almost stiff enough to prick the hand. Leaf margins are strongly recurved and there is a whitish, matt, indumentum punctuate with minute red glands. Trusses have 5-12, white or white suffused with pink flowers, which have a few crimson spots and no nectar pouches. Flowering is April to May. One of the finer lower-growing species, it is distinctive with its stiff



R. aberconwayii 'His Lordship'.

habit, saucer-shaped white flowers and its rigid, leathery leaves. Clones with large, strongly spotted flowers are most desirable.

R. irroratum (Epithet: covered with dew, i.e., minutely spotted)

This species has three subspecies: *irroratum*, *pogonostylum* and *yiliangense* (formerly Ningyuenense Group, which was sometimes referred to as both *R. irroratum* subsp. *kontumense* and *R. ningyuenense*). Subsp. *irroratum*, the most commonly cultivated subspecies, is a 1-9 m (3-30 ft) high plant from Yunnan, with rigid leaves that have a matt, sometimes whitish, glabrous



R. irroratum 'Polka Dot'.

underside with minute red glands. Trusses are 8-15, yellowish-white, creamy yellow, deep rose or pink flowers, with or without a blotch and with or without deep purple, greenish or crimson spots. Its ovary is glandular, its calyx is fringed with glands, and there are five nectar pouches, and flowering is March to May. Subsp. *pogonostylum* is similar except that it has a floccose (with soft woolly hairs) calyx and hairy ovary. It has a more southerly distribution than subsp. *irroratum* and is less cold hardy but more heat tolerant. Subsp. *yiliangense* has a minutely pubescent (hairy) ovary, a glandular calyx, a somewhat shiny leaf underside, and yellow flowers. This is quite a variable species, with intermediate forms between the subspecies, and its early flowering makes it vulnerable to late frosts.

Subsection *Lanata* (one of six species described)

Shrubs with densely tomentose (hairy) branchlets and relatively small leaves that have a thick brownish indumentum that obscures the veins.

R. tsariense (Epithet: from Tsari, SE Tibet)

This species shows considerable variation in size and leaf shape over its range in the wild. There are three varieties recognized: *tsariense*, *trimoense*, and *magnum*. Var. *tsariense* is a 0.6-3.7 m (2-12 ft) plant from Bhutan, Assam and SE Tibet with small, roundish leaves and a thick, woolly rust-coloured or cinnamon



R. tsariense.

indumentum of hairs. Trusses have 2-5 pink, white or white-suffused pink flowers, with or without red spots. Var. *trimoense* has a pale cream, pale fawn or almost white indumentum, and var. *magnum* is larger with larger leaves than var. *tsariense* and could be confused with *R. flinckii* except for its thick indumentum. Flowering for the first two varieties is March to May, and from April to May for var. *magnum*. This is a fine, slow-growing species, suited for the small garden, with great foliage.

Subsection *Maculifera* (four of fourteen species described)

Shrubs or small trees with floccose (soft wooly hairs), young growth, leaves with indumentum on the underside midrib at maturity, and sometimes elsewhere too.

R. morii (Epithet: after U. Mori, collector in Taiwan)

This 1.5-7.6 m (5-25 ft) high species from Taiwan is somewhat similar to *R. irroratum* but has on the underside of its leaves a floccose (hairy) glandular midrib. Trusses are 5-15, white to white suffused with rose flowers with a crimson blotch and spots, and flowering is from April-May. One of the most free-flowering species from quite an early age, it is easy to grow



R. morii.

and fairly robust. It is easily distinguished from *R. pachysanthum* as the latter has a thick, woolly indumentum over the whole lower leaf surface.

R. pachysanthum (Epithet: with thick flowers)

This is a compact, rounded 1-1.2 m (3-4 ft) high shrub from Taiwan with the upper surface of young leaves having a densely silvery white tomentum, becoming browner as the tomentum persists. The leaf margin is recurved, with the underside covered with a thick, woolly cinnamon-coloured or rusty-brown, continuous, persistent indumentum. Trusses have



R. pachysanthum.

11-20, white flowers with crimson spots, with flowering in April to May. This is a widely cultivated species and is easily identified by its distinctive leaf shape,

thick indumentum and persistent tomentum. It is a great foliage plant, and is compact especially when young.

R. pseudochrysanthum (Epithet: false *R. chrysanthum* (now *R. aureum*))

This 0.3-3 m (1-10 ft) high species from Taiwan has small, stiff leaves, shiny beneath with a pale floccose midrib. Trusses are 8-10 white, white suffused with pink, or pink flowers with deeper rose lines outside, with crimson spots. Flowering is from April to May. This is an excellent and widely grown species, with clones varying greatly in height. The dwarfest forms are slowest to start flowering, and the species needs light shade and low fertilizing to avoid leaf tip burning. It is distinguished by its thick, leathery, pointed leaves, indumentum only on the midrib and its characteristic flowers.

R. strigillosum (Epithet: with short bristles)

A 2-7 m (6-23 ft) high species from W Sichuan, this species has bristly foliage and usually flat-topped flowers that can be crimson, scarlet, rose-pink or rarely white. Leaf and flower buds are both sticky and leaves beneath are densely setulose (covered with small bristles) with a bristly midrib, and petioles are densely bristly. Flowering is from February to April. This is a fine, early-flowering red species with distinctive bristly foliage, but needs protection because of its early flowering and growth.



R. pachysanthum 'Buckskin'.



R. pseudochrysanthum.



R. strigillosum.

Subsection *Thomsonia* (three of fifteen species described)

Shrubs or small trees with smooth, peeling bark, generally rounded leaves that are either glabrous (no hairs) or with a thin indumentum, flowers with nectar pouches, and a usually prominent calyx.

