The Story of Forsythia

It is difficult to imagine what the spring garden must have been like without the Forsythias, but it is of interest to note that no Forsythia species was common in cultivation until about 1850 and it was not until 1908 that the first really outstanding horticultural variety was imported into this country. Because of their ability to produce an abundant display of bright color so early in the season, few groups of shrubs have risen to favor as quickly as the Forsythias. The only other hardy early flowering shrubs that have yellow flowers are Cornus mas, the Cornelian Cherry; Lindera benzoin, Spice Bush; and Dirca palustris, Leatherwood. Delightful as each of these may be, none can match the bright display which most of the Forsythias produce.

The following account is an attempt to describe the various species and cultivars of Forsythia which have played a role in the development of our current garden varieties, and also to describe a number of the best ones which are easily available on the market today. Some varieties, of interest only in botanical collections, have been omitted from this discussion as well as a few cultivars currently available which will probably never become popular.

Forsythia x intermedia and its cultivar 'Spectabilis' have played an important role in the development of many varieties. These are excellent garden plants, but it is felt by the authors that much more needs to be done. Larger, more attractive flowers should be developed; greater hardiness should be bred into future varieties probably using F. ovata; and forms with a more graceful habit of growth would be a welcome addition using a variety such as F. suspensa var. sieboldii as a starting point. Dwarf shrubs are in great demand today and in Forsythia we have only F. 'Arnold Dwarf,' a good ground cover but with washed out flower color and sparse bloom; F. viridissima 'Bronxensis,' which flowers well but is difficult to propagate and grow; and F. x intermedia 'Nana,' another plant with poor, greenish-yellow flowers. Even though the story of our garden Forsythias is a long one, several more chapters are undoubtedly waiting to be written.

Between August 1775 and November 1776 Carl Pehr Thunberg, a pupil of Linnaeus, visited Japan as a member of the Dutch Embassy to the Imperial Court at Tokyo. Some years later, in 1784, he published a Flora Japonica which included about 1000 species which he had collected on his trip, including many cultivated plants. One plant in particular, and the one in which we are interested, he called Syringa suspensa. This was a deciduous shrub with slender weeping branches which produced quantities of yellow flowers in April, before the leaves began to grow.

According to P. J. van Melle, a catalog published in 1817, of a garden maintained by Christian August Breiter in Leipzig, lists the name Syringa suspensa. We suppose that this is the plant that Thunberg described, but how or when it got to Leipzig we have no idea.

In 1804 Martin Vahl, Professor of Botany at Copenhagen, recognized that Thunberg’s plant was not a lilac and established the genus Forsythia for the plant. The genus commemorates William Forsyth, who was at that time Director of the Royal Garden at Kensington.

From 1825 to 1830 Philipp Franz von Siebold was living in Japan as an employee of the Dutch government. He too studied many Japanese plants, native and cultivated, and on his return to Holland he (with Joseph Gerhard Zuccarini) prepared a Flora Japonica. In this work he published a colored illustration of Forsythia suspensa, indicating that it was known only in cultivation, and noted that there were two forms, one with slender, weeping stems and the other with stouter, more erect and spreading stems. In 1833 Verkerk Pistorius is said to have imported living plants to Holland where they were apparently cultivated for the next twenty years.

In 1857 Forsythia suspensa var. sieboldii was flowered in England at the Veitch Nurseries. This is the form of the species with long, slender, pendant branches which is effective when planted in such a way that it may trail over walls. The shrub grows to 6 feet tall, the stems are arching and become 10–12 feet long. The flowers are slightly larger than F. viridissima, being about an inch long (2.5 cm.), clear yellow without a tinge of green, and borne singly. In 1864 the erect form of the species, Forsythia suspensa var. fortunei, was introduced, with spreading (not weeping) branches. The flowers are either solitary or as many as 6 together. The leaves are frequently 3-lobed or 3-parted, and the corolla lobes are narrow.

Fig. 1: Forsythia suspensa from Flora Japonica by Siebold and Zuccarini, 1835.
and generally twisted. The Arnold Arboretum received cuttings of *Forsythia suspensa* from Francis Parkman, the historian, in 1876.


