

Evergreen shrubs

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6. Evergreen shrubs

This grouping is essentially a continuation of the last, excepting that all the entries are evergreen. Although the deciduous shrubs are most commonly planted in the cooler parts of the United States, in the milder southeast a large number of hardy evergreen species are more common in the landscape. Since the foliage is held continuously, they are far better subjects for controlling in a foundation planting, and in general their contribution to the landscape over the year is greater than deciduous species, particularly during the winter.

Abelia X grandiflora (André) Rehd. (*A. chinensis* X *A. uniflora*), Glossy Abelia. A shrub of medium size and rapid growth rate with rounded habit at maturity which grows to about 8 feet in height. The very fine-textured appearance of this plant is produced by the small ovate leaves. Small creamy pink flowers are produced in abundance throughout the summer and into the autumn. The abelia is a very easy plant to cultivate, roots easily from cuttings and flowers soon after rooting. It responds to pruning and can be kept to a size much smaller than the maximum. Because it is so easily grown, it may be too common in some plantings; however, its great popularity may simply reflect the fondness growers have for its glossy green foliage and long season of bloom.

Aucuba japonica Thunb., Gold-dust Tree or Japanese Aucuba. A shrub of moderate size and growth rate that may reach about 8 feet (or more) in height, and takes on a rounded to spreading-rounded habit. Large, coarsely serrate leaves give this plant a coarse texture. The foliage is either a uniform deep green or a lighter green and mottled with cream-colored markings on some clones. Inconspicuous magenta-black flowers are produced in late winter. Large, very showy, red or white berries mature in the autumn and persist into the winter on some clones (dioecious). This very full shrub is widely used in foundation plantings in which it is easily trained and maintained. It is at its best in good soil with adequate water under light shade. The name, gold-dust tree, refers to the cultivars with white markings on the foliage (*A. japonica variegata* D'Ombr.), but there are many clones available which vary

Table 5. Parameters of cultivation of broad leaf evergreen shrubs in North Carolina

Species	Date brought into cultivation	Place of origin	Frequency of cultivation
<i>Abelia X grandiflora</i>	1800	cultivation, parental species from China	common
<i>Aucuba japonica</i>	1861	Japan	common
<i>Berberis sargentiana</i>	1907	China	rare
<i>Buxus sempervirens</i>	early colonial times	S.Europe, W.Asia	occasional
<i>Camellia japonica</i>	1800	Japan	common
<i>C. sasanqua</i>	1850	Japan	common
<i>C. sinensis</i>	1850	China, India	rare
<i>Cleyera japonica</i>	-	India to Japan	occasional
<i>Cotoneaster</i> species	-	Old World	infrequent
<i>Danae racemosa</i>	1739	Asia Minor	rare
<i>Elaeagnus pungens</i>	1830	Japan	common
<i>Euonymus fortunei</i>	1876	China	occasional
<i>Gardenia jasminoides</i>	colonial times	China	occasional
<i>Jasminum floridum</i>	1850	China	occasional
<i>Leucothoe axillaris</i>	-	native	rare
<i>Ligustrum japonicum</i>	1845	Japan, Korea	very common
<i>L. lucidum</i>	1794	China, Japan, Korea	occasional
<i>Lonicera fragrantissima</i>	1845	China	common
<i>Mahonia bealei</i>	1845	China	occasional
<i>Nandina domestica</i>	1804	China to Japan	common
<i>Osmanthus americana</i>	-	native	rare
<i>O. fragrans</i>	-	China, Japan	rare
<i>O. heterophyllus</i>	1856	Japan	common
<i>O. X fortunei</i>	1856	Japan	occasional
<i>Photinia serrulata</i>	1804	China	common
<i>Pieris japonica</i>	1870	Japan	rare
<i>Pittosporum tobira</i>	1804	China, Japan	rare
<i>Prunus caroliniana</i>	native	Southeast U.S.A.	infrequent
<i>Pyracantha</i> species	-	S.E. Europe to China	common
<i>Rhododendron obtusum</i>	1844	Japan	very common
<i>R. indicum</i>	1850	Japan	common
<i>Viburnum rhytidophyllum</i>	1900	China	rare
<i>Yucca filamentosa</i>	-	Southeast U.S.A.	common

in plant size, fruit color, fruitfulness and leaf markings. Properly used and cared for, *Aucuba* can be a striking addition in a planting.

