

CROCUS GROUP BULLETIN NO.2

Hon Sec.'s Notes

The group now contains 36 paid-up members. I am no longer working from my original list but am, I hope, sending this to everyone who has given me 25p. The group at the moment has an adequate credit balance and provided people will support its auctions can probably survive for another year at least without asking for any more cash. Owing to a misunderstanding the lecture by Mr. Horton did not get into the B.I.S. species group bulletin so could members please try and spread the news around anyone interested in coming.

More visits will probably be arranged for Spring 1977 but this is as far as I can get at the moment. If anyone would like to invite the Group to visit their garden please let me know.

I am considering a visit to the south of Spain in the Autumn of 1977, to see Crocus Salzmännii - possibly also to N. Africa. About a week in all, using fly-drive. Anyone interested in sharing the cost of the hired car? I am an experienced driver but hopeless at map reading.

Primrose Warburg,
South Hayes,
Yarnells Hill,
Oxford

PROGRAMME 1976-1977

^{22nd February}
Tuesday 7th September 1977

R.H.S. New Hall - Lecture by Mr. S.V. Horton on "Crocuses of Spain", to be followed by an auction of crocus corms. Please bring any you can spare - it helps to spread the species around and benefits the Crocus Group funds.

Saturday 25th September 1976

Mr. & Mrs H. Crook have kindly invited members of the Group to pay another visit to their fascinating garden, which contains many crocus species they have collected themselves. Come to 14 The Uplands, Harpenden, Herts. preferably between 11 - 11.30am when coffee will be served free. Bring your own picnic lunch - coffee, tea or squash available at a charge of 15p each.

Sunday 10th October 1976

You are very welcome to come and inspect any crocuses, colchicums etc. which happen to be in flower in the garden of your Hon. Sec. at South Hayes, Yarnells Hill, Oxford. Coffee served 11 - 11.30 and soup and cheese lunch provided at a cost of 50p each. In the afternoon, members may visit the Alpine Nursery of Mr. & Mrs J.H. Parker-Jervis of Martens Hall Farm, Longworth, Abingdon; which is 15 minutes drive in the Swindon direction. They have an extremely good collection of colchicums as well as many species of crocus.

Saturday 5th February 1977

Visit to Kew Gardens, where there is a good collection of Crocus species and other early spring bulbs. It is hoped that it will be possible to look 'behind the scenes' at the crocus collection (numbering nearly 1000 wild collected species and their forms) which is being used for a revision of the genus, and for cytological work. It is suggested that Members arrive at 11.00am at the Main Gate on Kew Green where Brian Mathew will meet them. Hot snacks and lunches can be obtained in the Rose and Crown on Kew Green.

Sunday 20th February 1977

Members are invited to visit the garden of Mr. Vic Cross of 547 Southleigh Road, Emsworth, Hants to see his collection of crocus and iris species.

Please will members let the owners of the gardens concerned know that they will be coming.

CROCUS VERNUS AND C. TOMMASINIANUS

Taxonomically speaking there is not much to choose between these two species and it is extremely difficult to pinpoint the differences, even more so to write down the differences.

C. vernus can be divided into two subspecies which are fairly well defined although the border between them is a little fuzzy.

(1) subsp. vernus (= C. purpureus, C. napolitanus) is a large-flowered plant with the segments measuring usually 3-5.5 cm long and 0.9-2 cm broad. The stigma overtops the stamens and the flowers are often purple, lilac or variously striped. It occurs from Italy eastwards to west Russia. The plants in the easternmost part of the range have the largest flowers, often rather globular in shape and often with dark V-shaped markings near the tips of the segments. These have been called C. hauffelianus and C. scepusiensis but there is little justification for making them into species or even subspecies. The absence or presence of hairs in the throat varies within populations of C. vernus, the purple tips crop up here and there throughout (and in several other species) and the measurement of the flowers overlaps considerably with those of western specimen of subsp. vernus. One might perhaps regard them as poorly defined varieties of C. vernus subsp. vernus.

(2) subsp. albiflorus (C. albiflorus, C. vilmae, C. siculus) is the generally white-flowered smaller plant with the stigma shorter than the anthers. The segments are usually 1.5-3.5 cm long, 0.4-1.2 cm wide. It occurs from the Pyrenees east to Czechoslovakia. There is some overlap in the characters of these two subspecies so that one might find tiny plants with purple flowers and large ones with white flowers. The stigma character is a little more reliable but also breaks down sometimes, as does the flower size. Occasionally one finds the two subspecies growing together, or at least near each other as there is a slight separation in habitat preference, subsp. vernus showing a liking for damper shadier places than subsp. albiflorus, which tends to grow in the open in short turf. When they do occur together, a few sterile hybrid plants crop up, with intermediate characters. These have been called C. x fritschii. One other plant has been described - C. montenegrinus from S.W. Yugoslavia. I have hunted Mt. Orjen several times for this and have come to the conclusion that it is a mutation of C. vernus subsp. albiflorus, in which each of the anthers has a stigma attached to its tip. I have seen this in C. niveus on the Peloponnese and it probably can happen to almost any species of crocus as a rare freak.

