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TREE PEONIES

TREE peonies have been cultivated for centuries in China and Japan but have not proved popular in America until recently. Now, more is known about their simple culture and several American specialists offer hundreds of named varieties for sale. In fact, the first tree peonies were known to European gardeners as cultivated plants in 1844 for it was not until 1910 that Purdom first found them wild in China.

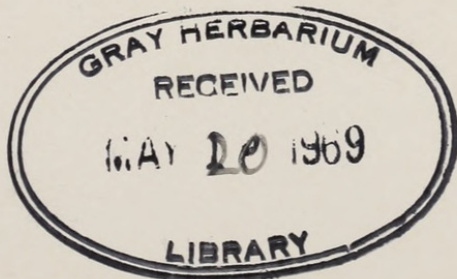
Paeonia suffruticosa is the major species, a slow-growing shrub, cultivated in China since 724 A.D. and probably before that. It is known as the Moutan Peony, with solitary flowers colored white, rose or red, and about 4 to 10 inches or more in diameter. It is a shrub about 6 feet tall, hardy in Zone 5 and native to northwestern China.

Paeonia lutea, another woody species is about 5 feet tall with fragrant yellow flowers 2 to 3 inches in diameter, fern-like foliage, and introduced from China into Europe about 1886. It is not quite as hardy as *P. suffruticosa* but has been used in hybridizing and has been responsible for the introduction of the yellow color into many of the hybrid varieties we have today.

Paeonia lutea ludlowii was collected for the first time in 1936 in Tibet, by Ludlow and Sherriff. This is more hardy than the species, grows about 8 feet tall, with yellow flowers up to $4\frac{3}{4}$ inches in diameter, often four to a stem. It flowers three weeks earlier than the species and has stems that are stiffer than those of the species. It is this variety which opens up great possibilities for new, hardier varieties when crossed with some of the older *P. suffruticosa* cultivars.

Paeonia delavayi, the Maroon Tree Peony, is also native to China and was first sent to Europe about 1884. It is a sub-shrub, about 3 feet tall, with maroon colored flowers about $3\frac{1}{2}$ to 4 inches in diameter, and hardy in Zone 5. It is this

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which has brought the dark maroon colors to some of the cultivars available today. The flowers of the species are not very ornamental and its value is chiefly for hybridization purposes.

Sir Frederick C. Stern published his monograph, "A Study of the Genus *Paeonia*," in 1946 and those interested in the correct terminology of the 33 species and 14 botanical varieties into which he has divided this genus should refer to this publication. The four woody species mentioned above are certainly distinct, but the named horticultural varieties have been hopelessly mixed in gardens and nurseries over the centuries. It is hoped that American growers will not add to the confusion of names by attempting to rename the hundreds of varieties they are now offering. Of the many herbaceous species, the easiest to grow are *P. emodi*, *lactiflora* (syn. *albiflora*), *officinalis* and *tenuifolia*.

Tree peonies have been growing in the Arnold Arboretum for almost three quarters of a century. Some years they were outstanding in flower, but in 1961 it was decided to make a new display bed for these plants and to prepare the beds in the best possible fashion. This was done and has resulted in an ever-increasing display of colorful blooms during late May and early June of each year. Last year the display was magnificent.

This was undoubtedly due to the careful steps taken in the soil preparation, and in the subsequent care the plants received. In the first place, the soil was prepared to a depth of eighteen inches. Sufficient ground limestone was worked into the soil to give it a reaction of about pH 7.0. Also, a generous amount of 10-10-10 commercial fertilizer was worked into the soil before the shrubs were placed.

The plants were set deeply as they should be if young grafted plants are used and it is advisable for the scions to root. If planted at the depth of the graft union, the scion does not have an opportunity to root, and the chances are the plant may die an early death. On the other hand, if the plant is placed in the soil several inches below the graft union, the scion will have a chance eventually to root, and when it does, the entire plant stands a much better chance of living a long life.

The deep soil preparation, addition of ground limestone (since our soil is acid with a pH of 5.5) and the deep planting, all aided in making good growth possible. However, several other things were necessary, also. The plot selected was in the semi-shade where full sunshine strikes the plants about half the day. The plants were watered well the first year, mulched with wood chips (not manure) and care was given the collection in controlling the botrytis blight, which can be destructive on peonies.

Once well established in a suitable location, with care given to control disease infestation, tree peonies can live to a great age, increasing in size and the number of flowers produced each year. One century-old plant in Lima, Pennsylvania is about 4' tall and 8' across and has produced over 100 flowers every year for the last 15 years.



PLATE V

Top: Close-up of flower, *Paeonia suffruticosa*. Bottom: This tree peony growing at the Tyler Arboretum in Lima, Pa. is said to be 100 years old.

It has been said that there is no serious problem in growing tree peonies if they are healthy plants in a suitable situation. However, there is a wilt disease, causing an occasional twig to wilt here and there, and when this is noticed, the offending part should be cut out and burned immediately. There is also the fungus disease, botrytis blight, that occasionally appears in some plantings. Spraying with Fermate or Bordeaux easily controls this disease if applied in the early spring. The first application is made when the foliage is about half grown and the young shoots are evident. Two more applications can be applied at two week intervals, if needed.