Berberis sargentiana Schneid., Barberry. A shrub of moderate size and growth rate that may reach about 6 feet in height, and matures into an

erect-rounded or rounded habit. This bush has fine-textured appearance which is produced by the small elongate leaves with spiny teeth. While it is mostly evergreen, the leaves become somewhat red-colored in the winter season. The small yellow flowers are apparent, but not showy, in April. The black fruits are somewhat effective in the autumn, but this plant does not compete in its display with a large number of other berry-producing plants that are cultivated in this area. Sargent's barberry and a very similar species, *B. julianae* Schneid., are relatively fine-textured spiny plants suitable for landscaping, but they are most valuable for large protective hedges. Heavy pruning combined with shading results in sparse specimens in low vigor, and thus over shading should be avoided.

Buxus sempervirens L., Boxwood. A very compact and broadly spreading shrub of slow to moderately slow growth rate that may reach 10 or more feet in height after a long period. The very fine texture of the boxwoods is produced by the very small oblong leaves. The bloom is inconspicuous. The boxwood is grown for its deep green, fine-textured foliage, long life span and slow rate of growth. A number of cultivars are available that vary in growth rate, fineness of texture and habit. Although tolerant of a wide range of growing conditions, the summers in central North Carolina are too warm for best results with this species, and specimens often decline before reaching maturity; however, many older plants in this area are in good form and vigor. Apparently, moist, rich cool sites are required for success with the boxwoods here.

Camellia japonica L., Camellia. A small tree, often trained as a shrub, that has a moderate growth rate and becomes 20 feet or more in height. (Very old specimens may be more than twice that tall.) It is usually a more erect than spreading small tree; however, some clones are characteristically more spreading in habit. Rather large, shiny, deep green serrate leaves give this plant a medium texture. While this is one of our finest evergreens, *Camellia japonica* is grown primarily for its spectacular bloom over the warm temperate zones of both hemispheres. It has, perhaps, more floral forms than any other single species, and flowers 2 to 6 inches in diameter come in all shades of red, pink and white. The bloom season ranges from late fall until early spring depending on area. This is one of the few exotic species to

become an American state flower (Alabama). Different clones of *C. japonica* vary greatly in their ability to produce normal blooms out-of-doors, but those selected for cold resistance will grow and bloom quite satisfactorily in central North Carolina. Camellias are generally easier to grow than azaleas, requiring only partial shade and moderate soil moisture with good drainage.

The *C. X williamsii* hybrids, *C. japonica* X *C. saluenensis*, are locally hardy although as a group they are not as hardy or disease resistant as *C. japonica*. A species of much finer texture, *C. cuspidata*, which produces small white flowers is relatively hardy in this area, but it also does not match *C. japonica* for hardiness.

A Chinese species, *C. reticulata*, has even larger, more spectacular flowers than *C. japonica*, but it is not adequately hardy here, and thus satisfactory culture is restricted to greenhouses.

Camellia sasanqua Thunb., Sasanqua. A small tree, often trained as a shrub, that has a moderate growth rate (slightly greater than that of *C. japonica*) and becomes 20 feet in height, or much more over a long period of time. The sasanquas are erect growing while young, but become more rounded or even spreading in habit with age. They are capable of large size and very long life. The elliptic-serrate leaves give the sasanqua a moderately fine texture. The foliage is a deep green color in all seasons but is not as shiny as that of *C. japonica*. Two to three inch blooms are produced, depending on variety, from late September until hard freezes occur in early winter. There are many forms, and colors include magenta-reds, all shades of pink, pink-white bicolors and white. Sasanquas have been cultivated for a very long period of time in their native Japan, and they have great significance in that culture. It is, without a doubt, our most spectacular fall-blooming shrub (or tree). Hundreds of clones which vary in earliness of bloom, flower size and color and even plant form and texture are potentially available. The sasanqua has few pests, but it can become infested with tea scale, and some clones are susceptible to a fungus which causes dieback of twigs and branches. It is dependably hardy in central North Carolina, but on an absolute scale it is not as cold hardy as *C. japonica*; however, it is more tolerant of varied soil conditions than *C. japonica*.

