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# Unusual Nest Sites for Southwestern Willow Flycatchers

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ABSTRACT.—The endangered southwestern Willow Flycatcher (*Empidonax traillii extimus*) is an obligate riparian species that typically nests in willow (*Salix* spp.) thickets or other dense, shrubby habitats. We report on the first nests in Arizona sycamore (*Platanus wrightii*) and in a climbing rose vine (*Rosa multiflora*). Although these nests were located in novel substrates, they were typical for the species in being supported by multiple small stems and in having a dense canopy cover. We suggest that nest substrate preferences of Willow Flycatchers in the Southwest may be broader than generally considered. *Received 17 Nov. 1998, accepted 6 March 1999.*

The southwestern Willow Flycatcher (*Empidonax traillii extimus*), a federally-listed endangered species, is an obligate riparian specialist that breeds in dense vegetation associated with watercourses (U.S. Fish and Wildlife Service 1995). Most studies of habitat preferences in Willow Flycatchers have shown a strong association with willow (*Salix* spp.) thickets or other shrubby habitats (McCabe 1991, Sedgwick and Knopf 1992). In the Southwest, nests of this subspecies have been found most commonly in willows, salt cedar (*Tamarix* spp.), and locally in forbs such as stinging nettles (*Urtica dioica holosericea*) or trees such as boxelder (*Acer negundo*), alder (*Alnus* spp.), Russian olive (*Eleagnus angustifolia*), and young Fremont cottonwoods (*Populus fremontii*; Sferra et al. 1997; Sogge et al. 1997). In this paper we report on the first recorded incidence of Willow Flycatchers nesting in Arizona sycamore (*Platanus wrightii*) and in a nonnative climbing rose (*Rosa multiflora*).

These observations were made as part of a study of southwestern Willow Flycatchers in the Gila River valley near the towns of Cliff and Gila, Grant County, New Mexico (32° 57′ N, 108° 35′ W). The study area consists of patches of riparian woodland along the river and earthen irrigation ditches at elevations averaging 1400 m. Most of the valley bottom is used for ranching and farming. Woodland patches are composed primarily of Fremont cottonwood, Goodding's willow (*Salix gooddingii*), boxelder, Arizona sycamore and Arizona walnut (*Juglans major*), with an understory of shrubs, forbs, and grasses. This valley supports the largest known population of Willow Flycatchers in the Southwest, with an estimated 230 pairs in 1998 (Stoleson and Finch, unpubl. data; P. Boucher, pers. comm.).

Nesting habits at this site differed from what has been reported elsewhere in the Southwest. Of 257 nests located in 1997–1998, 76.5% were placed in boxelder, 8.6% in willows, 6.3% in Russian olive, and the remainder (<5% each) in Arizona alder (*Alnus oblongifolia*), seepwillow (*Baccharis glutinosa*), Fremont cottonwood, salt cedar, Arizona sycamore, and rose.

One pair of Willow Flycatchers was found building a nest in a sycamore on 8 June at the Fort West Ditch site on the Gila National Forest (FS-4). This nest was too high for its contents to be visible (nest characteristics in Table 1). Parents were observed carrying food to the nest on 1 and 6 July. On 13 July, the parents were observed feeding at least two fledglings in the surrounding trees. This nest was in a cluster of five vertical twigs on a small branch. Although the nest tree was very open, the nest itself was immediately beneath a dense layer of foliage.

A second sycamore nest (GRP-7) was located in The Nature Conservancy of New Mexico's Gila Riparian Preserve on 23 July. The female was on the nest incubating or brooding. On 31 July the nest was found empty and disheveled, presumably the result of predation. This nest was located in a cluster of about 12 vertical twigs at the end of a short, broken branch. Like the previous nest, the nest was visible from the sides but covered from above by dense foliage.

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TABLE 1. Characteristics and outcomes of southwestern Willow Flycatcher nests in rose and sycamore in the Gila River valley, southwestern New Mexico, 1998.

| | Nest characteristics | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Nest | Substrate | Nest ht. (m) | Canopy ht. at nest (m) | Canopy cover (%)[a] | Nest plant diameter (cm)[b] | Distance to water (cm)[c] | Distance to edge (m)[d] | Outcome |
| SE1-19 | rose | 3.5 | 13.9 | 94 | 0.7 | 8 | 33 | fledged 2 |
| FS-4 | sycamore | 13.6 | 17.9 | 94 | 33.0 | 31 | 10 | fledged ≥2 |
| GRP-7 | sycamore | 8.0 | 12.2 | 93 | 33.2 | 25 | 12 | depredated |

[a] Average percent canopy cover measured at base of nest plant and at points 4 and 8 m from base in four cardinal directions, measured using densiometers.
[b] Measured at 1.7 m above ground.
[c] Horizontal distance between base of nest plant and nearest perennial water.
[d] Defined here as horizontal distance between nest site and nearest area with no tree cover (i.e., shrubs, sand, or pasture).

On 18 June, an incubating bird was flushed from a nest in a rose vine climbing a large boxelder tree on the U-Bar Ranch (SE1–19). The nest contained two eggs at that time. On 13 July, two almost fully feathered fledglings were observed being fed in the undergrowth near the nest. The nest was placed at the junction of four stems of the nonnative *Rosa multiflora*, hanging from and about a meter below a leaning trunk of boxelder.

Willow Flycatcher nests have been found only rarely in native shrubby *Rosa* species in the Southwest, in California (W. Haas, pers. comm.) and at high elevations in Arizona (McCarthey et al. 1998). In the Palouse Hills of Washington, where Willow Flycatchers are not restricted to riparian habitats, rose was the most frequent nest substrate (King 1955). Similarly, 56% of nests in the interior of British Columbia were in rose (Campbell et al. 1997). Nests have been reported in rose elsewhere as well (Walkinshaw 1966; McCabe 1991; J. Sedgwick, pers. comm.).

Our observations emphasize that Willow Flycatchers are opportunistic in their choice of nesting substrates, apparently requiring only dense foliage and a suitable twig structure to support their nests (McCabe 1991, Sogge et al. 1997). Although the three nests reported here were unusual in terms of substrate species, they were very typical of flycatcher nests with respect to foliage density and twig structure (Table 1).

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