

## To Bee or not to Bee?

### Pollinators, who they are and why do we need them?

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We all know the Honeybee (most of whom are farmed, not wild) and the Bumblebee. But did you know that, globally, there are more than 20,000 species of wild bees, plus many other species including butterflies and moths, flies (including midges, mosquitos, hoverflies, bee flies), ants, wasps, beetles, birds, bats, monkeys, lemurs, possums, rodents, some lizards, humans and other animals who contribute to pollination?

A **pollinator** is an animal who moves pollen from the male anther of a flower to the female stigma of a flower. This helps to bring about fertilization of the ovules in the flower by the male gametes from the pollen grains.

Did you know that the tiny **chocolate midge** is the only pollinator who serves the cacao plant? In other words, there would be no delicious chocolate without the much-maligned midge!

75% of the world's food crops depend at least in part on pollination. Almost 90% of wild flowering plants depend, to some extent, on animal pollination. We rely on pollinators for biodiversity and global food security – for most of our food. Scientific research shows that a diversity of pollinators is essential for ensuring sustainable crop production. We cannot rely solely on one species (i.e. managed honeybees) for pollination.

Globally, 16.5% of vertebrate pollinators and over 40% of invertebrate pollinator species – particularly bees and butterflies – are facing extinction. This decline is mainly due to changes in land use, intensive and industrialised agricultural practices and pesticide use, invasive species, diseases and 'pests', and climate change.

Pesticides, including neonicotinoid insecticides, threaten pollinators worldwide. Neonicotinoids scramble pollinators' memories, and damage their navigation leaving them lost and confused. The chemical (related to nicotine) is absorbed by the plant as it grows, making it resistant to bugs and viruses. The trouble is that the

neurotoxins stay in the plant when it flowers and later in the season this is taken up by bees and other foraging insects.

### **So, what can we all do to protect our pollinators?**

- ☺ Grow your own fruit and veg and make your garden wildlife-friendly. See here for ideas: [www.wildaboutgardens.org.uk](http://www.wildaboutgardens.org.uk)
- ☺ Buy local and organic fruit and veg and support the move towards sustainable agriculture which works in harmony with the environment rather than against it. This should preferably be from vegan or 'stock-free' organic farms based on permaculture approaches because regular organic farming still uses slaughterhouse by-products such as manure and bone-meal from factory farms as well as some chemicals.
- ☺ Don't use herbicides, insecticides and fungicides in your own garden.
- ☺ Lobby your MP and sign petitions banning the use of chemicals that harm the earth. For example, to urge for a permanent and extended ban of neonicotinoids you can sign here: <http://bit.ly/2ihUyeS>
- ☺ Save your seeds and support your local seed-swap.
- ☺ Join Vegan Organic Network: <http://veganorganic.net> for more information about earth-friendly gardening.

### **Check out the RHS's top 10 perfect pollinator plants:**

#### **Wild plants**

- Achillea Millefolium (common yarrow)
- Centaurea Scabiosa (greater knapweed)
- Digitalis Purpurea (common foxglove)
- Eupatorium Cannabinum (hemp agrimony)
- Lonicera Periclymenum (common honeysuckle)
- Origanum Vulgare (wild marjoram)
- Thymus Pulegioides (large thyme)
- Trifolium Repens (white clover)
- Verbascum Nigrum (dark mullein)
- Viburnum Opulus (guelder rose)

#### **Garden plants**

- Caryopteris Clandonensis (caryopteris)
- Dianthus Barbatulus (sweet william)
- Hesperis Matronalis (dame's violet)
- Hyssopus Officinalis (hyssop)
- Jasminum Officinale (common jasmine)
- Lavandula Angustifolia (English lavender)
- Lychnis Coronaria (rose campion)
- Monarda Didyma (bergamot or bee balm)
- Verbena Bonariensis (purple top)
- Weigela Florida (weigela)