

ARNOLDIA



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SOME OF THE BEST VINES AND GROUND COVERS FOR MASSACHUSETTS GARDENS*

DURING the past two years, two issues of *Arnoldia* have dealt with some of the best shrubs and trees for Massachusetts gardens. (*Arnoldia* 11: No. 1, March 9, 1951; Vol. 12: No. 1, March 7, 1952). This issue, dealing with vines and ground covers will complete this series. Everything which was said in those bulletins on what constitutes "the best" and how such plants are chosen, is also applicable here to the vines and ground covers. It should be re-emphasized here however, that nothing is implied in the following discussions of the selected types, that would indicate some of the others listed on pages 18 and 19 are not just as serviceable. The recommended ones might be used considerably more than they are at present.

It is especially important to note that each plant in the following list is available from at least one of the listed nurserymen. It was impossible to contact all the nurserymen in the state, so there are undoubtedly many other sources in the state for these plants. Since they are available, your local nurseryman can obtain them for you, if he will.

Glowing descriptions of plants that are unobtainable may play on the imagination, but it is useless to become enthusiastic about them until they are obtainable. Each one of these listed is available in 1953. Consequently, the gardeners of the state are urged to become better acquainted with these vines and ground covers, buy a few that are hardy and in this way increase the beauty and interest of the home grounds.

*This list was prepared at the request of the Horticultural Committee of the Garden Club Federation of Massachusetts, and is a companion list to those published in *Arnoldia* for March 9, 1951 (Shrubs) and March 7, 1952 (Trees). It is not perfect and many may take exception to it. However, it does include the 35 top notch vines and ground covers that can be used more in our gardens today. Most important, *all are available in 1953 from local nurseries!*

Thirteen of the Best Vines for Massachusetts Gardens

<i>Akebia quinata</i>	Fiveleaf Akebia 2, 4, 5, 6, 7, 8, 9
<i>Ampelopsis brevipedunculata</i>	Porcelain Ampelopsis 1, 2, 6
<i>Campsis tagliabuana</i> "Mme. Galen"	Var. of Trumpet Vine 2, 4, 5, 6, 7, 8
<i>Clematis montana rubens</i>	Pink Anemone Clematis 2, 6, 7, 8, 9
<i>Clematis texensis</i>	Scarlet Clematis 6, 7, 8, 9
<i>Clematis vitalba</i>	Traveler's Joy 5, 6, 9
<i>Euonymus fortunei colorata</i>	Purpleleaf Wintercreeper 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
<i>Hedera helix baltica</i>	Baltic Ivy 1, 2, 3, 4, 5, 6, 7, 8, 10
<i>Hydrangea petiolaris</i>	Climbing Hydrangea 1, 2, 3, 4, 5, 6, 7, 8, 9
<i>Lonicera henryi</i>	Henry's Honeysuckle 2, 4, 6
<i>Polygonum auberti</i>	Silver Fleece Vine 1, 2, 3, 4, 6, 7, 8
<i>Wisteria floribunda macrobotrys</i>	Longcluster Japanese Wisteria 6, 10
<i>Wisteria floribunda rosea</i>	Rose Japanese Wisteria 8, 10

Twenty three of the Best Ground Covers for Massachusetts Gardens

<i>Aegopodium podagraria</i>	Bishop's Goutweed 8
<i>Arctostaphylos uva-ursi</i>	Bearberry 2, 4, 6, 7, 8, 10
<i>Cytisus purpureus</i>	Purple Broom 5
<i>Diervilla lonicera</i>	Dwarf Bush Honeysuckle 5, 6
<i>Euonymus fortunei kewensis</i>	Kew Wintercreeper 1, 2, 5, 6, 7, 8
<i>Euonymus fortunei minima</i>	Baby Wintercreeper 2, 3, 6, 7, 8, 9, 10
<i>Forsythia</i> "Arnold Dwarf"	2, 5, 8, 10
<i>Hypericum buckleyi</i>	Blue Ridge St. Johnswort 6, 8
<i>Indigofera incarnata alba</i>	White Chinese Indigo 5
<i>Indigofera kirilowi</i>	Kirilow Indigo 5, 6
<i>Iberis sempervirens</i> "White Gem"	Var. of Evergreen Candytuft 2, 3, 7, 8
<i>Juniperus horizontalis</i>	Creeping Juniper 1, 4, 6, 7, 8, 10
<i>Juniperus horizontalis plumosa</i>	Andorra Juniper 1, 2, 3, 4, 6, 7, 8, 9, 10
<i>Juniperus chinensis sargentii</i>	Sargent Juniper 2, 5, 6, 8
<i>Leiophyllum buxifolium</i>	Box Sandmyrtle 4, 8, 10
<i>Leucothoe catesbaei</i>	Drooping Leucothoe 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
<i>Lysimachia nummularia</i>	Moneywort 6, 8
<i>Pachistima canbyi</i>	Canby Pachistima 2, 4, 5, 6, 7, 8, 10
<i>Pachysandra terminalis</i>	Japanese Spurge or Pachysandra 1, 2, 3, 4, 6, 7, 8, 9, 10
<i>Rhus aromatica</i>	Fragrant Sumac 1, 6, 7, 8
<i>Rosa wichuraiana</i>	Memorial Rose 2, 6, 7, 8, 9, 10
<i>Teucrium chamaedrys</i>	Chamaedrys Germander 1, 2, 5, 6, 7, 8, 10
<i>Xanthorhiza simplicissima</i>	Yellow-root 1, 2, 4, 5, 6, 7

