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THE MOCK-ORANGES

THERE are about fifty species and varieties of *Philadelphus* being grown in the commercial nurseries of the United States, so there is a wealth of material from which to select ornamental plants. The collection at the Arnold Arboretum contains over one hundred species and varieties. They all have white flowers, their fruits are dried capsules and not very interesting, and the autumn color is not especially outstanding, being yellow or yellowish. In other words, they are chiefly of value during the short period when they are in bloom; but they are all grown easily in almost any normal soil, and are mostly free from injurious insect and disease pests—reason enough why they have proved popular over the years.

Some plants in this group have special merit. *Philadelphus coronarius*, for instance, is excellent for planting in dry soil situations. Many of the hybrids have extremely fragrant flowers, and some of the plants, like *P. laxus* and *P. × splendens*, have branches which face the ground well all around and make fairly good foliage specimens throughout the length of time they retain their leaves.

On the other hand, the flowers of many of the species are not fragrant, and some plants, like *Philadelphus delavayi* and *P. × monstrosus* reach heights of fifteen feet or more; they are frequently just too tall and vigorous for the small garden. There are better shrubs of this height with interesting flowers, better autumn color, and fruits in the fall (like some of the viburnums), so, if tall shrubs are desired, it is not the mock-oranges which should have first consideration.

Hybrids

It is particularly noteworthy how many of the hybrid mock-oranges originated in the nurseries of Lemoine and Son in Nancy, France. Victor Lemoine, born in 1823, worked in several places while a young man, one of them being the famous estate of Louis Van Houtte in Ghent, Belgium. In 1850, he established his own nursery at Nancy, and entered into a long period of plant hybridization. He,

and his successors in later years, originated many of the best deutzias, weigelas, mock-oranges, lilacs, and other groups of plants, herbaceous as well as woody. Of the twenty-one hybrid mock-oranges in the following list, seventeen were originated and introduced by the Lemoines, all between 1894 and 1927.

Because good clones are available, it is probably not advisable to grow *Philadelphus* × *cymosus*, *P.* × *lemoinei* and *P.* × *virginalis* as such, for many plants of these hybrids, especially if grown from seed, are inferior to the named clones which should be grown instead.

The first major cross the Lemoines made was in 1884, using *Philadelphus coronarius* and *P. microphyllus* as the parents. The progeny was named *P.* × *lemoinei* and some of the resultant clones have proved better ornamentals than either parent. Another hybrid, made in 1903, was *P.* × *lemoinei* crossed with the tall growing and large flowered *P. grandiflorus*. The resulting clones were grouped under the name *P.* × *cymosus* but, as a rule, most of them are more tender than many of the others. The third cross, which resulted in more double flowered varieties than the other two, was one in which *Philadelphus* × *lemoinei* and probably *P.* × *nivalis* 'Plenus' were used. The latter is itself a hybrid between *P. pubescens* and *P. coronarius*, so that, as might have been expected when these two were crossed, many interesting segregates resulted. The resulting offspring were grouped under the name *P.* × *virginalis* and include larger flowered and more vigorous clones than most of those resulting from the other crosses.

As a group, mock-oranges start to bloom by the end of May with *Philadelphus schrenkii jackii*, which is first. The majority flower during the first three weeks of June, with the peak of bloom about the middle of the month. The last species, *P. incanus*, blooms in the Arnold Arboretum about the last week of June. Some of the newer cultivars like 'Frosty Morn' and 'Minnesota Snowflake' are reported to be hardy to -30° F. (Zone 3), *P. coronarius* and *P. laxus* and 'Mont Blanc' are hardy in Zone 4 and the rest are hardy in Zone 5. There are, of course, other mock-oranges suitable for warmer areas, but of the hardier species and varieties, these are the best ornamentals.

