Portuguese Diary

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My travels over the years have left me with comparatively few *Narcissus* species which I have not seen flowering in the wild, but I had never been to southern Portugal so that seemed an obvious choice for a visit. Again, I had the pleasure of the company of Dr Tom Norman. Choosing dates is never easy, both because of lack of detailed information and because seasons vary so much from year to year. My previous trips to central and northern Portugal had been in middle and late March, so I thought we would need to go to the south rather earlier. We flew to Lisbon on February 20, 1990 and returned a fortnight later, and this proved to be a happy choice.

Just south of Lisbon, over the Tagus estuary, are the Serra da Arrabida. It is rather pretentious to name these hills as if they were a range of mountains, as the highest point is only 502m above sea level (not much more than 1,500ft.) and with a rounded top which is not even a peak. But they are limestone, and so contain many interesting plants.

The first daffodil we came across was *N. bulbocodium obesus*, growing and flowering in profusion in the grit at the side of the road. The other members of the Bulbocodium section in Portugal are only found on acid soils, but *N.b. obesus* is one of the few which are tolerant of a wide range of soil. In cultivation it is usually easily distinguished by its prostrate and sinuous leaves, short stems and coronas incurving at the mouth. In the wild, as with most species, it is so variable that it is difficult to say what is a typical specimen. Leaves were mostly fairly prostrate but not noticeably sinuous, narrow (around 1mm wide) and often four from each bulb. Stems varied between 5 and 10cm (2-4in) and coronas from 15 to 25mm in diameter. The colour of the flowers was almost invariably deep golden yellow, but I was interested to find occasional specimens with much paler yellow flowers.

Also in the Serra de Arrabida we had no difficulty in finding *N. calcicola*. Here it comes down to a much lower altitude than in its type locality in the Serra de Candeceiros and the adjacent Serra de Aire (both limestone ranges); indeed, some were very little above the sea. Down by the road they were mostly past flowering, but had evidently flowered well both out in the open and in quite deep shade. Some stems had carried as many as six flowers. Later I climbed right up

to the summit where they were still in flower, especially on the northern slope. I could find no distinction between them and the ones I had seen at Porto de Mos in 1985.

A spectacular find

Narcissus bulbocodium obesus is very much the predominant form of *N. bulbocodium*; indeed, it is the predominant daffodil, near the western and southern coasts and for a considerable distance inland. We saw it in many places all the way down to Cape St Vincent. Far and away the most spectacular were the colonies at Arrifana, right on the coast to the west of Allezur. Here there are almost vertical cliffs more than 100m (330ft) high. Along the top of these cliffs, at the very edge in grit and especially in rare patches of grass, the bulbocodiums were fairly typical and mostly quite short stemmed. Then, looking over the edge we saw the most astonishing sight. On sloping grassy ledges, which must be eaten by rabbits because there was no possibility that sheep might safely graze, the daffodils were flowering in great quantities.

It was impossible to reach these ledges, but a precarious path led down the cliffs towards the sea and I was able to get nearer to them than I was at the top. On the way down there were massive and extremely vigorous clumps with enormous bulbs and as many as 18 flowers, growing in loose, coarse shale. The flowers on these were much bigger than on the cliff top. Some had leaves more than 45cm (18in) long, and twice as broad (2mm) as those above. Stems up to 32cm (13in) carried huge flowers, the largest measuring 38mm long (tube plus corona) and with a corona 25mm diameter. Even though the sea was calm it was constantly breaking against the rocky shore, and the daffodils must live in a perpetual atmosphere of salt spray. Is this the way we should be growing them? The seasoned exhibitor could only comment 'completely out of character'.

Points of distinction

At the back of the Algarve, 10 to 20km (6 to 12miles) inland from the coast, there a band of limestone known as the Barrocal which I had heard was well worth investigating. Here we found more *N.b. obesus* and a few, surprisingly few, *N. papyraceus*. But the plant I really wanted to see was the local form of *N. gaditanus*. I had previously seen plenty of this species in eastern and southeastern Spain, and wanted to compare them with those from Portugal, from where it was originally described, and particularly to see if *N. minutiflorus* can really be distinguished. In his Keys of 1968, Fernandes separates them by *N. gaditanus* having flowers about 20mm diameter, with broadly ovate petals, tube 12-16mm long and corona about 5mm high; *N. minutiflorus* having flowers about 10mm diameter with lanceolate-acuminate petals, tube 8-11mm long and corona 2·5-3mm high.

I had already been convinced by a paper by B. G. Smythies that the two species could not be separated in this way, but I wanted to see for myself. Smythies notes two other points of difference in Willkomm's original description of *N. minutiflorus*. He says that *N. gaditanus* has reflexed petals, a crenellated corona and style longer than the tube, whereas *N. minutiflorus* has patent petals, subentire corona and style included in the tube.

