VIBURNUMS

WITH some 96 species and varieties of viburnums growing in the collections and nurseries of the Arnold Arboretum, one would think there might be a bewildering number of these excellent plants from which to choose specimens for landscape planting. Actually there are only about 30 which are sufficiently ornamental and hardy to be considered worth while for planting in Hardiness Zones 4 and 5. If one were to put a premium on red- or yellow-fruited forms, there are only three yellow-fruited viburnums and ten of the red-fruited sorts; although there are several of the blue-to-black fruiting viburnums, the fruits of which turn red at some time during the maturing process.

So, with a comparatively small number from which to choose, one might take a close look at these plants and the reasons for growing them as ornamentals, for they are outstanding in any garden where they are given the space to be properly displayed.

In order that the critical reader will know which types have been considered in this study, the species and varieties that are being grown in this country at present will be mentioned, with the reasons why some species, native and exotic, have not been deemed worthy of more consideration. It might be said, in this respect, that someone must decide, in any such study, which plants make the best ornamentals; and when a single individual does this (the author, in this case), there is obviously plenty of opportunity for disagreement by others. Be that as it may, the following selections will certainly give food for much thought and may be the basis on which others can make their own selections for their own purposes.

For Flowers

There are three general types of flowers among the viburnums: One bears a flat cluster several inches in diameter, made up of hundreds of small individual, perfect flowers that are usually creamy white in color. The snowballs are those
with rounded clusters of all sterile flowers that do not bear fruits. Finally, there are those plants with flat clusters made up of all fertile flowers in the center of the cluster, but surrounded with large sterile or ray flowers on the perimeter. These are not necessarily the most conspicuous either, for when a plant of *Viburnum dilatatum* is literally covered with clusters of all fertile flowers, it is just as conspicuous in the landscape as is one of the snowballs.

The viburnums usually flower well every year, although they may not bear heavy crops of fruit annually. In the first place, wind and insects must be operating at the time the pollen is ripe; and, if during this period the weather is cold or rainy, little pollination occurs and hence fruiting will be sparse. The gardener usually loses sight of this fact by the time fall comes and the fruits are then conspicuously absent.

Some species (*V. dilatatum* is certainly one) should be planted in groups of several seed-grown plants to insure proper cross-pollination and hence good fruiting. In many cases of isolated specimen plants, poor fruiting may be traced to lack of sufficient pollen of the right type. Undoubtedly, there is a certain amount of cross-pollination among the species, but certain species are not as good pollinizers as others. Until more is known specifically, it is best to plant several seed-grown plants together or at least on the same property.

Four of the earlier-blooming viburnums should be considered together, since they are competing with each other for prime space in the early spring garden. *Viburnum carlesii* is the old-fashioned favorite that is hard to discontinue as it is so fragrant and so many people have come to like it. However, the fact remains that this is frequently susceptible to a disease which can kill mature plants quickly, even after many years of normal growth. It is the most fragrant of the four.

*Viburnum burkwoodii* originated in the nursery of Burkwood and Skipworth, Kingston-on-Thames, England, in 1924, as a hybrid (*V. carlesii* × *uitle*). The flowers are fragrant, but not as fragrant as those of *V. carlesii*, and the leaves are smaller and more glossy. In certain parts of California it is proving evergreen, but in the Arboretum it is entirely deciduous. We started growing a plant between the greenhouses in 1931 and it is now nine feet high. Other plants in the collections are proving perfectly hardy. The habit of growth is somewhat open, not dense and compact.

*Viburnum juddii* originated at the Arnold Arboretum in 1920 as a hybrid (*V. carlesii* × *bitchuense*) and is proving popular, having better foliage than *V. carlesii* but not quite as fragrant flowers, and being more dense in habit than *V. bitchuense*.

