

MINIATURE DAFFODILS

By ALEC GRAY

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It gave me very great pleasure to be asked by the R.H.S. to give this talk on Dwarf Daffodils, not only because of the compliment paid me, but also because it was a further proof of the increasing interest people are showing in the little plants which I have made my speciality.

In preparing this talk I found some difficulty in deciding how to treat so large a subject in the time allowed me. After some thought I decided that it would be better to look upon my audience as consisting of keen gardeners, anxious to learn more about some flowers with which they were only slightly acquainted, rather than as a company of experts interested in the finer points of the Daffodil.

The first thing to do is to define what is meant, or rather what I mean, by a Dwarf Daffodil. In this talk, when I speak of semi-dwarfs I shall mean anything which does not exceed the size limits laid down in Sections 2 and 6 of the Show Schedule, that is to say, not more than 12 inches high and having a flower not more than 2 inches in diameter. When I refer to dwarfs, however, I am thinking of very much smaller plants in point of height—not more than 6 or 7 inches high. The size of flower is another matter, however, as *Narcissus triandrus albus*, for instance, often has flowers over 2 inches across if flattened out, but is certainly a true dwarf, or miniature Daffodil.

The next thing to consider is the purpose for which Dwarf Daffodils are suitable ; these are two-fold, first for outdoor decoration, and secondly for indoor decoration.

The outdoor uses may be again divided into two, the rock garden, and borders and naturalization. The indoor uses can also be divided : the alpine house, and room decoration.

Most Dwarf Daffodils are not difficult plants to grow in the rock garden ; very few are intolerant of frost, or are very particular regarding soil ; what most really object to is humid atmospheric conditions and stagnant water at the roots. It is very common for someone to come to my stand and ask me if my little flowers are really grown outdoors. I tell them every one is, and they then ask where, and when I reply " In Cornwall " the enthusiasm fades from their faces, and they remark " Well, of course, you can grow anything in Cornwall. " I only wish this were true ! Cornish gardeners have nearly as many troubles as any other gardeners, and the damp climate of the extreme South-west is by no means ideal for Dwarf Daffodils.

I have hardly ever known frost or cold do any damage, but damp sea mists in early spring often play havoc.

In planting miniatures outdoors it must always be kept in mind that they are too small for their beauty to be appreciated individually : they must be planted in groups, and very often the larger the group the better. On the other hand, care must be taken not to plant too closely, since, if they establish themselves, they are best left undisturbed for three or four years, as some sorts soon become overcrowded and fail to flower. Also those sorts which only increase very slowly by division should be allowed to seed themselves.

It is often desirable to use some kind of cover for the soil beneath the plants in the rock garden. Such plants as the very Dwarf Thymes

can be used, and not only do these show off the Daffodils to advantage, but also, which is more important, they keep the blossoms from getting dirty. Of course, fine stone chippings will serve the same purpose. These keep the bulbs cool and moist in the summer—an advantage with some, but not by any means all, for many varieties need to be well ripened by the summer sun if they are to flower well.

As to the depth at which to plant I should say as a general rule that they should go down rather more than twice their own height, in other words, a bulb, say $\frac{1}{2}$ inch high, should have nearly an inch of soil on top of it when the earth has settled.

While the ground should be in fairly fertile condition, dung, and such like, must be avoided like poison, as they encourage skin diseases and rank growth, which in its turn encourages fungoid diseases of the leaf. Indeed, with very many sorts an excess of humus in any form may cause trouble. A little bone meal, if you like, but that is all I advise in the way of fertilizer. Lime, I have never known do any direct good or harm to any sort of Daffodil.

Since I have mentioned that the best method of increasing many sorts is by raising seedlings, a few words on this subject may not be out of place, although the methods employed do not differ greatly from those used in raising the larger Daffodils from seed.

As to soil, a good mixture is about three parts medium loam, one part granulated peat, or clean leaf mould, and one part sand, not too fine, and a little bone meal if thought necessary. The seed can be sown in open beds if desired, but where both the seed and the quantity to be sown is very small, I think boxes or a frame are to be preferred. If boxes are used they should be at least 4 inches deep, and 6 inches is better. They should be filled to within $\frac{1}{2}$ inch of the top with the compost suggested. After sowing the seed fill to the top with soil and give a good watering; allow the soil to settle and then sprinkle about $\frac{1}{4}$ inch of fine peat over the surface. This keeps the soil cool and prevents drying out.

I suggested the use of frames just now, but I am not thinking of ordinary cold frames; these can be used if desired, although the lights would never need to be put on except in very exceptional circumstances. The frames I use are just four pieces of rough board about 6 inches wide nailed together to form a rectangle.

