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Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

MR454 (19-85) buds are deep red, opening late to small rosy flowers which fade to pink. The tree is narrowly columnar, suggesting the outline of a Bolles poplar. It is the deepest purplish red in leaf and darkest in bark color of this group. Twigs are thin and willowy.

MR455 (19-114): T buds open to lively deep rose. Bloom is very abundant, of medium size, and showy. The graceful, upright tree has dainty, fine willow-like bark, dark maroon bark, and dark leaves.

MR456 (19-85) buds are of medium size, red in the bud, rosy in opening. The most floriferous subject is a broad shrub. The branches are remarkably limber and without breakage. Some branches are of value for home and park.

flowers, with long and with How-

is giving the MR453. How- light columnar tree trees, the fastigate 54. It has the much

lections may prove one or to warrant it, or they, being of blossoms, foliage and fruits and casual visitors,

OUR TAZETTAS AND THEIR HYBRIDS

By L. S. HANNIBAL
Concord

No California garden is complete unless a few bulbs of *Narcissus Tazetta* are tucked away in some forgotten corner or unused space, for during the wettest part of our winter season their rain-drenched blossoms are as much a part of our landscape as the winter rains themselves. The Paper White and Chinese Sacred Lily are so common that they should need no introduction, but there are several other forms in our gardens which are occasionally found, but rarely recognized by the horticulturists, and by rights they should be properly identified before their names are completely forgotten. They represent the last remnants of a rapidly vanishing race.

Historically some garden Tazettas date back to early Mediterranean civilization, for the species grow in that area which extends from Constantinople through Greece, Italy, France, Spain, Sardinia, North Africa, Portugal, and on to the Canary Islands. In early times travelers introduced the bulbs from there to Persia, China, and on to Japan; whence the source of our Chinese Lily.

In the 17th and 18th century, Dutch and English garden hybridists became quite interested in this group and out of seventy-five or so wild variants from the Mediterranean they found a few plants that readily set seed. Scores of garden forms appeared, but only a few of these were truly winter hardy, for during the war of 1914-1918 nearly all stocks in Europe vanished. It seems incredible, but of eighty-five varieties listed in 1913 only three remain in the trade now, and less than a half dozen others are to be found in the hands of English collectors. More obscure varieties actually remain here on our west coast than elsewhere, for the climate and soil conditions are nearer to their natural requirements.

The hardiest form of the tazettas is the Chinese Sacred Lily, or Grand Emperor, *Narcissus tazetta* var. *chinensis*. Some people call it the *N. orientalis*, but the *orientalis*, also known as the Bazelman Major, or Trewianus narcissus of Constantinople, is now recognized as a wild poetaz hybrid, not unlike our present *N. poetaz* Frans Hals. The Chinese bulb seems a close representative of the Linnaean type form, having a well-shaped rich orange-yellow cup and a laticolor-white perianth. It has been grown in China and Japan for many centuries, since prints by Chao Meng-Chien (Sung Dynasty 13th Century) are in existence that show the plant as we know it today. Several double forms have often been noticed. One is quite common and can be recognized by the white deformation on the margin of the cup which produces a white-fluted corona. The Chinese introduced these plants into California years back when they came to work in the gold fields.

There is no mistaking the Sacred Lily,—the large coarse bulbs, heavy

foliage, early flowering habit, and well-formed blossoms with slightly reflexed perianth set off in contrast to a deep, solid, yellow cup, makes it a bulb of choice popularity. Unfortunately the plant is sterile and will neither set seed nor give viable pollen. This factor has been a source of perpetual annoyance to breeders for many years, and horticulturally is a distinct tragedy as the plant could have many possibilities.

Gloriosus, a very near form to the Chinese variety, was once commonly used in England, but we can find no trace of it now. This too flowered in January.

Two other bulbs exist that resemble the *chinensis* in shape and color. One is the little dwarf rock garden species *N. canaliculatus* from Mentone, in southern France. The name is derived from the deep ribbing in its small twisted leaves. It requires a gritty, well-drained, sunny position and the stature of its four or five wee flowers makes it a prize for any rock garden. It usually flowers in late February or early March. The flower colors and shape are quite comparable to the Sacred Lily. The plant multiplies rapidly and if too crowded may fail to bloom.

In contrast, a very large Tazetta is occasionally found in some old gardens. In ideal soil this bulb may throw up a 24-inch scape bearing fifteen to twenty-five large outstanding flowers in a single truss. We can look for this bloom in mid-March and will recognize it by the marked tendency for all individual bloom to face one way. The foliage is wide and distinctly similar to that of Soleil d'Or, but the perianth is clear white and the cup is a rich lemon yellow. Most collectors here call it the Grand Monarque. However, there were several Monarque forms in the trade and this seems to possibly be the variety *compressus*. The true Grand Monarque has a lighter citron cup and is reported appreciably later in flowering, but the distinction is very slight.

Bowles, in his monograph, *The Narcissus*, states that the citron cup Tazettas are not naturals, but that they are the result of crossing the white with the yellow or orange cupped strains. We have several of these citron cupped forms, and the distinctions in several cases are not of sufficient detail to make identification by literature references an easy task. The Grande Primo Citroniere and Scilly White fall into this class. The first (*Bot. Mag.*, t. 946) is quite prolific and very free flowering. It throws a profusion of bloom in mid February or March and can be identified by the stiff compact clusters on sturdy ten-inch scapes. The perianth cup to the true type tends to bleach out white in three or four days, and that of a very slight variant holds the sulphur yellow color, but either bulb is equally attractive, and only a trained eye would note the distinction.

The cup of the Grande Primo is three quarters the size of the *chinensis* and the style only protrudes beyond the upper anthers. That of the Scilly White is only half as large and it is reported that the style just comes past the lower set of anthers although we find it longer here. In

some respects the Scilly White is ranker in growth as both scape and leaves are longer, and the perianth segments lack the smooth substance due to some blood of Paper White being present. Grown with Grande Primo there can be no error in identity, but seen only by itself there may be some question, unless one definitely knows the plants.

The Scilly White has been known in England for 200 years or more, and is now to be found as an escape in some rural areas. Its true source is unknown. It was featured as the *Narcissus leucopifolia* of Salisbury and *N. orientalis* (♂) by Gawler (*Bot. Mag.*, t. 1298).

The White Pearl is intermediate between the Scilly White and Paper White. Here in central California the plant does not flower freely, and it is prone to drown out in wet winters where planted in heavy soils, but in central Florida it is used extensively for its bloom, as no other narcissus can do as well there. Both this plant and the French Monarque, which is nearly identical, exhibit a frail substance to the blossoms due to the dominant presence of Paper White blood. Neither can be considered "of quality."

One other citron cupped form remains which is well worth mentioning because it is actually more common than the Scilly White. The writer has never learned the name for certain, but it is definitely an *italicus* hybrid due to the long slender twisted petals of a sulphur to milk-white color. Somehow, a local concept exists that this plant is a tridymus hybrid (*Tazetta x triandrus*), but after growing several tridymus like Silver Chimes or St. Pat, the writer can see little evidence to support this claim. The tridymus are all relatively large-cupped. It is possible that the bulb is the Minor Monarque, which was an *italicus* hybrid, but until a description of the minor can be obtained this is only an unconfirmed supposition.

Several slight variations of Paper White are to be found here. The form with the larger cups is nearly identical to *papyraceus grandiflora* and the smaller-cupped strains could pass for the variety *Pantazzius*. As far as known the Paper Whites and *canaliculatus* are the only forms that are not sterile.*

The Soleil d'Or, which is one of our best yellow Tazettas, is likewise completely sterile. From its size and vigor it appears to be a polyploid with 42 chromosomes like Grand Monarque. Seemingly it is a very old hybrid as it has been seen about Europe for some 300 years or more, or it may even date back to early Roman times as does its lighter lemon

* The sterility of most Tazettas has long been a source of annoyance to breeders. It is due to the fact that two Tazetta genotypes exist, one with 20 chromosomes and the other with 22. A cross would give a plant with 21, or a polyploid with 42 chromosomes. Either one of such plants is usually incapable of normal production, but it often occurs that sterile hybrids are more robust and vigorous than the species, and due to man's preference for large flowers these infertile clones have benefitted by being transplanted far and wide, and have survived where the species were overlooked or lost entirely.

yellow variant, or parental form known as *italicaea*. The Soleil d'Or may be instantly recognized by its exceptional leaf size and tall scape. There is no other like it in the richness of coloring. The *italicaea* is much smaller in stature and lighter in color, and it is exceptionally scarce here. As far as known, the Soleil d'Or is less seasonal in flowering than any other garden Tazetta, as it will force readily with a bit of water to flower in November or December.

For those who like color, or a novel out-of-season bloom, this is a bulb worthy of some attention.

The Poetaz hybrids of *N. Tazetta* on *N. poeticus* are nearly all newcomers to the Narcissus group and they are all man made, with the exception of a few natural hybrids such as the Bazelman type and *N. Gypri*. Van der Schoot in 1885 effected the first crosses,—Elvira, Early Perfection, Cheerfulness, Klondyke, Admiration, and a score of others all came from his garden. Laurens Koster was an Albert Vis development, and the red-cups Glorious and St. Agnes recently came from P. D. Williams' garden. Others too numerous to name are also in the trade. Many of these resemble the *poeticus* parent, either by a flat eye, a large well-rounded perianth, or by a maximum of three or four flowers to a scape. Very few are so completely Tazetta in form that they cannot be readily recognized as distinct; all are worthy garden bulbs, and most collectors have their favorites.

Frans Hals is a very attractive plant that is bound to become quite common in a few years as it multiplies very rapidly. Medusa or Gloriosus do best in the shade. Their red cups make a striking picture in any garden. St. Agnes is still little known, but it is a beautiful large-cupped specimen that seems of great promise.

The aristocrats of the Tazetta hybrids are the tridymus. No finer bulb exists than Silver Chimes, for its many snow white pendent bell-like blossoms place this hybrid in a class of its own. The plant is still expensive, but fortunately it also multiplies very rapidly and is entirely at its best in a California garden. One other interesting triandrus hybrid (no longer in the trade) was St. Pat. This was a vigorous plant for the Bay area. Its two or three large yellow blossoms with the deep yellow trumpets make a striking appearance.

However, more tridymus hybrids are on the way. We understand that several dainty rock garden types have been produced using the smaller triandrus species with *N. canaliculatus*, and one of the East Bay members has effected a number of dainty little crosses involving Paper White and *N. triandrus alba*.

There is one class of narcissus hybrids that may be considered as polyanthus, yet have no Tazetta blood. These are some of P. D. Williams' *Jonquilla* x *poeticus* seedlings such as Trewithian or Lanarth, which flower with two or three perfectly shaped yellow poetaz-type blooms on

long graceful scapes well above all other daffodils. To enhance their charm the blossoms retain all the delightful fragrance of the jonquil parent. It is one of the best for any garden.

The *poeticus*, *triandrus*, and *Jonquilla* all offer good breeding possibilities with *Tazetta*. However, to be successful, Tazettas with viable pollen must be used, but due to the present limited supply of viable species available to the trade, the number of possible crosses will be sadly restricted unless additional form of *Tazetta* are located. In most cases the species *poeticus*, *triandrus*, or *Jonquilla* will be used unless viable hybrids become available. These crosses with *Tazetta* will usually be sterile since *Tazetta* has a basic chromosome number of ten or eleven and the others eight. The only chance of fertility would be with the formation of a tetraploid, and even with such, considerable doubt exists regarding sufficient viability to permit an F-2 generation.

The writer is deeply indebted to Frank Leach, Dr. Mitchell, the Oregon Bulb Farm, and others who have so graciously contributed time or material in making this report possible. We regret that space does not permit us to discuss the numerous other Tazettas once known, but since these are extinct or no longer available in either England or the West Coast, we had best forget them for the present.

We hope that new interest can develop, and that this long disregarded group will come into its own when the genetics of the group are better understood.

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MICHAEL JEFFERSON-BROWN



WHITBOURNE
WORCESTER
ENGLAND

News Letter

U.S.A.No.1.Feb.'61.

Hello! Here is the first of what we hope will be many little news-letters. Jean and I hope you will like them. We hope they will supplement our catalogue and keep you up to date with the daffodil news over here. We hope to include paragraphs from you of your daffodil news as well.

During 1960 we completed our move southwards to our new home. In pleasant rolling countryside we found a country cottage with a two to three acre walled garden sloping down to a tree lined lake. Outside the walls are a few acres of land suitable for daffodils. From our window we can see neighbouring hopfields, cherry and apple orchards as well as the green pastures and woodland. There is a lot to do to get the land into an ideal small daffodil farm but Jean and I both feel that we have found a pleasant spot to live and hope the daffodils will enjoy it as well. I feel sure they will.

Our catalogue is now at the printers. Your copy will be sent to you as soon as we receive it. Perhaps you may like to know about some of the new things in it. Last year we introduced the large 30 Kincorth but despite having a good few bulbs to distribute we had sold out quite early in the season. This year we have a number of new daffodils. GREEN HILLS at \$2 each, is one of the most exciting. It is a strong plant. Mr. Gay Wilson describes it as "a very fine and beautiful thing. Great strong stems up to 24" tall, and splendid flowers with perianths of great substance and satins smooth texture fully 4" across". It has shining moon-like

Narcissus italicus. ~~Pale-flowered~~
Pale-flowered Narcissus.





H. discolor
Burb. pl. 31, f. 2



H. Bertonlonii (sic?)
Burb. pl. 32, fig. 3
(Classified list gives
this as same as *N.*
chrysanthus)



H. floribunda
Burb. pl. 31, f. 3
"similar to Grand Monarque
of Dutch nurseries."



Burbidge. Pl. 32, f. 6,
H. mediterranea
(scape 7-flowered)



H. Ganamedoides
Burb. pl. 31, f. 5
(*H. corymbosa* of Herbert)



Burbidge.
Pl. 31, f. 12
H. monspeliensis
("This plant resembles
the *H. aequilimba* of Her-
bert's *Amaryllidaceae*,
pl. 41, f. 1")

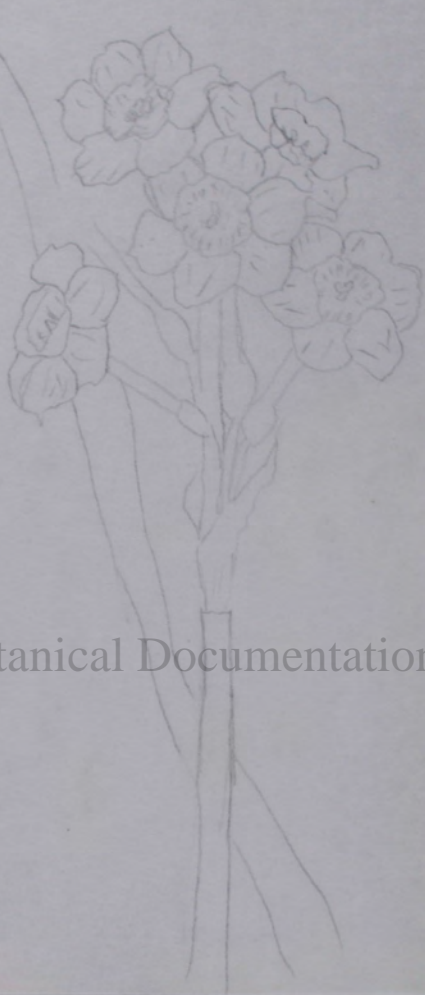


Burbidge, pl. 32, f. 9
H. aequilimba, Herb.
"Amary"

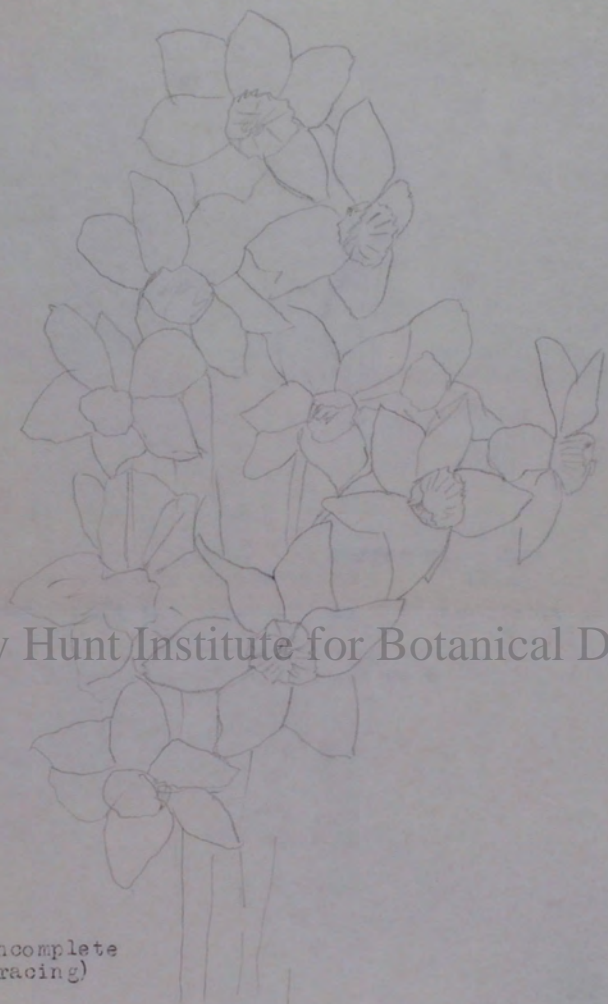


Burbidge. Pl. 31, f. 14
H. aurea (scape 10-15-
flowered. "This is the
finest of all the
yellow-flowered section.")

Narcissus orientalis, ~~NR~~ (a). Pale-cupped
white garden Narcissus. Curtis's Bot. Mag.
v.32, 1810. t.1298.



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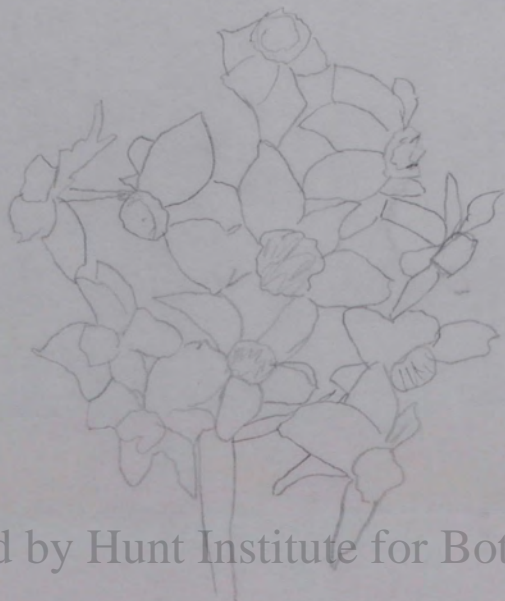
(incomplete
tracing)

Polyanthus Narcissus, Bazelman Major.

James Carter & Co. Bulbs, 1913.

"White, yellow cup, most handsome flower"

"Narcissus polyanthus, Grand Monarque."
Catalogue of
James Veitch & Sons, Ltd., 1913.



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Photograph rather dark. Florets
seemed less regular, cup darker and
less expanded, edge of cup less
regularly marked, than in specimens
from various sources observed.
(Perianth segments appear reflexed
in some cases.)