Habit

These shrubs vary considerably in habit and range in height from 4 to 12 feet. 'Avalanche', for instance, has pleasingly arching branches and is only 4 feet tall. 'Erectus', about the same height, is rigidly upright, which might be desirable in some locations. Others, like *Philadelphus inodorus*, *P. laxus*, *P.* × *splendens* and 'Mont Blanc', are definitely mound-like, making them ideal specimens in many situations.

On the other hand, the habit of several of the *Philadelphus* × *virginalis* clones (especially 'Virginal') is not pleasing; they are ruggedly upright and produce few lateral branches at the base. It is usually advisable to use such plants in the rear of the shrub border, with smaller plants in the foreground to hide this somewhat unsightly trait.

Flowers

Fragrance is an important factor, for this is one of the reasons these plants have proved so popular over the years. Some, like *Philadelphus inodorus* and *P. × splendens* are practically scentless. The native *P. microphyllus*, not included in the following list because of its lack of hardiness, is one of the most fragrant, and the reason why the *P. × lemoinei* clones (of which it is one parent) are generally so sweetly scented. 'Avalanche', 'Conquête', 'Cole's Glorious', 'Frosty Morn', 'Innocence', and 'Virginal' are among the most fragrant. *P. coronarius* should also be included here, but, unfortunately, it has too frequently been grown from seed collected from miscellaneous mixed plantings, so that many inferior strains are listed at present. The true, old-fashioned *P. coronarius* is extremely fragrant.

The double flowered varieties, of course, retain their petals longer than those with single flowers, and so are valued. 'Albâtre', 'Argentine', 'Boule d'Argent', 'Frosty Morn', 'Girandole', 'Glacier', 'Minnesota Snowflake' and 'Virginal' are the best of these. Some, however, are highly variable and when grown under some circumstances may produce many single flowers. Because of variations due to growth conditions, it is difficult to select one variety as the best of this group. The plant that is grown well, with the best soil, light, and water conditions, is usually the one with the best double flowers.

Of the twenty-nine mock-oranges in the following list, nineteen have single flowers, but these vary considerably in size. Some, like 'Avalanche' and 'Bouquet Blanc' have flowers which are only one inch across while those on others, like 'Bannière' and 'Belle Etoile', may be as large as $2\frac{1}{4}$ inches in diameter, especially if they are grown under optimum conditions.

For northern gardeners the following twenty-nine selections are the best of the hundred grown in the Arnold Arboretum.

The Better Species and Hybrids

P. coronarius 9 ft. high Zone 4 Southern Europe Sweet Mock-orange

Single flowers, $1\frac{1}{2}$ " in diameter, and very fragrant. It is this species which has been the most popular in the past but unfortunately it has been so frequently reproduced by seed that in nurseries it is now badly adulterated by inferior types. The true plant should have very fragrant flowers and it should grow well in dry situations.

P. incanus 9 ft. high Zone 5 China Gray Mock-orange

Single flowers, $1\frac{3}{4}$ " in diameter, with only a slight fragrance. It is one of the last of all mock-oranges to come into bloom, usually in late June, and is recommended here chiefly because it extends the flowering season.

P. inodorus 9 ft. high Zone 5 Southeastern U.S. Scentless Mock-orange

Single flowers, 2" in diameter, and only slightly fragrant. It is the only mock-orange with glossy green leaves, making a fine ornamental specimen.

P. laxus 6 ft. high Zone 4 Georgia Drooping Mock-orange

Single flowers, 1½" in diameter, with only slight fragrance. Blooming in early June, this is one species with branches facing the ground on all sides, making a good foliage specimen.

P. purpurascens 12 ft. high Zone 5 China Purple-cup Mock-orange

Single flowers, 1½" in diameter; each flower with a purple calyx, and very fragrant.

P. schrenkii jackii 8 ft. high Zone 5 Korea Jack Mock-orange

Single flowers, 1" in diameter, flowering in late May; the first of all the mock-oranges to bloom. It is because of its early flowers that this mock-orange is recommended.

