



Bee Watching

by Lorna Cooper

photo by Allan Hack

Outdoor Education & Field Studies

Beekeeping is a fascinating occupation and comparisons can be made between the social organisation of a colony of bees and views of our society. However, in this article, it is not the life of bees in the hive that is under observation, but that of honeybees in the outdoors and the possible learning opportunities that this offers.

Early beginnings

As a novice beekeeper, I think of the winter period as a time when the colonies have snuggled down for a well deserved rest and I don't have to do anything much for them for a while. The recent death of Sir

Edmund Hillary reminded me of his connection with beekeeping. He worked on his father's beekeeping farm in New Zealand, which may account for his strong arms (lots of lifting involved) and his ruddy complexion, being outdoors so much. However I also learnt that he did not climb a mountain or even experience snow until he was sixteen so it's never too late to start an interest.

This February we experienced glorious weather with frosty starts and welcome sunlight and warmth through the day. As a result the bees seemed to have been stimulated into stretching their wings and tasting the air, taking a few sips of water and doing some spring-cleaning in the hive. Although I can't always claim success in terms of honey production, keeping bees has certainly heightened my awareness of the seasons, of the succession of pollen and nectar sources and the vital role bees have in pollinating many of our food crops.

Food gathering and bee dancing

My two hives are sited in a small paddock beyond our garden, which can be described as informal or even 'wild'. I have tried to encourage certain plants and others are self-seeding. Should I welcome an invasion of rosebay willowherb which keeps the bees happy? Comfrey has established itself and is more manageable. I am convinced that my most flavoursome honey has been as the result of vigorous cotoneaster bushes. In June these shrubs are literally humming with activity.

Honeybees forage within a two mile radius so are not dependent on plants in the immediate vicinity. Beyond our plot, within this zone, are banks of gorse bushes with their marvellous scent of vanilla, but to my dismay I find they are 'dry' flowers – having no nectar. Trees are often an excellent source of both pollen and nectar, particularly alder and hazel in the earlier part of the year, while ivy pollen provides a food source towards the end of the year. With experience, the beekeeper can identify the source of pollen being carried in and stored in the hive from its colour. Under the microscope, pollen grains are simply amazing in their variety of patterns and colours.

The same flowers may be more attractive to bees at different times than others depending on weather conditions, alternatives or just what the scout bees find on their initial forays from the hive. So they may fly over that swathe of rosebay and head for the knapweed. On returning to the hive these bees perform a dance for other foragers to observe. This will inform them of the distance and direction of the food source and even how plentiful it is!

A worker bee visiting oil seed rape fields will visit 300 flowers during one foraging trip and collect about 12,000 pollen grains on its body.

My hives are close to a disused railway line which periodically is overgrown in parts with brambles and raspberries amongst the trees, but as it is a well-used footpath, the vegetation is cut back at intervals with subsequent loss of food source. Tidy hedgerows and paved gardens are not such good news either. Some beekeepers are fortunate to live close to heather moors, or are able to move their hives to a suitable area for the summer. If you are out walking, you may not be aware of the numbers of bees busy gathering. A strong colony may have 50,000 workers and they are not as striking in appearance as the

COLOURS OF POLLEN LOADS (in seasonal order of flowering)

Plant from which pollen is taken	+	Colour of pollen load
Hazel.....		pale greenish-yellow
Elm.....		putty colour
Snowdrop.....		bright yellow
Crocus.....		deep yellow
Lesser celandine.....		dull yellow
Dandelion.....		deep orange
Wild cherry.....		dull ochre
Bluebell.....		cream
Apple.....		pale yellow
Red nettle.....		bright purplish-red
Rosebay willowherb.....		blue
Heather or ling.....		dull white

bumblebee, being smaller and fairly drab, varying in colour through shades of grey, browns and yellow with faint stripes. A foraging bee is usually so intent on its work that it is unlikely to be interested in passers-by, but when near the hive or having its flight path blocked can be more aggressive.



Bees in the landscape

Beekeeping is deeply rooted in the culture of many European countries. Travelling in the Alpine areas you may come across bee houses, beautiful wooden structures, and in the past some of these delightful 'sheds' would have been thatched. The hives form one wall of the building and are accessed from inside where the wall appears as rows of cupboards allowing the frames to be slid out for examination. The beekeeper remains dry and has all equipment to hand. Traditionally the fronts of the hives

were decorated with quite elaborate paintings, often depicting a scene from the Bible or some moral tale. Today this tradition survives in some areas, such as Slovenia and Austria. Single colour hive fronts have become more common, and it appears the bees can

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identify their own hive entrance by colour. Some bee houses are mounted on trailers to enable the hives to be moved to different forage areas according to the season. In Slovenia the bees take advantage of vast areas of forest, fields of buckwheat, fruit orchards and wonderful wildflower meadows. Outdoor enthusiasts often

see landscapes in terms of opportunities for adventure while beekeepers may view the environment as potential for honeybees.

Travelling in the Alpine areas you may come across bee houses, beautiful wooden structures



What of the future?

In America recently, beekeeping has suffered greatly from hive collapse, the cause as yet unknown, and the possible commercial consequences are staggering. Imagine all the orange groves and vineyards without natural pollinators. The crops would fail. Our British bees have been suffering from attacks by parasitic varroa mites, which are controlled, but not eradicated, by adaptations to hive management and by chemical means. However, as resistant strains develop and the numbers of government inspectors are cut, there

is a danger that the bee population and, subsequently, our own agriculture may be at risk. In Britain, local Beekeeping Associations are promoting the hobby that can, in some cases, become a profitable occupation and is certainly commercially important to arable and fruit farming.

In some African countries honey has long been gathered from wild bees building comb in hollow trees. Now there are schemes to help communities develop commercial beekeeping as a source of income. At the same time this is a way of emphasising the need to cultivate a range of crops and to conserve wild plant habitats.

Learning from bees

Outdoor organisations are not likely to be able to set up their own apiaries but a visit to a

friendly beekeeper (most of us are), or a demonstration site or event will stimulate an interest. We may come to appreciate the importance of bees in food production throughout the world. Watching honeybees on flowers could start an understanding of the insect's appearance and behaviour. A walk in a bluebell wood might reveal some interesting insect visitors. Above all, the observation of bees helps to give us a direct connection with the landscape, wildlife and seasons. Bee watching adds an extra dimension to the outdoors and should encourage us to conserve and enhance our natural environment. ■

Author's Notes

Lorna Cooper has been a teacher, a bursar at an outdoor centre, and a promoter of global/development education. Her interests include creative writing, travelling, walking and more recently - beekeeping.

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Did you Know?

- A colony of bees can be thought of as a complete organism.
- One pound of honey is representative of 30,000 foraging trips or 15 million flowers visited individually
- One sting can kill a sensitive person (very rare), but the record for sustained stings is 2,243! (There are no killer bees in Britain or Europe)
- The fossil record for honeybees (*Apis melliferous*) goes back 30-50 million years - bees found fossilised in amber
- A strong colony with good beekeeper management can produce 60kg honey in a year.