In 1844 or 1845 Robert Fortune, on his first trip to China sponsored by the Horticultural Society of London, found a *Forsythia* cultivated in a Chinese garden. He sent material to London and John Lindley, the Assistant Secretary of the Horticultural Society, described it in the first volume of the *Journal of the Horticultural Society* as *Forsythia viridissima*. At this time he quoted Fortune's notes as follows:

This is a deciduous shrub with very dark green leaves, which are prettily serrated at the margin. It grows about 8 or 10 feet high in the north of China, and sheds its leaves in autumn. It then remains dormant like any of the deciduous shrubs of Europe, but is remarkable for the number of large prominent buds which are scattered along the young stems produced the summer before. Early in spring these buds, which are flower-buds, gradually unfold themselves, and present a profusion of bright yellow blossoms all over the shrub, which is highly ornamental. I first discovered it growing in the same garden with *Weigela rosea*, which, I have said in another place, belonged to a Chinese Mandarin, on the island of Chusan, and was generally called the Grotto Garden by the English. Like the *Weigela* it is a great favourite with the Chinese, and is generally grown in all the gardens of the rich in the north of China. I afterwards found it wild amongst the mountains of the interior in the province of Chekiang, where I thought it even more ornamental in its natural state amongst the hedges than when cultivated in the fairy gardens of the Mandarins.

For twenty years or more *Forsythia viridissima* was the only *Forsythia* in cultivation in Britain and in the United States. Today it is rarely seen. It forms an erect branching shrub four to nine feet tall; the flowers are a little less than an inch long (2–2.5 cm.), yellow tinged with green, and borne singly or two together. It is hardy to Zone V (Massachusetts and southern New York State as far north as Albany). The Arboretum obtained seed of *Forsythia viridissima* from the garden of Charles Sprague Sargent in 1874.

F. viridissima 'Bronxensis' is difficult to propagate and for that reason not many nurserymen offer it. At the time the plant was first described, it was growing at the New York Botanical Garden where no record of its origin had been kept. It was later found that the Botanical Garden had received its plant from the Boyce Thompson Arboretum, Yonkers, N.Y., where it was grown from seed received from the Imperial University Botanic Garden of Tokyo, Japan, in 1928 as F. koreana. Three plants developed from these seeds, two of which were F. viridissima var. koreana and the third a dwarf seedling.

F. viridissima 'Bronxensis' is a true dwarf, ten-year-old plants being little more than a foot high and two feet in diameter. It blossoms freely, unlike F. 'Arnold Dwarf,' but although the outer branches are somewhat spreading, they do not root into the ground at their tips as F. 'Arnold Dwarf' does, and it cannot be used as a ground cover. It is, however, a very fitting subject for the rock garden.

Forsythia x intermedia Zabel, in Gartenflora 34: 35. 1885.

In the summer of 1878 Hermann Zabel, Director of the Municipal Garden in Munden, found seedling Forsythias in the Botanic Garden of Gottingen which were apparently the result of a cross between F. viridissima and F. suspensa var. fortunei. He described this, in 1885, as Forsythia x intermedia. This hybrid has been the source of many garden forms. Its value lies in its being somewhat hardier than either parent, being hardy through much of New Hampshire, Vermont and up-state New York. In habit it is similar to Forsythia suspensa var. fortunei. The Arboretum received its first plant of this hybrid in 1889. Forsythia x intermedia is of importance today because it has yielded a series of selections, and hybrids between those selections which are among the most useful of contemporary Forsythias.

Forsythia x intermedia 'Vitellina' Koehne, in Späth Nurs. Cat., Berlin, Germany. 1899.

Beginning in 1899 a number of selections were made at the Späth Nurseries, Berlin, Germany, from seedlings of F. x intermedia. Forsythia x intermedia 'Vitellina' was offered for sale in the same year, thus starting the parade of new cultivars which are characterized as having more upright and vigorous
growth than their "ancestor," *F. suspensa* var. *fortunei*, and larger and more profuse flowers than either *F. suspensa* or *F. viridissima*. *Forsythia* 'Vitellina' is noted for having the smallest flowers (3.6 cm. diameter) in this general group of hybrids and although these are deep yellow, the cultivar is not in general cultivation today.