P. × splendens 8 ft. high Zone 5 (possibly *P. grandiflorus*
× *gordonianas*)

Single flowers, 1½" in diameter, fragrant, and with bright yellow stamens. Plants are well branched on all sides and make good foliage specimens.

Horticultural Varieties

'**Albatre**' (*P. × virginalis*) 5 ft. high Zone 5 Introduced by Lemoine in 1914

Double flowers, 1¼" in diameter, slightly fragrant, and of good habit (Plate VII, upper).

'**Argentine**' (*P. × virginalis*) 4 ft. high Zone 5 Introduced by Lemoine in
1914

Double flowers, 2" in diameter, sometimes with as many as 32 petals. The flowers are very fragrant.

'**Aureus**' (*P. coronarius*) 5 ft. high Zone 4

The foliage first appears colored a bright yellow early in the spring, later turning to almost normal green by mid-summer. It originated before 1878.

'**Avalanche**' (*P. × lemoinei*) 4 ft. high Zone 5 Introduced by Lemoine in
1896

Single flowers 1" in diameter, and one of the most fragrant of all the mock-oranges. It has a pleasing, arching habit (Plate VII, lower).



PLATE VII

(Upper) *Philadelphus* 'Albâtre', habit.

(Lower) *Philadelphus* 'Avalanche', habit.

- 'Banniere'** (*P. × cymosus*) 7 ft. high Zone 5 Introduced by Lemoine in 1907
Semi-double flowers, $1\frac{1}{2}$ "- $2\frac{1}{4}$ " in diameter, and fragrant. The bush is rather straggly, but this is the first of these hybrids to bloom.
- 'Belle Etoile'** (*P. × lemoinei*) 6 ft. high Zones 5-6 Introduced by Lemoine in 1925
Single flowers, $2\frac{1}{4}$ " in diameter, fragrant and with an arching habit.
- 'Boule d'Argent'** (*P. × lemoinei*) 5 ft. high Zone 5 Introduced by Lemoine in 1894
Double flowers, 2" in diameter, and slightly fragrant; an excellent variety.
- 'Bouquet Blanc'** (*P. × virginalis*) 6 ft. high Zone 5 Introduced by Lemoine in 1903
Single to slightly double flowers, 1" in diameter, but well distributed over the entire plant. In shape it is well rounded (Plate VIII, upper).
- 'Burford'** (*P. × virginalis*) 9 ft. high Zone 5 Originated in England in 1921
Single to semi-double flowers, $2\frac{1}{4}$ "- $2\frac{1}{2}$ " in diameter.
- 'Cole's Glorious'** (*P. × virginalis* × 'Rosace') 6 ft. high Zone 5
Introduced by Cole Nursery Co., Painesville, Ohio in 1940, this has single flowers, 2" in diameter, and very fragrant.
- 'Conquete'** (*P. × cymosus*) 6 ft. high Zone 5 Introduced by Lemoine in 1903
Flowers single, 2" in diameter; one of the very best and most fragrant of all the mock-oranges.
- 'Erectus'** (*P. × lemoinei*) 4 ft. high Zone 5 Introduced by Lemoine in 1894
Flowers single, $1\frac{1}{4}$ " in diameter, and very fragrant. This has not grown too well in the Arnold Arboretum, but the habit is definitely erect, and in areas where it is hardy it should prove an interesting plant.
- 'Fleur de Neige'** (*P. × lemoinei*) 4 ft. high Zone 5 Introduced by Lemoine in 1916
Flowers single, $1\frac{1}{2}$ " in diameter, and very fragrant.
- 'Frosty Morn'** 4 ft. high Zone 3
Originated by Guy D. Bush, Minneapolis, Minn., and patented (#1174) March 10, 1953, it has very fragrant, double flowers, and has been noted as withstanding the "coldest Minnesota winters without damage from freezing back". An excellent mock-orange for cold areas.

