

# Learning from the wild

Many of us are familiar with trying to grow certain plants well. I often look up Phillips and Rix(1) to see if there is a picture of a plant in the wild and try to imagine what that plant has to deal with; the soil, the drainage, the summer and winter extremes, the sun and shade levels. Is it shrouded in cloud for days on end or does it suffer desiccating winds? The nearer we get to thinking like that plant, the more likely we are to be rewarded with success. It was this book which is responsible for me finally "getting it right" for *Lobelia tupa*. The photo of the exposed windy, sun baked, sea facing slope in Chile has now been reproduced as far as possible and with similar results!

But it would be very easy to assemble a hotch potch of plants - all planted in the right conditions and all doing quite well but with no hint of an overall structure. It might even be tempting to call the result a naturalistic planting but that would be quite unfair. Resist, please, the notion that naturalistic means haphazard or formless. Nature is never so careless and I think wild communities of plants can teach us a great deal.

So, having got the conditions about right, can we look at how plants associate with one another. Challenging stuff, I think, when compared with more formal planting regimes.

Many of the plants which underpin the prairie, steppe or other "naturalistic" schemes which are now being planted tend to come from hard climates with short, intense summers followed by very hard winters. This means that plants tend to peak towards the end of the summer. The north American *Rudbeckias*, *Echinacea*, *Ratibida*, *Coreopsis*, *Helenium*, *Solidago*, *Eupatorium* and *Aster* fit in here along with their less hardy south American colleagues *Verbena bonariensis* and *Salvia uliginosa*. The rugged grasses of Asia and Europe - the species of *Stipa*, *Molinia*, *Deschampsia* and *Miscanthus* complete the structure. Not by any means an exhaustive list, many other examples will spring to mind.

This late summer peak of flowering has been seen as a limitation of the planting style though as Judy Harry in the Hardy Plant 24.2 points out, the winter structure of these plants is also rewarding. Nor should it be forgotten that late summer is a time when many gardens can be rather dull.

So, we can exploit plants from hard climates to fill in the late summer colour gaps but our amenable climate is a bonus here. We can also use plants adapted to take advantage of some very different climate patterns.

Take for example many southern European perennials where summer droughts rather than winter cold tend to modify their flowering behaviour. These flower earlier, taking advantage of the winter and spring rain and tend to seed as the summer droughts affect them in their home habitats. *Digitalis*, *Verbascum*, *Hellebore*, *Pulmonaria*, *Geranium phaeum*, *Papaver*, many *Allium*, *Cyclamen* and *Colchicum* all fit in here.

Some of these are further adapted to the droughty conditions imposed by a tree canopy. But given our cloudier skies and cooler summers, we may be able to use these to advantage in more open positions. This certainly works with *Digitalis parviflora* which does equally well in a hot and sunny gravel area or a woodland canopy position.

The importance of getting the right conditions can be demonstrated by looking at just how precisely plants decide where they grow. The population of *Adenostyles allariae* ( Pic 1 Col Ferrett 2000m N Italy) is precisely defined - possibly by moisture. A little away from the camera and conditions are wetter and more suited to the thistle like *Cirsium spinosissimum*. Farther away still and a diverse mixed sward of bellflowers and hawkbits takes over.



Pic 1 *Adenostyles allariae* in the Italian alps Col Ferrett 2000m.

Similar effects can be mimicked in our own plantings. We can either work with particular natural variation in our gardens or move earth, stone, water and humus as appropriate to create the desired conditions. Notice (pic 2) how the heads of *Primula florindae* meander down through this area - they are in fact following the artificially created watercourse but by doing so they strengthen this contrived feature but, in doing so, look more the part.

