

STAHLMAN BEEKEEPING

NOTES FOR 2023

Issue # 33 September 2, 2023 Wax Moth

I have read with interest some very old beekeeping books for information regarding problems they had managing honeybees. The number # 1 enemy was the wax moth. Early books prior to the mid 1850's often mention spiders and webbing in their hives. Often the problem was not detected because those hives did not have frames that could be removed for inspection. This is a direct quote from a beekeeping book written during that time by a beekeeper that had box hives: "Spiders are a source of considerable annoyance to the apiarian, as well as to the bees; not so much account of number of bees consumed, as their habit of spinning a web about the hive, that will occasionally take a moth, and will probably entangle fifty bees. They are either in fear of bees, or are not relished as food. This web is often exactly before the entrance, entangling the bees as they go out and return; irritating and hindering them considerably." I am not sure about you but spiders have never been a problem for me.

However, beekeepers had a more serious problem! I know we refer to L.L. Langstroth because he is famous for identifying the bee space allowing beekeepers to manage hives with removable frames. If you have a chance to read his book, a number of interesting things can be found regarding how we keep and manage bees.

Langstroth included an entire chapter (Chapter 12) in his book about "The bee-moth and other enemies of bees and diseases. According to Langstroth, Dr. Jared P. Kirtland, of Cleveland, Ohio reported that he was aware that the bee moth was first discovered in the United States in 1806 [An article in the Boston Patriot described the miller and worm and their depredations, and representing them as recent appearance in the vicinity of that city.] The spread of the moth continued westward and was present he says "all over Northern Ohio by 1831-32."

Does that remind you of any other pest spreading across the U.S. Foulbrood, Mites, hive beetles, and now: a new pest has just been reported in Georgia. See end of the article for info on this new pest.

I wanted to see what A.I. Root had to say about wax moth. From a 1886 copy of "ABC of Bee Culture" I found this:

IMPORTANT POINTS



This is an extreme case of a hive over run with wax moth.

Every frame of the hive was destroyed by wax moth -- entangled in webbing as shown in this picture. Frames had to be pried apart and could not be saved.

Not a single bee was found when this hive was inspected.

Some facts about Wax moth

- 1) When first observed they hatch from eggs as worms.
- 2) They tunnel from cell to cell making it difficult for the bees to remove them.
- 3) They are attracted to frames of comb with stored pollen.
- 4) Freezing frames kill wax moth eggs.
- 5) Wax moth ARE ACTIVE DURING WARM SUMMER MONTHS.

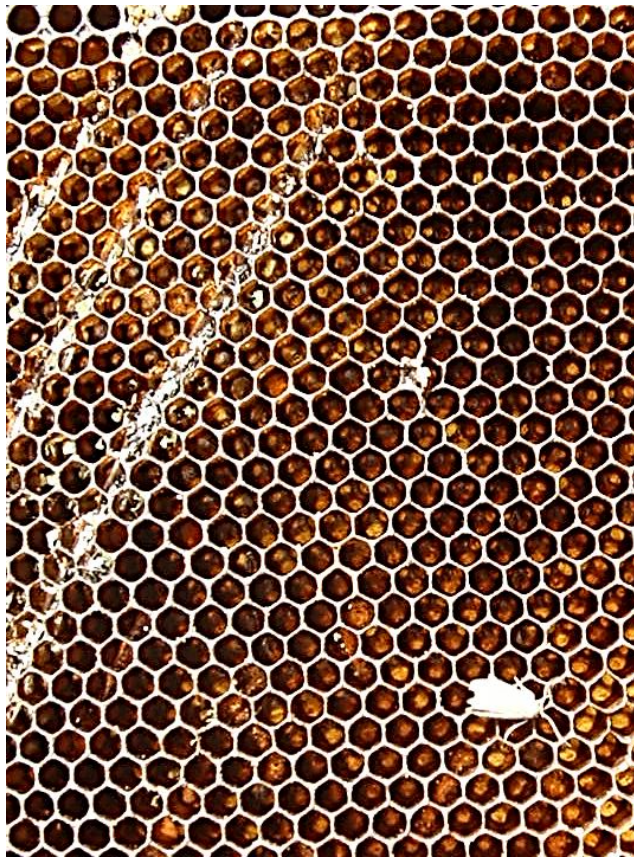
See pages 264 thru 266 in the Beekeeper's Handbook by Sammartaro and Avitabile for more exact information.

