

The E-Book

On

Honey Bees

[With lots of photographic illustrations]



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In the United States alone, honeybees pollinate more than 100 different crops worth \$15 billion annually. Their disappearance would directly result in the loss of vitamin-rich foods, such as:

- alfalfa
- apples
- avocados
- berries
- broccoli
- cantaloupe
- celery
- citrus fruits
- cucumbers
- grapefruit
- kiwi
- soybeans

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Some pages will have links to web sites on the internet. For these links to work your computer must be actively connected to the internet when you click on them.

For more information on Honey Bees And/Or Beekeeping visit:

<http://www.bees-online.com> and/or <http://www.beginningbeekeeping.com>

Who Lives In That Hive Over There ?



Three different kinds of honey bees live inside a bee hive. The hive cannot survive unless it has all three. Each of the honey bees, the Queen, the Worker, and the Drone all have their distinctive job to do.

Queen Bee

Many people think that the Queen Bee is the Big Boss of the hive ! Not true. She is essential but she does not boss anybody. She has the longest body of all three types of bees. She also has a stinger, but unlike the Worker Bee stinger it does not have a fish-hook like barb on the end of it. As a result she can sting multiple times and not die from the act of stinging. The major purpose of her stinger is to kill any rival Queen Bees that may be around when she first emerges from her cell.

Shortly after emerging from her cell the Queen Bee will leave the hive to make her virgin flight to be mated multiple times by various drones. This will provide her with enough semen to last her lifetime.

The Queen's sole job is to lay eggs. She has a retinue of young worker bees who stay with her at all times to feed her and take care of her needs. During the egg laying season, which in the USA, is roughly from early January to the start of Fall, she lays eggs continuously and can lay up to 800 or so a day. This maximum production is intended to build up the supply of Worker Bees to be ready and get out there to gather nectar when the flowers first emerge in the Spring.

She can live three or four years or so. However, her egg laying ability may deteriorate in mid-life. In this case the Worker Bees will decide that it is time to replace her and will begin to build special larger cells, which resemble peanut shells, in which to raise new Queens. This is a process called 'supercedure'. If the Queen cannot lay a sufficient number of eggs, then the chances of the hive being able to survive is not good.

It only takes 16 days from the day her egg is laid to her eventual emergence as a mature Queen Bee. The egg is the same egg that can become a Worker Bee. It is believed that the quantity of food that is fed to the pupa leads to her becoming a Queen Bee. It has been observed that after three days of being fed, when the cell is sealed, a large quantity of food is left inside the sealed cell. This is not the case when a Worker Bee cell is capped.

The Worker Bee

The Worker Bee is the one that you see flying around the flowers and is also the one that can bring terror to some people's faces as this is the bee that can sting you ! She really is not interested in stinging anybody. She will only sting if she feels threatened or to protect a bee hive that is being threatened by whatever. The only problem with stinging is that her stinger has a barb on the end, like a fish-hook and when she pulls away or is knocked away by your hand, the stinger and its sack of venom is ripped out of her body and she dies !

The Worker Bees is really only interested in doing her job, which is to fly out and visit flowers and suck up the nectar to bring back to the hive that eventually gets turned into honey that we all love to eat. In the process she also brings back pollen that gets gathered on her rear legs. Pollen is used as food for the young pupa.

When she first emerges from her cell as a mature bee after 21 days, she performs various jobs inside the hive which can involve being an attendant to the Queen, cleaning old material out of cells for the Queen to lay an egg in, carrying out dead bee bodies, transferring honey and pollen from the incoming Workers into cells, standing by the entrance to the hive in hot weather to fan her wings and move air inside the hive to keep it cooler, etc.,etc.

During the summer honey flow, June through August, Worker Honey Bees travel about 55,000 miles to gather enough nectar to produce one pound of honey. Each individual Worker will only produce about 1/2 of a teaspoon of honey and about 1/80th of a teaspoon of beeswax. However, an entire colony will produce up to 200 pounds of honey annually!

She will work so hard during the nectar gathering season that she actually wears herself out and dies in about three weeks.

In late fall there will only be about 12,000 honey bees living inside a hive, compared to the near 50,000 plus that live in the hive during the nectar gathering season. Most of these bees that are the youngest will still be alive inside the hive when Spring arrives.

While the Worker Bee is a female she is not fertile and cannot lay an egg that can become a Queen Bee!

It often amuses me when I tell a housewife/mother that the Worker Bee is a female who really does most of the hard work in a hive. They always smile and move their head up and down like they are saying, "What else is new ?".

The Drone

This male honey bee is the largest bee living in the hive, at least in its width and bulk. It's body is longer then the Worker Bee and shorter then the Queen Bee. The noise their larger wings make when flying around my head remind of the sound of World War II Bombers flying overhead.

The drone performs no useful functions inside the hive of any kind. It goes inside the hive to rest and eat. It also does not have a stinger to defend itself or its hive. Its sole function in its life is to fly around about hundred feet or so above the ground ever on the alert for a Virgin Queen Bee on her once in a lifetime maiden flight.

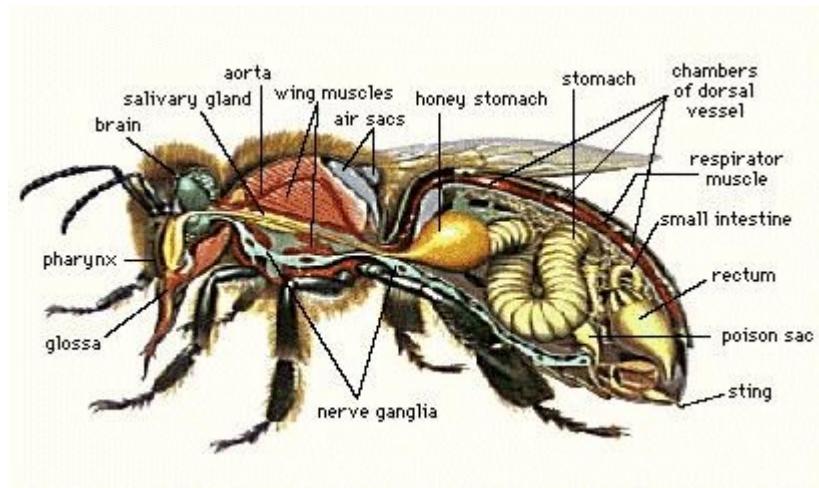
Most men may think that this is the ideal lifestyle. Not so, as the act of sex with the Queen Bee will culminate with its seminal sack being ripped out of its body to be stored for future use inside the body of the Queen Bee.

Now if he is one of the gazillion drones who don't have the good fortune to hook up with a Virgin Queen Bee, he is not long for this world in the end. When the cold weather comes along in the fall, all the drones are either kicked out of the hive or are no longer allowed to come inside. From the Worker's point of view they are not necessary for the survival of the hive through the winter as they serve no function, they just hang around and eat honey.

