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MINIATURE DAFFODILS:

SPECIES AND GARDEN HYBRIDS

by Roberta C. Watrous

SMALL DAFFODILS have long been used in gardens, but their greatest popularity has come in recent years, while modern show and garden varieties have been steadily growing larger and taller. What is their special appeal? Not small size alone, although a yellow trumpet half an inch wide on a three-inch stem may suggest a doll's garden. The diversity in forms is equally fascinating: the classic simplicity of *Narcissus Watieri* and *N. rupicola*, the jauntness of *N. cyclamineus* and its hybrids, the airy grace of the triandrus group, and the decided individuality of the bulbocodiums.

In addition to the varied charms of their flowers, miniature daffodils have other virtues to recommend them. By planting miniatures we may have daffodils several weeks before the larger types begin to bloom. They are especially suitable for the rock garden, of course, and may be used effectively near the front of borders or naturalized in small-scale woodland settings. The foliage of most of the small varieties is narrow and not unsightly during the ripening period. If the very small bulbs are grown in pots sunk into the ground, they may be brought into the house when in bloom, where the flowers may be enjoyed at close range, to be returned to their outdoor places when the bloom fades. The bulbs may remain in the same pots for several years. This method of planting has other advantages: drainage may be controlled more surely, and the summer baking some species need may be achieved by moving the pots to a hot dry place when the foliage has ripened.

When we speak of "miniatures" we usually have in mind varieties from two to eight or nine inches tall, with flower or flower cluster in proportion. "Flower in proportion" cannot easily be defined. Not only size of flower or cluster, but shape—as influenced by the length of trumpet and width and angle of perianth segments—and even thickness of

stem and length of pedicel affect the proportions so that some seem true miniatures and others merely short-stemmed smallish flowers. Although the latter have their place in the garden and for growing in pots, this article will deal chiefly with the true miniatures.

It may seem pedantic to stress the distinction between species and garden hybrids, but there are practical reasons for doing so. We know that wild plants often prove disappointing in gardens, and wild daffodils are no exception. Most of the species are natives of mountains of the Mediterranean area; some come from limited and specialized habitats. Some are naturally short-lived, depending on seeding rather than bulb division for perpetuation. Failing the ideal conditions which will enable these short-lived species to naturalize in place by seeding, the gardener must be willing to replace the bulbs as they die out, either by growing new ones from seed or buying bulbs others have grown or collected from their wild homes. Whatever the reasons may be, hybrids and bulbs grown under cultivation seem better adapted to garden conditions than newly-collected wild bulbs.

Linnaeus recognized six species of *Narcissus* in the first edition of his SPECIES PLANTARUM. These were *N. poeticus*, *N. Pseudo-Narcissus* (trumpets), *N. Bulbocodium*, *N. serotinus*, *N. Jonquilla*, *N. Tazetta*. Although later botanists have added enormously to this list, by new discoveries and new interpretations, it is still useful as a guide to the distinct types within the genus, if we add *N. triandrus*, which Linnaeus included in the second edition and *N. cyclamineus*. Each of these groups contains small or comparatively small members; some consist chiefly or entirely of miniatures. These, then, are the wild daffodils that will appeal to those who like small things, and will provide the raw material from which garden varieties will be bred.

Until recent years only the most common of these small species were carried by the average American bulb dealer, usually *N. Bulbocodium conspicuus*, *N. triandrus*, and *N. cyclamineus*. A somewhat wider choice was offered by certain Dutch and English dealers, but most of the bulbs were collected wild ones rather than nursery-grown, and the mortality under garden conditions was high. About thirty years ago Alec Gray, of Cornwall, England, began collecting all available small species, cultivating them, and producing new varieties by hybridization. His exhibits at the Royal Horticultural Society, his writings, and his bulbs have been largely responsible for the present popularity enjoyed by these miniature daffodils. Now many of our dealers are offering a wider selection of the small species, a few supply bulbs grown under cultivation, rather than collected wild bulbs, and as supplies permit they are making available the newer miniature hybrids bred by Mr. Gray and others.