Camellia sinensis (L.), Kuntze, Tea Plant. A large shrub or small tree with moderate growth rate that may reach about 20 feet in height. The habit is distinctly spreading to rounded. Clones range in texture from that of *C. sasanqua* to *C. japonica*, but those cultivated in this area are usually of finer texture similar to that of *C. sasanqua*. The dull, deep green foliage is similar in general aspect to other *Camellia* species. Small white flowers are produced in the autumn. Although not widely cultivated in this area, the tea plant is an easily cultured evergreen that responds to any amount of pruning. It can be grown for tea production in this area, and a tea plantation was once established in South Carolina. Although tea growing did not prove economically feasible, the tea plant, I am told, has escaped and naturalized in the area of the old plantation.

Cleyera japonica Thunb., Cleyera or Sakakia. An erect growing shrub of medium size and moderate growth rate that may reach about 10 feet in height. Small variably elliptic leaves produce a moderately fine texture for this shrub. The flowers are not conspicuous, but the fruits open to display showy orange seeds in the autumn. *Cleyera* is a very handsome evergreen shrub with a distinctly erect habit. The glossy, evergreen foliage is striking, and the plant form is very unusual. Without pruning, small dense twig clusters develop throughout the plant with more open connecting branch areas between.

Cotoneaster species. A large and variable group of evergreen plants that range from nearly prostrate shrubs to small trees. They are mostly moderately rapid in growth rate and have a fine to very fine texture which is produced by the small to very small, deep green leaves. While the flowers are small but attractive, the show of red berries in the autumn is the chief ornamental importance of the species in this genus. Several different species have been observed rarely in plantings in this area, but none of them are even occasionally in distribution. They may decline in excessively wet areas and are reported to be susceptible to spider mites and fire blight of pear, but some plants in good vigor and of ornamental importance have been observed in piedmont gardens. It would be a worthwhile undertaking to set out a variety trial in central North Carolina to determine which species and cultivars might be satisfactorily cultivated here.

Danae racemosa (L.) Moench., Alexandrian Laurel. A small erect shrub of moderate growth rate that may reach 3 feet in height. A medium-fine texture is produced by the long, deep green leaves (cladodes). The bloom is inconspicuous, but the red fruits have ornamental significance in the autumn. This rarely planted, bamboo-like shrub, is apparently very easily cultivated and deserving of more widespread use.

Elaeagnus pungens Thunb., Elaeagnus or Silverberry. A large shrub of very rapid growth rate that may obtain a height of about 12 feet with branches that may "climb" into trees. The silverberry takes on an irregular spreading to rounded habit in the open, but it is very straggling in the shade. The elliptic leaves give the shrub a medium-fine texture, and scales on the leaves give it a gray cast. In September and October small, inconspicuous, cream-colored flowers are produced in abundance, and they are exceedingly fragrant. The species name, "pungens", probably relates to the sweet fragrance which can scent an entire area when the bush is in full bloom. The red drupes mature in the spring, and provide food for wild birds, but the flesh is sweet and makes good jelly. Erect growing branches with short, recurved lateral shoots hook these very fast-growing branches into other vegetation in late summer, a most unusual climbing mechanism. *Elaeagnus* is very useful as a fast-growing screen or hedge plant or for its scent and fruit; but while it can be pruned, it is a large plant that requires ample space. It occasionally escapes from cultivation.

Euonymus fortunei (Turcz.) Hand.-Mazz., Euonymus. A climbing or trailing plant of moderately rapid growth rate, or in some forms a shrub that may reach about 7 feet in height. This variable species is a ground cover or a climbing plant if supported, particularly on tree trunks, or in form *vegeta*, a spreading shrub that will climb if supported. Weakly toothed, ovate leaves vary in size from clone to clone so that the textural effect of this species ranges from medium-fine to medium. Although evergreen, the leaves on some forms, such as *colorata*, turn a dark purplish color during the winter (not deciduous). The bloom is inconspicuous, but showy fruits open to expose orange berries in October on the shrubby form *vegeta*. (Ground cover cultivars have been observed not to be fruitful.) This is an easily

grown ground, wall, or tree trunk cover, or even a shrub of medium size. It is sometimes damaged by scale insects and defoliated by severe winter freezes. The shrubby cultivars bear handsome fruit, but while the plant responds to pruning, best fruit displays are found on unpruned specimens.

