The Horsley Board

From Bee Craft: May 2009

By **Michael Badger, MBE, MA**

A system of swarm prevention and management

I was told by Michael Badger that he had been approached by a number of people who stated the method of use of the Horsley Board on Dave Cushman's website was incorrect. This was written by Dave Cushman and I retain it on the website for reference.

Michael emailed me the article set out below, stating it was the original method developed by Arthur Horsley and I was free to put it on the website, "…but you must acknowledge the BeeCraft copyright© and acknowledge that I am the author…Michael Badger MBE…." That I am happy to do.

I have copied and pasted Michael's email below. I have not altered the content, but I have tidied it up for presentation purposes. In reading the published version online, I notice it is slightly different from that supplied by Michael, but I have taken the decision to do as Michael asked.

Roger Patterson.

Arthur Horsley was a shy, retiring man who lived at 36 Fir Tree Gardens, Idle, near Bradford in West Yorkshire. He had kept bees since childhood but, like many working people in large cities, was forced to keep them some miles from his home.

He began his working life in the Co-operative Movement as a draper's assistant in 1932. At the outbreak of the Second World War he volunteered for the armed services and went into the Army. I remember well my father reminiscing with him about the tedium of barrack-room life, being billeted in the English countryside, very often with little to do and little money to boot.

A practical man at heart, he spent his free time thinking about his bees and how to overcome their habit of swarming. He had read about the Snelgrove board in the *Beekeepers' Record,* shortly before it was incorporated into the *British Bee Journal.* However, quite by chance, in the latter stages of the war when he was stationed near Weston-super-Mare, Arthur was able to attend an outdoor meeting at Clevedon where the great beekeeper himself was demonstrating the use of his board and the successes he had had with it.

MEETING MR HORSLEY

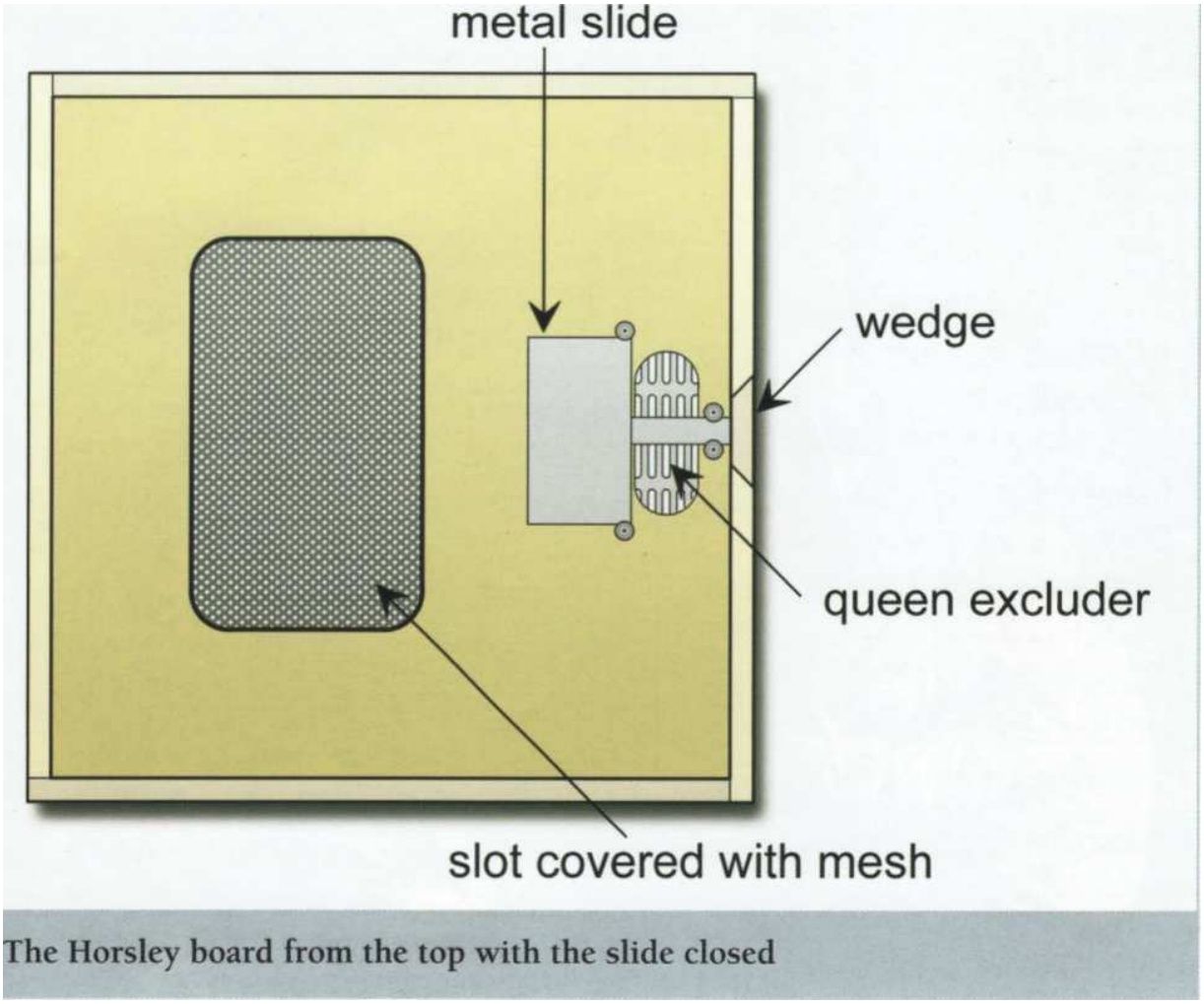
I came across Arthur Horsley through the late Philip Jenkin in 1972 while looking for apiary sites near my new home on the north side of Leeds. Through his contacts I was able to have an apiary in Thackley, which was near to my home and, of course, near to him.

