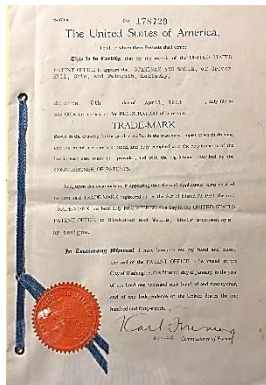


Stahlman Beekeeping Notes For 2022

The Difference between the nature of wild bees and managed bees kept in hives with frames.



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My Beekeeping notes are now into their 4th year. I have made New Year's Resolutions for the better part of my life. They more or less set goals which in many cases are not reached. But I think starting a new year should start with some goals.

For 2022 I am resolved to:

Spend more time with my bees, look for new beeyard locations, keep up with current research on honeybees, continue working on new topics, explore new opportunities and make contact with old friends and make new friends.

The final issue # 52 for 2021 spent space on Looking back at 2021. The above picture looks back to my grandfather's trade-mark dated April 5, 1923 almost 100 years ago. As each year rolls by, new beekeepers are Joining our ranks. The art of beekeeping has long been established. It takes years of experience to get a feel for this special insect. Many books have been published about honey bees. The internet is full of information. Thus, each individual will begin a new year of learning, and some will be starting the journey for the first time.

I sat down with a few individuals who have decided it is time to start keeping some honeybees! They have questions – lots of them. In this new world, they are well acquainted with the internet – better equipped than I am. Take for example; Face Time, Texting, getting all the information they need from Google. Beekeeping is working with honeybees. Honeybees don't text, they don't read books, they look-out for themselves and don't argue politics. If one messes with them, they have the ability to mess back.

The new beekeeper's had all kinds of questions about where to place hives, questions about hive equipment, when to start a hive, and almost nothing about protective equipment. Yes, they were asking questions about stings – comparing the sting of a honeybee with yellow jackets for example.

Bee schools are available in almost all communities – some may require a drive of 30 miles or so. Many bee clubs offer monthly meetings, mentors, and so much more. The cost of going

to a bee school is far less expensive than making a number of mistakes due to lack of information. Beware of the individual who considers themselves "expert". Any beekeeper with several years' experience will share the fact that they still have considerable to learn. Even "Experienced" beekeepers are still learning! One final thought on bee schools – If you can find a University System that offers on-line beekeeping classes – take advantage of them.

By the way, I am a licensed pilot – I haven't flown since the 1980's. I was trained by a W.W.II B-25 pilot who had some really strange ways to teach flying. He would set up situations, ask something like "your engine just cut out" – No run-way left to land on! "What are you going to do?" One thing you don't do – try to turn the plane around to land on the run-way! His answer, "fly the plane to the ground maintain flying speed." What if one is looking at houses and you are coming down? His answer "Pick out two and fly between them. The wings will serve to absorb the shock!" I also had a guy that flew a P-51. He was a show and tell guy! For example, he would mention that we were going to practice stalls. He would say something like, "I wonder if I can stall just one wing?" Next thing I am doing is grabbing onto anything in the cabin I can hold on to!

Major thing I learned -- Be Prepared for anything. I learned something unusual and different from each instructor I had. How can you tell if you can fly under or over power lines without hitting the wire? How can you tell which direction the wind is blowing? Altitude is your friend! No single instructor had all the answers except to say on taking the solo flight, "What goes up, comes down!"

Thus, I look at beekeeping as would a new beekeeper. Everything seems new! There is a time for instruction. There is a [book learning and lectures] period. The first solo flight is opening up a hive without anyone to help with any mistake you might make. Every muscle and conscious thought is about not getting stung, crushing a honeybee, or doing something stupid!

Later, opening the hive will become a natural thing to do – no worry about what the bees might do or that killing one is just going to happen from time to time.

This first issue of 2022 is going to look at some interesting points on how the natural honeybee environment differs from managed Hives. I think beekeepers over eons of time have considered building a better bee hive. At some point in the history of mankind, humans found they could remove bees from trees and transport them some distance from where they were located. Honeybees would adapt to structures provided for them. The skep bee hive is a universal symbol for a place where honeybees are kept. It is also the most natural of the nest site provided for honeybees by mankind.

For years, what went on inside a nest of honey bees was considered a mystery. The major transformation came when individuals started thinking humanly toward keeping honeybees. Why kill such a hard working being to take its honey? The change began in the early 1600's and gradually thru the 1700's humans began designing hives built of wood.

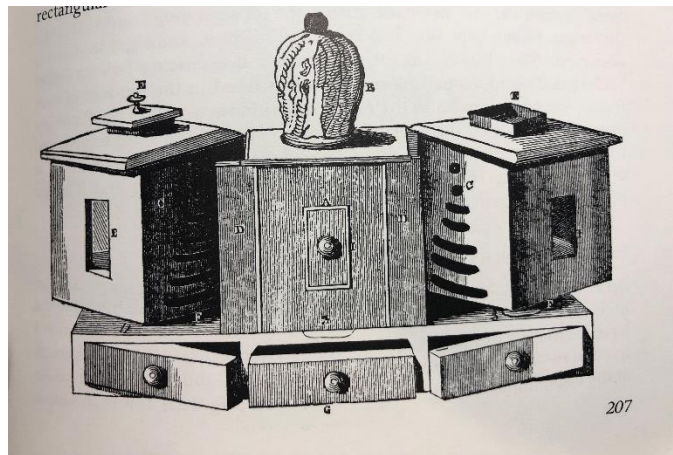


This is an early woodcut from Issue 246 Of the Cottage and Artisan Published by the Religious Tract Society.

