Beetalk March 2021

General info and news about bees

Hello and welcome.

Beetalk is a compilation of news from across the bee keeping word.

Its not affiliated to any beekeeping group so you wont get things like the next meeting and what we are doing and such like.

We hope that the articles provided will be useful to anyone interested in the a rewarding hobby and in some way we also hope that you may gain some pleasure in reading some of the article that are included.

Also we intend to include articles that may be helpful to anyone new to this wonderful hobby.

Being based in Lancashire it would be great for any contributions from Beekeepers from the county. But as stated above, please nothing about your association or group.

Hope you enjoy. And to everyone of our readers. Have a great Christmas and all the best wishes for the coming year, both in health, wealth and happiness, and may your beekeeping year be a great one.

Editor

If you have any articles that you think may be useful to have included in Beetalk.

Please e-mail them to the editor

at

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SOUNDS IN (AND OUT OF) THE HIVE.

A hive is a dark place where vision is practically useless, so other senses must take over if there is to be any communication between individuals and if a bee is to learn what is happening. We have seen that the sense of smell is of vital importance and have looked a little bit at the importance of various pheromones, but other messages can be conveyed by sound and vibrations. This is what we are concerned with this month. The sense of 'hearing' For sounds to be any use, bees must be able to detect them and, clearly, they have not got ears flapping on the sides of their heads, but what they do have is special sensitive structures which can detect vibrations either in the air or from a surface such as the comb. This is not so different to our sense of hearing as structures in our ears respond to vibrations in the air.

A major difference appears to be that bees only pick up vibrations very close to them and cannot perceive sounds from a distance. The sensitive structures of the bee are found on the antennae and on the legs. The antennal structure is called the Organ of Johnston and is situated inside the pedicel, which is the short structure connecting the flagellum, the long, subdivided part of the antenna, to the scape, which is the short part next to the head and is more rigid. The Organ of Johnston is able to detect the slightest movement of the flagellum caused by air movement. The subgenual organs are found on all six legs of the bee and are sensitive to vibrations from the surface on which the bee is standing. All of these sensitive structures rely on the movement of tiny hairs on the nerve cells making up the or-gans, triggering impulses which then travel to the bee's brain where they are inter-preted. Dances and vibrations The range of dances which bees perform are accompanied by buzzing of various kinds. So the waggle dance, indicating the distance and direction of forage, is accompanied by pulses of sound produced by the vibration of the powerful wing muscles. These can be detected both by the Organ of Johnston picking up the airborne vibrations and by the subgenual organs which sense the vibrations in the comb. Bees attending a dance face the dancer and perceive the message from the vibrations they receive. Indeed the comb apparently produces a network of vibrations which can lead to quite a complex picture for the attentive bee. Other dances such as buzzing runs also are dependent upon sound. Queen and worker piping The sound which we all associate with bees is piping but it is far from simple in the messages it conveys and there are several different kinds of piping. Queens and workers pipe by pressing the thorax onto the comb and vibrating the wing muscles, while the wings are uncoupled from them. This causes a sound to be emitted, which we can hear, so it is probably detected by both the antennae and by the subgenual organs via the comb. Workers also, in some situations, produce the sounds by pressing the thorax onto another bee. Worker pipes are always of very short duration. Queen piping is usually associated with the period around swarming. In the build-up a queen will frequently pipe as she is jostled and pushed about. This seems to quieten the bees around her briefly and is probably a protective reaction. At the point of issue of the swarm there will be a great deal of queen piping and workers will pipe on the queen and vibrate her. This reaches a peak immediately before the queen exits the hive. During the period following swarming newly emerged queens will pipe as they move about the hive. Queens still imprisoned in their cells will pipe in response but the sound they emit will be different to that produced by 'free' queens. These latter will 'toot' while the imprisoned queens will 'quack'. These sounds are instrumental in allowing the workers to know what is going on and enabling the queens to sort themselves out.

A cast will only issue if there is at least one queen quacking in her cell, never mind how many queens are running about freely. (This fact is employed when several virgin queens are released from their cells at the same time by the beekeeper while removing all other cells.) Once a swarm is clustered outside the hive worker piping becomes an integral part of choosing, and moving to, a new nest site. Once a decision is made as to choice of nest site, the scouts who selected that site start scrambling through the colony, pausing very frequently to emit a pipe. This piping initiates the warming process, which is essential before the swarm can take off, and it normally takes about one hour between the start of piping and the swarm's lift-off. So much for swarming, but workers pipe within the hive during normal times and there seems to be quite a lot of uncertainty about its purpose. It may function as a stop signal and is often associated with other dances, particularly the tremble dance.

The two together stop a bee doing a waggle dance, probably at a time when more receiver bees are needed, rather than foragers, that is when the unloading time for returning foragers is becoming too long. But only about 50% of tremble dancers pipe, so clearly that is not the full story. Workers pipe in many situations and much more work is needed to fully understand these very complex aspects of bee communication. Finally, if this short article has set you thinking read The Buzz about Bees by Jurgen Tautz and Honeybee Democracy by Thomas D Seeley, where you will find lots of fascinating facts and ideas.

Bee Prepared to Receive a Swarm

Firstly, for general advice about swarms and swarm collection I strongly recommend BBKA Advisory Leaflet B4 available on their website.www.bbka.org.uk/members/information downloads Wherever possible, our Swarm Collection Team try to capture swarms directly into an RBKA member's prepared hive box that has previously been supplied to a Team member, local to the RBKA member. (List of Team members/locations is at end of this article).Preparing the HiveTo be ready to receive a swarm, the hive box should be complete with clean frames, new foundation, crown board and roof.The box must be secured by screwed straps or plates to a solid floorboard. A suitable piece of mesh and securing drawing pins should also be provided, to enable closure of the entrance, whilst retaining ventilation, before removal of the captured swarm at the end of the day. Fit frame spacers if needed and dummy boards as necessary to prevent the frames sliding on their runners. A ratchet strap to secure the entire hive for added security during later transport is also a good idea. The box should also be marked with the owner's name and contact phone number. Fixing the box to the floor allows them to be moved as one by the swarm collector, and secondly - and importantly - it ensures safe transport of the swarm direct to the intended hive site. If they are not securely fixed to each other, there is a serious risk of bees leaching into the transporting vehicle. Traffic movements could cause the box to shift from the floor, creating the awful situation of bees escaping while in transit. It is absolutely vital to have a secure bee-tight container for transport of the bees to avoid a traffic hazard. Hence the need to also securely cover the entrance while the bees are transported. When moving any bees in a vehicle, the hive box should be oriented with frames parallel with the direction of travel to minimise frame swinging in transit. The solid floor is required because we have found that mesh floors too often induce a captured swarm to abscond. Adam Leitch has confirmed this behavior is explained by re-search showing that the honeybee swarm essentially seeks a dark enclosed cavity for its nest, with minimum light. Remember that the swarm is a colony in an unusual state –temporarily without any nest site, brood, or stores. Its first aim is to find an appropriate dark cavity for a nest site. However, once the swarm adopts a nest site, it will quickly draw comb with cells for the queen to lay brood in -and once brood is established, a mesh floor can replace the solid one, because bees will not normally desert brood. If you wish, a mesh floor can be converted to solid, by covering it with a tight fitting sheet of cardboard or thin plywood. But ensure that the entrance gap is not compromised. The mesh floor can be uncovered once brood is established. The Preferred Collection Method. We try to position the hive box as close as possible under the cluster. If the swarm has clustered high above ground level, we follow Eddie Webster's practice of using stacked bottle crates, or similar, to raise the hive as high as is safe and practical. The aim being to minimize the drop into the box. Once the swarm has gone into the supplied hive, and the Queen is evidently safely in, the box can be lowered to a convenient position for later collection and the crates removed with repellent to deter flying bees from re-gathering there. When the swarm has settled in the hive box, Its owner is notified and invited to call at dusk, after the bees have stopped flying, to close the entrance and remove the hive to its future intended site. This should prevent many flying bees being left behind. This system is tried and tested, and works well. It has the great advantage of reducing the number (and therefore the stress) of transfers, so decreasing loss of bees. In addition, by ensuring that virtually all the flying bees are in the box when it is removed, it reduces the risk of leaving behind a troublesome residue of homeless bees. Above all, this gets bees quickly to a beekeeper who wants them.

