

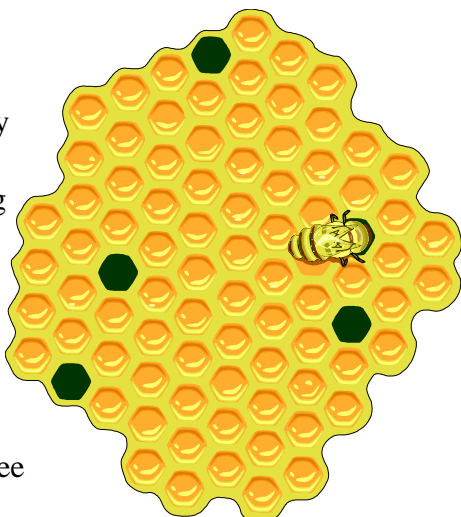
How do bees help us?

The most economically important work of bees for us is not by producing honey, but by increasing the yield of our fruit and vegetable crops. As they gather pollen and nectar the bees spread pollen between flowers and so pollinate them. This activity is worth millions of pounds and could not be done by any other means on such a scale. Their honey is also very welcome. One hive of bees can produce a surplus of 30lb or more of honey a year.

An East Lothian speciality is heather honey from the Lammermuirs. Honey is mildly antiseptic and it tastes good! Another product of beekeeping is beeswax which is used in candles, polishes and cosmetics. Beeswax was probably the first form of chewing gum.

Several other products are also obtained from the honeybee hive:-

Propolis, which is an antiseptic sticky gum,
Royal Jelly which is the special food given to young larvae and queens,
Pollen, and even Bee Venom from stings which is used to treat people with arthritis and to cure allergic reactions.



The Honeybee

East Lothian Beekeepers Association

Honeybees have a mixed image. They provide us with honey and beeswax, they pollinate our fruit and vegetable crops, and they are a fascinating social insect, but unfortunately they also sting. This leaflet will introduce you to the honeybee and to beekeeping.

Is that a honeybee?

Honeybees are often confused with other insects such as wasps, bumblebees, solitary bees and hoverflies. If it's big, round, hairy and makes a deep buzzing noise it's probably a bumblebee – there are about 20 differently coloured British species which live in underground colonies of up to 200 bees. Bumblebees do not swarm and do not sting unless provoked. If it has sharp black and yellow stripes then it will be a wasp. If it is a drab brown and hovering or darting about quickly then it may be one of the hoverfly mimics of honeybees, or it could be one of the many species of solitary bees.

The honeybee itself (*Apis mellifera*) comes in various shades from dark brown to yellowy brown. It is the only species commonly kept in artificial hives and from which crops of honey and wax can be gathered. Honeybee colonies contain a single queen and as many as 50,000 workers and drones. In other species of bees and wasps only a queen survives the winter to start a new colony, but with honeybees the whole colony overwinters, feeding off their stored honey. During the winter the bees gather in a tight cluster to keep the queen and brood at a steady 37°C however cold it is outside. As the bees on the outside get cold they slowly move in and the hot bees in the centre move out. Bees do not hibernate; if there is a warm day in the middle of winter they will come out to stretch their wings (and go to the toilet).

For Goodness sake eat Honey

Its easy to become a Beekeeper,so if you would like help,or more information,or just want to learn about Bees and Beekeeping you can contact our secretary Donald Smith on 01620 822441 or buzz into our website at <http://www.eastlothianbeekeepers.org.uk>

Who's Who in the Hive?

The Queen - The queen does not rule the hive, but is employed by the workers as an egg laying machine. Her



other main function is to produce a chemical known as 'queen substance' which is licked off her body by the worker bees and passed from bee to bee throughout the hive. If the queen is removed and the supply of queen substance

dries up, the colony organisation quickly breaks down. The queen lays up to 2,000 eggs per day, the fertilised ones becoming female workers or queens depending upon the food they receive as larvae, while the unfertilised eggs produce male drones. The queen will normally live for 3-4 years.

The Workers - Most of the bees in a hive are workers. They are all female like the queen but are not fertile. They build wax comb and clean it, they feed young bees, feed and clean the queen, guard the hive and make honey by evaporating



water from nectar. When they are about three weeks old they leave the hive to forage for pollen and nectar. Worker bees live for only about 6 weeks in the summer due to their heavy work load, but might last 6 months over the winter.

Drones - This is the male bee which is larger than the worker with a fatter squatter body. There can be several hundred in a hive, and their only function is to mate with a virgin queen and then die. Drones live for only 1-2 months, and are usually thrown out of the hive in the autumn after which they die. Their



lives may be short but they spend most of them

lazing about eating honey!

Swarming

Bees swarm in the early summer when the bees are increasing in number and the hive becomes overcrowded. Most of the older foraging bees fill themselves up with honey and leave the hive together with the queen in a large dark buzzing cloud. They normally settle in a football sized cluster on a tree branch close to their hive. Scout bees are sent out to find a suitable new home and then they all set fly off to build up a new colony. Back at the old hive, a new queen soon hatches from a queen cell, mates with several drones, and starts to rebuild the original colony.

Why do Bees sting?

Bees sting to protect their hive, but sometimes panic if they are squashed or get tangled in hair. After stinging the bee tries to pull its sting out, but usually dies as the barbed sting is pulled out of its body, still pumping out venom. Since the sting also gives off a chemical that attracts other bees to sting, it is best to quickly scrape the sting off your skin and wash the area. A bee sting hurts most immediately. After a few minutes most people only have slight reddening and swelling, and severe reactions are very rare. Bees in a swarm are much less likely to sting as they have other things on their mind and are full of honey which makes them calmer.

Beekeeping

Honey used to be our only sweetener, and there are cave paintings showing primitive man extracting honeycomb from hollow trees. The beginnings of beekeeping began when bees were housed in hollow logs or clay pipes, a form of beekeeping that is still practised in some areas of Africa. The Greeks and Romans developed plaster conical hives, while in Northern Europe similar "skeps" were formed using coils of straw. The modern hive with rectangular boxes and removable frames has only been in existence for a little over a hundred years, and has the great advantage that honey can be removed without harming the bees. Bees are not domesticated and only stay in the hive because it suits them. After all who would go out and live in a draughty hollow tree when you can have all mod cons in a five star hive and even get fed when the weather is bad? Beekeepers keep the bees calm while they are working with them by blowing smoke into the hive. The bees react as if there were a fire nearby and fill themselves with honey in preparation for escaping. The honey filled bees are much more docile and this makes handling easier.