*Forsythia x intermedia* 'Densiflora' (Koehne) Schelle, in Beissner, et al., Handb. Laub.-Ben 413. 1903.

*Forsythia x intermedia* 'Densiflora' was introduced in the same year as *F. 'Vitellina'* by Spáth and proved popular for a number of years because of its profuse flowers. It has spreading and pendulous branches, like *F. suspensa*, and crowded, pale yellow, rather flat flowers with slightly recurved corolla lobes. Its parentage is the same as 'Vitellina.'

*Forsythia x intermedia* 'Spectabilis' Koehne in Gartenflora 55: 227. 1906.

The next introduction from Spáth in 1906 was *F. 'Spectabilis'* and it is the one cultivar in the series from that nursery which has remained extremely popular to the present day. Combining the stiffer habit of *F. viridissima*, with the more profuse flowering of *F. suspensa* var. *sieboldii*, it is especially noted for its display of large vivid yellow flowers which are one-and-a-half inches across, and are produced in clusters.

Never before had any Forsythia produced as many or such deeply colored flowers as this new hybrid selection. After sixty-five years, during which many other varieties have come on to the market, *Forsythia x intermedia* 'Spectabilis' remains the standard for any new cultivar to better when it comes to critical comparisons.


The story of the Forsythias switched next to the other side of the Atlantic, to the Arnold Arboretum, where in 1912 Alfred Rehder observed a chance seedling growing in a mass planting of Forsythias on Bussey Hill. It was propagated and named *F. 'Primulina'*.' Of much the same habit as *F. 'Spectabilis',* it is a selection from *F. x intermedia* but in, this case the flowers are pale-yellow. It was much admired by those who objected to the "brassy" tones of *F. 'Spectabilis',* but is seldom grown outside of botanical collections now that the following cultivar is easily available.
Forsythia x intermedia 'Spring Glory' Wayside Gardens Cat., Mentor, Ohio. 1942.

Mr. M. H. Hovarth of Mentor, Ohio, discovered 'Spring Glory' in 1930 as a branch sport on a plant of F. x intermedia 'Primulina' which grew in his garden. He noted one branch consistently produced larger and more densely arranged flowers than the others on the bush. Cuttings taken from this branch produced plants which were far superior to F. 'Primulina,' and about 1942 it was introduced into the trade by Wayside Gardens, Mentor, Ohio, as F. x intermedia 'Spring Glory.' It is still one of the leading varieties on the market today, and well worth growing by those who object to the color of F. x intermedia 'Spectabilis.'


The next sport to be found on a plant of F. x intermedia 'Spectabilis' occurred in a garden in Northern Ireland called Lynwood. The owner, Miss Adair, noticed a branch on her plant that had flowers which were more open and better distributed along the stem than those on the rest of the plant. The Slieve Donard Nursery of Newcastle, Northern Ireland, took cuttings from the branch and introduced it about 1935. It is called F. 'Lynwood' in honor of the garden where it originated. The flowers are brilliant yellow and slightly lighter than F. x intermedia 'Spectabilis.' Although the plant is possibly a bit stiff in habit of growth, in flower it is without doubt one of the best. By 1949 the cultivar had reached America where nurserymen called it 'Lynwood Gold,' a name thought to have greater appeal. Unfortunately, it still appears in catalogs under this incorrect name.


Until the 1940's the main role played by the Arnold Arboretum in the story of the Forsythias was that of the original importer of some species and cultivars into the United States. About this time Dr. Karl Sax, Director of the Arnold Arboretum, and certain of his students became interested in the breeding of Forsythias, and particularly in the treatment of seedlings with a colchicine emulsion in an attempt to produce tetraploid plants. By producing tetraploid cells (which contain double the ordinary number of chromosomes) in the growing point of a young plant, entire plants can be developed which have two
Figs. 2 and 3: Typical habitat for Forsythia, Kongo-san, Korea.
Photos: E. H. Wilson, 1918.
times the normal chromosome number. In many instances such plants have more vigor and larger flowers. Forsythia 'Arnold Giant' was developed in this manner from a seedling of F. x intermedia 'Spectabilis.' It has thicker leaves, larger and darker flowers, and is more erect in habit of growth than F. x intermedia 'Spectabilis.' Although offered by some nurserymen, it has never proved popular in this country as it is too rigidly upright and difficult to place correctly in the garden. It is also difficult to root from cuttings, an objectionable characteristic for a Forsythia.