This woodcut shows a number of bee hives – now considered primitive but notice in the foreground is a hive described by John Worlidge in 1676 in "A Discourse of the Government and Ordering of bees." Only wealthy beekeepers were able to afford fancy hives.

This is an example of a collateral hive.

Most bees during the 1600's -1800's were managed by women called Cottage beekeepers. Honey was considered valuable as a sweetener (sugar was not commonly available) and it fell to the women of the house to manage food crops and bees for the home. There were a number of hives



designed on the collateral principal. The bee brood chamber is in the center box and as the bee population grew, additional boxes were added to the sides. The boxes were made by finish carpenters. Essentially, the queen could move from box to box where both brood and honey could be placed. The movement called "Save the Bees" is popular now but for a different reason. During the 1600's thru the mid 1800's it really did mean SAVE

THE BEES because bee skeps and hive boxes were set over a sulfur pit to kill the bees before harvesting honey from the nest. The center box of a collateral hive was a means of saving the bees for another season.

The modern era of beekeeping began when frames could be removed from a hive. This removed the mystery of earlier hives which could not be inspected for disease or for the condition of the brood. The name Langstroth is a legend in the beekeeping world. No American beekeeper and author of bee books has been honored and more respected in regards to beekeeping than Langstroth. This is an early version of his removable frame hive.

If you do not read his "Hive and Honey Bee" book, consider something lacking in your knowledge of beekeeping.

The Difference between the nature of wild bees and managed bees kept in hives with frames.



In the wild, honey bees naturally build wax nest from the top down. New comb is added below old comb. If the bees are located in the sidewalls of a house, they will fill the area from the ceiling down to the floor between two studs. They will anchor the comb to side walls.

Most Beekeepers manage a hive by adding supers above the brood nest and some will place a queen excluder over the brood area to keep the queen from laying eggs in comb above the brood nest. Queens rarely move above comb with capped honey cells. The natural location of capped honey above the brood nest serves somewhat to restrict the queens movement into the upper honey storage area. Stored honey above the brood area (heat generated by the bees moves upward) allows the bees during the winter season to move upward to their food source.

I have seen feral bees build nests in some

pretty odd places.

Those that build nests in trees open to outside elements of weather do not survive.



Bees must support the comb they build. Often, they do not build comb in nice even parallel sheets. One of the interesting things about L.L. Langstroth is that he observed that honey bees will build comb to anything within their nest that has a space of more than $\frac{3}{8}$ of an inch. This $\frac{3}{8}$ of an inch is called "Bee Space."

The next page will show what happens when a hive is abandoned for a number of years.



This bee yard of 20 hives had been in this location for over 15 to 20 years unattended. Only one hive had bees in it!

The bees turned this hive into a natural nest. We keep bees in hives like this because we can pull frames from the hive to examine the nest for health and brood issues.

In a short period of time, the bees will glue all the frames so they can not be removed from the wood shell of the hive body. The inner cover on this hive was destroyed because I had to pry it off.



The frames also had to be pried out of the box. Note that this frame has no end bar or bottom bar and the top bar is damaged as well. The bees had converted a modern hive into a natural nest.

Scientists regard honeybees as a super organism.

Bees have evolved over millions of years to become highly specialized.

This is all bee school stuff – new beekeepers should have a good understanding of the Biology of the Honeybee. See the PowerPoint presentation included in this Note. It is the one I am using for the Wake County Beekeeping School and you have permission to use it.

The honeybee is often more animal like than other insects. They are considered livestock by agriculture departments. They produce products - humans use (honey, wax, pollination services) for example. There is only one other insect that I am aware of that shares a commercial value – silk worms.

I don't usually think of honeybees as individuals. They are a unit not individuals. A colony needs worker bees to survive. The worker bees display certain characteristics which give a colony an identity. A queen by herself can not live without attention by worker bees. The drone is just as important in the reproductive department as all the bees in the colony. Worker bees are female just like the queen. They can lay eggs (unfertilized) just like the queen. But without the male providing sperm none of the other bees in a colony would exist.

Honeybees are almost animal like:

The cluster has a basic temperature when brood is being raised of 92 - 94°.

The honeybee feeds its young with a milk like substance called royal Jelly.

The occupants of a colony build their nests and forage for food together.

They protect the nest from enemies and pests.

They communicate with each other. In fact, within fractions of minutes (sometimes less), a bee colony responds to any environmental circumstance. Their language is of sound waves detected by hairs on their body, gestures and scents.

They have a dance language – the ability to communicate distance and direction to a nectar source or new nesting site as described in Seeley's Honey Bee Democracy.

The specialized glands, organs and special physical features of individuals act in concert as a single body for the survival of the colony.

Honeybees have intelligence. Read *Honey Bee Democracy* by Tom Seeley.

Honey comb is built according to the colony need for cells. They make decisions on how many and of what kind to build. (Queen cells, drone cells, or worker cells)

A colony changes steadily – other than the queen, the colony renews its composition even within one year. Worker bees live a short life – there is a difference between summer bees and winter bees. Drones are raised only when needed and even then, kicked out of the hive when winter arrives.

I might also add that a colony of wild honeybees is constantly getting younger. Natural feral bees swarm often. The old queen leaves with the swarm as do the older bees in the colony. She is replaced by a new queen and new young bees.

I would like for you to think about how bees survive using the rule "Survival of the fittest." Mother nature is not kind to all creatures small or large.

Weak hives are victimized by other bees and pests. Treated bees are not a guarantee that bees being managed will survive, but it is certain that untreated bees will have a higher loss rate.

Management techniques are important when keeping bees. Honeybees "may" survive the worst that a beekeeper might do! The choices made by "keepers of the bees" often can make a big difference in how our honeybees adapt to human management!

Next week – The best honey bee hive made by man! By that, I mean what is best for the bees!