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35. *Viburnum* × *rhytidophylloides* 'Alleghany': a, the fruit, which ripens from red to black, is effectively displayed above the dark green foliage; b, the growth habit is dense and globose.

U. S. Dept. of Agriculture photograph

Eight New *Viburnum* Cultivars [Caprifoliaceae]

Donald R. Egolf*

The cultivars, *Viburnum* × *rhytidophylloides* Sur. 'Alleghany', *V. dilatatum* Thunb. 'Catskill', *V. dilatatum* Thunb. 'Iroquois', *V. Lantana* L. 'Mohican', *V. (dilatatum* × *lobophyllum)* 'Oneida', *V. Sargentii* Koehne 'Onondaga', *V. Sieboldii* Miq. 'Seneca', and *V. Sargentii* Koehne 'Susquehanna', were obtained from selection or hybridization at the U. S. National Arboretum. These eight cultivars are the result of research initiated at Cornell University, where the seedlings were grown until 1958, when they were transferred to the U. S. National Arboretum.

All eight cultivars are adaptable for cultivation under diverse climate and soil conditions, and have been hardy at Ithaca, New York, Zone 5b**. 'Mohican' is hardy also in Zone 4, while 'Onondaga' and 'Susquehanna' are hardy in Zone 5. All grow well in many exposures and soils but will do best in sun and on heavy loam soils with a pH of 6.0-6.5. 'Mohican' is especially suitable for full sun in drier situations and for limestone and loam soils with a pH of 6.0-7.0. These cultivars have proved superior as ornamentals in all test areas.

Commercially grown *Viburnum* species and cultivars often are not representative and may, in reality, be complex hybrids of unknown parentage. *Viburnums* are self- and cross-compatible in varying degrees. The nurseryman who utilizes open-pollinated seed is not maintaining the species or cultivar and is evolving a new race of hybrids that will include many inferior seedlings unworthy of cultivation. Even though there will always be inferior segregates, this is not to say that certain species cannot be grown from seed with a resultant population of reasonable uniformity in the characteristics of growth, flower, and fruit. Greater emphasis, however, needs to be placed on clonal vegetative propagation of species and cultivars that definitely produce outstanding ornamentals. Horticulturists have often emphasized the necessity for planting several seedlings together to ensure fruiting. This need cannot be substantiated, since

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**Plant Hardiness Zone Map, U. S. Dept. of Agr. Misc. Publ. 814.

many cultivars and species are self-fertile. Possibly a few shy-fruited species do require a higher degree of cross-pollination; but rather than rely on a heterogeneous seedling population with many inferior plants, one can obtain heavy fruiting by planting several select cultivars in close proximity. The eight cultivars described here, propagated vegetatively, will provide the consumer with select and reliable ornamentals.

The chromosome complement of seven of these cultivars is $2n=18$. For the cultivar 'Seneca' it is $2n=16$. The chromosome counts for the cultivars are:

<i>V.</i> × <i>rhytidophylloides</i> 'Alleghany'	$2n=18$
<i>V.</i> <i>dilatatum</i> 'Catskill'	$2n=18$
<i>V.</i> <i>dilatatum</i> 'Iroquois'	$2n=18$
<i>V.</i> <i>Lantana</i> 'Mohican'	$2n=18$
<i>V.</i> (<i>dilatatum</i> × <i>lobophyllum</i>) 'Oneida'	$2n=18$
<i>V.</i> <i>Sargentii</i> 'Onondaga'	$2n=18$
<i>V.</i> <i>Sieboldii</i> 'Seneca'	$2n=16$
<i>V.</i> <i>Sargentii</i> 'Susquehanna'	$2n=18$

'Alleghany', 'Iroquois', 'Oneida', and 'Seneca', which resulted from hybridization, have the same chromosome counts as the parental species previously reported (Egolf 1962), and produce abundant seed, thus indicating that no irregularities occur in the meiotic divisions.

All color designations used here are based on the R. H. S. Horticultural Colour Chart, 1942. Herbarium specimens and photographs have been deposited in the U. S. National Arboretum Herbarium. The cultivar names 'Alleghany', 'Catskill', 'Iroquois', 'Mohican', 'Oneida', 'Onondaga', 'Seneca', and 'Susquehanna' have been registered with the U. S. National Arboretum, the international registration authority for viburnum cultivars, in accordance with the International Code of Nomenclature for Cultivated Plants, 1961.