"Grand Monarque, pure white, with citron cup,
large and handsome flower."

Dec. 1960

Mertensia longiflora

This is the name under which this plant was received from the United States, but again the nomenclature is confused. It is probably the same as, or at least very similar to, *M. Horneri* and *M. pulchella*. Its habitat is British Columbia and the States of Washington and Oregon. It is a striking beauty with its pale glaucous leaves and its panicle of tubular flowers of rich clear blue, somewhat reminiscent of *Omphalodes Luciliae*. Like many of the smaller *Mertensias*, it is not easy to grow. As it has a very short growing season, it should be kept well moist during growth. But after it has died down, it would probably appreciate a thorough baking. (Illustration page 340).

ELIOT HODGKIN.

SPAIN AND PORTUGAL 1959 AND 1960

By F. R. WALEY

Inspired by the late Dr. Wells's article in the *A.G.S. Bulletin* I hoped to find *Narcissus triandrus pulchellus* on my way to or from Oporto in March 1959. Not finding it on the way out my hopes fell, especially when Dr. Roseira of the Oporto Botanical Gardens who had accompanied Dr. Wells told me he had never seen *N. t. pulchellus* either with Dr. Wells or on any of his many daffodil hunts, and that Dr. Wells's localities were far from the mountain area whence Miss Tait said her uncle had obtained the bulbs nearly sixty years ago. I explored one of Dr. Wells's places carefully and found nothing remotely resembling *N. t. pulchellus* but elsewhere I did find some nice bicolor *triandrus* (not the reverse bicolor of *N. pulchellus*).

The trip was nevertheless a great success partly on account of the magnificent weather in what is usually the rainy season but largely owing to the kindness of Miss Tait and Dr. Roseira who took me to places I should never have otherwise found and showed me many other interesting plants besides *Narcissi*. The following points were noted :—

(pages 339-40 plates - not for this article.)

1. With the exception of *N. Bulbocodium citrinus* growing in the Landes, no dwarf Narcissus was as large either in height, in flower, or in leaf as in the South of England.
2. In Spain where patches of *N. B. citrinus* grow amongst thousands of yellow Bulbocodiums I saw no signs of hybrids which are so common in gardens here.
3. In nature both the yellow and the *citrinus* forms of *N. Bulbocodium* increase by seed; here in Kent the *citrinus* form still does this, but the yellow one increases largely by bulb-splitting.
4. In Spain the Summers are hotter and drier than in Western Portugal, which is influenced by the Atlantic. In the former Bulbocodiums grow in soil which is almost under running water at the time of flowering, but which is parched three months later, so that the bulbs get well-ripened. In Portugal they grew in drier places with or without shade from trees or shrubs.
5. Near the Spanish-Portuguese frontier West of Zamora is a large area of *N. Bulbocodium nivalis* mixed with *Romuleas*, both so short that the flowers appear to be stemless on the ground.
6. Round the Sierra Gredos, South West of Madrid, are hundreds of acres of yellow Bulbocodiums with patches of *citrinus*, some of which were so pale as to look almost white.
7. In March, we saw many more Bulbocodiums in Spain than in Portugal but only found *NN. minimus*, *triandrus*, *scaberulus* and a few *rupicola* in Portugal. Nowhere did we see *N. cyclamineus*.
8. Yellow Bulbocodiums vary enormously and I am doubtful about giving varietal names in cases where every intermediate form exists.
9. In Central Portugal there are a few areas where the soil is red as in Devonshire and it was only in these that we saw *N. triandrus aurantiacus*.
10. We found a good many hybrids between *N. triandrus* and *N. Bulbocodium* and a few between *N. triandrus* and *N. scaberulus* which excited the botanists but which were no more attractive for garden purposes than either parent.

11. In Portugal *N. triandrus* grew in fair numbers but never as thickly as the *Bulbocodiums* and evidently needs better drainage, as does *N. scaberulus*. Both are found on slopes—the latter usually in shallow deposits of grit and humus in cracks, —or on the sides of rocks. The humus was often rotted-down pine needles so was probably very acid.

Other bulbs seen, often in vast numbers, included *Romulea*, *Gagea*, *Scilla*, *Merendera*, and *Crocus carpetanus*. Heathers were magnificent, and the *Hellebores* fine, but *Paeonies* (*P. Broteri*?) were still in bud.

Having heard about my 1959 trip, Mr. D. Blanchard, who was anxious to study dwarf *Narcissus* species in their homes, suggested that we should go together in 1960. A rather longer itinerary was planned as we wanted to go both North and South of the Tagus. Time being limited several very long days driving were necessary and the trip would not have been possible without a fast car. Dr. Roseira could not come, but Miss Tait was again a tower of strength with her knowledge of the plants, the country and the language.

On the journey down through Spain, *N. triandrus* was seen in the Sierra Morena, and on reaching Portugal, a couple of days spent in the Sierra Arrabida south of Lisbon disclosed no *Narcissus* other than *N. Bulbocodium*. Here, however, we found a good show of other things, including *Tulipa australis* var. *montana*, *Paeonies* in full flower, various *Scilla*, several lovely *Orchis* species, the yellow and white *Anemone palmata* and an attractive parasite, *Cystinus hypocistis*. Here too were patches of *Leucoium trichophyllum*, *Gynandris* (*Iris*) *Sisyrinchium* and a few *Fritillaria lusitanica*. Two days spent round Lagos and Cape St. Vincent, produced *N. Bulbocodium* once more and what we can only think is a form of *N. scaberulus* far from its recorded locality; some bulbs of this were brought back and we hope to identify them next year. Most of the plants seen in the Arrabida were seen here and also the remains of an Autumn-flowering *Crocus*, probably *C. Salzmannii*, *Gladiolus*, *Dipcadi serotinum*, *Pancratium maritimum*, a nice small *Asphodel* (the large one seems to cover most of the Iberian Peninsula) and a charming pink *Phlomis*, which is unfortunately not hardy. Turning North we got back to country favoured by *N. triandrus* and here, where *N. Bulbocodium* grew nearby, the hybrids were again seen, but unfortunately we did not

have time to hunt for the bicolor *N. triandrus*. On the Sierra Estrella; where the snow level was rather higher than last year, we saw less *N. minimus* but many holes where bulbs had been dug. While picnicking there a man tried to sell us a dozen bulbs in flower; we refused, wanting neither the bulbs nor to encourage the digger. Miss Tait questioned him and found out that he and five others were paid sixpence per hundred bulbs, and was told that these were sold to buy medicine from England! They each collected about 1,600 bulbs a day. If this goes on *N. minimus*, of which there are so many in Spain, will soon be as rare in Portugal as *N. cyclamineus*, of which—as last year—we found none. I now send surplus seed of *N. cyclamineus* from my garden for sowing on private ground in Portugal to help its re-establishment in some of its old haunts. In fact, except for *N. Bulbocodium*, Narcissi are getting scarcer in Portugal except off the beaten track.

Occasionally a white or butter-yellow form of *N. triandrus* was found but the majority were the cream-coloured form. Heavy rain and a slight change in the route prevented us finding *N. triandrus aurantiacus*. Many more *N. scaberulus* were found on this route, but nowhere did we find the hybrid with *N. triandrus*. *NN. Bulbocodium* and *triandrus*, together with Dog's Tooth Violet, were found around Braganca, and towards the North in the foothills of the snow-covered Sierras toward the Spanish border, we saw a wolf. Over the frontier we crossed the same fields as last year, finding them yellow with the form of *N.B. nivalis* whose trumpets were rather wider than is usual.

In the country around the Sierra Gredos we found *N. Bulbocodium citrinus* growing in water-meadows, but in the Sierra itself at about 5,000 ft. it seemed to favour drier ground than the yellow *N. Bulbocodium*. On arrival there was less snow on the Gredos (it snowed very heavily the night before we left and the road was only just passable). In addition to the various forms of *N. Bulbocodium* seen last year as we could get higher up a lot of *N. rupicola* were found growing invariably on the west side of the big granite boulders in clumps of about a dozen bulbs. Last year round the Parador, *Crocus carpetanus* was a poor washy-coloured thing, but this year at higher levels there were many better forms, white, a good purple, and some were almost grey. We also saw one patch *N. pseudo-narcissus* far up on the mountain side, but even here possibly an escape from cultivation. During the whole trip no Jonquil, Tazetta, or Poeticus was seen. Being a week later

in what was rather an earlier season a good deal of difference was seen in the vegetation. Peach-blossom and Mimosa were over but Cytisus and Brooms made up for this.

From the observations both of Blanchard and myself, we think that small *Narcissus* species should be treated in England as alpinos or as woodlanders (depending upon soil, aspect, rainfall, etc. of the particular garden) with very sharp drainage, and, although many species seem to approve of acid conditions, normal good soil and rich food were quite alien to those seen by us. The word "seen" is emphasized because we think that some of the other species (e.g. Jonquils, and *N. juncifolius*) may need a rather stronger soil and more sun. *N. Bulbocodium* was found in France, Spain and Portugal, growing in tarmacadam at the side of the road, in sand, in sun or in shade, in alkaline and acid soil, and even in 4 inches of running water. Some had narrow trumpets, others wide, some bell shaped, some crenellated and a few almost flat like those of *N. cantabricus* var. *petunioides*; some had green in the petals. There were several variations in the length and thickness of leaf; some had erect leaves, and others prostrate; some were in bud at the time when others nearby had already set seed. Being unable to count the chromosomes, the party, after careful consideration, were tempted to disregard existing classification of varieties and sub-species and to call one of them *Narcissus Bulbocodium citrinus* and the remaining 57 varieties "*Narcissus Bulbocodium Heinzi*".

Bad as we found the Spanish roads in past years, the surface this year is considerably worse in spite of much repair work having been done. Petrol pumps are still few and far between, but petrol is plentiful. In Portugal the main roads are good, but the side roads are rough, dusty and poorly signposted, and in both countries care is needed at corners as local drivers are frequently on the wrong side of the road. We found the Government Paradores and Poussadas both good and cheap.

To anyone interested in bird life, the storks and hoopoes are a never ending source of pleasure; shrikes are plentiful on telegraph wires and there are many birds of prey, kestrels, other hawks, buzzards, kites and an occasional eagle or griffon-vulture. It is interesting to find partridges at altitudes much higher than one would find grouse in Scotland.

The Daffodil Bulletin

Spring Issue

May, 1961

WHAT A CONVENTION

By MRS. JESSE COX, Vice President, Southern Region

One of the nicest things about a convention is the memories one stores up to reflect upon from time to time during the year.

After judging the Nashville, Tenn., State Show and helping teach a school there on April 5, Mrs. Goethe Link, Mrs. Donald Linton, Mrs. Rufus E. Fort, Sr., and I flew to Roanoke.

Tommy Haymaker did not exaggerate when he said we would love the spaciousness of the Roanoke Hotel. Just one thing more was needed . . . roller skates to take us from the elevator to our rooms. I walked 156 steps every time I got off of the elevator to go to our room.

Sandwiched between registration and lunch on Thursday were visits with friends made at other conventions. Attending the Board of Director's meeting we were greeted by our president, who was beaming with pride at the largest attendance ever held at a Board meeting, and at the reports from officers and chairmen which revealed the amount of work done during the year and the rapid growth of the ADS.

Good Flowers, Friendly People

A social hour was enjoyed at 5 and a dinner and business meeting followed. Mrs. William C. Seipp, vice president for the hostess region, made us all feel welcome, and her remarks that "Good Flowers and Friendly People Flourish Together" became the theme of the convention. Grant Mitsch entertained us with slides of his new varieties of daffodils and it was soon learned that he, with other growers, had breath-taking

exhibits in Parlor D. That room soon became the most popular one in the hotel, and the coldest.

Another interesting spot in the Hotel was Peacock Alley, which was a long corridor we passed down every time we went to a meeting or a meal. The Roanoke Judges' Council had beautiful arrangements along one side, which were changed every day. The unusual spray and line materials, native to Virginia, used so artistically with daffodils, had all of the out-of-state delegates and visitors making notes.

Friday morning found us all boarding buses for the day's garden tours. If every one had as much fun on the buses as did the Southern Regional delegates, the time spent on them passed all too quickly. Mrs. E. H. Moore, chairman of hospitality and the hostess on our bus, pointed out every place of interest on our route.

Gardens Visited

The first garden was Landsend, the home of Mr. and Mrs. F. Allen Brown. The lawn and flower garden covered almost two acres of land. More than 3,000 spring flowering bulbs were planted there, and about 1,000 were daffodils. All guest daffodil bulbs sent to the convention were enjoyed there. Approximately 170 varieties from seven growers were on display. Gerald Waltz, a local retail grower, planted the guest bulbs and also 80 outstanding varieties of tulips.

In Mrs. Brown's garden we especially enjoyed seeing Ice Follies, Cocktail, Vigil, Prestige, Madrigal, Kingscourt and

5031 Reno Road,
Washington 8, D.C.
March 26, 1961.

Dear Mr. Morrison,

I have a very humiliating confession to make: no more of my attic tazettas bloomed. I finally realized that I was not watering generously enough, but it was too late to bring out the buds that had failed to open. I did get the following observations on Mrs. Evans' "Christmas" from Mr. George Lee, to whom I had given some of the bulbs:

"My "Christmas" flowers are past their prime...The cups still show traces of pale yellow but have faded considerably. The segments are not so broad as the drawing (I sent him the Pot. Mag. 1188 tracing) and part from each other almost from the base rather than touching for some distance as he shows...cup $1\frac{1}{4}$ - $3\frac{1}{16}$ " wide; segments $7\frac{7}{8}$ " long and $3\frac{3}{8}$ - $3\frac{1}{16}$ " wide at widest part; cup $3\frac{1}{16}$ " deep and really cup-shaped, i.e., sides are quite straight until near base; spathes are quite long, around 3". "

My hopes must now wait on the blooming of the bulbs I planted late outside, particularly to note the distinction between Mrs. Wheelless' "cream cluster nar." which is Grand Monarque, and her "round petal cream nar." Judging from memory, I thought the cup of the latter had more yellow in it and possibly was not so wide as that of G.M.

Mr. Hannibal sent me a postcard recently, saying he had flowered some tazetta x triandrus crosses. "A yellow tazetta cross turned out fairly good, but Grand Monarque x triandrus was quite a superior blossom - somewhat Silver Chimes but with a smaller lemon yellow cup and flat perianth. Suggest that breeders try Grand Monarque x all of the triandrus. There are some nice possibilities here."

Copy of Mr. Hannibal's 1946 article on tazettas in California enclosed. Note what he says about the presumed italicus hybrid common in California. It sounds like the H. ganemedoides of Burbidge's plate 31, f. 5. As he mentioned 85 varieties listed in 1913 I looked in the 1913 Dutch and British catalogues, but found illustrations (not in color) of only two, Pazelman Major and Grand Monarque, and the one of G. M. (in Veitch catalogue) did not seem quite right to either Willis Wheeler or me. (tracings enclosed.)

In the Hybridizing round robin just received, Polly Anderson wrote Nov. 30 that she had been out pollinating an early yellow tazetta named Bathurst. I will enclose carbon of notes I made from her letter. No need to return.

After a very early bit of spring, almost summer, in fact, we went back to cold and have had quite a lot of rain, but fortunately no more snow. Progress, interrupted after the early start, is going on again, and there are many buds showing much promise. The first of the southern jonquillas is beginning to open its first bloom.

I have ordered color slides made of some of the plates in the Bot. Mag., but wish now I had tried to make tracings while I had the books. I find I still have the volume with No. 1298, which Mr. Hannibal says is Scilly White, so I'll try my hand at that. The cup is shown as a pale cream. Please keep any of these things you would like to refer to again.

Sincerely, Roberta C. Watrous

Tazettas - hybridizing. Polly Anderson, Round Robin letter, Nov. 30, 1960.

...I've been out pollenating every blossom of my early yellow Tazetta which we call Bathurst. This is taller, and earlier than Soleil d'Or, and I believe it is many times mistaken for it, but when compared they are quite different. Soleil has a brighter and larger orange cup and its pistil extends up beyond the lower set of anthers while Bathurst's pistil ends just halfway up the long tube, and to pollenate I have to pinch the flower head off and tear the tube open to locate it. It seems always ready to receive pollen whether flower has opened or not and seeds readily. I have put two kinds of paper white pollen on, plus Grand Monarque, Chinese lily, and the tall creamy star shaped one we call Scilly Isles. They are appear to be taking, tho I hear Grand Monarque is sterile too. Of course it is possible grains of pollen may have dropped down or been carried down before I got to it, but I think it is unlikely as seed pods rarely form on this variety without hand pollination.

...As for setting seed on the paper white, I do not find that a bit harder. I found some clumps would and some acquired from a different source would not, yet the flowers looked identical until I studied them a few years and found some were consistently larger and with longer foliage, some quite average, and some so small and dainty that I call them baby paper whites. It is the average one which sets seed, altho pollen of the larger one seems to work on Bathurst, too. I also have the double chinese, or Butter and Eggs as we call it, which seems to have a weaker neck than Albus Plenus Odoratus, tho Murray says they are one and the same. That makes 7 different tazettas in bloom during November and the baby paper white and Soleil d'Or usually come along in Dec. and Jan., making nine in all. Then several people have sent me tazettas, which they tho might be still different, to compare with mine or to augment my collection. I'm really anxious to identify them all. One I saw in Texas called "the Pearl" was similar to Grand Monarque except it had inch wide foliage. I hope to acquire that and compare it after growing here a year. (You know everything is sposed to grow bigger in Texas.)

I'm saving ~~pk~~ pollen from all my tazettas for later use...

Narcissus orientalis (a). Pale-cupped white garden *Narcissus*.
Curtis's Bot. Mag. v.32, t.1298. 1810. 450 C94 RCW has slide

Synonyms, in part:

Narcissus orientalis. Hort. Kew. 1, 409; nec Linnaei, qui biflorum coluit. G.

(a) herba glauciore; scapo obsoletius striato, obesus tereti;
coronae lobulorum margine integerrima. G.

N. tereticaulis. Haworth. Linn.Trans. 5. 245.

(b) scapo striatulo; coronae lobulorum margine minus aequabili. G.

N. orientalis.y. Nobis supra No.943 (exclusa N. 940 citatione).

(y) flore luteo; corona & saturatius colorata. G.

N. orientalis. Nobis supra No. 1026; excl. Norum 940 et 943
tationibus.

(d) flore subpleno. G. Supra No. 1011.

N. narbonensis medio luteus. Park. Par. t.81,f.3.

N. byzantinus totus luteus. Id.eod.78?

N. praecox simpliciflore. I.Glus.Hist.1. 154. - latifolius simplex
medio luteus. III.12.eod.

This is the real *orientalis* of the Hortus Kewensis. Probably native
of the Levant and Italy. The *orientalis* of Lennaeus is the biflorus
of No 179. G.

Emendanda:

No. 940. For "*Narcissus orientalis* (a)" read "*Narcissus Trewianus*.
Largest Trew's *Narcissus*." (etc.)

No. 948. For "*Narcissus orientalis* (b)" read "*Narcissus incomparabilis*
(b)." etc.

Narcissus italicus. Pale-flowered *Narcissus*.

Curtis's Bot. Mag. 29, t. 1188. 450 C94 RCW has slide.

Synonyms, in part:

Narcissus papyraceus B. Nob. supra No. 947. (excl. Roman Narc.)

