



BULB LOG 31.....5th August 2015



They say the camera never lies but it certainly can deceive by isolating selected views such as that on the cover page. I have been looking at this grouping of a trough and a bonsai tree on our back door step for some time, as I sit on our swing seat, and now the Hosta is in flower it is at its most colourful. The way these two separate parts, the trough and the bonsai, can combine from certain view points to suggest a wider landscape is a key part of the design



and layout of our garden.

When the picture is taken from a different angle the scene breaks down to a cluttered group of containers on and beside the steps. The final part of the illusion was the white sheet of paper to further isolate the two components.

At the end of July we had a 'blue moon' which is nothing to do with the colour but simply the fact that it is the second full moon to occur in a calendar month

which does not happen very often hence the saying 'once in a blue moon'.

The moon has played an important role throughout history in guiding some growers when to plant or sow— others say this is just a myth.

If the gravitational pull of the moon causes the tidal cycle in our oceans it must also have a pull on the ground water and the water in the plants themselves.

When the pull is at its greatest there will be more moisture near the surface of the ground and within the plants.





I must say a lack of water has not been an issue for us this summer, with double the average rainfall the ground has never dried out. I have been waiting for a dry spell to be able to lift and re-plant the Erythronium baskets – this week I decided to have a look. The compost in first basket I lifted while not dry would just be workable so I tipped it upside down carefully and immediately saw the new roots forming on the bulbs. Because of the wet and cold conditions the roots have initiated early so I carefully replaced the

basket and will have to leave this task until next year.



The rest of this week's Bulb Log is another instalment from my book 'Erythroniums in Cultivation' covering re-potting.

The advantage of publishing this way is I can add to and further edit the chapters when I combine them all into a single PDF later in the year.

It is easy to take things for granted when you do them routinely so you can help me by letting me know if you think I have missed out any details that

may be helpful out – “crowd editing”!.....

ERYTHRONIUMS IN CULTIVATION
Re-potting

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Repotting

The best time to repot is in summer when the compost has dried out and the bulbs are not in active growth - in our garden this can be from late June through July and into August. Ideally I would like to repot them every year – I have no doubt that the bulbs grow better if you do – however with the number of pots we have time does not always allow for this so I aim to do them every second year. If they are left for a third year you will start to notice a decline in their vigor as both the growth and flowering decreases. Some years when we have had very wet weather through the summer it is impossible to get the compost dry enough to repot the bulbs.

If it is cool and there is moisture present the new roots of some species can start to appear as early as July making it difficult to repot without hampering the growth. On checking this basket of *Erythronium revolutum* bubs in late July I found roots were already emerging so repotting was abandoned for the year.



Potting Mix

I would normally mix my composts in our cement mixer but when I just require a smaller amount I do it by hand in a tray and here is the mixture that I use now. A lot is spoken about the precise formula your mixture should consist of but it does not need to be complicated if you understand the conditions that you are trying to create for the plants. All that plants growing in pots require of a compost is something to hold them upright, with good air retention so the roots do not drown, and an ability to retain moisture so the roots do not dry out too quickly. As well as this they need a source of essential nutrients.



Formula – My standard *Erythronium* mix is 2 parts sand, 2 parts grit and 2 parts leaf mould. This is an ideal very free draining mix for growing bulbs in plastic containers in our climate. Your own ideal mix will depend on various factors such as the nature of the ingredients, whether you use clay or plastic pots, your climate, etc. Using your own experience of your materials and climate you should adjust this formula to suit your own needs. For instance you may need to

add more humus in drier regions or even use a soil based mixture – in very wet regions you may have to add more grit to improve the drainage. I measure the quantities for the mix by volume using in this case a plastic scoop but for the bigger quantities I mix in the cement mixer I would use a bucket.



I use **sharp sand** from a builders' supplier or quarry, you can see it has a range of particle size. Not what is called 'builders' sand' in the UK which is used for making a mortar mix with cement to lay bricks; that is too fine and has been graded through a smaller screen to remove the larger grains that we require to provide better drainage.



I like to know the proportion of particle size contained in my sharp sand mix before I start and to do that I pass some of the dried sand through a basic household sieve. This gives me two piles: the fine material that passes through the sieve, the pile on the right, this is what I referred to as 'builders sand' and on its own is too fine for our purpose, but is ideal when combined with the larger grit on the left. The material I want should contain a mixture of these two sizes combining around 35-50 per cent of larger particles up to a maximum size of 6mm - this keeps the sand open with plenty of gaps to allow air into the mix and my test shows that this sand meets my requirements. In the garden sand beds I use only this sand to grow plants in but for growing in plastic pots it is still not well enough drained for my liking so I need to add more grit.