The Crops Research Division of the Agricultural Research Service, U. S. Department of Agriculture, releases 'Alleghany', 'Catskill', 'Iroquois', 'Mohican', 'Oneida', 'Onondaga', 'Seneca', and 'Susquehanna', but has none of these plants for sale. Plants will be available in 1967 to arboreta and botanic gardens participating in the U. S. National Arboretum plant distribution program. A limited number of plants for propagation purposes will be available to experiment stations and qualified nurserymen upon written request to the U. S. Plant Introduction Station, Glenn Dale, Maryland 20769.

Viburnum × *rhytidophylloides* 'Alleghany'
N. A. 28865, P. I. 316675

Viburnum × *rhytidophylloides* 'Alleghany' resulted from an F_2 *V. rhytidophyllum* Hems. l. × *V. Lantana* L. 'Mohican' seedling population. 'Alleghany' is distinguished by its very dark green, coria-

ceous leaves; abundant inflorescences; resistance to bacterial leaf spot; hardiness; and vigorous, globose growth habit. Small plants propagated by cuttings will not flower in less than two years, and an ornamental display is not effected in less than three or more years. In 1953 a select *V. rhytidophyllum* was crossed with *V. Lantana* 'Mohican'. A seedling from this cross, which flowered in 1955, was self-pollinated to obtain the F_2 seedling population of 87 plants from which 'Alleghany' was selected in 1958. The foliage, which tends to be semipersistent, is intermediate between the parental species. It is smaller than that of *V. rhytidophyllum* and heavier than that of *V. Lantana*. The rugose, coriaceous foliage is resistant to leaf spot and is highly ornamental. The abundant inflorescences are effectively displayed above the dark foliage. For several weeks in September and October the plant displays brilliant red fruit as ripening stages advance to black. 'Alleghany' develops into a dense, globose shrub that is as wide as it is high. The cross *V. rhytidophyllum* × *V. Lantana* was previously made in Holland to produce *V.* × *rhytidophylloides* 'Holland' (Suringar 1927, 1928), and by Henry Tubbs of Willowood Farm, Gladstone, New Jersey (Blackburn 1953) to produce *V.* × *rhytidophylloides* 'Willowood' (Kingsville Nursery 1958).

'Alleghany' is a vigorous, globose shrub, 3.3 m. high, 3 m. wide; branches stout, upright, dark gray-brown, scurfy with stellate tomentum and having prominent lenticels, branchlets densely stellate-tomentose, yellowish-gray; winter buds naked, gray-stellate-tomentose; leaves opposite, coriaceous, elliptic to ovate-lanceolate, tomentose; leaves opposite, coriaceous, elliptic to ovate-lanceolate, 12-19 cm. long, 6-8 cm. wide, acute or obtuse, rounded or subcordate at base, denticulate, sparingly stellate-pubescent and deeply and conspicuously wrinkled above, reticulate and covered with a yellowish stellate tomentum beneath, Ivy Green 0001061 above and Willow Green 000862/1 beneath, with 7-10 pairs of primary veins, petioles stout, densely stellate-tomentose, 1.5-3.0 cm. long; flower buds forming in autumn and remaining exposed through the winter and expanding the following May to early June; cymes terminal, umbel-like, thickly stellate-tomentose, 8-10 cm. across, on stout peduncles 1.5-2.0 cm. long, 7-9-rayed, bracts caducous, florets yellowish-white, sessile, 6.5-8.0 mm. in diameter, calyx stellate-tomentose, with ovate lobes, corolla rotate-campanulate, stamens 5, exserted, ovary 1-loculed, 1-ovuled; fruit a drupe, ovoid-oblong, glossy, covered with scattered stellate pubescence, crowned by the persistent calyx, 6.5-7.0 mm. long, 4.5-6.0 mm. wide, 50-120 per cluster, Currant Red 821/1 and lighter on under surface, ripening to dark blue-black in September.

Viburnum dilatatum 'Catskill'
N. A. 28866, P. I. 316677

Viburnum dilatatum 'Catskill' is a seedling selection distinguished by its compact growth habit, smaller and rounder leaves, and



36. *Viburnum dilatatum* 'Catskill': a, dark red fruit clusters; b, the compact, wide-spreading, dwarf habit.