Sources for Vines and Ground Covers Listed

1. Adams Nursery, Inc., Westfield, Mass.
2. Bay State Nurseries, North Abington, Mass.
3. Cherry Hill Nurseries, West Newbury, Mass.
4. Harlan P. Kelsey, Inc., East Boxford, Mass.
5. Kingsville Nurseries, Kingsville, Maryland
6. Henry Kohankie and Son, Painesville, Ohio
7. Littlefield-Wyman Nurseries, 227 Centre Ave., Abington, Mass.
8. Weston Nurseries, Inc., Weston, Mass.
9. Wyman's Framingham Nurseries, Framingham, Mass.
10. Tingle Nurseries, Pittsville, Maryland



PLATE I

Clematis montana rubens. The Pink Anemone Clematis introduced into America by the Arnold Arboretum can become a real garden asset if the soil conditions are slightly alkaline.

VINES FOR DIFFERENT PURPOSES

The following lists of vines are suggested for different purposes but are not infallible by any means. Certain vines can be made to grow on banks or in the shade, or be used as ground covers with a little careful training and fertilization when normally they would not be expected to do well under such conditions. The interested gardener will want to experiment on his own with other varieties, and may be rewarded with success if he goes about making his selections intelligently.

Twining Vines

Actinidia species	Celastrus species
Akebia quinata	Lonicera species
Aristolochia durior	Polygonum auberti
Wisteria species	

Clinging Vines

(clinging to stone and wood)

Campsis species	Hedera species
Euonymus fortunei varieties	Hydrangea petiolaris
Parthenocissus tricuspidata and varieties	

Vines climbing by means of tendrils or twining leaflets

Clematis species	Vitis species
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Vines for Flowers

Campsis species	Lonicera species
Clematis species	Polygonum auberti
Hydrangea petiolaris	Wisteria species

Vines for Colorful Fruits

Ampelopsis brevipedunculata	Clematis—most species
Celastrus species	Parthenocissus species
Euonymus fortunei vegeta	

Vines Withstanding Shade

Actinidia species	Hedera species
Akebia quinata	Hydrangea petiolaris
Aristolochia durior	Lonicera species
Clematis species	Parthenocissus species
Euonymus species	Vitis species

Vines Withstanding Dry Soil Conditions

Campsis radicans	Parthenocissus quinquefolia
Clematis texensis	Parthenocissus tricuspidata
Polygonum auberti	

Vines for Ground Covers

<i>Akebia quinata</i>	<i>Hedera helix baltica</i>
<i>Celastrus</i> species	<i>Lonicera</i> species
<i>Euonymus obovata</i>	<i>Parthenocissus quinquefolia</i>

GROUND COVERS FOR DIFFERENT PURPOSES

Ground Covers for Shade

<i>Aegopodium podagraria</i>	<i>Hosta</i> sp.
<i>Ajuga reptans</i>	<i>Liriope spicata</i>
<i>Convallaria majalis</i>	<i>Lysimachia nummularia</i>
<i>Epimedium grandiflorum</i>	<i>Nepeta hederacea</i>
<i>Euonymus fortunei</i> and vars.	<i>Pachysandra terminalis</i>
<i>Gaultheria procumbens</i>	<i>Vinca minor</i>
<i>Hedera helix</i>	<i>Xanthorhiza simplicissima</i>

Ground Covers for Dry Soil

<i>Aegopodium podagraria</i>	<i>Hosta</i> sp.
<i>Arctostaphylos uva-ursi</i>	<i>Nepeta hederacea</i>
<i>Cytisus purpureus</i>	<i>Rhus aromatica</i>
<i>Gaultheria procumbens</i>	<i>Sedum</i> species

Ground Covers which increase rapidly

<i>Aegopodium podagraria</i>	<i>Lonicera</i> species
<i>Akebia quinata</i>	<i>Lysimachia nummularia</i>
<i>Ajuga reptans</i>	<i>Nepeta hederacea</i>
<i>Cerastium tomentosum</i>	<i>Pachysandra terminalis</i>
<i>Convallaria majalis</i>	<i>Parthenocissus quinquefolia</i>
<i>Diervilla lonicera</i>	<i>Polygonum Reynoutria</i>
<i>Euonymus fortunei colorata</i>	<i>Rhus aromatica</i>
<i>Forsythia "Arnold Dwarf"</i>	<i>Rosa wichuraiana</i>
<i>Indigofera</i> species	<i>Sedum</i> species
<i>Liriope spicata</i>	<i>Vinca minor</i>
	<i>Xanthorhiza simplicissima</i>

Ground Covers less than 6 inches high

<i>Ajuga reptans</i>	<i>Iberis sempervirens</i> "White Gem"
<i>Arctostaphylos uva-ursi</i>	<i>Juniperus horizontalis</i> (usually)
<i>Cerastium tomentosum</i>	<i>Liriope spicata</i>
<i>Convallaria majalis</i>	<i>Lysimachia nummularia</i>
<i>Epimedium grandiflorum</i>	<i>Nepeta hederacea</i>
<i>Euonymus fortunei</i> var.	<i>Pachysandra terminalis</i>



PLATE II

Hydrangea petiolaris. This Climbing Hydrangea, growing on an elm tree by the Arnold Arboretum makes a wonderful display every year and does not injure the tree in any way.

