



The Woodies-Part I

Woody Paeonia Species

-Nate Bremer-

This article and others were a part of a series about woody peonies which recently appeared in the American Peony Society's Bulletin. This article does not include images that were printed with the edited feature articles. For complete articles with images, please become a member of the American Peony Society for published version access.

My aim was to present a series of articles focusing on the major groups of woodies in cultivation that may help others grow this uniquely beautiful group of plants. After growing this unusual group of plants intensely for more than 15 years, I've learned much that may be of interest to others wishing to incorporate these wonderful plants into their collections. For the most part, information will be practical, rather than highly scientific. We grow all of our plants outside, without protection, in our USDA Zone 4 gardens and propagation fields. Thus the observations and information that follows may or may not be entirely applicable to all growing situations, but should serve as a good baseline for those that grow or would like to grow 'woodies'.

The species, or plants that occur in the wild are rare in their natural habitats and seldom seen in American gardens for a number of reasons. All originate from east Asian mountainous regions (mostly China) and have somewhat more demanding requirements to grow successfully. Some are not able to withstand our cold winters and others struggle with the excess water in our region at various times throughout the year. The rarity and availability of a number of species has also prevented experience for us. I'm not a taxonomist, but rather a gardener, grower and propagator, thus I won't delve into the complexity of species identification. Hong De-Yuan's¹ and Josef J. Halda/James Waddick's² taxonomic work are good resources for those interested in a more scientific perspective. Other taxonomic sources will include more or less species, but all describe wide variation in the species. What does this mean for the average gardener? Growing a single representation of a species in your garden will only give you a glimpse of the many flower and plant variations within that species. For an eye opening example, read about *Paeonia delavayi*!

Paeonia delavayi. *Paeonia delavayi*, originating from southwest China, is one of the most variable woody species in flower color, form and pattern. It is still relatively common in nature, compared to the other species. The plants are also quite diverse in their stature and growth habits. Previously the species was known as *P. lutea*, referring to the yellow form that has been used extensively in hybridizing. *P. potanini* has also been moved to this species designation, but has many unique characteristics.

¹ Hong De-Yuan (2011): *Peonies of the World: Polymorphism and Diversity*. Kew Royal Botanic Gardens.

² Josef J. Halda with James Waddick (2004): *The Genus Paeonia*. Timber Press, Inc.

Yellow, peach, strawberry red, blood red, near orange and a wide range of intermediate flower colors can be found within this species. The small, 2 to 3.5 inch flowers, which number in 1-5 per stem, may or may not have darker flares. Some variants have large colored anthers that enclose the yellow pollen, quite striking!

Leaves are remarkably ornamental in color, texture and structure. All have deeply lobed leaves, but the variation is great between different specimens. Some have fern-like foliage, while others have rather broad vase shaped leaves which narrow toward their attachment point with the stem. Leaf coloration can be light to deep blue-green. Some variations grow to more than a yard in height, while others are 12 inches or less.

One of our favorite varieties is the dwarf stoloniferous plant once called *P. potanini* 'trolliodes', which grows no more than 8 to 10 inches in height here in Wisconsin. Our plant of this variant now covers more than 12 square feet with many ground shoots being produced throughout the growing season. It's flowers are 2 inches in diameter, bright yellow and produced rather reluctantly. The poor flower production may be due to its lack of stem hardiness in our climate or that it simply is programmed to reproduce vegetatively. We grow a number of other plants under the same name from other sources, but these plants are larger in stature and may simply show the wide range of variation within the 'trolliodes' sub group.