Mr Horsley and Philip Jenkin had considerable knowledge of the area and of the seasons too and were able to refer to their records to see when each colony had thrown queen cells. These accounts were invaluable in keeping on top of the situation and laid the foundation for the breeding stock they produced. Having by then kept bees for 20 years, I picked up the most useful tips and knowledge of practical beekeeping that I too have passed on to others. It is the only way for the craft to succeed. We must share our knowledge – whether successes or failures.

A THOUGHT WAS KINDLED

Although Arthur was impressed with the Snelgrove board, its simplicity and common approach to swarming, the one thing he realised was that these methods were adopted by beekeepers who were fortunate to have their bees in their own gardens. For people like Arthur Horsley, this was a luxury that beekeepers in urban environments did not have.

The Snelgrove screen board required manipulations involving a set time regime, which was not very practical for a beekeeper without a home apiary since working days were long, leaving little time to get back home and to the bees. Arthur Horsley therefore developed his own board to overcome these problems. Time, as ever, was at a premium and the weather in the Bradford area was fickle at the best of times. This area of the Aire Valley was blessed with forage all year round and was within easy reach of the heather moors, 12 miles distant.



The Horsley board from the top with the slide closed

THE BOARD

A hole approximately 6 square inches (36 sq cm) square is cut out at one side of the board next to the rim. A piece of short-slot queen excluder is firmly fixed on the underside of the board using drawing pins or glue.

I prefer to use a short-slot queen excluder as the long-slot version is easily damaged and can become distorted, allowing the queen through.

A slot (2×6 inches [50 x 150 mm] is sufficient) is cut into the board towards the opposite side and covered on the underside with a piece of perforated zinc or mesh through which the bees cannot pass but which allows hive odour to circulate freely.

The metal plate to cover the queen excluder can be made from 24 swg aluminium or plain sheet metal. It needs to be of adequate strength otherwise it will bow or ripple with the pressure applied when it is moved in and out.

It is shaped appropriately so that it completely covers the queen excluder when it is pulled out. It is manipulated with a narrower metal strip to which the wedge cut from the rim of the board is attached. It slides in and out along rebates cut in the plywood or through other restraining mechanisms.

Appliance manufacturers sell Horsley boards and it is worth considering purchasing one if you are not in a position to make your own.

THE PRINCIPLES

The use of the Horsley board is really confined to single-walled hives. It is, in essence, a crownboard. It has an entrance that opens and closes and this is intrinsically linked to a slide that closes off a portion of queen excluder when the entrance is opened.

The working parts must be liberally coated with petroleum jelly to stop them being gummed up with propolis. The board must include a rim which gives a bee space within which the bees can move around freely. A new crownboard can be modified for use as a Horsley board.

