

Living with Bats

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Miller, Peter S.

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by Peter S. Miller

What would you say to a real estate agent who showed you a comfortable two-bedroom flat with living room, dining room, and kitchen and told you the rent was very low, but that you had to agree to share the dwelling with several hundred bats? While most prospective tenants would decline the offer, some 50 families in an apartment complex in Alexandria, Virginia, accepted. The old saying "the walls have ears" takes on a new meaning at the Canterbury Square Apartments; above the ceilings, beneath the floors, and inside the walls live about 200 big brown bats (*Eptesicus fuscus*).

As a graduate student at George Mason University in Fairfax, Virginia, I am studying the foraging ecology of big brown bats. My study area is encompassed by the 8,500-acre Fort Belvoir Army Base. The three-building apartment complex is located in the middle of this suburban Washington, D.C., military reservation, but it is also a short distance from the Accotink Wildlife Refuge, which is home to deer, osprey, bald eagles, and bats. Given the surrounding urban area, it was no surprise to me that I would radiotrack bats back to a human structure (the Latin name *Eptesicus* roughly translates to house flyer). The surprise came when I found that the human residents knew of their little neighbors and, for the most part, tolerated their presence.

The story begins a half mile west of Canterbury Square on Accotink Creek. For the past two years I have used mist nets to capture big brown bats at the northern edge of the wildlife refuge. During the summer of 1993, I mounted radio transmitters onto three female big brown bats, hoping to follow them back to their summer maternity roost. Unlike many Washingtonians, their commute turned out to be a short one.

The following day I tuned in the telemetry receiver to each of three frequencies and set out in search of sleeping bats. The signals peaked as I emerged from the woods into the parking lot of Canterbury Square. A resident who had just returned from his night-shift job spotted me in my muddy camouflage clothing, the electronic gadgetry held out before me, and thought war games from the nearby base had spilled over into his backyard. After I explained that my quarry was hiding animals and not enemy soldiers, he led me to the back building where bats were often seen flying. He said that bats used to be in the building, but that they had since been sealed out. I cranked the radio receiver volume to full. The rhythmic pulse of the transmitters beeped loudly.

"Sounds like they're back," I replied cautiously, not knowing how he would take such news.

I was then introduced to the assistant maintenance engineer, Bobby Galloway, who, I soon learned, strongly discouraged any disturbance to the bat squatters and had made little effort to evict them. Quite simply, he loves animals. In the company of two of his four pit bull terriers, Galloway gave me a tour of Canterbury Square. We started with an unoccupied top-floor unit, which was scattered with bat droppings. I learned that Galloway's wife had grown up in the building and that even when she was a child, over 22 years ago, bats were present. He then opened a closet which held the apartment's heating, ventilation, and air conditioning unit (HVAC), and inside was a great deal of bat guano that had obviously been accumulating for some time.

"Yes!" I yelled. "Are there any more places like this?"

He told me that almost all of the second and third floor unoccupied apartment's HVAC closets were like this. He showed me through all the unoccupied units. In several utility closets I could see big brown bats hanging on hardware cloth, which covered the opening in the building's brickwork. Galloway then brought me into an apartment where he had seen a bat with a yellow plastic "thing" on its wing. Slowly we opened the HVAC door, and there, hanging on the hardware cloth, was number 19, a female I had banded two years earlier. Finding the roost for one of my banded bats was tremendously exciting to me.

Bobby Galloway gave his permission for me to study the bat colony. Then came the task of characterizing the extent to which *Eptesicus* was using the building. With assistance from classmate Steve Schilling and fellow National Zoo keepers Suzanne Ambs, Jill Stumbaugh-Samson and her husband, Eric, we spread out around Canterbury Square with bat detectors and note pads.

Canterbury Square is now home primarily to low-income families. When the building management was taken over by the Resolution Trust Corporation (RTC) of the Federal Government several years ago, a large-scale eviction of non-rent-paying residents and known drug dealers took place. Now only about one third of the 152 units are occupied, and Bobby Galloway keeps very close tabs on all comings and goings. The roadhouse bars down the highway and the county homeless shelter across the street make the residents wary for their children and suspicious of new faces and vehicles in their parking lots.