So, if you are interested in getting a swarm, please:

1. Get a hive box ready for swarm reception as already described.

2. Prepare your site for the hive.

3.Contact your nearest member of the Swarm Collection Team (listed below) to get your name on their list of Swarm recipients.

4. Deliver your prepared box, as arranged, to the Swarm Collector.

5. Stand-by for the call to collect the swarm -but be patient, because no one cannot control or guarantee swarms!

6. Answer the call, and remove the box from the swarm location as soon as possible after the bees have stopped flying, as arranged with the owner of the location.

Composition of Bee Venom

52%Melittin - a strong anti-inflammatory agent, induces cortisol production

10-12%Phospholipase - most destructive component, an enzyme which degrades cellular membranes, causes decreased blood pressure, and inhibits blood coagulation

2-5%Adolapin - anti-inflammatory and analgesic

2%Protease-inhibitors - anti-inflammatory agents and stop bleeding

0.5-2%Histamine - involved in the allergic response

1-3%Hyaluronidas - dilates the capillaries causing the spread of inflammation

1-2%Dopamine & Noradrenaline - increase pulse rate

Apamin- a mild neurotoxin, also increases cortisol production

Bee Venom and Therapeutic Effects on Human Body

Improves cell regeneration.
Activates renewal of damaged skin cells
Scar reducing effect
Helps treat and reduce fine lines and wrinkles
Helps collagen formation
Reduces skin ageing including photo-ageing
Anti-bacterial
Anti-inflammatory
Helps treat & prevent skin acne
Helps maintain lower cholesterol
Fortifies the natural immune system to increase antibodies against infections and diseases
Improves energy levels
Improves blood circulation

It is estimated that over 1% of the human population are allergic to bee venom, but it is also a medical phenomena, and another marvel from the amazing world of bees.

Question -

What is Bee Venom and how is it used and collected ?

Honey bee venom, or Apitoxin as it is also known, is a bitter colorless liquid. It is produced in the venom gland of female bees from the time they are fourteen days old, and is stored in their venom sac (approximately 0.3mg per bee). A bee can inject 0.1 mg of venom via its stinger. The venom is acidic, (pH 4.5 to 5.5), and is similar to snake venom and nettle toxin. Composed of enzymes, proteins and amino acids, the active portion is a complex mixture of proteins, which cause local inflammation and act as an anti-coagulant. Containing about thirty biologically active compounds, some of which are practically impossible to synthesize by chemical methods, bee venom is a unique multi-component complex. The main anti-inflammatory pharmacological components are peptides: Melittin, Apamin, peptide 401, Adolapin and protease-inhibitors. It is a strong immunological agent which can stimulate the human body's protective mechanisms against disease. There are different mechanisms of venom action in the human body; indirectly through the hormones system and directly on the cardiovascular system. Collecting Bee Venom A common method of collecting venom, which generally does not kill the bees, uses an electric shock to stimulate the bees to sting. A collector frame made from wood or plastic, with a wire grid to carry electrical pulses is placed at the hive entrance. Under the grid a glass sheet is positioned and covered with a plastic or rubber material to avoid contamination of the venom. Bees contacting the wire grid receive a mild electric shock, and sting the surface of the collector sheet. Venom is then deposited between the glass and the protective material, where itdries and is able to be recovered. After drying it is a white powder. If not protected from oxidation, this will change tobrownish-yellow colour. Oxidation can also reduce its healing properties. There are different kinds of venom such as:‘whole dried’ which may be contaminated with pollen, faeces, dust, nectar: and ‘freeze-dried’ which is highly processed and purified. Duringthe preparation its moisture content and any other contaminants are removed. Freeze-drying is also used to preserve the venom, but some of the active components may be also be removed. If the venom is protected from moisture andlight it can be stored for five years or more. It will not lose its toxicity, but its healing effects are reduced.

Uses of Bee venom

Bee venom therapy is used for a wide range of treatments such as for rheumatism and joint diseases, due to its anti-coagulant and anti-inflammatory properties; and is claimed to benefit chronic pain, hearing problems, trauma, multiple sclerosis, scars, spondylitis deformants, psoriasis, and arthritis. A toxin extracted from the venom, Apamin,which speeds up brain activity, has also been credited with alleviating conditions such as muscular dystrophy, depression and dementia. The Chinese have combined traditional acupuncture methods with the use of bee venom to treat epilepsy; and in homeopathic practice bee venom is mixed with snake and centipede venoms, then taken orally to treat cancer.
Cosmetic use of bee venom is also wide spread amongst celebrities and others, including the Duchess of Cornwall and Posh Spice. Anti-aging properties are claimed.
Bee venom is used to stimulate the production of naturally-occurring collagen and elastin chemicals in the skin and muscles, which reduce wrinkles by relaxing and strengthening the tissues

TOPICAL TIPS.

We are now in a critical phase for our colonies. Populations are at their lowest level and most of the bees in the hive will be old bees that have overwintered; they will not survive very far into the spring. Any setback at this stage can be fatal to the colony, so we must ensure that they have sufficient food - which must be close to the cluster - and as little disturbance as possible so that they can get on with this important work.

Heft colonies and if they are heavy then leave well alone. Any that are light will require further checking. If you have to open colonies, try to do so on a dry, reasonably warm day with little wind - but if they are really light then you will have to open them no matter what the weather. Provided that you do not remove any brood frames and that you work reasonably quickly, any brood will not be chilled as it will be well covered with bees. If the colony needs feeding then there are three options: provide fondant, sugar syrup, or a frame of honey. Fondant should be placed on the queen excluder directly over the cluster. Syrup (2lb sugar to 1 pint of water) must be in a contact feeder and again must be put directly over and in contact with the cluster. When the weather is cool, bees will not bring food from the other side of the brood nest or from an overall feeder. It is not a good idea to move frames of honey from other colonies unless you are absolutely certain that there is no disease - and remember that you cannot see things like nosema without looking at samples under a compound microscope at 400x magnification. However, if a colony has simply eaten its way across the brood nest and the only food is in frames on the other side of the brood nest, then you can move a frame of stores so that it is beside the cluster. On no account should you split the cluster and put the stores in the middle.

