
EVIDENCE

inside the ultimate bee sting

BY
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THE VOORHES

one man has a plan to get bandits to buzz off

The bee thieves come at night, swooping in and bugging out quicker than the wings of the insects they steal. And they always leave tracks.

Ray Olivarez knew this much, but he still expected a routine visit when he drove to his apiary in California's Central Valley one brisk midwinter afternoon in 2016. As he parked, though, an uneasiness fell over him. His hives hadn't been visible when he'd crested the hill. As he slowly marched toward the entrance, his face fell. The lock on the gate? Cut. His instincts kicked in, and he looked down, seeing squelched mud imprinted with ribbed tread marks.

A few days earlier, this yard had been home to 64 white wooden boxes of bees almost ready to make the trip to a local almond farm, where they would pollinate the trees. Now all he saw were the rectangular impressions they'd left in the grass. Like hundreds of other honey farmers every year, Olivarez was the victim of one of the most fiendish agricultural crimes in America: hive theft.

Central California's temperate climate provides ideal conditions for the interdependent activities of raising bees and growing almonds. Mild winter rains spur the nuts to grow, while dry summers ensure they don't fall victim to fungal infections before harvest. The state produces 80 percent of the world's crop, with the bulk of its 1.3 million acres of trees clustered throughout a few particularly fertile counties. From February through mid-March, their buds burst into petals of pink and white—an irresistible treat to honeybees. Farmers rent *Apis mellifera* by the boxful to pollinate their orchards (it's easier, and less time-consuming, than tending bees themselves); hitting all 250,000 farms requires the labor of some 500,000 hives native to California, as well as another 1.5 million trucked in from as far east as Florida. That's 31 billion buzzing critters in total.

The big migration usually begins in January, with apiarists hauling hive-laden pallets to orchards on flatbed trucks and hoisting them off with forklifts. The rule, generally, is two boxes per acre of almonds. A crate of pollinators that would have cost just $11 to rent in the 1970s is now more than 10 times as valuable. A seasoned, second-generation bee wrangler like Olivarez, with 18,000 hives of strong insects, can command anywhere from $180 to $220 for each.

But within weeks of arrival, the first signs of trouble emerge: a box lifted from some rural orchard, a pallet gone missing overnight. As the value of the crates has risen, so too has a new class of criminals hell-bent on stealing honeybees.

That's the situation Olivarez found himself in. He'd parked his colonies on a farm three hours north of San Francisco in January. When he checked in days later and found tire tracks, he figured foul play was afoot.

"Bees are an easy target to grab and load in the back of a pickup," Olivarez says. "But the lucky thing is that they were stolen in Butte County, which is Rowdy's jurisdiction." That's Rowdy Jay Freeman, bee-thief gumshoe extraordinaire.

A 15-year veteran officer as well as vice president of the state's rural crime prevention task force, Freeman polices the county as a deputy sheriff. But over the past decade, he's come to be the main liaison between law enforcement and the victims of hive heists. It's a role he grew into, first thanks to

insight he gained keeping his own hives, and more recently by embracing the latest in security technology to thwart thieves.

"I receive more attention from bee thefts than any homicide case I've ever worked," says Freeman, who tends to be laconic, but is nevertheless easy to distinguish: Look for the shiny shaved head sitting atop a thin frame in a brown sheriff's uniform.

FROM JANUARY TO MARCH, Freeman drives the roads along Central Valley's almond orchards, keeping a watchful eye and fielding tips. Bee theft first hit his desk in 2012, while he worked the felony investigations unit inside the county sheriff's department. When the hive owner called Freeman to the scene, he blamed the crime on the hefty sums keepers secure from farmers to pollinate their almond crops. "At the time it didn't make a whole lot of sense to me," Freeman recalls. "I didn't understand the business."

Back at the office, he gave himself a crash course on how the pollinators contribute to almond farming. Every hive contains one queen and tens of thousands of drones and workers. The drones are male; they mate with the queen, then immediately die. The workers are female and live for as little as four weeks, feeding the queen, caring for the drones, collecting nectar, pollinating, and producing honey.

These days, just as the market for their services is surging, the creatures require more care than ever before. "You can't just put bees out there like in the 1970s and go take the honey out in two

Sheriff Rowdy Jay Freeman now has a personal passion for bees.

months," says Eric Mussen, an emeritus apiculturist at the University of California, Davis. "If you're away for two months these days, you'll probably have half your bees gone."