Gaultheria procumbens	Phlox subulata "Emerald Cushion"
Gypsophila repens rosea	Sedum species
Vinca minor	

Evergreen Ground Covers

Arctostaphylos uva-ursi	Leiophyllum buxifolium
Calluna vulgaris	Leucothoe catesbaei
Euonymus fortunei vars.	Liriope spicata
Gaultheria procumbens	Pachistima canbyi
Iberis sempervirens "White Gem"	Pachysandra terminalis
Juniperus sp. and vars.	Vinca minor

Hardiness Note: Plants listed as hardy in Zones 2, 3, and 4 are hardy throughout most of Massachusetts; those hardy in Zone 5 can be safely grown only in the southern, eastern and southeastern parts of the state.

VINES

Akebia quinata Twining 30'-40' Zone 4 Fiveleaf Akebia

This is a dainty-leaved, vigorously growing twiner that makes one of the best foliage vines for this area. It is not new, has been in America for nearly a century, and in some cases where it has been allowed to grow unrestrained, has become just as much of a pest as bittersweet. However, it is not used nearly enough. The small purple flowers appearing in mid-May are not conspicuous, but are very interesting. As a delicate foliage vine, it has few peers. Since it climbs by twining, it must have some upright support around which it can twine. Grown on a rainspout, it will climb to the top of a two story building in a few years time. When the spout must be removed for repairs or painting, the vine can be cut back to within two or three feet of the ground. If this is done in the early spring the vine can be expected to grow back in another two years. The leaves remain green on the plant until early winter. It requires no particular attention, and as far as we know, has no serious insect or disease pests.

Ampelopsis brevipedunculata Zone 4 Porcelain Ampelopsis

The Porcelain Ampelopsis climbs by attaching tendrils to a means of support. It has deeply lobed leaves, is not a dense vine like the Boston Ivy, but its most ornamental characteristic is its porcelain blue fruits in the early fall. No other vine in the North has fruits as colorful as these.

Campsis tagliabuana
 "Madame Galen" Clinging 25' Zone 4 Var. of Trumpet Vine

The larger flowers of this hybrid clone over the flowers of the common native Trumpet Vine (*C. radicans*) are its chief claim to added use. The flowers are orange

and scarlet, usually $2\frac{1}{2}$ " in diameter and like the other members of the genus it climbs by attaching small root-like holdfasts to the wall. Since the large flowered Chinese Trumpet vine is not hardy here, this hybrid might be used where its large flowers are wanted.

Clematis montana rubens 24' Zone 5 Pink Anemone Clematis

E. H. Wilson brought this beautiful plant into America from China. Although it is not completely hardy in all parts of Massachusetts, and many people find difficulty in meeting the exacting demands of the Clematis clan in order to grow them well, nevertheless it might be worthy of a trial for those who are willing to study its needs and supply them. The flower buds are borne on the previous year's wood, hence it should not be pruned until immediately after flowering. The flowers are rosy pink, about $2''-2\frac{1}{2}$ " in diameter and appear in May, and the new young foliage is a reddish bronze color. Like many another clematis, the plummy seed heads are also very interesting in the fall.

Clematis texensis 6' Zone 4 Scarlet Clematis

A native Texan, there are a few gardeners in Massachusetts who are successful in cultivating this six foot vine. The bright scarlet flowers are bell shaped and profuse, appearing in July. If grown in a sheltered spot it may start to bloom in early summer and continue until frost. Although it may die to the ground in the winter, it grows quickly from the base, and since the flowers are borne on the current year's growth, it can be expected to bloom the same year. Like most other clematis varieties, it needs special soil conditions in which to do well.

Clematis vitalba 30' Zone 4 Traveler's Joy

One of the vigorous-growing species, it does have small flowers so that its rapidity of growth, its late summer bloom and its very fluffy seed heads in the fall are its important features rather than the size of the individual flowers. The common name comes from the fact that the white flowers of this European native are slightly fragrant, and the odor proves quite refreshing to the traveler on a hot summer's day. An excellent vine for growing over fence or garden pergola where dense foliage is wanted.

Euonymus fortunei colorata Zone 5 Purpleleaf Wintercreeper

The so-called Purpleleaf Wintercreeper is good as a low vine and especially a ground cover. It is not completely evergreen, but in the fall its inch-long leaves turn a brilliant purplish red, making it a very effective fall plant. This fall color may last for several months, long into the winter. Like the other Euonymus, it climbs by means of attaching small root-like hold fasts to wall or tree trunk, hence it should not be used to climb on wooden buildings.



PLATE III

Polygonum auberti. The Silvervine Fleecflower is an excellent late summer flowering vine that needs some support for climbing. Even though it may be killed to the ground in severe winters, it will come back with sufficient vigor to bloom the current year.

Hedera helix baltica Clinging 90' Zone 4 Baltic Ivy

Every one is familiar with the English Ivy, but it is not completely hardy in all parts of Massachusetts. The variety *baltica* is supposed to be the hardiest variety available at present. It is growing to the top of the three story brick administration building of the Arnold Arboretum, on the north side, and has been there for nearly forty years. It must be admitted that this is a sheltered situation, and even here, during some of the more severe winters it is partly injured, but many a winter it comes through unscathed. Consequently, if English ivy is to be used, this variety might be expected to do best. On Cape Cod it grows to the top of thirty foot trees, but in most colder situations it is best to try it only in sheltered situations, especially those with northern exposures.