I use 6mm granite grit from a local quarry. In Scotland this material is readily available as it is used to render the exterior of buildings – a process called 'harling' in these parts. There are many sources of this size of grit available such as horticultural grit, turkey, hen and chicken grit which is mostly a flint type material for feeding to poultry to aid their digestion. Some people advise that you should use washed grit as fine dust can prevent the mix from draining freely. You will see from the picture that I do not adhere to that advice - I like to keep the fine to dust-like particles as I believe they help supply some trace elements to the final product in addition my mixture is so gritty there is no danger that this fine material will clog the drainage.

In many ways I could work with just those two ingredients - sharp sand and grit - as many bulbs grow in mineral based soils in nature.

However I like to add some humus content in the form of leaf mould. Not only does this humus help retain moisture but I believe that it also adds nutrients or more correctly feeds the microscopic soil flora and fauna that will in turn break down the minerals into soluble salts that can then be taken up by the plants.



The old saying ‘feed the soil and the soil will feed the plants’ is in my view a very wise one. I do not use peat because I have found that some Erythronium species seem to actively dislike peat when growing in containers.



Adding nutrients

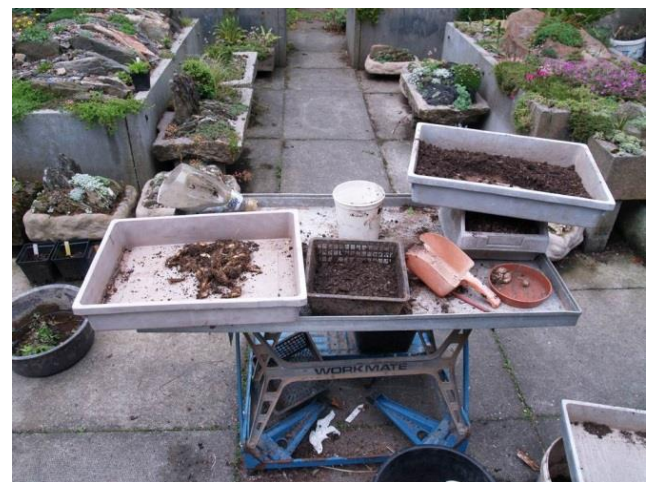
So far, other than the leaf mould I have not added much in the way of food for the plants, so I add bone meal into the mix. I do not measure it out precisely but scatter a quantity over the ingredients before I thoroughly mix them together. Bone meal will release nitrogen and phosphorus slowly over a period of time and as long as you are sensible you are never likely to overdose your plants. You can also use any slow release balanced fertiliser where the nitrogen levels are not too high, my preference would be for one where there are equal levels of Nitrogen, Phosphorus and Potassium (NPK) this can be added at potting time or scattered on to the surface in early spring when the plants come into active growth.



The final mixture meets all the plant’s needs –the larger particles of sand and grit keep it open allowing it to hold both the air and water essential to the plant’s wellbeing. Without air around their roots plants cannot absorb moisture and so in water logged conditions where all the air is excluded and despite the abundance of water the plants cannot absorb it. This is why the symptoms of water logging and drought shown by plants such as the yellowing of leaves and the flopping of stems, are very similar.



I used to replace all of the compost every time I re-potted the Erythroniums but as the number I grow in containers increased and because of the high mineral content of my mixture I discovered that provided everything was healthy I could achieve good results just refreshing the compost by adding one fifth by volume of leaf mould and a small amount of bone meal ensuring it is well mixed through – I may also add additional grit or sharp sand if the drainage needs improving.



Work station

I work on a suitable surface on which I can turn the container upside down allowing me slip it off the compost - for the pots and smaller baskets this can be a tray on my lap or a work station set up near to the frames while for the larger baskets and polystyrene boxes I will use a wheelbarrow.



When replanting the Erythroniums I turn the basket, pot or box upside down as invariably after a few years of growth most of the bulbs will have made their way down to the bottom of the container.

There is less chance of damage to the bulbs by revealing them from the underside.



Take care as you lift the containers as the bulbs may have escaped through the bottom and be growing in the sand below the pot, sometimes the bulbs break as you lift the container but do not worry plant all the broken parts and at least one of the bits will survive



Another common situation, especially with plastic pots, is when a bulb is growing part in the pot and part out of the drainage hole. In this situation I will try to enlarge the hole by cutting carefully with a craft knife to allow the bulb to be removed intact.