The Worker Bees can create new Drones when they are needed the following spring.

Visit the author's web site [Bees-Online for more information on honey bees and beekeeping](#)

Anatomy Of A Honey Bee



What Do Honey Bees Do In The Winter ?



Honey bees spend all spring, summer and the early fall building up their store of honey to provide for those cold winter days when they can't fly around outside looking for nectar in flowers. Beekeepers actually steal a good part of the honey they build up and here in most of the United States one full sized box filled with sealed honey is left on top of the hive by the Beekeeper and should be enough to get the hive through the winter into the following spring.

So, you will normally see the beekeeper leaving a hive in the fall consisting of two full sized boxes. The bottom box is known as the Brood Box where the Queen lays her eggs in empty cells starting in late winter to begin the buildup for the Spring. The box on top of that will be filled up with honey sealed in the cells for the bees to eat through the winter.

Here in the much of the United States it can get pretty cold in the winter. Honey Bees stop flying when the temperature drops down into the 50s (F). They stay inside their hive in what is called a winter cluster which means they get into a big huddle in the center of the hive. There is no point to flying outside of the hive as there are no flowers in bloom, hence no pollen or nectar is available. The colder the temperature the more compact the cluster becomes.

The object of this clustering is to keep themselves warm, so warm that the temperature in the center of this cluster, where the Queen Bee stays, is kept at about 80 (F). The outer edge of the cluster is about 46 - 48 (F).

The worker bees create heat by shivering and they continue to move back and forth between the inner part of the cluster and the outer part. In this way no bee will freeze to death.

As they eat the honey that is around them in the frames the cluster will slowly move upwards to give them access to the honey stored in the frames above them. Theoretically the bottom and top boxes should be able to provide them with enough honey to eat through the cold winter.

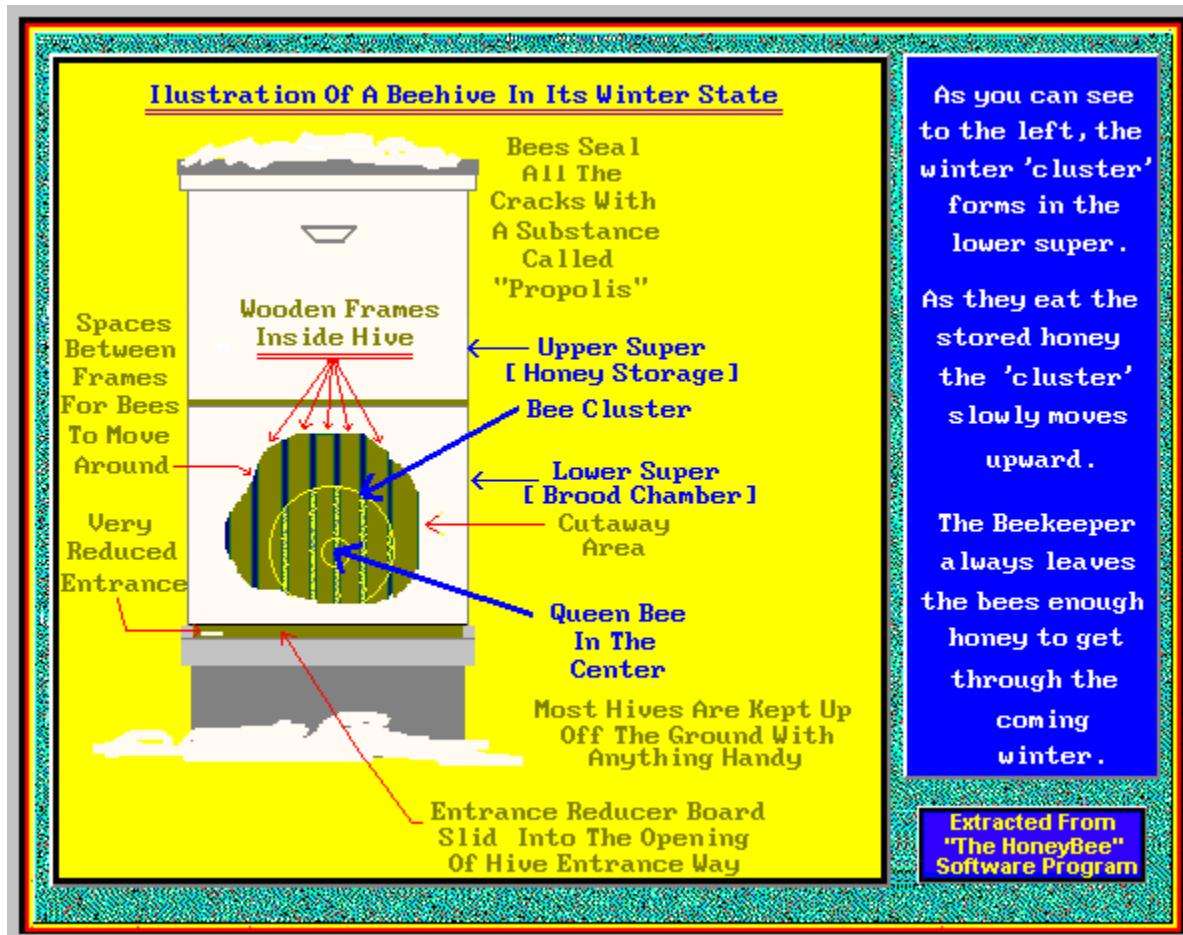
However, as we all know, sometimes our winters can be mild and sometimes be quite cold and snowy. The warmer the winter the bees are more active inside the hive in a loose cluster and must eat more honey. If we have an abnormally warm winter the bees can run out of honey very easily and then they will starve to death before spring and flowers with nectar become available once again.

Therefor, the smart Beekeeper will check the hive in early January to see where the bees are inside the hive. The Beekeeper will do this by removing the outer and inner covers on a fairly decent nice sunny winter day. He/she will not take the hive apart but look down between the wooden frames inside the top box to try and determine where the bees are. If they are way down inside then they still have a lot of honey left to eat. If he sees a bunch of bees at the top of the frames when he removes the inner and outer covers, that means they do not have much honey left to eat and they will need to be fed a mixture of sugar water. They will need this food to enable them to survive until the spring flower bloom returns.

There are two or three ways to feed them this sugar water. The most popular is probably by means of filling a large jar with a mixture of previously heated sugar and water. The metal jar cover will have a number of very small holes like you would create by hitting a small nail with a hammer. The holes just need to be large enough for a bee to stick its proboscis through the hole to suck up the sugar water. Another hive box, empty of frames, is placed over the existing top hive box and the jar is placed upended in the middle of the frames. The inner and outer covers will then be placed on top of this added box. The beekeeper will need to return in a couple of days to see how fast they are eating the sugar water and replace it with another full jar of sugar water as and when necessary.