ESSENTIAL EQUIPMENT

♦ a Horsley board

♦ a brood chamber

♦ drawn brood combs or a mixture of comb and foundation

♦ a stand

♦ a spare floor board

♦ your normal gear, a ‘goose wing’ and cover cloths if you use them.

(I prefer to use a goose wing or a handful of grass. The use of bee brushes is, in my opinion, too harsh for the bees as it quickly upsets them which is something you need to avoid.)

FIRST CONSIDERATIONS

The colony must be strong, covering at least nine frames in a single brood box and, depending upon the season and the location (early in the South West but that much later in Northumberland), this can be early in May and up to about 13 June (eight weeks before 12 August if you work your stocks for the heather). Above all, there should be a nectar flow underway.

In early spring when the colony is reduced to a single box, continue with your normal spring management until you need to control swarming using the Horsley board. Normal spring management is a fairly loose term but in the main it refers to building up the colony, replacing old brood combs with new foundation (placed on the outside of the brood nest; placing them in the heart of the brood nest will cause a division and the colony will swarm), adding supers as the season and colony strength demands, checking for queen cells and varroa infestation levels and, of course, American and European foul brood.

GETTING STARTED

Pick a day when the bees are flying freely, generally from midday. Set the parent colony to one side (the original stock) and in its place, position a floorboard and brood box, complete with a full complement of combs minus one.

Find the queen and place her and the frame on which you found her into the central space in the newly positioned brood box. At this stage you must ensure that there are no queen cells on this comb. If there are destroy them, as it is essential that there are none there.

For some, finding the queen can be an awesome and daunting task. Don't despair. Some simple suggestions are to use as little smoke as possible and be quick and deliberate in looking for her. Normally, the queen will be found among eggs and young larvae. Using excessive smoke can cause the queen to panic which might drive her onto the walls of the hive or the floor. For those having trouble finding the queen, I suggest moving the brood box quite a way from the parent stock and allowing the flying bees to return to the original stand. I recommend the use of sweatbands to the head and wrists to soak up the extra perspiration that appears when you are under stress.

Leave this box alone for about 30 minutes then, using a little smoke, look for the queen. You can put the brood combs into pairs. Those on which the queen is present become covered with bees, very much like a miniature rugby ball. Place a large white sheet on the ground (to make it easier to see in case you drop the queen) and have a Butler cage ready to catch the queen. Gently nudge her into the cage, seal the end and put the cage in your breast pocket ready for that stage of the operations. If the cage has held a queen previously, the next one will go in very quickly looking for her. The previous queen will have deposited foot-print pheromones and scientists say these pheromones stay around for over 30 years.

When you are ready the queen can be released and then placed in the brood box on the frame where she was found.

I would recommend shaking the bees off the comb into the newly placed brood box as this will give you the clearest view to check for queen cells. You must be ruthless in seeking out occupied queen cells. If any remain, the operation will fail. Having made sure there are no queen cells, place the frame into the centre of the brood box, taking care not to squash the queen in the process.

Now reassemble all the boxes, placing a queen excluder on the brood box and then the supers.

INTRODUCING THE HORSLEY BOARD

Place the Horsley board on the top of the supers with the entrance wedge uppermost on the side opposite to the main floorboard entrance, ie, facing the back of the hive. Place the original brood box on the Horsley board and close up the frames, inserting a brood comb or a frame of foundation to replace the one removed. Put on the crownboard and roof.

Pull out the board's entrance wedge to its full extent. This will allow the flying bees to return to the main entrance in the lower brood box.

THREE OR FOUR DAYS LATER

Close the wedge down sufficiently to leave space for bees to leave or enter through the opening. The open excluder panel will give the bees free access from below.

Some beekeepers think that on being made queenless in this way, the nurse bees, in their 'panic', will rear a queen from any larva. This is a mistake. Given the chance, bees will always choose the most suitable (ie, youngest) larvae. Searching the combs at this 3-4 day stage will reveal whether any older larvae have been chosen because those queen cells will be sealed. Brush the comb clear of bees when you look. Without the adhering bees, checking will be much easier. Destroy all sealed queen cells.