A convenient size for such a frame is about 6 feet long by 2 feet 6 inches wide. The boards can be sunk 2 or 3 inches into the ground, and the centre well dug and then filled with the compost recommended and sowed with seed in just the same manner as boxes, over which they have the advantage of not drying out so rapidly. They are, on the other hand, better than the open bed, because they are more easily kept free from weeds and, since the surface of the soil is some inches above the general level, better drainage is secured.

Sow your seed as soon as it is ripe, or at any rate as soon as all your seeds are ripe, generally in July.

Leave undisturbed for two years and then plant out in open ground. In the smaller kinds a large proportion of the seedlings will flower the third year. A few sorts such as *N. Bulbocodium citrinus* are never really dormant, and these, by sowing seed in the Spring, I have flowered in eighteen months.

When you lift the bulbs after two years they can be given hot-water treatment with perfect safety. The miniature Narcissi are subject to Eelworm, just like their bigger brothers, but they are not very subject to the attentions of the Narcissus flies. Their worst

enemies are *Botrytis* and other fungoid diseases, which cause the plants to rot off at ground level, or the bulbs to decay from the outside.

Many of the semi-dwarf varieties are very charming in the herbaceous border if planted in fairly large clumps, but the beauty of the very small sorts is apt to be lost sight of in such a position. A few of the vigorous kinds may, however, be used for edgings. For naturalizing in grass, both dwarf and semi-dwarf varieties may be used effectively, but here again only vigorous sorts will thrive.

The cold or cool glasshouse, or Alpine house, may be used to grow miniature Daffodils in, first, for the better care and protection of rare or difficult sorts; secondly, for the better appreciation of the commoner kinds, which thus cultivated can be seen and admired at close quarters; thirdly, for the growing of kinds for which the outside conditions of your locality are unsuitable, and fourthly, simply for the beauty they bring to the house in the often dreary days of early spring.

Little needs to be said concerning their cultivation under such conditions: treat them very much as you would any other hardy bulbs. Keep the pots or pans outdoors for as great a part of the year as possible and give the minimum of heat if this is used. Avoid humid conditions, but water freely whenever possible.

I have long felt that, were they better known, the miniature *Narcissi* would make an irresistible appeal for room decoration. The large flowered Daffodils are much too tall to look well in any ordinary pot or bowl, and as growing plants they are simply impossible for table decoration. To my mind, to be in proportion the height of the plants in a bowl should not be greater than the diameter of the bowl, and they should not need to be staked.

It is often said that bulbs in pots or bowls are very charming but their season is all too short: this criticism certainly does not hold good with the dwarf and semi-dwarf Daffodils, for, with very little trouble, and next to no heat, a succession can be had in flower for nearly six months out of the twelve.

For the decoration of the dining table few things look more lovely than a bowl of say *N. Bulbocodium citrinus* or *N. triandrus albus* (Fig. 1). It can be set in the middle of the table and one can converse with the person opposite unimpeded by a screen of foliage!

I do not advise growing these little bulbs in fibre, not only because of the expense, the bulbs being of little use afterwards, but also because they very often go blind under this treatment. Heat will also have the same effect if applied before the buds are well above ground. I think the ideal way to grow them for indoor decoration is to find an ornamental bowl if you like, then get half a dozen Alpine pans which will fit inside it and plant these up with bulbs to flower in succession.

Keep the pans plunged outdoors, or in a cold frame or house, and only bring indoors just before the blooms open, and take outside, and plunge again, as soon as the flowers fade. Treated like this the bulbs can be used two or more years without repotting.

In the time at my disposal I shall not have the opportunity to do more than give a very brief description of all the Dwarf Daffodils which the intending grower has to choose from, and I propose to treat them from the gardener's rather than the botanist's point of view.

To begin with the *Bulbocodiums*, which are some of the best known and easiest dwarfs. They are all very small plants and are easily distinguished by their large expanded coronas and very narrow perianth segments.

N. Bulbocodium is a very variable plant in nature and I am not at all sure what the "type" plant is like, but this talk is not the place in which to enter into discussions on this kind of problem. I am only concerned with describing recognized garden plants under their ordinary horticultural names.

Furthermore, you must not call me to account if I seem to use the words species and variety rather loosely, as I feel very doubtful regarding the exact status of many of the Dwarf Daffodils.

The commonest variety of *Bulbocodium* in cultivation is probably *conspicuus*, 4 to 6 inches high and bright golden-yellow. It increases very rapidly by division or seed and is perfectly hardy in the south. It makes a pretty edging for herbaceous borders in the early spring.

N. tenuifolius closely resembles *conspicuus*, and although not very often seen is, in my experience, just as hardy and prolific. It can easily be distinguished by its shorter stems and prostrate foliage. This latter habit makes it a more effective plant than *conspicuus*, the blooms of which are apt to be hidden in its tall leaves.

