



Snow Cap

The scene in the garden remains much the same as it has for the last two weeks with an ever increasing amount of snow and ice weighing heavily on the plants.

The Mutisia looks very seasonal hanging with icicles that grow in length every time a bit of sun hits this south facing wall and causes a temporary thaw. The various ornamental stone features also display the added attraction of a fine snow cap.



Galanthus reginae olgae

In the bulb house the stems of these *Galanthus reginae olgae* flop over as the water in the pots is frozen and locked up. This is a typical reaction displayed by many bulbs in this stage of growth when freezing conditions occur. I am not entirely sure if it is a conditioned response to protect the stems and flowers or just a symptom of a lack of water in the cells so they become floppy.



Temperature

This was the temperature -6C at 1pm – the warmest part of the day – in the bulb house. We have not had a positive reading for most of the last two weeks and the long term forecast suggests that there are not many signs of much of a change throughout December at least. There is a hint that the temperature may rise slightly towards the end of this week.

It is during weather conditions like this when there is apparently not

much happening in the bulb house to write about that I start to think about things to say. This is where the discipline of having to write a bulb log every week is as beneficial to me as I hope it is to many of you. We all understand or at least know that we have to feed our plants if we want to get the best from them - the main nutrients we have to

add are Nitrogen(N), Phosphorous(P) and Potassium(K) - the other major nutrient which the plant takes itself from the atmosphere is of course Carbon. I believe the most important of these nutrients for the successful growing of bulbs are P and K. Of course all plants need an adequate supply of N as well but I think that we humans are guilty at every level, from gardeners to farmers, of using too much nitrogen – way more that is needed for most plants.



Sternbergia leaves

Plants mainly need Nitrogen to build leaf and stems and by adding more N the leaves and stems will grow bigger but is that desirable in our bulbs? I have discovered to my cost that bulbs fed heavily on N will be bigger but all their parts are less able to cope with extremes of cold. Using bone meal in my potting mixes provides all the nitrogen and phosphorous the bulbs need and it is released slowly throughout the growing season and

not in a giant rush as would be the case with most of the chemical forms of fertilizer. These Sternbergia leaves are well frozen and are more likely to survive undamaged as they have not been over fed on Nitrogen. While we all know the importance of the major nutrients it is equally important that plants have a source of the trace elements – Magnesium(Mg), Calcium(Ca), Sulphur(S), Iron(Fe), Boron(Bo), Manganese(Mn), Copper(Cu), Zinc(zn) and Molybdenum(Mo). The importance of these to a plants health can best be compared to how our bodies require vitamins to remain healthy. We can eat all we like and can grow but without small amounts of vitamins our bodies



will soon lose good health and become ever more susceptible to attack from disease. I also believe the plants need these elements to make them able to tolerate freezing conditions. It is to try and ensure that I have a good supply of the trace elements in my potting mix that I add leafmould and volcanic rock dust to my potting mix.

On the left is a **Cyclamen graecum** leaf that is under attack from mould. The plant is much more likely to be able to combat such attacks if it has the correct balance of essential minerals in its system. I do not know precisely all the functions of the individual

elements but ensuring your plants have a steady supply available to them will greatly help your plants.



Cyclamen coum

This pot of *Cyclamen coum* has not been repotted for a number of years – as the many self sown *Ipheion* seedlings show- so how do I ensure that bulbs that are not repotted get access to all the elements that they need? I often knock off the gravel in the autumn and sprinkle on some bone meal and some rock dust and work it gently into the top layer before replacing the gravel. If the plants show any signs of a deficiency during growth I will apply a diluted liquid fertilizer. The type I use are the ones sold as tomato fertilizers that are higher in potassium than they are in nitrogen but even they have all the nitrogen that a bulb could need - plus I always look at the formula for the ones that also claim to have added trace elements.



Bulb house

In the bulb house the light levels are even lower due to the ice and snow on the roof. Even though I remove the snow as it falls, to prevent the buildup of weight, a layer of ice and snow usually remains until we get temperatures that rise above freezing. Despite all these factors, growth albeit at a very slow rate, continues most days.