This is also a good time to treat for varroa if your colonies need it. We had a very long summer last year and varroa numbers soared - so they may still be a little on the high side if you did not control them well last autumn. Get treatment in hives now so that it is out before the honey flow starts. Thymol based treatment is preferred - and do note that it is now too late to use oxalic acid.

Do get supers on to strong colonies by the end of the month, not for honey storage, but to give the bees space; this helps to reduce swarming later.

Oh - and you have got your spare equipment ready, haven't you? The rape could easily be in full flower within the next six to eight weeks - or, of course, we could be up to our knees in snow! Be prepared to take advantage of whatever the weather throws at us.

Peter Edwards

More colonies starve during March and April than at any other time of the year.

Honeybees Stimulating Cancer Research

Identical genes but different development:

Cancer researchers in Heidelberg are studying honeybees to discover why cells with the same qualities behave differently. In the course of the study it has been discovered that queen bees differ in their chemical markers by around 500 genes from the workers they produce.

The scientists hope, by exploiting this finding, they may obtain information about the growth of cancer cells, which possess the same genes as healthy cells, but develop divergent characteristics.

The chemical markers with methyl groups are characteristics in genes, which have no influence on the development of the DNA constituents. The cells use these methyl groups to respond to changing environmental conditions.

They play a decisive role in the development of the bee and could offer a starting point for a new cancer therapy. *"The honeybee is an extreme example of differential development paths"*, stated Dr Frank Lyko of the Cancer Research Centre.

The function of the larger, long-lived queen honeybee is to spend all of her life producing generations of new bees. The considerably smaller worker bees as opposed to this, collect food, maintain order in the colony and nurse and nourish the brood but are themselves sterile. It is the feeding that decides the future of= the honeybee progeny.

If the larvae are fed pollen they develop into worker bees. However if larvae are intended to become queen honeybees they are fed exclusively on lipid and protein rich royal jelly.

Due to this enriched feeding the chemical markers are obviously affected. Australian scientists imitated the effects of this special food, by switching off the enzyme in the larval bees, which marked the DNA with the methyl groups. All of the larvae so treated developed exclusively into queen honeybees, without access to royal jelly.

This was a clear indication that methyl marking is a decisive factor in the development and fate of honeybee larvae, in that it influences the activity of particular genes.

Future cancer therapies based on these findings can now commence.

This month can be a 'tipping point' for many honeybee colonies –

If early March is cold and wet, following on from a similar pattern in late February, denial of access to spring pollen will push struggling colonies over the edge and they will perish, no matter how much syrup they are fed. However if March breaks bright, dry and, for the bees, flyable, and continues so, then Nature can perform the miracles of which she is capable. Just watch a colony grow—(the floor insert will show you the colony development or otherwise) - after good access to crocus pollen and then being able to graduate to the pussy willow.

A honeybee or even a bumble bee colony given reasonable access to willow pollen will not look back – so long as its larder of liquid stores is well stocked.

Willow pollen is the 'power house' that will allow a honeybee colony to achieve a powerful workforce for the early summer nectar flows from gean (wild cherry), blackthorn, Norway maple,
dandelion, sycamore, chestnut, Swedish whitebeam and hawthorn etc to say nothing of oil seed rape (OSR). It takes six weeks from egg laid until a worker honeybee is mature enough to forage.

The first major nectar flow in areas where OSR is not grown is generally from the sycamore, which blooms in the West Central belt of Scotland around the first week in May, reaching its peak of development some eight to ten days later.

The early summer tree nectar sources are as good as spent by the end of the first week in June – thus to have any chance of an early summer honey harvest the beekeeper has to manage the colonies with the aim of reaching peak population size by mid May.

If incoming pollen is matched by a steady, 1:2 (sugar: water) sugar syrup feed right up until the nectar flow starts, this will impart a feeling of prosperity and well being in the colony as it expands – if the bees don't need it they will be slow to take it down and when the nectar flow starts in earnest they will forsake this syrup feed for the real thing – nectar! A word of warning; once feeding has been started it must be continued with until the bees are foraging well on the nectar flow.

An excellent indicator of the start of a nectar flow is when a once busy water source is suddenly forsaken – again for the real thing! Around 1760 a German beekeeper author, Gottlieb Schirach, proclaimed that one strong colony of bees will gather more surplus honey than four moderate sized colonies. I have proved this postulation many times over the years – and if I am still 'above ground' for the April issue I will describe how a beekeeper with four or more colonies can exploit this phenomenon and still get an excellent late summer honey crop – weather of course permitting in both instances.

Relative to the six-week timescale for optimum colony strength the beekeeper would be well advised to commence feeding the discussed sugar syrup from around the end of the second week in March. Another ploy to impart that desired feeling of prosperity in the colony is the insertion of a drawn brood comb comprised primarily of drone cells. In so doing, complimentary to the syrup feed, the bees will be encouraged to rear early drones, which will accelerate the timescale of the prospective queen rearer, especially if the beekeeper has maintained records over a period of years and can identify a prospering current year colony, whose queen was reared from a likewise prospering colony in the previous year – bearing in mind that the quality of the drones in any current year colony is dependent on the quality of his mother's mother colony!

The management methods being discussed here are incidentally all components of an integrated system of anti Varroa treatment, which entails a method of killing the mites in the sealed brood cells, which is the optimum time to treat against them, in late spring – viz; around mid April and then again in midsummer during the June Gap.

The system also entails a continuous, constant regime of mite drop monitoring, which requires that each and every hive in the apiary is fitted with a Varroa floor, which permits a day by day appraisal of the mite population which should not be allowed to rise above three-five mites falling naturally per day.

In late December, according to the accepted wisdom in Germany, the natural mite fall should not exceed one mite/two days. Keep your mite numbers low and dramatically reduce the viral burden in the colony. Makes sense! No?