Forsythia x intermedia 'Tremonia'

In 1966 the Arnold Arboretum obtained a new cultivar of Forsythia x intermedia called 'Tremonia' from Mr. Gerd Krussmann of the Dortmund Botanic Garden, Dortmund, West Germany. Although it is too early to predict the habit of growth or flower production of our specimens, young plants in the nurseries produced flower buds for the first time last fall. The plants are of immediate interest, moreover, because of the deeply cut leaves, giving it the most interesting foliage of all the Forsythias. Young plants and hardwood cuttings were released by the Arnold Arboretum to the nursery trade in 1969 and it is hoped that within a few years Forsythia x intermedia 'Tremonia' will be available commercially.


In 1897 a new species of Forsythia was discovered in Albania. Seed was immediately distributed and by 1904 seedlings were flowering in various public and private gardens. The story was set out by Otto Froebel, a nurseryman of Zurich:

It may be regarded as a most interesting phenomenon that in our days an entirely new shrub should have been found in Europe, the existence of which no one had any idea of and the family of which had hitherto only been known in Japan and China.

This was only rendered possible through this European species having its home in a part of the Balkan Peninsula in Albania, which has hitherto been comparatively unexplored on account of the danger and difficulty of the journey and the absence of any accommodation. I was indebted to the kindness of Dr. A. von Degen in Budapest for a small packet of the seed collected by him in October.
1899, from which I was able to raise a few plants. Thanks to careful attention the seedlings throve well, and by the autumn of 1902 they had grown to be fine, strong bushes 8 feet and more high; and to my surprise, and contrary to all expectation, one single plant, in 1904, produced a small number of blooms scattered over two year old wood, but unfortunately it was not observed until too late. I sent the already half-bloomed spray to Herr Beissner in Bonn, but he could not use the material for further investigation.

_Forsythia europaea_ is a stiff upright shrub 6 feet or more tall. The flowers are generally solitary, or two or three together, a little less than one inch long (2 cm.) and pale yellow in color. Although it is about as hardy as _F. suspensa_ it is not a particularly ornamental species, and is seldom found outside of botanical collections. The Arnold Arboretum received seed of this new species from A. K. Bulley in 1900.


In 1897 G. Giraldi collected a Forsythia in North Shensi, China. The material was not in flower, but fruits were present. The dried specimens were studied by Alexander Lingelshelm who determined that the plant was related to, but different from, _F. viridissima_. He published a description based on the dried specimens and the collector's notes and called the plant _Forsythia giraldiana_. In 1914 Reginald Farrer collected seeds of the same species in Kansu, China.

_Forsythia giraldiana_ is an upright shrub up to twelve feet tall. The flowers are yellow, borne singly, a little less than an inch long (1.6–2.1 cm.) and it is one of the earliest of Forsythias to flower. It is as hardy as _F. suspensa_ but not so ornamental. The Arboretum obtained material of this species in 1938.

_Forsythia japonica_ Makino, in Bot. Mag. Tokyo xxviii: 105, Fig. IV. 1914.

In the first part of the twentieth century plant exploration in eastern Asia produced quantities of interesting plants. In 1914 Tomitaro Makino, Lecturer in Botany in the Imperial University, Tokyo, described a Forsythia collected in the mountains in the Province of 'Bitchu' which is in southwest Honshu, between Hiroshima and Kyoto (it is now the Chugoka District). This is a relatively small-flowered species, the flowers only a little more
than one-half an inch long, (1.5 cm.). He called it *Forsythia japonica*, and it is the only species of the genus native in Japan.


In 1917 Takenoshi Nakai collected fruiting material of a Forsythia in the Diamond Mountains of Central Korea (just inland from the eastern coast and bisected now by the boundary between North and South Korea) and published a description of *Forsythia ovata* in 1917. In that same year E. H. Wilson collected seeds of the species in the same location and in 1923 Alfred Rehder published a description of the flowers based on plants raised in the Arnold Arboretum. *Forsythia ovata* makes a stiff spreading shrub 4 to 6 feet tall. The flowers are small, less than 1 inch long (1–1.5 cm.) and “butter yellow.” Its great virtue is its hardiness (to Zone IV) and the fact that it is the earliest Forsythia to come into bloom.