Gardenia jasminoides Ellis, Cape-jasmine or Gardenia. A shrub of medium size and moderately slow growth rate that attains about 5 feet at maturity. The habit becomes rounded to spreading, and the long shiny leaves give this shrub a medium texture. The large white flowers with their strong fragrance are well known. The commonly cultivated form has a double flower that is similar in appearance to the "formal" camellia. The gardenia is well known as a garden shrub in the south and equally well known as a pot plant in the north. Although we (Chapel Hill area) are more or less on its northernmost range for out-of-doors cultivation, it usually is adequately hardy in our area. Aside from its sensitivity to severe cold, the gardenia can be grown in most garden sites that do not become excessively dry.

Jasminum floridum Bge., Summer Jasmine. A small spreading shrub with pendulous branches and moderately rapid growth rate that reaches a height of about 4 feet. Small trifoliate leaves give this shrub a fine texture. Clusters of small yellow flowers are produced throughout a large portion of the summer. The summer jasmine is very useful where a small and easily grown shrub is required.

Leucothoe axillaris (Lam.) D. Don., Leucothoe. A spreading shrub with drooping branches and moderate growth rate, reaching a height of about 6 feet at maturity. The deep green lance-like leaves give this shrub a moderately coarse appearance and often take on a deep red color in the winter. Racemes of small white flowers are produced in April. The native *Leucothoe* species are occasionally cultivated in central North Carolina, and make attractive evergreens when grown on rich moist soils.

An Asian member of this genus, *L. keiskei*, and our native deciduous species, *L. racemosa* and *L. recurva*, are also rarely seen in cultivations.

Ligustrum japonicum Thunb., Japanese Privet. A large shrub of rapid growth rate that has a rounded habit in time and reaches a height of 12 or more feet. Large entire leaves give this shrub a moderately coarse texture.

Both the bloom and the small cluster of purple-black berries are rather inconspicuous, but both contribute a much more noticeable effect on unpruned specimens. This homely, fast-growing and rather coarse evergreen is widely planted in foundation plantings in new subdivisions. It is so planted because it will grow almost anywhere, and it is very easy to propagate. In a foundation planting it must be regularly pruned, and this practice results in a very open and "leggy" appearance; however, when allowed to develop with adequate space, it will become a handsome specimen shrub.

Ligustrum lucidum Ait., Glossy Privet or Giant Privet. A large shrub or small tree with many trunks that has a rapid to very rapid growth rate and may reach up to about 30 feet in height. The habit is more erect than spreading, and the crown becomes rounded in time. The texture and foliage are much like that of *L. japonicum*. The flower clusters are noticeably effective in late June, and large clusters of ornamental purple-black berries mature and persist throughout the winter. This is a very easily grown specimen plant that is very handsome in heavy fruit set; however, after heavy pruning, this species makes a fantastic regrowth that is unsightly. It is a fine plant for a large hedgerow, but it is much too coarse and open in habit for a pruned hedge. Foliage may be damaged in severe winter freezes, but in our area the wood does not seem too harmed.

Several forms of the finer-textured species of *Ligustrum* are occasionally used for hedging throughout the state, and one of these, *Ligustrum sinense* Lour., has widely escaped and made a nuisance of itself in low moist area.

Lonicera fragrantissima Lindl. and Paxt., Sweet-breath-of-spring. A large shrub of rapid growth rate with a somewhat irregular rounded to spreading form that attains a height of about 10 feet. Small ovate leaves give this plant a medium-fine texture. It is only partially evergreen with the leaves being gradually lost in late autumn and winter without noticeable coloration. Large quantities of very fragrant, small cream-colored flowers are produced in late winter. This shrubby honeysuckle is so easily grown that it is almost weedy. It was widely planted in the area of Chapel Hill, North Carolina, some years ago, and now its fragrance is considered

one of the hallmarks of early spring. It is much too ragged and fast-growing to be used in a foundation planting, but in a lightly wooded or open area where it can grow freely, it makes a pleasant contribution to the spring landscape.

