

of parental investment by the adults of successfully rearing a chick (Margalida and Bertran 2000b) might explain the low frequency of replacement clutches.

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### MISSISSIPPI KITES USE SWALLOW-TAILED KITE NESTS

Mississippi Kites (*Ictinia mississippiensis*) occasionally use old nests of other bird species like the American Crow (*Corvus brachyrhynchos*) and Chihuahuan Raven (*Corvus cryptoleucus*) for nesting (Parker 1999, *In* A. Poole and F. Gill [Eds.], *The birds of North America*, No. 402. The Academy of Natural Sciences, Philadelphia, PA and The American Ornithologists' Union, Washington, DC U.S.A.). Here, I report the first accounts of Mississippi Kites using failed, abandoned Swallow-tailed Kite (*Elanoides forficatus*) nests.

Along the Gulf Coast, Mississippi Kites and Swallow-tailed Kites often nest near each other where the habitat is suitable (J. Coulson unpubl. data), as they also do in coastal South Carolina (Cely 1987, *J. Raptor Res.* 21:124). In illustration of this close nesting association, a pair of Swallow-tailed Kites used an old Mississippi Kite nest of the previous year (Cely 1987). Arrival and nesting times appear to be staggered, with the majority of the Mississippi Kites nesting about three to four weeks later than Swallow-tailed Kites. In the Pearl River Basin located on the Mississippi-Louisiana border, most Swallow-tailed Kites arrive on the nesting grounds by early to mid-March. In this area, most Mississippi Kites do not arrive on the nesting grounds until early to late April (Lowery 1974, *Louisiana birds*, 3rd Ed., Louisiana State Univ. Press, Baton Rouge, LA, U.S.A.; J. Coulson unpubl. data). Nesting times between species differ similarly in South Carolina, although both species arrive later (Cely 1987).

In the spring and summer of 1997, a pair of Mississippi Kites nested 50 m from an occupied Swallow-tailed Kite nest in a subdivision, Pearl River, St. Tammany Parish, Louisiana. Both species nested in loblolly pines (*Pinus taeda*). The Mississippi Kite nest tree was 6 m from an occupied house. One young fledged from each nest. I did not mark any adults of either species and do not know if birds returning to the area in following years were the same individuals. In 1998, both species of kites refurbished and used nests from the previous year, and again one young fledged from each. In 1999, a pair of Swallow-tailed Kites reused the old nest, but on 4 May a severe storm with high winds passed through the study area. I visited the nest the following day and found a broken egg under the nest along with nest material (moss, lichens, and lichen-covered twigs). A substantial limb (3 cm in diameter) that supported part of the nest had snapped off and was near the broken egg. The disheveled nest's base was dislodged and no longer tucked into the fork of the nest tree. The pair of Swallow-tailed Kites did not return to this nest after the storm.

On 18 May 1999, an adult Mississippi Kite was incubating on the failed Swallow-tailed Kite nest, which appeared to have received few repairs. The nest was a typical Swallow-tailed Kite nest, sticks adorned with trailing curtains of Spanish moss (*Tillandsia usneoides*) and topped with a layer of fruticose lichens (*Usnea* sp.). Mississippi Kites rarely to occasionally use a small amount of Spanish moss or lichens for nest building, depending on the region (Cely 1987, Parker 1999). One fledgling was produced in this nesting effort.

In the spring of 1999, a pair of Swallow-tailed Kites nested in a sweetgum (*Liquidambar styraciflua*) on the Atchafalaya National Wildlife Refuge, St. Martin Parish, Louisiana, but their nest failed during incubation because of high winds. On the subsequent visit I found a large supporting limb (3.5 cm in diameter) on the ground directly below the nest. On 4 June 1999, there was an adult Mississippi Kite on this nest with at least one nestling. The outcome of this nesting is not known because it was not revisited.

Swallow-tailed Kites reused their old nests at 1 out of 28 nests in South Carolina and at 4 out of 17 nests in Florida (Meyer 1995, *In* A. Poole and F. Gill [Eds.], *The Birds of North America*, No. 138. The Academy of Natural Sciences, Philadelphia, PA and The American Ornithologists' Union, Washington, DC U.S.A.). Mississippi Kites reused their old nests between 16% and 50% of the time, depending on the study area and sample size (Parker 1999). Reusing

nests, whether built by the same or another species, may be particularly important to raptors that are long-distance Nearctic-Neotropical migrants (e.g., Mississippi Kites and Swallow-tailed Kites). If a pair starts with a solid foundation in place, nest building will take less time and energy. Presumably, Nearctic-Neotropical migratory raptors are under time, energy, and resource constraints such that the advantages of old nest use sometimes outweigh the potential costs (e.g., endoparasite and ectoparasite build-up, or predator attraction). However, two studies on the breeding biology of Mississippi Kites found that reused nests had higher failure rates than new ones (Parker 1999).

Factors that delay the start of nest building might increase the benefits of reusing a nest. Experienced breeders might be under more demanding time constraints, if they arrive late on the breeding grounds, are re-nesting because of an early failure, or if one of the pair leaves or dies. Inexperienced breeders tend to nest later and might build a sturdier nest if they refurbish an old one. In spite of risks, both species of kites sometimes reuse nests. Apparently, net benefits maintain this behavior.

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