FIELD NOTES

Merlins and Bats

Richard W. Hildreth

In Autumn, Merlins are familiar southward migrating avian predators, harrying and preying on the small shorebirds, creating terror among the migrating Tree Swallows, and plucking monarch butterflies and big darners from the air. My most memorable adventures with Merlins have been witnessing their attacks on large bats.

The first of these observations was on Saturday, September 12, 1992, in New Jersey. My natural history journal for that day tells the story:

> 0800-1236, I explore the Tuckertown Marsh area. The two bridges over the tidal creeks farthest out have been totally rebuilt, but are not yet open to vehicular traffic. I have to hike the 1.8 miles to the end of the road. To have the road closed is a great benefit for wildlife viewing. The road was built across a vast stretch of salt marsh to service a Coast Guard Station (now the Rutgers University Field Station). Along the roadside is a narrow strip of shrubs and a few small trees (groundsel bush, *Baccharis halimifolia*, poison ivy, cherry sp., bayberry, etc.). During Fall migration, with the right weather conditions, many small land birds can be found sheltering in these roadside thickets. On this day I find the following birds in the thickets: 5 Red-eyed Vireos, 20 American Redstarts, 2 Palm Warblers, 2 Common Yellowthroats, 2 Black-and-white Warblers, 1 Yellow Warbler, 1 Black-throated Blue Warbler, 1 Magnolia Warbler, 4 Northern Orioles, 5 Northern Flickers, 1 Ruby-throated Hummingbird (hovering over a bright red poison ivy leaf on the road), 7 Cedar Waxwings, 14 Song Sparrows, 1 Carolina Wren, 1 Gray Catbird, and 1 Mourning Dove. Overhead are about 1245 Tree Swallows and 2 Merlins hunting them.
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> Hanging on a low roadside shrub I find a red bat, *Lasiurus borealis*. I take two photographs, but before I can get any more, my efforts disturb the bat, and it flies off across the marsh toward the southwest. Soon I spot another red bat high up, flapping along in a leisurely manner, also flying toward the southwest. A Merlin spots the slow-moving bat and dives on it from above. I expect to see the bat struck by the Merlin. Just before impact, the bat makes a quick diversionary side movement, and the Merlin streaks by with a clean miss (see Figure). The Merlin comes back for another try with the same result. After the second miss, the Merlin gives up and the bat continues flapping steadily toward the southwest. Later in the day I find another red bat (dead on the highway). It appears that a red bat migration is underway.

My second adventure involving a Merlin attacking a large bat occurred in Maine, in 1999. Once again, I turn to my natural history journal for an account of the incident:

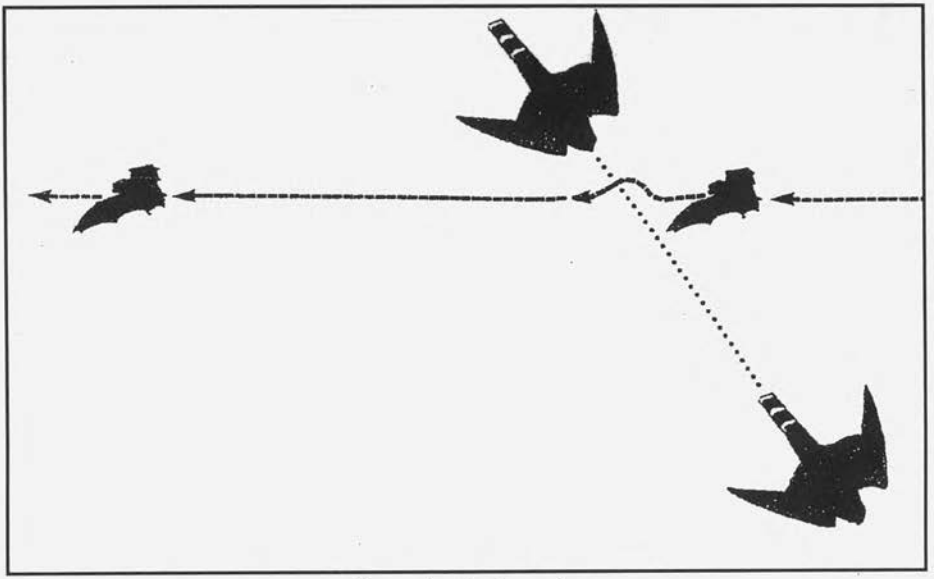


Illustration by the author

In the late afternoon (around 1630 hours) on Friday, August 20 1999, I am walking/wading along the perimeter of a small boggy pond just north of Route 1 in Steuben, Maine, returning with my classmates from a dragonfly hunting foray. We are attending a seminar on "Identification of Adult Dragonflies" at the nearby Humboldt Field Research Institute; we have been out observing dragonflies and busy collecting specimens for later study.