THE TRUMPETS

The trumpet group includes one tiny yellow species, one very small white one, and several yellows that may safely be called small. The tiny one is *N. asturiensis*, often called *Minimus*. The flower is only an inch long and is carried on a stem two to four inches high. It is not only the smallest but the earliest trumpet; here in Washington (D.C.) it may bloom late in February or early in March. Although its bulbs do not divide, it sets seed readily. The pure white trumpet of *N. alpestris* is an inch and a half long, and nods from a four-inch stem. Native of the Spanish Pyrenees at a height of about seven thousand feet, it seems very reluctant to accept more lowly dwelling places, and is one of the most difficult species to keep. Mr. Gray has used it to produce 'Snug,' which is said to be more amenable, but still very scarce.



Plate 6473 from Curtis's Botanical Magazine, v. 106, 1880: Three wild forms of *Narcissus*: a. (center) *N. triandrus pallidulus* (concolor); b. (left) *N. bulbocodium graellsii*; c. (right) *N. rupicola*.

The somewhat larger yellow *N. minor* and *N. minor pumilus* have long been cultivated, and their bulbs increase in the conventional manner. *N. nanus* (Lobularis of the trade) is not known as a wild plant and is probably a hybrid. Its bulbs multiply very rapidly, but it is not a generous bloomer. The small flower with imbricated (overlapping) perianth segments is attractive, although the coloring, two shades of yellow, is rather dull. *N. obvallaris* is almost too large to be considered a miniature, but its perfect form and bright color make it irresistible in the garden and invaluable as a parent. From this species crossed with *N. asturiensis* has come 'Tanagra,' the favorite miniature yellow trumpet among the garden hybrids. It is about five inches tall, with good carriage, nicely serrated trumpet, and wide, beautifully flat perianth. Some other garden hybrids in the trumpet section are 'Wee Bee,' pale yellow, 'Bambi' and 'Little Beauty,' bicolors, 'Rockery Beauty,' in two shades of yellow, and 'Rockery White.' All of these are about six inches tall and of Dutch origin. In general, the trumpets are quite hardy and do well in northern gardens.

THE CYCLAMINEUS GROUP

Closely related to the trumpets is the little *N. cyclamineus*, whose long narrow trumpet with narrow perianth segments streaming behind suggests a descending rocket. Unlike most daffodils it grows best in damp situations and, if undisturbed, will often seed itself. This species hybridizes easily with other early-blooming daffodils, and the hybrids are usually early, long-lasting, all-yellow, with long, rather narrow trumpets. 'Mite' is a very pleasing small one, only slightly larger than its species parent, with perianth segments not quite so sharply reflexed. *N. cyclamineus* crossed with the tazetta 'Soleil d'Or' has given 'Cyclataz,' with a cluster of several yellow and orange flowers, 'Tête-à-Tête,' with solitary flowers of the same coloring, and 'Quince,' with one to three pale yellow flowers. There are other newer varieties not yet widely distributed.

THE JONQUILLA GROUP

The jonquilla group consists almost entirely of species less than six inches tall, with small, rather flat flowers of very smooth texture. Among these are two newcomers from the Atlas Mountains of Morocco. *N. Watieri*, introduced into England about 1930, was instantly popular because of its beautifully-formed, sparkling white flowers. It was soon found to be a free seed-setter, and no time was lost in using it in hybridizing. 'Xit,' 'Demure,' 'Picarillo,' and 'Tweeny' are some of its progeny that are much in demand. In 1950 another new species was announced: *N. atlanticus*, which is similar to *N. Watieri*, but creamy rather than pure white. Except for the color, both closely resemble *N. rupicola*, having flat glaucous foliage and solitary flowers with bowl-shaped corona and spreading perianth. The flowers face upward from four-inch stems. *N. juncifolius* differs in having narrower dark green leaves, several flowers on a stem, and an intensely sweet fragrance, which the solitary species lack. *N. scaberulus* and *N. calcicola*, both very scarce, offer still more diversity in this group.

