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REPEATED USE OF AN ABANDONED VEHICLE BY NESTING TURKEY VULTURES (*CATHARTES AURA*)

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## REPEATED USE OF AN ABANDONED VEHICLE BY NESTING TURKEY VULTURES (*CATHARTES AURA*)

KEY WORDS: *Turkey Vulture*, *Cathartes aura*; *abandoned vehicle*, *nest site*.

Turkey Vultures (*Cathartes aura*) lay their eggs on an existing substrate in the dark recesses of a variety of natural sites (Kirk and Mossman 1998). Although an important requirement of Turkey Vulture nest-site selection is isolation from human disturbances (Kirk and Mossman 1998), their nests have been reported in abandoned buildings since at least the early 1800s (Nuttall 1832). Depopulation of rural areas in North America in recent decades has resulted in many abandoned buildings within the Turkey Vulture's breeding range (Peck 2003). Increased use of abandoned buildings by nesting Turkey Vultures has been implicated in the species' recent northward range expansion (Peck 2003, Nelson et al. 2005, Houston et al. 2007). Although abandoned or inoperative vehicles also are widespread in rural areas, we found no published literature documenting Turkey Vultures' use of these potential nest sites. Herein, we summarize the first documented incidence of a Turkey Vulture nesting in an abandoned vehicle.

Since 1990, we have surveyed breeding birds in grasslands enrolled in the Conservation Reserve Program (CRP) in Butte County, South Dakota (Igl and Johnson 2007). Although once considered abundant in western South Dakota (Grinnell 1875), the Turkey Vulture is now only locally common. In 2005 and 2006, we recorded a pair of Turkey Vultures circling over two CRP fields in a nearly treeless landscape, 16.3 km north of Belle Fourche. The behavior of the pair suggested that the birds might be nesting nearby.

On 30 May 2007, we searched for a Turkey Vulture nest near a row of decrepit cottonwoods (*Populus deltoides*) that bordered the two CRP fields. The cottonwoods, 7 dead and 20 living, were about 20 m tall. Logs and stumps were scattered beneath the trees. During our search, an adult

Turkey Vulture flew out of the driver-side window of one of the eight 1940s-era sedans, parked bumper-to-bumper along an earthen dam of a dry stock pond. The vulture joined its presumed mate, circling overhead. We located a vulture nest inside the luggage compartment (hereafter trunk) at the rear of the vehicle (a Chevrolet Fleetmaster sedan with a two-door coupe body style). The nest site could be accessed by the vultures only through broken windows on the passenger and driver sides of the vehicle. The springs and hardware from the rear car seat had been removed and were strewn in the middle of the car interior, providing full access to the trunk by the vultures.

The nest contained two vulture eggs (Fig. 1), which is a typical clutch size for this species (Kirk and Mossman 1998). The eggs were located on the trunk floor near the rear hatch. The trunk floor was covered with a dense layer of cottontail (*Sylvilagus* spp.) feces, which suggested that rabbits used the vehicle fairly often, perhaps for protective winter cover. The trunk floor also contained numerous, but old, regurgitated vulture pellets and excreta, which suggested that vultures had used this nest site during previous breeding seasons. This agreed with our observations of Turkey Vultures in the area in 2005 and 2006; when Turkey Vultures successfully nest, they often reuse the same nest site for multiple years (Kirk and Mossman 1998, Peck 2003). There was a strong odor of excrement and carrion associated with the nest site, which we detected only inside the vehicle. The other seven vehicles did not show evidence of vulture use. The landscape surrounding the nest site consisted of large expanses of idle CRP grasslands, sheep pastures, and an infrequently harvested hayfield. The nearest inhabited farmsteads were 1.9 km and 3.0 km away.



Figure 1. Abandoned car used as a nest site by Turkey Vultures in 2007–2009, Butte County, South Dakota.

We did not return to Butte County until the following year. On 28 May 2008, we visited the 2007 nest site and found two adult Turkey Vultures. No eggs were found at the original nest, but the interiors of all eight vehicles contained fresh vulture excreta or feathers. We returned on 30 May 2008, and found one vulture egg in the trunk of the vehicle that held the 2007 nest. A second (broken) vulture egg was discovered in the springs of the rear car seat. One year later, on 30 May 2009, we returned and found an adult vulture on a nest in the trunk of the same vehicle.

There are many published accounts of passerine nests associated with deserted or regularly used automobiles, farm equipment, semitrailers, boats and ships, and airplanes (e.g., Jackson 2000). Reports of nonpasserine nests at these sites are uncommon (e.g., Dowell 1981). Intuitively, the recesses inside some abandoned vehicles could provide the necessary seclusion for nesting Turkey Vultures, as documented by our observations. However, the suitability of vehicles as nest sites for birds might be limited by the vehicle's internal climate. Even at cool ambient tempera-

tures, temperatures inside a vehicle may increase substantially on clear, sunny days, which could be fatal to adult or young birds, as has been shown for small children (McLaren et al. 2005). Nonetheless, vehicles that are shaded or well ventilated also might provide suitable vulture nest sites in other areas. Turkey Vultures also use thermoregulatory behaviors to keep cool during heat exposure, including extending the bare skin of their neck and head, spreading their wings, and defecating on their legs (i.e., urohydrosis; Arad and Bernstein 1988). These cooling mechanisms may allow vultures to use nest sites, such as an abandoned vehicle, that might otherwise be unsuitable for other species. When searching for vulture nests, researchers should not overlook abandoned vehicles as potential nest sites.

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