Although both Willkomm and Smythies stressed that both plants are rare and difficult to find, we had no difficulty in locating them and found them at five different sites. At two of these they were quite abundant. We first saw them near Alte on the road from Sao Bartholomeu to Barranco Velho, but the greatest quantity were on the roads from Benafim and Salur to Loulé. Usually the plants were scattered and growing in turf or gritty terra rossa, but now and then there was a prolific clump with a dozen or more stems, usually in a rock pocket but once in roadside grit.

Although two or three flowers on a stem were normal, some clumps had stems with up to seven flowers, and as many as nine of the very slender leaves to each bulb. It was immediately apparent that some flowers had patent petals and others reflexed, but there was no correlation at all between this characteristic and the size of the flowers. I measured a large number and almost all were between 13 and 15mm diameter. The largest we found was 19mm. It is difficult to be precise about the smallest because the lower flowers, when there are several on a stem, are smaller than the upper. The occasional very small flower often had reflexed petals and usually seemed to come from an impoverished bulb. Even so, there were very few indeed which were as small as 10mm.

One splendid rock pocket held two clumps, one with patent petals on flowers 18mm diameter and the other with reflexed petals on flowers 15mm diameter! Both the coronas 4mm high and 6mm diameter, which was absolutely typical of all we saw. Hardly any had coronas less than 3mm high and none more than 5mm.

My records of lengths of tube are a little scanty, but those I recorded are all within the range of 12-16mm, and I did not measure a single one as short as the range Fernandes gives for *N. minutiflorus*. Almost all the flowers we saw had subentire coronas, and I cannot recall any with the style above the upper anthers. So I agree with Mr Smythies's view that *N. minutiflorus* is not a distinct species, but nevertheless the forms with patent petals are the ones I would prefer to grow!

The biggest surprise

Looking north from the road from Alve to Benafim we saw a limestone ridge called the Rocha dos Soldos. We drove up a side road as near as

we could to the summit, and as it did not seem too far we then set off on foot. As we reached the rocks we had the biggest surprise of the whole fortnight. In the rock pockets were jonquils, but with comparatively broad glaucous leaves. It took only seconds to realise that it was *N. calcicola*, the same in every feature as those we had seen in the Serra de Arrabida more than 150km (93m) away. I know of no previous record of this species having been found in this area, and it proves that its distribution is considerably more extensive than had previously been thought. They continued right to the crest of the ridge, mixed with *N. gaditanus*, and I even found both species sharing the same pocket.

Moving on

Now it was time to leave the south. Tom had not been to Portugal before, so I wanted to show him the Serra da Estrela. On my last visit there had been much snow still lying at the end of March, so I was afraid that there would not be many flowers to see a month earlier, but it was evidently a much earlier season and as we were approaching the summit from Covilha there was snow beside the road only in a few sheltered places. In sunnier spots, *N. asturiensis* was already in bloom — fine large specimens — and I again wondered whether they were *N. minor*, because there was so little constriction mid-way along the corona.

Over the top, the road descends quite gently towards the north west, and it was not long before we saw extensive colonies of a bulbocodium which I believe to be *N.b. nivalis*. Although the flowers are smaller than those in the High Atlas, and the styles are not as prominently exserted (projecting) as those from the highest altitudes there, the leaves are comparatively broad, up to 3mm. *N. asturiensis* was growing in among them with very frilly edges to their trumpets, and the most entertaining plants we saw were evidently hybrids between the two. I had seen hybrids between these two species before, in the Picos de Europa of northern Spain, but there they were like *N. asturiensis* only with a more expanded, plain-edged corona. The ones we were looking at now were quite different like rather large forms of the bulbocodium but with frilly edged coronas.

The mountains end quite abruptly as one gets down into the Mondego valley, but the icy gale that had been blowing on top was still with us as we went to see the site where I had previously seen *N. scaberulus*, near Ribamondego. Although some were going over, most were still in good condition and we saw some very well flowered clumps and some fine wide-petalled forms. Again I noticed that some had quite prostrate leaves, others stiffly erect. There was no evident reason for this difference.

Travelling southwestwards

Apart from *N. asturiensis* I had never seen any daffodils of the Pseudonarcissus section in Portugal, so our next move was south westwards. From Oliveira do Hospital, where we spent the night, we went through Arganil and Lousa, with *N. triandrus* our constant companion by the roadside. Mostly they were the pale *N.t. cernuus*, but one hillside was dotted with the uniformly deep yellow *N.t. concolor*. My researches had indicated that a trumpet daffodil grew 'throughout the valley of the Zezere'. After reaching the river along side tracks a couple of times we decided that 'throughout' was a considerable exaggeration, but eventually in worsening weather we arrived at the little town of Fereira do Zezere.