Many *P. delavayi* variants that we grow range in height from 20 to 40 inches, but lack stem hardiness, causing the plants to regrow from basal shoots each spring. *P. delavayi* is half hardy in our climate and requires winter protection. We achieve winter protection by burying the plants with 6 or more inches of wood mulch in the fall of the season, but protruding stems are usually killed by low temperatures. The species is a fast grower, once established, and often produces blooming size plants within 3 or 4 years. Due to this group's rapid and rather robust growth rate, a number of growers have begun sacrificing seedlings for nurse roots for grafting other woody peonies. To date we have not used their rootstock for grafting due to the fact that this species needs protection in Wisconsin. Of all of the species, *P. delavayi* is most resistant to botrytis and is extremely tolerant of intermittent wet conditions, which are the norm for our continental climate.

Soils should be well drained, but retain some moisture as plants often make growth throughout the summer months. A sandy loam topped off with 2 to 4 inches of wood mulch has worked well to keep the plants in good health. We've found that the wood mulch is a good insulator to rapid temperature changes and also serves as a good growing medium as it breaks down. Plants at our farm are grown in both open and semi-shaded locations with excellent results, but should be protected from damaging winds. *P. delavayi* produces multi-stem plants and will grow many basal shoots once established. This plant habit lends itself well to division, although a saw is required to cut the rather woody crown into sections. We primarily grow this species for hybridizing purposes, but also hope to make selections of the species that have greater winter hardiness.

The *P. delavayi* complex are extremely fertile with each other and are relatively easy to grow from seed, but should be germinated indoors in our climate. We recommend fresh seed, as older dry seed has produced poorer results than other woody groups. Seeds tend to germinate

slowly and require a long warm period to produce roots, which our climate does not provide. Seeds are large and fleshy, which may be more susceptible to rotting in cold wet conditions (outdoor planting in Wisconsin often has these conditions). *P. delavayi* is one of the parents used to produce the first generation of the beautiful lutea hybrids.

Paeonia decomposita. *P. decomposita*, once known as ‘*Paeonia szechuanica*’, naturally occurs in the Sichuan and Gansu regions of China, but is rather limited in distribution. In cultivation, the plant is rare in American gardens. Flowers are medium pink, single in form and carried on per stem. Plants produce highly woody stems that have a greyish-black bark. The leaves are complex with secondary laterals that carry many small lobed leaflets. Plants may grow to 40 inches in good conditions.

P. decomposita was recently added to our collection, thus we have little information concerning culture and long term hardiness. Reports from the Kansas City area have been encouraging, where it has been grown for a number of years.

Propagation of this plant will likely require grafting due to its woody habit and scant basal growth. I’m excited to see how this plant will grow for us and look forward to using it to create hybrids with its unusual leaf structure.

Paeonia ludlowii. *P. ludlowii* occurs naturally in the Tibetan region of China and it is threatened by over collection of the roots for traditional Chinese herbal use called ‘mu dan pi’. However, it is common in cultivation and is not in danger of extinction even if lost in its natural habitat.

Plants may attain heights of 15 feet in areas that suit its needs and often cover an area nearly equal to its height. Annual growth may be 4 or more feet and plants produce many basal shoots from a rather stump-like crown. Foliage is wide, pointed, deep green and lobed. In autumn, leaves turn yellow, orange and red, making for an excellent display. *P. ludlowii* is a fine plant in or out of bloom and makes an excellent landscape plant.

It is not easily grown in cold climates and we have been unsuccessful, to date, keeping it alive through winter here in Wisconsin. However, a member of the Wisconsin Peony Society and APS, has successfully grown ‘Luddie’ in a protected area near Madison, Wisconsin for many years. The plant always lost its stems due to winter cold and would rapidly regrow them each growing season. Unfortunately, flowering was severely hindered by these conditions. In Oregon and Washington state, plants are not hindered by cold winters and attain gigantic size.

This large species produces relatively small bright yellow flowers, numbering 3 to 4, held on cymes. The carpels (seed bearing structures) are nearly as interesting as the giant plants. Two carpels stretch outward as the seeds mature to create a winged effect. Seeds are the largest of any of the *Paeonia* (up to ¾”). Like *P. delavayi*, they should be germinated indoors for the same reasons. This is a plant that I long to grow, but will need to observe while on vacations to more suitable climates.