N. citrinus is the tallest of the *Bulbocodiums* and the corona is much more expanded than in the last two sorts. It is pale sulphur-yellow and a very charming plant. It is said to be the hardiest of the tribe, but I have always found it most difficult to increase by division and all my stock is raised from seed, which it produces in profusion.

One of the smallest of all Daffodils is *Bulbocodium nivalis*, which bears tiny yellow flowers on a stem only an inch or so high. My few bulbs seem to increase rather slowly, but it sets seed quite well.

These are all European sorts, and like a quite considerable amount of moisture in the soil, but the *Bulbocodiums* I come to now hail from North Africa, or the extreme S.W. tip of Europe, and like a good deal drier conditions.

N. monophyllus or *Clusii* is surely one of the most lovely of all Narcissi; it is not an easy plant to grow, but is worth a good deal of trouble. Of lovely form and the purest white, it flowers in mid-winter but is much too fragile a thing to blossom out-doors at that season of the year. The chief complaint made against *monophyllus* seems to be that the bulbs cannot be started into growth but remain dormant often for years on end (Fig. 9).

This certainly occurs with such species as *elegans* and *viridiflorus*, but *monophyllus* has never given me trouble from this cause. My trouble with it has been its liability to fungus trouble in the bulb, its very slow increase by division, and the difficulty of getting the flowers to set seed in December.

Nearly but not quite as beautiful is the recently distributed variety *monophyllus foliosus*; nearly as beautiful I say, but not quite, for the flowers, as far as my experience goes, lack the pure, sparkling white of the type, and are milky in hue. It is certainly a much better doer and increases very rapidly.

Another good doer, and a plant that deserves to be widely grown, is *Romieuxii*. This closely resembles *monophyllus* in form, but is a soft pale yellow. It flowers even earlier, often in November with me, and for this reason rarely sets seed. This is no matter, however, as the bulbs divide freely. It seems perfectly hardy, but the lovely flowers need some protection from rain, slugs, etc., if their full beauty is to be seen.

I can only mention by name two recently introduced African *Bulbocodiums*—*tannanicus* and *Riffanus*—and pass right on to the miniature trumpets.

There is a good deal of confusion in the names of the trumpet species of *Narcissi*, as the botanical and garden names do not always coincide. In the brief descriptions which follow the first name is the botanical one under Pugsley's classification, and that which follows, in brackets, is the name by which they are usually known to gardeners and listed in catalogues.

The smallest of these, *N. asturiensis (minimus)*, is perhaps the best known and best loved of all Dwarf Daffodils, but I have never found it a very easy bulb to propagate and have never managed to work up one quarter of the stock I should like. It is very liable to fungoid diseases and divides very slowly. It sets seed freely, but it is difficult to ripen and harvest them as the pods rest on the ground as they mature, and are very frequently eaten by slugs, or if they do ripen they are overlooked and the seed lost. *N. asturiensis (minimus)* is really too small to be seen to advantage in any but the most tiny rock gardens, but is ideal for pans and stone sinks.

Better for the ordinary rock garden is *minor (nanus)*, which closely resembles *asturiensis (minimus)* except that it is rather larger and taller and flowers a good deal later. Larger again, we have *pumilis (minor)*, which is often 6 inches high. It is deep yellow: its pretty, serrated trumpet, as well as its colour easily distinguishes it. The two closely related double forms, *pumilis (minor) plenus* and 'Rip Van Winkle,' are quite pretty, but suffer from very weak stems. Another useful variety, for naturalizing in particular, is 'Santa Maria,' a hybrid of unknown origin rather like a small *N. maximus*; its curiously shaped tube suggests the possibility of some *Bulbocodium* blood in its parentage (Fig. 3).

N. nanus (lobularis) is about the same size and height as *pumilis (minor)*, but is really a bi-colour with a yellow trumpet and very pale yellow perianth. It increases much more rapidly than any of the foregoing, but I do not admire it, as the shape of the trumpet is not very pretty and the colours a little muddy.

Although found in the lists of large flowered Daffodils and marketed as a cut flower, I feel I must include in my catalogue of semi-dwarfs, *obvallaris*, the 'Tenby' Daffodil.

It is a lovely little flower, with perfect form, stiff stem and clear fresh colour. If you can establish it in grass it does not come much more than 6 inches high and is well worth growing. Crossed with *asturiensis (minimus)* it gives little flowers of perfect form. *N. obvallaris* forces well and is lovely in bowls.

N. pallidiflorus (pallidus praecox) is a dwarf in point of height, but not in size of flower, which is out of proportion to the stem. It is very early but a poor doer and not often seen nowadays. The wild English Daffodil *N. pseudo-narcissus* is valuable for naturalizing in grass in large drifts, but for little else.

'Rockery Beauty' is a very nice little bi-colour with a good contrast between trumpet and petal. It grows from 4 to 6 inches high, has a very stiff stem and pleasing form, but is rather slow to increase.