Cyclamen leaves

There is always interest to be found in a well stocked bulb house all through the winter as these wonderful Cyclamen leaves show and even the odd flower still appears.

No matter what the weather it is important to have a daily check in the bulb houses to ensure all is well and if it is not, to take steps to rectify any possible problems. Checking that my soil warming cables are coming on to minimize the extent of the cold penetration is one of my daily checks. It is amazing to see the difference they can make when I compare the plunges that have a cable with those that have no protection. The Galanthus with the flopping stems shown on page 2 has no protection - others on a protected plunge are still upright.



Dead Crocus flowers

Another task is the removal of dead Crocus flowers.



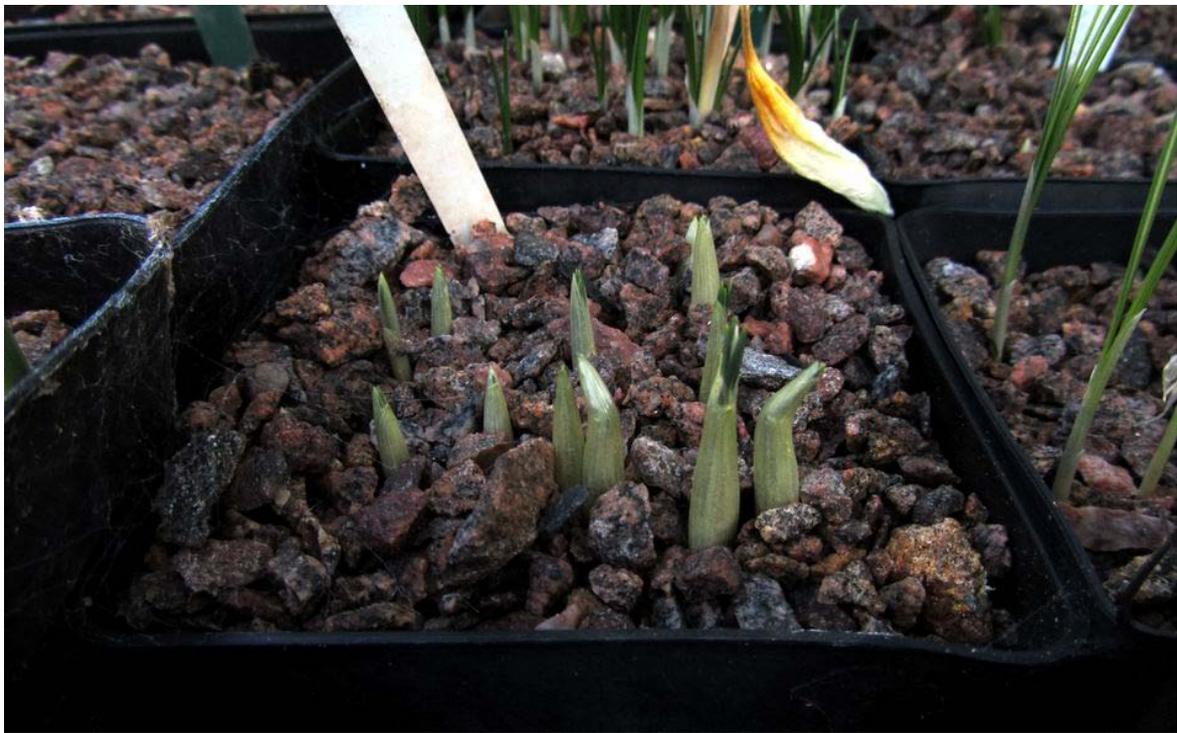
Crocus flowers

It may not seem too urgent to remove these dead flowers because they are sitting on gravel and due to the freezing conditions locking up the moisture no mould is forming but as soon as the frosts lift the mould will start.



