



BULB LOG 04.....27th January 2016



Erythroniums in Cultivation
Erythronium americanum* and *album



Seed pot with weed

It is not some edible dish of beansprouts that adorns this week's Bulb Log cover page but a group of germinating *Erythronium revolutum* seeds.

On a routine inspection of the seed frames, due to the weather the first I have made for a few weeks, I looked beyond the *Digitalis* that had seeded into this pot and spotted seeds germinating underneath.

These are pots of seeds sown late in November 2014 that had not germinated last year hence the presence of a large weed.

In the open seed frames I will allow certain weeds to grow in pots of bulbous seed that have not germinated. I believe that the weed growth helps remove excess moisture during our wet summers which could cause fungal or bacterial infections to kill the dormant seed.



***Erythronium revolutum* seed germinating**

To minimise the disturbance of the seeds I carefully removed the *Digitalis* by cutting its roots off just below ground level - at the same time I removed some liverwort that was establishing. Liverwort does annoyingly well in the seed pots. I received, and sowed, this seed in late November of 2014 – obviously this was too late in that season for the germination factors required for a spring 2015 germination to be met. This and two further pots of *Erythronium* seeds from the same source sown at the same time have sat for fifteen months before they rewarded my patience with a fine germination in January 2016.

The pots are nicely cleaned up and top dressed with a layer of gravel just deep enough so the bent over tops of the tallest seeds are showing and no more. The timing of this germination further reinforces my belief that most bulbous seeds have a time window within which they must be sown if germination is to follow in the spring. Seeds sown after that time window has closed will most likely wait through the entire first year until they pass through the next time window that initiates the germination process. Late sowings may give a few sporadic germinations.



Erythronium seedlings

This process gave me the opportunity to study carefully how the young plant emerges from the seed pushing out a radicle root that goes down into the soil while the green seed leaf pushes upwards, initially bent over in shepherd's crook style. Note the feeding hairs on the root, the bulb will form below these nearer the tip of the root.



It is a timely reminder, in this mild damp weather, to keep a watch for grey moulds attacking our plants. The paper like sheaths that wrap around the base of the leaves can come quite high up on some crocus species and you can see the problem this can cause in our damp weather.

You will see that I have already removed this membrane completely from the adjacent leaf which was also infected and I will do that with all the others before the leaves become infected taking care to remove all organic debris from the surface of the pot. If left unchecked the mould will attack the leaves as well as moving down to kill the corm.



Slug caught in the act of eating reticulate Iris

It is not just the moulds that are a big problem in these damp conditions – we have not had much in the way of deep frosts so far this winter to kill off or subdue the other pests. The mild wet conditions are encouraging the slugs to forage on our newly emerging reticulate Iris, chewing great big holes before felling the flower completely. More chapters on *Erythronium americanum* and *albidum* follow on below.....

ERYTHRONIUMS IN CULTIVATION

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Erythronium americanum





Erythronium americanum

The yellow flowered *Erythronium americanum* is one of the Eastern North American species and shares more similarities with the Eurasian *Erythroniums* such as *Erythronium dens-canis*, than it does with those growing in Western North America.

I have long been confused by what I call the 'Eastern Yellows' of which there are at least three species, *E. americanum*, *E. umbilicatum* and *E. rostratum*. Many years ago I acquired bulbs of all three species growing them all up to flower but I could not see

the difference between them. Eventually I realised that there was no difference between the ones I was growing as I had received the same plant under three different names – it was I believe, *Erythronium americanum*. Since that time I have seen these three species and can see the differences very clearly but there are a number of wrongly named plants still remaining in cultivation. I am only showing what I believe to be *Erythronium americanum* here as I have not as yet flowered the other yellow species to get my own images of them.

Erythronium americanum flower

The flowers are yellow with brown spots mostly clustered around the centre of the flower but these can occasionally appear all the way up the petals.

Mostly the anthers are a lovely dark red, see below, before they dehisce - on ripening pollen of varying colours from brown to yellow is exposed.