Paeonia rotundiloba. *P. rotundiloba* is found in the Mingjiang Valley of NW Sichuan, China. It is often classified as *Paeonia decomposita subspecies rotundiloba*. Plants look much like *P.*

decomposita as do its flowers. Foliage is a bit broader, but possesses the same fine leaflets as *P. decomposita*. As with *P. decomposita*, this is a new plant in our collection and not much information is known for its culture in Wisconsin. Again, we have high hopes that it will be a good subject for our climate and hybridizing prospects.

Paeonia rockii. Found in a number of locations in central China, *P. rockii* is one of the most showy of the woody Paeonia. At one time this species was considered part of the *P. suffruticosa* complex, but has been elevated to species status as more scientific information became available and its discovery in nature. A number of subspecies of *P. rockii* (*rockii ssp. atava* and *rockii ssp. rockii*) have been identified and are worthy plants for any garden that has the space. All *P. rockii* possess dark basal flares on their petals, have a white sheath and cream-green stigmas (hybrids will often show color). Flower color is white, but reports of rose colored specimens have come from wild populations. Whether the colored flowered forms in the wild are hybrids with nearby cultivated plants is still to be determined. Leaves are made up of widely spaced leaflets and some variants are lobed, while others are more ovate-strap shaped.

P. rockii has proven to be one of the most stem hardy and adaptable of the woody peonies for gardeners with a continental climate. We've had winter temperatures that have gone as low as -35F without stem loss to this species and they have been highly resilient to wet seasons as well. *P. rockii* is a strongly woody peony producing large stems with flaky bark. The floriferous plants bloom a few days after most of the more common *P. suffruticosa* complex plants. Darkly flared flowers are held on strong stems and have a light fragrance. In Wisconsin, plants can range in height from 3 to 6 feet with a strong woody base. Plants do not produce as many ground-shoots as most other woodies and have a more 'trunk-like' base. Plants often take a bit longer to establish than other woodies, but are not of difficult culture and are quick growers once established. The unique leaves are long with many smaller leaflets, making it a texturally unique subject for the garden.

These plants can become quite large over time and leaving extra space around new arrivals in your garden will be filled in as the years pass. Like all woody peonies, it prefers well drained soils and is quite drought resistant.

Of all the species, *P. rockii* is the hardiest and the one I would recommend to start with. This species has very hard wood and plants do not lend themselves well to division, thus grafting is the primary method of propagation. Plants are most often available as seedlings, but may be purchased as grafted individuals.

Hybrids of *P. rockii* crossed with *suffruticosa* are becoming more available now in the United States, but the actual species, not so much. *P. rockii* has a long and interesting history beginning with its apparent introduction to western gardens by plant collector, Joseph Rock, from a lamasery of Choni County in the south of Gansu Province. A number of seeds were grown to adult size and they became known as Rock's Peony or Rock's Variety, among other names. Most are white with dark flares and are quite stunning plants. All of the plants originating from Rock's seeds proved to be hybrids, thus cannot be considered true representations of the species, even though they have a close resemblance.

The Chinese have long been growing and selecting *P. rockii* cultivars which are known as Gansu Mudan in that country. The Gansu Mudan are likely descendants of breeding *P. rockii* with *P. suffruticosa* cultivars, thus cannot be considered the species, but have many of the fine attributes of the species. More about the hybrids at a later date...

Paeonia ostii. Named for Dr. Gian Lupo Ostii, of Italy, *Paeonia ostii* is rare in nature. The Chinese cultivar 'Feng Dan Bai' (often marketed as 'Phoenix White') is thought to be a selection of the species propagated for garden use and is quite beautiful. Stems are brownish-gray and are clad in large pinnate leaves. The leaves are quite unique, as they are ovate and rather strap shaped, without lobes. The solitary 6" flowers are white, but may open a blush pink and are sweetly fragrant. Filaments are a purplish-red, as are the sheath and stigmas, which create a beautiful contrast. Large fields of *P. ostii* descendants are grown in China for the medicinal properties of their roots (mu dan pi), thus the species is not endanger of extinction as it is heavily cultivated.