R. sherriffii (Epithet: after Major G. Sherriff, plant collector)

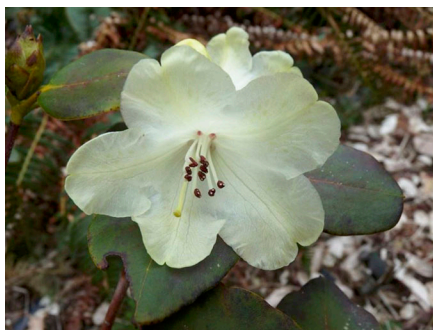
This 1.5-6 m (5-20 ft) high species from Southern Tibet is listed in this subsection by Chamberlain *et al.* (1996), but was placed in Section *Ponticum*, Subsection *Sherriffii* Series by McQuire and Robinson (2009), who felt it was significantly distinct from Subsection *Thomsonia* because of its thick indumentum. However, I'm showing it in *Thomsonia* as the ARS at present follows Chamberlain *et al.*'s (1996) classification. This species has relatively small leaves with a thick, woolly, cinnamon-brown indumentum, with stem and branches with a smooth, brown, flaking bark. Trusses have 3-6, rich, deep crimson flowers with five nectar pouches, with flowering in March to April. Easily recognized by its neat, rounded leaves with distinctive indumentum and its small trusses of pendant flowers, reminiscent of *R. cinnabarinum* Roylei Group, it is however somewhat difficult to grow as it lacks in vigour and is hard to please.



R. sherriffii. Photo: Jens Birck.

R. stewartianum (Epithet: after L.B. Stewart, a former Curator of the RBG, Edinburgh)

A 0.6-3 m (2-10 ft) high plant from SE Tibet, NW Yunnan and NE Myanmar, this species either has no indumentum or just a thin veil of hairs on the underside of leaves. Trusses have 3-7 pure white, or white suffused with rose, yellow, creamy-white, pink, pale rose, purple or sometimes brilliant red



R. stewartianum.

or crimson flowers, with flowering in February to April. Another early flowering species that may need protection, this species is quite variable in flower colour, with many forms being relatively unattractive. It is relatively rare in cultivation, as it is short-lived, lacks in vigour and is susceptible to powdery mildew.

R. thomsonii (Epithet: after T. Thomson, former Superintendent of the Calcutta Botanic Garden)

A 1-6 m (3.5-20 ft) high species from Nepal, Sikkim, Bhutan, Assam and SE Tibet that has oval leaves with no indumentum, trusses with 6-10 or rarely 12-13, deep blood red, deep crimson, crimson or very deep rose lax flowers with five nectar pouches. The calyx is cup-shaped, yellow,

whitish-green or flesh-coloured to crimson, and is very attractive with the flowers. Flowering is April to May. There are two subspecies, *thomsonii* and *lopsangianum*, with the former differing in its greater size, longer leaves and larger calyx. It is easily distinguished from other species by its peeling bark, orbicular leaves, blood-red flowers and its persistent calyx. It is widely grown and very attractive, but forms vary in hardiness and may need shelter from winds and late frosts, and it is susceptible to powdery mildew.



R. thomsonii.

Subsection *Williamsiana* (one species)

R. williamsianum (Epithet: after J.C Williams, of Caerhays, Cornwall)

This compact, rounded or spreading shrub 0.6-1.5 m (2-5 ft) high species from Sichuan has small, rounded, leathery leaves with cordate (two large lobes forming a deep recess) or truncate bases, and no indumentum. Lax trusses have 2-3 (rarely up to 5), rose or pink flowers, with or without spots, with flowering in April to May.

This is a very distinctive species which can only be confused with its hybrids, which typically have larger leaves with more pointed leaf tips. This is a very desirable species for both foliage and flowers and does best when grown in the open, where it forms a neat, dense bush.



R. williamsianum.

Acknowledgements

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7. Sections *Rhodora* and *Viscidula*, Subgenus *Hymenanthès*, and the Azaleas in Subgenus *Azaleastrum* and *Choniastrum*

(Modified from the Journal American Rhododendron Society 74: Fall 2020)

(Most photos from *Hirsutum.info*)

Azaleas in subgenus *Hymenanthès*, section *Pentanthera*, were previously discussed (see p. 100) but there are many other azalea species within the genus *Rhododendron*. There are a few deciduous species but many of the remaining ones are evergreen azaleas, sometimes known as Japanese azaleas, which are very popular and are ideal for any size of garden from a window box to a large estate. Most of these azaleas grow to 60-75 cm (2-2.5 ft) in ten years, while others, such as *R. nakaharae*, are prostrate, and are excellent for cascading over walls or out of tubs.

Evergreen azaleas form such a persistent part of European and North American landscapes that we tend to think of them as being native to this part of the world. In actuality, they are a more recent introduction to many of our gardens, though a large number of cultivars (man-made introductions) were introduced early in the past century. There are no native evergreen azaleas in North America and most evergreen species occur naturally in eastern Asia from Japan, the Ryukyu Islands, Taiwan, Korea, China, Vietnam, and the Philippines. Evergreen azaleas are classified in subgenus *Azaleastrum*, which includes about 90 species. They offer a wide variety of size, form, color, bloom time, habitat, and characteristics so that in defining an evergreen azalea, it is best not to deal in absolutes, as you can always find exceptions to the general rules in this group (Azalea ARS Chapter website).