*Viburnum carlcephalum* is proving very popular in this foursome. Originating in the nursery of Burkwood and Skipworth in 1932, it has been in America only a few years (but long enough to become patented). It is a cross between *V. carlesii* and the Chinese snowball, *V. macrocephalum*, which is not reliably hardy in New England. However, this hybrid is hardy, apparently, and makes a very dense
shrub with foliage quite similar to that of *V. carlesii*. The flower clusters are rounded, often up to five inches in diameter, fragrant, but not as fragrant as those of *V. carlesii*. The flower buds are pinkish, but the flowers open pure white. As far as we have seen, none of these last three mentioned species has proved susceptible to the graft blight disease, and any one of them, especially *V. carlee-phalum*, might be selected as an early-flowering substitute for *V. carlesii*.

At least three viburnums have flat clusters of all perfect flowers which are borne profusely and make quite a display each year. They are *V. dilatatum*, *lentago* and *sieboldii*. Others, like *V. dentatum*, are also meritorious, but none surpasses those mentioned.

In the group bearing flat clusters of fertile flowers surrounded with large, sterile ray flowers could be *V. opulus*, *sargentii*, *trilobum*, and *V. plicatum* varieties *tomentosum*, *mariesii* and *roseum*. All of these are good for other reasons as well as for their flowers.

*Viburnum plicatum roseum* has sterile flowers on the outside of the cluster which open white at first; then, under certain soil or climatic conditions, gradually fade to a deep and very conspicuous pink. This color can vary in intensity (on the same plant)—probably depending on changing soil or even climatic conditions. In other words, we have not found it to be reliably pink every blooming season.

There are only three snowballs: The Chinese snowball, the largest, is not reliably hardy here. The European snowball (*V. opulus roseum*) frequently becomes so infested with plant lice that it is not worth the effort of growing. The least hardy—but the best—the Japanese snowball, *V. plicatum* (formerly *V. tomentosum* sterile), is the only one worth growing in the North. This is commonly available from nursery sources, and there is even a variety offered by the Wyoming Nurseries of Cincinnati, Ohio, which bears pink sterile flowers instead of white. Whether or not this color holds when the plants are grown in all soils, I do not know, but from color pictures I have seen, this clone must have merit.

**The Order of Bloom**

This is the sequence in which the viburnum species bloom in the Arnold Arboretum:

<table>
<thead>
<tr>
<th>Early to Mid-April</th>
<th>Mid-May</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>fragrans</em></td>
<td><em>bitchiuense</em></td>
</tr>
<tr>
<td><em>buddleifolium</em></td>
<td><em>burkwoodii</em></td>
</tr>
<tr>
<td><em>burejaeticum</em></td>
<td><em>carlesii</em></td>
</tr>
<tr>
<td><em>furateum</em></td>
<td><em>juddii</em></td>
</tr>
<tr>
<td><em>lantanoides (alnifolium)</em></td>
<td><em>lantana</em></td>
</tr>
<tr>
<td><em>rhytidophyllodes</em></td>
<td><em>veitchii</em></td>
</tr>
<tr>
<td><em>schensianum</em></td>
<td><em>Late May</em></td>
</tr>
<tr>
<td></td>
<td><em>betulifolium</em></td>
</tr>
</tbody>
</table>

[ 49 ]
Late May (cont.)

bracteatum

carleaphalum

erosum

lentago

macrocephalum

opulus

opulus roseum

orientale

plicatum (tomentosum sterile)
plicatum mariesii

plicatum tomentosum

rafinesquianum

rhytidophyllum

rufidulum

sargentii

setigerum aurantiacum

sieboldii

trilobum


Early June

ureeolatum

wrightii

wrightii hessei

cassinooides
dentatum
dilatatum

hupehense

lobophyllum

prunifolium

ovatifolium

scabrellum

Mid-June

rufidulum

sargentii

setigerum aurantiacum

sieboldii

trilobum


For Fruits

As previously noted, there are three yellow-fruited forms, *V. opulus xanthocarpum*, *sargentii flavum* and *dilatatum xanthocarpum*. All are good, the first two being somewhat similar in the size of individual fruits and fruit clusters, and, in fact, the general habit of the shrubs themselves. *Viburnum dilatatum xanthocarpum* has smaller fruits but in much larger, flatter clusters.