U. S. Dept. of Agriculture photograph

good autumn coloration. As might be expected in a species such as *V. dilatatum*, which occurs in diverse areas of China and Japan, there is considerable variation from which superior ornamental forms can be selected. The cultivar occurred as a distinct plant among a seedling population of 107 plants raised in 1954 from seed obtained from Prov. Matsu, Hondo, Japan. 'Catskill' was selected in 1958 because of its dwarf growth habit. Although 'Catskill' had flowered previously, the seedling was first observed in flower in 1959. The compact, wide-spreading growth habit has been constant, and 3-year-old propagations display the same compact form. The creamy-white inflorescences are produced in mid-May on new growth. The dark red fruit clusters are dispersed over the plant and provide a display until midwinter. The smaller, dull, dark green leaves, which are more nearly round than those of most *V. dilatatum* plants, assume good yellow, orange, and red autumn coloration.

'Catskill' is a deciduous, compact shrub, 1.8 m. high and 2.7 m. wide; branches wide-spreading, light gray-brown when young, pilose, but glabrescent; winter buds scaly, covered with pale gray tomentum; leaves opposite, orbicular or broadly ovate to obovate, 11-14 cm. long, 7-10 cm. wide, obtuse or terminating in an abrupt, short, obtusish point, rounded or subcordate at base, denticulate, Ivy Green 0001060/1 above, Sage Green 000861 beneath, pubescent on both surfaces, especially on the veins and in tufts in the vein axils; beneath, with 6-10 pairs of veins, petiole pilose, 1-3 cm. long; cymes numerous, pilose, much-branched, mostly 5-rayed, flowers all similar, perfect, sessile or short-pedicelled, appearing in mid-May to mid-June, calyx pilose, the lobes rounded, corolla rotate, the lobes suborbicular, pubescent on back, stamens 5, exserted, ovary 1-loculed, 1-ovuled; fruiting inflorescence 11-14 cm. across, bearing 50-125 fruits; fruit a drupe, ovate, much flattened, 7-10 mm. long, 5.5-6.5 mm. wide, glabrous, crowned by the persistent calyx, Brick Red 016 to Currant Red 821, ripening in late August, long-persistent on plant, stone elliptic-ovate, compressed, with three dorsal and two ventral shallow grooves.

Viburnum dilatatum 'Iroquois'
N. A. 28867, P. I. 316678

Viburnum dilatatum 'Iroquois' resulted from a cross of two *V. dilatatum* selections made in 1953. 'Iroquois' is distinguished by its large, heavy-textured, dark green leaves; abundant inflorescences of creamy-white flowers; large, glossy, dark scarlet fruits; and dense, globose growth habit. The cultivar first flowered in 1956 and was selected in 1958. Consistent flowering and fruiting have been noted for eight years. The heavy-textured foliage is ornamental at all seasons, glossy green in summer and orange-red to maroon in

autumn. In mid-May the abundant inflorescences transform the plant into a mound of creamy-white. The glossy, red fruits are larger than on most *V. dilatatum* plants. The flat, wide-spreading fruit clusters contrast well with the dark green foliage. The fruit display persists after the leaves have fallen, and often the dried fruits are in abundance in midwinter if not eaten by birds earlier.

'Iroquois' is a deciduous, bushy shrub, 2.5 m. high and 3.5 m. wide; branches erect and wide-spreading, light gray-brown and pilose when young, but glabrescent; winter buds scaly, reddish-brown, covered with pale gray tomentum; leaves opposite, roundish or broadly ovate to obovate, 11-16 cm. long, 7-9 cm. wide, usually abruptly short-acuminate, rounded or subcordate at base, coarsely toothed, Parsley Green 00862 and sparsely pubescent above, Willow Green 00862 and pilose, especially on the veins and in tufts in the vein axils, beneath, veins 8-14 pairs, petiole pilose, 1.5-3.5 cm. long; cymes 8-12 cm. in diameter, very numerous, pilose, many-branched, mostly 5-rayed, on peduncles 1.5-4.0 cm. long; flowers all similar, perfect, sessile or short-pedicelled, appearing in mid-May to mid-June, calyx pilose, the lobes rounded, corolla rotate, the lobes suborbicular, pubescent on back, stamens 5, exserted, ovary 1-loculed, 1-ovuled; fruits 50-150 per cluster, the cluster 9-16 cm. across, fruit a drupe, ovate, much flattened, 7-10 mm. long, 6.0-7.5 mm. wide, glabrous, crowned by the persistent calyx, Orient Red 819 to Cardinal Red 822, ripening in late August, long-persistent on the plant, stone elliptic-ovate, 6.0-8.5 mm. long, 5.5-6.0 mm. wide, compressed, with three dorsal and two ventral grooves.