The best definition of an evergreen azalea is the primary description of it always having foliage to some degree. Actually, in many, there are two sets of leaves: (1) spring leaves which are thinner and larger, are usually along the stem, and which turn yellow and fall off in the fall, and (2) summer leaves that are smaller, thicker, more terminal and which persist over the winter, depending on the clone (ancestry) and the weather. Thus, the leaves are termed dimorphic (two types), each type lasting just long enough to keep the evergreen appearance of the azalea, in distinct contrast to the deciduous types of azaleas that lose all foliage during

late fall and winter. Climatic conditions, cultural conditions, and the genetics of each plant all affect the amount of foliage retained, as each species has its limits of what it can endure (Azalea ARS Chapter website).

Most evergreen azaleas, species and hybrids, are marketed commercially as shrubs, and this would be an apt description for their original planting. In ten-years-time, though, depending on climatic conditions and the specific species or cultivar, a small shrub can grow considerably larger, and in twenty or thirty years reach the size of a small tree. Kurume azaleas that look so dainty with their small leaves can in time reach a height of 3 m (ten feet) or more. Southern Indian (*R. indicum*) varieties can grow even taller and spread out even farther, so it is necessary to understand the size that can be reached in ten years or more to determine just how and where to plant these azaleas in a landscape. Every hybrid group contains exceptions and so, for example, not every Satsuki azalea remains low and spreading in its growth habit.

Fortunately, most evergreens adapt well to pruning and can be kept to an appropriate size in a landscape, though if you prefer to not lose the blooms for one year, trimming should be done in late spring after flowering but before the next year's buds set. Adaptability to pruning has been proven to the extreme over the centuries by the Japanese, who developed, for example, numerous cultivars and employed severe pruning of evergreen azaleas to resemble small buns of green growth that reflected images of rocks along garden pathways in classic Japanese gardening style. Many times, large overgrown azaleas can be cut back almost to the ground and come back to reach the desired size in several years. It's maintaining the root system that counts, as any bonsai artist will attest!

Historically, the first evergreen azaleas to enter North America came from China and Japan via Europe in the 1830s as green house plants, the thought being that the plants were tender and required protection. By 1848, *R. indicum* (Indian) varieties were being planted at Magnolia Plantation near Charleston, SC, and were flourishing outdoors. The Fruitland Nursery (aka Berckman's) in Augusta, GA, was instrumental in propagating and spreading the use of the Southern Indian hybrids in the Southeast USA. As more varieties of evergreen azaleas reached Europe and America, more hybrid groups were developed. Greenhouse varieties from the Belgian nursery industry became widespread, so that the name Belgian Indica was applied to tender, forcing varieties. Kurume hybrids were introduced to the U.S. in 1915 and by E. H. Wilson in 1917 with his importation of fifty selected plants (Wilson's Fifty) from the Oishi Gardens near Kurume, Japan, and western names were added to help in their assimilation. Over time, other groups of hybrids were imported by various nurserymen, the U.S. Department of Agriculture, and a number of distinguished English plant explorers. Major additions to the growing lists of available evergreen azaleas were provided by the hybridizing efforts of Joe Gable, B.Y. Morrison, Julian Chisolm and Dr. E.A. Merritt, Orlando Pride, Tony

Shammarello, and Peter Girard, just to mention a few, all of whom worked in the 1940s, '50s, and '60s. Hybridizing efforts continue to the present day through the work of Joe Klimavicz, Robert B. Stewart, Pete Vines, Sandra MacDonald, Nuccio Nurseries, James Harris, and many more who are still providing fresh introductions. Perhaps, the most interesting new developments follow the re-blooming hybrids of Buddy Lee with the highly successful Encore® series, as well as more re-blooming developments from the Bloom-a-Thon® azaleas of Bob Head and the autumn-blooming Harris introductions from the McCorkle Nursery (Azalea ARS Chapter website).

The current taxonomic structure for *Rhododendron* accepted by the ARS (Chamberlain *et al.* 1996) is morphological, and is based on the work of Hermann Sleumer and David Chamberlain. It was derived by comparing, species by species, the characteristics of homologous plant parts, such as the leaf, the inflorescence and the seed. In contrast, a new taxonomic system proposed by Goetsch *et al.* (2005) is based on the characters present at homologous positions in the same gene, more particularly whether that position contains an A, G, C or T in the chemical structure of the gene (Nelson 2006, 2021).

Goetsch *et al.* (2005) proposed a revised taxonomic system that reduced the number of subgenera from eight to six. Subgenus names *Rhododendron*, *Hymenanthes*, and *Azaleastrum* were retained, although the latter was considerably broadened in content. They proposed that the subgenus designations *Pentanthera*, *Candidastrum* and *Mumeazalea* be discontinued, since the species within them were reassigned or other subgenera. Additionally, they proposed that section *Choniastrum* be a separate subgenus, since its species were the only ones in Clade A that have no lepidote scales.

Their research showed that all rhododendrons in the current classification, with the exception of *R. camtschaticum*, fall within three “clades,” or monophyletic groups. They found the current subgenus *Rhododendron* to be monophyletic and they referred to it as “Clade A.” It includes current sections *Rhododendron*, *Pogonanthum* and *Schistanthe*, as well as the former genus *Ledum*.

“Clade B” includes the current subgenus *Hymenanthes* plus the current section *Pentanthera* and *R. canadense* (in the Edinburgh Revision, section *Pentanthera* was included in the subgenus *Pentanthera*), while the remaining taxa of subgenus *Pentanthera* were moved to Clade C.

