

**FIRST RECORD OF SCISSOR-TAILED FLYCATCHERS
NESTING INSIDE OF A COVERED BUILDING**

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Abstract--In 2010 and 2012, we documented two cases of Scissor-tailed Flycatchers successfully nesting in a Quonset hut-style tension fabric building on Fort Sill Military Reservation in Comanche County, Oklahoma. Though historically known to nest on a variety of natural and man-made structures in open habitats, this represents the first documentation of Scissor-tailed Flycatchers nesting inside of man-made covered structure.

INTRODUCTION

Scissor-tailed Flycatchers (*Tyrannus forficatus*) are conspicuous breeding birds of the southern Great Plains. Their geographic distribution covers portions of Colorado, New Mexico, Nebraska, Kansas, Oklahoma, Texas, Missouri, Arkansas, and Louisiana within the U.S., as well as Coahuila, Nuevo Leon, and Tamaulipas in Mexico (Regosin 1998). However, breeding densities are highest in Oklahoma and Texas (Sauer et al. 2011) where they are found in a variety of open habitats. In Oklahoma, Scissor-tailed Flycatchers construct nests in more than 20 species of native and introduced trees, including mesquite (*Prosopis glandulosa*), oaks (*Quercus* spp.), elms (*Ulmus* spp.), hackberry trees (*Celtis* spp.), walnut trees (*Juglans* spp.), pecan trees (*Carya illinoensis*), and cottonwood trees (*Populus deltoides*) (Regosin and Pruett-Jones 1995). In urban and rural locations, Scissor-tailed Flycatchers will readily place nests on a variety of man-made structures as well, including cross arms of utility poles, light poles, signs (Mays and Mays 1967, Regosin and Pruett-Jones 1995), gate posts, power transformers, television antennas (Sutton 1967, Oberholser 1974, James and Neal 1986), windmills (Bent 1963), and cell phone towers (MSH and DVL personal observations). However, to our knowledge, there has been no previous documentation of Scissor-tailed Flycatchers nesting inside of man-made covered structures. Here we report two observations of Scissor-tailed Flycatchers nesting inside a tension fabric Quonset hut in southwestern Oklahoma.

OBSERVATIONS

While conducting surveys for Scissor-tailed Flycatcher nests in Comanche County, Oklahoma from 2008 through 2012, during which time we tracked the fate of 518 nests, we documented two cases of Scissor-tailed Flycatchers successfully nesting under the same canopied structure on Fort Sill Military Reservation in non-consecutive years. The structure was a north-south facing Quonset hut-style tension fabric building used

as cover for security at an identification checkpoint at an entrance to the military base (Figure 1). The structure had open north- and south-facing ends but was completely enclosed for the length of the east and west sides and had a complete roof. The structure was 23 m long (N-S), 17 m wide (E-W), and 7.6 m tall at its peak, and was centered over a two-lane road and small guard house. The tan colored PVC fabric stretched over the frame



Figure. 1. Quonset hut-style tension fabric building at Fort Sill, Oklahoma, nested in by Scissor-tailed Flycatchers in 2010 and 2012.

was waterproof and non-translucent, though a central strip of white fabric along the top did allow for the penetration of some sunlight. The internal frame consisted of galvanized steel vertical columns spaced about 4.5 m apart and connected by galvanized steel horizontal rafters. This specific entrance to Fort Sill was only open to traffic from 05:00 hr to 22:00 hr on weekdays. During hours of darkness, the entire structure was illuminated internally by multiple floodlights. The building was surrounded in all directions by open mesquite savannah, where several additional Scissor-tailed Flycatcher nests in mesquite and elm trees were being monitored concurrently, the closest of which was within 40 m.

The first nest was found on 19 June 2010 while driving through the entrance gate onto Fort Sill. At that time, nest construction was already complete and the female was incubating three eggs. The nest was constructed at the connection point between a horizontal rafter and vertical column on the east wall. It was positioned 9.0 m from the north entrance of the structure and 4.81 m above the ground. There was approximately 15 cm of vertical space from the rim of the nest to the PVC covering above. By 05 July 2010, we observed three nestlings on the edge of the nest stretching and preening, a behavior typical of nestlings during the last 48 hours prior to fledging (MSH and DVL personal observation). On 07 July 2010, we observed three fledglings being fed by parents on a cable fence approximately 15 m from the nest site. They were most likely young from the nest site since fledglings remain near the nest for the first few days post-fledging.

We found the second on 31 July 2012 while driving through the same security entrance. It contained three nestlings that we estimated to be 12 – 14 days old based on size and feather development. This nest was constructed at the connection point between a horizontal rafter and vertical column on the west wall. It was positioned 9.0 m in from the south entrance of the structure and 4.81 m above the ground. There was about 15 cm of vertical space from the rim of the nest to the PVC covering above. We found three fledglings near the nest site on 04 August 2012.

DISCUSSION

It is unclear whether or not any of the birds observed nesting in this

building in 2012 were birds from the 2010 nest because none of the birds were banded. Because of this, fidelity to this location due to past nesting success is unclear, but may be a possibility. We can, however, say that it is likely that neither of these nests were a first nesting attempt given the late date of initiation for both nests. Local peak dates for first nesting attempts are in mid-May (Regosin 1998). Additionally, in both cases we knew of unsuccessful nests less than 50 m from the building that were depredated in early June of each season. It is likely that both attempts were either re-nests following nest failure or successful fledging of an earlier clutch.

Nest-site selection and nest placement are important determinants of fitness because they directly affect potential losses of young due to predators and/or weather (Ricklefs 1969, Murphy 1983, Martin and Roper 1988, Nolte and Fulbright 1996). Scissor-tailed Flycatcher nest success specifically is locally low (averaging 38%; Husak and Landoll, unpubl. data), and has been shown to be directly related to nest cover (Nolte and Fulbright 1996, Rubenstahl et al. 2012), with placement likely being a compromise between accessibility by parents, cover from predators, and anchoring against weather (Rubenstahl et al. 2012). For the two nests described here, nest placement was such that eggs and nestlings were shielded from direct sun, strong winds, and rain, but adults still maintained easy 90° horizontal access to the nest. Also, the use of galvanized steel rafters as a nest platform added stability as nesting material was woven into small holes in the building frame. The locations also maximized concealment from aerial and ground predators, which were probably also deterred by the frequent presence of automobiles and pedestrians. Thus, while these nesting attempts were apparently opportunistic nest site selection events, nests placement in this case maximized egg and nestling security.

We observed adults foraging at the lighted entrances to the building approximately one hour prior to sunrise on multiple occasions in both years, which suggests that an added benefit to this location was that the overnight floodlights provided extended foraging time for parents. Nocturnal foraging may also have been conducted, but we did not have access to the area at night to examine this potential. Nonetheless, extended foraging time of any duration may have increased resource acquisition for nestlings, which may also increase site-specific nest success.

Our observations add to the list of opportunistic nest sites selected by Scissor-tailed Flycatcher. Previously, Saunders (1926) briefly mentioned a Scissor-tailed Flycatcher nest in a cupola on the stock pavilion at the Oklahoma state fair in 1925, but he does not specify whether it was constructed inside of the cupola proper or between the vent slats and the copula frame, and thus external to the cover. Therefore, this note is the first to explicitly document such nesting locations for the state bird of Oklahoma.

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