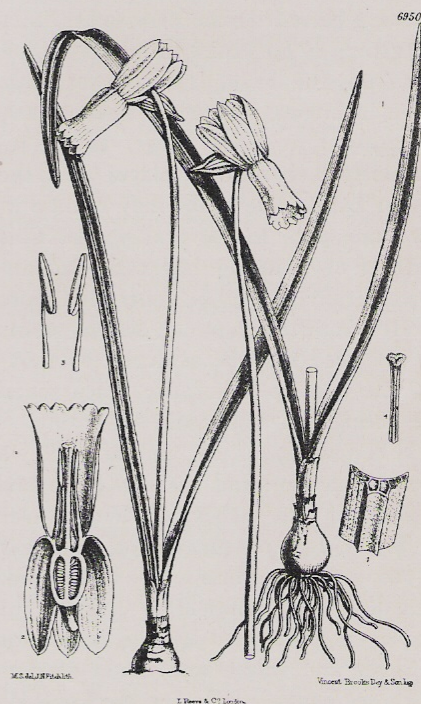
N. Jonquilla itself, long a favorite in our southern states, is too tall to be considered a miniature, although its individual flowers are small, and many of its hybrids fall within the nine-inch limit. *N. tenuior* was formerly con-

sidered a species, but is now believed to be a very old hybrid between *N. Jonquilla* and a small form of *N. poeticus*. It is a charming plant, with one to three pale flowers on a five-inch stem that is sometimes a little weak. Among the desirable newer small jonquil hybrids are 'Sun Disc,' 'Sundial,' 'Flomay,' 'Bobbysoxer,' all similar in form but ranging in color from bright yellow to creamy white. Most or all of these have *N. rupicola* as one parent, and that species seems to give good form and smooth texture to all its progeny. 'Kidling,' from *N. Jonquilla* and *N. juncifolius*, is about six inches tall and has fragrant, bright yellow flowers freely produced. 'Peaseblossom,' only four inches tall, with very small pale yellow flowers, might almost be called a miniature miniature. Members of the jonquilla group are usually happiest in warm areas, in light sandy soil and full sun.

THE TRIANDRUS GROUP

N. triandrus takes its name from the fact that only three of its six anthers are visible, the other three remaining hidden within the perianth tube. This group consists of a number of slightly-differing forms shading from white to deep yellow. The white *N. triandrus albus* is the most common, often known

Plate 6950 from Curtis's Botanical Magazine, v. 113, 1887: *N. cyclamineus*.





Left. 'April Tears' (triandrus hybrid)

Below. 'Flomay' (jonquilla hybrid)



by its nickname 'Angel's Tears.' The essential qualities of the group are the refinement due to their silky texture and the gracefulness due to the combination of reflexed, slightly twisted perianth segments and loosely poised flowers, which are usually borne in clusters of two or more. The stems may vary from three to six inches or more in height. The best-known small triandrus hybrids are 'Hawera' and 'April Tears,' both having *N. Jonquilla* as the other parent. 'April Tears' has wide perianth segments, giving the flowers a symmetrical outline; 'Hawera' is softer in effect. *N. triandrus* forms crossed with small trumpets give flowers with long cups and slightly-reflexed perianths, usually of beautiful texture. 'Queen of Spain' is a wild hybrid of this parentage, pale yellow, and 'Tristesse' is a white garden hybrid.