Plants are vigorous growers, are floriferous and easily hybridize with *P. rockii* and *P. suffruticosa* cultivars. Fertility is so high, that it is not unusual for ripened carpels to produce in excess of 10 seeds each.

In Wisconsin plants grow no more than 3 feet in height and do suffer from our cold and sometimes wet climate, but are worth growing for their beautiful flowers. It is not unusual for our plants to lose all of their stems due to winter kill, only to be quickly replaced by ground shoots as spring temperatures rise. Wet soil conditions are not appreciated by this species and it has been noted that much root loss occurs in rainy spring seasons. A well-drained location is much needed to grow this species to its full potential. *P. ostii* is extremely drought tolerant and will grow in a very dry situation very happily.

Paeonia jishanensis. *Paeonia jishanensis* is rare outside of China, but has been slowly making its way to American collector's gardens. It is not a widespread species in its native China, but is not endangered due to its abilities to make large colonies through stoloniferous reproduction. It is new to our gardens, but appears to be hardy, at least with some protection.

Flowers are white with purplish-red filaments, stigmas and sheath. Petals are ruffled and often do not open completely flat. Plants are relatively short, at 24 to 30 inches in height and are stoloniferous. Leaves are relatively long with lobed leaflets that widen toward the ends.

Since *P. jishanensis* occurs in the wild on gravelly slopes, it would seem wise to replicate that as much as possible in our gardens. Plants graft easily, but seed production has been poor to date. As more time passes I hope to have more cultural information on this unique species.

Paeonia qiui. *Paeonia qiui* (pronounced 'chew-y') is reportedly rare in China's wilds now, but is becoming more common in collector's gardens. In nature it grows on limestone cliffs and outcrops in broad-leaved forests. *P. qiui* may attain heights of 40 inches in nature, probably due to its more protected and shaded habitat. In more exposed positions the plants are shorter, only 24 to 30 inches. The small flowers (4 inches) are a light pink that often have darker midlines near their base. Petals are notched and toothed along their edges. Stigmas are purple, sheath

and filaments are red. Leaves are made up of oblong and somewhat rounded leaflets that may be lobed or unlobed.

While new to our gardens this past year, *P. qiui* appears to be a suitably adapted to our harsh Wisconsin winters. Plants remain short, but healthy, with minimal stem loss from cold. Plants are many stemmed and produce wonderful deeply red tinted foliage through their blooming period and are quite ornamental. Fertile seed production is high and some European hybridizers have begun crossing it with other species to create some interesting and beautiful offspring. Seeds are easy to germinate in outdoor seedling beds and grow rapidly, thus we should begin seeing this species more widely available for American gardeners.

Drought tolerant, *P. qiui* should be grown in a well-drained position in the garden. More shaded locations will produce taller plants, but often with less red pigment in their leaves and fewer flowers.

Paeonia cathayana. *P. cathayana* was recently described by Hong De-Yuan from a plant growing in a Chinese garden that was reported as a transplant from a nearby forest. Whether or not this was a true representative of the wild species it is not known, but genetically it is different than the other species. Through genetic testing of a number of *P. suffruticosa* cultivars it was determined that *P. cathayana* genes were present and was an original parent in that complex. I have not seen this plant in cultivation or available to gardeners outside of China at this time.

Hong describes the flowers as being rose in coloration with purple filaments, sheath and stigmas. Foliage is typical of *P. suffruticosa* complex plants.

Whether we see this plant become available for wider distribution is unknown at this time.

The variability of the few woody peony species is great and should be grown by more gardeners for their many good attributes. Of the many woodies that are growing at Solaris Farms, I count this group of plants as my favorite. For the most part they can be grown well, with perhaps a little help, in our northern gardens.

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