“Clade C” includes the current sections *Azaleastrum*, *Tsutsusi*, *Brachycalyx*, *Rhodora*, *Sciadorhodion*, and *Nipponicum* as well as the subgenera *Mumeazalea* and *Candidastrum* and the former genus *Menziesia*.

The reality, however, is that while most of the changes proposed by Goetsch *et al.* (2005) are generally accepted by many rhododendron experts, much of the existing rhododendron literature was published before 2005 and so doesn't reflect these later studies, and few laypeople have read or even understand the

recent research conducted on gene characteristics. In the following, I have largely adopted the changes proposed by Goetsch *et al.* (2005) but as can be seen below in my comment in Section *Rhodora*, because the main taxonomic reference recognized by the ARS is Chamberlain *et al.* (1996), in some cases I have still utilized that system, with caveats.

Species descriptions are derived from McQuire and Robinson (2009), Cox and Cox (1997) and the ARS and RSF websites.

Species Details

A. Subgenus *Hymenanthes*

1) Section *Pentanthera* (see p. 100)

- a) Subsection *Pentanthera*
- b) Subsection *Sinensia*

2) Section *Rhodora* (two species *R. canadense* and *R. vaseyi*) (the former species moved to subsection *Pentanthera* and the latter moved to section *Sciadorhodion* (see p. 194), which then became a new section of subgenus *Azaleastrum*).

The corollas in species from this section are divided almost to the base, so are two-lipped. The two species have only this in common, and are not closely related. Leaves are scattered and not in whorls and flowers are not fragrant. As per below, this section is no longer recognised but is mentioned here since much of the older published literature does.

R. canadense (Epithet: from Canada)

This 0.3-1.2 m (1-4 ft) high species, often referred to as *Rhodora*, from northeastern North America has 3-6 rose-purple flowers in its inflorescence, which open before the leaves in April to May. There is also a white form, termed f. *albiflorum*.



R. canadense. Photo: Hans Eiberg.



R. canadense f. *albiflorum*. Photo: Hans Eiberg.

Note: The distinct floral structure resulted in “*Rhodora*” being treated as a distinct genus at one time. Treating it as such though resulted in the remainder of the genus *Rhododendron* being paraphyletic (a group is paraphyletic if it consists of the group’s last common ancestor and all descendants of that ancestor). However detailed phylogenetic analysis revealed that the genus *Rhodora* was not a distinct entity, but was rather polyphyletic (derived from more than one common evolutionary ancestor or ancestral group and therefore not suitable for placing all in the same taxon), and it was disassembled, each species being allocated to other sections. *Rhododendron canadense* was moved to section *Pentanthera*, subgenus *Hymenanthus* (see p. 100). Section *Rhodora* is no longer recognised) and *Rhododendron vaseyi* (see p. 197) was moved to section *Sciadorhodion*, which then became a new section of subgenus *Azaleastrum* (Goetsch et al. 2005). However, Chamberlain et al. (1996) placed both species together, so this section is mentioned here.

3) Section *Viscidula* (one species)

R. nipponicum (Epithet: from Japan)

An unusual deciduous azalea from central Japan with striking large obovate leaves in whorls. Beautiful deep chocolate brown, smooth and peeling bark and bright reddish-purple fall foliage color. The flowers appear as pendulous white, unspotted bells in a 6-15 flower inflorescence. It grows best in light shade or the woodland garden and is hardy to at least -5° F (-21° C).



R. nipponicum. Photo: Jonny Larsen.

B. Subgenus *Azaleastrum*

This subgenus initially included two sections, *Choniastrum* and *Azaleastrum*, but Goetsch et al. (2005), elevated *Choniastrum* to subgenus rank after cladistic analysis revealed that it along with subgenus *Rhododendron* formed a major clade, distinct from other sections of subgenus *Azaleastrum*, and simultaneously, sections *Sciadorhodion* and *Tsutsusi* were added to subgenus *Azaleastrum*, providing a new total there of three sections. *Azaleastrum* sections are:

- 1) Section *Azaleastrum* (4 species)
- 2) Section *Sciadorhodion* (4 species)
- 3) Section *Tsutsusi* (~81 species)

Species Details

1) Section *Azaleastrum*

The four elepidote species in this section are usually small shrubs to two m (6.5 ft) in cultivation, but may be up to eight m (26 ft) in the wild. Branchlets are usually slender, their young growth brightly coloured, flowers singular, ovary bristly and with five stamens. They are generally rare in cultivation, with *R. ovatum* being most available.

R. hongkongense (Epithet: from Hong Kong)

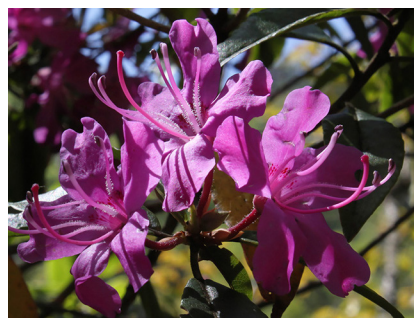
This tender, 1.2-1.5 m (4-5 ft) high species from Hong Kong and Guangdong, China, has crimson-purple young leaves and singular, sometimes fragrant white flowers with crimson spots. It flowers from March to April and according to the RSF, is hardy to -9° C (15° F).



R. hongkongense. Photo: Red Cavender.

R. leptothrium (Epithet: with thin leaves)

This 60 cm to 7.5 m (2-25 ft) shrub from Yunnan and upper Myanmar has reddish young growth and singular, pale pink to deep magenta-rose flowers, with or without crimson spots. It flowers from April to May and is hardy to -15° C (5° F).