THE BULBODIUMS

Members of the bulbodium or "hoop-petticoat" group differ from all the other types of *Narcissus* in the proportions between large, funnel-shaped cup and very small perianth segments, and in having curved stamens, placed asymmetrically. The bright yellow *N. Bulbodium conspicuus* is well known; *N. B. obesus* and *N. B. nivalis* are smaller yellow forms. The winter-blooming white forms from North Africa, *N. B. monophyllus* and *N. B. monophyllus foliosus*, are a delight where the climate permits them to be grown outdoors; elsewhere they are suitable for culture in a cool greenhouse. The lovely pale *N. B. citrinus* is a moisture-loving spe-

cies. All the bulbodiums tend to increase freely both by bulb division and by seed. Garden hybrids include 'Nylon,' milky white and winter-blooming, which endures the winters of Washington, D. C., although not reliably hardy farther north. 'Kenellis,' a bulbodium-triandrus hybrid, flowers over a long period, and 'Elfhorn' is valuable for its very late-blooming habit. As the foliage of the bulbodiums comes up in the fall, winter injury may take place, but this is not necessarily fatal.

OTHER SPECIES

The other types of *Narcissus* need not detain us long. *N. canaliculatus* and *N. dubius* are the miniatures in the tazetta group. The former is one of those troublesome varieties that spend



Above. 'Tanagra' (trumpet hybrid)

Right. 'Nylon' (bulbodium hybrid)—February 22, 1954—the first year the author had it in her garden. Now 'Nylon' blooms during mild intervals from November on.

their energy in increasing instead of blooming. *N. dubius* is a tender species which has contributed its beauty to 'Raindrop,' one of the most appealing of all miniature hybrids. 'Raindrop' has small white flowers with bowl-shaped cup and slightly reflexed, wide perianth segments of very heavy substance and lustrous finish. One to five flowers are borne on a five-inch stem. The other parent was *N. triandrus loiseleuri*. *N. serotinus* and the other autumn-flowering species are seldom seen in this country, but if available might prove of interest for greenhouse culture. One (*N. viridiflorus*) has green flowers. The two smallest *N. poeticus* varieties, *N. p. radiiflorus* and *N. p. verbanensis*, are difficult to keep in cultivation and bloom so late they are not useful in hybridizing.

CULTURE

To succeed with wild plants coming from such a variety of soils and altitudes as do the various small species of *Narcissus* requires some consideration of their special needs. Generalizations are risky, but it is probable that more of the very small bulbs are lost through overfeeding than through starving. Too much nitrogen is especially conducive to basal rot, and poor drainage is fatal except for *N. cyclamineus* and certain of the bulbodiums. On the other hand, ample moisture is necessary in the growing season. As so much of our information on the garden behavior of these bulbs comes from English sources, we need to learn how to make the best use of their experience under our varying conditions. In the meanwhile, gardeners who have been disappointed in the species will find the garden hybrids more reliable, although in many cases more difficult to obtain.

(Continued on page 153)



for their foliage and include parthenocissus. The Japanese or Boston ivy is a common fast-growing type, whereas the Veitch and Low's forms are slower growing and will not climb as high. The Engelman form of Virginia creeper is considered to be better than the species. When using the rank-growing forms on brick or stone building walls, frequent pruning is necessary to prevent interference with windows and doors. The fiveleaf akebia is an attractive slow-growing twining vine, which can be easily trained on a wire or similar support. Two other foliage vines, effective for heavy covers or screens, are Dutchman's pipe and Bower actinidia.

The brilliant red fall color of Japanese and Virginia creeper and their varieties can be used to good advantage in the landscape. Once established, they will persist indefinitely.

Evergreen foliage vines are a year-round asset in the landscape. Forms of wintercreeper (*Euonymus*) which climb with root-like holdfasts are used frequently by many designers. Although they are subject to scale, modern pesticides make control relatively easy. Big-leaf wintercreeper is probably the most common, the purpleleaf wintercreeper presents an interesting purple-green foliage color, and the "baby" wintercreeper has a restricted, slow form of growth. Forms of English ivy are also popular evergreen vines; however, the use of poor forms often reduces their value. Select forms which are known to be hardy and resistant to winter sun and wind burn. Recommended clones are 'Roumanian,' 'Wilson,' and 'Thorn-dale.'