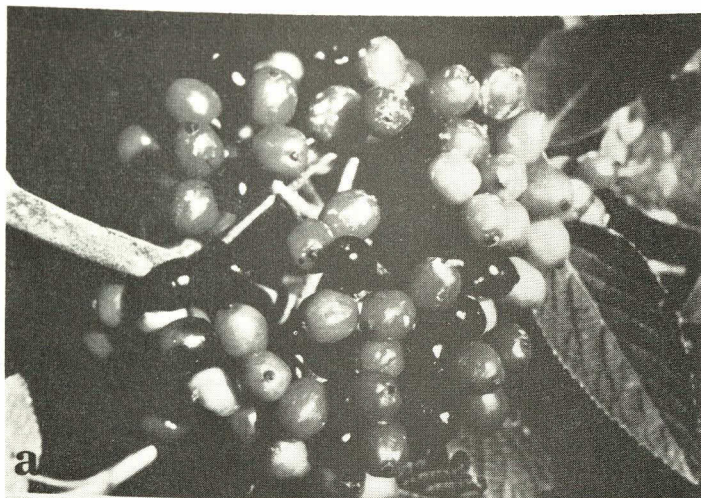
Viburnum Lantana 'Mohican'
N. A. 28868, P.I. 316679

Viburnum Lantana 'Mohican' is a seedling selection that is distinguished by its dense growth habit; heavy, dark green foliage; fruit that turns orange-red and maintains an effective display for 4 or more weeks; and resistance to bacterial leaf spot. A single superior plant occurred among a *V. Lantana* seedling population of 87 plants raised from seed obtained from Poland. The seedling first flowered in 1954 but was not selected as a superior plant until 1956. The foliage is heavy, dark green. The entire plant is enveloped for a week in late April or early May by the creamy-white flowers and expanding pale green leaves. In early July the fruits begin to ripen orange-red and remain effective for 4 or more weeks, whereas fruits on other *V. Lantana* plants pass rapidly from orange to black. A mature specimen is a vigorous, dense, globose shrub that is resistant to bacterial leaf spot. Small plants propagated by cuttings may flower earlier, but an ornamental display will not be effected in less than three years.



37. a, *Viburnum dilatatum* 'Iroquois': heavy-textured, dark green leaves complement the large, glossy, dark scarlet fruits. b, *Viburnum Sargentii* 'Onondaga': velvety, fine-textured, dark maroon young foliage maintains a maroon tinge when mature.

U. S. Dept. of Agriculture photograph



38. *Viburnum Lantana* 'Mohican': a, the display of green, orange-red, and black fruits persists for four or more weeks; b, a mature specimen is a vigorous, globose shrub.

U. S. Dept. of Agriculture photograph

'Mohican' is a vigorous, deciduous shrub, 2 m. high, 2.5 m. wide; young branches light gray-brown, densely stellate, becoming glabrate when older; winter buds naked, flower buds prominent; leaves opposite, coriaceous, ovate to oblong-ovate, 10-15 cm. long, 5-8 cm. wide, acute, cordate or rounded at base, stellate, slightly stellate-pubescent and wrinkled above, stellate-tomentose beneath, Spinach Green 0960 above and Willow Green 000862/1 beneath, petiole 1.5-3.5 cm. long, stellate-pubescent; flowers produced in April-May in peduncled, pubescent, usually 7-rayed cymes 6-8 cm. in diameter, creamy-white, perfect, 6-8 mm. across, 250-350 per inflorescence, corolla rotate-campanulate, stamens 5, ovary 1-loculed, 1-ovuled; fruits 90-250 in cluster, the cluster 8-10 cm. across, fruit a drupe, glabrous, crowned by the persistent calyx, ovoid-oblong, 9-10 mm. long, 6.5-8.0 mm. wide, Jasper Red 018 ripening to Blood Red 820 and then bluish-black, stone compressed, 7-8 mm. long, 4.5-6.0 mm. wide, with three ventral and two dorsal grooves.