R. leptothrium. Photo: Jan Brodersen.

R. ovatum (Epithet: egg-shaped)

A 1-3 m (3-10 ft) shrub is relatively widely distributed, ranging from central China to Taiwan, and is a very widespread and variable species. Its new growth is reddish-brown and is singular flowers 2.5-5 cm (1-2 in) across range in colour from white to pale purple, with or without pink or darker spots. It flowers from May to June and is moderately hardy to -15° C (5° F).



R. ovatum. Photo: Scottish Rhododendron Society.

R. vialii (Epithet: after Pere Paul Vial, of the French mission in Yunnan) ARS

A 1.2-4.5 m (4-15 ft) shrub from Yunnan, this species has a tubular crimson to pink corolla, with the tube longer than the lobes. It flowers from January to March and is also moderately hardy to -15° C (5° F).



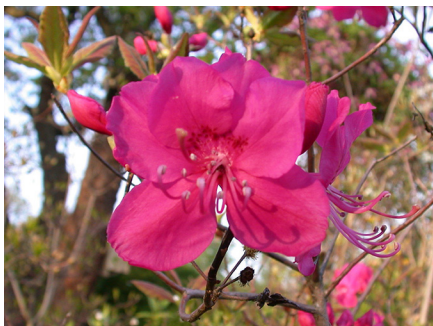
R. vialii. Photo: Hank Helm.

2) Section *Sciadorhodion*

Species in this section have more or less obvate leaves in clusters or whorls of five at the ends of the branches, a zygomorphic corolla (flowers of irregular shape that can be divided into two equal halves along only one vertical axis), and ten stamens

R. albrechtii (Epithet: after M. Albrecht, Russian navel surgeon)

This Japanese shrub grows 1-2.5 m (3-8 ft) high and has leaves with both surfaces densely strigose (stiff hairs lying flat). Its red-purple to deep rose flowers, with olive-green spots, occur 2-5 in a truss, and open before or with the leaves. It is a choice plant and well worth having.



R. albrechtii. Photo: Hans Eiberg.

R. pentaphyllum (Epithet: with five leaves)

This Japanese shrub to small tree is 1.8-7.5 m (6-25 ft) high and has leaves that can be either strigose or not strigose. Its inflorescence has 1-2 bright rose-pink flowers, sometimes with brown flecks on the upper three lobes, and it flowers from March to May.



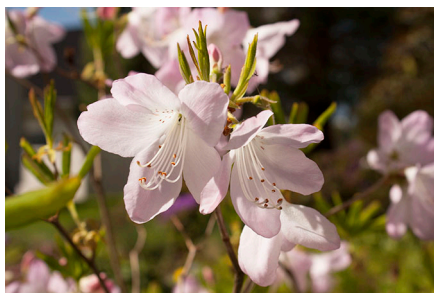
R. pentaphyllum. Photo: Hans Eiberg.

R. quinquefolium (Epithet: leaves in fives)

See section *Tsutsusi*, subsection *Brachycalyx* (p. 199 below), where it has now been moved to. It's mentioned here, as some older literature places it here.

R. schlippenbachii (Epithet: after Baron A. von Schlippenbach, a Russian naval officer and traveler)

This choice Korean shrub 1-5 m (3-16 ft) high has young shoots with long-staked glands, later eglandular (no glands), and an inflorescence with 3-6 pale to rose-pink to white flowers in April to May. The flowers open before the leaves, and the species is larger in all its parts than species in the rest of the section. After flowering, it might be confused with the equally large-leaved *R. nipponicum*, but the leaves are alternate in that species.



R. schlippenbachii. Photo: Sonja Nelson.

R. vaseyi (Epithet: after G.R. Vasey, its discoverer)

This is a large, upright deciduous azalea from the Appalachian Mountains of North Carolina, USA, with distinctive elliptic leaves tapering to a point at each end, and which have brilliant red fall foliage color in most regions. The widely funnel-shaped white to pale pink flowers have orange to reddish-brown spots and are beautiful in shape, poise and color. It flowers in the early to mid-spring, can tolerate temperature to -29° C (-20° F) and although easily cultivated and quite common where it occurs naturally, the Pinkshell Azalea has a very limited range in the wild.



R. vaseyi. Photo: Hans Eiberg.

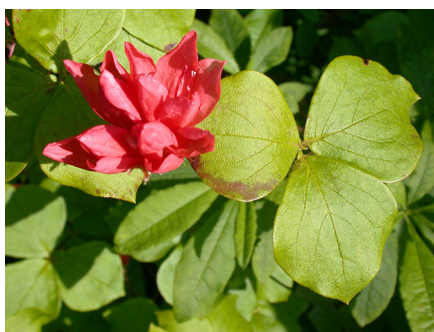
3) Section *Tsutsusi*

a) Subsection *Brachycalyx* (16 species (9 discussed))

These species have deciduous leaves that are pseudoverticillate (pseudowhorls, a circle of leaves that look like a whorl, but with the leaves emerging from separate axils) and rhombic (diamond-shaped), with leaves and flowers clustered at the shoot apex. Stamens almost always 10, with wild species found mainly outside China. Flowers may appear before or after the leaves. As with subsection *Tsutsusi*, the taxonomy of this group needs revision, with especially plants of *R. reticulatum* in cultivation potentially representing a number of species, subspecies or forms.