On nice sunny winter days you can see honey bees flying a short distance out of the hive and then quickly returning. Sometimes if they go too far out or stay out too long they can get chilled and will not be able to fly back into the hive. The object of these short flights is to eliminate body waste.

Visit the author's web site [Bees-Online](#) for more information on honey bees and beekeeping.



Why Do Honey Bees Swarm ?

A swarm of honey bees is very capable of reducing the most fearless man to a quaking bowl of jelly with eyes exhibiting sheer terror. Yet they are normally of no danger to man in this swarming state.

Watching honey bees pour forth from a bee hive by the thousands and then swirling in the air above like a tornado while sounding like a runaway express train is indeed one of natures most awesome scenes to witness.

So, what is this swarming all about ? Are these thousands of bees preparing to attack one of us helpless humans at any minute ? Not at all. They are simply engaged in their own unique technique to propagate their species. All species of life has its own way to ensure that its kind continues to live.

A normal honey bee hive will go through the winter with a population of approximately 12,000 bees. The Queen Bee will start laying eggs in January for the purpose of building up the population to a workforce of about 50,000 to 60,000 honey bees to maximize its ability during the height of the flowering season in Spring to gather nectar to bring back to the hive and turn into honey to be stored for the forthcoming winter as a food supply. Beekeepers actually rob the bee hive of its excess stores making sure they leave enough for the bees to store to live on through the oncoming winter season when there are no flowers in bloom from which the bees gather their nectar.

When a bee hive, be it in the wild or in a beekeepers bee hive, sees that it is running out of room to store honey, they know it is time for a large number to leave and seek to build a new hive to store an adequate supply of honey for the oncoming winter. Astute beekeepers who are properly managing their hives will anticipate this need for more storeroom space and add another box to the top of the hive "before the bees need it". Not all beekeepers pay proper attention to their bee hives and hence some bee hives will run out of room and half the bees will leave with the original old Queen Bee in a swarm to seek a new home.

When the Worker Bees see that they are shortly going to be running out of storage room they start their preparations to swarm. First, they build larger than normal cells on the bottom of a frame inside a beehive [or the bottom of a comb in a wild colony]. These cells will look like small peanut shells. The workers will then induce the Queen Bee to lay eggs in these cells. The cells are then filled with royal jelly and when the egg transforms itself into a larvae it is sealed. The larvae feeds on the royal jelly. This excess food supply for the larvae plus the specific time spent sealed into the cell creates a new Queen Bee. It takes about 16 days for the egg in the cell to transform to a larvae and thence to a mature Queen Bee. On or about the 16th day the mature Queen Bee will begin to chew her way out of the top of the sealed cell. When she emerges she will immediately rush to each of the other Queen cells and thrust her stinger through the top of the wax cup to kill each of her rivals. There is only room for one Queen Bee in a bee hive ! After a day or two she will fly out of the hive and mate in the air with numerous male bees known as Drones. She will then return to the hive to live a life of laying up to as many as 1200 eggs a day during her laying season from January through about late October, dependent on the local climate.



About three days before this Queen mentioned above first emerges as an adult from her Queen Cell a frenzy of activity is taking place inside the hive as the Worker Bees who will accompany their Queen Bee engorge themselves with honey to take with them as food supplies to carry them over until they can build a new hive elsewhere for themselves.

While they are gathering food supplies some Scout Bees have already flown out of the hive to locate a good spot to build a new home. This spot could well be an empty bee hive, a special box set out by a beekeeper to entice a swarm to settle in, a hollow in a tree or even inside the wall or ceiling of your home, should they find an opening to access the same.

Meanwhile, at the first sign of an unknown signal one half of the bees inside the hive start flowing out of the hive in the thousands. At some point the original Queen Bee will have left and sought the refuge of a nearby bush or maybe high up in a tree or even on a car bumper in the city.

The thousands of bees swarming out the doorway of their old hive rise in the air and swirl about somewhat like a tornado funnel making the noise of a railroad train. As the bees are swirling seemingly madly about they are in effect sniffing the air to detect a pheromone given off by the Queen. This pheromone is akin to the light in a Lighthouse as it directs the swarming cloud of bees to where the Queen bee has alighted. The cloud of swirling bees slowly diminishes as the bees gather around the Queen and form the ball which is what most people see when they spot a swarm in one place.

Meanwhile, if you will recall Scout Bees are out flying around looking for a suitable location to build a new bee hive. Once they have located a spot they fly back to the swarm and do a specific series of wiggle about, referred to as a “bee dance”. By means of this activity they are telling their work mates about this new place they found and providing directions on which way to fly to find it.

Nobody knows how they decide which Scout Bee report is providing them with the best place to build a new bee hive, but somehow a decision is made and the entire swarm with the Queen in it flies off to this new location.

Most swarms will fly off within fifteen minutes to an hour or so. On rarer occasions they may stay in place overnight. But be assured they will not bother you. Leave them be and they will leave.

Should the Queen Bee falter due to an injury or is somehow killed the bees will stop where the Queen falls or is otherwise located and remain there until the Queen is able to resume flight or if she is dead they will not leave and will subsequently die. Without a viable live Queen Bee in their midst they are not capable of creating and sustaining a new bee hive.

Once they arrive at their new hive site they immediately set to building new comb. The Queen must wait patiently until new cells are created for her to lay her eggs in to start building up a new work force as soon as possible and get on with the business at hand.

Pictured here are Queen Bee swarm cells inside a beehive. The bees are raising a Queen specifically to take over the hive when the swarm leaves the hive. Half of the bees leave with her.

The first virgin Queen that emerges from one of these cells will immediately sting all her unemerged rivals to death. Then she will leave the hive for her maiden mating flight.



My Gawd. I Just Got Stung By A Bee !

Most people have an extreme fear of being stung by a honey bee. If I gave them a choice of ripping their arm out from their shoulder socket or getting stung by a bee, I have no doubt they would choose the first option. Well, of course I am 'slightly exaggerating'.

It is my theory that this fear is generally inherited by osmosis from one or both parents or possibly a sibling. I have met some people who accidentally stepped on a ground nest or perhaps hit a yellow jacket nest under an eave with a stick and then learned quickly they should have started running much sooner than they did and perhaps even faster as well :-).

A solitary sting does hurt but its pain and long lasting effects are much less than lets say my stupidly slamming my trucks door on my left hand's index finger a month or so ago. Once the pain is gone I am stuck with an ugly mutilated nail for about a year, that being how long it will take the new nail to grow fully into place. Would you believe that this is the second time in two years that I have slammed that same finger in the door of my small pick-up truck ? I didn't believe it either until I realized I would not be able to use that hand until I freed it by reopening the truck door :-) ! Enough of that dumb move, let's get back to being stung by a bee.