Half-way between the yellows and whites comes 'W. P. Milner,' a well-known old variety I am very fond of. It grows some 9 inches high and is of a very pale greenish-yellow colour, which sounds as though it would be unpleasant, but it is not. It is always recommended for bowls but is just as nice outdoors.

There are only four small white trumpets with which we need

concern ourselves. Many other semi-dwarfs seem to have existed in the past, and perhaps still linger on in old gardens, in Ireland in particular, but their constitution is too poor for them to be widely distributed.

N. alpestris (*moschatus*) is the smallest of the four I have to mention, only some 3 inches high, with a drooping, snowy-white flower. Some people think it beautiful, others that it looks withered, anyway it is rather a difficult plant, and I doubt if I could keep my stock did it not seed freely.

N. moschatus (*cernuus*), is a much bigger plant and a very much better doer, indeed, so far as increase goes, it tends to the other extreme, as it splits up too freely, many of the bulbs going "broody," producing dozens of tiny little slips. One or two of the small Daffodils are subject to this trouble, just as some of the large ones are, and I have no idea of its cause. *N. moschatus* (*cernuus*), both in size and form, rather resembles 'W. P. Milner,' and like this sort is valuable for bowls and also makes a brave show planted in largish patches in the border (Fig. 8).

N. moschatus (*cernuus*) *plenus*, the double form, is, I think, a very beautiful flower, and I have never found it as difficult as it is reputed to be, although rather slow to increase.

There is, I believe, some doubt as to whether this is really the double form of *moschatus* (*cernuus*), but from some which have become almost single I think it must be. Some flowers open with the "rose" form, others with only the trumpet double, but this does not seem to be constant.

'Rockery White' is said to be a seedling from *nanus* (*lobularis*); it may be, but I am a little doubtful as the bulbs are so very different from that species. It was raised in Holland and is very prolific, but not as pretty a plant to my mind, as it opens pale yellow but fades pure white with age.

For want of a better place, I will here mention the plant generally called *Capex plenus*, 'Queen Ann's Double Daffodil.' There is a good deal of mystery connected with it, but it seems probable that it is some double Daffodil crossed with *N. triandrus*.

I think it a lovely little thing with its rows of sulphur-yellow petals arranged neatly one on the other to form a perfect star.

It differs from all other Daffodils in showing no trace of a corona. I have always found it do quite well, but slow to increase.

The *Incomparabilis*, *Barrii* and *Leedsii* divisions provide us with next to nothing in the way of miniature Narcissi. I have raised a few Dwarf *Incomparabilis* by crossing *asturiensis* (*minimus*) with *poeticus*, but they do not satisfy me. It is difficult to see how we can get anything very dwarf without introducing Jonquil blood.

In Division IV some of the very old Leedsii such as 'Amabilis' could almost be classed as semi-dwarfs but are much too poor in substance to be of any use. In IV B's I think we can include that lovely little flower 'Fairy Circle,' although I don't quite know what its uses are, as its delicate tints are too fugitive to give it value for the border and it is rather too tall for pots or bowls.

Now we come to *N. triandrus*. The plant known as *triandrus albus* is probably the type and there are four well-marked varieties in cultivation.

N. triandrus albus is one of the best known and useful of miniature Daffodils. It varies a good deal in size and colour; some are really white, but there is generally a creamy tint (Fig. 1).