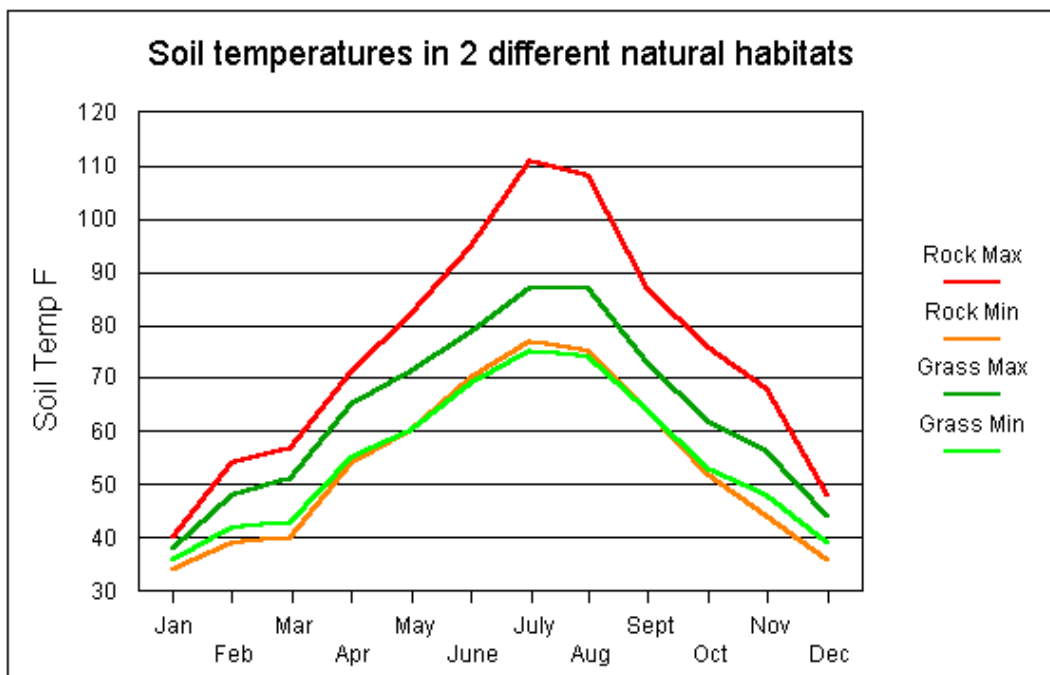


Pic 2 The path of the watercourse is picked out by the seed heads of *Primula florindae*

There is much scope for this manipulation of habitats. Some simple observations with two thermometers have shown me, over the last year, how dramatically the surface material can change

the conditions. One thermometer was placed on a 10cm gravel mulch and one nearby on top of a grass sward. On the gravel the daily range is 2 or 3 °C greater even on cloudy days and when skies are clear the differences are huge. At night the temperature in winter and spring can quickly plunge and during day soar to high values - quite common for the daily extremes to be 6 or 8 °C greater above gravel than over grass. It's a safe bet that humidity over the gravel will be substantially lower too, both because day temperatures are higher and because the stone surface will not be acting as a sponge to hold water. Gravel is often seen as a cosmetic garden additive but clearly its rôle is much greater. The harder conditions and the higher light levels on the gravel have produced much better *Euphorbia*, *Galtonia candicans* and incomparably better *Stachys* and *Calamintha* than I could ever reasonably expect on heavy clay.

My rather crude temperature measurements are confirmed by some fascinating ecological data from Missouri<sup>2</sup>.



The monitoring of various habitats in which the endangered Missouri bladderpod grows reveals large differences in growing conditions. When comparing a rocky habitat - characterised by exposed and shallow soils with a grass habitat, the former had far higher daily maximum temperatures throughout the year and lower daily minimums in winter. Interestingly, the rocky habitat also retains the highest soil moisture.



Pic 3 the first year after planting, *Galtonia candicans* and a happy *Euphorbia pithyusa* on the right.

Returning to the wild, mixed plant populations are also common. In a wet area at Col de Voza above the Chamonix valley is *Astrantia major* with the cabbagey spikes of *Gentiana lutea* in a fairly homogenous sward with earlier flowering trolius only revealed by a few leaves (pic 4). Yet behind on a bank where conditions are less wet is a stand of rose-bay willowherb and a notable absence of those plants in the foreground.



pic 4 *Gentiana lutea* and *Astrantia major* in a wet meadow above Chamonix valley



Pic 5 A diverse habitat in the Italian alps near Col Ferrett 2000m with *Carduus carlinifolius*(?), *Silene vulgaris*, *Hypericum* sp, hawkbits and bellflowers.



pic 5a *Calluna vulgaris*, *Erica tetralix* and *Erica cinerea* mixed with *Deschampsia flexuosa* on Culmstock Beacon, Devon.

Very close to the *Adenostyles allariae* shown above (Pic 1) is a very different plant population - this time very diverse with no hard boundaries between species. (pic 5). There are examples in the countryside everywhere: an upland mixed heather sward at 250 metres in Devon (Pic5a) contains at least 3 different heathers - *Calluna vulgaris*, *Erica tetralix* and *Erica cinerea* mixed with *Deschampsia flexuosa*. The harsh conditions have reduced the heights and nature has planted in a delightfully attractive matrix.