Viburnum (*dilatatum* × *lobophyllum*) 'Oneida'
N. A. 28869, P. I. 316676

Viburnum (*dilatatum* × *lobophyllum*) 'Oneida' resulted from a cross of *V. dilatatum* × *V. lobophyllum*. 'Oneida' is distinguished by its flowering, which is abundant in May and sporadic throughout the summer; glossy, dark red fruits which persist until late winter; fine-textured foliage which assumes pale yellow and orange-red autumn hues; and upright growth habit with wide-spreading branches. *Viburnum dilatatum* and *V. lobophyllum* were crossed in 1953, producing the cultivar 'Oneida', which was first observed in flower in 1958 and selected in 1961. During the past eight years 'Oneida' has consistently produced abundant flowers and fruits. The dark green foliage is well dispersed on upright and spreading branches to give refined texture to the mature specimen. The leaves turn pale yellow to orange-red in late autumn. Creamy-white inflorescences are abundantly produced in May, and during the summer two or three additional sporadic bloom periods occur which mature fruit and add interest to the plant. Mature glossy, dark red fruit, immature fruit, and flowers are all evident on the plant at the same time. Because of the continuous flowering, abundant fruit that ripens in August is produced, and it persists on the plant until midwinter. Small plants propagated by cuttings will flower the second or third season, but an effective display will not be effected before the fifth year. The plant has wide adaptability for landscape use.

'Oneida' is a deciduous, erect shrub, 3.3 m. high, and 3 m. wide; branches wide-spreading, light gray-brown and sparsely pilose when young, becoming glabrous, later becoming dark gray, scabrous with prominent lenticels and marked by longitudinal fissures; winter buds ovate, somewhat flattened, 5-7 mm. long, 3-5 mm. in diam-



39. *Viburnum* (*dilatatum* × *lobophyllum*) 'Onondaga': a (at left), the growth habit is upright, with wide-spreading branches; b, glossy, dark red fruits persist until late winter; c, sporadic flowering throughout the summer produces flowers, immature fruit, and mature fruit on the plant at the same time.

U. S. Dept. of Agriculture photograph

eter, with 2 pairs of scales, sparsely pilose, reddish-brown; leaves very variable in shape and size, elliptic, elliptic-ovate, or obovate, acute or often abruptly acuminate at apex, broadly cuneate to truncate at base, 6-12 cm. long, 4-8 cm. wide, main lateral veins 5-7 on each side of midrib, Ivy Green 0001060/1, puberulent when young, soon glabrescent above, Sage Green 000861 and sparsely pilose or fasciculate-pubescent on midribs and tufts in vein axils beneath, denticulate with vein branches ending in somewhat hard teeth, petiole 1.4-4.0 cm. long, exstipulate, pilose; cymes terminal on leafy branches, inflorescences produced in May and sporadically throughout summer, 10-14 cm. across, on peduncles up to 3.5 cm. long, 5-7-rayed, with 500-750 florets per inflorescence, florets sessile or short-pedicellate, puberulent and glandular, corolla creamy-white, rotate, 4-5 mm. across, the lobes ovate, sparsely puberulent, stamens 5, exserted, ovary 1-loculed, 1-ovuled; fruit a drupe, elliptic-ovate, 7-10 mm. long, 6-8 mm. wide, 25-200 per cluster, Fire Red 15/1 to Cardinal Red 822, with persistent calyx, stone compressed, with three dorsal and two ventral shallow grooves.

Viburnum Sargentii 'Onondaga'
N. A. 28870, P. I. 316680

Viburnum Sargentii 'Onondaga' resulted from a self-pollination of *V. Sargentii*. 'Onondaga' is distinguished by its velvety, fine-textured, dark maroon young foliage that maintains a maroon tinge when mature. Among the seedling population of 93 plants appeared two distinct foliage variants, the superior one being selected for introduction. This cultivar was first observed and selected in 1959. The dark maroon foliage is evident as soon as the buds expand, and it is distinct until the leaf matures. The plant will produce a greater foliage display if pruned to induce dense branching. The inflorescences, composed of creamy-white sterile and fertile florets, is ineffective against the dark-tinged foliage. The red fruit is well displayed against the foliage but is not abundantly produced. Small plants propagated by cuttings will immediately display the foliage coloration, but fruiting will be delayed three or more years. The smaller stature provides a plant adaptable for smaller properties.

