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TURKEY VULTURE SCAVENGING PREY AT A BROAD-WINGED HAWK NEST

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Turkey Vultures (*Cathartes aura*) use a keen sense of smell and eyesight to locate potential prey even within dense forests (Chapman 1938, Stager 1964, Houston 1986). As opportunistic feeders, vultures vary their diets, depending on local and regional availability of large and small mammals and non-mammals, either wild or domestic (Hiraldo et al. 1991). Generally, Turkey Vultures prefer to feed on the ground on relatively fresh carrion (Owre and Northington 1961); they also feed in other unusual ways, such as wading in shallow water to fish and feed on carcasses (Jackson et al. 1978), or sometimes landing on and feeding on floating carcasses (e.g., American alligator [*Alligator mississippiensis*] and manatee [*Trichechus* spp.]; Bendire 1982, Morant and Winter 1984). While conducting behavioral observations on nesting Broad-winged Hawks (*Buteo platypterus*) in Delaware State Forest in eastern Pennsylvania, we observed a Turkey Vulture scavenging on prey remains within the nest of a Broad-winged Hawk.

On 13 July 2015, CLB arrived at 0700 H EDT at one of the Broad-winged Hawk nest study sites in the Delaware State Forest, Pike County, PA (41°15.87'N, 75°01.21'W). Habitat around the nest, which was in a 19.6-m tall white oak tree (*Quercus alba*), was mixed-deciduous forest with a nearby stream and pond. We observed hawk nesting activity with a 20–60× zoom KOWA TSN-821 spotting scope from a blind 60 m from the nest tree. We had observed this nest,

which originally contained two nestlings that hatched 16–18 June 2015, twice weekly since 20 May 2015. On 13 July, only one Broad-winged Hawk nestling was at the nest, the other having disappeared sometime between 10 and 13 July. An adult hawk visited the nest three times during the morning to deliver prey: an eastern chipmunk (*Tamias striatus*) at 0808 H, an unidentified prey item at 0926 H, and a small passerine at 1057 H. The adult fed the unidentified prey to the single young for 11 min, starting at 0926 H, but left the first and third prey items in the nest for the nestling. The nestling fed on these prey items, intermittently, for 35 min after the delivery of the third item.

At 1208 H, CLB saw a Turkey Vulture flying above the canopy. In less than 1 min, it perched on an adjacent tree, about 3 m above the nest, and hissed several times. At 1209 H, the vulture moved from the adjacent tree onto a branch in the nest tree, approximately 1 m above the nest. At 1210 H the Turkey Vulture took a step backward and down toward the nest. It continued to move down the branch, backing into the nest with wings partially extended. At the same time, the nestling walked about 0.5 m onto a branch in the opposite direction out of the nest. The Turkey Vulture started to consume the remains of both the eastern chipmunk and passerine the adult had delivered to the nest. The nestling continued to move away from the vulture along the branch at 1212 H, stopping approximately 3–5 m from the nest. The Turkey Vulture continued to consume prey remains in the nest for the next 11 min.

At 1223 H, an adult Broad-winged Hawk silently approached the nest tree from the east and flew at the Turkey Vulture. The Turkey Vulture took flight immedi-

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ately and the Broad-winged Hawk followed, calling the high-pitched *kee-eee* two times. As the two departed, the nestling slowly moved back along the branch toward the nest, and with one final hop, reached the nest at 1225 H. It began making short, quiet, repetitive squeaking sounds, similar to those produced when adults bring food to nestlings/fledglings (Goodrich et al. 2014, C. Baun and R. McCabe unpubl. data). The observation period ended at 1300 H with the nestling standing on the nest and occasionally stretching and preening. The adult Broad-winged Hawk and Turkey Vulture were not seen or heard during the remainder of the observation period.

A vulture also robbed prey from herons in Ohio, where an adult Turkey Vulture that frequented nests at a colony of Great Blue Herons (*Ardea herodias*) beat and jabbed the young herons with its bill and wings until they regurgitated their last meal (Temple 1969). However, to our knowledge, no one has reported Turkey Vultures taking prey that had been delivered to a nest of any raptor during the breeding season. We suspect that this prey robbery was an opportunistic event, given that Turkey Vultures rely on olfactory cues and low-altitude foraging behavior. Scavenging for prey remains in other raptor nests may occur more frequently as Turkey Vultures become more abundant in many regions (Farmer et al. 2008).

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