A sting does hurt and there is a tendency to swat the bee who is doing the stinging. That is the totally wrong move to make. If it is a honey bee your swat will remove it from where it has stung you, but it leaves behind the poison sac still actively pumping the venom down into your body. If you can get yourself to look closely enough you will see this little sac pumping away all by itself.

When a bee or wasp stings, it injects a venomous fluid under the skin of the victim (see photo). Honey bees have a barbed stinger. Only the honey bee leaves her stinger - with its venom sac attached - in the skin of its victim.

It normally takes two to three minutes for the venom sac to inject all of the venom, so instant removal of the stinger and sac usually reduces harmful effects.



So, what should be the first step you should take? The honey bee will pull itself away and in effect disembowel itself when it flies off to die. What you should do is use your finger nail or some other stiff sharp surface like that of the edge of a credit card or your driver's license and scrape against the poison sac in one direction only. This will pull the sac out of your skin before it has emptied all of its venom into you. That will help reduce the pain and swelling effects.

You should also walk, don't run, away from where you were when stung. The now dying bee that stung you and the detached stinger are giving off pheromones which enrage bees, so any other bees in the immediate area will sting you too! They believe there must have been good reason for their mate to sting you, they don't know it was only because you stepped on her or swiped at her.

Some people have more severe reactions to the venom the little bugger has sent into your body from increased swelling and pain [oftentimes dependent upon where you have been stung], to in much rarer cases death. Yes, death can result in a very small number of instances amongst those who are extremely allergic to bee venom. The venom somehow cause their ability to breathe to restrict so severely that they die from the lack of sufficient oxygen. I am not very medically knowledgeable enough to explain this process.

These unfortunate allergic individuals must spend their lives avoiding bees as best they can. For instance we all know that when we eat an ice cream cone outdoors, especially in the fall, bees will come by looking to partake in the action. It seems that yellow jackets, a very aggressive stinging bee, will come from what seems like miles away long before you get to lick away half of the ice cream. They are like flying sharks.

People who suffer from this allergic reaction should carry an EpiPen with them at all times. This is an individually packed needle filled with an antidote that the person can immediately jab into their skin in the area of the sting and it will work immediately to eliminate this breathing restriction. EpiPens are obtained by prescription from your Doctor. Beekeepers should also carry one at all times they are working their hives in the event someone nearby who is allergic gets stung by a bee who is annoyed with the beekeeper's actions.

Then of course there is the fearsome African Bee ! Unless you live, or are visiting, in the extreme lower tier of States that stretched from Southern California across the country to Georgia and Florida, you have nothing to fear insofar as African Bees are concerned. They cannot live to the north where there are no flowers blooming in the colder winter.

Some years ago some scientists in Brazil brought some bees over from Africa in the hope of creating a new bee who had the qualities of the gentler bees that most beekeepers raise here in the U.S.A., and the aggressive honey production engaged in by the African Bee. That aspect proved not to work. A worker in the bee yard where they were keeping the African Bees left a protective screen off the entrance of one hive after they finished what they were doing with that hive. These protective screens have openings that permit the passage in and out of the worker honey bees but do allow the larger body of the Queen Bee to pass thru its openings. After the worker left the hive without its protective screen in place, a swarm left the hive with a Queen Bee and thus began the slow spread of the African Bee northward and eventually into the United States.

The problem with African bees is that if you accidentally or stupidly deliberately irritate an African Bee Hive the honey bees come flying out by the hundreds in a very aggressive attack stinging mode. This large force of bees is perfectly capable of stinging you enough times to kill you. When you run they will chase you much further than our normal honey bees. Our normal bees will chase you a relatively short distance and then give up and return to their hive. The African bees will continue chasing you a long distance in very large numbers. Whereas a normal bee may sting you some 20/30 times the African bee will overwhelm you with 300/400 plus stings, enough to kill you before you can get help.

The African bees also seem to get irritated quicker and can get very upset by such events as the sound of a mowing machine passing nearby, or other events that never bother other honey bees.

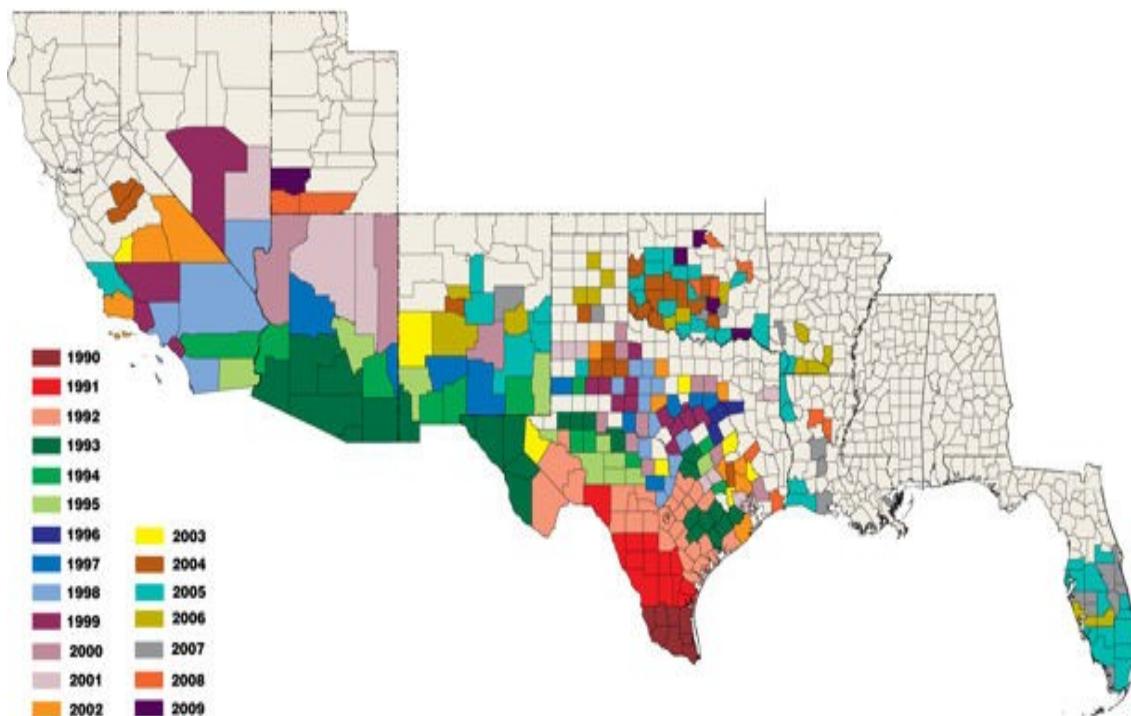
What should you do if attacked by African bees ?

- Do run. Run away as fast as possible. Get into a building or vehicle if you can.
- Do try to cover your face and head as you run.
- Do call 911.
- Do start removing stingers from your skin once you are away from the bees. You can remove them by scraping, pulling, or using sticky tape. Do not leave the stingers in any longer than necessary, as they will continue to pump venom.
- Don't stop to remove stingers until you are safely away from the attacking bees.
- Don't jump into water. This only works in cartoons. The bees will see you and wait for you to come up for air.
- Don't panic.