Occasionally the carpenter bee will lay its eggs in the cut end of a twig or branch. The young worm hatches and can eat its way down the center of the stem all the way to the root, where it can cause some injury. There is little that can be done to control this insect except to refrain from breaking the stems off, or if they are, insert a thumbtack in the cut end of the branch remaining on the plant and thus prevent the mature insect from laying her eggs there. Mostly the pests are not serious and tree peonies can be kept in good growth with very little attention.

Some growers have learned how to rejuvenate their plants when they are too leggy or unshapely. They are merely cut to the ground in the early fall, provided they are four years old or older. The next spring, they send up sturdy shoots from the base and make excellent compact plants.

Since there are several hundred tree peony varieties available from specialists in this country (over 440 from one nurseryman), excellent varieties can be obtained, hence it is probably inadvisable to grow new plants from seeds, although there is always the chance that something new and better will be produced this way. Varieties are best propagated asexually, and the easiest method for doing this is by simple plant division. All the stems can be cut off several inches above the ground in the fall, the plant dug and divided in such a way that several buds or eyes are on each division. These are then planted in the ground at least 6'' below the surface of the soil. Stem layers are possible but take several years to root. Air layers in which polyethylene film is used, have proved successful. Many are grafted, using a scion having one or two buds and the root stock of the herbaceous peony, *P. lactiflora* (syn. *albiflora*). This plant is then set deep in the soil so that the scion will have an opportunity to root. When it does, the root stock can be cut off. If no roots are formed on the scion, the resulting plant may not be long lived, certainly not as long as it would be if it were growing on the roots of the scion.

The following 59 tree peonies are those that bloomed in our collection in 1968. The size of the flowers, number of petals and even the color of individual blossoms is not always constant but the figures give some indication of what the flowers were. The rating (asterisks before the name) is merely indicative of the rating one individual gave this group on the one day they were observed. Per-



PLATE VI

Top: *Paeonia suffruticosa* 'Kamata Fuji' with light purple flowers. This flower had 60 petals. Bottom: *Paeonia suffruticosa* 'Ima-chowkow', one of the better white flowering varieties growing in the Arnold Arboretum collection.

sonal preferences always enter into such ratings but they are given here merely to show what one observer thought of the plants when they were at their best in 1968.

Note: William T. Gottelli, of South Orange, New Jersey, is to be sincerely thanked for giving the Arnold Arboretum 47 of the following 59 varieties. These exhibition specimens were moved and brought to the Arnold Arboretum by him in the Fall of 1961 and some in 1962. It was these valued gifts which gave us the incentive to make a complete new display plot for these beautiful plants.

Commercial growers featuring varieties of tree peonies in the northeastern United States are:

William Gratwick, Pavilion, New York

Miss Silvia Saunders, Clinton, N.Y. 13323

Louis Smirnow, 85 Linden Lane, Glen Head P.O.,
Brookville, Long Island, N.Y. 11545
(93 varieties illustrated in color in his recent catalogue)

Marinus Vander Pol, 757 Washington Street,
Rte. 6, Fairhaven, Mass. 02719

For a more detailed discussion of tree peonies and their varieties see:

Wister, John C. "The Peonies" American Horticultural Society,
Washington D.C. 1955.

DONALD WYMAN

TREE PEONIES AS THEY BLOOMED
IN THE ARNOLD ARBORETUM
MAY 20-JUNE 10, 1968

C=Chinese
J = Japanese
L = *Paeonia lutea* hybrid

	Approximate Age	No. of Flowers	Size of Flowers	No. of Petals	Color	Date of Bloom
'Adzuma-shibori' (Dappled Pattern of the East)	J 14	18	9"	12	strong purplish red	5/24
'Akashi-gata' (Shore of Akashi)	J 19	18	6½"	40	white, purplish at base	5/24
'Akatsuki-no-yuki' (Snow under Waning Moon)	J 11	15	7½"	12	pale, light purplish pink	5/24
**'Alice Harding'	L 14	2	6"	100±	yellow	5/24
'Aurore'	L 14	9	5½"	16	light reddish yellow	6/8
****'Biju de Chusan'	C 24	14	7"	60±	pale purplish pink to almost white	5/24
'Black Douglas'	L 14	10	4½"	36	deep purplish red	5/27
'Black Pirate'	L 14	14	6½"	12	deep purplish red	5/27
'Chasm of Abundant Pleasure'	33	26	7½"	20	deep purplish red	5/24
****'Chromatella'	L 19	16	7"	150±	light yellow, touch of pink at petal tips	6/6
'Fushakin'	J 24	20	6"	35	deep purplish	5/24
*'Gesekai' (Kingdom of the Moon)	J 14	23	8"	50	white	5/27
'Godaishu' (Large Globe Lake)	J 11	22	6½"	30	white	5/24
'Golden Bowl'	L 16	9	5¾"	10	light yellow, pink blotch at petal base	6/8
'Gold Sovereign'	L 16	16	4½"	30	pale yellow	6/8
'Gyoku-shokaku' (Palace where Jewels are Kept)	J 24	15	7"	20	white, purplish red spots at base	5/24
'Haku-gan' (White Wild Geese)	J 14	18	9"	20	white	5/24
*'Hakuo-jishi' (King of White Lion)	J 16	23	6½"	30	white	5/24
****'Hana-kiso' (Floral Rivalry)	J 16	21	9"	35	light purplish pink	5/24
'Hana-no-nishiki' (Golden Floral Brocade)	J 19	29	7"	40	light purplish pink, purple at base	5/24
'Harlequin'	L 16	15	5½"	11	pale pink	6/6
***'Hatsu-hinode' (Rising Sun of the New Year)	J 19	18	8"	35	purplish red	5/24
***'Hira-no-yuki' (Snow of Hira)	J 24	22	8"	20	white	5/24
'Horaku-mon' (Gate of Horaku)	J 24	38	6"	25	deep purplish red	5/24
*'Howzan' (Treasure Mountain)	J 14	18	8½"	25	deep purplish pink	5/24