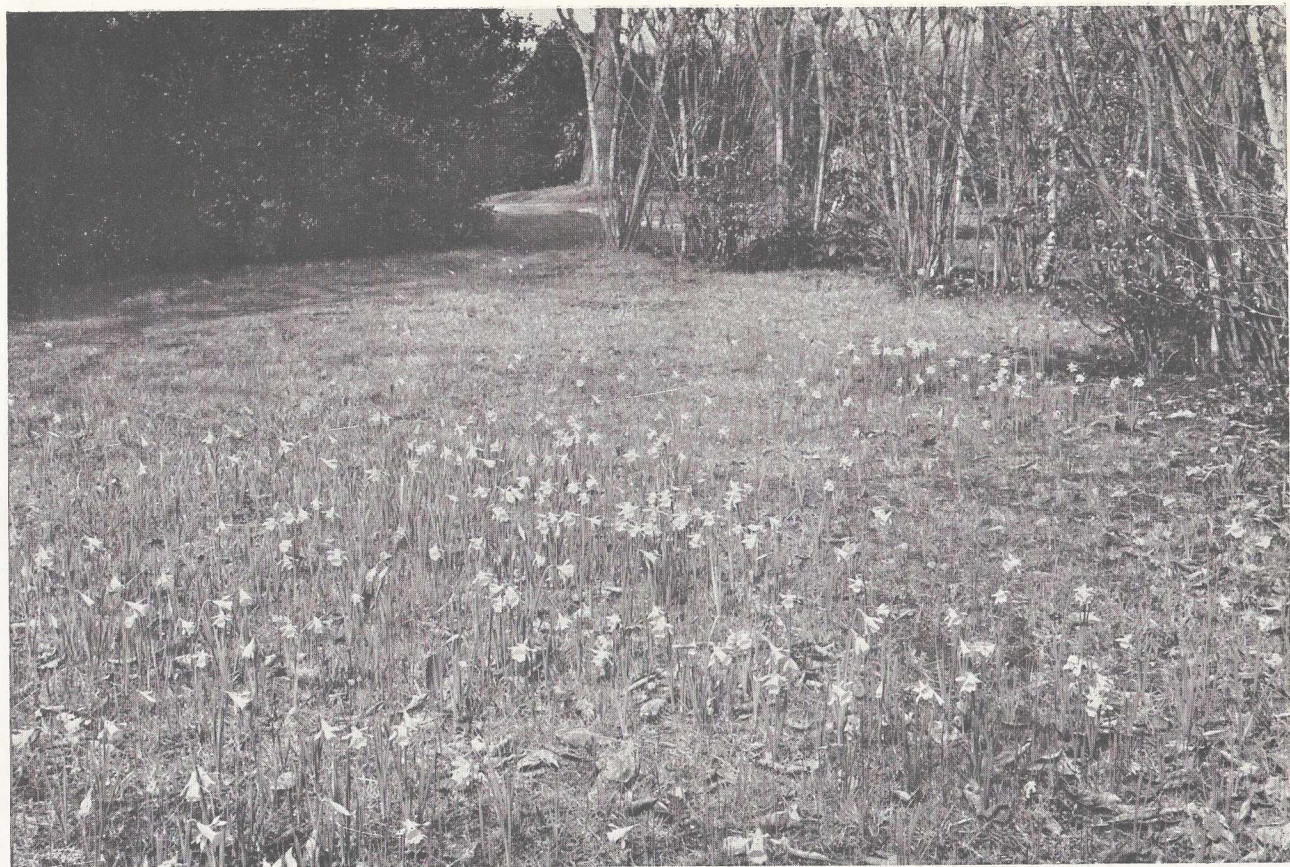
Photo, Alec Gray.]

FIG. 1.—*NARCISSUS TRIANDRUS ALBUS*
(See p. 6.)



Photo, N. K. Gould.]

FIG. 2.—*NARCISSUS CYCLAMINEUS* AT WISLEY
(See p. 8.)



Photo, N. K. Gould.]

FIG. 3.—NARCISSUS 'SANTA MARIA' AT WISLEY
(See p. 5.)



Photos, Alec Gray.]

FIG. 4.—NARCISSUS 'GOLDEN CYCLE'
(See p. 8.)



FIG. 5.—NARCISSUS TRIANDRUS CALATHINUS
(See p. 7.)



Photos, N. K. Gould.]

FIG. 6.—NARCISSUS 'HAWERA.'
(See p. 10.)



FIG. 7.—NARCISSUS CALDICOLA
(See p. 9.)



Photo, Alec Gray.]

FIG. 8.—*NARCISSUS CERNUUS*
(See p. 6.)



Photo, Malby.]

FIG. 9.—*NARCISSUS BULBODIUM MONOPHYLLUS*
(See p. 4.)

It is a fairly easy plant to grow, but likes a dry or at any rate a very well drained situation, and a light soil, being a native of mountain slopes. I have never found it increase very rapidly, but it bears abundant seed which is very easily grown on.

Like some of the Dwarf Jonquils, two types of flower are to be found, one with a short style and one with a long. One assumes that this is a device to aid pollination in its native land, but here at any rate it seems unnecessary as it sets seed with perfect freedom without the aid of insects or artificial fertilization.

It is a lovely little thing for pans or bowls as well as for the rock garden.

Triandrus calathinus is closely related to *albus*, and very large plants of the latter are apt to be mistaken for it (Fig. 5). It is, however, absolutely pure white and is a larger and stiffer plant and the corona is slightly inflated. It is most easily identified, however, by its foliage, which is most curiously twisted and semi-prostrate and quite unlike that of any other Narcissus.

It has the reputation of being rather difficult, but I have found it on the whole easier than *albus* and it seeds equally freely.

N. triandrus concolor I am very fond of, but it is not too easy a plant.

It is easily distinguished from *albus* and *calathinus* by its deep cream or pale primrose colour and also by the much more globular corona.

Fortunately it is easy to raise from seed or I should have lost my stock long ago.

Up to quite recently several firms listed a plant called *triandrus pulchellus*, but the bulbs I bought under this name always turned out to be *concolor*. This plant was supposed to have reversed colouring, but I do not think it ever existed and the plant called *pulchellus* by old authors was, I believe, a *triandrus-jonquilla* cross, perhaps the variety now called 'Hawera.'

