

WILLOW FLYCATCHER NESTING WITHIN NARROWLEAF COTTONWOOD IN THE SIERRA NEVADA

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In the Sierra Nevada the Willow Flycatcher (*Empidonax traillii brewsteri*) typically nests within wetlands in high-elevation meadows (Green et al. 2003), almost always in shrubby willows (*Salix* spp.) and alders (*Alnus* spp.) (Serena 1982, Harris et al. 1987, Valentine 1987, Sanders and Flett 1989, Bombay et al. 2003) and rarely more than 3 m off the ground (Beedy and Pandolfino 2013). Occasionally, however, it nests in more complex multilayered riparian woodland comprising a shrub understory and an upper canopy featuring larger trees such as cottonwood and aspen (*Populus* spp.; Dietrich 2020), as elsewhere in the species' range (Sogge et al. 2010).

During surveys for nesting Willow Flycatchers in June 2021, I located a nest in a narrowleaf cottonwood (*Populus angustifolia*) tree along the Little Truckee River near Stampede Reservoir in the Tahoe National Forest. The nest was 4.5 meters high, and the nest tree was surrounded by a mix of aspen and other cottonwood trees but also included an understory of shrubby willows (Figure 1). The cottonwood with the nest was approximately 8.5 meters tall, and other nearby cottonwood trees were similar in height. Nearby aspen trees were much taller (>10 m), and the willow shrubs of the understory were shorter (<3 m). The cup nest was located near the main trunk where two branches came together and appeared to be composed of grass and sedge-like vegetation (Figure 1). The area around the nest was dense with cottonwood branches and leaves that kept the nest well concealed and shaded. This group of riparian trees and shrubs were growing on a large sediment bar forming an island with channels on both sides near where the river flows into Stampede Reservoir.

Sogge et al. (2010) reported Southwestern Willow Flycatchers (*E. t. extimus*) nesting in smaller willow shrubs at high elevations in the Southwest but also in larger box elder (*Acer negundo*), coast live oak (*Quercus agrifolia*), Russian olive (*Elaeagnus angustifolia*), and salt cedar (*Tamarix* spp.) trees. Whitfield et al. (1999) reported Southwestern Willow Flycatchers nesting in large willows and occasionally



FIGURE 1. Multi-layered riparian forest (A) and Willow Flycatcher nest in a narrowleaf cottonwood tree (B) along the Little Truckee River near Stampede Reservoir in the Tahoe National Forest.

Photos by Scott Dietrich

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FIGURE 2. Willow Flycatcher feeding a grasshopper to nestling in a narrowleaf cottonwood tree along the Little Truckee River near Stampede Reservoir in the Tahoe National Forest.

Photo by Scott Dietrich

in Fremont cottonwood (*Populus fremontii*) trees along the Kern River in the southern Sierra Nevada. Subspecies *E. t. adastus*, which breeds largely in the intermountain West, appears to nest in shrubby habitat similar to that of *E. t. brewsteri* and at similar heights, although the shrubs often consist of species of drier situations such as hawthorn (*Crataegus douglasii*), ninebark (*Physocarpus malvaceus*), rose (*Rosa* spp.), and chokecherry (*Prunus virginiana*) (King 1955, Frakes and Johnson 1982, McCreedy and Heath 2004; unpubl. data). It is not clear why the birds I observed chose to nest in the narrowleaf cottonwood canopy. The higher position above the ground and more protective canopy provided by cottonwood trees may improve nest concealment and offer more shade for the nestlings. Sogge et al. (2010) suggested that Southwestern Willow Flycatchers prefer to nest higher in the canopy within complex multilayered riparian forests because of the presence of larger trees with dense canopies. Nesting higher in the canopy could also offer advantages in foraging. Nevertheless, the Willow Flycatchers I observed nesting in this area did not forage from high perches but from lower perches in willows. The prey such as grasshoppers that were frequently fed to nestlings suggests that foraging happened near the ground (Figure 2). It is likely that the Willow Flycatchers I observed, though nesting high in the cottonwood, used the shrub understory for foraging.

The Willow Flycatcher's use of riparian habitat away from meadows in the Sierra Nevada has not been well studied, and the extent of nesting in such habitat is unknown. As the population of *E. t. brewsteri* in the Sierra Nevada continues to shrink and disappears from formerly occupied meadows (Loffland et al. 2022), these more complex riverine environments may act as important secondary nesting areas and deserve further study.

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