Mahonia bealei (Fort.) Carr., Oregon Grape Holly. An erect growing shrub of moderate growth rate that develops an irregular, rounded habit in age, and attains a height of about 6 feet. Large leathery, pinnately compound leaves give this shrub a moderately coarse texture. Racemes of noticeable small yellow flowers are produced in late winter, and blue-black berries mature in late spring. Except in excessively dry sites, the grape holly is an easily grown small shrub that has very attractive shiny evergreen foliage when it is in good vigor. Although the flowers are not very showy, they are produced at a time when few plants are blooming; and thus the flowers are a distinct contribution to the early spring garden.

Nandina domestica Thunb., Nandina. A small erect-growing shrub of moderate growth rate which takes on a rather irregular form, and reaches a height of about 6 feet. Small leaflets on large, doubly compound leaves give this shrub a fine texture. Small white flowers that are produced in large clusters are followed in the autumn by very showy large clusters of red berries that are persistent into the winter. *Nandina* is a shrub that has long been cultivated and had religious significance in Japan. It takes on an interesting shape, spreading slowly from root sprouts but makes few lateral branches from the stiff erect stems. It does not respond well to pruning, and in any case the terminal fruit clusters that would be prevented by pruning are one of the most ornamental features of this species. Dwarf forms and clones with foliage that becomes much redder in the winter are available.

Osmanthus americana (L.) Gray, Wild Olive. A somewhat spreading large shrub to small tree of moderate growth rate that reaches about 40 feet in height. Large, lance-like leaves give this plant a moderately coarse texture, somewhat more coarse than the *Osmanthus* species that follow. The small flowers that are produced in the spring are followed in the autumn by dark blue fruits that are somewhat effective in the landscape. Unlike the following species of *Osmanthus*, the native species has a very open habit, and conse-

quently, has much less value for the landscape. It is only rarely seen in cultivation.

Osmanthus fragrans Lour., Tea Olive. A large shrub to small tree of moderately slow growth rate with a somewhat more erect than spreading habit, that reaches a height of about 20 feet. The serrate leaves are somewhat larger and less leathery than the holly-leaved *Osmanthus* giving this shrub a medium textured-appearance. It is evergreen, but the foliage is usually damaged by the severe cold of middle winter in our area. Clusters of pale yellow flowers are produced in abundance even on young plants. The main bloom occurs in September, but occasional flowers are produced throughout the growing season. This is one of the most fragrant shrubs available. The tea olive is easily grown and widely cultivated in areas east and south of the North Carolina piedmont for its fragrant bloom and excellent qualities as a landscape specimen. When young it is susceptible to winter damage or outright winter-kill in our area, but established specimens in protected locations survive adequately.

Osmanthus heterophyllus P.S. Green, Holly-leaved Osmanthus. A large shrub to small multi-trunked tree of moderately slow growth rate that takes on a rounded habit in time and reaches a height of about 20 feet. Spine-tipped (holly-like), deep green leathery leaves give this plant a moderately fine texture. Clusters of very fragrant, small white flowers are produced in the late autumn but are usually not very conspicuous. The holly-leaved osmanthus is an easily grown shrub that can be easily trained or allowed to develop into a well shaped small tree; however, it does not flower as dependably as some other species of *Osmanthus*, and regularly pruned specimens are particularly reluctant to produce the fragrant bloom. Although the bloom is reduced by pruning, this species responds very well to regular training. This is the *Osmanthus* species that is available in most local nurseries.

Osmanthus X *fortunei* Carr., (*O. heterophyllus* X *O. fragrans*), Fortune's Osmanthus. A large shrub to small tree of moderately slow growth rate that develops into a well rounded or slightly spreading shape without pruning and reaches a maximum height of about 20 feet. The leaves are similar in size to those of the tea olive, but the teeth are coarser and the leaf has

a more leathery quality. The texture of the plant is medium. Clusters of small white flowers are freely produced in late September and October. The bloom is apparent, even showy at its peak, and the flowers are exceedingly fragrant. This hybrid combines the free bloom and fragrance of the tea olive with the hardiness of the holly-leaved osmanthus. It is easily cultured, but while it can be maintained as a pruned specimen, it flowers only sparingly after regular pruning, and thus the lovely scent is reduced.