The queen cells containing the smallest larvae and the greatest amount of royal jelly must have been started from newly hatched larvae. Selecting the open queen cells you wish to keep at this stage means that any queens produced cannot be scrub queens. With this slight attention, your bees can only rear superior queens.

TEN DAYS AFTER THE LAST OPERATION

Once again you need to examine the top box as there will be queen cells which will be fairly advanced. Depending upon how many queen cells there are, you have a choice. You can reduce them down to the two best cells, or those regarded as surplus to requirements could be cut out and placed in secure nursery cages for use in making up nuclei.

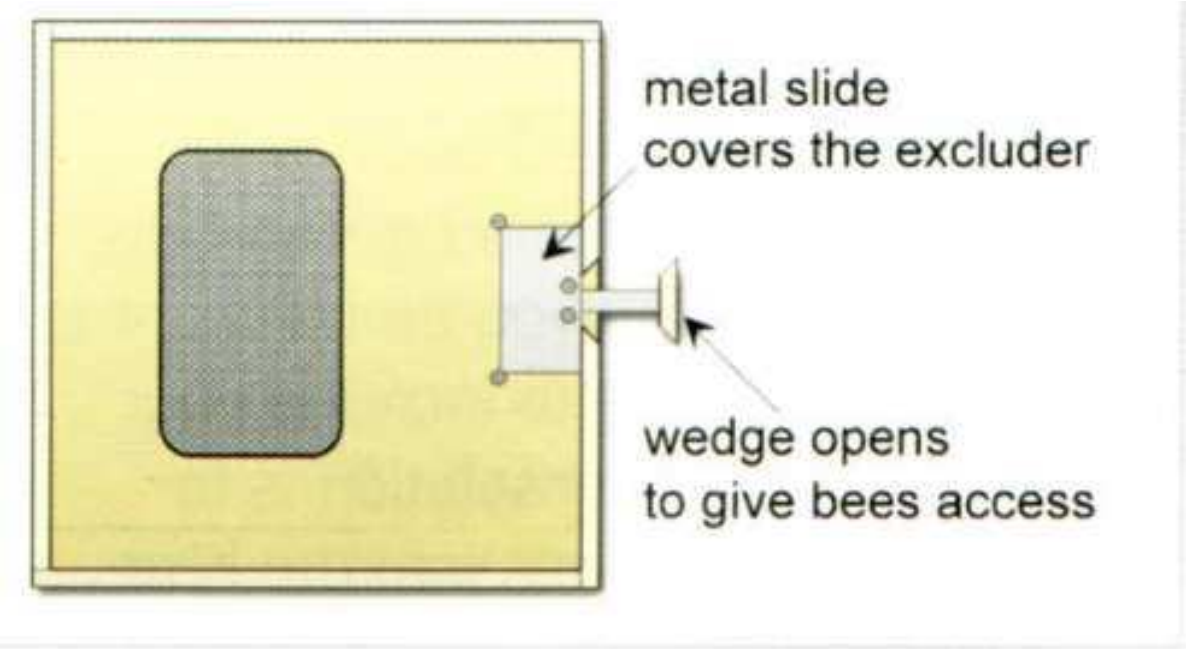
It is useful to distinguish between good queen cells and those that should be discarded. Queen cells built under the swarming impulse produce fewer poor ones compared with those raised under forced conditions, even more so than those raised late in the season.

Good queen cells have a broad base, are a good length tapering symmetrically to a blunted end and are inherently crinkled in appearance. Poor queen cells are the opposite being short, dumpy and shapeless, poorly and unnaturally crinkled. They should be destroyed.

Having made your choice, close up the hive taking care not to damage the remaining queen cells. Pull out the wedge fully to close off the queen excluder panel as this will stop the bees moving between the two units yet allow them free flight from the top box.

Closing the excluder panel ensures that any hatching virgin queen cannot force her way through to the box below. The pheromones of the laying queen attract the virgin queen to seek her out. The virgin queen’s youth and vigour mean she will easily kill the older queen who does not have the same physical qualities.

On a positive note, since you began the operation, you still have all the flying bees and a stock that is working well and intact. So far so good!



The Horsley board with the wedge open giving the bees access and closing the queen excluder to prevent movement between the two boxes

Carefully examine the top box for a queen and, if eggs are present, you have succeeded. If there are no eggs the queen may not be mated, especially if the weather has been inclement. Look for polished cells as this is an encouraging sign.