In 1919 Nakai described another Forsythia from specimens collected near Seoul, Korea, a small shrub 3 feet tall, with small flowers. Its only claim to fame is that it is one parent of *Forsythia ‘Arnold Dwarf.’* Nakai originally considered this to be only a variety of *Forsythia japonica*; however in 1921 he decided that it was sufficiently different from that species to be considered a species in its own right. Further study by Rehder suggests that Nakai’s original disposition was the correct one, and it is now generally referred to as *Forsythia japonica* var. *saxatilis*.


Exploration in Korea continued and in 1924 Rehder described another of Wilson’s introductions as *Forsythia viridissima* var. *koreana*. In 1923, Nakai, in the course of a study trip to the United States, visited the Arnold Arboretum and discussed this plant among others with Rehder and Wilson. In 1926 he published a description of it and raised it to specific rank saying: “This Korean species is one of the most decorative among the Forsythias.” It is a large shrub, up to 12 feet high, with flowers about the size of *F. ovata*. 
Fig. 4: Forsythia x intermedia ‘Arnold Giant.’

Homika Uyeki described a plant from Mt. Keikwan, Manchuria, as Forsythia mandschurica in 1929. This is said to be similar to F. japonica and F. saxatilis but little more is known of it. So far as we know it is not in cultivation.


The next year, 1930, Nakai described a plant which he called Forsythia densiflora based on specimens collected growing on calcareous rocks on Mt. Chojusan in the Province of Kokai in Korea. Nakai thought it would be a good garden plant, but it apparently has not been used in cultivation. It should be noted that the name Forsythia densiflora had already been used for an entirely different plant, so that Nakai’s name cannot stand. In 1966 T. B. Lee, of the Forest Experimental Station at Seoul, Korea, published the new name Forsythia nakai for this plant, and this is the name that must be used henceforth.

Hybrids

Because of the value of Forsythias as garden plants, a number of hybrids have been made, although relatively few aside from Forsythia x intermedia have proved superior to selections from the species. Forsythia x intermedia has already been mentioned. In 1935 a cross between Forsythia europaea and F. ovata was raised in the Arnold Arboretum. We still have a plant of this cross, but it is not particularly ornamental. In 1965 Z. Katedry Roslin Ozdobuych described two hybrids raised in Poland — Forsythia x kobendzae (F. europaea x F. suspensa) and F. x variabilis (F. ovata x F. suspensa). Unfortunately we do not have specimens and so are in no position to evaluate these plants.

The best known hybrids are those which were produced by Professor Karl Sax at the Arnold Arboretum. Forsythia ‘Arnold Giant’ is a seedling of F. x intermedia whose chromosomes were doubled by treatment with colchicine in 1939. This has stiff erect stems, with thick, large leaves and flowers one inch long, but is difficult to propagate. It was crossed back to F. intermedia spectabilis and in 1944 a large population of seedlings was produced. One of these (which is no longer in cultivation) was a triploid and was named F. ‘Beatrix Farrand.’ Another clone, a tetraploid, was named F. ‘Karl Sax’ by Joab L. Thomas
in 1960. There are still a number of these seedlings growing in the Arnold Arboretum. They have become large, massive plants, six to eight feet tall with relatively large flowers. A number of clones from this cross were distributed, and since there has arisen a confusion over the name ‘Beatrix Farrand,’ we propose the following:

The progeny of the cross Forsythia ‘Arnold Giant’ x Forsythia intermedia ‘Spectabilis’ shall receive the group name (Farrand Hybrids). Within the group two cultivars (clones) have so far been named:


This triploid cultivar was the result of a cross made by Dr. Sax and his students between F. ‘Arnold Giant’ and F. x intermedia ‘Spectabilis.’ It is described as being upright and dense in habit, producing dense clusters of flowers which are slightly darker than those of F. x intermedia ‘Spectabilis.’ Its name honors Mrs. Beatrix Farrand, a well-known landscape architect who served as landscape consultant to the Arnold Arboretum for several years. This clone apparently is not in the trade. All of the plants with this name that have been examined cytologically have proved to be tetraploids.