I see a large bat flying about 1-2 feet above the water surface, busy hunting small flying insects. The flight is slow and laborious-looking. The bat slowly circles around the pond. It is only about 100-200 feet away, and the light is excellent for viewing. I am carrying my Swift 10X binoculars, which I use to view insects close up. These binoculars have a very narrow field of view and are less useful for distant objects; it is hard to quickly locate things with the narrow field. I frantically try to get the flying bat in the field of view of the binoculars. I finally get on it; it is a large, more or less uniformly light brown bat with distinctly black ears. I now have the flying bat in clear focus and am tracking it as it flies along. Suddenly, I have a Merlin in my field of view and see it seize the bat (from above). I track the Merlin as it carries the bat away through the trees. The big bat is a sizable load for the Merlin.

There are only four species of medium-sized to large bats in New England: silver-haired bat, big brown bat, red bat, and hoary bat. The unfortunate bat involved in this brief, dramatic incident, is clearly not a red bat or a hoary bat: these two species are very colorful and distinctly marked. I am familiar with the silver-haired bat; the Merlin's prey didn't seem to be that species. The large size, more or less uniform brown color, and the conspicuous black ears suggest to me that it is the big brown bat, *Eptesicus fuscus*."

It is interesting to speculate about these two Merlin–bat encounters. The red bat, which looked like such an easy target, effortlessly and repeatedly eluded capture, while the big brown bat was so quickly and easily captured. The red bat is a highly migratory species, moving southward in the fall, often flying in daylight (I have also seen them flying in daylight in the spring, presumably during the northward migration in May). Since Merlins and red bats migrate south at about the same time, the red bat has to deal with the threat of predation by Merlins on a regular seasonal basis. The big brown bat is a more sedentary species which locally hibernates in winter. Normally, it is only flying at night and thus encounters Merlins on an infrequent basis. The Merlin, which had been harrying small shorebirds all afternoon around the pond, flew from ambush in the trees on the unsuspecting big brown bat.

Brighton Crow Roost

Andrew Joslin

During the fall and winter months crows throughout North America form communal evening roosts. In eastern Massachusetts there are well-known roosts in Framingham, Woburn, and Lawrence. In the immediate Boston area there is also a substantial crow roost. This winter I decided to see if I could locate it. For many years I've been aware of winter crow movements in my Jamaica Plain neighborhood. Before dawn loose flocks of crows move quickly over the rooftops. They arrive from the northwest and pass through to the south and east. By the time the sun is up the morning migration is over and only a dozen or so crows spend the day in the general vicinity. Around 3:00 p.m. small groups of crows reappear flying in the opposite direction. As the sun drops to the horizon a steady stream of crows flows to the northwest, heading to their evening roost.

In late December, Brooke Stevens and Marj Rines posted accounts to Massbird describing large numbers of crows flying at sunset toward Watertown from Cambridge and Arlington. I was intrigued, if "my" crows were headed northwest and theirs southwest perhaps they were going to the same place. On December 24, I finished up some holiday shopping at the Watertown Arsenal Mall at 3:30 p.m. As I walked out of the mall, hundreds of crows were moving overhead in a southwesterly direction. I hopped in my car and set off in pursuit. Twenty minutes and a few zigzags later I was parked on Woodchester Drive in Newton near the Brighton line. In an ordinarily quiet suburban neighborhood 1500 crows perched in trees, on the ground, and milled noisily overhead. In the adjacent Newton Commonwealth Golf Course, sixty or so crows drank from a small brook and another twenty-five stripped fruit from a crab apple tree. The majority of birds were *Corvus brachyrhynchos*, the familiar American Crow. Among them could be heard the descending *eh-uh* call of the Fish Crow, *Corvus ossifragus*. I interviewed a passing dog walker on the spot, "Do the crows come here every night?" "No," he replied, "I haven't seen this many before, it's kind of weird isn't it?" It was strange but not because the neighborhood looked like a Hitchcock movie set. I thought I'd found THE roost location for Boston area crows, but the dog walker's comments indicated that either he was oblivious to

thousands of large black birds on a nightly basis or, more likely, the roost location was constantly changing.

Photographs by the author

In the following weeks I returned to the area several times and found that the roost was indeed on the move. The concentrated center of the roost could be found anywhere within a four-square-mile area. To make things interesting, on some nights the entire roost of roughly 5000 crows could be found in a six-block area. On another night, the roost was split in two with roughly 2000 crows occupying the grounds of the Discalced Monks residence on Foster Street in Brighton. The other 3000 darkened the trees of Fisher Hill in Brookline. On another evening I was surprised to find the roost more fragmented with a large contingent in the woods north of Chestnut Hill Mall. A second group was invading a residential neighborhood around Hobart Road in Newton and a third smaller contingent was gathering at St. John's Seminary in Brighton.