The last *triandrus* is *aurantiacus*. This has not been introduced many years and most people would vote it the most beautiful of the four.

As its name implies, the flowers are deep golden-yellow. It blooms a good deal earlier than the other three, but I have not found it an easy plant to grow. It is subject to Botrytis, and does not increase by division much more rapidly than *concolor*, while it is a poor seeder. In spite of all this, however, it is so beautiful that it will repay trouble and disappointment.

Triandrus hybrids are a very interesting group of which I am very fond, but have rather a bad reputation as regards vigour. This was certainly deserved by many of the plants raised by the early hybridizers, as almost all of these are now extinct, but there are others of quite good constitution.

'Queen of Spain' is a well-known natural hybrid, *triandrus* × an unknown trumpet variety. I have always found it of excellent constitution but slow to increase.

All the crosses between *calathinus* and large flowered Daffodils give seedlings too large to concern us here, but by crossing both this variety and *albus* with Dwarf Jonquils I have raised some very charming little plants, which I will deal with when I come to the Jonquil family.

Here, however, I can mention 'Raindrop,' which is *triandrus* × *dubius*, and a very lovely thing like a miniature snow-white 'Silver

Chimes.' I have found it a very healthy plant, if rather slow to increase. Like all the seedlings I have raised from *dubius* pollen, the bulbs are round and very dark skinned.

A good many people now have seedlings from *aurantiacus* flowering, and some very beautiful interesting plants are likely to result, as by its use it is possible to get red colouring into the cup of *triandrus* seedlings for the first time.

I have one *triandrus* seedling with a distinct, if faint, pink flush in the cup, but, alas! I don't know its parentage.

It is difficult to get beyond first crosses in breeding from *triandrus*, as nearly all the offspring are sterile.

The next group to mention is *N. cyclamineus* and its hybrids.

In the wild state there seems to be one species with no sub-species or varieties. *N. cyclamineus* itself is too well known to need description and while, as I have said, it has no definite sub-species, it does vary a little. Normally the trumpet is straight sided, but at times it comes with a rather reflexed mouth, and I have had a specimen turn up which was nearly twice as large as is usual and having a very reflexed mouth and exactly resembling the plant figured in the woodcuts in some of the old herbals.

N. cyclamineus will thrive in damper situations than any other Narcissi and in such places it seeds itself very freely. Most people here will have seen it naturalized at Wisley (Fig. 2). Being one of the first Daffodils to bloom in the spring, it is very valuable for the rock garden and Alpine house and is lovely in bowls indoors in the dark days of February. The bulbs do not increase very quickly and are rather subject to fungoid diseases, in particular when out of the ground, and it should always be the first to be re-planted.

N. cyclamineus is very useful for hybridizing, as its seedlings not only have a very beautiful and characteristic form but also almost always have unusual substance. The smallest of its hybrids is *minicycla*, raised from crossing it with *minimus*, and this is a charming little plant.

Most *cyclamineus* hybrids are early flowering, and one of the first to open is *cyclataz*, a most delightful little thing about 6 inches high—just right for indoor decoration. It is *cyclamineus* × 'Soleil d'Or' and is, I think, almost the only hybrid with 'Sol.' blood in it. It is a scarce plant in gardens although it has always done well with me: probably owing to the 'Tazetta' blood in it, it would not thrive out of the West Country.

Another very pretty hybrid is 'Beryl,' rather taller than *cyclataz* and a good deal later, as it is a *Poeticus* cross. It is a very good doer and increases rapidly. It has the deepest coloured cup of any *cyclamineus* hybrid raised so far, but the colour burns quickly in the open. A hybrid of my own raising, 'Perconger,' comes next in point of colouring, I think, but it is rather tall, 9 inches. It is, however, about the most free-flowering Narcissus I know, nearly every bulb producing three or four blooms.

There are quite a number of self-yellow hybrids, but most are too tall to concern us here. I can, however, include a mention of 'Golden Cycle' (Fig. 4), which is very early and less than 6 inches high, and also 'Little Witch,' rather later and not so graceful but very tough.

The *cyclamineus* hybrids are a good deal more fertile than those from *N. triandrus*, and I have seedlings from both 'Beryl' and *cyclataz* selfed.

Now we come to much the largest group of miniature Narcissi—the Jonquils and their hybrids.

I am afraid that *N. Jonquilla* itself and its double form are really too tall to be included in the Dwarf Daffodils, but both are very nice for the larger rock garden if only for their powerful scent, but a variety called *minor* can definitely be included, as it is never more than 6 inches high. It is a pretty thing, but, in my experience, is a shy flowerer owing to its bad habit of excessive splitting. It used often to be sold by the Dutchmen under the name of *tenuior*; this is how I got my stock.

