

Botany for Beekeepers: Creating a Bee-Friendly Garden

By Tony Harris NDB, Scottish Expert Beemaster, Morayshire

Tony Harris concludes his botany series by inspiring us with some tempting plants with which to create a bee-friendly garden.



Honey Bee working Gorse in January.
All photos are by Tony Harris.



Himalayan Balsam provides a late summer treat.

We all know that pollinators are in decline and one of the reasons for this is loss of natural habitat or, to be blunt, not enough food throughout the year to sustain healthy and diverse populations of pollinating insects. We can help by providing a wide range of flowers that bloom from early spring to winter. The key to success is diversity, as different flowers are attractive to different insects.

Creating a bee-friendly garden is good fun and you will be rewarded with visiting honey bees and their cousins, the bumblebees and solitary bees, along with butterflies and hoverflies. You do not need a large area of land; even if you have not got a garden, a few herbs planted in an outside window box will be a larder for bees.

Your bees will forage on the naturally occurring plants and trees that grow nearby, so it is always important to select an apiary location with care. Natural forage near me includes willow, gorse, broom, wild cherry, sycamore, white clover, bramble, rosebay willow herb, thistles, ling heather, Himalayan balsam and ivy. Flowering times for each plant will vary depending on how far north you are and there will be plants such as hawthorn, horse chestnut and lime etc. that will provide a crop in the south more readily than in the north. So, I am going to show you what I have added to my one-acre plot to enhance the natural forage. I have one basic rule when it comes to gardening and that is I do not grow anything that is not useful to pollinators or anything that cannot be eaten by us.

Two early flowers that bees forage on from about February are snowdrop and crocus. It is quite easy to plant these bulbs in your garden, or you can buy snowdrops 'in the green' which means that you buy them as mature plants, just after they have flowered and they seem to establish better that way. The snowdrop, *Galanthus nivalis*, flowers first. It is a good source of pollen, which is bright orange in colour, and some nectar, but do not buy double-flowered varieties as these are unsuitable for honey bees.



Snowdrops; buy single-flowered varieties.



Honey bee foraging on crocus.

Crocus, *Crocus* spp, yields both pollen and nectar and, as they have long flower tubes, they are often visited by long-tongued bumblebees. However, when the temperature rises the nectar rises too and then short-tongued bees like honey bees and recently emerged *Bombus terrestris* queens can access it.

3 Spring-flowering heathers are also good forage plants for bees, especially for queen bumblebees that need to feed on nectar and pollen so their ovaries mature and they can then establish a nest.

4 Flowering currant, *Ribes sanguineum*, can be planted as bare-root shrubs in autumn. It is also easy to propagate them yourself by taking stem cuttings. It flowers in March and April and produces lots of nectar every day as it readily replenishes



Bombus terrestris queen feeding on spring heather.

what is taken by the bees. The flowering currant is known as the 'bee barometer'

because regardless of geographic location, when it is in flower, the beekeeper can safely carry out a first hive inspection of the year.

Borage, *Borago officinalis* is an excellent plant for all bees and is listed as the number one plant for honey bees in several books. It is very easy to grow; you simply scatter the seed in cultivated soil, rake it in and it will provide an abundance of nectar and pollen about eight weeks later. It attracts all kinds of pollinators and you can time it to flower during the 'June Gap' if that is a problem for your bees. It also self-seeds quite easily so there is usually some borage flowering all the way up to the first frosts. Bees will work it readily for the nectar which refills almost hourly on warm days and they will also collect pollen from borage, which is a cream colour. Borage honey is very pale and runny with a mild flavour, being slow to granulate.



Flowering currant; the 'bee barometer'.

Traditionally borage was cultivated for culinary and medicinal uses, although today commercial cultivation is mainly as an oilseed. Beekeepers migrate beehives to borage fields, although not in my part of Scotland as it is not grown by farmers. The last part of the name '*officinalis*' gives us a clue to the more traditional use of borage, i.e. it is medicinal, used for several disorders including respiratory, cardiovascular and urinary problems.