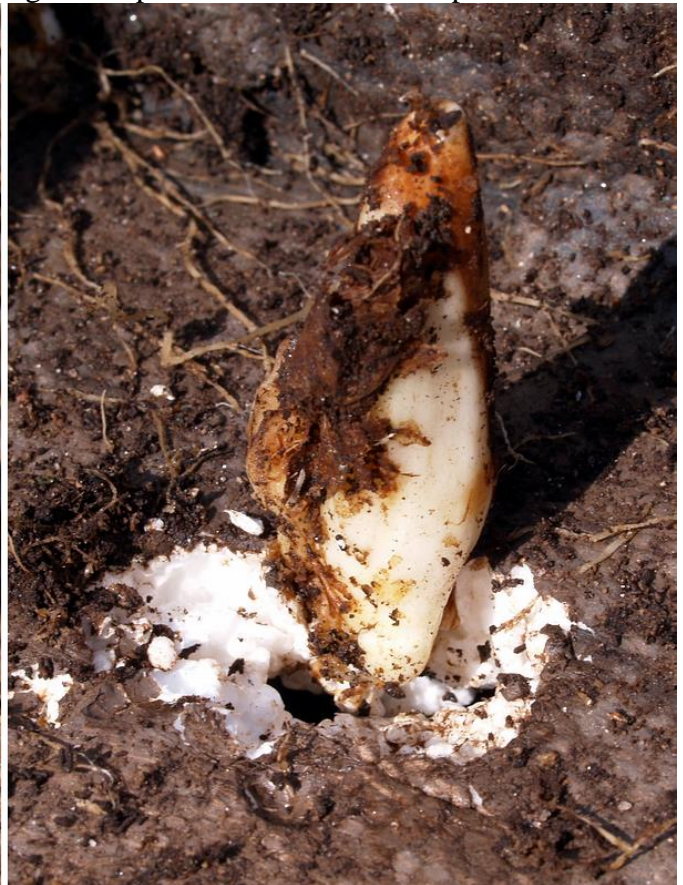
The top bulb is the one that was escaping – you can see the kink where it was deformed by the drainage hole; the other one was bent as it hit the bottom of the pot. Hopefully the bulbs will all be within the pot when you turn it upside down.



I am not sure what purpose the indentation in the base of some makes of plastic pots are designed for but they do make an excellent place for slugs to hide and be near a nice tasty chew on a bulb!



Erythronium bulbs are very good at escaping and will even grow through the fine mesh of the pond baskets – here part of the bulb is inside and the other outside the mesh with a tiny slim waist only a few millimetres wide. I have found that it is impossible to remove these without breaking them apart so what I now do is plant both bits.



The bulbs are so efficient at burrowing down that they can even grow through the bottom of a polystyrene box – there was no drainage hole here, the bulb was simply forcing its way through the structure which I had to chip away to extract the bulb intact.



Turning the container upside down also allows me to assess the stage of growth, this basket was turned out in a wet cold July and I could see that the bubs were already forming new roots – despite the fact that it has been two years since it was repotted I decided that it would harm the roots and growth to proceed so I carefully slipped the basket back on and repaced it in the plunge. I will supplement the feeding by adding a small amount of balanced fertiliser in the spring.



We also need to be aware of the fragile nature of the bulbs when handling them, especially young seed raised plants which can grow very long and thin in their first years as they work their way deeper into the ground.

Erythronium bulbs will descend until they find a stable environment that suits their environmental needs and they do this by elongating the bulb so it forms a long slender form that is very easily broken.





Once you get the bulbs out of the compost you can check how well they have grown, some bulbs take a very long time before they make any offsets while others, like this one shown, form dense clusters of bubs of various sizes after just a few years' growth.

This form is extremely vigorous in multiplying itself.

I more commonly find a few offsets below right.



I split any bulbs that are forming clumps into individuals, removing loose offsets of any size that are only connected by dried remains so they can be better spaced when planted. Additional bud growths that are firmly attached by living material should be left on the parent for another year.



Erythronium tuolumnense increase quickly by offsets – all of the bulbs above came out of this 25cm basket.

I add some potting mix to no more than a quarter of the depth of the container then I replant a suitable number of the bulbs back - in this case leaving plenty of left over to plant in the garden or pass around.

I like to space the bulbs out so that they are not touching and have some space into which they can grow.



Erythronium oregonum bulbs ready for replanting - below I have covered the bottom of the basket with potting mix and spaced the bulbs out ready to be topped off with the compost mix.





The plunge frame area looks in total chaos as I work my way through re-potting but order does return once all the baskets are replanted and replaced - then I work more sand down between them so that they are all surrounded by sand.



Partially worked sand plunge with some replanted baskets showing a mulch of shredded prunings at the top left – this helps to retain moisture and inhibit weeds, moss and liverworts.