Although ranked as a species, *jonquilloides* is now considered to be a natural hybrid between *Jonquilla* and *juncifolius*. It is a pretty little thing, but is a very shy flowerer, and the foliage is too tall in relation to the height of the flowers.

Of the really miniature Jonquils, *juncifolius* is much the best known. It is an excellent doer with me and splits up rather too freely if anything, which is probably the reason why I have never found it flower heavily. It is a lovely thing for pans and bowls and has a delicate and entirely individual perfume. It is very easy to grow from seed.

A plant very like *juncifolius*, only a good deal taller and very much earlier to bloom, is *calicicola* (Fig. 7). It is from 4 to 6 inches tall and has deep gold flowers and grey-green foliage; it varies quite a lot but the best types with broad perianth segments are really beautiful and are always admired.

Like *juncifolius* again, but smaller this time, is *scaberulus*, the individual flowers of which are probably the smallest of all Narcissi, unless it be *gaditinus*, which has never bloomed with me. I have never had any luck with *scaberulus*. I have had it on several occasions, but have always managed to lose it. I do not think, however, it is really difficult. I now have a nice little batch of seedlings and hope that at last I shall establish a stock.

All the plants mentioned so far carry several flowers on each stem, but the three last miniatures all have solitary flowers.

First, there is *rupicola*, which is one of my favourite miniatures, it is a perfectly formed little flower with an almost flat corona which is distinctly lobed. It does not increase as rapidly by division as *juncifolius* but is easy to raise from seed. There are two distinct forms, in one of which the perianth segments are long and narrow while in the other they are broad and overlapping. This latter is much the most desirable form, and by selection I am trying to eliminate the former.

N. Marvieri in form and colour almost exactly resembles *rupicola* except that it is larger in all its parts, and this is about all I can find to say about it.

N. Watieri is the only white Jonquil and one of the most lovely of all Narcissi. It very much resembles *rupicola* in form, and like it has two varieties, one with narrow and another with broad petals. I have never found it a very easy plant to increase as it divides but slowly, and with me at any rate it is not too good at setting seed. I think it is really a plant for the Alpine house, for only there can its fairy-like beauty really be appreciated. Outdoors it is too easily splashed by rain and attacked by slugs.

I cannot help feeling that there is something very wrong with the usual classification of these dwarf Jonquils, and although I am not an expert botanist, I am going to be so bold as to suggest a re-arrangement.

Mr. BOWLES, in his book *The Narcissus*, arranges them as follows:

Species: *Watieri*, *juncifolius* and, I think, he would now have to add *Marvieri*. *Juncifolius* he sub-divides into two varieties, *rupicola* and *gaditinus*, and two sub-species *minutiflorus* and *scaberulus*.

N. minutiflorus I must ignore as I know nothing whatever about it, but the others I would place like this :—

A. Flowers several. Bulbs dark brown (*juncifolius* and *gaditinus*), or pale brown (*callicola* and *scaberulus*). Corona cup-shaped.

Species *juncifolius*.

Sub-species *callicola*
gaditinus
scaberulus.

B. Flowers solitary. Bulbs pale brown. Foliage grey-green. Corona flat.

Species *rupicola*.

Sub-species *Marvieri*
Watieri.

The Jonquil hybrids are an attractive race of plants and, on the whole, very easy to grow. Quite a number are of unknown origin.

N. gracilis, while very charming and most useful as almost the last Narcissus to flower, is too tall to be included in our list, but *tenuior*, closely resembling it and also late flowering, is definitely a semi-dwarf, being about 6 inches high; the blooms of clear, pale yellow are of model form, but the stem is rather weak and in wet weather the flowers are apt to get dirty. Both this variety and *gracilis* are very subject to stripe disease, and it is difficult to find a plant of the latter entirely free from it: it does not, however, seem to cause much injury.

The two varieties 'Sea Gift' and 'Pencrebar' I always bracket together in my mind as they have a similar history—or lack of it. Both were found growing in old Cornish gardens, the first by myself and the second by the late Captain HAWKER. Although it has appeared in the R.H.S. JOURNAL, the tale concerning the origin of 'Sea Gift' is worth retelling. It came from the woman in whose cottage garden I found it, near Helston.

Many years ago in the "bad old days" a foreign ship was driven ashore near Porthleven. Hundreds of people gathered on the beach concerned, not with trying to rescue the crew, but with obtaining loot. All the crew perished save one sailor, who was washed ashore still living. All the crowd were for pushing him back in the sea, believing in the good old adage that "dead men tell no tales," all save one old woman, who managed to smuggle him to her cottage, where she nursed him back to health. While he was recovering he noted the pride she took in her garden, and when the time came for him to leave, he told his rescuer that, as he had no money wherewith to pay her, he would send her a gift for her garden from his own country, and, true to his word, in due time a packet of bulbs arrived, bulbs of 'Sea Gift.'

