Bees at Bedgebury

by Ian Beavis, Research Curator at the Tunbridge Wells Museum & Art Gallery

Bedgebury is not just about trees and woodland. The Pinetum supports a rich variety of freshwater and open habitats, each with its own special range of plants and animals. Particularly important from a conservation perspective are areas of flower-rich grassland and heathland. Both are habitats which have declined disastrously in the wider countryside as a result of agricultural 'improvements' in the post-war era. In the agricultural landscape, old 'unimproved' meadows rich in wild flowers and associated insect life have for the most part been ploughed up and replaced with a monoculture of rye-grass that excludes most other plants.

Bees, being dependent on nectar and pollen from flowers for feeding and foraging for their young, are among the groups of insects that have suffered most from the loss of open flower-rich habitats, and their survival in places like Bedgebury gives us a glimpse of what we have lost from the countryside at large.

Bedgebury supports at least 11 of Britain's 25 species of bumblebees – most of which are social insects like the familiar honey-bee, living in colonies with large numbers of sterile females or workers who rear the offspring of a single queen. However, there are also the interesting cuckoo bumblebees whose females take over already established colonies. Queen bumblebees emerging from hibernation and searching for suitable nest sites are usually the earliest bees to be seen in spring or even late winter. One of the scarcer bumblebees to be found at Bedgebury is the heathland bumblebee *Bombus jonellus*, which in its more prolific second generation forages mostly from heather.

The remainder of Britain's 250 or so bee species are termed 'solitary' – because in most cases the females make their own individual nests without any collaboration, and without any ongoing care once the nest has been stocked with nectar and pollen and the eggs laid. A wide variety of solitary bees can be seen at Bedgebury, several of them nationally scarce and rare, with a range of flight periods extending from February to October. Spring-flying species include the extraordinary long-horned bee, *Eucera longicornis*, in which the males have remarkably long antennae that are assumed to be used in courtship display. They can be quite conspicuous in May or June, making their persistent, low, mate-searching flights over the red and white clovers on which both sexes feed. Like many solitary bees, the long-horned bee nests in deep burrows which it excavates in the soil.

Many solitary bees have distinct – and sometimes exclusive – preferences for the flowers on which they feed and forage.

Eucera longicornis

Andrena labiata

For example, females of the little red-girdled mining bee, *Andrena labiata*, characteristic of flower-rich grassland, mainly gather nectar and pollen for their nests from germander speedwell. Similarly *Melitta leporina*, a white-banded species, feeds and forages mostly on white clover. Knowing these preferences can be a reliable way of spotting particular species.

Andrena fuscipes

In July and August the dominant heathland flowers, common heather and bell heather, attract their own special suite of solitary bees – including the heather mining bee, *Andrena fuscipes*, whose blue-grey males patrol the heather clumps persistently on sunny days, and heather colletes, *Colletes succinctus*,

Colletes succinctus

another mining species. Each of these has its own dedicated cuckoo bee species that lays its own eggs on the food store that the female mining bee has prepared – the little yellow and black *Nomada rufipes* is associated with the *Andrena* and the curious white and red marked *Epeolus cruciger* with the *Colletes*.

Nomada rufipes

These cuckoo bees can regularly be seen feeding at heather flowers along with their hosts. The small yellow flowers of tormentil that commonly grow alongside heather also have their own special bee – the rare tormentil mining bee, *Andrena tarsata* - which has possibly its only Kent site at Bedgebury.

If you were lucky enough to see any of Bedgebury's nationally rare or scarce bees during August's BioBlitz, or any of the other amazing flora and fauna to be found in the Pinetum, you will understand why protecting the Pinetum's biodiversity is so important. Support the Pinetum with your membership and join the Friends on a walk again soon to explore more of the Pinetum's trees, wild flowers, bird life, butterflies or fungi.