N. sulphureus ~~calyx axillari~~ major. Park. Par. 79. Italia "Narcisso
& solfarigno?"

In No 947, we have included this plant as a variety of *papyraceus*. But since the style is here constantly advanced beyond the anthers to the level of the edge of the crown, while in that it never ~~sur~~ surpasses the anthers, and remains considerably below the edge of the crown; which mark also announces a consequent difference in the colour and scent of the bloom, as well as in the verdure of the foliage; we can see no reason why they should not be considered as distinct species. The leaves in *italicus* are of a bright grass-green, and not of deep blackish green covered with a whitish bloom or hoar as in *papyraceus*; the limb of the corolla is here likewise of a pale brimstone and the crown of a lemon-colour, while there both are ~~max~~ of a pure white. That is far less fragrant. This flowers the latest of the two. Probably a native of Italy. In the parcels of bulbs of this genus, which ~~xxxx~~ are annually imported from thence by the seedsmen, we have never met with any others than those of *italicus*, *papyraceus* (No. 947) and the two varieties of *orientalis* already figured in Nos. 1011 and 1026. Tazetta was never among them. All four being so very closely allied, and having been usually considered as mere varieties of each other, we shall recapitulate such marks as we think are sufficient to distinguish them by, referring to the figures above quoted for their difference in colour. G.

* Fol. lorata, planiuscula; ** Filam. ferme tota adnata; anth. alternae intra, alternae extra tubum positae. G.

Tazetta; scapo tereti, glabro; corona quam limbus subtriplo breviori; globoso-cupulata, repando-subtrifida, margine edentulo. G.
papyraceus; scapo compresso-ancipiti, nervoso-striato, coronā quam limbus subquadriplo breviori, leviter trifida, margine eroso crenulato; stylo antheris tantum aequali. G.

italicus; stylo ultra antheras porrecto, coronam asquante; certera antecedenti similis. G.

** Fil. ferme tota adnata; anth. alternae e tubo partim emicantes, alternae extra eum totae exsertae. G.

orientalis; scapo subtereti, nervoso-striato, acie angusta utrinque marginato; corona quam limbus subtriplo breviori, subrotato-campanulata, trilobatis incisa, repando-dentata, rugosula. G.

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P.S. Enclosed are yellow carbons of rather full but not complete notes on texts accompanying Curtis's Bot. Mag. plates 925, 940, 946, 947, 948, 1011, 1026. Slides of these and 7016 being mailed separately. No rush about returning. RCW

5031 Reno Road,
Washington 8, D.C.,
January 20, 1962.

Dear Mr. Morrison,

Since my last letter I have made a couple of trips to the library and have a few small grains of information to add to the intermedius file. (See separate page: you may keep carbon.) I think it is interesting, in view of your suggestion that "a new race" might result from the search for intermedius, artificially made, that Baker described a pale or near-bicolor variety. By all means let's encourage all possible crosses. There has been some talk for several years of the desirability of "a yellow Silver Chimes" and Jan de Graaff said at the Philadelphia convention in 1959 that it might take 20 years.

In my 1962 letter to the hybridizers I expect to mention two crosses reported with Soleil d'Or - no, three - : with N. jonquilla, with Moonstruck, and with Trumpet Major. All were made by Willis Wheeler, and this is the second year for the Trumpet Major cross. Mr. Brink in Illinois reported open-pollinated pods α from Aspasia, Early Perfection, Elvira, and Orange Wonder. 32 seeds from Elvira. Let's hope they will grow. Polly Anderson crossed Bathurst and Paper White both ways. She says of Bathurst: "...probably cupularis or lutea... It seems ~~to~~ always ready to receive pollen whether flower has opened or not and seeds readily..." (but) seed pods rarely form on this variety without hand pollination." She received Bathurst from Mr. Hannibal, but their descriptions of it do not seem to agree. She calls it taller and earlier than Soleil d'Or, and he speaks of it as "dwarf, compact growing, late." I have buds on ~~her~~ Bathurst and some Soleil d'Or from Park, which I hope will open at the same time. My aureus, alias lutea, is not so far advanced.

You ask about Cheerfulness: it is said to be a sport from Elvira, and the yellow variations are presumably further sports. I have not had many varieties of tazetta hybrids, although I do not look down on them as some people seem to. Of the varieties listed by De Jager in 1961 the following are from P.D. Williams: Cragford, Halvose, Scarlet Gem, St. Agnes; the others are of Dutch origin, as is Elvira. It was my impression that the later varieties were large-flowered and came from the Dutch. Other varieties mentioned in the ADS Symposium are Orange Wonder (Dutch), Matador, Golden Dawn, and Fame from Oregon Bulb Farms, and Pride of Holland (Dutch).

Of the "Scilly Isles" Mrs. Anderson sent, she wrote me that it seemed to be the same thing as italicus, except that it grows four ~~four~~ feet tall and blooms at that height. Since I have been reading up on chromosomes, etc., I tend to explain everything with guesses along that line, so perhaps this tall clone is a tetraploid. I wish we had a consulting geneticist-cytologist to whom we could refer all such guesses for analysis.

After telling you that Baker did not mention N. intermedius in his Journal of Botany article of 1870 I discovered that several pages were missing from my photostat copy of this article.

Miss Allen died some years ago! Miss Thompson would love to hear that you sometimes hear from Mr. Russell, me, and any other people she used to know. And that you sing in a choir.

Sincerely,

Roberta C. Watrous

Baker, J. G. Review of the genus *Narcissus*. In: Burbridge, F. W., The *Narcissus*, its history and culture. London, 1875. 96.47 B89

From page 81-82:

N. intermedius (Lois. "Gall." i.p.237,t.7).- Bulb ovoid, an inch or more thick. Leaves 3-4 to a scape, subcylindrical, deep glossy green, about equalling the scape, 2½-3 lines broad. Scape a foot or rather more high, green, subterete. Flowers 2-5, the longer pedicels equaling the spathe. Tube 8-9 lines long, exclusive of the ovary, about a line in thickness. Expanded flower 12-15 lines across; the divisions obovate-cuspidate, lemon-yellow, 5-7 lines long, 3-4½ lines broad, little or much imbricated. Crown ½ - 2½ lines deep, slightly deeper in colour than the divisions, the edge a little plaited and crenulate. Anthers biseriate, subsessile, the upper ones protruded into the crown. DC. "Fl.Franc." v.p.325, Gren. and Godr. "Fl.Franc." III.p.258, Mogridge, "Cont. Mentone," t.41; *Hermione intermedia*, Haworth, "Mon." p.7, Knuth, v.p.715; *N. bifrons*, Gawl. Bot.Mag. t.1186; *Hermione bifrons*, primulina, and bioreolata, Haw. "Mon." p.78. (The former a variety with narrow lobes and a deep crown, the two latter with broader, much imbricated lobes, and a shallower more open crown.)

Var. *radiatus*.- Divisions of the flower oblong-lanceolate, less imbricated; crown 6-lobed. *N. radiatus*, Red. "Lil." t.459; *N. tripartitus*, Hornem. Hafn. p.316; *Hermione compressa*, Haw. "Mon." p.7.

Var. *albus*.- Expanded perianth, 15-16 lines broad, lobes broad-oblong nearly white, much imbricated, 3/8ths inch broad; corona lemon-yellow, broadly cup-shaped repand, *Hermione alba*, Haworth, Kunth. "Enum." v.752.

A native of Spain, the South of France, and the Balearic Islands. Intermediate between *Tazetta* and the *Jonquil*; but both this and the last, though easy to know, when living, by their leaves and general habit, are scarcely to be distinguished from *Tazetta* in dried specimens. The three taken together may be known from all other *Narcissus* by the cup-shaped crowns, from a quarter to a third, or in extreme cases nearly half, as long as the divisions of the limb of the flower.

Wylie, Ann P. The history of the garden *Narcissus*. Heredity 6:137-156. 1952. 443.8 H42

From pages 140-141: "Cytological studies and controlled crosses have shown that a number of *narcissi*, originally considered distinct species, are really hybrids. Fig. 2 shows the relationships of the species concerned... 5. *N. intermedius* Lois. is also supposed to have *jonquilla* as one parent. The other, on morphological grounds and as a result of Engleheart's crosses (1894), was considered to be *tazetta*. Nagao (1933) found it to have 17 chromosomes, with complete lack of pairing at meiosis and sterile pollen. It has been collected wild from the Pyrenees and is quite sterile."

Engleheart, G. H. Hybrid *Narcissi*. Roy. Hort. Soc. Jour. 17: 35-44. 1894. 84 L84J

On p.38 is a list of 7 crosses, of which (3) is *N. tazetta* x *N. jonquilla* = *N. intermedius*. "All these I have raised out only once, but in successive generations for greater surety." Elsewhere, "Nearly all the crosses have been effected both ways..." No further discussion of *N. intermedius* in this article.

Narcissus tazetta. Polyanthus *Narcissus*. Curtis's Bot. Mag. v. 24,
t. 925. 1806. 450 094

RCW has color slide. ✓

Narcissus africanus aureus major of Parkinson (81, f. 1) "The great
yellow Daffodill of Africa".

Narcissus latifolius flore proreus flavo of Clusius. (Clus. Hist. 156)

Native of Spain, Portugal, and most probably of the coast of Bar-
bary; now one of the commonest ornaments of our gardens, having been
cultivated here from the time of Parkinson and Gerard. The best roots
are annually imported by the Seedsmen from Holland, where two or three
hundred varieties are enumerated; but we shall defer to a future number
our observations on the species, and on such plants as we consider
really varieties of it or not. Those that wish to be informed minutely
of the mode of cultivating and raising it from seed, have only to
refer to Miller's Dictionary.

tazetta

~~xxxxxx~~ means a small cup, and is the name given to these flowers
in Italy from the shape of their crown. Linnaeus has spelt it with
one z instead of two.

The roots of this species are sometimes the size of both the
fists put together. The stem and leaves sometimes two feet or
more high. The scent is pleasant, but very strong, even pungent.
Blooms in the open ground in April. Forces well in water, sand, or
common loam. We have not added the synonym from Thunberg's Flora
Japonica, as we cannot always rely on his accuracy in this department.
His may be the same ~~xxxxxx~~ plant as ours. G.

(*Narcissus trewianus*. Largest Trew's *Narcissus*) Cf. t. 1298.

Narcissus orientalis (a) *Narcissus* of the Levant. Curtis's Bot. Mag. v. 24, t. 940. 1806. RCW has slide. ✓

See also nos. 924 and 925.

Synonyms (incomplete)

Narcissus latifolius byzantinus medio luteus Il. Clus. Hist. 1, 154.

Narcissus narbonensis major amplo flore - medio croceo polyanthos -

narbonensis medio luteo cerotinus major. Park. Par. 82.

Baselman major. Trew. Seligm. 1, t. 23.

(a) 2-4 florus; corona crocea; laciniis albidis. G.

(b) 2-4 florus; laciniis pallide luteis; corona lutea profundius trilobatis fissis. G.

(y) 6-multiflorus; laciniis niveis, corona sulphurea aut citrina. G.

We have omitted all the figures from Fudbeck cited by Linnaeus for synonyms, as they appear to us to belong exclusively to biflorus, from which ~~the~~ our plant may be distinguished by its proportionately longer and trilobately cleft crown, as well as by not having the edges of the outer leaves turned up. Are they however really distinct species?

(y) is the variety of Hort. Kew. Differs from Tazetta, to which it is also but too closely akin, by a crown more manifestly trilobate, more crenulate and patent. All the varieties of our present species are very fragrant and bloom earlier than either poeticus or biflorus, but later than Tazetta. In the ensuing fasciculus we mean to give (b) and (y). The best bulbs of this species are imported from Holland.

According to the ~~xxxixixix~~ appellation bestowed on it by the older botanists, a native of the Levant; probably some of the varieties are also found in Spain and the South of France. Not figured as a Linnean species in any work known to us. G.

Friendenda, in v. 32, t. 1298.

For "*Narcissus orientalis* (a)" read "*Narcissus Trewianus*. Largest Trew's *Narcissus*."

Narcissus trewianus; (3-5 florus; fil. adnata; anth. ori tubi circumpositae; 3 intra coronam prominulae;) (etc.)

Synonyms, in part:

N. orientalis (a) supra, No. 940.

Baselman major. Trew. Seligm. 1, t. 23.

over.

N. latifolius byzantinus medio luteus. II. Clus. Hist. 1, 154.

N. anglicus polyanthos. Park. Par. 82, t. 81, f. 6.

In the above cited number, we had considered this as a variety of *orientalis*; we now think otherwise. We believe it to be the stock from which ^{the} *biflorus* (No. 194) (of?) our gardens has degenerated, and doubt very much the truth of that being an aboriginal plant of this country. In all the specimens of *biflorus* we have observed the anthers were white and devoid of ~~the~~ pollen, whence the plant never perfected its fruit. Probably native of the Levant. There is a smaller variety of the present species with more flowers. G.

Narcissus orientalis (y) Many-flowered *Narcissus* of the Levant.

Curtis's Bot. Mag. v.24, t.946. 1806. 450 694 RCW has slide ✓

Synonyms (in part):

See No. 940.

(y) 6-multiflorus; laciniis niveis corona sulphurea. G.

Narcissus tazeta (bicolor). Lil. a Redoute, p.17, abaque 10.

This and our *papyraceus* were, we have no doubt, included by Linnaeus in his *Tazeta*, but to us they appear sufficiently distinct; and this an undoubted variety of *orientalis*; in some of the Dutch catalogues it is known by the name of the *Grande Primo Citroniere*.
G.

Narcissus papyraceus (a) Italian or Paper-White narcissus.

Curtis's Bot. Mag., v. 24, t. 947. 1808. RCW has plate.

Synonyms, in part:

Narcissus tazeta (albus). Redoute. Lil. p. 17. abaque 10.

Narcissus tazeta. Linn. Sp. Pl. 416.

Narcissus pisanus vel totus albus. Park. Parad. 81, f. 4.

Narcissus latifolius simpliciflorus albus. 1, 2. Clus. Hist. 1, 155.

(a) multiflorus; corolla tota alba stylo parum ultra tubum porrecto; foliis glaucis. G.

(b) 4-8 florus; laciniis ochroleucis, corona pallide sulphurea; stylo coronam subaequante; foliis haud ita glaucis. G.
Roman Narcissus.

Very probably this, or the variety *y* of *Narcissus orientalis*, may have been the plant designed by Linnaeus for his the type of his *Tazeta*, as likely indeed as the one we have given under that ~~name~~ title; but, as he has evidently combined more than one species in his synonymy, we have thought it most useful to apply his name to the one which had been already figured under it in Redoute's work, and to adopt another for this plant, which we think ~~differs~~ distinct. Our species is possibly the *crenulatus* of Mr. Haworth, but his ~~character~~ character is too short and indefinite to enable us to determine this fact with certainty.

Differs from *Tazeta* in having a shallower crown, with an erosely crenulate margin, a very much flattened apical scape, a smaller bulb, and an entirely white or cream-coloured corolla.

The bulbs of this plant are usually imported by the owners of Italian warehouses immediately from Italy. Very ornamental and fragrant, especially (b) called in the shops the Roman Narcissus, which is often imported in a double state.

Corrigienda (in vol. 25, t. 1011:
No. 947, l. 24, del. "Roman Narcissus." →

Narcissus orientalis (b). Cream-coloured Narcissus of the Levant.
Curtis's Bot. Mag., v. 24, t. 948. 1806. 450 C94 RCW has slide

Narcissus orientalis. Vide Num. 940.

(b) 2-4 florus; laciniis pallide luteis; corona lutea profundius trilobatis fissis. G.

In plants that have long been cultivated in gardens, it will often be a question not readily decided, whether certain individuals are mere varieties, arising from the adventitious circumstances of culture, or originally distinct species, or hybrids deriving their origin from intermixture. It may throw some light upon these questions to observe,

1. That whilst the industry of florists, by means of long culture in appropriate soil and under nice management, (in some cases offering a too profuse nutriment, in others subtracting the due proportion), can produce an almost endless variety of appearances in the individuals of the same species, especially in stature, colour, and multiplication of parts, yet amidst this numerous host, the scrutinising eye of the botanist will find little or no change made in the essential characters; these mostly remain the same in all. For although, by a multiplication of the petals, or other parts, the smaller and more essential organs are suffocated; yet these changes affect the generic more than the specific distinction. And notwithstanding the immense number of these artificial varieties, such is the tendency of nature to maintain a uniformity in the individuals of the same species, that a few years neglect is ~~is~~ sufficient to reduce the thousand gaudy inhabitants of the florist's border to the state of their original parent.

2. The same industrious spirit, when any particular flower happens to be in fashion, will seek far and near for closely-related species of ~~the~~ the same genus, and by submitting these to a suitable culture will occasion similar changes, in the endless variety of which the species may easily be confused with the one before in cultivation.

3. This blending of different species will be still farther promoted by the accidental or purposely-contrived admixture of them, by fecundating one with the pollen of another. An offspring partaking of both parents is the consequence, and in some cases perhaps a permanent intermediate variety, scarcely to be distinguished from a really distinct species, may be thus produced. For we cannot go so far, in either the vegetable or animal kingdom, as to assert ~~that~~ with some authors, that hybrids or mules are in every case sterile. (Cites examples among animals.) We can see however that the confounding of different species by these mixed productions is very limited, in many cases confined to the individuals first produced, in others terminating perhaps with the next or third generation, and if a longer

existence be allowed, we may infer a very great proximity between the parent plants. In vegetables indeed the duration may be longer ~~than~~ from their power of propagation by other means than by seeds, but the increase obtained by offsets from the roots, cuttings, or layers, when the fostering care of man ceases, will shortly perish. Hence a very long-continued existence without change will often afford a strong presumption of a plant's being a real species.

Armed with such reflections, the botanist may boldly enter the florist's parterre, undismayed by the barbarous host of a Dutch catalogue. Here he will certainly find, that if the older botanical writers frequently raised varieties to the rank of species, the modern have sometimes confounded such as are really, and ever have been, distinct.

To enable us to decide in difficult cases, it becomes necessary to study varieties as well as species; and this must be our apology for admitting several of the former into a work, in the general plan of which they are excluded. Faithful representations and accurate descriptions, when recorded, cannot fail to establish the truth in the end. S.

Emendanda. in v.32, t.1298.

For "*Narcissus orientalis* (B)" read "*Narcissus incomparabilis* (B)."

In No.948 we had considered this also as a variety of *orientalis*, but after having examined the living specimens, we have no doubt of its being much nearer to *incomparabilis*, with which it agrees in colour, habit, scent, and very distinct character of the stem; the crown is evidently imperfect. G.

Narcissus orientalis (var. fl. pleno). The Cyprus or Double Roman
Narcissus. Curtis's Bot. Mag., v. 25, t. 1011. 1807. 450 C94
 RCW has slide.

Synonyms, in part:

Narcissus orientalis, flore pleno. G.
Narcissus pleno flore. Clus. Hist. 1, 160. Ic. I. II.

Narcissus chalcidonicus flore pleno polyanthos. Park. Parad. 84,
 t. 85, f. 4.

Cyprus *Narcissus*. Mill. Dict., ed. 7. See the observations on the
 eighth species of the Art. *Narcissus*.

