

Bee-Proofing for Florida Citizens¹

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Introduction

African honey bees (AHBs—Box 1) are present in Florida. One AHB characteristic that concerns the public is the bee's propensity to select a wide variety of nest sites. While European honey bees—the honey bees that beekeepers manage (<http://edis.ifas.ufl.edu/in1005>)—generally only nest in cavities, AHBs regularly construct exposed nests outside of cavities (<http://edis.ifas.ufl.edu/in784>).

Box 1. What's in a name?

In popular literature, "African," "Africanized," and "Killer" bees are terms that have been used to describe the same honey bee. However, "African bee" or "African honey bee" most correctly refers to *Apis mellifera scutellata* when it is found outside of its native range. *A.m. scutellata* is a subspecies or race of honey bee native to sub-Saharan Africa where it is referred to as "Savannah honey bee" given that there are many subspecies of African honey bee, making the term "African honey bee" too ambiguous there. The term "Africanized honey bee" refers to hybrids between *A.m. scutella* and one or more of the European subspecies of honey bees kept in the Americas. There is remarkably little introgression of European genes into the introduced *A.m. scutellata* population throughout South America, Central America, and Mexico. Thus, it is more precise to refer to the population of African honey bees present in the Americas as "African-derived honey bees." However, for the sake of simplicity/consistency, we will refer to African-derived honey bees outside of their native range as "African honey bees" or "AHBs."

Bee-proofing is the practice of methodically removing or restricting AHB access to potential nesting sites. This practice is beneficial for many reasons. Naturally, if an area is bee-proof, the potential for feral honey bee colonies to move into that area is greatly lowered; therefore, the risk of stinging incidents is also lowered. In addition, colonies

that establish themselves inside a wall or around a structure must be eradicated by a licensed pest control operator (PCO, <http://edis.ifas.ufl.edu/in771>) or removed by a PCO or registered beekeeper (<http://www.freshfromflorida.com/Divisions-Offices/Plant-Industry/Business-Services/Registrations-and-Certifications/Beekeeper-Registration>)—see Box 2. This process can be expensive and often requires structural repair (which also costs time and money). Bee-proofing a property not only makes the area safer, but it also saves time and money. It is an ongoing process that requires an initial set-up procedure to address a majority of the sites on a property; also, it requires follow-up inspections to maintain the bee-proofed area.

Box 2. Honey bees nesting on your property?

The state of Florida recommends that nuisance honey bees (<http://edis.ifas.ufl.edu/in1005> and <https://edis.ifas.ufl.edu/in790>) found nesting outside of hives managed by a beekeeper (like those nesting in tree cavities, walls, water meter boxes, etc.) be either (1) removed from the nest site by a registered beekeeper (<http://www.freshfromflorida.com/Divisions-Offices/Plant-Industry/Business-Services/Registrations-and-Certifications/Beekeeper-Registration>) or trained Pest Control Operator (PCO—<http://edis.ifas.ufl.edu/in771>) or (2) eradicated by a PCO. It is the responsibility of the property owner to deal with an unwanted swarm (<https://edis.ifas.ufl.edu/in970>) or colony of honey bees. To find a registered beekeeper or PCO who offers removal or eradication services, visit: www.floridabeeprotection.com and click on "bee removal". For more information on African honey bees, see www.FreshFromFlorida.com/AfricanHoneyBee or http://edis.ifas.ufl.edu/topic_africanized_honey_bee. [Modified from FDACS: <http://www.freshfromflorida.com/Divisions-Offices/Agricultural-Environmental-Services/Consumer-Resources/Florida-Bee-Protection/Bee-Removal-or-Eradication-List>]

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Locating Potential Nesting Sites

The first step in eliminating areas that may be attractive to honey bee nests is actually these areas—think like a swarm. What areas might bees favor as a nesting site? AHBs, especially, have been known to nest almost anywhere, yet all honey bees favor certain sites over others. Sites that are potentially attractive to honey bee colonies consist of a small opening that accesses a protected cavity. Examples are water meters, manholes, holes in a structure that lead to open space inside a wall, gutter down-spouts, pipes, etc. Examine these photos as a reference.



Figure 1. Closed water meter.



Figure 2. Open water meter.



Figure 3. Small hole in siding leading to a cavity in the wall.

Although this type of nesting site may be the first choice for the bees, they certainly will nest at many other locations. Some of these locations are difficult to bee-proof; therefore, it is important that regular inspections are done to monitor for any bee activity. Examine the following pictures as a reference point for your inspections. They include examples of places that are difficult to bee-proof.



Figure 4. Cavity in a tree branch.