Producing finely granulated or creamed honey

At this time of year some of our 30 lb (14.5 kg) buckets of honey will certainly have crystallised or set hard. The 'set' of the honey may be coarse or fine (large or small crystals respectively) depending on the floral source on which the bees foraged. If the honey has a high dextrose to fructose ratio then it will granulate within a few days of being extracted. Oil seed rape (OSR) honey will granulate overnight and therefore must be filtered and removed immediately otherwise it will clog the filter. In the UK most honeys granulate, whereas in Australia the opposite is the case. In this country customers like both creamed honey and run (clear) honey. The latter should have a shelf life of about twelve weeks, before it starts to granulate. How to obtain this is a topic to be covered later in the series. Creamed honey should have a smooth texture. That is to say, it should have no large crystals that the tongue can feel. The 'set' should be such that when a jar is held horizontal, without its lid, the surface should not move but should remain vertical. To obtain this result a clear honey, without incipient granulation, must be used. A 30 lb bucket of honey needs to be gradually warmed for long enough to produce a clear honey at about 42°C, filtered to remove particles of wax and other foreign material, and then allowed to cool to room temperature. When it has cooled about 1.5 lb of finely granulated honey such as OSR must be added and then mixed thoroughly using a creaming tool in such a way as not to introduce air into the mix. The 1.5 lb represents 5% of the honey that is being seeded ... this is the original Dyce method. The percentage can be increased considerably without introducing problems, and is necessary if this bucket is to be added to other run honey already in the settling tank. Extra amounts of seed speeds up the final process. The optimum temperature for the fine granulation to proceed at a rapid rate is 15°C. Any lower or higher and the process will slow down. Warming can be done in an electric warming cabinet in two days with the thermostat set to around 42°C. Alternatively, an old fridge/freezer may be adapted by using an incandescent 40 W bulb, or tubular heater, on the floor ... for ambient temperature outside of 16°C. If ambient temperature is lower, then use a 60W bulb. Remove all but one of the shelves to make room for the honey bucket(s). Alternatively, it is possible to stack three buckets and wrap, and tie, an old electric blanket around them that is fed safely through a residual current device (RCD). Put some insulation on top to reduce heat loss. A 60W blanket takes about two days when ambient temperature is around 20°C. Remove the blanket after mixing and in a couple of days at room temperature the air bubbles and any remaining debris that passed through the filters will have risen to the top of the honey in the settling tank. It is then time to jar up the honey by, at first, holding the jar at about 45° so that the first of the honey out of the tap runs down the inside of the jar, and when the honey has crossed the bottom of the jar the jar may be gradually brought back to the vertical position. This en-sures no air bubbles are trapped. Turn off the tap just before the honey reaches the top thread mark so that the top of the honey is not visible once the lid is on. It will then contain the correct weight of honey. It's a good idea to weigh together some six empty jars to get the average weight of a jar and then to weigh together some six full jars again to check the honey weight is correct. And, finally, this method will produce set honey without any frosting of the jars. Frosting is caused when the honey crystallised and pulls away from the vertical face of the jar.

TOPICAL TIPS

The recent unseasonal weather has given our colonies a much needed boost and those that we have inspected during the past week are looking much better than I expected. This is obviously a good thing - fresh nectar and pollen coming in means an in-crease in brood rearing and those young bees are needed to take over from those old winter bees that are now at the end of their lives. Sounds like all good news? Yes, but if the weather now turns bad then those colonies that have over expanded can easily run into trouble. More colonies starve in March and April than at any other time - and it is always the biggest and best that go first because they have the most mouths to feed! Be warned - watch the food situation.

The fine weather and light winds enabled us to inspect around a third of our colonies in March and I have to say that I was pleased with what we found. We checked the queens and clipped and marked any supersedures since our final inspection last year, but more importantly we had a good look at the brood to check for disease. Apart from a very small amount of chalkbrood in a few colonies and two or three waxmoths, all looks well.

We did find one sealed queen cell in a colony with just 3 frames of brood. We left that one of course - although the brood looked perfect the bees must know that there is something wrong with the queen and are trying to replace her.

You have put some supers on - haven't you?

Varroa Research Study

B. Ricarda Kather, East Anglian Research Student

Her research project is to find out both how varroa deceives its host and to discover how it has achieved so rapid a spread. The lipid layer on a bee's exterior protects it from dehydration (an insect problem) and from both bacteria and viruses penetrating its skin (cuticle). The chemicals it carries also allows it to distinguish nest mates from non-nest mates and other species such as wasps. The lipids can be washed off using strong chemical solvents and identified via gas chromatography-mass spectrometry. Varroa produces exact copy chemicals of the honey bee odour; these vary with bees' age and sex. Varroa home inon nurse bees which lead them to the brood; they can also determine which cells are about to be capped. Each colony has its unique chemical profile. How does varroa alter its smell for each colony? It has been found that mites can adapt within 20 minutes to 3 hours, quite quickly. She hopes to refine this period. Do the mites synthesize the 'recognition 'chemicals themselves or do they 'borrow' them from their host? The latter seems more likely. In an effort to discover whether varroa produces the bee odour itself oracquires it from the bee, she has been washing pupae to permanently remove their odour and then adding mites. If then the mite still has a bee odour it did not acquire the compounds from the bee's skin, but synthesized them itself. In the next weeks, she proposes to expose mites to the smell of bees while denying them direct contact tothe bee itself. She plans also to switch varroa between colonies and onto bumble bees to test how easily varroa can adjust to the odour of another colony or another species. Does Varroa promote its own transmission in some way? Does Deformed Wing Virus (DWV) have an effect on the chemical profile or affect the bees' ability to accurately discriminate nest mates from non-nest mates? She faces several challenges for next year's experiments. These are to disentangle any DWV effect, comparing the spread of DWV by injecting virus, to its spread using mites and obtaining DWV free mites for comparison. She is also trying to determine the chemical history of mite families. Although bees evolved from wasps, the chemical profiles of wasps and bees show that each species is distinct, with little overlap. Determining the compounds characteristic for mite families would give another idea on how the mite has adapted so successfully to mimicking the honey bee odour. Each experiment uses 500 to 600 mites so she has not enough; she offers to swap colonies with many mites for beautiful mite-free ones from the Isle of Man, when the next experiments start around May.

My entry into beekeepingl

I can clearly recall the very first conversation I had at my very first beekeeper's meeting...I had wanted to keep bees for many years a Before visiting the hives of a friend 20 years earlier and now my 4 children were threatening to grow up and become independent. The time seemed right for me to put this long felt dream into action and so I ventured into a meeting of a local association (NOT BADSBKA) hoping to gain knowledge and encouragement. I sat myself down on the back row next to a gentleman of reasonably advanced years whose face betrayed considerable apiaristic wisdom (or so I thought). I introduced myself and explained that apart from reading a few books I was somewhat ignorant of what was required to become a beekeeper and that I was hopeful of at least acquiring some initial insight into this mysterious science. He proceeded to explain to me how dangerous it was to keep bees and that I should be especially careful to avoid a specific experience: "You see," he said, "the little beggars do like to fly up your trouser leg and if you're not careful they could sting you on your ****** (at this point insert your own euphemism for a gentleman's private parts!) and then it will swell up something terrible and you'll end up in hospital with a catheter!" After that he turned and chatted to his pal next to him. I'm s;ll not sure if he was a complete eccentric or a joker but amazingly, I stayed for the rest of the meeting and did meet some lovely people who gave me more encouraging and useful information. Several books later, I came along to the taster day run by BADSBKA and I was able to ask all those questions that the books cannot answer. I learned that I should refrain from wearing both perfume and make up when around bees and that a calm demeanor is an asset. Given the advice I had received at my first meeting the "calm demeanor" seemed unlikely but by the end of the noon session where we got to see real hives and real bees and hold real frames I felt more confident. I went home filled with enthusiasm and broke the news to my wife that this was it – I was definitely going to do it! So, where could they go? I have a small garden but we worked out that there was a spot that could contain a hive but after several emails and phone calls, the local countryside officer put me in touch with the farmer at the end of my road who had a small copes of trees in between some fields that he was happy for me to use. Perfect, half a mile from home, peaceful, safe, sheltered and free from prying eyes. The next issue to consider was the sticky one of cost: how much was it going to cost to start keeping bees? This was not going to be a cheap hobby to take up but I was comforted by the fact that once purchased, the equipment and hives should last many years if properly cared for. After much research and some helpful advice from Paul Mann I purchased some second hand hives and got a small but established colony by the end of July 2010. Paul helped me through the early days and in spite of my inadequacies they got through the winter. Last year I got another colony and inadvertently picked up a swarm that made its home in a brood box containing old frames. So, I now have 3 hives and I love being a beekeeper. I find it all so fascinating and love eating the honey that my bees produced. There is a paradox that I discovered as a beginner one needs plenty of advice from experienced beekeepers when one starts but none of them can agree! I found it a truism that ask 5 beekeepers a question and you'll get 10 different answers! This was, initially, quite confusing but I soon realised that if there were so many opinions then that meant there was no single way of doing things. There I was searching for THE way when in fact there were MANY ways of executing this noble art. I soon learned to listen to one expert rather than many and my best teacher is s;ll my own mistakes. I have so much still to learn and that is what makes this game so attractive – you never stop learning