Spread of Africanized honey bees by year, by county

Updated July 2009

First found in southern Texas in 1990, Africanized honey bees are now found in much of the South.



Beekeeping In A Wheelchair

Beekeeping is one of those lifetime activities that can be pursued by man, woman or younger child. It is also a hobby that can easily be adopted by a person confined to a wheelchair, provided they have the use of their arms. Although, if that person had a friend, relative or willing attendant to assist, it could also be pursued by a person who had extreme limitations insofar as the use of their arms is involved.



Vila Matulis, who lives in his own home in Latvia, is wheelchair bound as a result of a motorcycle accident he sustained when he was a young man of nineteen. Over time Vila has built up a thriving business selling over a ton of honey a year extracted from his 50 beehives. He also raise and sells his own Queen Bees to other beekeepers in his neighborhood.

Last year he expanded his business with the help of the FAO, a United Nations Food and Agricultural Organization. This program helped eleven people who lived near Vila to become beekeepers. In Vila's case the program paid for extra barrels to hold his honey, honeycombs and seeds to grow the plants for pollen for the bees to gather.

While Vila lives in the countryside, beekeeping can be pursued in a big or small city as well.

Most people associate beekeeping with the traditional boxes piled on top of each other that can be seen around here and there. However, there is another type of bee hive, predominantly used in undeveloped countries in Africa where people do not have the money it takes to buy these beehives that use boxes stacked on top of each other.

This alternative and very inexpensive manner of beekeeping is called Top Bar Hive Beekeeping. This type of hive is essentially a wide single level box sitting up off the ground on legs. Since the height of the hive off the ground can be controlled by the height of these legs, it seems to me that this offers some distinct benefits for a beekeeper confined to a wheelchair. The height can be built to accommodate just the right level for the wheelchair bound beekeeper to use his arms and be able to look down into the hive with the cover removed. It would also be just the right height to be able to lift out the individual combs for a close examination.

Some Specific Healthy Benefits Of Honey

Some specific healthy benefits using honey.

- * Did you know that honey can relieve you from the hangover? If you have drunk a lot and it is becoming difficult to get rid of the hangover by mixing two spoons of honey with half a cup of orange juice and half a cup yogurt. Blend them together properly and gulp it down.
- * Honey mixed with ground almonds makes an excellent facial cleansing scrub.
- * A tablespoon of honey whisked together with an egg white, 1 teaspoon of glycerin and about 1/4 cup of flour makes an excellent firming mask. Just smooth on the face, leave on 15 minutes, and rinse off with warm water. You will be pleased with the results.
- * Honey also makes a great moisturizing pack. Just mix 2 tablespoons of honey with 2 teaspoons of whole milk, smooth over the face and throat, and let it do its job for 15 minutes. Rinse off with warm water, and finish splashing with cold water.
- * Honey also makes a great lotion for dry patches of skin on hands, elbows, or other parts. Just mix 1 teaspoon of honey with 1 teaspoon of olive oil and a 1/2 teaspoon of lemon juice. Apply to hands, elbows, heels of your foot, etc., and wash off after 15 minutes. Fast relief!
- * Start your day drinking a mix of a spoonful of honey with the juice of half a lemon in a cup of hot water. This cleansing tonic will help improve your digestive system to enable you to stay healthy and fight disease
- * Honey works well on chapped lips and for acne because it has antibacterial properties.
- * To give your hair lustrous shine, mix 1 teaspoon of honey into 4 cups of warm water. Use as a hair rinse. And if you're a blond, add the juice of 1 lemon, too.
- * Mix 1 tablespoon of honey with a cup of warm water. Use it as a mouthwash. Honey cleans teeth and dentures, and kills germs in the mouth.

*Suggested medical usage:

For stomach ulcers,gastritis, dyspepsia and sore throats, 1-2 teaspoons on an empty stomach ($\frac{1}{2}$ hour before meals), 1-4 times a day to assist in healing and provide pain relief.

For wounds - apply on a dressing (preferably waterproof) with enough honey to cover the wound surface. Use 20 ml (25-30 gram) of honey per 10x10 cm dressing. Change up to 3 times daily.

*For dog allergies:

You can also use local honey to help cure dog allergies. Why does it have to be local honey? Apparently local honey contains very tiny amounts of pollen. These tiny amounts of pollen are not

enough to trigger the allergic reaction in your dog when they ingest the local honey. What does happen though is each time the dog eats the local honey, the dog's body begins to build up a tolerance to the pollen. Eventually, the dog is able to tolerate the amount of pollen usually present in the dog's environment. It works the same way for humans, in case you are interested.

You can give your dog anywhere from a teaspoon to a tablespoon of local honey once or twice a day. You can also mix it into their food.

Make sure it is raw local honey. You can find raw local honey at farmer's markets, natural food stores and sometimes in the health food section of your grocery store.

Enhance Your Beauty With Some Homemade Honey Recipes.

*Honey Cleansing Scrub:

Mix 1 tablespoon of honey with 2 tablespoons finely ground almonds and 1/2 teaspoon lemon juice. Rub gently onto face. Rinse off with warm water.

*Firming & Moisturizing Face Mask:

Whisk together 1 tablespoon honey, 1 egg white, 1 teaspoon glycerine (available at drug and beauty stores) and enough flour to form a paste (approximately 1/4 cup). Smooth over face and throat. Leave on 10 minutes. Rinse off with warm water.

*Yogurt-Honey Mask:

1 teaspoon yogurt, 1 teaspoon honey.. Mix the two ingredients together and apply to a clean, moist face. Pat this mask onto the skin for a moisturizing, penetrating, hydrating, soothing application that will also help to clear up skin problems.

*Smoothing Skin Lotion:

Mix 1 teaspoon of honey with 1 teaspoon vegetable oil and 1/4 teaspoon lemon juice. Rub into hands, elbows, heels, and anywhere that feels dry. Leave on 10 minutes. Rinse off with water.

*Skin Softening Bath:

Add 1/4 cup honey to bath water for a fragrant, silky bath.

*Hair Shine:

Stir 1 teaspoon honey into 4 cups (1 quart) warm water. Blondes may wish to add a squeeze of lemon. After shampooing, spread your mixture through your hair. Do not rinse out. Dry as normal.

Visit the author's website <http://www.bees-online.com/HealthBenefitsOfHoney.htm> for more detailed information on the healthy benefits of honey

Top Bar Hive Beekeeping

Top Bar Bee Hives are a very economical, environmentally friendly and ecologically sound method for a beekeeper to keep honey bees. Essentially it represents a very inexpensive way to build a beehive from scrap wood or other materials that you find by the side of the road or that you already have lying around the yard or in your shed. It also is conducive to allowing the honey bees to build the honey comb inside the way they do in nature.