Photinia serrulata Lindl., Photinia. A large erect shrub to small tree of moderately rapid growth rate becoming more spreading in mature habit, and reaching 20 feet or more in height. Rather large, serrate leaves give this plant a moderately coarse texture. The large flower clusters are moderately showy as are the red berries, but pruning limits flowering and fruiting. *Photinia* is a fine, large specimen plant, but if flowers and fruit are desired, it should be allowed to develop into a large shrub or small tree. The new foliage is conspicuously red, and a clone named 'Red Top', is available which has particularly red shoots in the spring. Some other species are cultivated, but hybridization in cultivation has made certain identification very difficult.

Pieris japonica (Thunb.) D. Don., Japanese Andromeda. A rounded to spreading shrub of moderate size and growth rate that reaches about 9 feet in height. The lustrous, long dark green leaves give this plant a medium texture. Large and very showy flower clusters are produced in late March. The Japanese andromeda is an easily grown and very handsome shrub with an early, exceptionally fine spring display. Both this and an American species of exceptional horticultural merit, *P. floribunda* (Pursh) Benth. and Hook., are rarely seen in gardens in central North Carolina.

Pittosporum tobira Ait., Japanese Pittosporum. A shrub of medium size and moderately growth rate that takes on a rounded to slightly spreading habit with maturity and reaches about 10 feet in height. The thick, leathery leaves give this species a medium texture. The small, fragrant flowers are produced in spring. Although this species is not difficult to propagate or grow, it is not fully hardy in central North Carolina; however, it is more widely used on the coastal plain. In protected localities in our area a few

good specimens of *Pittosporum* can be found.

Prunus caroliniana Aiton, Carolina Laurel Cherry. A large shrub or small tree of moderately rapid growth rate that has an erect habit at first but becomes rounded and spreading in age, and may attain a height of about 40 feet. Rather large elliptic leaves give this tree a medium-coarse texture. Racemes of small white flowers are produced in April and followed by somewhat persistent blue-black (more or less fleshless) fruits in the autumn. The Carolina laurel cherry is an excellent, large evergreen shrub that can be trained by pruning or allowed to develop into a tree. It is easily grown but susceptible to ice and snow breakage; however, this species usually regenerates rapidly after such damage.

A related evergreen *Prunus*, *P. laurocerasus* L., cherry laurel, is occasionally used in foundation plantings. It is large, spreading and fast-growing, and this should be considered in its use. It is also somewhat more coarse than *P. caroliniana*, and it sometimes declines abruptly.

Pyracantha species, Pyracantha or Firethorn. Large shrubs of rapid growth rate that take on an irregular rounded to spreading habit in time. Most types reach a height of about 10 feet. Small elliptic leaves give the pyracanthas a fine texture. Clusters of white flowers cover the shrub in the late spring, but the greatest display produced by these plants is the fruit crop which is effective from the autumn until well into the winter. The firethorn is easily grown and it is one of our most striking berry-producing ornamental shrubs. It is a large thorny plant which needs adequate space in which to develop. It responds well to pruning and even fruits well in confinement. One often sees it trained to cover walls. It is susceptible to winter injury when hard freezes follow extended warm periods in middle winter. A large percentage of the firethorns in Chapel Hill, North Carolina, were killed outright or severely damaged in the winter 1972. Many species are cultivated, and many, if not most, being planted are variously hybrid. Some older specimens of *Pyracantha* in Chapel Hill fit the description of *P. crenata-serrata* (Hance) Rehd.

Rhododendron species. A large number of species of this genus including the rhododendrons and azaleas are cultivated. The true rhododendrons and the deciduous azaleas are extensively grown in the mountains, but comments

here will be confined to the two groups commonly grown in piedmont gardens. No effect is made here to seriously explore this large, complex and very important group of shrubs and small trees.