This clone was later selected and named F. ‘Karl Sax’ in recognition of Dr. Sax’s work with the group. It is a moderately compact shrub, the branches not being as rigidly erect as those of F. ‘Arnold Giant.’ The deep yellow flowers are profuse and large, up to 4.5 cm. across. It is easier to root from cuttings than F. ‘Arnold Giant’ and is hardier than many other cultivars.

We recommend that all Forsythias in the trade now called ‘Beatrix Farrand’ be designated F. (Farrand Hybrids) and that each grower, if he feels his clones warrant it, register a new cultivar name.

Another of Dr. Sax’s hybrids is Forsythia ‘Arnold Dwarf’ Sax, Arnoldia 7: 10. 1947. This Forsythia is grown not for its flowers, but because of its value as a ground cover. It originated at the Arnold Arboretum in 1941 as the result of a cross which Dr. Sax made between F. x intermedia and F. japonica var. saxatilis. It is a low-growing shrub, old specimens seldom reaching over three feet in height. Young branches root readily when
they come in contact with moist soil, and in the process they droop to form a dense mat of foliage. The flowers are very sparingly produced, and when observed are pale greenish-yellow and of no value from an ornamental standpoint. The great versatility of *Forsythia* 'Arnold Dwarf' as an unusual ground cover, even under somewhat difficult conditions, more than makes up for this latter defect.

**Floral Dimorphism**

Forsythias exhibit an interesting form of floral dimorphism. Some plants have styles as long as, or longer than, the tube of the corolla, and others have the style only as long as the calyx, or shorter. This is a structural adaptation to prevent or reduce self-pollination. The phenomenon has been studied in *Primula* where it has been determined that pollination of long- and short-styled flowers gives significantly better seed production than self-pollination.

**Culture**

Forsythias are among the easiest of all our hardy shrubs to grow. Mass plantings in the Arnold Arboretum have been placed on steep hillsides where the soil is poor and very dry in the summer. Despite this, our plants have flourished for a number of years and blossom well, except when an unusually severe winter destroys the flower buds. Forsythias have been reported to tolerate both acid and alkaline soil conditions, and do especially well when given an annual application of a 5-10-10 fertilizer. They will also flower when planted in slightly shady conditions, but a sunny position will insure better ripening of the wood in late summer, a condition which relates directly to the ability of plants to withstand periods of severe cold in the winter. One of the few soil conditions which Forsythias will not tolerate is one in which excessive moisture surrounds the roots for any period of time.

With the one exception of *F. viridissima*, which is the least hardy of the common forms, all Forsythias in cultivation are reliably hardy in the Boston area, but not much further north except along the sea coast of New Hampshire and southern Maine. A few species and cultivars, namely *F. ovata*, *F. ovata* 'Robusta,' *F. 'Arnold Giant,'* and *F. 'Karl Sax,'* are reported as being able to withstand colder conditions which roughly approximate to Zone 4 of the Arnold Arboretum Plant Hardiness Zone Map; that is, southern Maine, southern New Hampshire, southern Vermont, and most of New York State. Probably the hardi-
Fig 5: Top: left: F. japonica var. saxatilis	right: F. suspensa var. fortunii
Center: left: F. ovata
                    right: F. suspensa var. sieboldii
Bottom: left: F. x intermedia 'Spectabilis'
                    right: F. europaea
est of all is *F. ovata* and its cultivar *F. ovata* 'Robusta.' This latter plant flowers much more freely than the type and should be tried in areas where other varieties have not been successful or where *F. ovata* has been disappointing due to its rather shy flowering habits. *F. europaea*, the species from Albania, is extremely hardy, too, but because of its ungainly upright habit of growth it is not popular. *F. 'Karl Sax'* has not been in cultivation long enough for us to make a proper assessment of its hardiness, but it has been reported as being nearly as hardy as *F. ovata*.

