

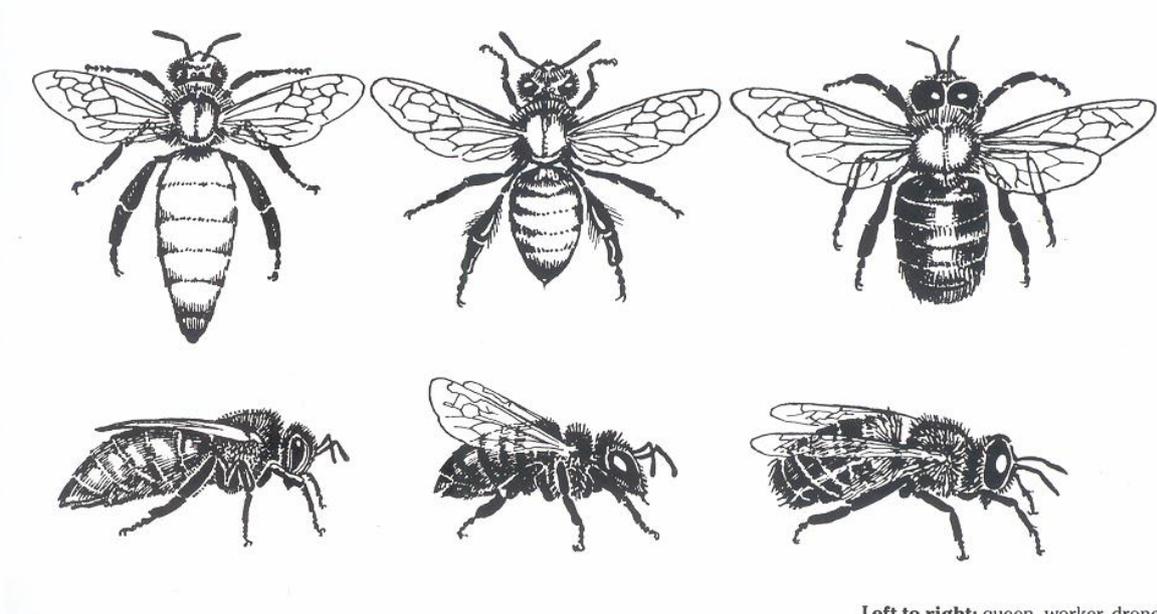


Finding the Queen

Lancaster Beekeepers advisory leaflet No 18

In a typical hive, at the height of summer, there will be up to 60,000 worker bees, up to 6,000 drones and one queen bee!

Finding the queen is an essential requirement for a number of bee keeping manipulations. To make this easier most beekeepers mark their queens with a coloured spot on the thorax -but first you have to find and catch the queen. For most beekeepers this is possibly the most difficult part of beekeeping.



Left to right: queen, worker, drone

As the diagram shows, drones are significantly bulkier than worker bees and readily distinguishable. The queen, on the other hand, is about the same size as a worker bee apart from her abdomen, which is about half as long again as that of a worker bee.

The queen behaves differently from other bees and tends to crawl rather than walk over the frame. The other bees keep out of her way and often form a circle around her, all facing her.

Despite this, finding the queen is not always easy.

Standard approach

If you want to find the queen to mark her, choose a warm day in Spring, before the colony has built up to full strength and go in around mid-day when most of the field bees are out foraging.

Adopt a positive attitude – “I *will* find the queen” – and carry out the manipulation with this sole objective. Once you have succeeded your confidence will build, making it easier next time.

Use little or preferably no smoke. If you use smoke the queen may move off the brood and hide. Without smoke she will most likely remain on the brood.

Handling frames very gently and slowly will not alarm the bees and they will carry on with what they are doing.

Whilst the queen could be anywhere within the brood box, she will tend to be on the brood frames and not those full of stores. As you remove frames she will tend to move to the dark side so it is worth checking that first. She will also tend to move towards the edge of the frame.

As you extract each frame, hold it over the hive and at arms length. Look for a different behaviour pattern as this is usually much easier to spot initially rather than the different size and shape of the queen.

Pairing

If you fail to find the queen using the standard approach, try pairing. Remove one of the outer frames then arrange the remainder into pairs. The queen will more than likely move between one of the pairs leaving you with considerably less of an area to check.

More drastic approach

If you have tried the standard approach and pairing and still failed to find the queen, a more drastic approach is required. This approach is also very useful if you need to find the queen in mid season when bee numbers are at their peak.

Physically remove the hive to a new position some 20ft or more from its original location and leave for an hour. By this time most of the foraging bees will have returned to the original site leaving you free to carry out a standard approach with far fewer bees around.

Desperation approach

If all else fails or you are dealing with particularly bad tempered bees, try this.

Physically remove the hive to a new position some 20ft or more from its original location and leave for an hour.

Shake *all* the remaining bees into an empty box or a brood box on a closed floor. Put on a queen excluder then a brood box full of brood on top. Close up and make weather proof.

Return the hive to its original site.

Next day return to the closed box. Most of the nurse bees will have moved up through the queen excluder and will be tending the brood. The queen will be one of the few bees left in the bottom box and will usually be on the underside of the queen excluder.

Success!

Having found the queen, what do you do next?

The next step is usually to catch the queen in one of the many types of queen cage commercially available. Once caught, the queen can be safely removed from the colony in order for manipulations to be carried out.

If the queen is not marked, this is the time to do it. Marking simply means placing a blob of coloured paint on her thorax. Special paints safe for use with bees, are readily available from specialist suppliers.

There is an internationally agreed code of colours for queen marking.

For years ending in:	Colour:
1 or 6	White
2 or 7	Yellow
3 or 8	Red
4 or 9	Green
5 or 0	Blue

For example a queen raised in 2009 should be marked with green paint and one raised in 2010 marked with blue.

Clipping queens

Marking queens is best done in Spring once the weather becomes sufficiently warm. At the same time, many beekeepers clip the wings of their queens as an essential part of swarm control procedures. The queen is found, held firmly, and between one quarter and one third of one wing is removed with a pair of small, sharp scissors. Great care must be taken not to damage any legs. The queen is then quietly and carefully returned to the frame she was on.

This is a technique that needs to be learned under the guidance of an experienced beekeeper. Novices are recommended to practice on drones before attempting it on valuable queens.

Clipping the queen's wing in this way alters the normal pattern of behaviour of a colony preparing to swarm.

An unclipped queen will normally fly off with the swarm when the first queen cell is sealed, and sometimes even before this.

Clipped queens usually attempt to swarm just before the first virgin queen emerges from her cell, i.e. a week after the cell was sealed. This delay of seven days permits the beekeeper to reduce the number of swarm control inspections from every seven days to every ten to fourteen days which reduces the number of times the bees are disturbed.

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