I do not know any story concerned with 'Pencrebar,' which was found in the garden of the house whose name it bears, but it is a very beautiful thing, like a tiny yellow rose, certainly the most charming dwarf double. It has a nice stiff stem and the flower is held well above the foliage. Captain HAWKER said he found it rather apt to come blind, but this is certainly not my experience.

A very effective garden plant is 'Hawera' (Fig. 6). It is a semi-dwarf, about 6 inches high and has distinctly reversed colouring. It was raised in New Zealand from whence bulbs were sent to Mr. Bowles, who, with his usual generosity, gave the bulbs from which my stock has been raised.

Be that as it may, I do not think that there is much doubt that it is

Jonquilla crossed with *triandrus albus*. My own 'April Tears' is *Jonquilla* \times *triandrus concolor* and is definitely a better flower; the colour is a good deal deeper and clearer and the perianth segments broader and flatter. It flowers some week or ten days later and I think it the prettiest dwarf I have raised so far.

Triandrus albus on *juncifolius* gave me 'Peaseblossom,' a pretty little thing 3 or 4 inches high with up to three deep cream or primrose flowers on each stem. It increases very rapidly, a little too rapidly perhaps, as it does not flower quite as freely as I should like.

A rather taller, but very attractive Jonquil hybrid is 'Orange Queen.' The name well describes it, as it is really orange, both in perianth and corona; indeed it has one of the deepest coloured perianths of any Narcissi, if we except those in which the colour of the corona invades the perianth, such as 'Red Guard' and 'Bosloe.'

N. juncifolius crossed with *poeticus* has given a number of useful varieties, all late flowering and rather like dwarf *Poetaz*. The best are perhaps 'Linty,' 'La Belle' and 'Little Prince,' which bloom in the order given. All three have deep yellow perianths and bright red flat coronas, and make a brave show through April. The first two are very prolific, but the last is very subject to stripe.

I do not know of anyone who has used *juncifolius rupicola* much, other than myself, but it has given me seedlings of exquisite form, with perfectly flat, overlapping perianths, and flat, yellow or orange-edged, cups. There is an inclination, however, for the stems to be rather longer than I like.

I have not raised any very satisfactory seedlings from *Watieri* but a friend kindly gave me a hybrid, *Watieri* \times *pumilis*, which is a very charming plant.

There are, as far as I know, only two *Tazettas* which call for mention here. The first, a semi-dwarf, is *Bertillonii*, which grows some 6 inches high. It is a yellow-flowered species from North Africa and may well be one of the ancestors of 'Soleil d'Or'; it has, however, no great merit as a garden plant.

The second one is *canaliculatus*, which is a true dwarf about 3 inches high, and has a white perianth and yellow cup and a delightful perfume. I think it a pretty little thing and it increases, at any rate with me, faster than any Narcissus I know, large or small, but it is not by any means a free flowerer. The bulbs are very large for the size of the plant, and it should be planted several inches apart or it will rapidly become overcrowded.

Closely related to *Tazetta* is *dubius*, a very beautiful little thing bearing several pure white flowers on a stiff stem some 6 inches high. It is not, however, at all an easy plant to flower, as the bulbs require a much more drastic ripening than the sun of an average English summer can give them. Its pollen is very potent and I have raised several charming seedlings with it, notably 'Raindrop': they all have much substance.

Last on our list comes *Poeticus*, and here I have only had experience of one kind which can be classed as a dwarf—*radiiflorus*. This is the latest of all Narcissi, and comes into bloom when many sorts have completely died down. Its very lateness makes it rather a difficult bulb to propagate as its foliage is attacked by various leaf diseases almost as soon as it is above ground. The flower is interesting rather than beautiful. *Poeticus verbanensis* is, I believe, also a semi-dwarf, but I have never seen it. A broad petalled dwarf *Poeticus* would be

extremely valuable for hybridizing for, as things are, in order to get colour into dwarf crosses it is necessary to use some more or less tall variety, which has the inevitable effect of increasing the size of the progeny.

Although, in their range, the Narcissi are restricted to that part of the world which has been known to botanists the longest, new species still turn up from time to time. Two have been discovered within the last year or so. One is *N. hedraeanthus*, a curious little Bulbocodium-like plant and the other is *N. Fernandesii*, a tiny species, very like *juncifolius*. It was found in Portugal, where most of the Jonquils grow, but unlike all the other small species, seemed confined to marshy ground.

This brings me to the end of the miniature Narcissi, and also to the end of my talk, for I do not propose to mention any of the autumn flowering species for, although very interesting plants to the botanist, they cannot be grown with any success in England, at any rate out-of-doors.

I hope in the course of this talk that I have shown that there are miniature Daffodils to suit most tastes and conditions, and if I have awakened in any of those present a desire to grow for themselves a few of these delightful plants, then I shall consider that I have accomplished what I set out to do when I sat down to prepare this paper.

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