Red-fruiting forms include *V. lantanoides, dilatatum, opalus* and its variety *compactum; sieboldii, trilobum* and its variety *compactum; wrightii* and its variety *hessei*. One other species, *V. setigerum aurantiacum*, has been considerably written about in the past for its orange fruit. However, in all the many years it has been grown in the Arnold Arboretum, it has not made a good specimen plant, being very open and leggy at the base. True, the fruits are colorful for the short period they are conspicuous, but it does not seem advisable to recommend this because of its poor growth habit.

Really blue fruits are borne by the arrowwood, *V. dentatum*.

The black-fruiting species are *V. acerifolium* and *lantanana*. There are others like *V. sieboldii, plicatum* varieties, and *veitchii*, in which the fruits are black at maturity, but in ripening, they go through a stage when they are red and at that time, are most interesting. Truly black fruits can not be seen very far, but red fruits can, and so these we value especially during this ripening period. Usually, with *V. sieboldii* and some of the others, the fruits are red for some time, and as soon as they turn black, sometimes just before, they are taken by the birds.
PLATE VII

*Viburnum plicatum mariesii* in a garden in Ireland, of merit for its excellent horizontal branching.
Finally, there is a group with fruit at maturity a blue-black, but in ripening these will go through a most colorful change from green to yellow to red to blue-black—sometimes with all these colors apparent in one cluster at the same time. These would be *V. cassinoides*, *lentago*, *prunifolium* and *rufidulum*; all of them are excellent.

The early-flowering species—*V. burkwoodii*, *carlcephalum*, *carlesii*, *juddii* and *rhytidophylloides* have not fruited very well in the Arboretum. This may be due to inclement weather at the time the pollen is ripe or the lack of other pollinizing plants in the near vicinity. It is also due to the fact that these fruits are black; are usually hidden well under the new growth; and because they ripen so early in the summer, when few other plants have ripened fruits, the birds eat them before they are noticed. In any event, these are not recommended primarily for their fruits.

**For Shade**

*Viburnum acerifolium*, *lantanoides* (*alnifolium*) and *cassinoides* are the best for shaded situations; in fact, the first two must have a cool, moist, shaded situation or they can not be grown at all. If such a place is not available, these two should not be tried.

**For Foliage**

Siebold's viburnum is the best of all for foliage alone. Its large, dark-green, deeply-rugose leaves appear in clusters on the branches so that there are open spaces without foliage, lending a most pleasing aspect to the plant as a whole. Then, the long leaves of *V. rhytidophylloides* (formerly *V. lantanaphyllum*) are also good, possibly the 'Willow Wood Seedling' being the best clone of this hybrid species. The wayfaring tree, *V. lantana*, is not grown much any more, but its variety *rugosum* is a very good form, with rugose, slightly glossy, dark-green leaves that have none of the light green color of the species. Other viburnums also have handsome foliage, but those just mentioned might be considered the best for this purpose.

**For Habit**

Some viburnums can be grown with a single trunk and will eventually grow into small trees as much as thirty feet tall. These would be *V. lentago*, *prunifolium* (which incidentally is about the best for a vivid scarlet autumn color), *rufidulum* and *sieboldii*. One variety, *V. sieboldii reticulatum*, is supposed to be lower in habit, but our plant is yet too small to assess it properly.

The lowest form is *V. opulus nanum*, seldom exceeding two feet in height, even though it may grow five feet across. It has never flowered in our collections, and normally can not be expected to flower. There are also dwarf forms of *V. fragrans* which do not flower with us but make low, compact plants. Shrubs about five or six feet tall would be *V. opulus compactum* and *V. trilobum compactum*, but I am not at all certain that these two differ. They are dense in habit and branching,
PLATE VIII

Viburnum plicatum roseum. The petals of the large sterile flowers on the perimeter of each cluster open white, but some years they gradually fade to an excellent pink.
and do flower and fruit. *Viburnum wrightii hessei* is also lower in growth than the
species. Most of the other viburnums are shrubs six to twelve feet tall.