The above discussion has been concerned with the ability of certain species or varieties to survive more extreme cold than others, but unfortunately still another factor enters the picture with Forsythia — namely bud hardiness. During some winters temperatures are experienced which, although not cold enough to kill the plants, will injure flower buds to such an extent that blossoming may be either reduced somewhat or almost entirely eliminated the following spring. These conditions can occur when temperatures drop below -15° F as determined by Robert Mower and his students at Cornell. Flower buds of the hardier varieties listed above are generally less affected, and it is of interest to note that *F. ovata* and *F. ovata* 'Robusta' flower well at the Arnold Arboretum when exceedingly harsh winters have killed the flower buds of other Forsythias.

When planting Forsythia it must be remembered that they will form specimens six feet tall and eight feet wide, and too often we see them severely cut back or sheared into nearly topiary form in an attempt to confine them into a small space. However, they will grow vigorously and flower even under this treatment. Ernest H. Wilson once wrote (Arn. Arb. Bull. Pop. Inf. Ser. 3, Vol. 11. 1928):

... one of the tragedies of spring is the brutal way in which these good-natured shrubs are clipped and sheared at the annual tidying up of the garden. As one travels through the suburbs and countryside decapitated bushes

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**Fig. 6:**  
**Top:** 1. *F. ovata*  
2. *F. europaea*  
3. *F. x intermedia* 'Nana'  
4. *F. suspensa var. sieboldii*  
5. *F. x intermedia* 'Spectabilis'  

**Bottom left:** *F. x intermedia* 'Spectabilis'  
**right:** *F. x intermedia* 'Arnold Giant'  

**Bottom right:** *F. 'Karl Sax'**
of Forsythias are to be seen on either hand despite the ob-
vvious fact that every branch cut from them in early April
means a loss of flowers. If people would only wait and
enjoy the crop of blossoms and then cut the Forsythia
bushes back as severely as circumstances or fancy dictates,
no harm would be done. Like other spring flowering shrubs
and trees Forsythias produce their blossoms on the past
season's growth and the pruning of all these plants should
be done immediately after the blossoms have fallen. It is
surprisingly difficult to get people to appreciate or at least
to practice this simple fact.

On this same theme, Donald Wyman once wrote: (Arn. Arb.

Unfortunately many public plantings of Forsythias are
sadly mutilated because of lack of intelligent care in prun-
ing. Forsythias should be given plenty of room in which
to grow and expand. They should not be crowded closely
together for any reason except to make a good, dense bank
planting where the whole object is to cover the ground.
Many times when a single bush is used, it will be placed
only two or three feet from a walk when actually it should
be placed 8 to 10 feet from the walk, in order to give the
plant plenty of room to expand fully at maturity. If the
plants are pruned from the side, this necessarily cuts off
the lovely drooping branches and spoils the entire effect,
leaving only the unsightly base and a few branches ending
prematurely in mid-air when they should be allowed to
arch gracefully to the ground.

In fact, it is best to prune Forsythias as little as possible.
Varieties of F. x intermedia seem to flower best on growth of
two to three years, and when pruning must be done, only the
older branches and dead wood should be removed to ground
level. One should not leave stubs nor cut branches half-way
back. In a very old planting where much dead wood occurs and
drastic measures must be resorted to, entire plants can be cut
back to the ground. The vigorous young shoots which result
will be flowering well in a few years.

Forsythias can be used against walls and fences, as espaliers,
or as informal hedges. The graceful F. suspensa var. sieboldii,
with its long trailing stems has been used as an espalier or
trained up over pergolas. A few striking examples can be seen
in the Boston area where plants of this species have been
placed in such a way that their branches hang down and cover high walls along roadsides. One such example can be seen along the Arborway close to the Forest Hills gate of the Arnold Arboretum.

Few problems are encountered with insects or diseases on Forsythias. The only insect known to cause problems is the four-lined plant bug, *Poecilocapsus lineatus*, which makes characteristic tan circles in the leaves. When the insects begin to feed plants should be sprayed with Malathion. Leaf-spots occasionally occur due to the presence of one or several fungi (*Alternaria* sp., *Phyllosticta discincola*, *P. forsythiae*, and *P. terminalis*). Infected leaves can be picked off and burned or a copper spray can be used. Stem-Gall is another fungus disease (*Phomopsis* sp.) which causes abnormal nodular growths similar in appearance to the bacterial crown-gall disease or galls caused by insects. When severely attacked, whole branches die back and the bushes can look unsightly after the leaves have fallen. The best control is to cut off and burn all branches that bear the galls. Die-back is caused by a fungus (*Sclerotinia sclerotiorum*) which enters the plant via the flowers and flower stalks, and then grows into the twigs and kills them for some distance. The best control is to remove and burn all dead twigs and stems.