In the last part of our account of *Narcissus papyraceus*, (No. 947) we have spoken of the present plant as being a double flower of the variety b of that species; which, under that impression, we have called in the synonymy "Roman *Narcissus*." We then judged from distant recollection, not having been able to produce a specimen for several seasons before. This year we have obtained them in abundance; and have been shewn others, that by cultivation in our climate have returned to their single state. Thus we have discovered our mistake; and assured ourselves that the plant is a legitimate variety of *orientalis* (see Nos. 940, 946, and 948). The bulb has been long since annually imported from Italy, by the proprietors of Italian warehouses; together with that of the Paper or Italian species (see 947); and a still more double variety of the present with fewer flowers, a shorter tube, and a greater number of yellow segments. This last bears a strong resemblance to the variety known among florists by the name of "The Butter and Egg Flower." According to Clusius, both the double varieties of the present species were originally introduced into our parts of Europe, from Constantinople by the way of Vienna. They have since continued to be cultivated in Italy, where they preserve that doubleness for which they are in such request; but which we suspect they soon lost to the northward of that country, as we never receive it in that state from Holland. The roots generally arrive in England late in the autumn; and if then planted will flower in January. They may be put into pots of earth, or into flower-glasses with water only; should be kept sheltered, as the weather at that season soon defaces their bloom when they are set out of doors. But the cooler and more airy they are kept, the stronger they bloom. The roundest, hardest roots, with the fewest offsets are to be preferred. Their beauty, fragrance, easy culture and cheapness, seem to us to make them the most desirable flowers imported for the ornament of our rooms. G.

Narcissus orientalis (d) Yellow garden *Narcissus*.

Curtis's Bot. Mag. v. 26, t. 1026. 1807. 450 C94 RCW has slide.

Narcissus orientalis d; flora luteo; laciniis corona minus faturate
flavescentibus. G.

R *Narcissus byzantinus* totus luteus. Park. Par. 78. ?

This variety of the garden or Levant *Narcissus* is usually imported, by the seedsmen and proprietors of Italian warehouses, from Italy, along with the Cyprus or double Roman and Paper or Italian kinds (see above, no. 1011). If planted as soon as they arrive in the autumn this blooms in great beauty and has a very pleasing scent. G.

pl.92. Narcissus Cypri.

Hermione Cypri. Haworth in Phil.Mag.N.S. VIII.133-4. Phil. Mag. and Ann. March, 1831.

semiplena. Park. Parad. 85.f.2. Semi-double Cyprus Narcissus.

plena. Park. Parad. 85.f.3.4. Double Cyprus Narcissus.

"The origin of the double and semi-double varieties of the Cyprus Narcissus having always appeared doubtful, and having been generally supposed to be varieties of the Italian Narcissus, was first suspected by Mr. Haworth to be a different and distinct species, as mentioned in a paper by him, in the Phil. Mag. and Annals, May 1, 1830. [But see ref. above to March, 1831], where he proposed for it the name of Cypri. This last Spring, we were lucky enough to find a plant of the single one in flower, at the Nursery of Mr. Colvill, in the King's Road, Chelsea, where we happened to see it growing amongst some double ones, and immediately recognized it to be the origin of them, in a perfect single state; we immediately communicated it to Mr. Haworth, who agreed precisely with our ideas on the subject; and, on comparing it, determined that it had not been taken up by any modern author. On comparing it with N. tazetta, of Flora Graeca, we observed a strong similarity between them; this we mentioned to Mr. Haworth, who, on comparing them, found them very similar, but still distinct, (the distinctions he has given in the paper of his, referred to,) from which it differs chiefly in the bulb of this being three times as large, the scape at the base being nearly solid, not hollow, the flower-stalks acutely triangular, not roundish, the segments whiter, crown yellow, not orange, the segments 2 and a half times, not 3 times longer than the crown, and smooth, not plaited, as in Flora Graeca."

5031 Reno Road,
Washington 8, D.C.
Feb. 22, 1962.

Dear Mr. Morrison,

This will wind up the tazetta slides, I think. Mr. Wheeler is taking two more from Moggridge, overlooked before, but as these are Paper White and panizzianus and dubius I will not send them unless you particularly would like to see them. I seem to have overlooked the notes from Moggridge; I found them inside my slide sorter when I started working on this last batch today.

I mentioned the differences in the description of Bathurst to both Mrs. Anderson and Mr. Hannibal, and now a letter has come from him saying:

"I believe Polly Anderson's Bathurst to be misnamed, as I quoted from Kirby, and Polly has the bulb flowering about Nov. 15-25. Mrs. M.S. Anthes claims that she has three forms of Soleil d'Or, one which sets a great deal of seed and is very viable and that this is the same as Polly's bulb. On top of that I just received a packet of Soleil d'Or seed from a dealer in Israel. So I'm a bit nonplussed. Soleil d'Or may very likely be a wild ecological form somewhere about the Mediterranean and imported into Holland and Scilly in the early days. The triploid form being more adaptive to Channell conditions probably thrived there while other forms vanished. However the Dutch must have had some good yellow breeders as Kirby lists 34 distinct yellow clones. Either that or they were growing various ecological variants.

"Early flowering habits in a Tazetta suggests an area of mild winters free from frost like Israel, and yellow blossoms an open field where the temperatures are moderate. So the yellow Tazetta is a coastal plant. It must come from an area back from the coast. In contrast Paperwhite is a coastal plant where white is needed to reflect the daytime heat. A late flowering plant suggests a high elevation or more northerly bulb. My yellow Tazettas flower here with Feb. Gold."

The RHS Classified List gives "Soleil d'Or = Grand Soleil d'Or" and for that "(French origin) 1890." Now as the name Soleil d'Or was used by Moggridge and Sweet long before 1890, I wonder why the RHS gives preference to the later and less-used name? Someone ought to take it up with them before the next list is published.

My Grand Monarque from Mr. H. seems much more vigorous than any of the others, too, although some of this may be due to the fact that the others are being grown inside for the second year. I fear most of these will not bloom this year, but I have extras of some planted very late outside, so will have another chance for blooms.

You say Mrs. Darden's "Seventeen Sisters" matches Mrs. Quarles' "White, yellow center." I had noted of this last year that it had a smaller cup than what we were calling Grand Monarque, and that Mrs. Wheelers' "Round Petal Cream" matched it. (Mrs. W.'s "Cream Cluster" matched the Grand Monarque you sent.

Mr. Hannibal also says "Have had a lively time with Mrs. Anthes and Birchfield. It appears that GRAND MONARQUE needs to be examined more closely. I'm not sure that the G.M. of Florida (Wyn Hayward) is the same as shown in Burbidge and Baker. However I can get bulbs from Australia. There are several named seedlings of G.M. in Australia..." (More on Compressa, etc.) The last word has not been said!

Roberta C. Watrous

Tazettas.

Sweet, Robert. The British Flower Garden. Ser.2, vol.II, 1833.
96.025 2x3B

pl.118 *Hermione Trewiana*.

Bot.Mag. 1298.in emendanda.

N. orientalis a. Bot. Mag.940.

Hermione grandiflora. Haworth, in supp.plant.succ.p.141.

N. grandiflorus. Haw. in Synops.pl.succ.app.p.332.

Hermione crenularis. Salisb. in Hort. Trans.v.1,p.263.

Bazelman major. Trew.flor.imag.1,t.23.

N. latifolius byzantinus major luteus. II.Clus.hist.p.154.

N. anglicus polyanthos. Park. parad. text. 82,t.81,f.6.

N. polyanthos major albus calyce medio croceo-luteo. Rudb. elys.t.60,f.6/

"Bulb rounder than in other related species, clothed with irregular brown shelly scales... (lengthy description of all parts)

"It is impossible that the present species can produce seed of itself without assistance, as the stigma is so far below the stamens, that the pollen cannot come in contact with it; most probably this is effected by insects in its natxv natural habitats."

pl.179. *Hermione tereticaulis*.

Hermione tereticaulis. Haworth synops.succ.narcis. rev. p.140. Narcis. monog. p.14. Haworth

Hermione leucoifolia. Salisb. Hort. trans. v.1,p.359.

N. tereticaulis. Haw. in Linn. trans.v.5,p.245.

N. orientalis (a) Ker. Bot.Mag. 1298.

"Bulb nearly pear-shaped, rather small in this genus, and so resembling that of the common Citroniere, (not Primo-Citroniere) as only to be distinguished, when dry, by the best practical gardeners. (Long descr.)

"This fine plant is, I believe, a native of France, and not so common in our gardens as it deserves to be, being perfectly hardy...and when in perfection, is not only much larger than here represented, but is, perhaps...the most elegant and beautiful trusser ~~xxxxx~~ of the whole. It is annually imported from Holland...by the name Surpassant, and ranks in the genus at the head of the section Rotulares...

pā. 191. *Hermione spertico²ona*. ("nobis" - article signed A.H.H.)

"...Comes into flower very soon after the more common *H. cupularis* (the Soleil d'Or of the gardens) and although a smaller and paler flowered plant than that lofty species, its individual blossoms are sometimes larger, and, perhaps, more elegant and graceful."

"The bulbous root, although I have cultivated the plant more than 20 years, I never saw half the size of a man's fist, which that of Soleil d'Or is said often to surpass...The leaves are 3 or 4 in number, strap-shaped, erect, shorter than the flower-stalk at the time of blooming, perhaps, flatter than usual among its nearest affinities, and likewise more blunt pointed; of a glaucous colour, of often nearly deep green, and slightly striated longitudinally...The scape...rises to the height of about 12 or 14 inches, which is little more than half of that of Soleil d'Or...The flowers appear in the middle of April, very soon after those of *H. cupularis*...about 6 in number...and their 6 segments are often semi-reflexed, of a broad oval form, and much imbricated; of a rich yellow colour, often shorter than their tube. The crown...much more spreading upwards than in Soleil d'Or...a bright orange colour..."

"...being so nearly related to *H. cupularis*...is prob. a native ... of the northern coast of Africa, or of the Levant."

N. intermedius.

Bourne, Rev. S. Eugene. The book of the daffodil. London and New York, 1903. 26.47 P681

p.30. *N. intermedius*. A hybrid supposed to be between some form of *Tazetta* and *Jonquilla*. Found in Spain, Balearic Isles and S. of France; abundant on the hills near Bayonne and the Landes of Dax. Differs from the yellow-flowered *Tazettas* by its sub-cylindrical deep-green leaves; is many-flowered; cup about one-fourth or fifth the length of the perianth segments; the whole flower being of a soft yellow colour.

Intermedius Bifrons has narrower perianth segments and a deeper corona. A very beautiful garden form of this with orange-scarlet cup is *Bifrons "Sunset."* Other forms are *Bicrenatus* and *Primulinus* and *Radiatus*.

Parlatore, Filippo. *Flora italiana*. vol.3. Firenze, 1858. 459.8 P23

p.123. *Narcissus intermedius*, Lois. (description)

Narcissus intermedius Lois. fl. gall. edit.1. p.191. et fl.gall.edit.

2. vol.1. p.337. De Not. rep. fl. lig. p.299. Gren. et Godr. fl. de

Franc. 3. part.1. p. 258.

Figure.- Lois. fl. gall. edit.a. tab.7.

Stazione, Abitazione e Fioritura. Nei colli presso Pegli nella

Riviera di Ponente donde mi è stata favorita dal Marchese Andrea Carrega.

Fiorisce in Marzo.

Distribuzione geografica.- Si trova pure in Francia.

Osservazioni.- Ho veduta questa piante soltanto secca...E specie affine

specie al *Narcissus Jonquilla*.

(Parlatore describes 26 species of *Tazettas*, pages 125-157.)

Pl.22: *Narcissus aureus*, Lois. ...Habitat.- Shady terraces in eastern and western bays. Rare. January. Remarks.- *N. aureus*, Lois., is, I believe, the *Soleil d'Or* of our gardens, and perhaps may owe much of its beauty to the effects of cultivation. It has long, however, been considered as one of the wild species of European *Narcissus*, though always ranked amongst the more doubtful natives. MM. Grenier and Godron only mention this plant as growing at Grasse, near Cannes. ...

Pl.23: *N. tazetta*, Linn. ...Habitat.- Palazzo Orenca, Cap Martin, etc. Olive terraces and vineyards near the sea. February, March. Remarks.- *N. Tazetta*, L., is the commonest of all our representatives of the genus, and is one of the very few species about which no doubt exists as to its title to be called a native. The profusion in which this lovely plant grows in the olive- and vineyards near Mentone, ~~the only place where it grows in the wild state~~ can only be compared with the abundance of our own *Daffodils* as they spring in our well-remembered English nooks... *N. Tazetta* L. varies very much with regard to its leaves, in respect of their breadth and channelling, and may perhaps claim to be the parent of many related and doubtful "species."

Pl.41: *N. intermedius*, Lois. Notes elsewhere.

Pl.71: *N. Panizzianus*, Parl.; *N. dubius*, Gouan. (no slide)
Remarks: *N. Panizzianus*, Parl., appears to me a doubtful and yet distinguishable species. Its much smaller flowers and brighter green leaves give it a very distinct appearance from *N. papyraceus*, Gawl., but it approaches much more closely to *N. polyanthus*, Lois., from which its fewer flowers of acute divisions and sharply two-edged flattened scape may perhaps separate it. I have never seen a wild specimen of *N. polyanthus*, Lois., and prefer, therefore, to reserve my opinion till I have more material to judge from. *N. Panizzianus*, Parl., is only known to grow at San Remo. *N. dubius*, Gouan., is one of the grateful exceptions to the rule among *Narcissi*, for it is found in wild rocky situations in the mountains near Toulon and Hyères, and never, as far as I know, in cultivated ground.... [Corolla sometimes entire, sometimes lobed.]... *N. dubius* is not found in Italy or along the Riviera, but from Mont Coudon to the westward, at Marseilles, Avignon, Pont du Gard, and Bione, in Hérault (Gren. et Godr.), Aix, in Provence (Herb. Gay!), in Corsica, at Ajaccio (Bourgeau!), near Mont Cado about 21 miles north of Barcelona (Bourgeau! in Herb. Gay; this label and that of the preceding specimens being written by M. Gay), Pyrenees, and Greece (Nyman).

Pl.90: (A) *N. chrysanthus*, DC.; (B) *N. Bertolonii*, Parl.
Habitats.- (A) from a garden at Antibes, where plants originally obtained from Grasse are cultivated. (B) from plants obtained in terraces at San Remo. Remarks.- The two species are allied to *N. aureus*, Lois., but are much rarer forms. The very broad divisions and deeper colour of the flower distinguish *N. aureus* from these at a glance; while the proportions of the divisions no less readily distinguish *N. chrysanthus* from *N. Bertolonii*. *N. chrysanthus* is only known as yet as growing in the neighborhood of Grasse (and nearby). *N. Bertolonii*, Parl., is said by Parlatores to grow in the neighborhood of Lucca and Pisa only, but has since been

discovered in tolerable abundance near San Remo. [Comments on a presumed hybrid between *N. remopolensis* and *B. Bertolonii*.] *N. Bertolonii* habitually flowers very early, ... even in November, and it can have only been some stray remainder flowers which served to fertilize or bear seed by *N. remopolensis*, a plant which does not flower habitually before February. In this case we can understand ~~xxx~~ how it is that, because of their distinct seasons of blooming, hybridization should rarely take place; but in ~~xxxx~~ many other instances it is a profound mystery why two plants which grow together, are visited by the same insects, and occasionally do produce hybrid offspring, are not constantly intercrossed. There ~~xxx~~ must be both checks which prevent, and tendencies which favour hybridization, which exist unknown to us, and this I take to afford evidence of the manifold nature of variation in plants, which is so often present though unperceived by us. For it seems probable that certain individuals of a given species have a far greater aptitude for ~~xxx~~ receiving the fertilizing influence of the pollen of ~~xxxxxxx~~ a distinct species than others; just as there is no doubt that some individuals are much more fertile than others of the same species when treated in the ordinary way. Careful observations repeated on the same individuals during several consecutive seasons, with a view to proving the average ~~xxxxxx~~ fecundity of each, might probably give valuable results, tending to clear up this question.

[In another place Moggridge suggests that a series of observations be carried out on the progeny of the first and the last seed-pod in a cluster, having noted that the last florets sometimes fail to develop completely. He says to make the experiments complete both the first and the last flowers should be fertilized with pollen from a distinct individual of the same species, and should be protected from insect agency.] (and the seed-pods ~~xxxxxxx~~ differ somewhat in form.)

Pl. 70: *N. papyraceus*, Gawl. (A), and (B) *N. papyraceus*, B, incurvata. (no slide)
The species and the variety figured differ not only in the characters above cited, but also in their time of flowering (one at Christmas, the other in February). The different species and varieties of *Narcissus* are very complex, and, as most of them are found chiefly in cultivated ground, any new variety is readily propagated by division of the bulbs...

from Morrison

Route 1 Box 24,
Pass Christian, Miss.,
Christmas Morning!

Dear Polly Anderson:

What a nice thought to send me a Christmas wish, for as many narcissus in bloom as you have!

Our season has been too precocious and I do have some narcissus in bloom and some gone by, but it is not like yours. This morning it was 28 when I got up at 6 a.m. to start the days turkey cooking! That does not matter to narcissus, though many have such lanky stems this year, due to too many rains and warmth, that some stand almost on their heads!

In the autumn I had fine flowering on *N. viridiflorus*, and repeat flowering on *elegans*, which means two years in succession. *Begussonetti* flowered, one bulb out of three and what I had thought was *Bertolonni* isn't!!!! Nice blooms on what used to be *monophyllus foliosus*, now over; *Tafetta* gone by and *Tarleton* out now. *Paper* white in its best form and in the less good form out or over, Chinese Sacred in bloom and its double form which I got from Mrs. Wheeler as "Early Double Cluster". *Soliel d'Or* out and more coming and that is about it. Your "Scilly Isles" up and in bud but not open though my *italicus* is out. This year I planted Scilly White from England and *italicus* in and I hope to compare with your *italicus* (where did you get that name?) and my *italicus*! Many others are pushing but apparently I'll have to wait a bit. Actually I am relieved that the cold has come, for it will do less damage now, than if it came later after more heat!

I wonder what Mr. Jefferson-Brown will be like in person. I think his catalogue is so full of gush, that it outdoes dear old Wilson, who waxed too poetical for me on many counts.

As I am ~~far~~ far too old to start crossing narcissus I do not have to worry about that. But if I can bring myself to saving the pollen of tazettas, I'd like to cross that pollen on *jonquilla* to see if we do get "intermedius" which is known in literature only as a "probable cross between some *jonquil* and some tazettas." Since they do not flower at the same time here, I wonder. The results look all right, i.e. the presumptive results of such a cross would probably look like *intermedius* but one would like to know.

Do have a good season, all through the flowering time and best of good luck with all your crosses.

Sincerely,

from Morrison

Route 1 Box 24,
Pass Christian, Miss.,
10 January 1962

Dear Mrs. Watrous:

Once more my thanks to you for your letter with the inclosures that I will safeguard until their return.