Bee-Moth “It is very likely that the moth worm is, as has been so often stated, the worst enemy the honeybee has-- if we except ignorant bee-keepers – but if such is the case, we can consider ourselves very fortunate, the moth is almost no enemy at all, to one who is well posted and up with the times. When you hear a person complaining that the moth-worm killed his bees, you can set him down at once as knowing very little about bees; and if a hive is offered you that has an attachment or trap to catch or kill moths, you can set the vender down as a vagabond and swindler.”

Oh! my what harsh words. A.I. Root was noted for harsh words!

When a hive is not examined on a regular basis wax moth can quickly destroy a hive. The larvae of wax moth are often confused with larvae of small hive beetles. But there is a difference in the size of larva. There is also a difference in how both attack comb in a hive. A.I. Root did not have to deal with small hive beetles.

Webbing is a sign of wax moth damage. See the photos below:



This is a good picture of tunnels in drawn comb. A wax moth is located on the comb near the bottom of the picture.

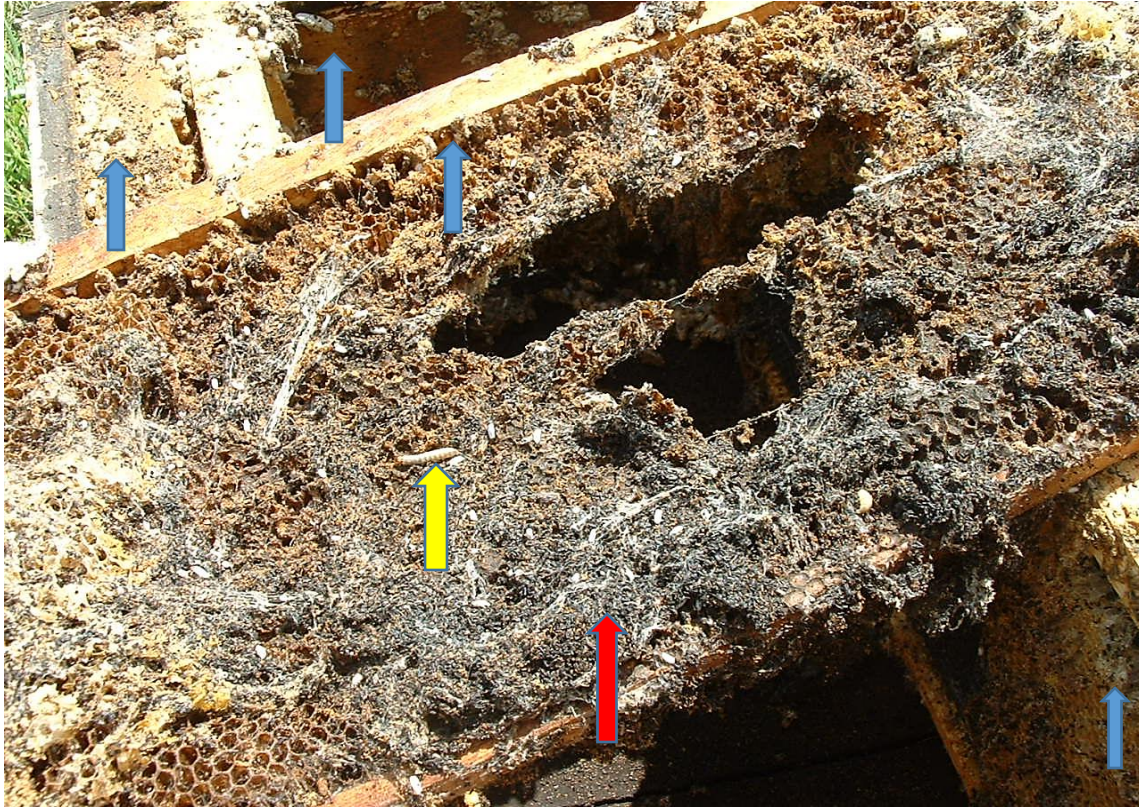
- Female wax moths enter hives and lay eggs in almost any hiding place.
- Larvae grow to almost an inch long.
- Larval growth depends on temperature.
- The mature larvae spins a cocoon which leaves marks or depressions in wood.