That's because in 1987 the pernicious varroa mite started laying siege to American honeybees. The parasite lays its eggs on pupae as they're growing inside hives, sapping nutrients and carrying a disease that causes adult bees to emerge with deformed, unusable wings. Varroa mites also spread viruses that help trigger colony collapse, a puzzling phenomenon that causes the inhabitants to buzz away, never to return.

As mites proliferated, apiarists who had once lost around 5 percent of their colonies each year saw the number soar to as much as 50 percent. Moreover, the great irony of California's robust almond industry is that it has, along with other agricultural pursuits, gradually crowded out natural foraging land for bees. Despite their diminutive size, the insects are capable of flying as far as five miles to collect nectar. But with a dearth of wildflowers, local breeders must now supplement nature's food with pricey sugar solutions.

While Freeman had grown up in a small agricultural community, the nuances of the honeybee industry were new to him—and he was fascinated. "I couldn't believe how much there was to it and how intelligent these insects are," Freeman says. "It sucked me in." After his first theft investigation, he became so absorbed in the intricacies of beekeeping that he ended up buying six hives of his own the following year. Caring for a humming brood has made him appreciate just how precious a healthy colony is.

He also realized no one kept track of these thefts, so he began doing so himself. In 2013, according to his tally, just 128 boxes vanished. Soon he started noticing a pattern. Many thieves use the same flatbed trucks and forklifts to steal hives that apiaries use to transport them—leading to the inescapable conclusion that the criminals looking to make a quick buck are often insiders.

"Hive theft is almost like the perfect crime, because it's beekeepers stealing from other beekeepers in a lot of instances," Freeman says. "To a lot of people, it just looks like maybe the thief is taking care of their own hives." That makes it almost impossible to spot a crook in the act. Many capers are grab-and-go schemes that unfold quickly, aided by pollinating logistics. The boxes often sit scattered on the periphery of a farm, near the sides of roads and along driveways. That simplifies the drop-off and pickup process for both apiarist and farmer—and for highway hive robbery too. "Thieves go in early or late at night and can load several hundreds in 20 minutes, hit the road, and be gone," says Freeman.

In his first four years policing insect crimes, Freeman didn't catch one thief—but he did build a network of trust. In 2016, a year when bandits made off with more than 1,500 hives, a fellow apiculturist called the cops after spotting Olivarez's branding on boxes that had appeared suddenly four counties south of his usual stomping grounds. Two weeks later, Freeman cuffed 32-year-old Jacob Spath.

Spath was a small-time beekeeper, who—in a twist seemingly tailor-made to showcase the insular nature of the industry—had learned the ins and outs from Olivarez's parents. He'd even managed to prepare 76 hives for pollination the year before. But in 2016, the farmer with whom he contracted required 170. That's when Spath started snooping. He could see Olivarez wasn't careless. In addition to printing his surname on all his hives, he distributed the boxes throughout the holding yard instead of leaving them by the road. He'd even gone as far as installing protective gates on his own dime. But Spath had an advantage just by virtue of the bee yard's location: a secluded area near a municipal airport. Under cover of darkness, Spath cut the lock on the gate and used a forklift borrowed from Olivarez's parents to load their son's 64 hive boxes, four to a pallet, onto a flatbed truck. Spath then drove four hours south.

It may have been a lucky tip that led Freeman to the arrest, but it was his ability to connect with the tight-knit community—and his passion for investigating the heists—that put him in a position to receive it.

"He's taken it to another level for us," Olivarez says. "He's somebody that we can count on to help us with connections in other counties, with sheriff's departments and police enforcement. And he's been a spokesperson for us."

Butte County officials charged Spath with grand theft of an animal, a first for bee thieves in California. He pleaded guilty four months after he stole Olivarez's boxes, and the court sentenced him to 90 days in jail.

Whether his time behind bars had a wider effect is doubtful. After peaking above 1,000 in 2016 and 2017, thefts dipped to just 300 in 2018, but rose again to 542 in 2019. Buzz Landon, vice president of the California State Beekeepers Association, worries that robberies will put folks out of business.

"This is wrecking people's livelihoods," says Landon, who mentored Freeman when the lawman got into bees. Most keepers spend about $300 per hive to keep them healthy throughout the year. Money they make in rental fees generally covers those costs; in the summer, honey

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production helps turn a profit.