Hydrangea petiolaris Clinging 75' Zone 4 Climbing Hydrangea

Although this excellent vine has been growing in the Arnold Arboretum since 1892 it has not been as widely used as it merits. This may be partly due to the fact that young plants take several years before they become well established and really start to grow. It is a true hydrangea, and climbs by root-like hold fasts which attach themselves to brick, stone or tree trunk. It should not be used on a wooden building, obviously. It does not harm tree trunks, for the simple reason that it does not twine and strangle branches as would bittersweet or the Fiveleaf Akebia, but it grows more or less vertically up the trunk. The lateral branches extend about three feet from the trunk or wall, and it is literally covered with 6''-10'' creamy white, flat flower clusters in June.

Lonicera henryi Twining 8' Zone 4 Henry's Honeysuckle

The common Hall's Honeysuckle, which has escaped cultivation in the South and become a pest over wide areas, is not reliably hardy in all parts of Massachusetts. Henry's Honeysuckle is similar in many respects to *L. japonica halliana* except that it is slightly more hardy. It can be used as a ground cover.

Polygonum auberti Twining 20'-30' Zone 4 Silver Fleece Vine

A handsome, vigorous, twining vine that may grow as much as 20'-30' in a single season. The foliage is dense and bright green, and the small greenish white flower clusters appear in large numbers late in summer when few woody plants are in bloom. The fruits are not very effective. Its vigor and conspicuous late bloom are its chief assets in the garden.

Wisteria floribunda macrobotrys Twining 24' Zone 4
Longcluster Japanese Wisteria

This is a variety of the Japanese wisteria which is hardier than the more com-

mon Chinese species, *W. sinensis*. This variety has flower clusters that are the longest of any, some in the Arnold Arboretum measured 36'' long. In Japan, E. H. Wilson reported some flower clusters of this same species which were 52'' long, but these of course, were growing under ideal conditions.

Wisteria floribunda rosea Twining 24' Zone 4 Rose Japanese Wisteria

This is the only wisteria with truly pink flowers, the racemes being at least 12'' long and extremely fragrant. It is one of the best varieties of this species.

GROUND COVERS

Aegopodium podagraria 12''-14'' Zone 4 Bishops Goutweed

This sturdy perennial does very well in dry soil, and does almost equally well in sun and shade. Although the carrot-like fruiting heads may be as much as 14'' tall, the foliage is considerably lower. It can be cut with a lawn mower and fully recover, although this is not conducive to good growth if done regularly. In some plants the leaves are green and in others the green leaves are bordered with white. It can become a weed unless it is kept restrained.

Arctostaphylos uva-ursi Prostrate creeper Zone 2 Bearberry

Only a few inches tall, this excellent native ground cover with its small ($\frac{1}{2}$ ''- $\frac{3}{4}$ '' long) leaves is especially adaptable for sandy soils. In fact it requires poor soil in which to grow. It is often used at the seashore in rocky areas where the small soil pockets may tend to dry out. In the wild, it forms dense mats which can be lifted in squares and transplanted to new locations. It is being used considerably along highways in eastern coastal regions for planting sandy banks where little else will grow. On the Pacific Coast it is equally popular and for the same reasons.

Cytisus purpureus 18'' Zone 5 Purple Broom

The Purple Broom can be used as a ground cover, but it does not increase by runners or underground stems. In other words, the original plants should be spaced about 18''-24'' apart and eventually they will grow together forming a complete covering never over 18'' tall. Since all brooms prefer dry sandy soil, this has its merits, and the bright purple, pea-like flowers appearing in mid-May add to its effectiveness at that time.

Diervilla lonicera 3' Zone 3 Dwarf Bush Honeysuckle

A hardy native, this can be used as a coarse ground cover in part of the garden where its height is not objectionable. When well established it can be ruthlessly cut to the ground, and, since it does not suffer from any serious disease or insect pests there are places where it might be tried. It will increase by underground stems, but not rapidly.

Euonymus fortunei kewensis Prostrate creeper Zone 5 Kew Wintercreeper
Euonymus fortunei minima “ “ “ Baby Wintercreeper

Both these are very small-leaved evergreen forms, and they do differ in that *minima* has leaves about $\frac{1}{2}$ " long and *kewensis* has leaves smaller than this. It is probably inadvisable to plant these over large areas, for they are small and slow growing. In small spaces however, in the rockery or along the flagstones of the garden path, they can cause much interest. Both hug the ground and seldom are over a few inches tall.

Forsythia "Arnold Dwarf" 2' Zone 5

This dwarf forsythia, originated in the Arnold Arboretum and has never bloomed since it was introduced in 1941. Hence it is not a desirable "flowering" shrub, but as a ground cover it is desirable where a mounded irregular growing mass is desired. Old plants are only 2'-3' tall, usually almost twice as broad, and everywhere the drooping branchlets touch the soil they root. Consequently, if planted several feet apart, the plants quickly cover the ground and of course, would keep the soil from washing. It does not make a uniform cover, since the habit of its growth results in high and low spots, but it can be depended upon to cover considerable ground in this interesting manner.

Hypericum buckleyi 10" Zone 5 Blue Ridge St. Johnswort

A single plant of this species will quickly grow into a round mat of foliage several feet in diameter, and although the spreading branchlets do not seem to root, nevertheless they do cover the ground. The bright yellow flowers, about 1" in diameter appear about mid-June, and the profuse small leaves give it a fine texture.