Can we build on these wild examples for garden use? Start first with the growing conditions of area to be planted rather than the plants we'd like to grow - say it's a damp to wet loamy area with plenty of light. We could take the *Astrantia major* and *Gentiana lutea* from the alpine example for some of the area. Hansen and Stahl (3) give other plants requiring periodically moist and loamy habitats. These include *Cirsium rivale*, *Camassia cusickii*, *Iris sibirica* and *Lythrum virgatum* which could be added. A wetter patch might be picked out with a greater density of, perhaps, *Primula florindae* or the *Trollius* from the wild example. An area of drier bank could use *Rudbeckia* and *Coreopsis*. This will give a long season of interest starting with the *Trollius* and *Camassia* and running through to *Rudbeckia* species and *Lythrum* towards the end of summer. The whole area could then be cut down in late autumn or early winter and the cuttings removed to keep nutrient levels low and to prevent smothering of the plants.

A moist meadow we're establishing along these lines using *Helenium pumilum magnificum*, *H flexuosum*, *Lythrum* cultivars, *Geranium* Anne Folkard and G Joy, *Persicaria* and *Sanguisorba* with the wettest areas picked out in the most suitable plants. The *Geranium* and *Persicaria* were picked for their floppy habit and are planted against the hornbeam hedge, through which they should scramble. Interestingly, a few annual rudbeckias planted to add interest in the first year looked quite out of place - the flowers are too big, too coarse and too raucous to meld happily with the others.



Pic 6 - a newly established moist meadow in year 1

This meadow area will take some years to achieve its potential but faster results are possible. That gravel area monitored earlier was planted with rooted cuttings directly into the ground during March

and up to the end of April . It was a stunning spectacle by midsummer and looked like the photograph (pic 7) at the end of September. During autumn and winter the ground underneath accumulated a cover of fallen leaves, these must be removed to prevent a change in the growing conditions by reducing temperature extremes and increasing the humidity of the microclimate and raising soil fertility.

Conversely, other planted areas which rely on a deep layer of shredded woody material to create an instant woodland habitat will be improved by deliberately leaving the fallen leaves to contribute to the habitat. Indeed such areas are actively mulched by blowing leaves onto them.



Pic 7 *Rudbeckia triloba*, *Verbena bonariensis*, *Ratibida pinnata* and *Salvia uliginosa* 6 months after planting through a thick gravel mulch.

One problem with this style of gardening is that it may not be immediately obvious that you intend it to be that way. Do these plants look like this because you forgot to "tidy them up"? As gardeners we know that nothing could be farther from the truth but it might be helpful to put in some visual clues for the less informed!

If these naturalistic areas are juxtaposed with parts of garden which have been highly groomed; tightly clipped hedges, neatly mown grass or manicured rock gardens then your gardening techniques are given more credibility. This might be part of the reason that Piet Oudolf's garden style works - highly controlled and clipped hedges mixed with volumptious herbaceous plantings. This contrast has also been used to effect at Lady Farm near Bath. (pic 8). Here the delineation between the fairly new plantings of *Deschampsia cespitosa* Goldtau and *Rudbeckia* under birches and the lawn is obvious; it's clearly supposed to be this way. For many years we have had native meadow and wild flower swards which run against tightly mown grass - it shows others that we didn't just forget to mow it!



Pic 8 Lady Farm near Bath. Prairie planting in delineated areas showing *Deschampsia*, species *Digitalis* and *Rudbeckia* under birch.

The innovative Fairleigh Gateway plantings in Sheffield are in a large public space through which many people walk and play. Here the planting is right up to the edge of tarmac paths. In mid September 2003 (it's second year) *Centaurea scabiosa*, *Persicaria amplexicaule*, *Linum perenne* and *Salvia nemerosa* still provide colour and texture. (pic 9) I think it is effective because the plants used are so different from the grass elsewhere and from the areas of native plant space nearby and because the planting runs right up to the hard tarmac edge.



Pic 9 Experimental amenity plantings at Farleigh Gateway, Manor Estate, Sheffield, mid September.

The possibilities for garden experimentation are limited only by ones imagination. A wild perspective offers the challenge to develop a garden which can look less contrived, more coherent and, because plants are growing under roughly the conditions they demand, is easier to manage.

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1. Perennials Roger Phillips and Martin Rix. Pan (2 volumes) ISBN 0 330 29275 7 & ISBN 0 330 30926 9
2. 1999 Weather Monitoring for Wilson's Creek National Battlefield. F. Adnan Akyüz, University of Missouri-Columbia, Columbia, Missouri 65211.  
<http://www.missouri.edu/~aggwills/wilsons/monit/meteo/wcann99.pdf>
3. Perennials and their garden habitats Richard Hansen, Friedrich Stahl. Cambridge University Press ISBN 0 521 35194 4