'Onondaga' is a deciduous, globose shrub to 2 m. in height and as much in breadth; branches dark gray, corky and finely fissured, branchlets densely pilose when young, becoming glabrous and gray-brown the second year, marked with prominent lenticels; winter buds ovoid, stipulate, glabrous, enclosed by connate scales; leaves opposite, usually 3-lobed and palmately 3-veined, sparsely pilose on midveins above, pilose beneath, especially on veins, the lobes acuminate, coarsely and irregularly dentate, rounded or truncate at base, 10-14 cm. long, 9.5-14.0 cm. wide, Erythrite Red 0027 when young, Parsley Green 00962 above and Willow Green 000862 beneath with traces of reddish-brown when mature, petioles pilose,



40. *Viburnum Sieboldii* 'Seneca': a, stout, spreading branches produce a picturesque treelike specimen; b, branch of a commonly cultivated form of *V. Sieboldii*, with only the pedicels remaining in August; c, branch of 'Seneca' with pendulant, multiple-colored clusters of firm orange-red fruit in late September.

U. S. Dept. of Agriculture photograph

1.5-4.0 cm. long, with large disk-like glands; cymes 6.5-12.0 cm. across, flowers appearing in late May to early June, Erythrite Red 0027 in bud, opening creamy-white tinged pale pink; sterile marginal florets 10-17 in number, 1.3-2.0 cm. in diameter, 5-cleft with lobes obovate and unequal, fertile florets perfect, 250-700 per inflorescence, 4.0-5.5 mm. across, corolla rotate-campanulate, stamens 5, exserted, anthers purple, ovary 1-loculed, 1-ovuled; fruits 25-70 in a cluster, the cluster 8-10 cm. across, fruit a drupe, glabrous, subglobose, 6.0-8.5 mm. long, 6-8 mm. in diameter, Orient Red 819 to Chrysanthemum Crimson 824, ripening in September and persisting until midwinter, stone flattened, ovate-orbicular, 6.0-6.5 mm. long, 5.5-6.0 mm. wide.