TO INCREASE YOUR NUMBER OF COLONIES.

I am very conscious that many of our members have started keeping bees in the last few years, most start with a single colony, either a swarm or a nucleus they have bought. It is very difficult to keep only one colony, eventually it will die out and you will have to start again so I hope the following will help. Please note that I am assuming your colonies are free of any disease. Varroa will be present, they are in all colonies.TO MAKE TWO COLONIES FOR THE BEEKEEPER WITH ONLY ONE COLONY TO START WITH.The best way is to use the swarming impulse in one of the following ways.1.By making an artificial swarm before swarming preparations have been started. Or.2.When the swarming signs are present. Or.3.By catching your own swarm when it has left the hive.For 1. and 2, most books describe the making of an artificial swarm quite clearly. Hooper covers this in Chapter 7 Controlling swarms and making increase. Pages 138 to 141 in my edition. This is all very well if you can find the queen but not much help if you cannot. For those who fall into the second category I suggest the following. Make your artificial swarm by the "Shook swarm" method, SHAKE [see note “A” below] ALL [See note “B” below] of the bees from the combs into the new box of frames on the original site, this will include the queen. Place a queen excluder over this box and on top of this put a brood chamber with the original combs inside, over this any supers which may be present, close up.24 Hours later remove the top brood box, as it is, to another site, say 5 to 6 feet away. The flying bees will return to the original site and join the artificial swarm. Those left will care for the brood and any queen cells present or start queen cells if the colony had not started swarming preparations. Either way 8 to 10 days later there will be sealed queen cells within the hive. You now have the option of leaving it as a single colony or dividing it into two with a queen cell in each. Once this is done leave well alone for 14 to 21 days by which time there should be a laying queen in the new colony. When you check for eggs the first time open the colony with a minimum of smoke and check one or two frames from the centre of the bees, if you see eggs, close the colony up straight away, if not leave for another 7 to 14 days and check again. I hope all goes well for you, if you have any doubts please ask me or any of the experienced beekeepers for advice, we have all been there !!!For 3. This is a very long shot. Most swarms leave the hive without being noticed. If you think your bees are about to swarm then check your apiary every day, look and listen. Swarms which have clustered are not very noticeable, look and search. Swarms do give off a faint hum so this may help.If you find your swarm collect it in a container and leave until evening. Now move the original brood box to one side, place a box of frames with foundation on the original site and hive the swarm there. If there were any supers on the colony place them over the hived swarm. Not “A” If any of the frames have queen cells on them DO NOT SHAKE THE FRAME, brush the bees off. Any soft hand brush will do or a hand full of long grass can be used. Note “B” All means most, it is quite difficult to clear a frame of bees, the queen will usually come off with the first good shake so the last few will not matter. If all this seems a bit daunting then I suggest you read it through several times. Do a dry run with hive or cardboard boxes, write on each the contents and go through the process.

FOR THOSE BEEKEEPERS WHO HAVE TWO OR MORE COLONIES.

Let us name your very best colony “A”. Any other colonies can be “B” or “C” and “D”. The time do this manoeuvre will be when the brood chamber of “A” is well advance, say 5 to 8 frames of brood, probably late April or May. Go to colony “A” and find the queen [If you cannot find her or prefer not to even look, SEE BELOW]. Assuming you have found her place the comb she is on into a brood chamber with another frame or two of brood and a frame of food, a total of 4 or 5 frames. Add a few extra frames. Leave this brood chamber on the original site. Now move colony “B” [or one of the others] to a new site and place the rest of colony “A” on the now empty site of “B”. Let us see what we have done. The remainder of colony “A” is on its own site and the flying bees currently on site “B” will return and join colony “A”, this colony will start to build up again, it still contains your best queen.. Colony “B” will be on a new site and its flying bees will return to the original site of “B”The colony now on site “B” will have the house bees moved from “A” plus the flying bees returning from “B”. It will be queen less and start to produce queen cells, ten days later the cells will be “RIPE” with the young queens emerging in 2 days time. This can be left as a singe colony or split into 2 or 3 as required. Check for eggs 14 to 21 days later. Again read it through several times and draw it out on paper. Good luck. I found this method in a book many years ago. I thought it was in Queen Rearing by Snelgove. but cannot now find it in there. If anyone knows where the original is please let me know, Paul.If you cannot find the queen go to colony “A”. Lift the original brood box to one side, place an empty brood box on the floor. Select the frames you wish to form the nucleus to be left on this site, place them in the brood box. Now shake the bees from the rest of the combs into the new box, this will include the queen. Place a queen excluder over the brood box and place the original box on top. Leave for 24 hours. Now move colony “B” to a new site, lift the top box and place it on site “B” and proceed as above.If you regularly have trouble finding queens may I suggest you find a book called “How to keep bees without finding the queen”

April at the bee hives.