The boxes that comprise the beehives that we see around are really all about forcing the bees to build comb in an unnatural way in wooden frames to make it convenient for the beekeeper to remove the excess honey.

A top bar hive is basically a long sort of v-shaped box with a cover and an opening for the honey bees to come and go. The interior v-shape permits them to build comb in a natural v-shape manner. It also makes it very easy for the beekeeper to simply remove the top cover and look inside at the combs to check and see how well the bees are doing.

The box hives that we are used to seeing around have to be disassembled and physically removed to allow the beekeeper to thoroughly examine what is going on inside in the various boxes. This disassembling of the boxes is very disruptive to the bees going about their daily duties. Once the hive is reassembled it can take the bees a day or two to get back to their normal work rhythm.

As the nectar producing season goes along these boxes can pile up as high as six or seven on top of each other. The boxes get very heavy to lift and many a beekeeper develops back problems as a result of all this lifting boxes off and back on to the hive. Top bar hive beekeeping eliminates this problem altogether !

Normally top bar hives have been mostly found in the poorer countries in Africa where a person who wants to have beehives does not have the \$300 - \$400 it can cost to purchase not only the boxes to make a couple of hives but all the other beekeeping equipment that the beekeeping equipment suppliers would leave you to believe you absolutely need to become a beekeeper.

Top bar beehives lend themselves well to what is called 'organic beekeeping', which is really just raising bees without the use of manufactured chemicals. These chemicals are used heavily by many to ward off mites that originated in Asia that can easily decimate a hive. Organic beekeepers believe, with good reason, that if they raise bees free of chemicals they will remain healthy and the hive will be strong enough to ward off these mites and other enemies of honey bees. There is much evidence to support these beliefs.

As I mentioned above, the normal box hives that one sees around have rectangular wooden frames inside within which the honey bees build their combs. These frames were invented to make it easy for the beekeeper to place them in a special centrifuge called an 'extractor'. The centrifuge is spun either by hand cranking or by the use of a motor. The purpose is to easily 'throw the honey' out of the frames on to the side walls of the extractor where it then slides down to accumulate in the bottom. When the process is finished the frames are removed from the extractor and the honey is allowed to flow out into buckets via a valve in the bottom of the side of the tank like shape extractor.

Of course in a top bar hive you can remove the excess combs that are filled with honey but you cannot then put them in an extractor. So, you remove the honey by one of many methods of squeezing it out of the comb. This is not as efficient a method as the use of an extractor as previously mentioned.

But then most beekeepers, in the US at least, are basically hobbyists and beekeeping is fun for them.

If top bar hive beekeeping intrigues you and you would like to learn more details concerning this natural manner of keeping honey bees, you can learn more at the author's web site at www.beginningbeekeeping.com. There is some free material about top bar hive beekeeping at the web site that you can download to read at your leisure on your home computer.

Making Side Money By Beekeeping.

For many of us making a few extra bucks on a regular basis can make a big difference in our everyday lives.

Aside from simply enjoying the benefits of having your own honey supply, there are a number of ways to make some money by keeping honey bees.

While this is not the thrust of this article a very good friend of mine made a set of six videos on how to become a beekeeper and earned a solid second income selling them via the internet. He had a retired professional NBC-TV cameraman who lived nearby do the actual filming.

Here are a few ways for you to earn some extra bucks via keeping honey bees, and you may even think of one or two additional ways as you are reading.

If you eventually build up to having a few extra hives you can rent them locally to anyone growing one of the crops that are pollinated by honey bees, such as blueberries, apples or other fruits. The normal rate for the rental of one hive for a couple of weeks used to be about \$35 - \$40 per hive. This year I heard of almond growers in California paying over \$100 a hive. This situation has come about due to the high loss of honey bees due to CCD [Colony Collapse Disorder] which has been getting a lot of public press lately.

Other opportunities are:

Selling your excess honey from your home or at some small local stores. You can get a higher price than what honey is sold for in nearby supermarkets because it is locally produced honey. Many people believe that eating local honey is very helpful to reducing the negative effects of allergies because of the minute particles of pollen in it from flowers in the neighborhood.

Excess beeswax can be used to make candles. You can research how to do this on the internet or possibly from a crafts book available in your city/town library. Package them attractively wrapped by the pair with an attractive ribbon. These can be sold to friends and neighbors or at a local store.

Recipes are available on the internet for making your own lip balm using beeswax and a couple of other ingredients easily obtainable.

You can melt beeswax and make small bars of pure beeswax. Some people just like the feel and smell of the beeswax but it also can be used as a lubricant for the bottom rails of bureau drawers. You can buy small molds and use these to make any number of beeswax knickknacks. One member of my beekeeping association makes a number of beeswax animals, etc., to sell.

Pollen can be collected from the bees, dried and packaged to sell in jars as a health food. The equipment to do this is available at any number of beekeeping equipment supply companies.

Another good opportunity, if you are so inclined is to make yourself available to deal with swarms of bees. You let the local police in your town and adjacent towns know that they can give your phone number out whenever they get a call from a local citizen about a swarm being in a tree or bush on their property. Collect a healthy swarm and bring it home to start a new beehive relatively free of cost. Packages of honey bees used to start new bee hives are sold by beekeeping supply companies for about \$65 per a three pound box.

If you have good carpentry skills you can also perform a service removing honey bees from inside walls and ceilings in homes and other buildings. Pest control companies charge a good fee for this service.

No doubt other opportunities may well pop into your mind as you are reading.

The trick is to start out small and if you make a good product and market it effectively amongst your friends word of mouth will bring more business your way. In the meantime you will be learning how to properly operate your burgeoning small business. It can be fun to exercise your creativity and marketing skills and most importantly to start bringing in some extra money !

To learn more about how to start beekeeping visit the author's comprehensive web site at
<http://www.beginningbeekeeping.com/>

Installing A Package Of Honey Bees In A Bee Hive

One of the most common ways of starting a new hive is to buy a 'Package Of Bees' from a bee supply company. On the east coast of the US, most packages are produced by companies in the State of Georgia. Georgia's warm climate is very conducive to honey bee production.



The average package purchased comes with three pounds of honey bees amounting to about 10,000 bees inside plus a Queen Bee in a small screened cage in the center out of sight. She is accompanied by two or three worker bees who attend to her every need during the period of shipment. The bees are provided a large can of sugar syrup in the center of this mass of bees. This can is upside down with numerous pinholes punched in the lid to provide access to the food for their journey to their new bee hive. A small wooden cover is nailed over an opening on the top of the box to give access to its contents, the Queen Bee Cage, thousands of worker bees in a huge clump and a can of sugar syrup, food for their journey.