My "Paleastina" tazetta is barely above ground as it was planted when Mr. Hayward sent it to me, very late. The first lot I noted in my day book as coming here on Dec. 9; I then wrote him to ask if he could get more, as we have no representative of the Chain Store that was carrying them in Winter Park. He found two more lots and they came about a week later on. I debated whether or not to pot part, but decided they would be safer outside, as the bulbs were by no means uniform in size, and all had leaf tips showing. They are barely above ground level now, which interests me, as my old clump of 'canaliculatus' does not show at all, and all it does most years is to give foliage. In fact the one slide that Anderson has been able to get is such a puny specimen that no one could believe it. Nor want it.

This morning it was 17 F. a new record of January 10 and it is now almost noon and not yet 24. My one redeeming feature is that the new stove for heating, a greenhouse vented heater, is working well and that the gas tank was refilled two days ago!!!! Everything else looks miserable and all of us feel the same. The narcissus in bloom are frozen stiff and standing on their heads, this last due to the excessive precipitation of late and weak bases to scapes, not to frost.

"Bathurst" from Mrs. Anderson in La Canada is open, and makes me wonder if it is the same as Mr. Hannibal's aurea (which was lutea in his text). His bulbs are not yet in bloom. Her "Scilly Isles" is as she writes me, practically identical with my italicus. It is not identical to my eye, for her plant is more robust, in the sense that the leaves are broader, and the flowers appear to have more substance. This could come from the fact that she has a better soil than I and I shall watch the performance next year. to see if there is a lessening, of substance and vigor. The bulbs of Scilly White that I got from Jefferson-Brown are not yet in bloom. But they are in a very different part of the place and may be less warm.

I have read the William Herbert article long ago, but have no copy here, so could not have quoted, but it was his work that made me feel some one should try to produce *x intermedius* now. I have pushed myself far enough so that I now have pollen of: Chinese Sacred, Paper White Barlas, and Soliel d'or in the dessicator. When they have thawed out I'll try to get pollen from Mrs. Anderson's Bathurst, italicus, and any other tazettas I can. Whether or not I get to make myself attend to the pollinating of any jonquilla remains to be seen. No buds in sight on any, save one or two on 'Mrs. Wheelers' early one. Far from the blooming stage. As we do not know which tazetta was in bloom in the area where *x intermedius* was found in nature, it seems possible that one might come out with a series of "intermedius" forms varying somewhat in character or color?

It is too bad that Herbert had to be working with anything that Hayward has worked out as he was not a man with a keen taxonomic sense or else the sharper limits of taxonomy had not been clearly defined. Haworth made a dreadful mess in Hedera. Endless "species" that were mere variants of Helix, and some of them, not fixed, changing if well fed!

2- Wetrous Jan. 10 1962

No, I hadnot heard of Miss Hawk's death. This leaves only Miss Thompson and Miss Allen? How sad, but for us who had the privilege of knowing them, all, at least for myself a remembered pleasure.

I had a card from Miss Thompson and written on it only the note that if "I knew the pleasure my letter had given, I would sit down and write another" and of course I did not sit down then but have written her. Some how I find it difficult to concoct a letter to one who has no knowledge of this area nor any particular interest in what I am doing with plants with which they are not a little familiar. As I am not much of a social person, I cannot regale any one with the small talk that seems to be the special feature of village life!

It is now two oclock and the thermometer out back on the porch has not touched 30 even yet and the greenhouse with a good fire, is only 60 which I am more than grateful to have. The noon report was for an even colder night unless "it should cloud over" of which there are no signs now!

Back to intermedius! If different "tazettas" grew in the several locations mentioned, there could have been different lots of intermedius in nature too! May be, in spite of Mr. Hannibal's strictures it will be worth while to have a series of hybrids?

In my purchases this last year, I got every Tazetta hybrid I could find and all the tazettas. Most of these were planted at one and the same time, and I notice that there is a great difference in time when leaf tips show. Matador has been up, though not far, for weeks, while Aspasia for example is barely showing. Many are not up at all. Silver Chimes which I have in three locations, old clumps long in position, up about two inches; new bulbs from deJager up about half an inch; a mass of small offsets that came about because I potted some years ago, and left them, so that they split up fabulously, are up anywhere from two to six inches. These last of course are too small to bloom.

The whole tazetta business fascinates me somehow. Where did Cheerfulness get its doubling? If the double Chinese Sacred is sterile? From a double poet? Why isn't that sterile, or is it like some other double flowers that I know, capable of sending an occasional bloom that is single and has pollen? Cheerfulness so far here, has been always as green as Von Sion at its worst, due I suppose to lack of water. Its yellow form is a little better and last year Fairness bloomed for the first time with any decent blooms.

Is my recollection correct that most of the Dutch originations among "poetaz" were small flowered and manyflowered, except Elvira, while the British things (P.D. Williams mostly?) were larger blooms with fewer blooms per scape? And who did St. Agnes, Martha Washington, Cragford? No, don't bother to answer that I'll buy a new Classified list!

If Hannibal has a lot of seedlings comparable to Silver Chimes, isn't there reason to get others to pursue that line of breeding? If it turns out that the search for intermedius, artifiially made, produces a new race, why not pursue that?

Some of all this will have to be done up north, as we cannot do poets here for even if they survive, they rarely bloom at least for me, even the first year. Possibly some of the kinds that once would have been Barrii would do instead as some do persist here.

5031 Reno Road, etc.,
January 6, 1962.

Dear Mr. Morrison,

Enclosed are a few notes on *N. intermedius* and one description of *N. bertolonii*. They are not as thorough as I should like, but many are the frustrations of doing library research as a part-time visitor, once a week or so, instead of as a full-time librarian. All books before 1900 are stored in a separate building and not available the day requested. Many of the floras are at Beltsville. My trips to the Library are cut short by avoiding rush hour traffic, parking limitations, and social lunch and tea intervals. In short, I mean well, but never accomplish all I intend to.

The Loiseleur reference seems to answer your question about time of blooming of the reputed parents of *intermedius*, and this is the first description of *intermedius* as a species. The article by William Herbert may interest you, if you are not familiar with it, as throwing light on the question of natural vs. man-made hybrids, as well as hybrids vs. species. I suppose at this time it is impossible to be sure of the origin of some of the very old hybrids. (See also statement of Dr. Henon, quoted by Baker.) I have here now the volumes of Bot. Mag. with plates 1186 and 1299 that Bowles mentions. They are quite different, and neither is as good as the one in Moggridge, in my opinion, although that one is a little pale.

Last year Willis Wheeler took pictures of a number of the Bot. Mag. plates for me, but something went wrong and they did not come out. Now he is doing them again, and I hope soon to have color slides of all the ones most frequently cited, as this seems to be the only way to have them available when needed. When I have the ones for *intermedius* and *tazetta* collected I'll send them for you to see. It is unfortunate that the best period for color plates of single varieties of *Narcissus* corresponds to the time when the nomenclature was most confused.

The Christmas card enclosed came from relatives in England. Is your *Narcissus tazetta*, var. *Palestina* like the one shown?

We received a card from Miss Thompson, with a few words added in response to my note on the one sent her. Did you know that Miss Hawks died last October?

We are having a rainy day, and are very thankful it is not snow.

All best wishes for 1962,

Sincerely,

Robert C. Watrous

P.S. Please return only photostat and Christmas card. I have kept originals of the carbons for my information file. No rush.

RCW

Moggridge. Fl. Mentone.

Watrous to Morrison

6-I-1962

Plate
XXII

N. aureus



Platyc

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Remarks on *N. aureus*: *Narcissus aureus*, is, I believe, the soleil d'or of our gardens, and perhaps may owe much of its beauty to the effects of cultivation. It has long, however, been considered as one of the wild species of European *Narcissus*, though ranked amongst the more doubtful natives. MM. Grenier and Godron only mention this plant as growing at Grasse, near Cannes.

N. intermedius Lois.

Loiseleur Deslongchamps, J. L. A. Flora gallica, seu enumeratio plantarum in Gallia sponte nascentium. Paris, 1806.

Narcissus, p. 190-191. 9 species described.

8. *Narcissus intermedius* N. *N. spatha* multiflora, nectario campanulato crenato petalis triplo brevior, foliis planiusculis ~~an~~ subsemicylindricis. Scapus subcylindricus depressus. Spatha 3-4-flora. Petala ovata mucronata. Stamina 6, tribus breviores. Foliis *N. odorum* menitur, at flores duplo minores, nectario non sexfido. Floribus *N. jonquilla* aemulatur, sed ab isto discrepat nectario majore et foliis planiusculis nec subulatis.

Flores lutei, nectario intensiore; aprili.
Habitat in montibus circa Baionam.

Time of blooming of *N. tazetta* given as martio, aprili; of *N. jonquilla* as martio, aprili.

Place of *N. tazetta* given as "Habitat in maritimus subhumidis regionum Australium." Of *N. jonquilla*: "In pratis montosis regionum Australium nascitur."

Note that this description was on p. 190-191, not 236 as cited by Bowles and others. Nyman, C. F., Sylloge fl. europaeae, 1854-5, lists this and other species briefly, giving citations but not descriptions. In this listing he cites Lois. Fl. Gallica, ed. 1, p. 191, and this is the one available in the U.S.D.A. Library.

Hogridge, J. T. Contributions to the flora of Mentone. London, 1871.
459.5-572

Pl. 41. *Narcissus intermedius*, Lois.

Citations: Lois. Fl. Gall. i, 236, t.6; Gren. et Godr. Fl. de Fr. III, 258; Woods, Tour Fl. p. 361.

Habitat: Shady, near water in Eastern Bay. March.

Remarks: This is an extremely rare Mentonese plant, and is one which hitherto has been supposed to belong exclusively to western France. Only one habitat has as yet been discovered here, but I hope that by the aid of this drawing, others may possibly be found. The bank on which it grows is covered with reeds (*Arundo Donax*, Linn.), and quite free from cultivation, so that I regard it as a truly wild species. The specimens I have seen never quite coincided with the description of Loiseleur's *N. intermedius*, quoted above (omitted here. RCW) but they agree more nearly with this species than any other known to me. The leaves were perfectly cylindrical in their whole length, slightly ribbed, and the cellular tissue spongy with lacunae at regular intervals. Many botanists believe there exists a complete series of forms intermediate between *Narcissus Jonquilla* Linn. Sp. Plant. p. 417. (And this plant? RCW) *Narcissus intermedius* is said only to grow on the hills near Bayonne and the landes of Dax.

Nicholson, George. The illustrated dictionary of gardening. America no date - probably 188-?

Narcissus, v.2, p.409-420.

N. Tazetta intermedius, p. 416. small line cut.

Description of plant. Spain &c. (Fl. Mentone 41, under name of N. intermedius.) To this the following sub-varieties are referred by Mr. Baker: bifrons, with narrower lobes and a deep crown; bicrenatus and primulinus, with broader, much imbricated lobes, and a shallower, more open, crown; radiatus, with oblong-lanceolate, less imbricated divisions, and a six-lobed crown.

Baker, in his Review of the genus Narcissus, Journal of Botany, 1870, does not mention N. intermedius. The reference above must be to his account in Burbidge's book, which I do not have - I thought it was the same as the photostat I have of the Jour. Bot. version. The following excerpt from his account of N. biflorus may be of interest, however: "Dr. Henon, who made, during many years, a special study of the French Narcissi, writes as follows: 'The station of Lattes, near Montpellier, is remarkable in that it offers many species mixed in the same meadow (N. poeticus, angustifolius, biflorus, Tazetta), as well as a considerable quantity of intermediate forms, varieties, or hybrids. In 1840, along with MM. Dunal, Delile, and Bouchet, I asserted that at this station might be seen all the passages from poeticus to Tazetta, passing through biflorus without any appreciable line of demarcation. This assertion was strongly criticised; but verification being made on the spot with M. Delile, it was established that the fact was beyond doubt.' "

Fernandes, in Nouvelles études caryologiques sur le genre "Narcissus" L., 1934, devotes pages 111-115 to N. intermedius, mostly to discussion of the chromosomes. He summarizes: (translated) "N. intermedius is surely a hybrid from the crossing of two different species; the number of chromosomes observed and the nuclear asymmetry prove it clearly. The name intermedius, given by Loiseleur, carries in itself the idea that this form is intermediate between N. tazetta and N. jonquilla; the characters of external morphology of N. intermedius prove well that it ... is a form intermediate between the two species. ~~There is no doubt that~~ Most taxonomists (Baker, Ascherson et Graebner, Rouy, Coste, etc.) do not consider it as a hybrid. Burbidge, Fiori et Paoletti contend (? "prétendent") that it is a hybrid produced under natural conditions. & The caryological observations of Nagao (1933) and ours confirm the hybrid origin of N. intermedius. According to the number of chromosomes (17) and their morphology, one of the parents is N. tazetta and the other a ~~some~~ diploid form of N. jonquilla. This confirms the opinion of Burbidge, of Fiori, and of Paoletti. "

Nagao, in Number and behavior of chromosomes in the genus Narcissus, 1933, quotes Bailey (1917) on the presumption that N. intermedius is of hybrid origin.

Waggridge, John Traherne. Contributions to the flora of Mentone. London, 1871.

Plate XC. (A) *Narcissus chrysanthus*, DC.; (B) *N. Bertolonii*, Parl.

Rxxx Excerpts from text:

(B.) Spec. Char. - Flowers small, yellow, with yellow-orange crown, about 5. Scape markedly 2-edged, not prominently ribbed, 11 in. long. Divisions of perianth about one-third shorter than tube, the outer oblongo-obovate mucronate, the inner ovate acute. Crown small, cup-shaped, sides upright, about one-third divisions of perianth, orifice nearly circular, entire. Leaves glaucous green, peculiarly narrow, evenly curved and not angularly channelled on surface 10-10½ in. long.

Narcissus Bertolonii, Parl. Fl. Ital. iii, 132.

Habitats... (B.) From plants originally obtained in terraces at San Remo, cultivated in my garden at Mentone, Dec. 13, 1869.

Remarks. The two species represented in this plate are allied to *N. aureus*, Lois. (Part I, Plate XXII) but are much rarer forms. The very broad divisions and deeper colour of the flower distinguish *N. aureus* from these at a glance; while the proportions of the divisions no less readily distinguish *N. chrysanthus* from *N. bertolonii*. *N. chrysanthus* is only known as yet growing in the neighborhood of Grasse, and at Le Bar, a village to the north-east of Grasse, in the department of the Alpes Maritimes. *N. Bertolonii*, Parl., is said by Parlatores to grow in the neighborhood of Lucca and Pisa only, but has since been discovered in tolerable abundance near San Remo. I have received from San Remo a curious hybrid, which was evidently the offspring of *N. remopolensis*, Panizzi (a subspecies split from *N. tazetta*) and *N. Bertolonii*, among tufts of which it was found growing by the Rev. R. Somerset. The flowers had yellowish-white divisions, prolonged as in *N. remopolensis*, with a deeper tinge of yellow at the base. The peculiar appearance of the plant is not easily conveyed by description, but when seen it ~~is~~ plainly bore the stamp of an abnormal origin.

N. Bertolonii habitually flowers very early, coming into blossom even in November, in favorable seasons, and it can have long been some stray remainder flowers which served to fertilize or bear seed by *N. remopolensis*, a plant which does not flower habitually before February. In this case we can understand how it is that, because of their distinct seasons of blooming, hybridization should rarely take place; but in many other instances it is a profound mystery why two plants which grow together, are visited by the same insects, and occasionally do produce hybrid offspring, are not constantly intercrossed. There must be both checks which prevent, and tendencies which favour hybridization, which exist unknown to us, and this I take to afford evidence of the manifold nature of variation in plants, which is so often present though unperceived by us. For it seems probable that certain individuals of a given species have a far greater aptitude for receiving the fertilizing influence of the pollen of a distinct species than others; just as there is no doubt that some individuals are much more fertile than others of the same species when treated in the ordinary way. Careful observations repeated on the same individuals during several consecutive seasons, with a view to proving the average fecundity of each, might probably give valuable results, tending to clear up this question.

from Watrous

5031 Reno Road, etc.
Dec. 17, 1961.

Dear Mr. Morrison,

Thank you for your Christmas card and the letter enclosed. I still had your letter of July 2 in my pending folder, having been behind on almost everything since our return from Europe the end of August. September here was about the most disagreeable month I can remember; six weeks of soft living in hotels may have made it seem more so than it would have ordinarily. Planting of bulbs was not completed until about the first of December, and I had neither dug nor ordered very many this year. Samples of all the tazettas (including some new ones from Polly Anderson and Mr. Hannibal) are now planted in pots in the attic, and I hope to do a better job of watering and of observing than I did last year. We are planning to install a fluorescent light fixture to give additional light.

After the holidays I'll be going to the Library again and will be glad to look into the intermedius matter. Meanwhile I send what Mr. Bowles had to say in his book. Dr. Fernandes does not go into any discussion to support his diagnosis, except the chromosome count, in his "Sur la Phylogénie..." (see p. 130-131). It may be that the Fernandes 1934 reference cited does discuss this more. I remember reading a very lengthy discussion supporting his theory that *N. jonquilloides* is a natural hybrid: covering time of blooming, geographic distribution, morphology, and so on of the presumed parents.

I am sure we can find someone to grow on any seed of *jonquilla-tazetta* crosses you may make. Incidentally you will be interested to hear that Willis Wheeler collected 38 seed this year from *jonquilla* x *Soleil d'Or*, several pods.

Mr. Gray describes *bertolonii* as "A small self-yellow *Polyanthus* species, perhaps the ancestor of *Soleil d'Or*. N. Africa. 6 to 8 inches." I'll see if I can find anything more.

It will be interesting to see what your *tazetta* var. *Palestina* turns out to be. That name is not listed in the RHS Classified list. Moldenke, H. N. and A. L., in *Plants of the Bible*, 1952, say: "The *polyanthus narcissus*, *Narcissus tazetta*, in several varieties, grows abundantly on the plain of Sharon, which is a rich tract of land lying between the mountains of the central part of Palestine and the Mediterranean, supposed to be the region between Caesarea and Joppa in particular. It also grows on the slopes of the adjacent hills and at Jerusalem, Jericho, Mount Ebal, Esdraelon, Amanus, Aleppo, Beirut, and Sidon. Being sweet-smelling, it is a great favorite of the people. During its flowering season its white or cream-colored flowers are borne in clusters of 3 to 10..." Now the colored illustrations I have seen recently from Israel show white and bright yellow flowers similar to if not the same as what is called Chinese Sacred Lily. (See my short article in the forthcoming ADS Yearbook.)

Our trip was a great success. We had good weather almost everywhere, and saw a great variety of new sights. In England we visited a RHS fortnightly show briefly, but did not talk to Mr. Synge or anyone except Mr. Waley, whom we met there, and then I went down with him to his house at Sevenoaks to see his garden. The hardy cyclamens were coming into bloom instead of daffodils on the slope under trees and shrubs. In London I added several Bot. Mag. color plates to my collection, *N. viridiflorus* and *N. "orientalis"*, no. 1026, this being one of several illustrated under that name. This one has 14 flowers in two shades of yellow, and the common name given is "Yellow garden Narcissus." The text says this variety is

to Morrison 17-XII-1961

(the date was 1807) usually imported "from Italy, along with the Cyprus or double Roman and Paper or Italian kinds."