By April most colonies should be well into their stride and winter survival known. Bees that went into the winter at less than full strength will be the slowest to get going, so do not be tempted yet to remove any candy. You can, now that the weather is warming up, feed 1 : 1 syrup if you feel that a colony needs help. Quick building colonies will make the most of early nectar flows, especially if they have access to something like autumn sown oil seed rape, but the end of May, these precocious colonies may be thinking about swarming. Even with good swarm control management, such colonies will not produce honey from later flows as a colony that has developed more slowly, has not attempted to swarm and is then hitting its peak. Minimum, comprehensive inspection. There is no fixed time for the first full inspection, it depends on the development of the colony and the weather, but for a minimum, comprehensive inspection make sure that your bee suit is clean, washed and that all zips work and that there are no holes in it. Bees love ankles, so wear wellies or similar. Take your glasses with you, if you need them for reading, you need them to look at a frame. You will need to get your eye in again to see eggs, and it won't help if your glasses are in the house. Ensure that the smoker is well alight before you are near the hives and take spare fuel and the means to light it. Choose a day when the temperature is above 16 d C, and with no, or only very light wind. Objectives. Any and every inspection should have a clear purpose, so for this inspection: Is the colony queen right? Does it have a laying queen? It is not necessary to see the queen to confirm this; as long as you can see recently laid eggs, (an upright egg is newly laid, it takes three days for the egg to become horizontal), all is likely to be well .Look at the capping's of sealed brood; they should be slightly convex. If they are domed, and you will be able to see the difference, you may have a drone laying queen and she will have to be replaced. Are there occupied queen cells in the hive? They can occur now, but it is unlikely; you would normally expect them from May to mid July, but you should not destroy any queen cells until you know why they are there. May be the bees are re-queening themselves and you interference will hinder them. Also, destroying queen cells is not a method of swarm control. If you are unsure, ask for advice. Colony development. Is the colony as large as you expect? What is large? Well, can you compare it with other colonies? How many frames of brood does it have? Judging what is normal and satisfactory will come with experience, but in April in this area, six or more frames with brood and eggs is OK. if you are not sure, again ask. Is there enough space for the queen to lay? Is there too much honey and/or pollen in the brood area limiting laying space? This is more likely later in the year, but while the hive is open, check. Signs of disease. The difficult question. (NB: the trip to Buckfast detailed on page 2 is a chance to attend a disease recognition class). Identification requires expert help, but: are the larvae glistening and pearly white, not discolored? Are they neatly curled up in the bottoms of the cells? Does the sealed brood have uniform capping's, or are they sunken or damp or perforated? If you think that you can see the latter, ask for help; but don’t get paranoid, instance of disease is not high, but be vigilant Varroa. I f there is drone brood present, use an uncapping fork and lift out some pupae. You will almost certainly find some mites, so how many is too many? Varroa is now endemic and unless you live on an island miles from anywhere, you will have varroa. In the round, if you find more than one cell in twenty is infested, you need to think about some varroa control. If you see bees with damaged or deformed wings, or just stumps, it is likely to be deformed wing virus (dwv), urgent action is required. Stores. Does the colony have enough stores to see it through to the next inspection? How much is enough? No simple answer, the seasons progress, the weather, potential food sources all are part of the answer, but after April, a colony should be able to rely on incoming nectar. Given the above, you can now carry out your first check. Also have a notebook and a working pen with you and make notes at the time. These will form the basis of your hive records, without which your bee-keeping will be less successful, or interesting. There are examples of record cards on the web site to download and use; Hooper also has a format as does the BBKA. It need not be complicated, but good records are invaluable. Check as well that the access to the hives is clear and that if you are in a wooded area, the bees have a clear up and away flight path. Finding the queen. A worrying prospect? Not really. It can sometimes be a bit difficult, it is amazing how agile the queen can be at scooting around the frames if she does not want to be caught, but patience will usually prevail. And if you cannot find here this time, you probably will the next.

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Pollen Feeding is still important

Last month we featured the benefit of making and feeding pollen patties to give our colonies a good start in Spring.So let's consider the 'bee bread' which is the stored pollen that our bees will have been eating during the winter. Natural pollen itself is variable; the protein content ranges from 7% to 30%, and the amino acids constituting the protein also vary considerably. The quality and age of pollen will significantly affect the 'performance' of bees. Bees feeding on fresh pollen could produce say 220 larvae, whereas the same number of bees feeding on pollen that has been stored for a year would only produce around 65larvae.This indicates the importance and benefit of early access to fresh pollen. Which is why when fresh pollen is scarce it is beneficial to feed a substitute.

Removing Bee Stings

Background conventional advice on immediate treatment of honey-bee stings has emphasized that the sting should be scraped off, never pinched. The morphology of the sting suggested little basis for this advice, which is likely to slow down removal of the sting.

Methods

The response to honey-bee stings was assayed with a measurement of the size of the resulting weal. Injection of known quantities of venom showed that this measurement is a good indicator of envenomization.

Findings

Weal size, and thus envenomization, increased as the time from stinging to removal of the sting increased, even within a few seconds. There was no difference in response between stings scraped or pinched off after 2 seconds. Interpretation

These data suggest that advice to patients on the immediate treatment of bee stings should emphasise quick removal, without concern for the method of removal

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YES, BUT WILL I DIE?

Beginners are often concerned about the effects of bee stings, but it would seem that there is very little to worry about. Browsing through the Office for National Statistics data on deaths for 2009 (as you do!), I found that just 4 people allegedly died from stings by bees, wasps and hornets combined. Compare this with, for example:5 from dog bites;33 drowned in their bathtub;644 falling down stairs or off steps;2284 from traffic accidents. Clearly beekeeping is a very safe hobby and poses even less risk than keeping a dog!

What is Bee venom made up of?

If the sting is only a small prick, perhaps through protective clothing and the barbs of the sting lancets have not fully embedded in flesh, then the worker bee can withdraw the sting and survive. Neither in this case will the victim feel much pain as the amount of venom inserted will be minimal. If the sting has fully penetrated however, the worker bee cannot withdraw it and inevitably the whole sting mechanism is torn from her body. The bee will then die fairly quickly thereafter. The sting shaft is composed of two longitudinal lancets, which slide on one another with a hollow groove between them to allow injection of the venom. Grit your teeth and I will explain the action. One of the lancets advance into the flesh of the victim (driven by a self-contained muscle and drive mechanism) and its barbs hold fast in the flesh (like a fish hook or arrow barb). The other lancet now advances using the first as a reaction anchor. The second lancet penetrates further into the flesh, its barbs holding fast. The first lancet is now brought into action again and so on, time about until both lancets with their hollow delivery channel have penetrated far enough into the flesh of the enemy for effective delivery of the venom. The insertion action is fast – fractions of a second. The complete sting motor mechanism is self-contained, along with the venom sac, so that it can complete its job even after the bee has been torn away from the sting. If you look carefully at the sting once it has been torn from the body of the worker you will see it continue to move as it completes its painful cycle. In removing the sting, it should not be pinched as this will help the injection of the venom by squeezing the poison sac; rather it is better to scrape the sting away with a finger nail or the edge of the hive tool - quickly. The lancets of the queen's sting have very shallow (blunt) barbs and so she can sting and kill other queens without endangering herself. Wasps and bumble bees also have barb free stingers and thus can sting more than once. The queen rarely stings other than to kill rival queens, but if she smells another queen on the beekeepers fingers (from a previous marking or clipping operation), then the beekeeper may get a surprise. Drones, being good boys, of course never (in fact can't) sting. Worker Bees are capable of stinging about 15 days after emerging from the cell. Their venom sac contains 50 micrograms of venom and once this has been used no more is produced. There are two main glands associated with the sting – the acid gland (usually referred to as the venom gland) and the alkali or Dufour gland. The acid or venom gland produces the interesting chemicals, the function of the chemicals produced in the alkaline gland is still debated but suggested uses are as a lubricant for the complex sting mechanism, neutralising acid left over after the sting has been used (obviously more important in the case of the queen than in the "once-used" worker sting) and also in the case of the queen, protecting the eggs and acting as an egg glue (the egg is glued to the bottom of the cell when new laid). Bee venom is quite a complex compound composed of specific chemicals targeted to achieve various aims. There have been about 80 different chemicals identified in venom, all manufactured by the bee's body wizardry. The main ones are designed with two aims in mind - to cause intense pain (to discourage the enemy from continuing with the attack) and secondly to disable the attacker (get you away from the colony andinto a state of mind where going home to watch a game of tennis on the telly might seem to be a better idea). The sting chamber also contains pheromone glands which emit marker/alarm chemicals which will enable bee sisters to easily identify the enemy, both at a general and specific (wound site) level - this enables a more efficient attack to be carried out. This latter alarm pheromone is in fact separate from the venom and originates from glands lying under the lancet actuation plates. It is arranged to be spread into the surrounding air and to land on the surface of the sting site/wound, rather than to be injected into the flesh. The initial high intensity pain is spectacular but short lived - about a minute. Try timing it next time you get stung and simultaneously try carrying out a mental task such as a simple multiplication sum. During the minute of intense pain you will find that it is very difficult to concentrateproperly on another task. After the intense pain subsides, other lower pain, but more insidious chemicals get to work. The most awkward of these from the victim's point of view are the allergen enzymes: Allergen C, phosphatase, phospholipase A *(pain causing - breaks down cells and disrupts normal biochemical reactions);* mellitin (*pain causing - causes release of haemoglobin from red blood cells into the blood plasma)* and hyaluronidase *(pain causing - breaks down cells and allows the venom to spread)*. These chemicals cause the victim's defence mechanism to go into a self-attack mode (as in general allergic reactions). Mast cell destroying peptides are also present – human mast cells produce and store proteases which if released en masse cause severe inflammation and allergic reactions. The bee thus achieves a double whammy effect – causing severe pain and getting the victim's body to attack itself. Some people are very sensitive to venom and in rare cases can go into anaphylactic shock, in which case medical attention should be sought immediately. An authoritative review on the effects of stinging was published in 1982 for the beekeeping community, by Dr Harry R.C. Riches 'Hypersensitivity to Bee Venom' – Bee World, Vol.63 No. 1 PP7-72. Dr Riches classified bee venom hypersensitivity into two categories –Type I & Type III. Type I is the usual reaction from the venom affecting mast cells which then release histamine (pain and swelling). Type III are delayed reactions caused by precipitin, considered very rare and are usually only caused by excessive stinging. Dr Riches listed Type I reactions in order of severity, as large local reactions, systemic reactions and anaphylaxis. Systemic reactions he described as generalized reactions occurring within a few minutes of receiving a sting, varying from a mere flushing of the skin to more serious nausea and faintness. Speed of onset was an indicator of seriousness. Anaphylaxis he said occurred within seconds or minutes of receiving a sting – nausea, wheeziness, and falling blood pressure which could lead to fatality.