Phacelia, *Phacelia tanacetifolia*, is also an excellent plant for pollinators, producing abundant nectar from a disc at the base of the ovary. It is an annual herb used as a green manure by gardeners. It can be sown in autumn, to flower in May, and in June to flower in August, and it remains in flower for four to six weeks. Phacelia honey is amber or light green with a delicate flavour. It granulates to a pale beige or near white colour. The pollen is a very distinctive dark blue colour.

Vipers bugloss, *Echium vulgare*, is a biennial herb, which means it does not flower in the first year and this can catch you out if you are not careful. When I first started trying to grow this plant I did not understand what biennial meant so I dug it up and started again each spring until the penny dropped; it flowers in the second



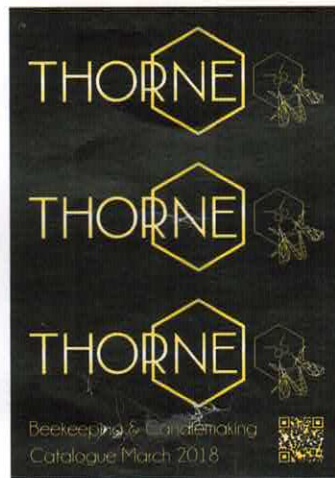
Honey bee foraging on borage. If you look closely you will see the cream coloured pollen on the bee's rear leg.



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Left: Phacelia, excellent for pollinators. Centre: Vipers bugloss. Right: Wild marjoram.

year. Flowering in June and July, it is one of the most beautiful and striking of British wildflowers and is very attractive to bees. Its rough stem is speckled, like a viper, and grows about one metre in height.

Flowering herbs are excellent for pollinators. They are very easy to grow and they do not need that much space. Once established they will flower every year providing a banquet of pollen and nectar for visiting pollinators, especially bumblebees and honey bees. In my garden I have lots of marjoram, oregano, thyme, sage, rosemary, catmint and chives.

Half-hardy annuals can be sown in well-cultivated and finely tithed soil in March and April and they will usually be in flower about eight weeks later. Look at the seeds packets as most of them will now have a 'bee' emblem on them telling you whether or not they are useful for pollinators. I mark out a sowing area in a cultivated bed with sand and sow different seeds to create a pattern; for a longer season it is easy to sow successively, say every two or three weeks if you have the space. I grow cornflower, poached-egg plant, love-in-a-mist and anything, in fact, with an open flower head for the bees to access the rewards inside. It is also a good idea to create a wildflower meadow if you have the space and this can be either an annual or perennial. Seed mixes to suit your requirements are available from specialist suppliers online.

You need to dig out any perennial weeds before sowing the seeds in spring or autumn. The trick with these wildflower meadows is not to provide a too rich soil. In fact the flowers thrive on poor soil, so no fertilisers are used. You just need to cut down and remove the growth at the end of August and simply 'enjoy'.

Sedum is a late-flowering plant that is visited by pollinators in late August and September. You can plant these in your garden and once established they can be split with a spade to give you additional plants. Honey bees, bumblebees and butterflies love it.



Wildflowers, half-hardy annuals.



Above left: Honey bee on Sedum. Above right: Peacock butterfly and Sedum.

What to plant for pollinators

Top plants for Bumblebees Top 10 UK plants for honey bees

Bird's-foot trefoil	Borage (N & P)
Bramble	Bramble (N & P)
Clover	Cherry including Gean (N & P)
Foxglove	Dandelion (N & P)
Knapweed	Lime (N)
Rhododendron	Michaelmas Daisy (N & P)
Thistle	Top Fruit (N & P)
Vetch	Rosebay Willowherb (N & P)
Willow	White Clover (N & P)
	Willow, e.g. Goat Willow (N & P)

Source: *Plants for Bees*, Kirk & Howes, 2012. N=nectar, P=pollen

I hope you have enjoyed this mini-series on botany for beekeepers and you now have a fresh appreciation of the amazing relationship between flowering plants and bees, and that you will be doing your bit to provide year round forage for bees and other pollinators in your garden.

As a member of the National Diploma in Beekeeping (NDB) Short Course Team, Tony teaches a Defra-subsidised two-day course entitled, 'Botany for Beekeepers'. See the NDB website for more information.
<https://national-diploma-beekeeping.org/>