In your July letter you mention remembering an old report that Emperor seeded in one island of New Zealand but not the other. I hope we can collect enough reports on varietal behavior to make it clear that the unexpected may happen any time, and people should learn to use other peoples' experiences to fit their own conditions. I think we have a great deal to learn about the physiology of seed formation; it is too easy to blame all failures on weather or incompatibility. What puzzles me is why so many pods develop with less than ten seeds, while others have 50 or more. Some people may not be applying pollen generously enough. We need to put some advanced botany students to work. Or if this has already been investigated we need to learn about it.

Time is up now!

Best wishes for Christmas and the new year,

Sincerely,

Roberta C. Watrous

N. intermedius, described by Loiseleur in Flora Gallica, i., 236, t.6, is so markedly intermediate in its characters between N. Tazetta and Jonquilla that it is most likely a natural hybrid between the two species. The leaves are semicylindrical with a deep channel in the upper face and of a lustrous, dark green, very lengthy (a foot or more) and $3/8$ to $1/2$ inch wide in their lower half. The flowers are from three to ten in a head with the perianth segments paler than in Jonquilla, longer and more pointed; the corona is short with a waved edge, and deeper in colour than the segments. The perianth tube is unusually long, approaching an inch in length, very slender and frequently curved. The scent is strong but not so heavy as that of Jonquilla. It was said to be plentiful near Bayonne and Dax in the Basse Pyrenees. Wilkomm includes it as bifrons and primulinus in the Prodromus Florae Hispanicae, but only on the authority of Gawler and Haworth. Nyman adds near Pegli in Italy, and Moggridge gathered it near Mentone. Possibly its history is a parallel with that of N. odorus, but with Tazetta as one parent instead of an Ajax.

Moggridge's Pl. 40 is good, but like others of his rather weak in colour. T. 1186 of the Potanical Magazine is very good. Gawler calls it 'bifrons' from an almost equally proportioned resemblance to both Jonquilla and 'calathinus', the latter being N. odorus. He wrote: 'Is it a mule production between these two species?' His plants were imported from Holland and bore leaves nearly 2 feet long.

Redouté's Pl. 459 in vol. 8 of Les Liliacées as N. radiatus shows a two-flowered specimen with rather wide but pointed segments. Haworth made this into his Hermione compressa, the Jasmine Jonquil (Mon., p. 7, xiii., 3).

A larger form with a darker corona cut into six rounded lobes is shown in t. 1299 of the Potanical Magazine as N. bifrons β , and Gawler says it represents bifrons when newly imported from Holland, which after several years of cultivation in our gardens becomes the smaller form figured in t. 1186. Haworth calls this larger form H. primulina, the Cowslip-cupped, a pretty allusion to the orange cup, and adds yet another of his imaginary species as H. biscrenata, of greater stature, more numerous flowers and the six lobes of the cup divided into twelve parts. This suggests no more than a condition resulting from better cultivation.

Burbidge's Pl. 38 shows the type and bifrons, but not very well as compared with the Potanical Magazine figures. Coste's Fig. 3589 is good, but the leaves are not represented as sufficiently large.

N. intermedius is too seldom seen in gardens, being graceful, fragrant and early flowering. A larger plant with a bright orange cup was listed as N. intermedius 'Sunset', but looks as though it were a seedling with the influence of some Barrii form added.

5031 Reno Road,
Washington 8, D.C.
June 26, 1961.

Dear Mr. Morrison,

Even before your letter of June 14 arrived I had been thinking it was time for me to try to round up my notes on the bulbs you sent and report. With your letter before me I will try not to repeat what you noted.

We had an exceptionally good daffodil season this year, with wonderful color, size, and substance in most varieties, even those that had never before done very well for me. I notice you had a cool spring, too. The ADS convention at Roanoke was very enjoyable. It differed from the Dallas one in having fewer speakers but more good daffodils to see, especially in the Walker and Tuggle gardens and at the Virginia show.

I find I have some mental notes about your bulbs that I seem not to have written down in the proper places. For instance, when "Queen of the South" (Mathis) bloomed I thought it looked like "Queen of the North" and wondered if the name had been changed for sectional reasons. But I see you thought it was biflorus. Of Mrs. Mathis' "Laurens Koster" I noted "One was correct, the other two Scarlet Gem or something similar."

Of the tazettas Mrs. Wheless sent last year, "Cream Cluster" seemed to be the same as your "Grand Monarque", and "Round Petal Cream" similar, but with a smaller cup, I thought. And I noted the "White with Yellow Center" from Miss Quarles seemed to be the same as the one with the smaller cup. As these comparisons as to size of cup were from memory they may be entirely wrong.

I noted of Mrs. Ashworth's "Yellow Jonquils": "a starry odorus." The other two from her were planted as #1 and #2; #2 bloomed, and was biflorus as I recall, although I do not find a written note and it may have been intermedius instead.

Mrs. Evans' "Pearl" was a heavy pure white; I thought it the one I have known as "White Pearl," but this may have been "Grand Primo" all the time. The "Grand Primo" you sent was one that failed to develop its bud thru underwatering. Mrs. Evans' "Gold Dollars" were intermedius, as suspected, but another lot she described as "one of the nicest little jonquillas that I have, variety unknown" turned out to be intermedius also. So also were your "Buttercup" and "Gold Dollars" from Mississippi, and Mrs. Wheless' "Big Cluster Yellow Jonquil" and "Large Type Jonquilla." Mrs. Wheless' "Double Cream Narcissus" was a definite bicolor, white and yellow, double tazetta. No notes on her "April Narcissus" and "White with Yellow Trumpet Daf."

I thought Mrs. Carroll's "Creme" was "White Pearl" too! It faded to pure white. Her "Butter and Eggs" were small trumpets; her "Large Flower Cluster Jonquil" turned out to be 2 odorus and one intermedius.

All of which shows that I am almost hopelessly confused, and that some of these southern ladies are, too, or their bulbs are. I know I sent Niveth to several people as intermedius, so can't be too harsh with the others.

During the spring I brought down the pots from the attic and set the contents into a row where they could finish their growth. Some are still growing, so I am hoping many will bloom again next year and give me another chance to puzzle over them. The other day I saw a camera that may be just what I need. It takes close-up pictures only, has only two adjustments with accompanying focal frames to guarantee correct focussing, and uses flash bulbs to give the correct amount of light. A neighbor has one and I think will let me try it out to see how it works on daffodils.

Mr. Hannibal sent me an article for the ADS Yearbook, and I made a couple of copies before sending it on to Mrs. Wister. I enclose the carbon. Keep or return as you like. I enclose also a copy of the form letter our committee is sending to all the hybridizers.

I ordered only winter-blooming things from Jefferson-Brown, and blamed my conditions and insufficient care for my poor results. I am glad dubious bloomed for you. Mr. Meehan reports that he nursed it over indoors last winter and it was still growing (June 10) but did not bloom. He says "They tell me now that it is perfectly winter hardy. In fact some seed of it came up and grew well all winter long. Maybe our long hot dry summer will make it do just as well as Raindrop with me." He must have had a bloom before, to have seed.

I have never ordered from de Jager, but know people who praise their bulbs highly. I do plan to order some crocuses and a few miscellaneous things this year. I am not ordering many daffodils anywhere, or digging many, because of the trip and the work I know will be waiting when we return. We go July 15 and return Aug. 30 (flying). I may have a chance to see Mr. Jefferson-Brown and Mr. Waley while in England.

At the lunch for the judges of the Baltimore show I sat next to Mrs. Brent, who inquired about you. For some reason or reasons the Baltimore show does not compare with the Virginia one, or even our Washington one, as far as the daffodil specimens are concerned, although the treatment of arrangements and the lunch leave nothing to be desired. Yet the Baltimore one is the oldest show.

Ruby Moats retired recently from the Library. At a lunch party given in her honor all of us signed a postcard to send to Miss Thompson, and later she wrote a note to Mrs. Moats wishing her well, and so on. Nothing about herself, however. Mildred Doss and Miss Bercaw are retiring the end of this month. There are not many left who go back to the "old days."

I hope you will have a good summer.

Sincerely,

Roberta C. Watrous

from Hannibal

4008 Villa Ct
Fair Oaks
22 Jan 62

Dear B.Y.M.

Please pardon my delay in replying to your letter of a fortnight back. Things have been a bit hectic too. We had our first snow storm in 30 years and a few other difficulties including the gas meter freezing up and kicking the furnace out of commission. What a time. And unfortunately I've had some losses from heavy frost.

Anyway, I first wish to comment on the *Crinum* article. I have some additions to consider. A new Murray River bulb has been found which may or may not be a new species, and some other *Crinum flaccidum* variants have been spotted. So the Air Mail is busy, very busy, in fact.

It will take several weeks to obtain photos. I have a nice colour slide from Australia on *Crinum pedunculatum* which features a plant intermediate between *C. asiaticum* and *americanum*. So give me a bit of time to go over the *Crinum* article. I may retype it. But the L.A. Bulb Society should receive credit. Joe Werling the editor is a gogetter. You should have him on the National Staff.

You asked about *tazetta aurea* vs *T. lutea*. A gremlin slipped in. Aurea is the ^{new} species and *lutea* is the subdivision between variant and subspecies. *Lutea* includes all forms with citron and yellow petals.

I've got myself into a long involved discussion with Mrs Anthes down in Encinatas over what constitutes Grand Monarque, Chinese Grand Emperor. I told her that early descriptions showed several bulbs to be Grand Monarque and that it was referred to as a type back in 1880, so it is probable that the bulb was a local import out of Southern France and constituted a swarm from a small geographical locality. The bulbs which produced the most offsets and were of the better garden form were kept as breeders. The others hit the market a hundred or so years ago. That I was sure that several good clones were involved including 'Compressa'---And that since *Compressa* was the only latinized name it was the subspecies name for all Grand Monarque type clones.

I also pointed out that Grand Emperor had several variants and that *T. chinensis* was the subspecies. That no one clone could be considered a species in itself, especially a sterile clone.

She isn't entirely satisfied, but in the last 10 days has found 10 or so variants of *T. Grand Monarque* Emperor and has now asked which is the true form. Sometimes I wish people could recognize that names could cover swarms as well as specific clones. Particularly where older garden material is concerned.

However, I have lead on a Grand Monarque in Australia which sets seed. So I'll pass this item along to her.

You also mentioned the fall flowering *Narcissus*. I considered this cross 20 years ago and gave up, but Taz Bathurst flowers in October so there is a possibility.

I note two scapes on your bulb. Hope the frost wasn't too rough on the plant. I think Win Hayward has the Pearl. Actually its not a good garden plant. Poor substance and a thin milk white---Skim milk white.

Yes I'll have several Crinum articles, A nerine Species or two, and a Brunsvigia giga as soon as the latter flowers. There were a number of Cape bulbs introduced into Australia and New Zeland back in the days of sailing ships. Now they are nonexiatant in the Cape, so its been a bit of fun having friends search gardens over there.

Then theres a chap down in Transvaal who has been breeding Cyrtanthus and Vallota hybrids, and has recently located some new Crinum species down there which bear promise of being good. I have bulbs on the way and a very interesting color photo here.

And finally I've uncovered some 50 hardy Crinum hybrids so far. Descriptions rather throw me at times, and I'm about ready to kick out the Milk and Wines as completely confused---But I'm still plugging away on this one. It might be of value to republish all of the old plates of the Milk and Wines in color. Would clear up a lot of confusion and make more.

While treating Crinum and Cape Belladonna seeds with acenaphthene to double chromosomes I tried a few Daff seeds which were sprouting. I don't know whether I'll be able to pull the bulbs through or not as they are a bit sick at present, but heres hoping. Crinum as mentioned are easy to dope. Results seem to be best on hybrids, but it will take some time to know just what the outcomes will be. I've tried treating sliced Daffs but with poor results. Now, being more familiar with the the techniques I think that I can treat small slabs but its necessary to do this when the initial formation of the next years growing tip is in its very initial stages. That is probably about the time that the foliage of the preceding year starts sprouting. Perhaps I should dig a few Silver Chimes and start giving them the works.----Wish that I had a bit more time.

Planted 400 treated seed of Amaryllis belladonna and Crinodonna, so should have some results to show someday.

Sincerely

Les Harrison

Route 1 Box 24,
Pass Christian, Miss.,
3 July 1961

Mr. L. S. Hannibal,
4008 Villa Court,
Fair Oaks, California

Dear Mr. Hannibal:

You probably need no reminder that I am that unpleasant person who made such a total mess of trying to "help" you with photostats from the U.S. D.A. Library and never did. It would be splendid if I could say that I am 100% reformed but that would be untrue, for I still fall down, thinking I can do more than I can, and getting into the usual troubles.

Mrs. George Watrous Jr. whom I knew first as a librarian in that Library, has been corresponding with me for some time about narcissi, and as I am keen on the sections that succeed with no difficulty here, tazettas are among them, though the only common one is italicus. Even Paper White is less common; though there are some Chinese Sacred, both single and double in the immediate area, and some what we call Grand Monarque, which matches what I bought from Mr. Maynard.

Because of this interest, she sent me to read a cc of your article for the 1962 ADS Yearbook on Tazettas which I have read with great interest. I have absolutely no intention of doing any breeding work, too old....too tired. But I am trying to see as many tazettas as I may and have a lot of stuff, and I mean stuff, that has mostly turned out to be Grand Monarque which seems very common in Fla. S. C., and Mississippi, even La.

Knowing this will you even consider selling me one(1) bulb of lutea? If there are breeders who need all you have to spare, they should come first.

I should be delighted to send you, no charge, samples of such things as I have here, named (correctly or not) and unnamed.

Grand Primo (from Mrs. Zenor, who said you had named it for her.)
Grand Monarque, from Florida in quantity, and less from S. C.
italicus, here on the place when I came.

"Seventeen Sister" sent by Mrs. Barden in Va.

"a nameless one from Charlotte" that Miss Lawrence thought was about to seed, but the pods were empty.

"a nameless double from Mrs. Wheelless in La.

All the above are up.

I have not dug, and meant the few bulbs that I got from USDA as a result of Meyer's collecting, so-called. If there was any kind of increase (from the solitary bulbs sent me) and you do not have it, I think you would like the tazetta that came as Barlae, a very small, charmingly perfect, white. It was the only one that mattered to me.

My bulbs of dubius that I bought of Jefferson Brown(3) all flowered but showed no sign of increase. It also is fine, small but very perfect.

2-

There are any quantities of what Mrs. Watrous believes to be *x N. intermedius* here and I can supply any number. I have no idea whether it is fertile or not. It looks like its reputed parentage, some *tazetta* x some *jonquilla*!

I have also an unnamed thing from an old local garden, that may or may not be more *italicus*. It is not dug, and there is not much of it. It blooms here, about two weeks after *italicus* is over, and is definitely smaller in scale in all its parts, but otherwise much alike. I have planted it in a place where it will have food and room and it may be that in another year it will not seem different; then I can offer you bulbs, if you will only remind me.

Mr. Jefferson-Brown's *Broussoneti* did not flower but grew well enough. I have the feeling that he sells his bulbs too soon. I had very little bloom from his things but they are healthy!

Canaliculatus grows like *mad* here but rarely flowers. It still has a few leaves, so may be next year? I do not know, but there is the chance that it needs food. I find that feeding on this very sandy soil is more imperative than in any other area where I have gardened.

All the *jonquilla* group that I have had for years have done well though the species have not increased very much. *Tenuior* and *gracilis* are fine. The same is true for the *triandrus* things. My original clump of *altiss* has been in the one spot for over ten years and flowers every year. As it seeds and I do not save the seed it may be that some bulbs are self sown, but it seems unlikely as the border is hot and dry most of the time and not always immaculately weeded! I do not have the big form whose new name I forget. *Concolor* and *aureus* are new. The *jonquil* and *triandrus* hybrids are all sound and safe. The only "poetaz" that I have that does famously is *Cragford*, though if one includes *St. Agnes* that is fine, though the flowers are rather necky. Cheerfulness and its double yellow form, like most doubles come green for lack of enough water. *Silver Chimes* is superb.

The "traditions" of the area, are uniform that *narcissus* are no good here. What "they" really mean is that *King Alfred* blooms once and then no more, just makes leaves..... I am not trying to revive my one time collection of garden hybrids, but add a few each year, and I think I am right in believing that they have to make a whole new bulb from an offset, and that then they go on successfully. My old bulbs of *Foffar*, and *Fortune*, that I brought with me, are fine here, though not up to the size of blooms on heavier soil.

So much for general chatter. IF you find you can spare one bulb of *lutea*, I shall be delighted; but please let me pay for it. And if you find anything among the thing I have offered that you like, please again, let me send them. If they do not come at once, write me and raise merryhell.

Sincerely

B. Y. Morrison

(Article submitted for 1962 ADS Yearbook).

Some twenty years back the writer had the opportunity to examine F.W. Furbidge and J.B. Baker's rare old volume on Narcissus. The chapter illustrating the many diverse forms of Tazetta was a major source of horticultural inspiration. Unfortunately any attempt to obtain some of the more unique oddities or the numerous named hybrid Tazetta clones subsequently developed and enumerated by Kirby in The Daffodil 1914 has been a hopeless task. If ever there was a lost race the Tazettas are a prime example, and surprisingly they have never recovered. Out of better than a hundred or more named clones less than a short dozen now exist and of these less than six are in the trade. A real representative collection is quite impossible to obtain and in most instances dreams of hybridizing something new are just dreams. The breeding difficulties are numerous.

Here in California we have several old Oriental forms of the Tazetta which includes the 'Paper White', *T. papyraceus grandiflora*, and its small cupped variant panizzianus. These are the only Oriental forms which normally set seed, but for hybridizers they are failures as the hybrid seedlings are disappointingly thin in substance. As a breeder the hardiest 'Grand Emperor', *T. var. chinensis* with its broad white perianth and rich orange-yellow cup would be far more attractive, but it and its semidouble and double types which could be top grade parents are completely sterile. However, one can breed with a midget form of the 'Grand Emperor', namely the little narrow foliage canaliculatus which comes from Mentone in Southern France. Its pollen is quite viable but its flowers show so rarely that one has little opportunity to actually use the plant.

The 'White Pearl' which has a thin, milk-white perianth is grown quite extensively in Florida and reportedly will set an occasional seed, but as a breeder it too fails in maintaining adequate substance. Whether 'Grand Primo' and 'Scilly White' are natural citron cupped forms or wild hybrids is a moot question. The descriptions of the plants are not sufficiently clear to definitely establish whether two or more clones are involved for each, and which has the cup ~~xx~~ which partially bleaches in the sun. It is possible that these bulbs have been crossed with the 'Poets' Narcissus to yield the attractive 'Poetaz' hybrids, but the writer has always regarded them as sterile. 'Grand Monarque' and the giant compressa are the same plants. When grown in England this bulb never produces its full quota of 21 blossoms, but those in the Mediterranean area or Southern California become extraordinarily splendid plants. When selfed it will not produce seed, but the pollen is relatively potent and it is undoubtedly one of our best Tazettas for breeding. It will cross with the Poetics, Triandrus, Cyclamineus and several Narcissus (?) and most of the resulting seedlings are near show material. It is the parent of 'Silver Chimes', and the writer has duplicated this particular cross with very pleasant results. By using various triandrus species as seed parents an unusual range of hybrid material is possible. A number flower with lemon yellow cup.

*Footnote: All Tazetta species have a specific maximum number of blossoms which aids in keying the species; see appended chart.