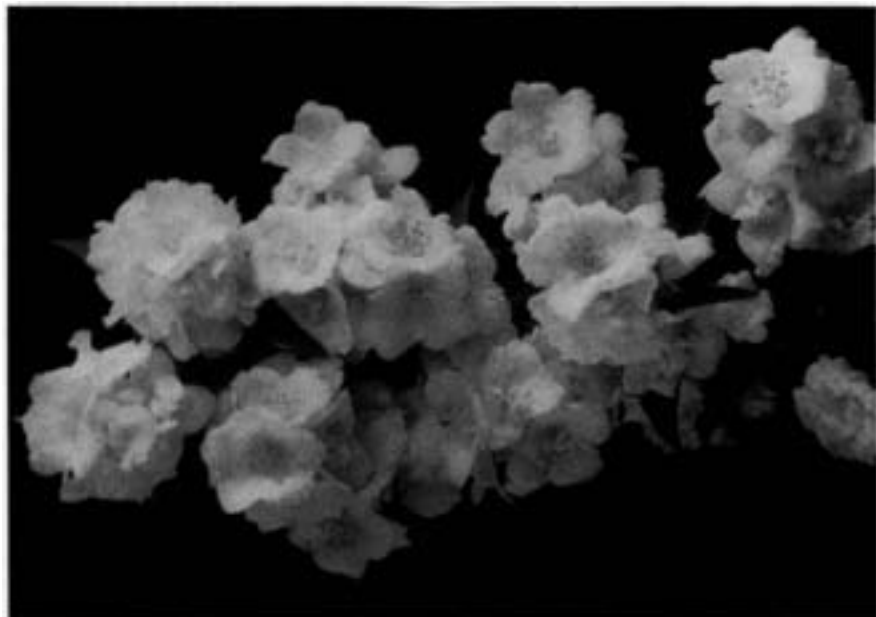


PLATE VIII

(Upper) *Philadelphus* 'Bouquet Blanc', flowering branch.

(Lower) *Philadelphus* 'Glacier', flowering branch.

- 'Girandole'** (*P. × lemoinei*) 4 ft. high Zone 5 Introduced by Lemoine in 1916
Flowers double, $1\frac{1}{4}$ " in diameter, and fragrant.
- 'Glacier'** (*P. × virginalis*) 5 ft. high Zone 5 Introduced by Lemoine in 1914
Flowers double, $1\frac{1}{4}$ " in diameter, and fragrant.
- 'Innocence'** (*P. × lemoinei*) 8 ft. high Zone 5 Introduced by Lemoine in 1927
Flowers single, $1\frac{3}{4}$ " in diameter, and with 8–10 in a cluster. It is one of the most fragrant of all the mock-oranges.
- 'Minnesota Snowflake'** (*P. × virginalis*) 6 ft. high Zone 3
Introduced by Guy D. Bush, Minneapolis, Minnesota in 1935, and patented (#538) August 11, 1942. It is said to be hardy to -30° F. Flowers double, $1\frac{1}{2}$ " in diameter, with 3–7 flowers in each cluster and fragrant. Clothed with branches well to the ground, it makes an excellent specimen for northern gardens.
- 'Mont Blanc'** (*P. × lemoinei*) 4 ft. high Zone 4 Introduced by Lemoine in 1896
Flowers single, $1\frac{1}{4}$ " in diameter, and very fragrant. It is one of the hardier varieties.
- 'Norma'** (*P. × cymosus*) 6 ft. high Zone 5 Introduced by Lemoine in 1914
Flowers single, $1\frac{3}{4}$ " in diameter and fragrant.
- 'Perle Blanche'** (*P. × cymosus*) 6 ft. high Zone 5 Introduced by Lemoine in 1900
Flowers single, $1\frac{1}{2}$ " in diameter, and one of the most fragrant.
- 'Virginal'** (*P. × virginalis*) 9 ft. high Zone 5 Introduced by Lemoine in 1907
Flowers double, 2" in diameter, and very fragrant. The one drawback of this variety is that older plants tend to produce few leaves and branches near the base.

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