In discussing viburnums for habit, the varieties of *V. plicatum* certainly should
be mentioned, for *mariesii, plicatum 'Lanarth' and roseum* all have a horizontal
branching habit, bearing their flat clusters of flowers and fruits on the upper side
of each branch, making the plants stand out from most other shrubs one sees in
landscape plantings. I have seen old plants of *V. plicatum mariesii* in Ireland
about seven feet tall, but they were over fifteen feet in spread, easily twice as
wide as tall.

**Not Recommended**

Those species and varieties already discussed are among the best of the large
group that is hardy here in the North. Merely for the record, to show other spe-
cies and varieties either not hardy or which are grown but not found superior as
ornamentals to those already mentioned, the following list is offered:

<table>
<thead>
<tr>
<th>Species</th>
<th>NH</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>acerifolium glabrescens</td>
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<tr>
<td>acerifolium ovatum</td>
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<tr>
<td>betulifolium</td>
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<tr>
<td>bichiuense</td>
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<tr>
<td>bracteatum</td>
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<td></td>
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<tr>
<td>buddleifolium</td>
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<tr>
<td>burejaeticum</td>
<td></td>
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<td></td>
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<tr>
<td>burkwoodii 'Park Farm Hybrid'</td>
<td></td>
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</tr>
<tr>
<td>calvum</td>
<td>NH</td>
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<td>dentatum deamii</td>
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<tr>
<td>dentatum pubescens</td>
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<tr>
<td>ellipticum</td>
<td>B</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>erosum</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>erosum taquetii</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

* NH = Not hardy in the Arnold Arboretum
* A = Differs little from the species
* B = Fair, but other recommended viburnums are as good or superior as
  ornamentals
* C = Has little ornamental value
PLATE IX

(Top) *Viburnum carlophalum*. The new Fragrant Snowball.
(Bottom) *Viburnum sieboldii*. The flowers are small, but are borne profusely every year.
lantana variegatum | C | propinquum lanceolatum | NH
lantanoïdès praecox | A | rafinesquianum | C
lentago sphaeroecarpum | A | " affine | C
lobophyllum | B | rhytidocarpum | NH
macrocephalum | NH | rhytidophyllum | B
" keteleeri | NH | " variegatum | C
melle | B | sargentii | B
" leiophyllum | A | " calvescens | A
mongolicum | B | seabléllum | NH
nudum | NH | schensianum | C
nudum angustifolium | NH | setigerum | B
odoratissimum | NH | " aurantiacum | B
opulus roseum | B | suspensum | NH
orientale | C | sympodiale | B
ovatifolium | B | tinus | NH
phlebotrichum | NH | urceolatum | C
plicatum lanceolatum | A | utile | NH
" parvifolium | A | wilsonii | NH
propinquum | NH | wrightii eglandulosum | A

A note should be made of a few others that have not yet been fully tried and hence can not be properly assessed at this time. They are *V. bodnatense* which may not prove reliably hardy here; *V. carlesii compacta; V. cassinoides nanum* which should be an excellent shrub but for some reason or other has died out repeatedly in the Arboretum collections; *V. chennaultii* which is supposed to be a "glorified" Burkwood's viburnum; *V. fragrans 'Bowles' and compactum*, the latter probably being similar to *V. fragrans nanum*; *V. opulus 'Notcutt's Variety' and V. trilobum 'Pink Flowered Form' of the Gellatly Nut Nursery in West Bank, British Columbia.

In closing, the only serious viburnum pest we have encountered should be mentioned — the dogwood twig borer (*Oberea tripunctata*). This borer, about three-fourths of an inch long, eats its way down the center of the twigs and branches into the very roots of the plant itself. Control is effected by using DDT (50% wettable DDT, 3 to 4 pounds to 100 gallons of water), spraying on the older rough bark of branches, trunks and twigs, where the insect lays its eggs. In the vicinity of Boston, the first spray should be applied about June 10 followed by one in mid-July and again by one in mid-August.

Donald Wyman