The vigorous 'Soleil d'Or' with its deep orange cup and bright orange-yellow perianth has long been an enigma to botanists as its source is quite obscure. Reportedly the bulb is a triploid which explains its sterile behavior, but some years ago the writer noted a near undetectable variant of slighter stature ~~xxxxx~~ which produced some seed. The resulting plants obtained from this particular parent turned out to be the near extinct golden yellow T. lutea a plant which had not been on the market since 1914. T. lutea is a very promising breeder and is waiting to be crossed with the little golden triandrus.

Some day other lesser known tazettas may be available for breeding and we will have the opportunity to try new combinations. However the best promise of success points to the fact that higher polyploid hybrid forms will have to be effected by artificial means in order to have fertility. As far as known 'Cyclataz' is the only hybrid capable of producing seedlings, but most breeders will agree that many of the Poetaz and Triandrus x Tazetta crosses would be of vast value if fertile seedlings could be obtained.

Some years ago the writer experimented with the use of colchicine as a mutagen on hybrid Daffodils. Due to inexperience & the results were rather erratic. Colchicine is a very hazardous drug to handle as contact with the skin can produce cancerous growths. Recently improved methods and materials have been introduced, and used on Nerine variations and Brunsvigia rosea hybrids. Polyploid plants were readily obtained but the actual difficulties encountered are in the subsequent propagation of the mutant bulblets. Cell rupturing prevails due to the highly disturbed metabolism in the plants and losses have been heavy. It is doubtful if many seedlings will reach maturity. As a consequence bulb cuttage had been reinvestigated to see if some of the previous difficulties could be circumvented. Horizontally sliced Daffodils will produce leaf axile regenerated bulblets in a manner similar to Hyacinths, and the proposal is to treat the tissue before these form, or while the bulblets are very small (1 to 2 mm. in diameter.) By remaining attached to the parental plate the difficulties experienced in root burning and cell blasting may be bypassed.

At least we hope to be able to report progress.

TAZETTA IDENTIFICATION

(Properly ripened, robust bulbs must be used)

<u>Bicolor types</u>	Viab. seed	Length of scape	Number of Blossoms
a) Cup orange yellow			
N. canaliculatus	Yes	8"	6-8
N. Grand Emperor (Chinese)	O	12"	8-10
N. Grand Emperor, double	O	12"	8-10
N. odoratus	Yes	9-10"	8-10
b) Cup pale yellow			
N. Grand Primo	O	11"	11-16
N. Grand Monarque (Compressa)	Pollen only	18"	18-22
N. Scilly White	-	16"	8-10
N. White Pearl	Some 27° C	18"	6-8
N. Tazetta Linn.	O	16"	13-15
N. Minor Monarque (Italicus type)	O	20"	8-10

Alba types

N. papyraceus	yes	16"	10-12
N. panizzianus	yes	10"	11

Lutea types

N. Soleil d'Or	Yes & O	17"	12
N. lutea (Aperticorona)	Yes	12"	9-10
N. Bertolonii (recumbent foliage)	Yes	9"	6
N. St. Albans ?	O	10"	11

This table is from an article submitted for publication in the 1962 American Daffodil Yearbook by L. S. Hannibal, 4008 Villa Court, Fair Oaks, California. In an accompanying letter Mr. Hannibal says that he has a very limited supply of Grand Monarque and N. lutea, but could probably spare a half dozen bulbs of each should anyone be interested. He also says "if anyone wants to use acenaphthene in lieu of Colchicine on horizontally cut bulbs then I can give suggestions on dosage and even furnish the chemical. A tetraploid daffodil will be fertile whereas diploids are often sterile.." He also mentions a dwarf yellow variety called Bathurst.

5031 Reno Road,
Washington 8, D.C.
Feb. 7, 1962.

Dear Mr. Morrison,

My sympathy for your losses due to cold! Everyone else seems to be having more cold and snow than we are this winter. This may not be the best time to do it, but I have decided to send you several books you may like to see together - I find it very frustrating to have references to something and have to wait a week to see it. So under separate cover I am mailing: my copy of Bowles and of Jefferson Brown (see particularly his "List of specific names" near the back) and Mildred Benton's copy of Burbidge. Also a few more slides. There are still some to come, possibly soon.

My first comments on Bathurst were made before the first flower was fully developed, and the color in the cup is much deeper now. It is certainly what Mrs. Anderson considers Bathurst, as the stigma is very short, ending half-way down the tube, but whether it is the same thing Mr. Hannibal now calls Bathurst I do not know; I thought Soleil d'Or was about to bloom at the same time, but it was Chinese Sacred Lily instead, and Soleil ~~xxxx~~ d'Or has a bud showing but not open as yet. As all were planted at same time this makes Bathurst earlier instead of later, as Mr. Hannibal said it was! I am writing to Mrs. Anderson and mentioning my perplexity.

I enclose a copy of the 1962 letter to the hybridizers. It has just come from the printer and most of the copies have not been sent out yet. My preoccupation with number of seeds per pod may seem foolish to many, and it may be. I have read your article published in the Nat. Hort. Mag. back in the twenties, and including observations on the number of seed from various types of crosses, but it seemed better to have people discovering some of this for themselves rather than just telling them. And I do feel that too many rather aimless crosses are made by beginners, who might do better if they thought more about it. I think perhaps the most common mistake is trying to do on a small scale what needs to be done on a large scale, and that it would be better for the small-scale people to concentrate on things the large-scale people don't have time for. I am hoping we can have a really good article on breeding in the next Yearbook.

I'd like very much to know what back fires Mr. Hannibal is getting from his article. When he writes on genetics I have the feeling he is going faster than I can follow. And it is unfortunate that his names are not always the ones listed in the R.H.S. List, which is supposed to reflect the latest considered opinions of experts. A special committee revised the listings of species a few years ago, partly as the result of a letter I wrote to Mr. Herbert Barr complaining of troubles I had coordinating names in books, catalogues, and R.H.S. List.

You ask about where canaliculatus is native. It is listed as "Hort.", a form of *N. tazetta laticolor* (Baker). See also p.154 of Bowles.

Yours sincerely,

Robert C. Watrous

5031 Reno Road,
Washington 8, D.C.
Feb. 12, 1959.

Dear Mr. Morrison,

Thank you for your prompt reply to my questions. I am glad you are at least trying the winter-blooming bulbocodiums, and will be interested to hear how they behave under your garden conditions. It seemed to me that they would be of value in the south, but there may be limiting conditions I am not familiar with. Miss Lawrence reports only moderate success in her book "The Little Bulbs." I have had the hybrid "Nylon" for some years, and several lots of seed from blooms in 1954-56. The 1954 lot of 8 bulbs sent up 8 or more buds in November, but only one bloomed before severe cold came suddenly late in the month. Recently two more have opened, and three more are trying to now, altho the stem of one is badly browned and flattened in part ~~xxxx~~ of its length by the cold. I think that is the one that was tallest when the cold struck.

I will be glad to have a sample of the little local jonquil-like thing. I know of only two people who are breeding daffodils in hot climates, Mrs. Robertson in South Carolina and Frank Peinelt in California, and neither is working with jonquillas or smaller types. There may be others who will come to light as time goes on. Surely there is room for improvement, but no reason why anyone should work on it unless he wants to. In one of his articles Dr. Fernandes suggested that members of the Sociedade Broteriana should collect narcissi for use in their gardens and for breeding, but when I saw him in 1957 and asked whether there was interest in those lines he said no. However, Mr. Moncure was in Portugal a day or so last year and met a man who professed interest in miniature hybrids and we sent him some last fall. I wish we could develop a Portuguese or Spanish source for cultivated bulbs of the small species; there is so much waste from the tiny ~~xxxxxxxxxx~~ collected bulbs. Alec Gray does wonders, but he ought not to have to do it all.

My apologies to de Jager and Son! Topaz is listed in the 1958 RHS Classified List as a jonquil hybrid of 1956 introduction. My own copy of this list has been delayed, but a telephone call brought the information. Unfortunate that a new variety should be given a name used before.

I was very much interested in your comment on *N. tazetta* ssp. *italicus*. I received a bulb of this (P.I. 240308). At present two leaves about 5 inches tall have turned brown, but a little green still shows at the base, and I hope it will pull thru. I have some white tazettas that persist in spite of considerable winter damage each year. I hope that you will publish a note about the identity of this variety, preferably with an illustration; most of the material I have found on varieties from old gardens lack illustrations as well as botanical identifications, and it is very frustrating. Index Londensis lists a color plate of *N. praecox* Ten. (which Jefferson-Brown gives as a synonym of *N. taz. italicus*) in Tenore, Fl. Nap., Atlas, 1, t. 27. (1811-38). I will see if the USDA Library has that the next time I go down, and if so, get a color slide made, as a start for a series identifying "old and local" varieties. Burbidge indexes this as *Hermione praecox* Ten. (p. 80) but I do not find it mentioned in the "Explanation of Plates." (I have photostats of this and the "Index of Species" but not the book itself.) I have a rather crude color plate of a tazetta of two shades of yellow. Its caption is *Narcissus*. (Volgarm.) Tazetta. I got it in Rome but do not know what book it came from.

You ask how far I went with Japanese. Not far at all. I never attempted to do more than figure out numbers and dates without the help of transliterations or sketches of previously identified words, such as Bulletin, over, please

Agricultural Experiment Station, etc. Most of the dictionaries were based on transliterated words. We did finally have one dictionary that was arranged according to certain key characters, but as far as I can remember now, I never succeeded in finding anything in it. Dr. A.R. Merz, formerly of Bureau of Soils, is a neighbor of ours. He studied Japanese with Mr. Katsura at one time, and later alone, I think. He went far enough to be useful during the war. I heard yesterday that Mrs. Swingle, now living in San Francisco and working at the California Historical Society, had taken up the study of Japanese. She could probably help you in some way, and she is never happier than when doing things for people. She might as well learn on descriptions of azaleas as on other material.

Best wishes for spring, 1959, which seems to have started for you.

Sincerely,

Roberta P. Watrous

Digitized by Hunt Institute for Botanical Documentation

5031 Reno Road,
Washington 8, D.C.,
January 12, 1961.

Dear Mr. Morrison,

The other day I looked at the cumulated index of the RHS Journal. It includes also an earlier series of the Journal, Proceedings, and possibly Reports, indicated by initials preceding the volume numbers; as these will not be needed by AHS (I presume) I shall disregard them.

The volume numbers were in large heavy type, the page numbers in ordinary type (Roman where applicable), and illustrations in italics. Entries were collected in paragraph form, which would be quite a saving as compared with a line for each entry. The volume numbers stood out well; the distinction between pages and illustrations was not so noticeable, but with slightly larger type might be. Possibly it would be as satisfactory to indicate illustrations in some other way: (il.) or (illus.) or even asterisks.

Here is an example (unfortunately no illustrations involved). I will indicate the large heavy type by red underscoring.

Iris(es) (I don't think the "(es)" is necessary)
pallida 11, 137-40; 13, 318, 331; 20, 29, 31; 21, 436, 439; 26, 231; 28, 185;
32, lxxv, lxxviii; 33, lviii; 39, 476; 40, 288, 289, 481; 46, xxxix; 53, 95,
96, 100-2, 138.

Another, with illustration:

Narcissus (no "(es)" here).
corona, 11, 74; 26, 164.

The Bibliography of Agriculture separates ~~xxxxxxxix~~ subheads under a genus from species, as follows:

Iris
 breeding
 culture
 diseases
Iris cristata
Iris pallida

Any index presents many problems; a cumulated one will compound them. It is a tremendous undertaking. Don't hesitate to send me anything you'd like looked up at the Library. I go there frequently.

A floret of Mrs. Evans' "Christmas" or "Star" tazetta is enclosed. It suggests *N. biflorus* to me, but there are 8 buds in this first cluster. I described it to Willis Wheeler and he said it sounded like a variety that is common in southern California, but without a name.

I will have a talk with Mrs. Wister about the ADS Yearbook today, and will mention your offer to lend AHS cuts. I made a list of those available several years ago - some were borrowed, I think, for the ... (looking back, I cannot find the ones I had in mind, so must be mistaken.) I believe it was a case of Nat. Hort. Mag. using some of its own plates a second time in connection with an article by Judge Quinn.

Dr. Meyer's photographs were probably made from color slides - never so satisfactory for black-and-white printing as those made originally in black-and-white and with full-sized plate, not slide film.

Robert C. Watrous

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an

Dear B.Y.M.

4008 Villa St
Fair Oaks
Calif
29 Apr 62

Please pardon the delay in writing. Early spring has kept me busier than a dozen inch worms. First it was too cold to work in the garden, then too pleasant, and now too weedy. Anyway the seed collections have really kept me on the jump. Everything is sprouting but I sure have my doubts as to the nomenclature from down under. *Brunsvigias* look like *Ammocharis* and *Nerines* like *Brunsvigia* and visaversa.

Anyway I'm enclosing the *Crinum flaccidum* article. I'll get this one off of my chest---However I still want to study Herbert's original drawing when it arrives. Those photostats are sure slow at times. Should have been here 10 days ago.

Then I'll get back onto the *Crinum Hybrid Index*, its quite a collection and is being subjected to some fast name changes down in So Africa.

I finally sent for some photostats on *Tazetta Grand Monarque* and *Grand Primo*... I had near forgotten but Herbert shows a cut example of a blossom of *Grand Monarque* back in 1837. And I have some seed setting here on *Compressa*. The two are near identical.... The *Grand Monarque* from Florida is *Grand Primo*, thats for sure--- Yes one form has fading cups---That explains yours

Doc Coe was over today with Ed Jensen, they dropped in on Charley Jensen down the road then came on up here. We had had a heavy rain last night and the garden was as wet as sop, but dug a few bulbs then ran through some color slides. The ones of *Crinum* growing wild in Australia and South Africa really tossed them. Fields with thousands of bulbs as far as one could see. Doc is quite interested in *Lycoris*.... A bulb which I like too, but the bulb fly likes best---So in a conflict like that one hasnt much chance. Anyway I should get a copy of Sam Caldwell's article just to have the dope on tap.

Incidentally who publishes the *Gardners Forum*. Miss Kell mentioned an *Ammocharis* article there which is worth running down..... And do you wish to publish the description of a new *Ammocharis* Sp Nov. ???

Hope everything came out OK up at Norfolk

Gosh, Forgot we are on daylight saving time. Time to hit the sac. Wish that I easnt bothered with a job. I'd say to heck with changing the clock just like my dad used to do.

Sincerely

Re Hannibal

P.S. The MS makes reference to the previously forwarded printouts - and the map in the L A Bulb News letter.

4008 Villa Ct
Fair Oaks, Calif

Dear B.Y.M.

2 Apr '62

Would you kindly ask the editor of Nat Hort to hold up my *Crinum Flaccidum* article.

We have found that *C. flaccidum* has been placed in the wrong subgenus. It is *platyaster* in lieu of *odonocrinum*--- meaning that the blossoms have radial symmetry in lieu of bilateral. As a consequence I wish to check Herberts original publication to be absolutely sure that the Australians havn't switched plants themselves.

On the other hand it is possible that the English flowered slightly immature buds. If such be the case then they probably were fouled up by the appearance. I flowered *C. flaccidum* here and the first two florets were immature and I thought I had a new species, then a mature flower appeared and it surely had me going. However photos of other *Flaccidum* now confirm what a confusing plant we have.

The Tazetta Grand Monarque from Florida appears to be Tazetta grand primo.

Sincerely,

L.S. Hannibal
L.S. Hannibal

18 Feb 62

Dear BYM,

Concerning the Yellow Crinum-----

The boys down at L.A. somehow have the trick of working over color photos. They converted it to a black and white then copied that. I'll see if I can get the negative of the Black and white.

Yes, its really a beauty---Actually much nicer in the original 35 mm. color photo. Quite a rocky hillside where the bulbs grow....

Yes, Doc T. must have had a scad of Crinodonna. He had one to name after me too----Only I hav'n heard about what he picked. Actually I hope he doesnt as I have a new hybrid cross which may be something.

Noted a flower spike on the Crinum bulbs just received from Adelaide, so perhaps I'll have a photo on 4 weeks or so. If you can hold the MS that long we may possibly have a new species---At least a new variant as the plant is adapted to alkali planes. If Calcicola means Lime -lover how would one say alkali-lover,- alcalicola? Perhaps Alluvicola would be better.

Have quite a letter from Wally Stevens in New Zealand. He has been over in Western Australia and came home with a lot of loot collected during a 10 week jaunt in the back country there. Said he lost 50 % of the plants but has scads of various seeds---Much of the material not too well known and some new----And none ever tried in the garden. He and his wife Jean are well known for their Iris, but their interest is in new hardy garden plants, and this is undoubtedly news to all. The greatest hazard encountered were kangaroos---They did not have a Kangaroo guard on the front of the Land Rover and durned near got the front of the car kicked in on several occasions.

We have had the wettest ten days that I've seen since I was knee high to a tadpole. A trace of sun today, but more rain promised. Sure has made up for lost time, and they were wondering if this would be a third dry winter in central Calif.....

I see that the Tazettas caught quite a bit of attention. We may be able to run down more types in Australia, and I note that most of Kirby's named tazettas are in the RHS Daffodil roster.

I wonder though, did the Dutch actually breed all of the named Tazettas that they listed or were they variants of wild collections (Ecological swarms) which they collected in Spain and Lebanon and imported to shove onto the market. True some hardy clones survived out of the mess, but the bulk went under during the first world war and were supplimented by the trumpet Daffodil after. I picked up a number of seed variations of Tazettas from Isreal the other day. I'm rather interested in what actually grows in the eastern Mediterranean now.

Sincerely

Bob Hannibal

Hope that your partner is feeling better now.

5031 Reno Road, Washington.
March 15, 1962.

Dear Mr. Morrison,

I have asked Mrs. Earl Tarver, Rt. 3, Water Valley, Miss., to send you two or three of her "tiny baby jonquills", now blooming. She had advertised them a couple of years ago, but could not send them when I inquired about them, suggesting that I write the following spring. I did nothing about it last year, but recently wrote for some, thinking of course she would mark them while blooming and send me the bulbs later. Instead she sent the whole plants, loaded with buds, but with roots completely dry by the time they reached me. I am trying to open some of the buds in water. These are the shortest jonquillas I have ever seen, if they are that and not "intermedius var. minor, Watrous" (with a bow to Haworth.) The leaves and stem seem rather heavy for pure jonquilla - or do you think so? I have asked her if I may have more later, after they finish their growth for the season, as I think they will make a hit with some of my miniature-loving friends. I also asked her if they ever set seed for her, as - a clue to whether they are hybrids.

I finally realized I ought to have a copy of Baker's 1888 version of his Narcissus study, from his Handbook of Amaryllideae, and now have it in photostat form. He has a var. J. minor Haw. (N. Webbii Parl.) - "A dwarf form, with very slender leaves, and a perianth-limb only $\frac{1}{2}$ in. diam. South of Spain and Algeria." I had not previously seen this variety described. I have ordered it from Alec Gray and received a small form of odoratus, and Mrs. Garrett told me that what she had from him as jonquilla minor was clearly odoratus instead. But Mrs. Woodward of Charlottesville told me that she had had a tiny jonquilla from him. Mrs. Tarver's plants do not have what I would call very slender leaves for jonquillas, and the bulbs were whitish instead of reddish brown. I am inclined to think this may be a real find for miniature fanciers, if it blooms as freely for others as it seems to do for Mrs. Tarver.