Viburnum Sieboldii 'Seneca'
N. A. 28871, P. I. 316682

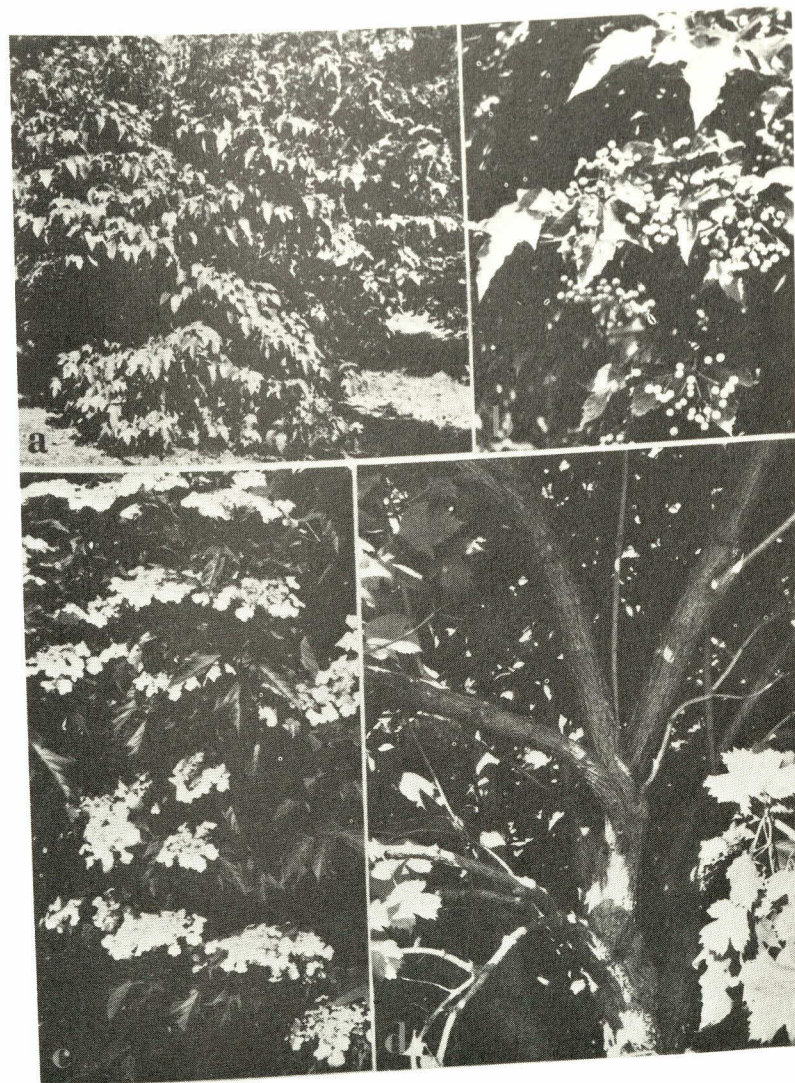
Viburnum Sieboldii 'Seneca' resulted from a self-pollination of *V. Sieboldii*. 'Seneca' is distinct in its abundant, pendulant inflorescences of firm, red-pedicelled fruit which ripens to red and persists on the plant up to three months before finally becoming black and falling. For the past six years the seedling has maintained the firm red fruit for up to three months. Birds normally eat the fruit of *V. Sieboldii* before it has matured, and only the red pedicels remain to provide an ornamental display. However, the fruit of 'Seneca' is very firm and is not devoured by birds even when the fruit has become fully ripe. The pendulant, multiple-colored clusters of orange-red fruit are spectacularly displayed above the coriaceous green foliage. The massive, creamy-white panicles are produced in May or early June as the young foliage unfolds. The panicles are supported on stout, spreading branches that are picturesque at all seasons. Although 'Seneca' is treelike, the plant can be grown with several branches from the base and maintained as a large shrub.

'Seneca' is a deciduous, stout shrub, or small tree, to 10 m. high, with stiff, spreading branches; branchlets gray, stellate-pubescent when young; leaves opposite, oval or oblong-obovate, 11-20 cm. long, 3-8 cm. wide, acute or rounded at apex, broad-cuneate at base, crenate-serrate except for basal third, glabrous above and stellate-pubescent chiefly on veins beneath, with 8-12 pairs of prominent veins, Parsley Green 00962 above and Willow Green 00862/1 beneath, exhaling a disagreeable odor when bruised or decaying, petiole sparsely stellate, 1-3 cm. long; flowers produced in May to June in panicles 8-12 cm. long and as broad, creamy-white, 200-700 per inflorescence, 6-8 mm. in diameter, corolla rotate-campanulate, perfect, petals waxy, stamens 5, ovary 1-loculed, 1-panulate, perfect, petals waxy, stamens 5, ovary 1-loculed, 1-ovuled; fruit a drupe, glabrous, crowned by the persistent calyx, oblong, 9-11 mm. long, 7-8 mm. wide, 60-100 in a pendulant cluster 10-14 cm. across, changing from Indian Yellow 6/2 to Jasper Red 018, ripening to Blood Red 820, then to blue-black, persisting in color phases for 3 or more months before mature, stone obovoid, 7-8 mm. long, 4-5 mm. wide.

Viburnum Sargentii 'Susquehanna'
N. A. 28872, P. I. 316681

Viburnum Sargentii 'Susquehanna' is a seedling selection that may be distinguished as a select V. Sargentii plant with heavy-branched, corky trunk; coriaceous, dark green foliage; abundant flowers and fruits; and upright growth habit. 'Susquehanna' occurred as a superior plant among a seedling population of 209 plants raised from seed obtained from Prov. Matsu, Hondo, Japan. Although the plant had flowered earlier, the seedling was first observed in flower in 1959. The plant consistently flowers and fruits abundantly each season. Since V. Sargentii as commercially grown usually is not the true species, or is an inferior plant, this superior seedling was selected for introduction as a cultivar. The large inflorescences of sterile and fertile florets are produced on the new growth in late May and provide an effective creamy-white display for a week. The large clusters of fruit are yellow-green during the summer, ripen to glossy, dark red, and remain on the plant until midwinter. The sturdy, corky branches are of landscape merit either when covered with the glossy, heavy leaves, or when dormant. Small plants propagated by cuttings may flower earlier, but an ornamental display is not effected in less than five years. A mature specimen is a large, upright plant ideal for park planting but not suited to the small home garden.

