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# Nest Site Fidelity and Adult Longevity in the Black Swift (*Cypseloides niger*)

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## ABSTRACT

Black Swifts (*Cypseloides niger*) are documented using the same nest in subsequent years and one individual was recaptured in the same nesting colony nine years after the initial banding (minimum age 10 years 1 month). Nest site fidelity and adult longevity probably contribute to the traditional nest site use previously noted for this and other species of swifts.

## INTRODUCTION

Traditional nest site use, as defined by Dobkin et al. (1986), refers to the long-term use of a breeding or colony site. Attributes associated with such continued utilization of a colony site would be its physical stability, as well as its protection from predators, ready access to feeding areas, and a general scarcity or localization of other suitable nesting sites (Blancher and Robertson 1985, Dobkin et al. 1986). Nest site fidelity and long-term survival of individual breeding birds would also be important contributing factors to such traditional nest site use,

Traditional nest site use has been documented for many bird species including White-throated Swifts (*Aeronautes saxatalis*) and several other temperate and tropical zone swifts (Dobkin et al. 1986 and references therein). In addition, several recent studies utilized breeding colonies of swifts which have been monitored over many years, and in some cases decades (Gory 1991, Martins and Wright 1993, Boano et al. 1993). Thus it is highly likely that traditional nest site use is widespread, if not typical, in the family Apodidae.

Traditional nest colony site use also has been recorded for the Black Swift (*Cypseloides niger*) at several locations throughout its breeding range in

western North America. Kondla (1973) indicated long-term use (1919-1973) of a nest colony in Johnston Canyon, Banff National Park, Alberta, which is still being used over 20 years later (Holroyd and Holroyd 1987, G. L. Holroyd, pers. comm.). Several colony sites of Black Swifts in northern (Burney Falls, Shasta Co.), central (Berry Creek Falls, Santa Cruz Co.) and southern (Sturtevant Falls, Los Angeles Co.) California are known to have been regularly, if not continuously, utilized for periods greater than 20 years (Foerster and Collins 1990; Foerster, unpublished; Collins, unpublished; Knorr, personal communication). No established Black Swift breeding colony is known to have been subsequently abandoned (Knorr 1989, 1993).

Individual nests of Black Swifts within established nesting colonies are also known to have been occupied year after year (Foerster 1987, Foerster and Collins 1990, Collins, unpublished). Although this strongly suggests that there is extreme nest site fidelity and high survival of individual breeding adults this has not actually been documented. We present here the first such data for the Black Swift.

## METHODS

Our observations were made at a nesting colony of the Black Swift which includes at least eight separate nest sites most or all of which are active each year (Collins unpublished). This colony at Lawler Falls is located near the town of Idyllwild, Riverside County, California; a detailed description of this and other southern California Black Swift colonies is found in Foerster and Collins (1990). At Lawler Falls several nests are readily acces-

sible and are monitored for breeding success each year and for routine banding of chicks. To reduce disturbance, no attempt has been made to capture all adults each year; they are captured or recaptured on an opportunistic basis.

## RESULTS AND DISCUSSION

On 20 July 1994 an adult Black Swift was captured (by C.T.C.) on its nest which contained a still unhatched egg. This bird had been banded (68-144265) on 20 August 1985 (by K.S.F. and C.T.C.) as part of an earlier study of the breeding biology of this species (Foerster 1987). It was an adult (AHY) at the time of banding making its age at recapture (assuming a typical hatching date of early July; Foerster 1987) minimally 10 years 1 month. The amount of white edgings on the belly feathers strongly suggested it to be a female (Griscom 1924). It had been recaptured in the nesting colony in 1991 (M. Marin, pers. comm.) and on 20 July 1993 (by C.T.C.) brooding a 1-2 day old chick on the same nest as in 1994. At the time of initial banding in 1985 it was one of two adults captured at nocturnal roosts in the colony. Only three nests contained chicks at this time; none of the three was the nest utilized by this bird in 1993 and 1994. Although it is possible that the swift had been associated with the 1993-1994 nest earlier in the breeding season, it is more likely that in 1985 it was associated with one of the three other nests still active at the time of banding. Our records include another example of an individual Black Swift (681-44262) being captured on the same nest, in subsequent years (1985 and 1988, also at Lawler Falls). Our previous longevity records for Black Swifts were: 1) an adult (AHY) (681-44204) netted and banded at the nesting colony at Sturtevant Falls in Santa Anita Canyon, Los Angeles County, on 25 July 1979 and recaptured at the same location three years later on 31 July 1982 at a minimal age of four years and, 2) four adults (AHY) banded at Lawler Falls between 1985 and 1989 and recaptured there between three and five years later.

Clapp et al. (1983) reported a Black Swift found dead in Colorado at an age of six years. Although originally banded as an unknown age bird, we feel it was minimally one year old (SY) at banding. The

juvenal plumage of the Black Swift is very distinctive with numerous white edges to both dorsal and ventral feathers (Foerster 1987, Fig 1.). On the date of banding (5 Sept.) an HY bird would have been not only in this distinctive plumage but also very fresh and unworn. Assuming a hatching date in August, which is typical for the species at that latitude (Knorr 1961), we would recalculate this bird to have been minimally 6 years 10 months old at death.

These data further support the view that traditional nest site use is widespread in the Apodidae and the Black Swift in particular. They also suggest that high individual nest site fidelity and high adult longevity, which contribute to such long-term use of colony sites, is also common in Black Swifts.

The few studies conducted to date agree that annual survival in swifts is higher than for most equivalent sized passerine birds (Dexter 1969; Perrins 1971; Collins 1973, 1974; Schmidt 1986; Boano et al. 1993). A more detailed analysis of survival in the Black Swift should provide additional support for this view.



**Figure. 1.** Juvenal plumaged Black Swift (*Cypseloides niger*) with distinctive white edges on both contour and flight feathers. (Photo by K.S. Foerster, Lawler Falls, Riverside Co., California.)



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