For local reactions he advocated removing the stinging apparatus and applying calamine or a cold compress (not antihistamines which he said caused skin irritation). Stings in the mouth or eye he considered much more serious and requiring medical attention and he said a veil should always be worn. For systemic reactions he recommended adrenaline be administered by inhalation or injection and for anaphylaxis, adrenaline injected intramuscularly followed immediately by specialist medical advice. Type III reactions, likely from mass stinging, are more serious and require specialist medical care. Dr Howard S, Rubenstein also published a useful guide in The Lancet (Feb27th 1982 pp496-599) and one of the points he made was that a serious part of being stung was the fright involved, he believed that this was probably a cause of some systemic reactions. So if you are stung, stay as calm as possible. The pheromone sent out by the sting scent gland (of separate origin from the venom as mentioned above), is mainly isopentyl acetate (another 24 minor components have also been identified). It gives off the characteristic acetate pear drop/banana oil smell and if the bees are particularly grumpy and a lot of stinging has been taking place it can often be smelt by the beekeeper. Another component of the sting scent is Eisocen ((Z)-11-Eisocen-1-ol) which attracts foragers (and guards). The Eisocen attracts other bees to the victim and the isopentyl acetate identifies the exact sting or wound site. Eisocen also stabilises the rather volatile isopentyl acetate enabling it to last longer. The bees can open theirsting chamber and disperse this alarm pheromone by fanning if the colony is alarmed. This seems to be a very natural reaction if clustered bees are opened in cold weather. It is important that bee-suits are regularly laundered to ensure that all traces of the alarm chemicals are removed before next entering the apiary. A puff of smoke onto the sting site will mask these pheromones somewhat but they are pretty persistent. Pure venom on its own does not appear to elicit stinging although small amounts of isopentyl acetate have been identified in venom. Bee venom is collected for research and allergy treatment purposes, by placing the bee over a thin cloth placed over a glass plate and applying a small electric shock via grid wires. The bee can sting through the cloth and remove her stinger, leaving a droplet of venom on the glass plate. The venom is collected from the glass plate.

All in all, stinging can be summarised as being a thoroughly unpleasant experience for both the bee and its victim and if given the choice would be avoided by both – be tidy, clean and gentle and save both yourself and your bees much grief.

February in the Freezer

The Beekeeper is out on the first of February with his magnifying glass counting the Varroa mite drops below the home apiary hives and the temperature has risen to 3 degrees centigrade from an overnight low of minus 3. The sunshine is eye piercingly bright and the hard frost glitters on the grass and trees as the bees are flying out earnestly on cleansing flights and water collecting forays. Some bees are walking around on the hive roofs, over the industrial bubble wrap that covers their hives like long coats, with the metal foil heat reflective side innermost to reflect lost heat back into the hives. On closer inspection, the bees are seen under the magnifying glass sucking up water from the tiny depressions holding newly melted water. You can also use a hand lens but please be careful not to burn the bee with the sun shining through the glass. The bee has a very clever arrangement of mouth parts which, like the wings, fold up when not in use so that they don't get in the way in a crowed hive. There are two tubes which are formed by mouth parts closing over them forming an airtight seal. One tube leads down from the salivary glands and thebee uses the saliva to moisten solid sugar which she scrubs with her tongue and then draws the fluid back up through the othertube like a drinking straw into her mouth (cibarium). She uses water for moistening sugar and also for maintaining the hive at the correct temperature. When it gets too hot she bringsin water which will cool the hive by the process of evaporation. The bee on the hive roof did not have a problem with overheating so was obviously using the water to process food stores for consumption. A quick look around for the tell tale signs of the cleansing flights shows normal faeces on the white bubble wrap. It is not unusual for the bees to have a spot of dysentery when confined to the hive for long periods over the winter. Only the queen will defecate inside the hive but the others have to cross their legs and hang on! Luckily their abdomens can accommodate their expanding rectums as they wait for a suitable day to fly out. Normal bee faeces are encased in a membrane (peritrophic membrane), because pollen grains have sharp projections which would damage the bee's digestive tract otherwise, so they look a bit like tiny yellow compact sausages. A splattered ink spot appearance of darker yellow/brown faeces may indicate dysentery and loss of integrity of the membrane. If you want to be amazed look at 'The Pollen Grain Drawings Of Dorothy Hodges' published by International Bee Research Association, 2009. You would wince at the thought of a Dahlia pollen grain going through your system unwrapped if you were a bee! Despite the sun, it is pretty chilly and the birds are feeding furiously on the peanuts and fat. These are both nutritious foods which will help them through the winter and the Beekeeper has a friendly local butcher who supplies enough fat to last till Spring. Last year when the temperatures were down at minus 18 degrees centigrade and lower, the birds suffered and the rescue of a Blue Tit (Parus caeruleus) from certain death from hypothermia was necessary. It was sitting motionless hunched up on a branch near the peanut container all puffed up to increase insulation but so unresponsive to its surroundings it was easily plucked to safety from the tree and taken indoors to be warmed in a small cardboard box till fit to fly.
A Great Tit (Parus major) with his bright yellow front separated by a thick black band sneaks up to the hive entrances when he thinks that the Beekeeper is not looking but he seems to be eating only dead bees that have been cleared away by the undertaker bees. The hives are hefted and all seems well at the moment but putting on some candy could be a good 'belt and braces' approach if the freeze continues.

