

sources (Fisher & Hinde, 1949; Martin & Fitzgerald, 2005). No taxonomic group demonstrates this better than hummingbirds (Trochiliformes), which rapidly learn to visit sugar-water feeders. However, the extent to which hummingbirds exploit artificial food resources in high-density urban environments is largely undocumented. A review of peer-reviewed literature revealed no reports of hummingbirds visiting feeders at high-rise apartment buildings.

Here I report Ruby-throated Hummingbirds (*Archilochus colubris*) visiting sugar-water feeders at a high-rise apartment building in College Park, Prince George County, Maryland. It was brought to my attention that hummingbirds had visited feeders and potted plants on the upper balconies from May through September, 2011. The apartment resident contacted me again in June 2012 to report that hummingbirds were visiting the same balcony feeders. I visited the apartment complex on 26 July 2012 and observed two hummingbirds visiting feeders on balconies on the 14th and 15th floors (Fig. 1). The highest feeder was 43 m above ground level (measured with a Bushnell laser range finder). Both individuals were observed trap-lining among feeders, potted plants, and hanging baskets scattered among the balconies of the upper floors of the apartment complex. A few direct flights from the balconies to the adjacent forest and vice versa were observed but hummingbirds mostly perched on balcony trellises between foraging bouts. In one case, a departing individual was observed flying over the building (~50 m above ground level). A walk around the two high-rise buildings, both of which were comprised of 16 floors, revealed hummingbird feeders on six different balconies (two each on the 15th and 14th floors and one each on the 13th and 12th floors). Feeders were of similar design with red “nectar” receptacles. The nearest natural habitat, a relatively large tract of deciduous forest (>200 ha), was ~60-70 m from the apartment buildings.

These observations raise an interesting question: How do hummingbirds discover high-rise feeders? Red plastic feeders probably act as visual beacons. The spectral sensitivity of hummingbird photoreceptors ranges from the near ultraviolet (~350 nm) through red wavelengths (~700 nm) of the visual spectrum (Goldsmith & Goldsmith, 1979; Goldsmith, 1980; Herrera, et al., 2008). However, most ornithophilous plants in North America have red or orange flowers (Grant, 1966; Grant & Grant, 1968). Two climbing lianas in the middle Atlantic states, trumpet vine (*Campsis radicans*) and cross vine (*Bignonia capreolata*), have large reddish-orange flowers, or red and yellow flowers (5-7 cm) that are primarily pollinated by the Ruby-throated Hummingbird

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HUMMINGBIRDS VISIT FEEDERS AT HIGH-RISE APARTMENT BUILDINGS. — Many species of birds have shown a remarkable ability to adapt to anthropogenic habitats (Graves, 2004) and adjust their foraging behavior to take advantage of novel food



Fig. 1. Arrows mark the location of hummingbird feeders on the balconies of a high-rise apartment building in College Park, Maryland. The highest feeder was 43 m above ground level.

(James, 1948; Bertin, 1982). The ornithophilous biology of the trumpet vine was noted as early as the 18th century (Catesby, 1731: 65 and facing plate) and John James Audubon painted a veritable swarm of hummingbirds at a cluster of trumpet vine blossoms (Audubon, 1835a, b). Both lianas regularly ascend trees to a height of 15 m (Graves, pers. obs.). Hummingbirds are undoubtedly accustomed to encountering nectar sources well above ground level. In any case, the vertical distance between the highest naturally-occurring flowers and high-rise apartment feeders is inconsequential for a species with such extraordinary powers of flight.

Is there a limit to how high Ruby-throated Hummingbirds will fly to reach high-rise apartment feeders? The answer probably depends on the density of feeders, hanging baskets, and potted plants on lower floors and the distance of the building from natural habitat. However, under ideal conditions, I would not be surprised to learn that Ruby-throated Hummingbirds visit high-rise apartment feeders 50-75 m above ground. This constitutes yet another example of innovative foraging behavior in a group of birds already renowned for behavioral flexibility.

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