Iberis sempervirens "White Gem" 6" Zone 5 var. of Evergreen Candytuft

The old-fashioned Evergreen Candytuft has been considerably used in the past and its limitations are well known by most gardeners. This variety is more compact and dense than the species, hence is better for use as a true ground cover even though more plants must be planted at the start. There are other dwarf varieties available equally as good for ground cover purposes.

Indigofera incarnata alba 1 $\frac{1}{2}$ ' Zone 5 White Chinese Indigo

This white flowered variety is considerably hardier than the species and is not at all well known at present. The flowers are pea-like, appearing in July and the plant makes a dense growth by underground stems. Even if it does winterkill, it can be cut to the ground and quickly grows back in time to bloom profusely. This Japanese native has been in America over half a century without being used much as a ground cover.

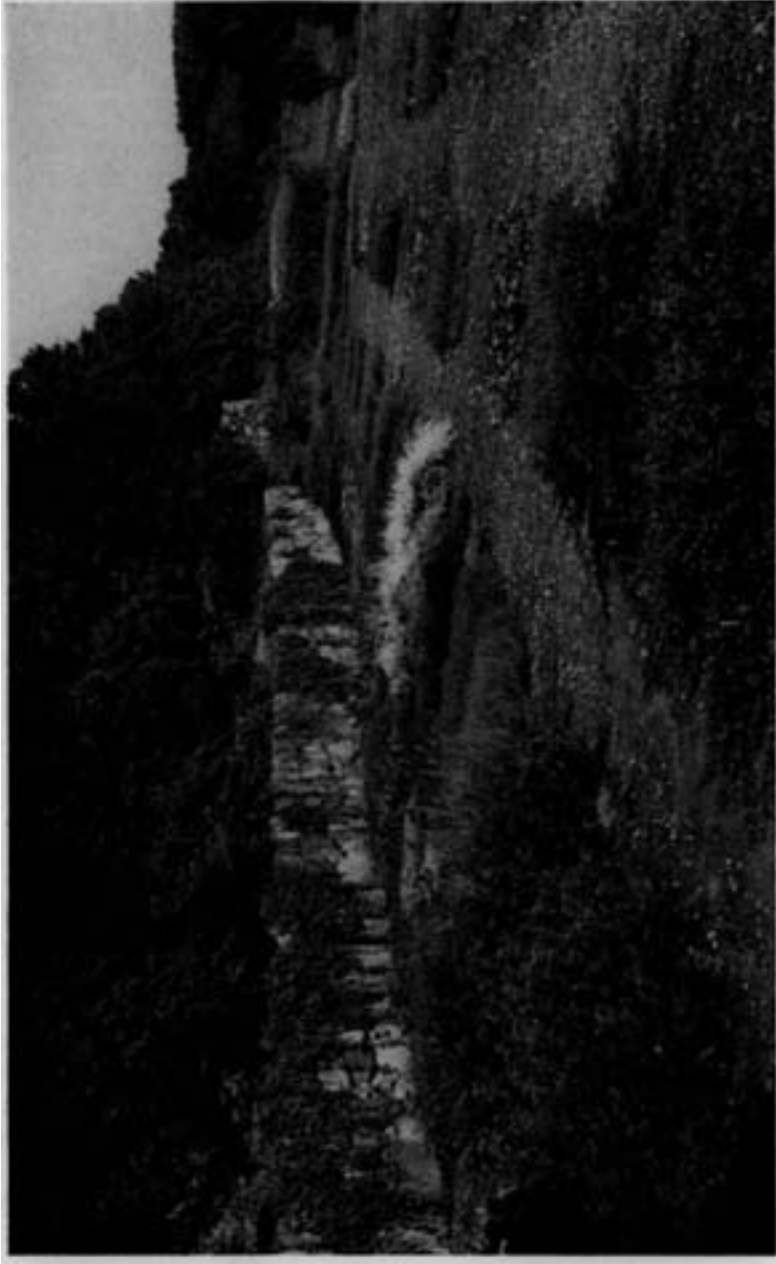


PLATE IV

Ground Cover Demonstration Plots. This is situated on the Case Estates of the Arnold Arboretum, Wellesley St., Weston, and is always open to the public. At present there are over 125 different kinds of plants being grown as ground covers here.

It is well worth careful inspection.

Indigofera kirilowi 3' Zone 4 Kirilow Indigo

A low, dense shrub which makes an excellent ground cover by suckering and spreading rapidly by underground stems. It grows to a uniform height and makes a more dense ground cover than does the Yellow-root. If, in severe winters, the branches are killed, it quickly sprouts from the base again and flowers in summer on the current years' shoots.

Juniperus horizontalis 6''-12'' Zone 2 Creeping Juniper

Juniperus horizontalis plumosa 12'' Zone 2 Andorra Juniper

These are not rare by any manner of means, but they should be known by all who are interested in evergreen ground covers. The species is low and creeping, with runners several feet long, so that sometimes it does not cover the ground as well as should be expected. The variety *plumosa* on the other hand, is more dense and compact in habit, growing into a low, flat, slightly mounded plant. This variety turns a pleasing purplish in the fall and remains that way a greater part of the winter. When it is used as a ground cover, if the plants are regularly spaced about 2' apart, they will eventually grow into each other and make a low dense mat completely covering the ground. It is commonly used as a specimen plant in many evergreen plantings, and should be considered for mass planting as a ground cover where a dense foliage mat is wanted.