R. amagianum (Epithet: from Mt. Amagi, Japan)

This shrub up to 5 m (16 ft) high from Hondo, Japan, has leaves that are rhombic (diamond-shaped) or rhombic-ovate, and while this species is similar to *R. weyrichii* in having red flowers and similar shaped leaves, it differs in that both its petioles and leaf midribs are densely villose (hairy) dorsally and in its scarlet or brick-red flowers with darker spots opening after



R. amagianum. Photo: Hans Eiberg.

leaf emergence from June to July. In contrast, the petioles of *R. weyrichii* are only sparsely pubescent, the leaf midribs are pubescent on both surfaces and later glabrescent (no hairs), and the flowers open before or with the leaves.

R. decandrum (Epithet: with ten stamens)

This species differs primarily from *R. dilatatum* by having twice as many (10) stamens (sometimes only seven to nine) and its native distribution is more southern than that of *R. dilatatum*. It has magenta spotted flowers from April to mid-May.



R. decandrum. Photo: Takato Natsu.

R. dilatatum (Epithet: spread out, referring to the flowers)

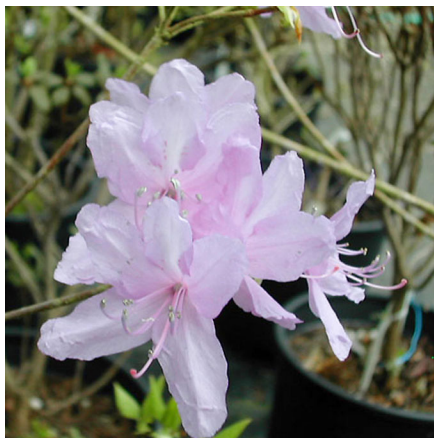
R. dilatatum is distributed principally in central Honshu and in Hokkaido, Japan, and is the only taxon in section *Brachycalyx* that has five stamens. It has purple to rose-purple spotted flowers.

R. quinquefolium (Epithet: leaves in fives)

This 1.2-7.6 m (4-25 ft) high species is only found in Honshu and Shikoku, Japan. It flowers after leaf emergence from early May to mid-June, with flowers that are white, spotted red brown. It is a distinctive species with obovate leaves in a whorl of five clustered at the tops of young shoots, resembling *R. pentaphyllum* except that its leaves are elliptic. *R. quinquefolium* has sometimes been recognized as a member of section *Sciadorhodion* and is similar to two other members of section *Sciadorhodion*, *R. pentaphyllum* and *R. schlippenbachii*, in having five leaves forming a whorl at the tip of the branches. However, both the flowers and leaves of *R. quinquefolium* emerge from the same mixed buds, and for this reason is listed here as a member of section *Brachycalyx* (Jin *et al.* 2010).

R. farrerae (Epithet: after the wife of Capt. Farrer, East India Co., 1829)

This tender deciduous species occurs in China (Hong Kong, Hunan to Fujian) and in southern Honshu, Japan, and is sometimes referred to as “Mrs. Farrer’s rhododendron.” It grows to 0.3-3 m (2-10 ft) high and has pale to deep rose to violet flowers with red purple spots from late March to mid-May. It is rare in cultivation.



R. dilatatum. Photo: Hank Helm.



R. quinquefolium. Photo: Hans Eiberg.



R. farrerae. Photo: Hong Kong Herbarium.

R. nudipes (Epithet: naked, referring to the petiole)

This 1.2 m (4 ft) species from Honshu and Shikoku, Japan, has attractive salmon-pink flowers with darker markings, usually in pairs, that appear before the rounded leaves in April. It is a rare but appealing species, but needs some shelter, especially when young.



R. nudipes. Photo: Hans Eiberg.

R. reticulatum (Epithet: netted, referring to the venation)

This 1-3 m (3-10 ft) high Japanese species has deciduous leaves in whorls of 2-3 at the end of the branchlets. Its inflorescence has typically 1-2, rarely 3-4, purple to reddish purple flowers, unspotted or with dark purple blotches, which open before the leaves emerge. Many species from different regions are recognised that are related to this species, but the taxonomy of plants in cultivation is confusing, such as between this species and *R. decandrum*, *R. nudipes*, and *R. wadanum*.



R. reticulatum. Photo: Knud Jørgensen.

R. wadanum (Epithet: ?)

This species is endemic to Honshu, Japan, and its rich pink to red or white flowers occur from mid- to late May, with the flowers opening before or with the emergence of leaves. It is similar to *R. farrerae* in its three-whorled leaves and 1- or 2-flowered inflorescences, but differs in that its style has glandular trichomes (hairs).



R. wadanum. Photo: S. Perkins.

R. weyrichii (Epithet: after Dr. Weyrich, a Russian naval surgeon)

This species from Honshu, Shikoku and Kyushu, Japan, as well as from southern inland Korea, flowers from mid-April to mid-May, with its red, rarely purple or white, flowers opening before or with leaves. Similar to *R. amagianum*, it differs in having young leaves with brown pubescence and sparsely pubescent petioles, whereas *R. amagianum* has petioles and leaf midribs that are densely villose dorsally.



R. weyrichii. Photo: Hans Eiberg.

b) Subsection *Tsutsusi* (~65 species, 9 described))

These plants represent the evergreen or “Japanese” azaleas. These plants are prostrate to occasionally large shrubs, 0.2-3 m (0.7-10 ft) high. Leaves dimorphic, typically with the spring leaves larger and deciduous while the summer leaves are smaller and evergreen, although there are some species with monomorphic, evergreen leaves. Flowers one or a few come from a terminal bud, with leaves emerging from the lower axils, and multiple buds may create an inflorescence of up to 15 flowers. Corollas may occur in all colours except yellow, and stamens are usually 5-10.