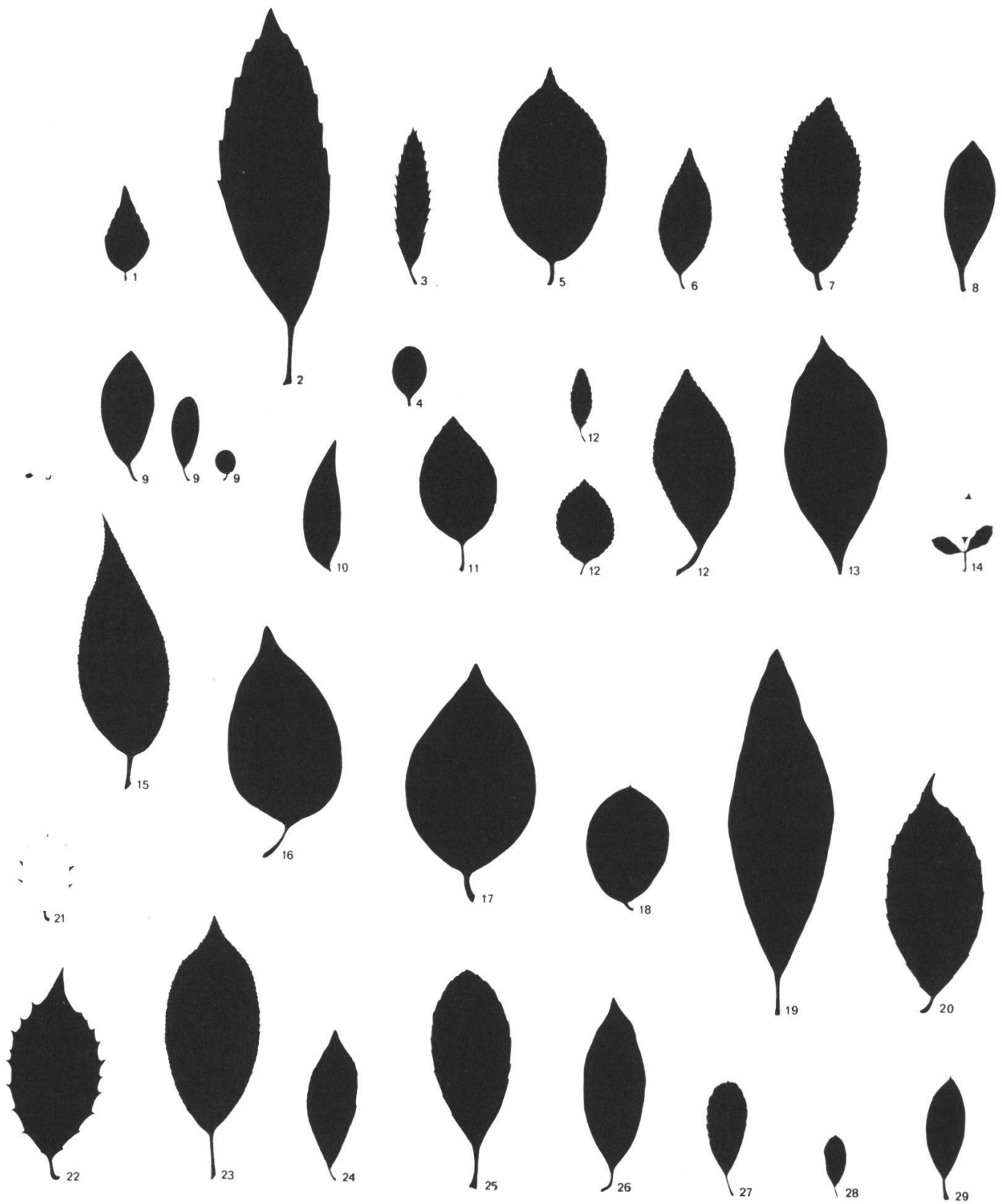
Rhododendron obtusum Planch., "Karume" Azaleas. Evergreen, spreading, fine-textured shrubs that may reach a height of about 6 feet in time. A spectacular floral display is produced in mid-spring in shades of red, pink and white, and this is the azalea of the North Carolina piedmont. Although easily cultured, it is only moderately tolerant of dry weather. The flowers often open too early in the spring, and the bloom is ruined by spring freezes. As is the case with the majority of the cultivars in this genus, clones that carry a particular species name are often in fact hybrids or advanced generation segregates.