Buds on the Forsythias are fully formed by autumn. Every few years when we experience an unusually mild spell towards the end of autumn such weather induces some to break their dormancy and open. This is a normal occurrence (it also happens with such groups as *Chaenomeles*, *Lonicera*, and even with a few varieties of *Syringa*), but at such times we can expect to receive at the Arboretum telephone calls from a number of people who wish to report this “strange phenomenon.”

**GORDON P. DEWOLF**

**ROBERT S. HEBB**

**Appendix**

1. **Forcing Cut Branches**

In preparation for a flower show in 1955, Mr. Roger Coggeshall, then Propagator at the Arnold Arboretum, kept a record of the length of time it took to force branches of certain shrubs which were collected at various dates (see Arnoldia 15: 2. 1955.) These were forced in a greenhouse where night temperatures were maintained at 55°–60°F. The figures he kept for two species of *Forsythia* give an indication of the number of days it should take for those who may wish to force cut branches in the home.
No. of days to bloom: Date of normal bloom out-of-doors

<table>
<thead>
<tr>
<th></th>
<th>cut Jan. 28</th>
<th>cut Mar. 18</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Forsythia ovata</td>
<td>18</td>
<td>8</td>
<td>April 5</td>
</tr>
<tr>
<td>Forsythia suspensa</td>
<td>20</td>
<td>6</td>
<td>April 15</td>
</tr>
</tbody>
</table>

2. Bibliographic list of varieties which have never been popular, illegitimate names, and synonyms (see Wyman, Arnoldia 21:6. 39-42. 1961).

**Forsythia x intermedia** (suspensa var. sieboldii x viridissima) (Zabel in Gartenflora 34: 35. 1885).


‘Dwarf’ (Siebenthaler Nurs. Cat., Dayton, Ohio. 1951). Illegit. as a *nomen nudum = intermedia ‘Nana.’*


‘Nana’ (Wyman, Nat. Hort. Mag. 40: 194. 1961). Low dwarf, with simple, lobed and sometimes compound leaves; lamellate pith between the nodes, solid pith at the nodes; slow to bloom; poor, greenish-yellow flowers. A twenty-year-old plant was only 5’ tall and 8’ wide. Originated in midwestern United States.


‘Aureo-variegata’ (Koehne in Gartenflora 55. 206. 1906) = ‘Variegata.’

‘Decipiens’ (Koehne, Gartenflora 55: 206. 1906). Originated in Späth Nurseries, Germany, 1905; flowers single, not nearly as conspicuous as those of other cultivars of this species.

‘Fortunei Nana’ (Siebenthaler Nurs., Dayton, Ohio, Cat. 1938). Illegit. *nomen nudum = F. intermedia ‘Nana.’

‘Nyman’s Variety’ (Krussman, Die Laubgehölze 155. 1951). Branches bronze-colored, closely resembles F. suspens-
sa atrocaulis, bush erect, profuse flowers of ivory yellow.


Other hybrids (?)


3. Forsythias introduced by the Arnold Arboretum

The Arnold Arboretum has played a long and continuous role in the story of the cultivated Forsythias, perhaps more than any other institution. This role has included the discovery and introduction into cultivation of new species from the wild, the introduction of cultivars developed abroad, and the breeding and introduction of improved new forms.

**Species or varieties discovered and introduced by the Arnold Arboretum**

- *F. viridissima* var. *koreana*. Seeds sent by the Korean Department of Forestry, 1919.
- *F. × intermedia* ‘Spectabilis.’ Plants received from Späth Nurseries, Berlin, Germany, 1906.
- *F. × intermedia* ‘Tremonia.’ Cuttings received from Dortmund Botanical Garden, Dortmund, Germany, 1966.

**Hybrids produced at the Arnold Arboretum**

- ‘Arnold Dwarf’ (*F. × intermedia* × *japonica* var. *saxatilis*) — 1941.
- ‘Primulina’ (*F. × intermedia* ‘Spectabilis’) — 1912.