C. tommasinianus is a much more restricted plant than C. vernus occurring mainly in southern Dalmatia and Montenegro, where it is very common. It is a plant preferring shady places and can be found carpeting the floor for acres beneath trees or growing in mossy crevices in limestone or round the edges of scrub. C. dalmaticus, which has a similar distribution, often grows in the same localities but prefers more open situations in short turf while C. biflorus in its white form, yet another species mixed in with these two, grows on the sunniest banks nearby. I have never found hybrids between these and in fact I believe that unrelated crocus species will not hybridize.

This observation is based on a knowledge of many wild mixed populations and a breeding programme in cultivation. Those which do hybridize are rather poorly defined species, such as the members of the spring flowering annulate groups (C. biflorus, C. chrysanthus, C. crewei etc) but more of this later when I will write some notes about this group in a future newsletter.

Separating C. tommasinianus from C. vernus is not easy to put in words. Certainly it is not difficult when the two are growing, for C. vernus has a more funnel-shaped flower than C. tommasinianus which has a slender cylindrical tube with a flattish flower. The buds of the latter are much more slender and often show up the silvery or biscuit colour on the outside of the segments, so characteristic of C. tommasinianus.

The leaves of C. vernus are normally only just showing at flowering time whereas those of C. tommasinianus, at least in the wild, are long and often overtopping the flowers. All of this is rather vague and if one tries to give measurements the overlap is so great that it is meaningless. There is however one point about flower colour. C. tommasinianus has a white perianth tube with lilac purple or ruby coloured segments. C. vernus can be anything from pure white to deep purple sometimes white with a purple tube or streaked with purple but the one combination I have never found is that of a lilac or purple flower with a white tube. A small observation and possibly one which can be faulted, but it is useful.

C. vernus and C. tommasinianus have hybridized in gardens to produce a large silvery-lavender flowered plant*. In the wild they probably do not occur together.

The very large flowered "Dutch Crocus" with white, lilac, purple and white/purple striped flowers are almost certainly selections within C. vernus and do not involve any other species. I have no reason to suppose that they are hybrids in the traditional sense, but are hybrids between different forms of the one species.

A very thorough study of the chromosomes of C. vernus through its range has been made by Miss Christine Brighton of the Jodrell Laboratory at Kew. It is published in the Kew Bulletin Vol. 31 No. 1 (1976). Fifty different collections from as far apart as Italy and Russia were counted and their chromosome morphology studied. It was found that C. vernus subsp. albiflorus always had a chromosome number of $2n=8$, but subsp. vernus varied considerably with counts of $2n=8, 10, 12, 13, 16, 18, 19, 20, 22, 23$.

Most of this variation came from the eastern end of the range, from Yugoslavia to Russia while in the west only $2n=8$ and $2n=16$ were recorded. The hybrid which was collected in northern Yugoslavia (Mathew 7503) occurred in a population of subsp. albiflorus with $2n=8$ ($n=4$) and subsp. vernus with $2n=18$ ($n=9$). As one might expect the hybrid had a chromosome number of $2n=13$ and was sterile with aborted pollen grains.

*Primrose Warburg adds that there are at least three different plants in cultivation as crosses of C. vernus and C. tommasinianus.

A BOTANISTS LAMENT

Perhaps one of the most interesting features of plants, and yet at the same time one of the most frustrating, is their range of variability within each species. Often we know a species by one form only, that is the one generally available from a nursery or one which is propagated and swapped among friends. Thus in Crocus, to take one example, we think of C. balansae as the lovely deep yellow-orange one with a sort of mahogany exterior. In wild populations this form is perhaps the exception rather than the rule, and C. balansae exists in almost plain yellow forms, ones with brownish striping on the outside through to those with wholly chocolate coloured outer segments. I have seen populations of C. dalmaticus where in a few square yards there was everything from plain lilac to deep purple, some with a silvery sheen outside, some yellowish outside, some striped, ruby forms, and even a semi-double. So, what is a 'typical' form - there is no such thing really!

All this is fine for it is fun to realise that one can go on selecting forms ad infinitum, but to a botanist it is a nightmare! It is as good as impossible to be precise about anything, so that the words 'usually', 'generally', 'more or less', 'about', 'roughly' etc. become thoroughly hackneyed, while many non-botanists glance sidelong at this imprecise parlance.

I can almost guarantee that any account of Crocus which I write can be faulted - probably any account of any genus which anyone writes can be faulted, merely by taking the account and trying it on all the specimens in a wild population of a species. Even such striking species as the bicoloured C. scardicus upsets things by not always being bicoloured - something like 90% of the plants are purple and orange, but just a few have no purple base to the flower. Similarly not all C. cvijicii are plain yellow - some have a purple base; but it would be ridiculous to ignore the colour of these two as a diagnostic feature, so we say C. scardicus is usually bicoloured purple and orange, and C. cvijicii is usually plain yellow, knowing full well that some triumphant soul, waving his key to Crocus will pounce on the exceptions crying 'it doesn't work'!

These comments of course only deal with colour variation - practically everything else about a crocus, such as leaf width, flower scent, stigma division, etc., varies also, so the task of describing the range of variation in each species is immense.

Brian Nathans