

Bumblebee notes for January 2020

A brand new year has begun and our local environment is set to improve significantly for wildlife if the plans of WildMaidenhead live up to their promise. Queen bumblebees have already been seen in a local greenhouse, perhaps feeling the relative warmth compared with the outside. They may even have been hibernating “under glass”. Usually they wait until ground temperatures reach 10C before emerging, and then spend up to 15 minutes shivering to raise their body temperature to above 35C so that their flight muscles will work.

Bumblebees evolved more than 25 million years ago in the Himalayas and that is why they have a round shape, are covered with fur, and can raise their temperature by shivering. This design allows them to be active in colder conditions than their slimmer, balder cousins like honeybees which live in hives, and solitary bees which will occupy “Bee hotels”.

Bumblebees respond to our warmer winters by either failing to hibernate or by emerging earlier than is wise.

The danger for our vulnerable queen is that she may find no food before she exhausts her internal food reserve and therefore dies without producing several hundred new bees to continue the species. The hedges and fields will have no wild flowers in bloom until April or May and that is why gardeners have such a vital role as growers of winter-flowering plant varieties of Mahonia, Heather, Honeysuckle, Clematis, etc. If you have these in flower near you then they may be visited by bumbles pretty soon.

If you are thinking of tuning your garden towards the needs of bumblebees then choose open, single varieties rather than those with flower heads like lettuces as the latter keep their pollen and nectar hidden from pollinators. Grow drifts of flowers rather than a sparse range of lots of species because the bees waste much less time when they can concentrate on a single type. Novice workers have to learn how to collect food from each flower structure that they find.

These young bees also have to learn that some species (such as Field poppy) are good sources of pollen, others (like Cosmos) provide mainly nectar, while most (like Black knapweed) provide mixes of both. Additionally they learn that flowers like Comfrey replace their nectar within 10 minutes after they have been visited whereas Birds foot trefoil takes up to 24 hours. All this is achieved with a brain that is smaller than a pinhead!

Another essential rule for gardeners is to ban the use of insecticides that contain neonicotinoids. These work on the brain of insects and, at levels that are not lethal, still impair their ability to perform learnt tasks, and to breed. Studies have also shown that bees had a preference for sugar water containing this poison rather than un-doctored fluid.



This month's featured bumblebee is the Buff-tailed one (*Bombus terrestris*). She has an orange band on her thorax in front of her wings, another one in the middle of her abdomen, and a white tail with a characteristic band of orange at the front. She has a short tongue and so feeds mainly on smaller flowers but can be seen from now until September. She is one of the commonest of UK bumblebees, is produced

commercially to pollinate fruit crops like apples and strawberries, and is studied to learn about bumblebee behaviour.

Adrian Doble (Bumblebee Conservation Trust) (e-mail; buzz@bumblebee.myzen.co.uk)