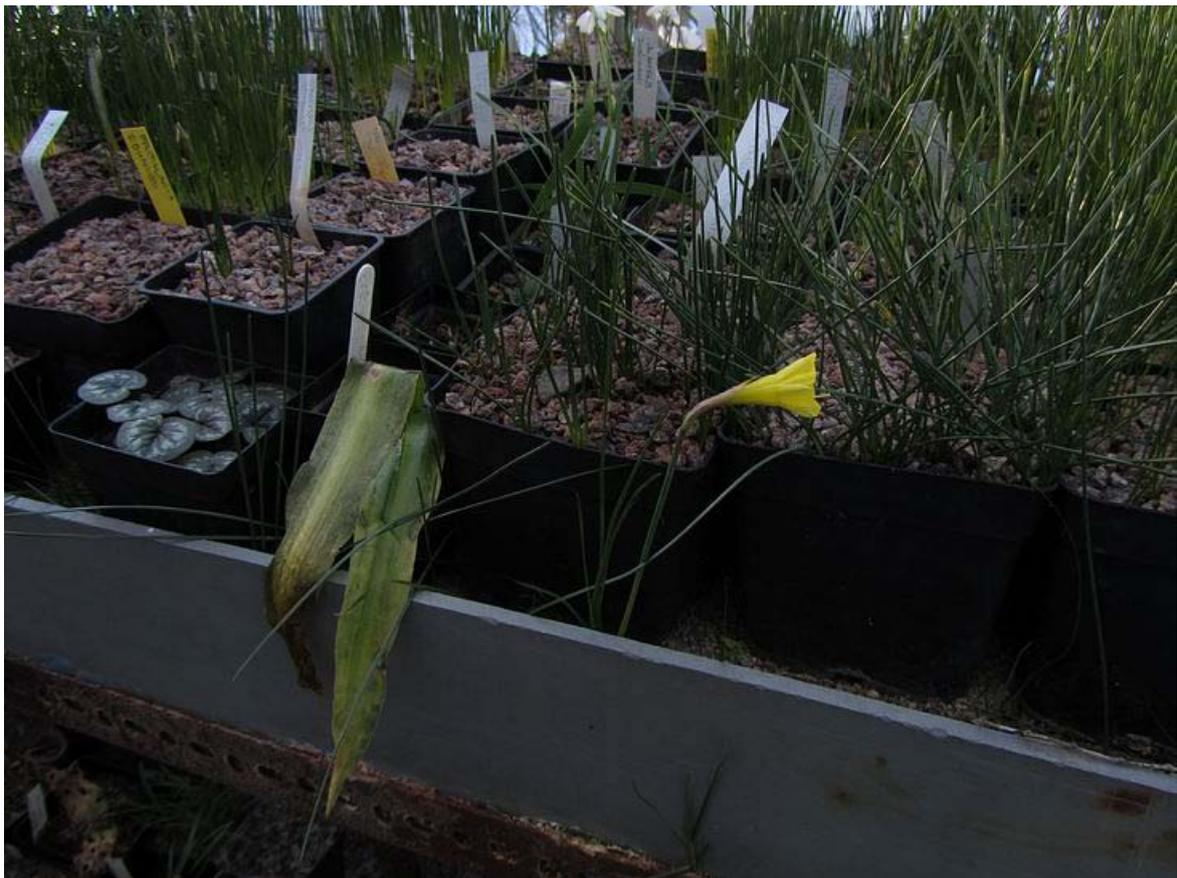
Dead Crocus flowers

The need for this good housekeeping becomes much clearer in this picture where the dead flowers are lying on the healthy green leaves so any mould can quickly invade and infect the growing tissues.