The list of plants which can be trained in espalier fashion is virtually unlimited, but sources of plants trained specifically for landscaping use are almost non-existent. Attention should be given to adaptation to training, rate and extent of growth, degree of suckering, ornamental effects such as fruit, flower, fall foliage, and finally the pattern and textural effect desired.

Screw eyes or hooks of various types may be used to attach plants to wooden surfaces. Concrete nails are satisfactory for light material on stone or brick walls; however, hooks in a type of expansion plug are necessary for heavier plants. On either surface the use of wires, cables, or wire grids strung between hooks provides the most satisfac-

tory means of attachment. It is easier to train branches in definite patterns, and the whole plant can be pulled away from the wall if wall repairs are necessary. Aluminum, copper, or galvanized materials are preferable.

The attachment of plant branches to the support can be easily accomplished by using cord, nylon string, or raffia. Wire should never be used because of the danger of girdling.

OUR FRONT COVER ILLUSTRATION "A Botanist's Triumph"

"Well, sir, just let me show you this. Here's a rose I'm proud of, blooming for the first time. Due to care and patience, I've managed to give it the scent of rhubarb! I should be given a special citation in the next issue of the Journal of Useful News."

Our front cover illustration is a Daumier print, entitled "*Les Beaux Jours de la Vie*," from the collection of the late Edwin De T. Bechtel, long a member of the Board of Managers of The New York Botanical Garden, and presented by his widow for use on the front cover of THE GARDEN JOURNAL. Mrs. Bechtel kindly translated the above caption which appears on the print but which, because of space limitations, we could not include on the cover.

At the Metropolitan Museum of Art, from June 26 to September 1, 1958, there has been an exhibit of prints by Jacques Callot and Honoré Daumier from Mr. Bechtel's collection.

The most satisfactory plants for espalier use are often so-called poor specimens. A plant with a flat side, or one which can be readily pruned to this shape, is necessary.

The plant can be trained to a geometric pattern of formal nature or shaped to an informal natural design.

Plants for espalier effect should be planted as close to the surface as possible. Top and root pruning may be necessary to permit this especially if a large root is growing on the flat side. An exception to this rule occurs when plants are used against a wooden wall, particularly in areas of high humidity.

When this situation exists, the plants should be trained on a structure placed away from the wall to allow air circulation and to prevent wood rot.

The plants should initially be pruned to leave a few branches spaced in the desired fashion and to remove weak, spindly, or crossed branches. The rest of the necessary pruning can be done when the plant is attached to the support.

Established espalier plants require more or less maintenance, depending upon the particular variety; any improperly pruned or trained type will detract from the overall effect. A heavy pruning in late winter is necessary to remove unwanted branches, or to reduce the length of terminals; and on many plants successive prunings may be required during the season. Espalier training requires intensive care to assure satisfactory results, and this fact should be clear to the home owner.

The increasing interest in this type of plant material in contemporary landscaping will probably lead to greater interest among nurserymen and eventually result in more sources of supply.

MINIATURE DAFFODILS (from page 151)

Those who consider the less common species interesting enough to justify special study of their needs will find much useful information in Mr. Gray's *MINIATURE DAFFODILS*, M. J. Jefferson Brown's *THE DAFFODIL*, E. A. Bowles' *A HANDBOOK OF NARCISSUS*, and various issues of the Royal Horticultural Society's *DAFFODIL AND TULIP YEAR BOOK* and the *Quarterly Bulletin of the Alpine Garden Society* (English). Mr. Bowles' book is a necessity for anyone rash enough to attempt to follow the many confusing changes in nomenclature undergone by the genus *Narcissus* and its members at the hands of a succession of botanists, although there have been some changes even since its publication in 1934.

Finally, let me recommend hybridizing with these small species as a "do-it-yourself" venture. It is easy, can be carried on in limited space, and the results can hardly fail to be pleasing additions to the garden, whether or not they qualify as show winners or commercial successes. There is no *N. cyclamineus* x *triandrus* hybrid available now—who will be the first to produce one?