The fluctuations of location and the regular splitting and reuniting of the roosts raised some interesting questions. How is the roost location determined, or is it just an accident of restless crows finally settling down as dark closes in? Do the split roosts represent tribal factions? On several occasions, I observed incoming crows overfly the nearest roost and continue on to a farther group. Could it be that West Roxbury corvids prefer the company of their Cambridge cousins while Watertown crows enjoy an evening with their Mattapan relatives? In one roost, judging by vocalization, there seemed to be a concentration of juveniles. Were juvenile crows roosting together or were adults mimicking juveniles to lower hostility in a crowded situation? Each evening's observations raised more questions than were answered.

In January, I organized a chase with some interested crow aficionados. In preparation, my wife Meg and I did some scouting a few days before the chase date to get a sense of where the crows had been roosting lately. We started in Evergreen Cemetery which is located on a rise behind Chestnut Hill Reservoir in Brighton. Some afternoons as many as 1500 crows have gathered there. We were not disappointed; crows filled the oak trees and carpeted the snowy ground. A pair of Red-tailed Hawks perched in a large white pine in the back of the cemetery. As one flew overhead, the entire roost lifted off and mobbed the hawk before settling back down. Twenty minutes later we heard the yip-yapping of a lap dog. The crows started up a din of *cawing* but didn't fly. The barking continued accompanied by *cawing*, and a male red fox trotted lightly over a rise. The fox methodically zotted a gravestone, barked a few more times, and continued on his way.

On January 7, Meg and I rendezvoused with our chase team and proceeded to Evergreen Cemetery. We arrived at 3:00 p.m.; the air was a little crispy with a blue sky overhead, not a crow in sight. We did some light birding to get warmed up and examined fox tracks in fresh snow. Fifteen minutes later, two or three crows passed

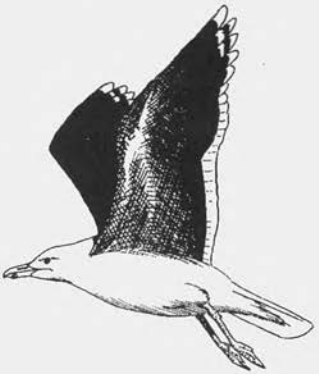
overhead going toward Brookline. Within half an hour a steady movement of crows was pointing the way to the roost. We drove down across Cleveland Circle and headed to Fisher Hill, Brookline. At the top of the hill is a small rectangular reservoir; from there we had a clear view to the southwest. There were already a thousand or so crows in trees and on the ground. Immediately small groups of 25-30 crows began arriving from the southwest. Each time a group arrived there would be a round of *cawing* as they mixed into the roost. We counted 1500 and headed east into a valley and then up to a ridge along Tappan Street.

Away from Fisher Hill crows were scattered throughout the neighborhood. Going up Tappan Street we encountered another concentration. At the end of the ridge there was a view to the south. In one rare moment we viewed three layers of late afternoon migration. A close vertical flock of fifty robins headed east at eye level, perhaps to a Fenway roost. High above, gulls moved sedately in flat V's towards the harbor, and below us crows crept up the hill from the south. The ridge provided other delights. We studied the size differences between American and Fish crows and listened as a crow emitted a nasal toy bugle reveille. The bugle call was repeated several times, maybe a signal to move on. Adding another 1200 to our count, we proceeded north to Beacon Street then headed west back to Cleveland Circle. Overhead the sky was filled for three blocks with crows coming in from the north. After a quick diversion to Brighton to locate possible satellite roosts, we returned to Fisher Hill. The sun had set; as we drove slowly up Fisher Road we could see the numbers had increased tremendously over the last hour and a half. The entire roost lifted off in an impressive flight display. At least 2000 crows filled the sky at treetop level; they turned to the west and we followed under them for a block. The flock abruptly wheeled back and reperched, apparently a minor roost adjustment. The day was done; we tallied our numbers and came up with an estimated 4000 crows.

Winter can be slow for land birds. If you find yourself with time on your hands in the afternoon, take note of which way the crows are flying. If you decide to follow them don't worry if you lose them. Stop and wait a few minutes; others will come along shortly and point the way to the roost. One technique is to set a course by general flight direction and find the best route without focusing on individual birds. If you see strong numbers of crows going at right angles to your path, you know that you are passing the roost. If you do this by car it is safer to have someone ride shotgun and keep track of the birds while you watch the road. It can be tricky; crows have no compunction about flying up one-way streets. Lately I've become convinced that special teams of decoy crows are sent out from the main roost to befuddle crow chasers. Finding a roost is well worth the effort. At the very least you'll learn a lot about local geography; at best you'll witness an amazing spectacle.