Juniperus chinensis sargentii 8''-12'' Zone 4 Sargent Juniper

This low, prostrate, creeping juniper has steel blue foliage and makes mats eventually 8'-10' in diameter. It makes an excellent ground cover with foliage a different color from the other junipers used for this same purpose.

Leiophyllum buxifolium 18'' Zone 5 Box Sandmyrtle

A small evergreen of value as a ground cover only in very acid soil suitable for ericaceous plantings. It should always be planted in clumps about 12''-18'' apart where it will grow into a rather loosely open evergreen cover, with waxy white flowers in May somewhat like those of blueberry, and a brownish green autumn color. It is not one of the best plants for completely covering the ground but can be used for variation where the soil is suitable.

Leucothoe catesbaei 6' Zone 4 Drooping Leucothoe

Although this is a 6' shrub in some areas, it can be used as a ground cover in Massachusetts if it is periodically cut to the ground every few years. It grows in clumps but does increase by underground stems to some extent, especially in situations where rhododendrons grow well. The lustrous dark green leaves throughout the spring and summer turn a delightful bronze in the fall. In our area it does need some winter shade in order to prevent winter burning of the foliage. The small racemes of waxy white flowers appear in early June along the entire

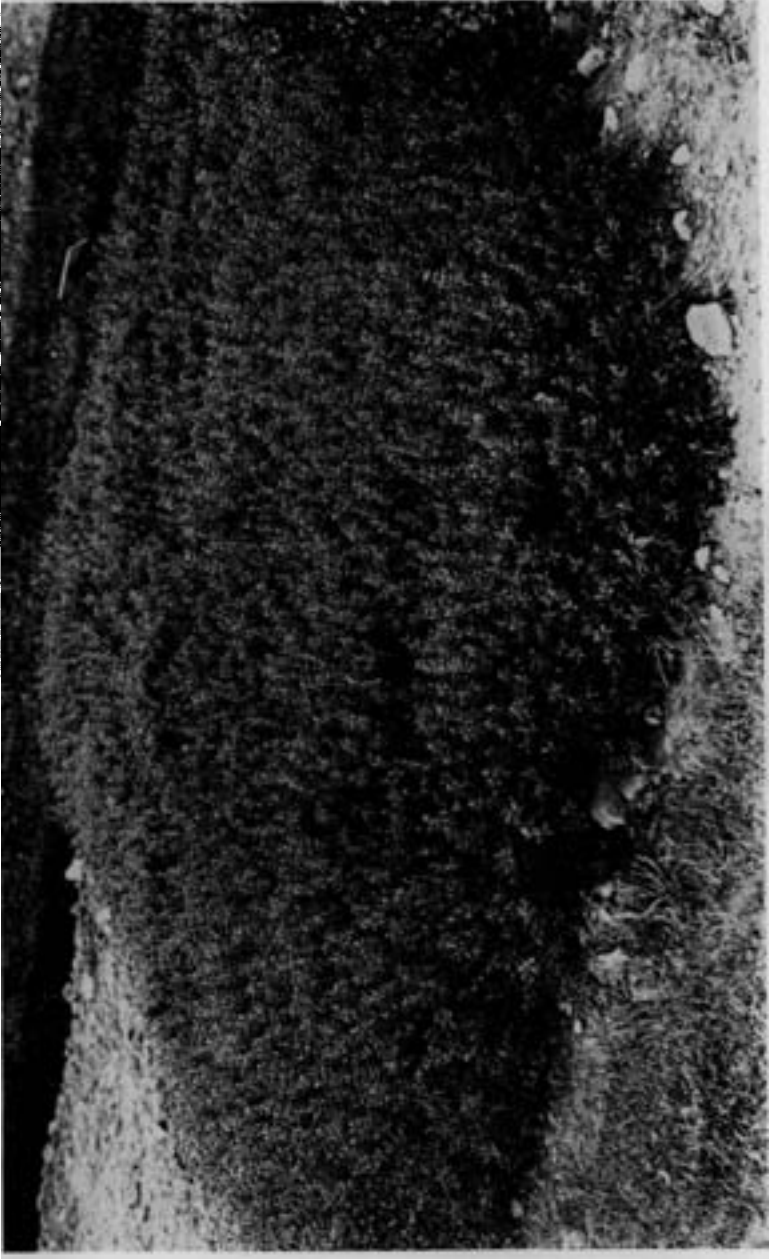


PLATE V
Pachistima canbyi. This makes one of the best of evergreen ground covers.

under side of the gracefully arching branches. A native of southeastern United States, it can be used with discretion in Massachusetts, but only as a ground cover if it is kept periodically cut and even then it will grow as high as three feet.

Lysimachia nummularia Prostrate creeper Zone 3 Moneywort

This European native has escaped cultivation in America and so is frequently found in widely separated spots in the eastern United States. It withstands shade, but also does well in the sun, and prefers a rich, moist soil. The bright yellow flowers appear during the spring and summer and it grows rapidly as a creeping vine along the soil surface, rooting at various places along its stems. If the soil and situation are satisfactory this can make an excellent cover.

Pachistima canbyi 12'' Zone 5 Canby Pachistima

This is a low evergreen with small leaves less than 1'' long which turn a beautiful bronze in the fall and winter. It makes one of the best of wintergreen ground covers if planted in acid soil and given a little shade. It was this particular ground cover which looked the best of all in the Ground Cover Demonstration Plots at Weston this past fall and early winter.