If there are no polished cells, try inserting a comb of eggs from another colony. This will indicate one of two things.

- If no new queen cells are drawn on this comb, the queen is present if the bees build queen cells, the stock is queenless.
- If the signs are that a queen is present, wait a few days and check again for eggs; if you see lots of pollen going in that is an excellent sign that the queen is in lay. However, if you have established there is no queen, destroy the emergency queen cells and repeat as described earlier in the text. With the poor weather we have experienced of late, it is not unusual for virgins not to get mated. This in itself brings further issues. The queen which never gets mated becomes a drone laying queen. Also, drones that are confined to the hive, and older drones despite their physical well being, have been shown to have reduced fecundity and lower sperm fertility when mating with a queen which will invariably become a drone layer.

IF EGGS ARE SEEN

Lift the top brood box off the Horsley board and reverse the board positioning the wedge at the front of the hive. Pull the wedge open to allow only a single bee space, which will drain off the flying bees forcing them to return to the main entrance below.

The main operation is finished. The excluder panel will be open and the two colonies will work together, with surplus honey being stored in the supers below the Horsley board.

A vigorous queen can be given a further brood box of foundation for the bees to draw out combs that can be used for future operations or retained by the colony that is happily building up. Usefully, these colonies will also repair damaged combs with worker cells whereas strong mature colonies do just the opposite. Nucleus-type colonies that are building up have many uses. Drawing good brood combs for future use is a very useful adjunct to any practical beekeeper.

SOME POINTS TO CONSIDER

At the ten-day stage you will have a number of queen cells that can be used for making up nuclei. Beware! If you do not make use of the surplus queen cells and leave them in the colony, you will have hatching queens and then casts.

If you have been held back by the weather and find sealed queen cells about to hatch but you do not want to use the spare cells to increase your stocks, the simplest solution is to release all the queens into the hive and shake all the bees off the combs into the top box. This will cause so much confusion and disturbance that the bees are totally disorientated and the question of casting never arises.

The loose queens are seeking out potential rivals. Within a few hours, the bees will have sorted themselves out. The queens will have had a battle royal and in a very short time the victor will be reigning supreme and sent out to mate in double quick time. Once again, keep an eye on the dates and leave the colony alone when virgin queens are due to fly out to mate. Observations at the entrance will give indicate what is happening within. Pollen going in quick succession and a busy atmosphere is a good sign.

TIME TO PONDER

With the queen laying, you can allow the stock to build up. You can at some stage unite with the colony below or remove the Horsley board and set up a new colony, or leave the stock where it is and winter it in position as a backstop for winter losses. Remember dead colonies gather no honey and in

these trying times it seems good husbandry to over-winter surplus autumn stocks for possible losses the following spring.

Lots of pollen going into the colony indicates the queen is laying.

Looking back to the very beginning of the exercise, what should you do if you find queen cells before you are ready to follow the Horsley board method?

Set aside the parent colony and put a floorboard plus a brood box with a full complement of combs or mixture of foundation in its place. Reassemble with the excluder and supers. Place the Horsley board on top of the final super with the wedge at the back of the hive and add the parent colony with crownboard and roof on top.

Pull out the wedge to the fullest extent, thereby closing off the excluder panel so that you have two complete separate units. The flying bees will return to the front of the hive and the queen cells will be pulled down because the new unit has lost all its flying bees.

Seven days later, return the queen, using a Butler cage if necessary, to the

bottom box the entrance of which is loosely packed with grass. Do not use a comb from the top box as this will still retain the pheromones associated with the swarming impulse which can linger within the comb for some weeks. Many colleagues have said to me that this method has failed! Upon discussion, it transpires that the reason for this (ie, the colony immediately produces queen cells) is because of the retained pheromones on the inserted comb.

Having undertaken this exercise, you can continue after about two weeks, starting from the very beginning.

CONCLUSIONS

There are many versions of the use of the Horsley board. However, this is the original version described to me by Mr Horsley in the early 1970s. Like all systems of swarm control and their management, the essence is around retaining the queen in harness and the bees too.

This system will work for you but every district has its variations and that is where many people have adapted the principles and introduced their own ideas to the original theme, many tell me that it is best to keep to the original method for guaranteed success. You may wish to experiment.