Most of the species are not hardy in northern temperate climates, and thousands of hybrids have been developed over hundreds of years for both houseplants, especially from the tender *R. simsii*, and for the garden to produce floriferous small shrubs. Typical forms of the “pure” species are thus now almost impossible to describe and are seldom found even in large collections. Thus, in the following, as with McQuire and Robinson (2009), only species that can be separated easily by the average person or that are especially garden worthy are listed.

i) Species recognisable from the foliage alone

R. nakaharae (Epithet: after G. Nakahara, a Japanese collector)

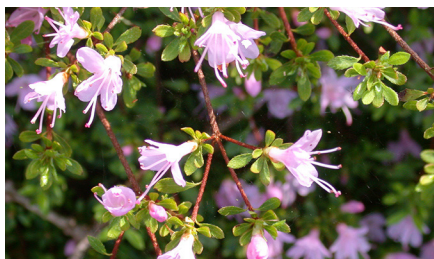
Native to northern Taiwan, it is a low shrub that grows to 10-60 cm (0.3-2 ft) in height with red flowers in a 1-3 flower inflorescence. The cultivar 'Mount Seven Star' is a slightly stronger growing form with bright brick-red flowers in June and fuzzy-hairy, deep green glossy leaves that densely cover its spreading stems. It is beautiful little ground cover with cold and heat tolerance that is easy to grow in sun or light shade.



R. nakaharae. Photo: Hans Eiberg.

R. serpyllifolium (Epithet: with leaves like *Thymus serpyllum*)

This low, 60-90 cm (2-3 ft) high hardy shrub from central and southern Japan has slender, densely brown strigose shoots and deciduous, thin, tiny leaves mostly crowded at the end of short branches. Its mostly single rosy-pink, bright rose-red, or white, small flowers occur in April to May. This is a delightful species in cultivation.



R. serpyllifolium. Photo: Hans Eiberg.

***R. stenopetalum* 'Linearifolium'** (Epithet: linear leaves)

Native to southern Honshu and Shikoku, Japan, and previously called *R. macrosepalum*, this is a low evergreen shrub, with leaves that are 3-5 mm (0.13-0.2 in) wide by 5 cm (2 in) long and pink or lavender-pink flowers. The long and narrow, hairy leaves are matched by the similarly-shaped lavender petals of the flowers in mid-spring, making this an



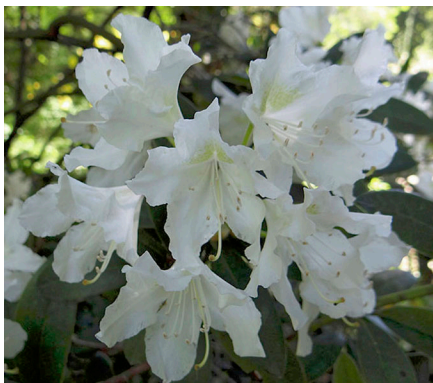
R. stenopetalum 'Linearifolium'.
Photo: Glen Jamieson.

amazing foliage plant. Another *R. stenopetalum* cultivar is 'Kochozoroi', similar to the familiar 'Linearifolium' but has normal sized, very fuzzy leaves and the floral petals are quite a bit wider and are an unusual, but very distinct and attractive, creamy-green with a pink stain at the base.

ii) Species requiring flowers for identification - Stamens 10

R. × '**Mucronatum**' (Epithet: pointed, referring to the calyx lobes (this well-known plant has been cultivated in Japan for about 300 years. It has not been found in the wild and so cannot be allowed a specific status)).

Native to China, this shrub grows to 1–1.8 m (3–6 ft) in height with evergreen leaves and flowers that are white, pink, or pale red in a 1-3 flower inflorescence. It is slightly fragrant to most people, and is sometimes labelled with the old name "*Azalea ledifolia*".



R. × '*Mucronatum*'. Photo: From <https://commons.wikimedia.org>

R. yedoense var. *poukhanense*
(Epithet: from Mt. Poukhan-san, Korea)

This 0.6-1.8 m (2-6 ft) Korean shrub, sometime low or prostrate in exposed situations, is a densely branched, compact shrub in shaded areas. Its branchlets have strigose (stiff flat) hairs on new shoots, but these are almost glabrous (without hairs) next season. Its leaves are deciduous in cold climates or semi-deciduous and dimorphic (two different forms, typical of evergreen azaleas) in milder ones. Its inflorescence is terminal with 2-4, rose to pale lilac-purple flowers with flecks, and fragrant, which open with or before leaves.



R. yedoense var. *poukhanense*. Photo: Hans Eiberg.

The name *R. yedoense* was given in 1886 to a double-flowering garden cultivated form of a wild Korean azalea. It is unfortunate that the single flowered var. *poukhanense* is treated as a variety of a double-flowered cultivated form.

iii) Species requiring flowers for identification - Stamens 5

R. indicum (Epithet: Indian)

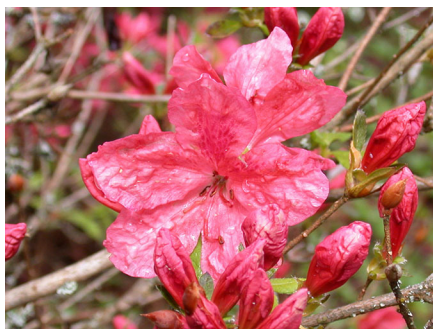
This 0.5-1.8 m (2-6 ft) high shrub from Honshu and Kyushu, Japan, is evergreen or semi-evergreen with small, dimorphic leaves. Its inflorescence has 1-2, 3.5-5 cm (1.4-2 in) bright red to scarlet flowers in June-July. It is used to make late-flowering red hybrids, and cultivated forms, some of which may be hybrids, include 'Balsaminiflorum' (double salmon-red flowers), 'Crispiflorum' (deep rose or red flowers with frilled petals) and 'Variegatum' (flowers striped red and white).