You should be ready to install a package very shortly after it arrives. If not, wait until evening and keep them in a cool spot(50 to 75F) away from the sun. Your bee hive should be all set up and ready for the bees. It is not in the best interests of the bees to keep them in the package box any longer than necessary. Spray a sugar syrup mixture (1 : 1 mixture of water and sugar) on the package screening. This will help to keep them occupied and remain calm.

Now you should you have the package of bees next to the open bee hive in which they are going to be installed. Be sure you have placed an entrance reducer in the hive opening on the bottom board. This is for the purpose of making it easier for them to defend the smaller entrance to the hive should a horde of robber bees descend upon the bee hive while they are getting themselves established.

Pry off the wood cover on the top of the package box. Gently slide out the large can of sugar syrup and place it to the side. Pull out the small wooden cage with the Queen and slip it in to your pocket to keep her warm and out of harms way. This cage is a small wood block suspended downward under the wood cover and hollowed out in the center to provide a chamber (covered with a piece of screen) for the Queen and a couple of attendants inside with her. One end of the this Queen Cage has been drilled out and the tunnel is filled with a bee candy mixture so that she cannot escape.

This Queen Bee has not been raised with this collection of worker bees. If she were thrown in with these workers unprotected when the package was being put together, they would immediately kill her because she is not 'one of them'. While she is in this cage during shipment they get used to the pheromones she is constantly giving off and she and the workers become family so to speak. So when she is finally released from her cage she is 'one of them'.

When you are ready to shake the bees out of the box into their new home take the Queen Cage out of your pocket and using a small nail insert it into the bee candy and make a narrow hole. This is to help the worker bees now in the hive eat their way through to enable the Queen to enter her new home. At this point you don't want her coming out thru the tunnel and perhaps falling to the ground and getting injured or possibly stepped on or disappear from our sight.

Suspend the Queen Cage by gently putting it between the two frames about four frames in from the side of the hive box. Position the cage with the bee candy plugged hole facing down towards the bottom board and make sure the frames on each side of the cage are pushed together securely.. The bees will chew through the bee candy plug and release the queen within a few hours. Do not put the queen cage under the opening in the inner cover with the sugar syrup feeder sitting above it.

Bang the package box on the ground or the hive box itself a couple of times to get most of the bees to fall towards the bottom of the box. Pick up the box and invert it over the center of the hive box and give it a few healthy shakes so that the majority of the bees will fall down between the frames. It's okay to bang the edge of the box to shake some of the remaining bees loose. Some bees will fly around but don't worry about them as they will not fly away. They will never abandon their Queen. There will still be some bees stubbornly staying inside the package box.

Place the box on the ground in front of the hive with the opened area facing towards the bottom board. The bees remaining inside will eventually all crawl out on their own and march inside the entrance to the hive.

Close your hive up leaving the package bee box where it is on the ground.

Come back in a couple of days to check if the queen has been released from her cage. If she has not then gently lift the cage out and widen the bee candy tunnel making sure once again that she does not fall out. Replace the cage and check it the following day.

Make sure that you keep them supplied with sugar syrup until they start building up their own supplies.

For more detailed information on honey bees, beekeeping visit the authors web sites at

www.bees-online.com and/or www.beginningbeekeeping.com.

Removing Honey Bees From Walls & Ceilings

An established honey bee colony will sometimes divide itself, and one or more swarms will leave the hive. The new swarm may cluster for a while on a tree limb or bush near the old hive while scout bees search for a suitable place to establish a new home. Usually scout bees find a hollow tree, but occasionally they will choose the wall voids of a home. Unfortunately, bees may nest in the wall or attic some distance from where they enter the wall.

Removing honey bee nests from cavities (walls of houses, hollow trees) is a time-consuming, labor-intensive practice that should be undertaken by professionals. Continuous honey bee flight activity to and from a hole in a building is an indication of a nest. Many times, this can be confirmed by listening for bees buzzing inside. An experienced beekeeper usually can remove bees and combs from easily accessible places like hollow trees, but often bees live in building walls or are tucked away where they are impossible to reach. Simply killing bees in a cavity with an insecticide can have serious consequences:

- Dead bees and dead brood will decay and produce strong odors.
- Stored honey can absorb moisture and ferment or overheat without adult bees to tend it. This results in burst cappings, producing leaking honey from combs which can penetrate ceilings or walls, causing stains, sticky puddles around doors and windows, and softening of drywall.

The quickest way to remove bees from buildings is to kill them and remove all traces of the nest. In most cases an inner wall or ceiling must be removed, however, calling for the services of a building contractor. It is essential to remove all honeycomb and to plug all holes to be certain there is no way for bees to reenter the area. Any remaining bits of bees wax emit highly attractive odors to swarming bees. There are a number of ways to kill bees. It is important to exterminate a colony when all bees are on the nest (dusk or dawn). This reduces the number that might be in the field and return to cause problems. Many persons use commercially available wasp and hornet spray for killing the bees. This knocks down the insects quickly and can be used from a distance. Dust formulations of labelled pesticides may also be pumped onto an enclosed nest. There is more and more evidence that soapy water is also a very good material to use that is inexpensive and relatively environmentally benign. How the bees are killed will depend on the particular situation. A slower method of honey bee removal which kills fewer of the insects can be used in certain situations. It is based on the principle that bees which leave a building can be prevented from reentering. However, the bees will cluster in a large mass around their previous exit where they are encouraged to enter another colony. Experienced beekeepers do the job best; they are used to bees flying around and to being stung occasionally.

Carbaryl (Sevin) 5 percent Dust is an insecticide registered to exterminate bees from dwellings. If it is not applied properly, persistent efforts may be needed to finally accomplish the job. Sevin dusted into the bee entrance may not reach the nest, which may be some distance from the entrance. Foraging bees passing through the dusted area will be killed, but the queen and house bees that stay home to take care of brood and tend to the nest may continue to live for some time. When house bees (young bees that remain in the hive) mature to take on field work chores, the colony may recover, unless the insecticide treatment is reapplied. Quicker and surer results will be received if the nest itself is treated.

The nest can be located sometimes by tapping the wall with a hammer and listening for an answering buzz from the bees. When the nest is located, a hole may be bored, preferably through the outside wall, so insecticide can be applied onto the nest.

This is a section of an inside wall beneath a window showing the sheetrock removed and you can see the combs that the honey bees have built.



This is a section of an inside wall beneath a window showing the sheetrock removed and you can see the combs that the honey bees have built.

What can be done to solve the problem of honey bees living in a building? First of all, leave the pesticides alone. Killing the honey bees, especially if they have been established in the structure for any length of time, will cause you even more problems. If they have stored honey in the structure and the bees are killed, then the honey can ferment and ooze out of the combs. This honey can then run down the walls and into the ceilings, and cause damage.

The bottom line is that the bees need to be removed by an experienced beekeeper. If you don't know any beekeepers, then call your local office of the Cooperative Extension Service. They should be able to refer you to a local beekeeper who removes bees. You should also consider having a carpenter on hand to repair the structure after the bees are removed, unless the beekeeper happens to be a skilled carpenter as well.