TREE PEONIES AS THEY BLOOMED (Cont.)

***'Ima-chowkow' (Name of an Ancient Saint)	J	11	41	8"	20	white	5/24
***'Impu-mon' (Gate of Impu)	J	14	23	6"	45	purplish red, red pistils	5/24
'Iro-no-seki' (Barrier of Gay Color)	J	14	15	8"	25	pink	5/24
***'Jitsu-getsu-nishiki' (Sun and Moon Brocade)	J	11	15	7"	25	deep purplish red	5/25
'Kagura-jishi' (Sacred Lion Dance)	J	11	39	7"	15	deep purplish red	5/24
'Kamada-nishiki' (Kamada Brocade)	J	19	2	6"	30	pinkish purple	5/27
'Kimpikurin' (Golden Magnificence)	J	14	39	9"	12	strong purplish red	5/24
***'Koku-tsuru' (Black Crane)	J	14	2	7"	20	deep blackish red	5/24
'Kokuhow' (National Treasure)	J	14	9	6"	40	deep purplish pink	5/27
***'Kamata-fuji' (Wisteria at Fuji)	J	14	13	8"	60	light purple	5/24
*'Koron-koku' (Land of Koron)	J	14	6	7"	30	purplish red	5/24
'Kyokko' (Mysterious Light)	J	14	3	5"	50	deep purplish red	5/24
'La Lorraine'	L	14	15	8½"	30	yellow	6/6
**'Mountain Treasure'		30	51	8"	25	white, purplish red spots at base	5/24
***'Nishiki-no-tsuya' (Brilliance of Brocade)	J	14	24	8"	25	deep purplish red	5/24
**'No-kagura' (Knight Dance)	J	19	36	7"	55	light flesh pink	5/27
'Osiris'	C	14	23	7"	20	purplish red	5/24
'Senyo-mon' (Gate of Senyo)	J	14	2	8"	25	red	5/24
'Shinso-haku'	J	24	18	9"	36	white	5/24
'Shujakumon' (Gate of Shijuku)	J	11	30	8½"	50	purplish pink	5/24
'Shuygo-kuden' (Palace of Gems)	J	14	5	6"	25	strong purplish red	5/24
'Suma-no-ichi' (Deepest Ink)	J	14	3	7½"	20	deep purple red	5/27
*'Tama-fuyo' (Jewelled Lotus)	J	14	17	8"	55	light purplish red	5/24
'Tama-midori' (Green Jade)	J	20	32	7½"	35	red	5/27
*'Taiyo Sun' (Great Emperor)	J	14	12	6"	30	strong purplish red	5/24
*'Tatio-shishi' (Lion with a Standing Tail)	J	11	5	7"	25	white, tinge of purple at petal base	5/24
*'Uba-tama' (Pitch Black)	J	14	15	7½"	30	deep purplish red	5/24
**'Ukara-jishi' (Jovial Lion)	J	18	23	9"	25	strong purplish red	5/24
'White Peacock'	J	14	22	7"	30	white	5/24
'Yachiyo-jishi' (Immortal Lion)	J	16	18	7½"	70	light purplish pink	5/24
'Yachyo-tsubaki' (Long Head of Camellias)	J	14	16	6½"	25	deep purplish red	5/24
'Yo-mei-mon' (The Most Gorgeous Gate of Japan)	J	14	11	6½"	40	strong purplish red	5/24
'Yomo-zakura' (Cherry Blossoms Everywhere)	J	24	26	7"	25	pale purplish pink	5/24
'Kintajio' (Castle of Kinuta)	5	35	13	5"	25	pale purplish pink	5/24



Wyman, Donald. 1969. "Tree Peonies." *Arnoldia* 29(5), 25–32.

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