'Susquehanna' is a deciduous, upright shrub, 2-3 m. in height and as much in breadth; branches stout, dark gray-brown, corky, with shallow longitudinal fissures, branchlets pilose or glabrous when young, becoming glabrous gray-brown the second year, and marked by prominent lenticels; winter buds ovoid, stipulate, glabrous, partially gum-covered, enclosed in connate scales; leaves opposite, glabrous above and sparsely pilose on midribs beneath, usually 3-lobed and palmately 3-nerved, with an elongated, entire middle lobe and short spreading lateral lobes (lobes acuminate), sometimes oblong-lanceolate and without lobes, coarsely and irregularly dentate, 18-24 cm. long, 10-16 cm. wide, Spinach Green o960 above and Spinach Green o960/2 beneath, petioles glabrous, 3-5 cm. long, with large disk-like glands; flowers appearing in late May to early June, 300-800 per inflorescence; cymes 12-18 cm. across on peduncles 2-6 cm. long, bordered by 16-26 sterile, creamy-white florets which are 2.5-4.0 cm. across and 5-cleft with lobes obovate and unequal, fertile florets perfect, 2.5-3.5 mm. across, corolla rotate-campanulate, stamens 5, exserted, anthers purple, ovary 1-loculed, 1-ovuled; fruit a drupe, glabrous, subglobose, 8-12 mm. in diameter, 40-100 in a cluster 9-12 cm. across, Yellow Ochre o7 to Burnt Orange o14, ripening to Capsicum Red 715 to Currant Red 821 in September, stone ovate, flattened, 8.5-9.5 mm. long, 6.5-7.5 mm. wide.



41. Viburnum Sargentii 'Susquehanna': a, growth habit; b (top right), dark red fruit contrasting with the coriaceous, dark green foliage; c (lower left), large inflorescences of sterile and fertile florets produced in late May; d, heavy branches showing distinct, corky bark.

U. S. Dept. of Agriculture photograph

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Notes on the Cultivated Liliaceae
4. Lachenalia

John Ingram*

Good intentions so frequently have a way of never developing into anything beyond just good intentions. This observation might be applied appropriately to Baron Josef Franz Jacquin, when he sent his manuscript dealing with his proposed new genus Lachenalia to the editor of Acta Helvetica... [Basel], with the expectation that it would be published in 1780; it was, in fact, received by the editor in February, 1780. Evidently some major problem arose, however, to delay publication of this journal after 1777. Jacquin's paper was ultimately published, but not until 1787, when, after a ten-year lapse, the journal was revived and continued for a very short time under the title Nova Acta Helvetica. That Jacquin's article was intended to appear in volume 9 of the Acta Helvetica obviously was known to contemporary botanists who cited "Acta Helv. vol. 9" when referring to the place of publication of Lachenalia. Johann Andreas Murray was one of these, for in his revision of Linnaeus's Systema Vegetabilium (ed. 14, p. 314, 1784) he credited Jacquin with having already published Lachenalia. Although Murray surely did not intend to publish Lachenalia as a new genus when he provided a very brief description of it (since he cited Jacquin, thinking that Jacquin had already published the name), he actually must be credited as the author of the new genus; actual citation must therefore read: Lachenalia Jacquin f. ex Murray. A portion of the page showing Murray's original publication of Lachenalia follows:

. . LACHENALIA. Cal. subtriphyllus, inferus, coloratus. Cor. 3-petala, receptaculo inferta. Jacq. jun. in act. helv. vol. 9. tab. f. 3. M.
tricolor. I. LACHENALIA. Jacq. icon. pl. rarior. tab. 3. M.

This genus of attractive plants commemorates Werner von Lachenal, a professor of botany in Basel, Switzerland. It has been estimated that there are about 50 species in the genus, all endemic to South Africa. Only those species offered to date in the trade in the United States have been included in this treatment.

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