Chances are the beekeeper may not charge you for the service, he may just request ownership of the bees and honey in exchange for the service. However, removing bees is difficult work and in most cases it would be less expensive for the beekeeper to purchase bees considering the time involved in removing them from a structure. So don't be surprised if the beekeeper charges you a fee for his or her services.

If you find that you have honey bees that are inside of a structure or if you find a swarm, leave them alone and call a beekeeper.

Established swarms are comprised of more bees, more comb, and more honey. Established colonies are best killed in late winter or early spring when their population is smallest. Treatment is effective when done in the very early spring, such as February or March, when stored honey is at its lowest level and the bee population is lowest and weakest. New swarms are more easily killed soon after they enter the building. The best time of day to apply the insecticide is late afternoon when all the bees are at home. The bees will be less cross on nice days than when the weather is overcast or rainy. Do not plug the hole immediately after dusting the nest because this may force the agitated bees into the living quarters of the home. Bees will find or make unused or new exits, sometimes indoors.

Also, honey bees can be killed by exposing the nest to freezing temperatures during the winter.

**NEVER SPRAY ENTRANCE/EXIT HOLES OF A BEE NEST
WHICH LEAD INTO A HOME OR GARAGE !!!**

This almost always fails. The product applied will not reach deep into the wall void where the nest is protected. More importantly, once you contaminate the entrance/exit hole, many times the bees will move laterally inside the wall void attempting to find another entrance/exit. Many times this will cause them to start "exiting" inside the home. Since bee nests are so large, such invasions can last for weeks making the structure uninhabitable. When this happens, most homes will have to be evacuated till the nest is completely removed. Locating the nest becomes more complicated because the bees will have moved the nest deeper into the building. Needless to say, this is a situation that must be avoided - especially if the bees are thought to be Killer Bees!

Use Great Stuff Foam To Trap the Bees in Your Wall: Bees started exiting inside store. Then chewed through foam. Bees were through the block into a closet wall Nest was several blocks wide. Chewed through foam. The bees just chewed right through these attempts to plug their entrances.

(Click on pictures to enlarge)

Some people use expanding foam products to seal the bees inside their wall. This almost always creates a mess. There are 20,000 to 60,000 bees in a normal size colony plus 20 to 60 lbs. of comb and brood (larvae and pupae). If you succeed in suffocating the bees, which is unlikely, you will have a mass of dead, rotting bees, smelling up your house for months. (Smells like dead fish). Without the bees to control the temperature of the nest the unripened honey will begin to ferment and the hive beetle and wax moth will begin to produce maggots to feed on the mess. The hive beetle maggots actually boil over in a dead nest and then look for a way outside to pupate in the ground. One woman had these worms dropping out of her ceiling all over her foyer. Most of the time the bees find another entrance/exit and move deeper into your home. Or, they chew right through the foam and continue using your wall as a home. If you are able to stop the present infestation, in six months another will develop as new bees chew through the foam to get at the honey and comb they smell in your wall.

After the bees are killed, remove the nest if at all possible, without causing excessive structural damage. Destroy the comb and honey, especially if they were treated with insecticide. Spraying the bees with raid or another pesticide is just plain dumb. What If you do kill them with spray and do not remove the dead bees and the hive? Now you have a wall full of decomposing bees and wax and honey that is soaked in poison.

If the nest is not removed, the wax cells may melt or be riddled by wax moths and leak honey. Excess honey may seep through interior walls and ceilings, leaving permanent stains.

Wax combs near the inside walls of a chimney are fire hazards. The comb and its contents may melt when exposed to hot summer temperatures without bees to keep it cool, especially in walls facing the south.

After a dead colony has been removed and the structural damage caused in removing the colony has been repaired, clean the area thoroughly with soap and hot water. Paint and carefully plug all entrances through which the other possible bee swarms might enter. Odors left by the killed colony can linger for a long time and attract other swarming bees.

Pest control companies may be contacted to destroy the bees if needed. Although killing adult bees is usually fairly easy, removal of the comb and honey can be very difficult. It might be useful to have a beekeeper and carpenter or beekeeper with carpenter abilities present to assist. Bees from other colonies can also be a nuisance around the home as long as honey remains to be robbed from the killed colony. Scavenging insects, such as carpet beetles, wax moths, ants, or flies, are also attracted to killed bee colonies.

Even if you are not sensitive to stings and are experienced in extermination work, it is best to be protected from distracting stings when exterminating bees. You may be in precarious positions, such as on a ladder or on a roof, with stinging bees present. At least wear a beekeeper's veil and leather gloves.

Bee Smoker A bee smoker is valuable to help calm the bees and lessen their tendency to sting.

Removal by Trapping (How a beekeeper can trap the bees) Honey bees can be removed effectively by trapping; however, the process takes four to six weeks. While it solves the problem of opening up the wall and removing the comb and honey, it may not be appropriate if family members are allergic to bee stings.

To trap, place a wire mesh cone (18-inches long with 3/8-inch opening at the apex) over the nest entrance hole. Place a hive containing a queen and a few workers as close as possible to the "trap." The bees can leave the building, but they cannot get back in and will settle in the decoy hive. In three to four weeks, spray the old nest with a nonresidual insecticide, such as resmethrin, to kill the queen and any remaining workers. Then remove the trap and allow the bees in the decoy hive to go back in the building to retrieve their honey. Two weeks later, remove the hive and close up the nest entrance. Destroy the honey if the colony has been poisoned with an insecticide. Trapping is usually not practical and results may be unsatisfactory. Few beekeepers are interested in trapping. Established swarms (those with comb) cannot be collected easily like the free-hanging temporary swarms and are usually not economical for a beekeeper to remove.

For more about honey bees and beekeeping, visit the author's web site at: <http://www.bees-online.com>

Harvesting Honey

Of course for most of us, the whole object of getting into beekeeping is to be able to harvest our own honey, for our own use, for gifts, or to sell.

Many beekeepers buy an expensive honey extracting machine. With these you remove the frames from the beehive and put them into the extractor and centrifugal force is used to spin the honey out of the cells and it drips down to the bottom of the extractor, and then you open a spigot to let the honey drain out into some form of container. Then we strain it to remove bits of beeswax from the honey before we bottle it. Some Bee Club Associations have their own extractors for their members to use.

However there are other methods. Some just cut out a square from the frame and put that square in a mesh bag and squeeze it and then let the honey slowly drip out and strain that if you wish before you bottle it. If you are truly creative you can figure out other equally good or better ways yourself.

The video found under “Harvesting Honey” on <http://www.beginningbeekeeping.com>, entitled “Backward Beekeeping TV” will illustrate another very interesting and inexpensive way to get the honey out of the comb.

Now if you have money to burn you can use the type of extractor below for harvesting your honey.



FINIS