Needless to say, five collegians arriving in a VW microbus, then sitting in lounge chairs around the building at dusk, attracted immediate attention, especially from the children. By the end of our first night of observing emergence times, we had all made contact with many of the residents, from the curious to the doubtful. We returned the following evening with even more gear: radio receivers, bat detectors, and other eye-grabbing equipment. News of our arrival spread quickly. Soon a dozen wide-eyed youths and a few incredulous adults watched us set up the field station right in their own backyard. By our third visit, the children were lined up on the curb awaiting our arrival.

Children are never short of questions, and we were peppered with inquiries at a dizzying speed. Curious hands started reaching into every bag and box of equipment in my van. It was obvious that I quickly needed to establish some protocol. Every tool or device that left the van did so under strict supervision and with the understanding that those handling the equipment were working, not playing. We soon established a working relationship that would prove effective at helping me with data collection, while providing maximum fun for the Canterbury kids. As it turned out, they also were excited to learn about the bats with which they lived.

At first I thought rules would scare them off, but in fact it made them more focused on what they were doing with the devices. A degree of cooperation developed due to the limited number of "toys" I had. Those that did not have things to hold were recruited to take notes or look things up in any of the myriad of manuals that I carry in my rolling lab. As our work progressed, many mothers exclaimed to us that their children had never before been so enthusiastic about learning. For some children, it even spread over into their school work in other subjects.

One of the most exciting events for the Canterbury kids came when I needed to radio tag more bats. Several big browns were netted while emerging from the building and brought to the van for processing. Although living around bats was a fact of daily life, none of the kids had ever seen one up close. While securing the biting end of the bat, I allowed them to feel the wing membrane and the fur along the back of the animal. Seeing the fearful faces change to excited ones after actually contacting the winged creatures that fill their night sky was a triumph for me and ultimately for the bats.

After the transmitter was affixed and the bat ready for release, I wanted to show them how amazingly maneuverable these animals were. From inside the van I told the dozen folks at the van door not to move a muscle. I then released the tagged bat right at them. Like a race car zig-zagging through pylons, the female big brown bat made her way

through the wide-eyed crowd and off into the night. I heard a collective exhale after the bat cleared the last human head.

One boy became particularly enamored with my bat edition of the *Handbook of Canadian Mammals*. Every evening upon our arrival, Courtney would let himself into the van, fish around until he found the book, then disappear. He asked me if he could take it to school for show and tell. About a week later, he returned it, having given an oral report to his class about the work with which he was helping. He even included the scientific name of the bat being studied.

As cool autumn days replaced the oppressive Washington summer, it was time to bring data collection to an end for the year. We made one last appearance at Canterbury Square, mostly to thank everyone for their help and to promise that we would be back and would need lots of help as long as grades were being kept up.

Bobby Galloway told me that shortly after we had finished for the season, Courtney and his mother had to leave the area. Courtney cried the entire day, telling Galloway that he was sad to be leaving all his bat friends. While he may have had to leave them behind, he took with him a newfound respect for wildlife and the desire to explore new worlds.

Big brown bats, among the most urban of bat species, may not be endangered but they, like all bats, are acutely dependent on available habitat, both for foraging and roosting. Many times urban bats have little choice but to roost in buildings. Without the combination of an abundance of food at the Accotink Wildlife Refuge and the nearby apartment buildings in which to roost, this major maternity colony might never have reached such a great size. In return, the bats reward the surrounding area by consuming numerous insects, many of which are pests.

The future of the Canterbury Square Apartment complex is uncertain, and so, therefore, is the future of the bat colony. Galloway has been protecting the bats and managing the complex since the RTC took over four years ago, but even he realizes that this peaceful coexistence cannot last forever. While the bats are still resident, however, we will take advantage of the opportunity to study this colony and to gain further insight into the needs of urban bats. Perhaps our research may even lead to alternate roosting solutions for this colony and others like it.

[bio]

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Although the residents of Canterbury Square live in close proximity to a colony of bats, none of the children had

ever seen one up close until the author (left) showed them.



The author turned the natural curiosity of the Canterbury Square children into help with his research on big brown bats. Here he teaches Bryan how to radiotrack bats.



Big brown bats (above) are among the most urban of American bat species and are frequently found in human dwellings. Entering the Canterbury Square building (below) through the vents between apartments, the bats found ideal roosting conditions in utility closets in unoccupied units.



Through helping the research team, the children learned the importance of education and took their duties seriously. Travis (left) tunes in a bat detector and listens for signs of bats. September (right) learns how to weigh a bat. Australia (far right) will record the data.

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