Pachysandra terminalis Zone 5 Japanese Spurge

This certainly is neither a new nor a rare ground cover, but it is without doubt one of the best, especially for growing in the shade. It increases rapidly by underground runners, is evergreen and can be grown in a wide variety of soils, but can not be expected to grow well in hot, dry situations in the full sun. It is this plant which might well be considered first in selecting a ground cover for shady situations.

Rhus aromatica 3' Zone 3 Fragrant Sumac

This is one of the taller ground covers but proves excellent in dry soils, and for planting on sunny banks. To keep it in the ground cover category, this is another of the shrubs which might be periodically cut to the ground every three or four years. Its red fruits in early summer, and brilliant yellow and scarlet autumn color make it prominent. It increases rapidly by underground stems, but because of its vigorous growth, its texture is definitely coarse when used to cover the ground and so its use might be limited to the more rugged areas about the home grounds.

Rosa wichuraiana Prostrate vine Zone 5 Memorial Rose

Adapted for covering banks and rocky slopes, this procumbent trailer was first introduced into North America by the Arnold Arboretum in 1891, and was first used as a ground cover in Franklin Park, Boston. Its white flowers, appearing

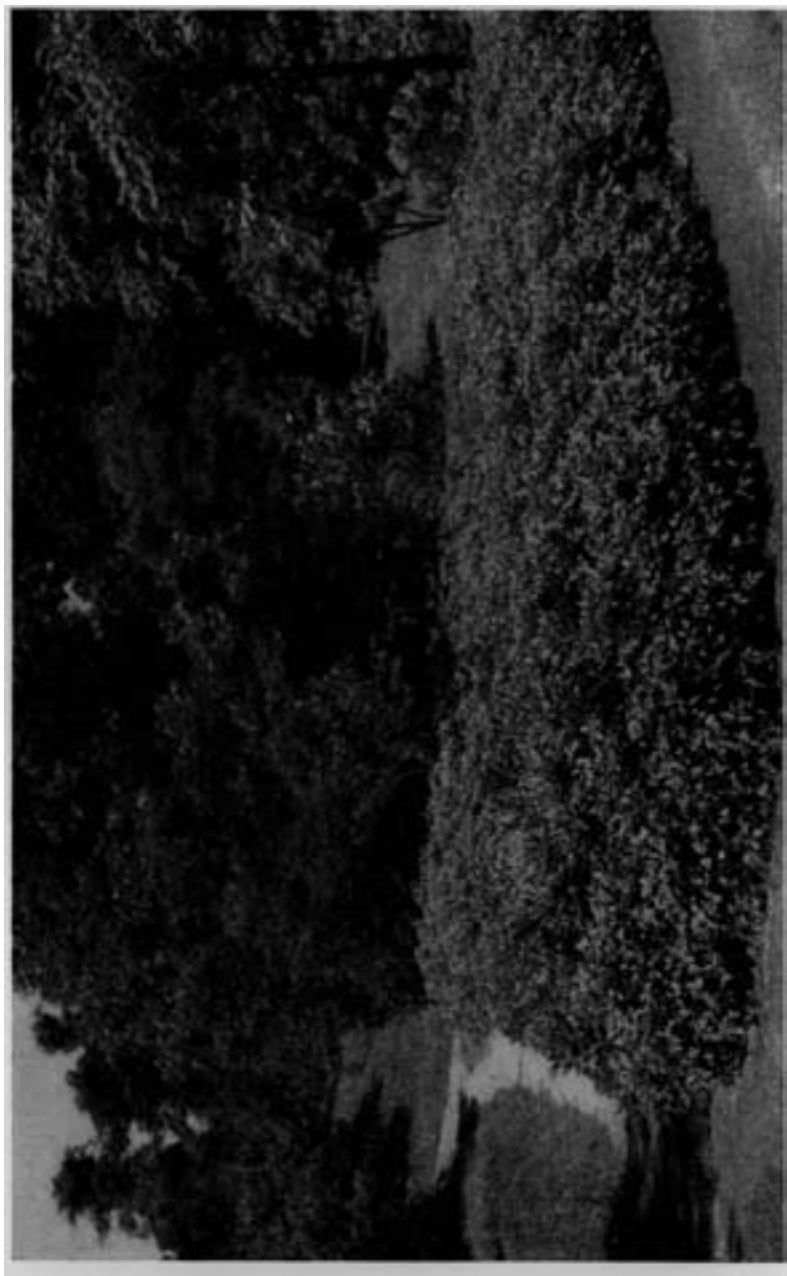


PLATE VI

Xanthorhiza simplicissima. This bed of Yellow-root has been growing by the ponds in the Arnold Arboretum since 1886 and requires practically no attention of any kind. A fine native American plant which could be used more for ground purposes.

in mid-July, are 2'' in diameter and its lustrous green leaves are semi-evergreen. For rapid growth (it quickly roots along its stems where they touch moist ground), it can be considered as excellent for rough ground where finer textured and smaller ground covers might prove unsuitable.

Teucrium chamaedrys 10'' Zone 5 Chamaedrys Germander

This makes a neat, uniformly high border or ground cover plant, but is not completely hardy in all parts of Massachusetts.