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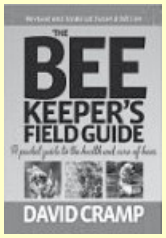

The Beekeeper's Field Guide
Author: David Cramp,
Published by: How To Books
268 pp. RRP £16.99
ISBN 978-1-905862-51-1

This is a revised and updated second edition, subtitled **'A Pocket Guide to the Health and Care of Bees'**. The major part of the book is a fairly comprehensive list of the manipulations a beekeeper might expect to perform, each explained in simple terms, adequately illustrated with diagrams and photographs. The section on diseases will help those not sure with the identification, but care should be taken with the treatments recommended, as it would appear the book has been written to appeal to an international audience (it lists hemp, Cannabis sativa, as a flower to grow!) so is not UK specific, and beekeepers should check before applying any treatments recommended. It also contains some troubleshooting guides for inspecting hives when visiting the apiary, when looking at the hive entrance, inside the hive and at the brood nest, listing the possible reason for what you might see and the treatment needed. The brief guides to apiary siting, flowers for bees, and other sections are of less use in the field but still contain useful information. At 13 x 18 cm it is a book that will indeed fit into the pocket, and will be useful to have when visiting the apiary, as an aidememoire to those beekeepers who can't quite remember the detail of all they know. However, it does not replace the more comprehensive books on beekeeping that should be on every beekeeper's bookshelf or the fund of knowledge that every beekeeper should strive to attain.

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BEE KEEPERS' QUARTERLY.

The Bee Keepers' Quarterly published by Northern Bee Books is a somewhat weightier magazine that BeeCraft.

It carries articles on research; articles from bee keepers from around the world, (the editor lives and keeps bees in Messinias in Greece); articles on bee health; bee keeping development; the bee keeping season and much more besides.

Recent features have included colony losses; making a 'Langstroth' top bar hive; overwintering; new technology; Travellers' Tales and articles 'for the workshop', and there always a number of book reviews.

The normal cost is £28.00 pa, but through the Association it is just £18.00pa.

It needs a minimum of six subscribers for us to take advantage of the offer and John McKee, our Treasurer has kindly offered to facilitate it on our behalf.

So, send a cheque to John McKee at 27 Egmont Drive, Avon Castle, Ringwood. BH24 2BN along with the address to which you would like the magazine delivered and BKQ will wing its way to your door every three months.

Those who join and are already paying full subscription will a refund on their unused existing full price sub.

£18.00 per year is only 34 pence per week and the magazine is well worth it.

If anyone would like to read a few back copies to see what it is like, you can contact me through the web site or at BADS-BKA@gmail.com.

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Droning on ..... WHAT MATTERS MOST?

I have been keeping bees for a time now. I have my own way and view of beekeeping. I have long felt that different means should be thoroughly investigated and tried (before being condemned!) and have been doing this of late. I began looking at the variety of different hive types, aside of the popular and traditional ones. Hives such as the Rose Hive, the Dartington Hive, the Zest hive, various Top Bar Hives and the principles of how bees are kept in each of them. I have invested in these hives and put bees into them to see how they perform. Then there is the subject of materials from which hives are made: wood, polystyrene, plastic, (straw, and clay) Looking at hive designs brought about the question of frames and foundation: full frames with and without foundation and how they perform against using top bars only with just starter strips. This led me to investigate the way in which the bees are housed and handled using these structures and in general. As I investigated I began to question what I have learnt and been taught: ways and means, hives and frames, to suit the bee keeper, not really the bees. I am beginning to wonder if I have got it wrong, that we have got it wrong, and that the "powers that be" are badly wrong. This is a serious deliberation and one that will require an awful lot of thought and further investigation. It certainly should not be dismissed or discounted just because it is not the way we are accustomed to. The recent increase in bee keepers is a good thing - as a generalisa-tion (though I feel there are serious issues as to the teaching) but I feel that what is being taught may not be the best way for the bees. I urge EVERYONE to take a good look at what I am saying here, and take the time to look at what has been written by people such as John Harding, Rudolf Steiner, David Heaf, H. Storch to name a few. I am prepared to make redundant all that I have invested in, and start again if need be to get it right, because what matters most to me are the bees. How about you?

March Tips Checklist.

Early in March, do not inspect the bees unless you have a good reason, and do not inspect(as apposed to checking), until the Flowering Currant is in bloom. The size of the hive can be estimated by the number of frames being used in the cluster, there are usually 4 to 7 seams of bees to a cluster. Check the smell by raising the cover board - a cold and dank hive may have died -ammonia or mousy smell may indicate a mouse - decay and a horrible smell may mean brood disease. Check for food, lift the crown board and check the size and position of the cluster relative to the top bar, if the bees are at the top feed them. Check for the queen by moving the cover board back, remove the dummy frame, then the outer frame checking it for food, then the next frame (check for food) until you see brood then close up immediately. Remove mouse guards. Keep a water supply available. If you have a hive which is very strong, consider taking a frame of emerging brood and giving it to a weaker hive. If a colony has over wintered on two brood boxes they can be reduced to one on a warm day. Remove the lower box and place any stores beside the brood in the upper box. About three weeks later add a brood box of foundation above the box with brood. If a colony does not build up, they may have Nosema (try feeding sugar syrup containing menthol or thymol at 0.1%). Plan to replace queens that are over 18 months old. Plan to replace with foundation at least four brood combs a year in every brood box. Keep records about the condition of your colonies.

PLEASE SUPPORT THE FOLLOWING.

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UK Honey Labelling Regulations

Below is our simple advice on honey labelling. For more detailed information - go to the website of the Food Standards Agency. www.food.gov.uk

1. The Word "HONEY" is required.

2. The weight must be on the label - we will ensure it is the legal size and format.

3. You can specify the area where the honey is produced. For example, Lincolnshire, Forest of Dean, Scottish Borders.

4. You can specify the type of honey. For example, Heather, Borage. The honey must be at least 75% of that particular type.

5. If you are selling the honey, you must have your name and address on the label. It does not need to be complete but you should be able to be found from the information.

6. If you are selling the honey through a third party, you must have a lot number.

7. New for 2003 You must have a best before date on the jar. We suggest 2-5 years from now.

8. New for 2003 You must have a country of origin on the jar. For example - Produce of England, Product of Scotland, Harvested in Wales. Adding the country to the end of your address is not acceptable.

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