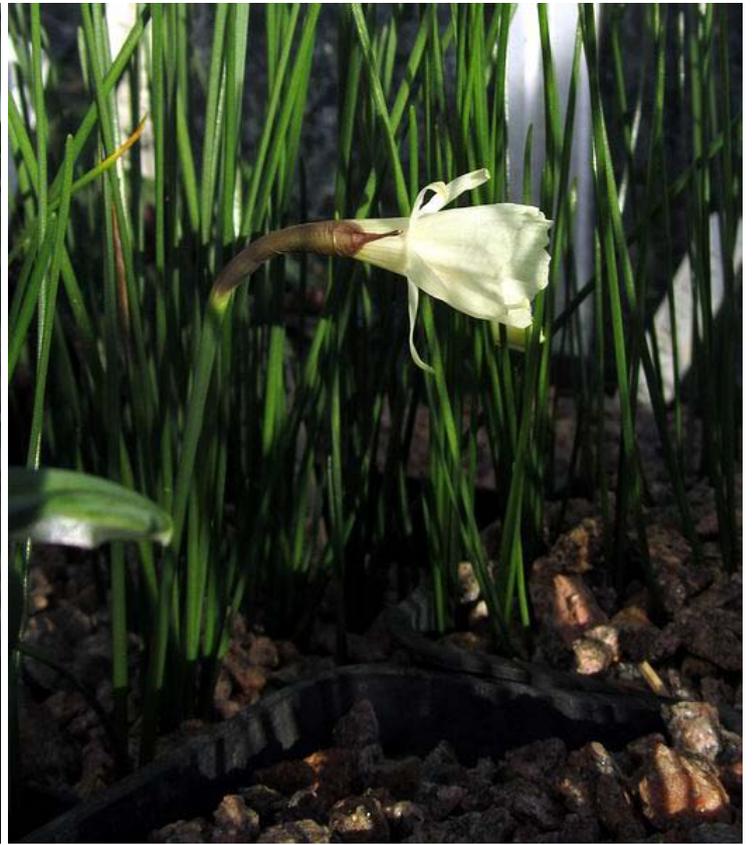
Crocus michelsonii shoots

In bulb log 45 I showed a picture of this pot of *Crocus michelsonii* with the shoots just emerging. Despite the cold conditions they shoots have continued to push through showing how these winter growing bulbs do not require much in the way of heat to grow slowly.



Bulb house plunge

This picture of the bulb house plunge shows a poor frosted *Eucomis* leaf that has not evolved a strategy to cope with freezing conditions and so the plant has quickly retreated into dormancy. The *Narcissus* on the other hand are fully equipped not only to survive these conditions but to grow and flower through the winter months. Escapees still appear in the plunge and so often I find some of the nicest seedling forms, like this good strong yellow *Narcissus*, appearing there.



Narcissus seedling and *Narcissus cantabricus foliosus*

Here you can compare the colour of the stray Narcissus seedling with a *Narcissus cantabricus foliosus*. The seedling is almost certainly a *Narcissus romieuxii* form or hybrid and good strong yellow forms are very desirable.



Narcissus buds

There are plenty of Narcissus buds appearing in the pots now like this 7cm pot of *Narcissus romieuxii* JCA805 so there is much to look forward to in the coming weeks and months. It is interesting when these plants flower. When I first started growing them nearly 30 years ago they never flowered before the New Year now most years they are in flower before December is finished. This change is largely due to the milder autumn and early winter conditions – it will be interesting to see when the flowers open now we are in a big freeze.



Narcissus romieuxii

Another clone of *Narcissus romieuxii* is at a more advanced stage.



Plunge seedlings

I really must rescue these poor bulbs from the sand of the plunge as they are struggling to push their leaves and stems past the pots. What you will notice however is that they are not struggling to grow and flower freely showing that there must be plenty of nutrients and trace elements leaching out of the pots and into the plunge sand.



Rhododendron elegantulum

It is not just bulbs that react and cope in different ways to the cold many rhododendrons have evolved a strategy of rolling their leaves up as a protection. Rhododendron elegantulum will roll its leaves up but not until the temperature drops to around -10c



Rhododendron sp.

This seed raised Rhododendron sp. hangs its leaves and has started to roll them up. It is seed raised from ACE seed, it has not flowered yet and we haven't put a name to it – perhaps next year it will produce a few flowers.



Snow Caps

I will sign off this week with two more snow capped pictures from the garden.

Above: the wonderful humps and hummocks of the troughs still make the area interesting to look at.

On the left is a Sedum growing in an 18th Century sandstone urn that I rescued from a building site many years ago. There were two of these wonderful urns but the builders had already smashed one up.

Its attraction is further enhanced by the sedum and its tall snow cap.

Postscript: If you are snow bound, you might enjoy browsing the International Rock Gardener e-magazine and the Wisley Alpine Log:

<http://www.srgc.org.uk/logs/index.php?log=international>

<http://www.srgc.org.uk/logs/index.php?log=wisley>

