The pollinator border

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Over the years I have come to believe that as gardeners we owe a great debt to pollinating insects, for it is primarily for their benefit that flowers evolved. A few years ago I decided to help repay this debt by developing a 'pollinator border' - a flower border planned to be of maximum use to pollinating insects, and designed to attract a wide range of pollinators.

Although the media tend to focus on bees, many types of insects exploit nectar or pollen. When studying what flowers they use, it is not a case of 'one size fits all'. There are many different shapes and sizes of insect mouthparts, and they use different shapes ands sizes of flowers. A friend likened the relationship between insect mouthparts and flowers as being like a key fitting a lock, and I would agree that this often seems to be the case. For example, long-tongued bumblebees such as the garden bumblebee (*Bombus hortorum*) need deep-throated flowers such as *Aquilegia vulgaris*, aconitum species, single-flowered delphinium, and the common foxglove, *Digitalis purpurea*. Many other species of bumblebees have much shorter tongues and need different shaped flowers, such as mints, thymes and clovers. Lepidoptera (butterflies and moths) drink nectar through their hair-thin proboscis and favour flowers with very small tubes, often in bunches, such as *Verbena bonariensis.*

Hoverflies, which are beneficial to gardeners because the larvae of several species eat aphids, have mouthparts that are different again in shape and size. They eat pollen, and some drink

nectar. They tend to favour flowers that present pollen and nectar openly on the surface and do not have deep thin tubes. Many umbellifers fit the bill for hoverflies, such as fennel, angelica, and the attractive evergreen sub-shrub, *Bupleurum falcatum*. Smallish yellow daisies such as *Anthemis tinctoria* and *Leontodon rigens,* (the latter a smart Portugese relative of the hawkweeds), will serve as a pollen source for various small solitary bees as well as hoverflies.

So what about my pollinator border? Over several years, through judicious replanting, I allowed an existing cottage-style perennial border to evolve in this direction. Double flowers do not provide much forage for insects, so several of them were removed to make room for some newcomers such as *Salvia pratensis*, *Phuopsis stylosa* and various *Phlomis, Calamintha* and *Nepeta*. A few wild flowers such as *Campanula glomerata* and *Malva moschata* fitted in perfectly. This transition had the desired effect and eventually bumblebees, mason bees and many other pollinating insects came in droves.

Some research revealed that a number of garden flowers from distant places are bird-pollinated in the wild. They tend to have scarlet or orange flowers that are clearly not 'insect-shaped', and usually present our insects with a lot of problems accessing pollen or nectar. There are many well-known garden flowers that fall in this category. Typical examples include *Callistemon* (bottlebrush), *Fritillaria imperialis* (crown imperial), *Kniphophia* (red hot pokers), fuchsias, and the red lobelias (*L. tupa, L. cardinalis* and *L. fulgens*). It seems that birds have well-developed colour vision at the red end of the spectrum, which is presumably why these flowers, as well as fruits and berries that attract birds, are coloured orange or scarlet. Some of the more robust or more ingenious insects (such as honeybees and a few species of bumblebees) may find ways to make use of such flowers, but the vast majority of insects can't use them and so I avoided them when planning my border.

Two years ago I moved to Chepstow in Monmouthshire, and have created a brand new pollinator border from scratch, in a sunny well-drained situation. It is still work in progress, but I concentrated on some of the species I have already mentioned together with various kinds of *Allium, Monarda* and *Agastache rugosa*. The latter seems to be one of the most insect-friendly plants there is and has a long season. To extend it

even further, I use various kinds of michaelmas daisies, but care must be taken in selecting these as some are weedy and invasive. I have found forms of *Aster amellus* and the more robust *Aster novi-angliae* to be excellent pollen and nectar sources for a range of insects and they don't take over the garden.

In hindsight, I found that the border had a predominantly blue and purple colour. This was not planned, it just turned about that way when all the insect-friendly plants were put together. Interestingly, it seems that bees, and possibly other insects, cannot see the colour red as we see it, but their range of vision extends further into the ultraviolet end of the spectrum. Just as scarlet and orange flowers seem to be signals to birds, purple and violet flowers are signals to insects that nectar is available. Pollen-bearing anthers are usually yellow and this seems to be signaling to insects that pollen is available.

There is scientific evidence that bees, and possibly other insects, have to learn to exploit each type of flower. This learning takes precious time and energy. It suits the bee if it can concentrate on collecting food from individual flowers of the same kind, rather than having to learn anew the shape and layout of the flowers of many different species. Hence insects have a tendency to be 'faithful' to the same species of flower on a foraging trip. Gardeners can help them by planting several of the same type of flower in groups or 'drifts', rather than dotting things about. Gertrude Jekyll encouraged us to do this for aesthetic reasons, but it seems that it also helps our pollinator insects.

In developing my planting ideas I was influenced both by American books and websites about pollinator gardens, and by some friends in the German wildlife gardening movement, who seem to have a quite sophisticated knowledge of this subject. I see the development of the pollinator border concept as a seamless evolution of the cottage gardening and perennial border style that has a long history in our gardening culture.

Marc gardens in Chepstow. View his excellent website about wildlife gardening: www.foxleas.com.