Xanthorhiza simplicissima 2' Zone 4 Yellow-root

A native American plant, found from New York to Florida, this makes an excellent woody ground cover. True, it grows 2' tall, but in a planting in the Arnold Arboretum we never have to give this planting any attention except to pull out woody weed plants which appear every few years. It increases rapidly by underground stolons and quickly makes a dense mat of upright stems and feathery foliage. The flowers and fruits are not especially prominent, the bark and roots are yellow. As a neat, uniformly high cover, this plant has no peers.

Among the Best Common Vines

<i>Actinidia arguta</i>	Bower Actinidia 6, 7, 8, 9
<i>Aristolochia durior</i>	Dutchman's Pipe 1, 2, 4, 5, 6, 7, 9
<i>Campsis radicans</i>	Trumpet Vine 1, 2, 4, 6, 7, 8, 9
<i>Celastrus orbiculata</i>	Oriental Bittersweet 1, 4, 5, 6, 7, 8, 9, 10
<i>Celastrus scandens</i>	American Bittersweet 1, 2, 3, 5, 6, 7, 8, 9
<i>Clematis paniculata</i>	Sweet Autumn Clematis 1, 2, 3, 4, 6, 7, 8, 9
<i>Clematis virginiana</i>	Virgin's Bower 6, 7, 9
<i>Euonymus fortunei</i>	Wintercreeper 1, 2, 4, 6, 7, 8, 9
<i>Euonymus fortunei vegeta</i>	Bigleaf Wintercreeper 1, 2, 3, 4, 6, 7, 8, 9
<i>Hedera helix</i>	English Ivy 1, 2, 3, 4, 5, 6, 7, 8, 10
<i>Lonicera japonica halliana</i>	Hall's Honeysuckle 1, 2, 3, 4, 6, 7, 8, 9, 10
<i>Parthenocissus quinquefolia</i>	Virginia Creeper 1, 2, 3, 6, 7, 8
<i>Parthenocissus quinquefolia engelmanni</i>	Engelmann Virginia Creeper 1, 4, 6, 7, 8, 9
<i>Parthenocissus quinquefolia saint-pauli</i>	St. Paul Virginia Creeper 6
<i>Parthenocissus tricuspidata</i>	Boston Ivy 1, 2, 3, 4, 7, 8
<i>Parthenocissus tricuspidata lowi</i>	Low's Japanese Creeper 1, 2, 6, 7, 8
<i>Parthenocissus tricuspidata veitchi</i>	Veitch Japanese Creeper 1, 2, 6, 7, 9, 10
<i>Vitis coignetiae (kaempferi)</i>	Glory Vine 6
<i>Wisteria sinensis</i>	Chinese Wisteria 1, 4, 6, 7, 8, 9
<i>Wisteria sinensis alba</i>	White Chinese Wisteria 1, 4, 6, 7, 8, 9

Among the Best Common Ground Covers

<i>Ajuga reptans</i>	Carpet Bugle 1, 2, 4, 6, 7, 8
<i>Calluna vulgaris</i>	Heather 4, 6, 7, 8, 10
<i>Cerastostigma plumbaginoides</i>	Blue Cerastostigma 6, 7, 8
<i>Cerastium tomentosum</i>	Snow-in Summer 2, 6, 7, 8
<i>Convallaria majalis</i>	Lily-of-the-Valley 1, 2, 4, 6, 7, 8
<i>Cotoneaster horizontalis</i>	Rock Spray 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
<i>Epimedium grandiflorum</i>	Longspur Epimedium 1, 8
<i>Gaultheria procumbens</i>	Checkerberry or Wintergreen 4, 6, 8, 10
<i>Gypsophila repens rosea</i>	Rosy Creeping Gypsophila (Baby's Breath) 1, 2, 4, 6, 8
<i>Hosta</i> sp. and var.	Plantain-lily 2, 3, 4, 5, 6, 7, 8
<i>Liriope spicata</i>	Creeping Liriope (Lilyturf) 5, 6, 10
<i>Lonicera japonica halliana</i>	Hall's Honeysuckle 1, 2, 3, 6, 7, 8, 9, 10
<i>Nepeta hederacea</i>	Ground Ivy (Gill-over-the-Ground) 6, 7
<i>Parthenocissus quinquefolia</i>	Virginia Creeper 1, 2, 3, 6, 7, 8
<i>Phlox subulata</i> "Emerald Cushion"	Var. of Moss Pink 1, 2, 6, 8
<i>Polygonum Reynoutria</i>	2, 6
<i>Rosa</i> "Max Graf"	2, 6, 7, 8
<i>Rosa rugosa repens alba</i>	Var. of Rugosa Rose 6, 7, 8
<i>Sedum</i> species	Stonecrop 1, 2, 4, 6
<i>Vaccinium angustifolium laevifolium</i>	Lowbush Blueberry 4, 6, 8
<i>Vinca minor</i>	Periwinkle or Myrtle 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Note: All these vines can be observed growing in the Arnold Arboretum with the exception of two clematis which are in our nurseries and yet too small to be planted out in the collections.

All the ground covers mentioned and some eighty more can be seen in the Ground Cover Demonstration Plots which are on the Case Estates of the Arnold Arboretum, on Wellesley Street in Weston. Here each plot is kept 6' x 6' so that over 125 different ground covers can be compared as to their habit of growth, height, foliage cover and general all around suitability as ground covers. There is no collection of ground covers as complete as this anywhere in the United States. All the plants are clearly labeled, and, to anyone interested in studying this serviceable group of plants, a visit to this collection would be worth the trip to Weston.

DONALD WYMAN