Two of Mr. Hannibal's lutea-aureus are blooming, and differ quite a bit from each other. The first one was quite like Soleil d'Or except the cup color was not so deep, but the second one has much shorter cups and narrower segments. In a letter from him a few days ago he says that Mrs. Anthes has reported seed on so many tazettas "my chart is a bit in error." He says that ties in with other reports that Narcissus set seed more readily under warm conditions. I suspect that the temperature and humidity requirements for seed setting in the different types vary as much as other environmental requirements. Mr. Hannibal also says that "Sam Clay at Swains...reports that from his experience the Dutch could do very little breeding of Tazettas unless they kept their temperatures up because channel weather was not conducive to seed. He thinks most of their named varieties were collected in the wild and were simply local variants. Some did better due to extra chromosomes, etc."

I see that you are going to be in this part of the country early in April. Is there any chance of your going to the G.C. Virginia daffodil show at Roanoke, April 11-12?

Yours sincerely,

Robert C. Watrous

4008 Villa Ct

Fair Oaks, Calif.

Dear E.Y.M.

15 Nov 62

Seems that every time I come up for air I get snowed under with some project, a pile of letters, or a trip. This time it started with a greenhouse addition which I was to do during my vacation. Only the durned tail end of a hurricane hit us and dumped 8 to 10 inches of water hereabouts, but I did get part of the greenhouse built---Then took a trip up into the north end of the state, caught a durned cold, got involved in a Rotary project, behind in letters and gosh knows what.

So what was to have been a nice relaxing indian summer has been a bit hectic. Anyhow I got some 400 pots in under plastic so now I can sort out some of my accumulation---What a mess: Crab grass, oxalis, bermuda grass, acorns and foxtail seed sprouting.

Thanks to Mrs Waterous we obtained some color photos of the Tazetts out of Jordan and Forreau's. I was planning to translate what he had written, but havn't had time. However, I'm in agreement with Herbert, Jordan, and Bowles that what we normally call Grand Monarque is actually Grand Primo, and that my Compressa is Grand Monarque. The print of t 180 isn't the best, but the color slide is much better, and this plant is definitely the clone where the cup tends to bleach out slightly after being open 7-10 days. I'm enclosing the photos from Jordan & Forreaus, and some copies from Herberts which rather confirm the identity, too.

Jordan and Forreaus has some 15 plates illustrated of the Tazetta. They start with papeyraceous and go systematically through the group according to color and flower structure. It is far more systematic than one would anticipate.

Had a nice crop of Nerine hybrids flower, in fact some are still out. Have several hundred crinum seedlings growing like mad and am wondering where I ^{can} plant them as I must shift from a dry garden area to a summer moist area to keep them going. On top of all this quite a batch of low Transvaal bulbs arrived and these have rather had me on the go as they all need special culture. It must be great to live in an area wher it never gets below 55 F. But its sure hectic trying to duplicate the conditions here.

Saw Charley Jensen the other day. They have him as prexy of a local garden club now, so he has his hands full. I gave him a lift with some Amaryllis slides. His wife is presently in the hospital so he is busy batching.

Sincerely



Les Hannibal

Mrs. George D. Watrous, Jr., 5031 Reno Road, N. W., Washington, D. C. 20008

October 29, 1965.

Dear Mr. Morrison,

I am glad the photostats arrived so promptly. I had expected to write you about them before now, but I have been running behind.

earlier

When your letter came I telephoned the Library to ask them to look up the references in Index Kewensis to save time and a trip. They told me that most of the volumes were at the bindery, and suggested I try the Arboretum library. I did and the librarian there gave me the reference for *N. dubius*, but said she could find nothing for *N. henriquesii*. I found in my notes the reference to the description by Sampaio that I had sent to you. Now I find I have notes on a much earlier description, which may be the original one. (Old pencilled notes enclosed.) I am sending also a couple of other pages of old notes from the "Jonquil Section" folder. You will notice that these notes describe *Henriquesii* as a variety, not a species; and both Fernandes (1951) and the latest Classified List treat it as a variety.

Your piece on *N. gaditanus* was sent on to Mrs. Bloomer Sept. 22. I wrote her yesterday telling her you would like to see it again if not too late, and also sent Gertrude Wister a postcard saying I had done this, so she would know she did not need to do anything about it.

Do not worry about the cost of the photostats or trips to the Library. I go down frequently, as I usually have some unfinished business to work on. As for the photostats, the amount does not begin to equal the postage on some of the bulbs you have sent me. If you do not wish to keep them you can send them on to me later and I will file them, but keep them as long as they are of any interest to you.

This past weekend we drove down to Natural Bridge to a regional ADS meeting. More than 50 were present at the dinner Saturday, and almost 60 at the lunch, some coming from places nearby and not staying over. Going down on Friday we had rain and fog, but the return trip was bright, and we came part way over the Skyline Drive, enjoying the colorful foliage display.

I still have bulbs to plant!

Sincerely,

Robert Watrous

from Watrous
5031 Reno Road,
Washington 8, D.C.,
November 8, 1962.

Ans
11/12/62

Dear Mr. Morrison,

Yesterday, while checking some references for Dr. King, I came on an article that I thought would interest you. The reference:

Chiris (Établissement Antoine Chiris). Réalisation expérimentale de l'hybride entre narcisses à bouquet et narcisses jonquille. Les Parfums de France 9: 132-136. illus. Apr. 1931. 308.9 P21

The crosses were made in 1923, in the hope of securing a plant which might be better suited than *N. jonquilla* "to the cool, clayey ground at our disposal." (Text was in both French and English, in parallel columns.) Crosses were made both ways, after deanthering the seed blooms while still unopened, as far as possible. Pollinated blooms were covered with gauze.

Capsules of pollinated blooms of *N. jonquilla* seemed to be further developed than those of self ("auto") pollinated blooms, but no difference was noted in the seeds.

In 1925 to 1929 many plants retaining the characteristics of the mother plants were removed, on the assumption that deanthering had not been ~~done early enough~~ done early enough. In 1930 the first hybrids bloomed - 16 from seed of *N. tazetta* and 12 from seed of *N. jonquilla*. "the inflorescence in both cases being almost identical." It had already been noted that the foliage of the hybrids was intermediate between the two parent species. It was also noted that the hybrids showed a tendency to produce a number of suckers or supplementary bulbs before blooming.

The two parent species are described, the *tazetta* "Done des Provençaux" as having 4 to 12 creamy white blossoms, the corona like a widely opened cup of an orange-yellow colour. "In the hybrid, all these features are intermediate between those of the two parent plants."

Samples were sent to M. Guillaumin of the Mus. of Nat. Hist., and his comments quoted. He noted that many of the pollen grains were malformed, although the ovules were normal. He quotes Bailey's Cyclo-pedia as stating that *N. gracilis sabina* is the only known probable hybrid between the two parent species concerned, but the edition of Bailey I consulted mentions *N. intermedius* as well. *Gracilis* is now considered to be from *jonquilla* and *poeticus*, not *jonquilla* (or *junci-folius*) and *tazetta*, as stated in Bailey.

"We once again remark...that the botanist has never troubled about the olfactory features of plants enough to include them in their descriptions. We may mention here that, as we anticipated...the scent of our hybrid is exactly intermediate between the two parent plants, the coarse note of "done" (*N. tazetta*) however masking slightly the orange flower note of the jonquil."

He states again that the hybrids were the same regardless of which species was used as seed parent.

for Mr. Hannibal

A while back I took or had taken color slides of the tazetta plates in Jordan and Fourreau's *Icones ad floram Europae*. I had an extra copy made of the one that Bowles cites for Grand Monarque - t. 181, *Hermione floribunda* Haw. I noted that ~~xx~~ this has a short style, while t. 180, "*Hermione citrina* Haw.", which Bowles says is Grand Primo Citroniere of florists, has "med. style." (I notice that Bowles says a long style, "that carries the stigma out of the throat ~~xx~~ to stand above the bases of the upper anthers.") This slide is enclosed. Keep or return it as you like.

And here is another little bit on White Pearl. In his little book "The romance of daffodils" Mr. Brumbach says "Mr. Heath has a few latter-day cluster-type daffodils which are worthy of being grown in today's gardens. The first which comes to mind is WHITE PEARL, and was rescued from oblivion in an old Norfolk, Virginia, garden. No one knows from whence it came before that, but it is certain that its lineage goes back to the Canary Islands at some time in the remote past." (Mr. Brumbach has the fixation that the Canary Islands are the original home of all the tazettas.) He goes on to say that Seven Sisters and Seventeen Sisters, also once offered by Heath, are reputed to have come from old gardens in the Carolinas. I do not put any faith in Mr. Brumbach's interpretations of Narcissus history in the wider sense, but the source of the Heath's White Pearl is probably correct. Where Mr. Heath got the name is another question.

We had snow on Monday, but today is bright and the temperature 57°. I still have some planting to do, but unfortunately accepted an invitation to lunch today. I trust there will be more mild and sunny days.

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Sincerely,

Roberta C. Watrous

Sampaio, Gonçalo

Um passeio botânico ao Torrão (A Botanical trip
to Torrão) Bol. Soc. Brot. 18:47-79 - 1901 p.75

N. jonquilla L. b *Henriquesii*, nov¹

Leaves 1 - 2 m. in length; perianth self colored, more or less tinted to orange; corona about 1/3 the width of the tepal (length), tube 24-27 mm in length. Torrão; abundant in the outskirts(?) of ~~Alameda~~ Xarxa, on the small hills of the village, between rocks.

1. Named for the excellent Dr. Julio Henriques, knowledgeable lecturer in Botany at the University of Coimbra, who first noted this interesting variety, referring to it clearly in his work on the Amaryllidaceae of Portugal (Bol. Soc. Brot, 5 p. 172-173) in regard to several specimens from Castello de Vide.

The leaves of this variety relate it to *N. juncifolius* Lag. to the forms of *N. jonquilla* L.: as the corona relates it to *N. jonquilloides* Wk, which by this character ties it equally to the species of Lagasca and Linnaeus.

Sampaio, Gmcalo

Um passeio botânico ao Torrão - Bol. Soc. Bot.

18 = 47 - 79 - 1901 p. 75

N. jonquilla L.

β *Henriquesii*, n. sp.^①

leaves 1-2 mm in length = perianth self-colored.
more or less tinker orange = corona about $\frac{1}{2}$ the
width (diameter) of the petals; tube 24-27 millimetres
in length - Torrão = abundant in the outskirts^(?) (banks)
of Xarama, in small hills of the village - between
the rocks -

① Named for his Excellency, Sr. Dr. Julio Henriques,
knowledgeable lecturer in botany at the University of
Coimbra, who first noted this interesting variety
referring to it, clearly, in his work on the
Amalythidacea of Portugal (Bol. Soc. Bot. 5. p. 172-173)
in regard to several specimens from Castelo de Vide -
The leaves of this variety, relate it to *N. junceifolius* Lag -
to the forms of *N. jonquilla* L = as does the corona
relate to that of *N. jonquilloides* Wk, which by this
character, ties it equally to the species of *lagas* + *finneus*

N. Gaditanus Boissier and Reuter.

SPN. *N. juncifolius gaditanus* Hort.

Fernandes. Sci. Gen. 1939 "N. gaditanus Boiss. et Reut. is a species closely related to *N. juncifolius*: some authors (Baker 1888; Richter 1890; Aecheron et Graebner 1905-07) consider it as a sub species of the last. Studies of the caryological (details) confirm the opinion of authors who consider *N. gaditanus* as a distinct species."

Fernandes. Sa. Gen. 1939 - "N. gaditanus Boiss. et Reut.
is a species closely related to N. juncifolius - certain
authors (Hooker 1888 & Richtz 1890; Ascherson and Graebner
1905-07) consider it a sub-species of the last.
The Caryological studies - - - confirm the opinion
of the authors who consider ~~B~~ N. gaditanus as
a distinct species. "

N. gaditanus Boiss. et Reut. Bulb small, ovoid, Leaves very fine, semi cylindrical but shorter than the scape. Umbel 2-5 flowers; pedicels unequal, none exceeding the sheath. Tube from 12- 16 mm. in length, curved, tepals ovoid-lanceolate, pointed (?) yellow, at first flat and later more or less reflexed, crown truncated, of the same color and approximately as long as the tepals. Flowers Feb. Mar. Distrib. Loule. Fernandes, in Soc. Brot. An. 2: 20-21 1938.

Gray. Min. Daff. This need not detain is for long as it is a rare plant most difficult to flower in cultivation. It is closely ~~mainly~~ allied to *N. juncifolius*, being the only other small jonquil with dark-green foliage. It is said to be a smaller plant in all its parts..... I have never flowered it. The form *minutiflorus* (Q.V.) is, one presumes, even smaller still."

Jefferson-Brown. By no means an easy plant to grow owing to the habit ~~xx~~ its bulbs have of continually splitting up without producing any of the flowering size. It grows in southern Spain on hillsides often covered with scrub. To try and reproduce its natural conditions outside in Britain, is probably an impossible task and even in pans in an alpine house it is very difficult.

from Morrison

Route 1 Box 24,
Pass Christian, Miss., 39571
12 June 1964

Dear Mrs. Wabrous:

Your air mail package with letter came this morning. "Consciences" can be a dreadful nuisance, as I confessed to Mrs. Wister in Asheville. I have long felt guilty about doing nothing for ADS, and I am not at all sure, from her kind reply, that it mattered! I assured her then, that I would be glad to help in any way possible. I also had a talk with Willis Wheeler about the handbook, that he and John Creech had talked about as a joint effort. Again I promised to help. So far I have had no word from either Wheeler or Mrs. Wister.

Before I go off any farther on this necessary tangent, let me say my huge thanks for the beautiful bulb of Raindrop. I am now twice your debtor for it was your flower in the Alexandria Show, that really gave me one of the most acute thrills in my whole daffodil experience. I shall treasure it. My possible source is still the man in Portland whose name I do not recall at the moment but who wrote me he had some stock, possibly undersized, etc.

Now, my own personal handicaps. My mind is just as eager and anxious to do all the things that are proposed. But I am ashamed to confess, that my performance is often, too often, below par. That is now off my conscience.

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My files of Herbaria are in our attic and with days at 90 plus I cannot promise to find anything there. And I do not recall the Shull piece. As for doing drawings for you, the answer is YES, and the results likely; about an article I am not so sure. Also, I would need to know a little more about what you had in mind as "daffodil forms", whether you meant species forms, or the variations in form that may occur, say with in Group II?

It is only decent to confess, that the latest RHS classification which I can understand all right, for me obliterates some of the types of short cup, large cup, saucer, bowl, eye, etc. and I recall with pleasure the ideas related to things supposedly derived from *N. abeissus*, that had straight cups, no lips, no frills, nothing but a type of serene loveliness of their own. Now the constant semi-apology about this "looks like a trumpet but has to be in Class II because of size-measurements." all this is a pest. And yet, as I say I can understand the whys of the case.

If it is not too much of a burden to you, and I hope you are not having 90s, and more rain than we are, do you care to clarify my doubts? Also, why not you do the article and let me do the pictures? I should be delighted to do it that way.

The AHS had had my daffodil piece for nearly a year, and I could have made some striking additions to kinds that have been in place three and four years in health and flowering well. I also regret that I did not give the *Poetae Laetitia* a better word; it was not outstanding the first two years, but this year it was a fine thing with flowers of elegant form. The man in Indiana was correct about it.

2-

I had not intended to make this into a book, but as it is far too hot to go out and start the evening watering, etc. I'll hang on, and you can read in installments if you wish. Or not at all.

My writing obligations for AHS-AHM are now cared for, and I have sent in all the stuff that I have time to handle, all for the Gardener's Pocketbook, and only one narcissus item, a bit on N. Bertolini, of which I sent a note and picture. The bulb was a gift from Mrs. Anthes.

Aside from the above, I am concerned with gathering all the notes I can manage on my satsuki azaleas. I believe I am correct that all preliminary work is now done, and I have to wait to hear from my Japanese correspondent what he approves and what he must correct in the descriptions of such as have flowered here. I have no time schedule for it, but I am certain that if a small book results, it will not be in 1964. It will probably come out via AHS, if the present officers, etc. whom I have not consulted think well of it. If they do not, I may have it done in Japan. I am not keen about writing books, and believe that the short flight is far safer for me.

I do hope that Connecticut was at its best for you; it is a lovely State, in many parts, and when I have seen it, either spring or autumn it has been fine.

With every best wish, and again, my thanks,

Sincerely

m

5031 RENO ROAD, N. W.
WASHINGTON 8, D. C.
20008
June 10, 1964.

Dear Mr. Morrison,

I know you told me you thought you had a source for Raindrop, but I have just received a gift of two bulbs and my conscience will not let me keep both of them. I have lost Raindrop three times, and feel I really ought not to risk even one more bulb - but temptation is temptation, and I may succeed this time.

As a member of the ADS Publications Committee I have the assignment of stirring up articles to the extent of about 4800 words for each of three issues, the early deadlines of which are Oct. 1, Jan. 1, and April 1. The Sept. issue is taken care of already by Harry Tuggle. For years I have had the idea of an article on daffodil forms, or forms in daffodils, along the lines of one Mr. Shull wrote (and illustrated) for *Herbertia*, on daylilies. Would you consider doing some such article? If so, I'd be glad to undertake any library work in connection with it, or to supply catalogues, etc. I had intended to write you about this later, but the arrival of the Raindrop bulbs just as we are about to leave for a short visit in Connecticut spurred me on to writing today. Perhaps I should say that I suggested such an article to Gertrude Wister several years ago, but as far as I know she has not done anything about getting one written. If I get a nibble from you I will clear it with her before you have time to lose your appetite for it.

I liked your article in the April *Amer. Hort. Mag.*

Hastily,

Rebecca P. Watrous

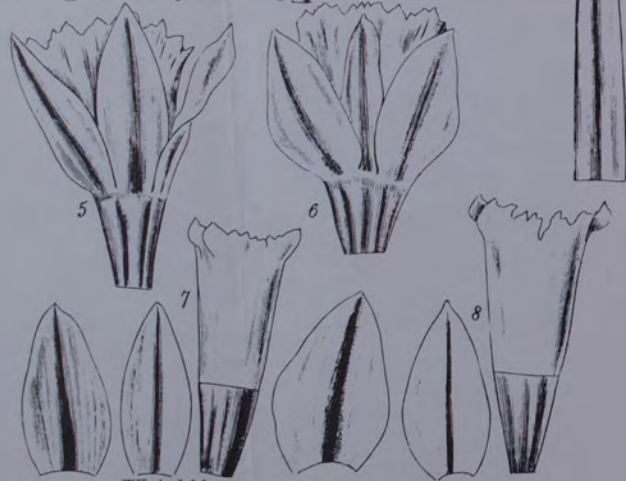


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Plate 11.



58 *N. pseudomajalis*



W. Herbert del.

Plate 39

Zuellia



W. Herbert del.

15 to 23 *Hermione tazetta* forms

16 *Tog churensis*

19 *Grand monarque* (grand czar)

23 *grand prince*

24 *Stabicus*

25 *second italian form*