Erythronium americanum flowers

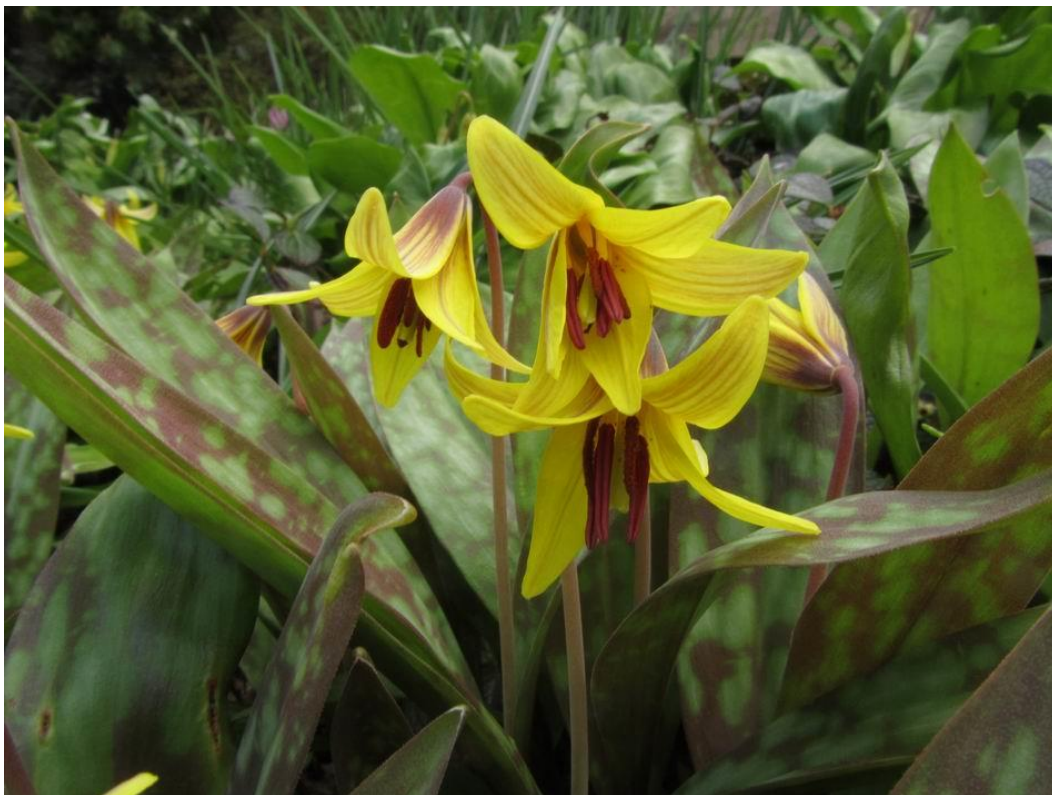
To further aid my search to understand this group I am building up a series of pictures of all the forms we grow showing clearly all the diagnostic parts of the flowers.



Style

The style is club shaped with three ridges running for at least half the length ending in the stigma.





Erythronium americanum

The flowers are held singly on stems of up to about 10 cms and the stems can vary in colour from green to red/brown.



Seed

We get some seed set on this species but not in great numbers; only the occasional flower has a ripe capsule.

Fresh seed above and dried seed below.





Erythronium americanum leaves



Erythronium americanum leaves have similar patterns of random blotching as can be seen on the Eurasian complex making them very different from and easily separated from the Western North American species.

The degree of dark brown to green can vary with some forms having very dramatic colour effects.

As with all species the colour contrast is most dramatic when the leaves are fresh the dark colour tends to fade a bit as the season progresses.



Bulb



Mature flowering sized bulbs of *Erythronium americanum* are more of a classical bulb shape than the typical elongated Western *Erythronium* bulbs.

When growing well offsets can be formed forming nice clumps.



Unfortunately the most common form of *Erythronium americanum* found in cultivation, in the UK at least, is a form that proliferates without flowering. Each bulb sends out a number of stolons with new small bulbs forming at the tip. The next year each of these small, immature bulbs will also send out stolons and so the process continues without any of the bulbs growing on to mature enough to produce two leaves and so flower.

Here is a typical group of the proliferating form of *Erythronium americanum* showing plenty of single leaves growing from the juvenile bulbs - a bulb will only produce a flower when it grows to maturity producing two leaves. I have read many methods of how to make the proliferating form settle down and flower but none seem to work. What has happened in our garden is that eventually the group gets large enough or established enough then it does produce groups of flowers.





***Erythronium americanum* proliferating form.**



I have changed nothing in what I do so I can offer no explanation as to why we now get good groups of flowers on this large planting every year.

Perhaps it is because having spread out by stolons to colonise this bed up to the rock edges they can go no further with this method so some bulbs mature in the hope of setting seed.

It may also be that there has been some subtle change in our weather that stimulates the flowering.

Note how the contrast between the green and brown blotching is much more intense when the leaves first emerge.



Above and below are pictures showing stages of growths as one of our selected seed raised clones, growing in a plunge basket, progresses from bud into flower.



Erythronium americanum

On the left is another free-flowering seed-raised clone with lighter yellow/brown pollen.

Erythronium americanum is as easy to grow in cultivation as *Erythronium dens-canis* and is worth growing in our gardens for its lovely yellow flowers. It is best if you can get hold of one of the free-flowering forms but failing that plant the proliferating form in a restricted area and be patient. Below is my favourite form that I named *Erythronium* 'Craigton Flower'.



***Erythronium americanum* 'Craigton Flower'**

ERYTHRONIUMS IN CULTIVATION

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Erythronium albidum



Erythronium albidum

As the name suggests *Erythronium albidum* has white flowers many of which have a lovely dove grey sometimes red/grey reverse to the petals.



Erythronium albidum

Flower

There is a yellow zone in centre of the flowers and the pollen is yellow as are the filaments.



The style is split into three lobes at the tip.





Erythronium albidum

Erythronium albidum is one of the Eastern North American species, in many ways it is like a white version of *Erythronium americanum*; it is of a similar size and the leaves have the same dark blotched random patterns. I am not sure why this species is less common in cultivation than its yellow relative perhaps it is not so prolific in making offsets from the bulbs.



Seed

We have not had any seed from our garden plants yet but I am growing it from seed collected in habitat.

Bulb

The bulb is similar in shape to that of *Erythronium americanum* both having a more bulbous form than the elongated type of the Western species.





Erythronium albidum is a great plant that is not difficult to grow in woodland type soils it will grow happily in semi shade but in our northern garden it flowers best in more open sites where it gets some sunshine. I look forward to the seed maturing so we can increase the numbers of this lovely plant in our garden.

Erythronium albidum



Erythronium albidum