Figure 5. Open space in metal drain cover.



Figure 6. Crack in cement that creates opening.



Figure 7. Large recess under roof.



Figure 10. Cinderblocks.



Figure 8. Inspecting under house.



Figure 11. Under eave of house.



Figure 9. Dense shrubs and bushes.



Figure 12. Opening under shed.



Figure 13. Opening around pipe.

Other sites where colonies have been found include eaves, hollow trees, abandoned vehicles, empty containers, fence posts, lumber piles, utility infrastructure, old tires, tree branches, garages, outbuildings, sheds, walls, chimneys, playground equipment, etc.



Figure 14. Opening around pipe.



Figure 15. Under playground equipment.



Figure 16. Small hole in power pole.



Figure 17. Small hole in power pole.



Figure 18. Gutter downspout.

Preventing Nests from Forming

Once an initial inspection reveals what the potential nesting sites might be, the next step is to block-off or remove those sites. This can be done using several methods.

Screening

Close off areas by stapling or attaching 1/8th inch hardware cloth or standard insect screen over the hole. This method is preferred for restricting access to voids in trees; also, it is best for closing off vents, drains, downspouts, or other plumbing as the screen allows air/water to pass through while stopping bees from entering.



Figure 19. Placing screening over pipe.

Caulking

Use 100% silicone caulking to seal cracks, crevices, or other voids 1/8th of an inch or greater. Also, latex concrete-crack filler can be used to seal cracks and crevices in cinderblock or concrete surfaces.

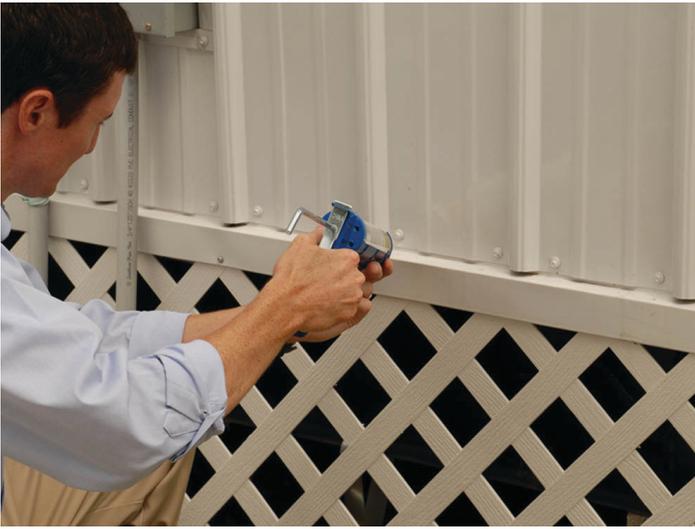


Figure 20. Caulking opening in siding.

Foam

Expanding/insulating foam sealant is useful for sealing holes/cracks in walls. If foam is exposed to weather, be sure to paint the exposed surface to prevent cracking or eroding of the foam.



Figure 21. Foaming holes in side of a building.

Filler

Wood filler or concrete patching can also be used to seal crevices or voids in walls where foam or caulking is not appropriate.

Tape

Duct tape can be used to close off holes in water meter covers or other small holes.

A Note on Closing Off Holes in Walls

If bee activity is detected within or around a hole (bees are seen entering/exiting the hole, bees can be heard within the wall near the hole, etc.), do not seal off the opening as this would force the bees further into the wall and possibly into the structure. The colony must be removed first, and then the opening can be sealed.

Equipment List

Silicone and latex caulking, caulking gun, roll of screen mesh, clippers to cut screen, staple gun, staples, wood filler, concrete filler, putty knife, duct tape, expanding foam, and carrying container.



Figure 22. Bee-proofing tools.

Inspecting Property

It will be impossible to eliminate potential nesting site as AHBs can nest virtually anywhere. However, it is still important to take steps to bee-proof areas that would be of considerable interest to the bees and areas exposed to frequent human traffic. Because some potential sites will be left open, it is essential to conduct regular inspections of the property to check for bee activity and to maintain previously bee-proofed sites. Look for bees entering and/or exiting an area or hole; this signifies that a colony is nearby. Bees visiting flowers are not a threat. Swarming season for the bees occurs between the months of March and July (although bees can swarm much later, particularly in southern Florida), so it is vital to inspect weekly during these times as bees are looking for a fitting nesting site and are most likely to move into an area. See Box 2 for information on what to do if a swarm or colony of bees is found.

For additional information, see: http://edis.ifas.ufl.edu/topic_africanized_honey_bee or www.FreshFromFlorida.com/AfricanHoneyBee