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NESTING OF THE BLACK SWIFT IN SEQUOIA NATIONAL PARK

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WITH TWO ILLUSTRATIONS

On August 7, 1933, the writer and Walter Powell, acting park naturalist, discovered what appears to be the first recorded nest of the Black Swift (*Nephoecetes niger borealis*) for the southern Sierra Nevada. We found three nests, but there probably were others in the vicinity, since over a dozen Black Swifts were seen. The three nests were located within a linear distance of twenty feet, so that the species might reasonably be said to have colonial nesting habits, at least in this instance. The nest site was located in the deep granite gorge of the Marble Fork of the Kaweah River. All three nests were located in a shallow cave that had been formed by the falling of a section of the cliff, leaving a broad arch about thirty feet in height (see fig. 49). The bare, wet, dark granite wall rose precipitously above a deep pool beside a waterfall, spray from which kept the entire surroundings drenched with mist.

In all three instances the swift nests were made of green resurrection moss, pressed down but not stuck together with saliva, and were placed on and supported by a clump of fragile five-fingered ferns. The first nest was a firm, mossy cup placed about eighteen feet above the water. This nest measured outside 3 by 4 inches in diameter and was 3 inches high. The trampled-down shallow cup was empty, and the young bird evidently had just left the nest.

The second nest, also, was placed on and supported by a clump of ferns. This nest measured 3 by 5 inches in diameter, but was only 2 inches high, having been trampled down by a fledgling Black Swift that was still covered with dark, slaty natal down, through which protruded the primaries and tail feathers. Distinct feather tracts were noted on the bird's forehead and in the region of the wing coverts, where many light-gray feathers were coming in.

The canyon was so deep and dark and the light was so dim that at a distance of twenty-five feet I was unable to make out the outline of an adult swift that came hurtling in. Instead of flying directly to the nest, she flattened herself against the wet granite wall, where she clung easily by her strong, sharp claws while she drank thirstily from the seepage water that trickled down the face of the wet rock. An hour later a second female returned and clung to the face of the rock about eighteen inches to one side of the nest but, seeing me, flew downstream. At

9:35 she returned and clung beside the nest as before. At 9:42 the female swift, using both wings and claws, fluttered bat-like over to the nest, where she fed the young swift by opening her broad bill and disgorging directly into the youngster's mouth. After brooding the young swift until 9:50, the mother left, returning at 10:35 to drink and to brood the young bird for another five minutes.



Fig. 49. Nest site of Black Swift in granite gorge of Marble Fork, Kaweah River, Sequoia National Park. Three nests were placed close together in shaded area near center, at left of waterfall.

Wildlife Division negative no. 3178

The outstanding feature of the young swift was his aversion to light. He always turned around in the nest so as to face the darkest corner. Another feature was the ease and tenacity with which he clung to the nest with his sharp, strongly-curved claws. When placed against a vertical granite cliff, he had no trouble clinging by one foot, but tucked his head down to avoid the bright light (see fig. 50).

To authenticate the record, the young swift and nest were taken back to camp. They stood the journey well, but the swift was found dead in its nest the next morning. Its stomach was entirely empty, but the bird was exceedingly fat. It weighed 39 grams, almost as much as an adult female, which weighed 44 grams.

The stomach contents of the adult female Black Swift contained nothing but 2 cubic centimeters of turf-building ants, one of the phases of *Formica rufa*. The question arose as to how a bird never known to light on the ground or even to perch on a tree could capture nearly 100 ants. Examination showed that these were

winged adult ants probably taken during a nuptial flight. According to Wheeler's ant book, in 1880 the national forests of Germany imposed a fine of 100 marks or one month in jail on anyone convicted of destroying the nest or eggs of this ant, because it had been found to destroy so many nests of injurious forest insects.

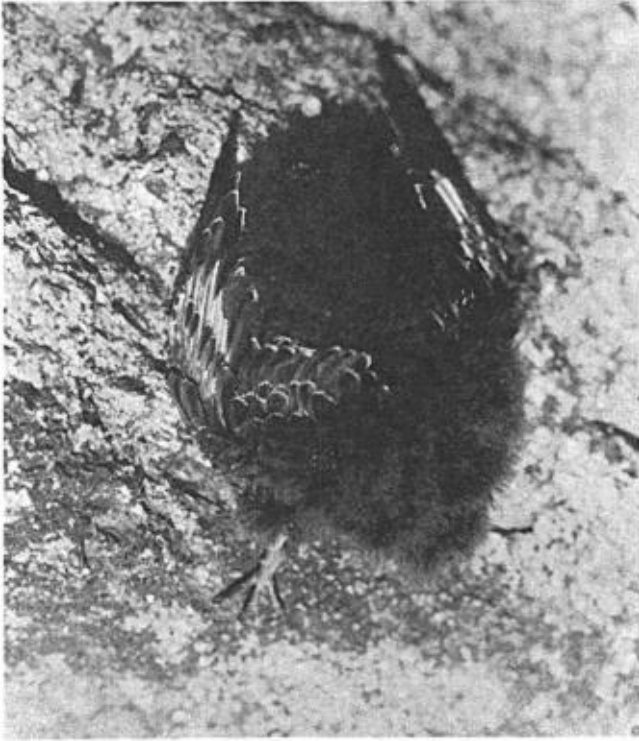


Fig. 50. Downy young of Black Swift clinging by one foot to sheer granite cliff, with head (top left) tucked down to avoid light. Note incoming gray-edged primaries and wing coverts. Photograph taken August 7, 1933; two-thirds natural size.

Wildlife Division negative no. 3466

On July 3, 1934, at 8:30 a. m., I visited the swift nest colony and found two female swifts on the nests used the previous year. The first nest was in the same condition that I had found it in, in August, 1933, after the young swift had left it. The dead pine needle was still in place in the bottom of the nest, which had not been rebuilt. The nest contained one recently-hatched chick, bluish black in color. Its eyes were closed, and there was not a bit of natal down on its body. The other nest contained one long, creamy-white egg, which was slightly incubated.

The first female flew off the nest when I approached within twenty feet of her, but she came back in three minutes and tried to return to her nest. Thirty minutes later she came back again and perched for eight minutes, clinging to a vertical ledge near her nest. Then, by using both wings and feet, she awkwardly crawled over to her nest and brooded the young swift.

Because of the heavy snowfall in the mountains, and the resulting high water, it is doubtful if we will be able to gain access to the Black Swift nests this year.

Wildlife Division, National Park Service, Berkeley, California, May 20, 1935.