Rhododendron indicum Sweet, Indian Azaleas. These are the larger, coarser and more drought-resistance, evergreen azaleas for which the coast of the Carolinas is famous. They can be easily cultured on the eastern piedmont with protection (and a little luck!). Again many, if not most, of our azalea clones are actually hybrid in origin. Some newer cultivars being introduced actually combine several species in their genetic background.

Viburnum rhytidophyllum Hemsl., Viburnum. A large shrub of moderate growth rate that is more erect than spreading in habit at first but becomes more rounded in time, and reaches a height of about 12 feet. Long, dark green wrinkled leaves give this plant a medium-coarse texture. The flower

Figure 5a. Typical leaves of broad leaf evergreen shrubs listed in chapter 6.

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|---------------------------------|------------------------------------|
| 1. <i>Abelia X grandiflora</i> | 16. <i>Ligustrum japonicum</i> |
| 2. <i>Aucuba japonica</i> | 17. <i>L. lucidum</i> |
| 3. <i>Berberis sargentiana</i> | 18. <i>Lonicera fragrantissima</i> |
| 4. <i>Buxus sempervirens</i> | 19. <i>Osmanthus americana</i> |
| 5. <i>Camellia japonica</i> | 20. <i>O. fragrans</i> |
| 6. <i>C. sasanqua</i> | 21. <i>O. heterophyllum</i> |
| 7. <i>C. sinensis</i> | 22. <i>O. X fortunei</i> |
| 8. <i>Cleyera japonica</i> | 23. <i>Photinia serrulata</i> |
| 9. <i>Cotoneaster species</i> | 24. <i>Pieris japonica</i> |
| 10. <i>Danae racemosa</i> | 25. <i>Pittosporum tobira</i> |
| 11. <i>Elaeagnus pungens</i> | 26. <i>Prunus caroliniana</i> |
| 12. <i>Euonymus fortunei</i> | 27. <i>Pyracantha species</i> |
| 13. <i>Gardenia jasminoides</i> | 28. <i>Rhododendron obtusum</i> |
| 14. <i>Jasminum floridum</i> | 29. <i>R. indicum</i> |
| 15. <i>Leucothoe axillaris</i> | |



1 inch

clusters produced in the autumn are only moderately showy. The evergreen has a texture that is somewhat more coarse than most of our evergreen shrubs. The deeply set veins give the leaves a three-dimensional appearance. Apparently this plant is not difficult to culture, but on poor and shaded sites it develops into a sparse, leggy specimen.

Yucca filamentosa L., Adam's Needle. A subshrub that spreads from the base by short stolons and reaches a maximum height of about 3 feet. The large linear leaves give this plant a rigid, coarse texture. Very large flower stalks with waxy white flowers are produced in early summer. This easily cultivated and hardy yucca is widely grown for its showy flower stalks and unusual rigid foliage.

7. The hollies

A very large number of the known 300 or more species of the genus *Ilex* L. are cultivated in the warmer temperate regions of the world. Because hollies are so well-adapted and so commonly grown in our area, this section is completely dedicated to the locally grown species and hybrids of holly. The University of North Carolina has an excellent holly collection in the University plantings; however, many additional species, selections and hybrids could be successfully added. The cultivated forms of this genus are probably our single most important group of evergreen shrubs and small trees.

Ilex cornuta Lindl., Chinese Holly. A large shrub with a moderate to moderately rapid growth rate that may eventually mature into a small tree about 25 feet in height. The tree is dense and develops a broadly rounded top in time. The normal form of the glossy, deep green leaves has five or more major spines, but spine number varies from one to many in the cultivated selections of this species. The lustrous evergreen foliage gives this plant

Fig. 5b. Typical leaves of broad leaf evergreen shrubs listed in chapter 6 (continued from Figure 5a)

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|-----------------------------|-----------------------------------|
| 1. <i>Mahonia bealei</i> | 3. <i>Viburnum rhytidophyllum</i> |
| 2. <i>Nandina domestica</i> | 4. <i>Yucca filamentosa</i> |