Gull Predation of an Adult Red-breasted Merganser

Richard Graefe



On January 14, 2001, I glanced out my kitchen window overlooking Narragansett Bay, and saw a Great Black-backed Gull close to shore, holding a struggling Red-breasted Merganser by its back. I immediately grabbed my binoculars and set out for the beach to watch this predatory drama. As I approached, the gull released the merganser and flew farther from the shore, but to my surprise the merganser did not fly. Instead it swam briskly away from me. At a more comfortable distance, the gull then flew back to resume the attack. I do not understand the reasons for the merganser's ineffective defensive behavior. At no point did it try to escape by taking to the air. Six or seven times, it was able to break free. Each time, it immediately dove below the surface. Sometimes the gull tracked its underwater path and was waiting right where it resurfaced. At other times, however, the merganser evaded the gull and surfaced quite a distance away, yet still made no attempt to fly. Within fifteen minutes, the gull had killed the merganser.

The merganser seemed healthy and uninjured at the start of my observation. It was, in fact, quite feisty. Several times it successfully held the gull at bay with jabs of its own pointed beak, causing the gull to hesitate and briefly back off.

Why did the merganser not attempt to fly away? Did it have a preexisting injury that rendered it flightless? Or would the gull have been able to outmaneuver it in flight even more effectively than in the water? In any species, the least successful escape strategies tend to be extinguished by evolutionary selection. Yet the relative ease and quickness of the gull's success makes me wonder whether this attack was atypical. If healthy adult Red-breasted Mergansers are such easy prey, I would expect their population to be decimated by the many Great Black-backed Gulls on their wintering grounds.

I continue to scan Narragansett Bay daily to try to spot another encounter between these two species. Unless additional observations convince me otherwise, I must conclude that this attack was indeed not typical and that the merganser, although apparently healthy, had some impairment that made it particularly vulnerable.

Sunbathing By a King Rail (*Rallus elegans*)

William E. Davis, Jr.

While sunbathing, or sunning, birds assume distinctive postures. In rails this posture has been described as "spread-wing," in which the standing rail stretches its fanned wings back and arches them over its back (Nice 1962). Typically the rail fluffs out its contour feathers. This sunning behavior has been reported in wild Sora and Virginia rails, but not for Clapper Rails (Eddleman and Conway 1998). The only reference I could find to sunning in King Rails was by Nice (1962) of captive, ten-week old hand-raised birds. Sunning by King Rails is not mentioned in the definitive species account (Meanley 1992). Thus, my observations on sunning behavior in a King Rail may be of some interest.

On June 18, 1999, I drove east along the Tamiami Trail (Route 41) through the Everglades of Florida, and turned north on Route 29 to Copeland, and then left again on the dirt Jane's Scenic Road through the Fakahatchee State Preserve. Along the road I stopped to watch five King Rails foraging. The farthest bird was in the middle of the road sunning about 100 feet from my car, and I watched it sunbathe for about ten minutes. Its left wing was open and fanned, swept back, but not elevated above its back — my journal entry described the wing as drooping. I couldn't see the right wing, but it may have been fanned as well. The left wing surface was extended perpendicular to the 11 a.m. sun, and hence presented maximum surface area to the sun's rays. It preened under and over the wing, its breast feathers, and down the back to the rump where the oil gland is located. It preened only the side facing the sun. It fluffed occasionally and thus had its contour feathers extended, typical of sunbathing rails. The bird never fully extended its wings and did not dust or squat in the whitish limestone sand of the road.

The functions of sunbathing are many and often problematic (Davis and Jackson 2000). Birds sometimes sunbathe early in the day when it is likely that the sunbathing functions primarily to warm the bird. In other cases birds combine panting or gular flutter with fluffing and wing exposure. This usually occurs at times of elevated temperatures and probably functions primarily to help cool the bird. In yet other cases, birds combine the fluffing and wing-spreading with preening, head-scratching, and other maintenance or comfort behaviors. It is suggested that solar radiation, particularly in the ultraviolet range, may enhance skin and feather care by reacting with skin and feather lipids or preen oil to, for example, aid in Vitamin D synthesis. Ectoparasites may become more active and hence more vulnerable to a preening and scratching bird (Simmons 1986).

The late morning hour suggests that the primary motivation for the King Rail's sunning behavior was not warming, and its lack of panting or other heat-releasing behavior suggests that the motivation was not cooling. Since the King Rail was actively preening, it seems likely that it was sunning to enhance maintenance behaviors.

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