Just before the town, we saw signs of yellow at the edge of a wood, and were rewarded by just four blooms. Then, as we started off again, having also seen a bank of *N. triandrus concolor*, I saw something at the side of a stream which looked like daffodil foliage, which indeed it was — with faded flowers. That led me to wander a little further, and the other side of a field and track I came upon a little farmstead. Beside it was a grassy slope with many clumps of daffodils. It was difficult at first to decide whether they were wild or planted, but as they were quite abundant along the banks of a stream and in the ploughed field opposite we decided that they must be wild. Typical specimens had glaucous leaves 16mm wide and longer than the 30cm (12in) stems. The flowers were concolorous bright yellow, with petals patent but slightly twisted. The coronas were usually longer than the petals, 17mm diameter and nearly cylindrical in the lower half, expanded to 32mm at the margin. The flange of the trumpets was incised, crenate and distinctly 6-lobed, and the flowers were held ascending from horizontal. My diagnosis was that they agreed quite closely with the description of *N. hispanicus* var. *spurius*. We went back the following morning to have another look in rather better weather.

Later in the day we went to Mira de Aire, where *N. calcicola* is probably more plentiful than at any of its other sites. We found them without difficulty, but it was difficult to enjoy them as we would have liked because the cold wind was again approaching gale force. This is another area strewn with weathered limestone, and the narcissi were evidently happiest in rock pockets. Usually there were only two or three stems, but occasionally we saw well flowered clumps.

Clearly, the conditions suited the plant extremely well, and some stems carried as many as five flowers. The general measurements agreed well with the populations we had seen in the Serra de Arrabida and in the south (and those I had previously seen at Porto de Mos) but I was struck by the breadth of petals on many of the flowers. This made them look very attractive, more so than the forms usually seen in culti-

vation. Whether these really are good forms or whether the petals are broad because of the good growing conditions remains to be seen.

A considerable detour

Our final quest was to track down *N. jonquilla* var. *henriquesii* at one of its known sites, Torrao. This meant a considerable detour, as our originally planned itinerary had taken us to the wrong Torrao! The one we needed is on the N2 from Montemor o Novo to Faro, and my instructions were that it was growing in marshy places and among rocks in the river Xarrama. We could see no sign of it from the road, but the river flowed around a jumble of limestone rocks which looked promising. Access was not easy, but we managed to clamber across, and there they were in the middle of the river.

Daffodils do grow wild in some unusual places! The river was comparatively low at the time, but debris in the trees on the bank indicated that it had been several feet higher at some time during the winter. At another site we could see that bulbs of *N. bulbocodium* (which also grows in the river at Torrao) had been under at least 1·8m (6ft) of water at the height of the flood. Some of the *N. jonquilla* var. *henriquesii* were in typical rock pockets where they would have had plenty of surface water draining in whenever it rained, but others were actually growing in rock pools with their bulbs completely under water. Is this how we ought to be growing them?

The main reason why I wanted to see this plant flowering in the wild was to assess whether it can really be distinguished from the typical form of *N. jonquilla*. The Fernandes' Keys indicate a distinction based only on measurements, *N. jonquilla* with leaves 3-5mm broad and coronas one-fifth to a quarter* the length of the petals and the var. *henriquesii* with leaves 1-2mm broad and coronas about one-third of the length of the petals. Alas, it is not so easy when you get out into the field (or river). The leaves were mostly 2mm wide, but the strongest we found were at least 3mm. I measured 14 flowers, having chosen them because they either looked typical or because they had rather long or rather short coronas. The results were as follows:

Petal length (mm)	*Corona height (mm)*	*Proportion*
7	2	0·29
8	3	0.38
9	3	0·33
10	3	0·30
11	3	0·27
11 (2 flowers)	3·5	0·32

*In the *Daffodil and Tulip Year Book* 1968 this is shown as 1⅕ to ¼ but I am sure this must be a misprint.

Petal length (mm)	*Corona height (mm)*	*Proportion*
12 (3 flowers)	3	0·25
12 (2 flowers)	4	0·33
13	3·5	0·27
14	4	0·28

Admittedly, only three of this sample had the proportion of height to length as low as a quarter (0·25), but only six had it as high (or virtually as high) as a third (0·33). The rest fell in between though the margin of error when trying to measure to 0·5mm must be rather high. My conclusions are, therefore, that comparative measurements are an unreliable criterion for distinguishing between forms of species if there is nothing else to go on, especially with narcissi which, as a genus, are known to be so variable in nature; and that var. *henriquesii* cannot be shown to be distinct from the ordinary form of *N. jonquilla*. As with *N. calcicola* and *N. scaberulus* I was again impressed with the exhibition quality of many of the flowers, with perfectly formed broad imbricate petals held neither drooping or reflexed.

As so often it was something of an anti-climax to come home to see bulbs trying to appreciate growing in little pots while their wild families are flowering with such gay abandon in their natural homes.