The Larvae are shown above.

The damage to comb can be extensive. If caught before the moth consumes the wax, such as in the wax comb with tunnels in the photo above, the frame can be frozen, put over a fire ant hill (mentioned by The Beekeepers Handbook), or placed in a very strong hive of bees. This is one case in which plastic based foundation can be cleaned, re-waxed to be used again. Otherwise:

The wax moth will destroy the comb in frames.



This is the result of a hive that was not inspected in a timely manner.

- The blue arrows point out where some pupal cocoons are visible.
- The red arrows point out webbing filled with eggs. Eggs are dark small specks scattered though out the webbing.
- (Yellow arrow) A larva that does the damage is shown in the center of the frame. This



shown here.

area was destroyed as the larvae consume the cell linings containing pollen and old dark comb.

Comb built on wax foundation is consumed right down thru the mid rib of the comb. Plastic foundation cannot be destroyed by wax moth larvae feeding on it as



Wax moth cocoons will be found on the insides of hive boxes and frames. When cocoons are removed they leave a dimple in the wood as shown in the photo of the box above. This is a

sure sign that equipment was damaged by wax moth. Once cleaned -- equipment such as boxes can be reused. Frames are often burned.

So what can one do if you see wax moth in or around your hive?

- Be aware that they can fly and come from near-by hives and bee equipment.
- Prevention begins with frequent inspections.
- There are no products sold that can control them without killing bees.
- They are insects of opportunity. That means they find colonies that are in trouble.

Keeping bees requires visits to hives and each inspection would include opening the hive and examining frames for bee populations and any other problem that might be observed.

If you see wax moth larvae or webbing in your hive, you must find the reason the hive is not able to defend itself. I AM ASSUMING THAT THE HIVE STILL HAS BEES!

If you see robbing activity around a hive, it is an indication that other things are going to happen to the hive. Closing up a robbed hive is putting the welcome mat out for wax moth. They flourish in warm dark conditions.

Stored comb that has had brood raised in it is very attractive to wax moth. I might mention that stored honey frames that are free of brood comb are less likely to be attractive to wax moth. Putting supers with brood comb in storage is risky. Two products are sold for killing moth in stored equipment. Read labels carefully – Certan Wax Moth & Para- Moth crystals are suggested as working well.

The key to prevent wax moth damage are:

- Strong hives of bees
- Frequent inspections including using management techniques to control Varroa mites, eliminate queen failures and robbing. (ALL OF THESE ARE MAJOR REASONS FOR HIVE FAILURE!)
- Light – Wax moth do not like light and I have read female wax moth avoid laying where conditions are lighted.
- Cold -- Temperature should be less than 50 °F or lower. The reason for more wax moth damage in the summer is warm to hot temperatures.

I was in Europe this past August and one of their major problems was European hornets. We are lucky not to have them. Then I saw something on TV about Asian hornet being found in the U.S. This account was taken from the internet when I googled Hornets in U.S.

Hornets feed on honeybees and other insects.

From the internet: [Invasive yellow-legged hornet spotted in US: What to know about 'social wasp species' \(msn.com\)](http://www.msn.com)

Invasive yellow-legged hornet spotted in US: What to know about 'social wasp species'

Story by Caitlyn Stroh-Page and Mary Walrath-Holdridge, USA TODAY •1w



A photo of a yellow-legged hornet, which is native to Southeast Asia.© Georgia Department of Agriculture

SAVANNAH, Ga. – Beekeepers in Georgia have raised alarm bells after an invasive species was spotted for the first time in the U.S.

A Savannah, Georgia beekeeper discovered the unusual-looking hornet earlier this month and promptly reported it to The Georgia Department of Agriculture, according to a statement release by the agency. The GDA, in partnership with the University of Georgia and the U.S. Department of Agriculture, [identified the insect as an invasive yellow-legged hornet](#) earlier this month, marking the first detection of the species in "the open United States."

The invasive hornet is described as a "social wasp species," meaning it is known to construct communal paper nests, often found hanging from trees or in tree hollows. Also known as *Vespa velutina* hornets or "Asian hornets," the wasps' nests are generally egg-shaped and can house up to 6,000 worker bees.

The species could threaten honey production and native pollinators if it establishes a population, according to the GDA.

Just another thing to be concerned with if you are keeping honeybees.