Thefts disrupt the entire process. Fewer hives available for rent means less money, which means less to invest back into care—which, ultimately, means fewer bees. Freeman's industry contacts made it clear that 90 days in jail wouldn't be much of a deterrent. The chances of capture were too slim, the potential payoffs too high. He decided it was time to focus his expertise on catching crooks in the act.

ON AN OVERCAST SATURDAY IN late April 2020, Freeman dons a different type of uniform: a large white suit, almost like a painter's outfit, and long blue gloves. An oversize netted hood shrouds his large-bridged nose and strong, cleft chin. In front of him are 96 white wooden boxes. Tiny honeybees swarm all around him.

Today he owns 500 hives, and he can tell you off the top of his head how much trouble he'd be in if someone stole them. He spends $23,000 a year alone on sugar solution, which he adds to his hives' diet periodically to ensure they're healthy enough to make honey come summer. He's no casual keeper these days, and his personal investment in the insects helps drive his mission to track down thieves.

"I can help with both sides of the case: the law enforcement standpoint and the beekeeper's standpoint," says Freeman.

Freeman routinely advises peers on how to protect their colonies. Most in the industry know enough to brand equipment with their name, phone number, or personalized codes. Some stick GPS trackers on pallets, betting that robbers will forklift the whole lot instead of picking up individual boxes. Some even pool their money and hire private security guards to conduct nightly orchard patrols.

Increasingly, Freeman promotes technological approaches. He's supported outfitting pallets with microchips similar to the type owners use to claim runaway pets. And several years ago, Wildlife Protection Solutions, a nonprofit that works to prevent big-game poaching, contacted him about installing cameras in orchards during pollination season. The group provided him with one to test out, and now he's looking to make them widely available.

"The neat thing about these is they're hooked up to the cloud," says Freeman. "If the thieves decide to break the camera or steal it, well, those pictures are stored, so you have them no matter what."

All of this pales in comparison to Freeman's latest plan. In 2019 he started working with SmartWater CSI, a Florida-based company that produces a proprietary traceable liquid. Even after washing, the substances can remain on clothing and skin for weeks, visible only under UV light. They can also shine through layers of paint—so bee thieves can't easily cover up an identifying dab on the outside of a hive box.

Whether this level of trickery will help Freeman identify bee snatchers will be revealed during the next few pollinating seasons, but an early trial convinced him that the stuff works. In 2020, thanks to SmartWater, his department finally booked two culprits who had repeatedly stolen GPS-equipped farming hardware. "The thieves had the solution all over their hands and all over the stolen equipment," he says. "It was pretty cool to see it all come together and work as it's intended."

Freeman has set up a pilot program with the sheriff's department to distribute the technology ahead of the 2021 pollination season. At least one of his buddies is already using it: Buzz Landon, who rents out about 3,500 hives annually.

Thwarting treachery isn't cheap. GPS trackers cost around $200 a pop, plus an annual subscription service. At about $3 each, microchips are relatively thrifty, but equipping hundreds or thousands of hives quickly turns impractical. Outfitting Olivarez's fleet of colonies would run more than $50,000. Freeman says marking boxes with SmartWater adds up to a few hundred bucks.

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—ROWDY JAY FREEMAN

"I've been trying to express to beekeepers that you really do need to do this stuff. It's an expense, but it costs a lot more to lose a bunch of hives," he says.

Walking among his bees in the early afternoon, he remarks that in seven years, none of his own boxes have ever been stolen. He's one of the lucky ones. Thieves hauled away 639 hives over the 2020 pollination season, an increase over the previous year.

"It really does piss you off," he says. "A lot of these beekeepers are my friends." His word means a lot to them, since, after all, he's one of them now. That should help as he tries to get others to adopt anti-theft tech—the final piece, he hopes, in truly stemming hive heists.

Come January, Freeman will be out patrolling in the orchards once again. For now, there are bees to tend to. Soon they will start producing honey, collecting nectar from nearby plants and holding it in a secondary stomach in order to get it back to the hive. But this day marks a different occasion: It's feeding day on this grassy field in the Central Valley. A flatbed truck is parked nearby, with a giant tank full of sugar syrup sitting on top. As he opens his hive boxes, gangs of eager honeybees swarm the tiny yellow feeding troughs oozing with sweet liquid. Standing over them, Freeman cracks a proud smile.