R. indicum. Photo: S. Henning.

R. kaempferi (Epithet: after E. Kaempfer, who wrote about Japanese plants around 1700)

This 30 cm-3 m (1-10 ft) Japanese shrub is evergreen or semi-evergreen with small, dimorphic leaves. Its inflorescence has 2-4, 2.6-3.8 cm (1-1.5 in) salmon red, brick-red or some other shade of red flowers in May-June. Flowers are larger than those of *R. kiusianum* and there are many hybrids cultivated with pink, purple, red or white flowers.



R. kaempferi. Photo: Hans Eiberg.

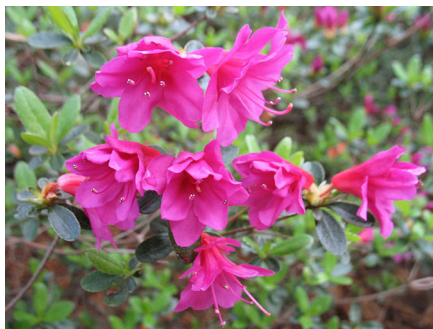
R. kiusianum (Epithet: from Kyusu, Japan)

This is a low (0.3-1 m, 1-3 ft), hardy, dense, many branched, often prostrate, hardy Japanese shrub from Kyusu. Its inflorescence has 2-3, 1.5-2 cm (0.6-0.8 in), rose-purple, red, pink or white flowers in May-June. It is evergreen or semi-evergreen with small, dimorphic leaves.



R. kiusianum. Photo: Hans Eiberg.

***R.* × ‘*Obtusum*’ ‘*Amoenum*’** (Epithet: blunt) This low shrub to one m (3 ft) is a long cultivated and beautiful old Japanese hybrid with bits of *R. kiusianum* and *R. kaempferi* and who knows what else in its genes. Vivid magenta flowers in a 1-3 flower inflorescence in mid-spring on a dense-growing evergreen azalea that in time develops into a wider than high specimen. It is easily grown, tough and hardy. It has both small flowers and leaves in comparison to most modern hybrids, but is very floriferous.



R. × ‘*Obtusum*’ ‘*Amoenum*’. Photo: Missouri Botanical Garden.

iv) other species

R. simsii (Epithet: after J. Sims, first editor of “Magazine Botanique”)

Native to East Asia, where it grows at altitudes of 500–2700 m (1640-8860 ft), this very tender species is common in Hong Kong but also occurs in areas south of the Yangtze River in China, as well as in Vietnam and Thailand. Many hybrids over hundreds of years have been developed from this species for azalea houseplants.



R. simsii. Photo: Hans Eiberg.

C) Subgenus *Choniastrum* (11 species, 4 described)

This subgenus was previously a section of subgenus *Azaleastrum* but its species are now recognised as distinct from those in the other sections of *Azaleastrum*. Inflorescences have 1-8 flowers and are axillary in the top 1-3 leaves. The bark is often smooth, young growth tinged red, the calyx minute, the flowers tubular or funnel-shaped, and with 10 stamens.

R. hancockii (Epithet: after W. Hancock, Chinese Imperial Customs)

This 1-4.5 m (3-15 ft) evergreen species is native to Yunnan, China, with a one flower inflorescence axillary in the uppermost 1-3 leaves. Two to three inch, widely funnel-shaped flowers are fragrant white with a basal yellowish blotch, sometimes pink, with flowering in May. It is hardy to about -12° C (10° F).



R. hancockii. Photo: Chris Klapwijk.

R. latoucheae (Epithet: after Madame de la Touche, collector in Fujian, China)

This 1-3 m (3-10 ft) high evergreen species from Guangdong, Jiangxi and Zhejiang, China, has one flower inflorescences auxiliary in the uppermost 1-3 leaves. Flowers are widely funnel-shaped with a short tube, 3.5-4.3 cm (1.5-1.8 in) long, are fragrant and are pink or purplish. It flowers in April-May, is hardy to about -12° C (10° F), and although rare in cultivation, may be mislabelled as *R. wilsonae*.



R. latoucheae. Photo: Steve Hootman.

R. moulmainense (Epithet: from Moulmein, Burma)

This 1-12 m (3-40 ft) evergreen shrub or small tree is native to E India, Myanmar, Cambodia, Malaysia, Southern China, Taiwan and Japan (Okinawa), from 400-3650 m (1300-12,000 ft) elevation, and is quite a variable species. Its leaves are 4-13 cm long, elliptical and leathery, with a curvy margin rolling backward toward the underside. The flowers are fragrant, and are borne on top of the branches in an umbel inflorescence in groups of two to four. Petals are white or pink, with their inner part spotted orange. It flowers from April to May and is hardy to about -12° C (10° F).



R. moulmainense. Photo: Chris Klapwijk.

R. stamineum (Epithet: with prominent stamens)

This distinctive but somewhat tender 1-10 m (3-33 ft) high species from Yunnan, Sichuan, and east to Guangxi has 2-8 flowers in an inflorescence axillary in the uppermost 1-3 leaves. Its white or rose, narrow, tubular-funnel-shaped flowers with a yellow blotch are up to 3.7 cm (1.5 in) long, and it is distinguished by stamens much longer than the corolla. It flowers in April-May and is hardy to about -12° C (10° F).



R. stamineum. Maurice Kupsch.

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