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BLACK SWIFTS NESTING IN YOSEMITE NATIONAL PARK

WITH FIVE ILLUSTRATIONS

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FOR a number of years I have had a strong suspicion that Black Swifts (*Cypseloides niger borealis*) were nesting somewhere in the vicinity of Yosemite Valley. Each year I became better acquainted with these birds, but it was not until July 6, 1926, that a nest was actually discovered. On the date of discovery I happened to be exploring in the rugged canyon of the Tenaya, and after the discovery of the nest I made it my business to visit weekly with the swifts for the next seven weeks. In the following article an attempt is made to place on record the results of my observations.

In the inner chasm of the Tenaya Gorge a hundred paces beyond the "wedged boulder", where vertical walls rise two hundred feet or more, the swifts had chosen a nesting site. The nest was placed on a bit of projecting rock which presented a level space of perhaps four by six inches. The projection was located within the shelter of an overhung wall, thirty feet directly above a deep pool in the creek. Towering above the nest the cliff rose sheer for a distance close to two hundred feet. The inner chasm is here very narrow; the vertical walls stand not fifty feet apart. The channel is dark and cool; in the long summer days the sun lights its depth for but a brief hour. And at no time or season does the sun ever play on the nest of the swifts—cramped quarters, I should say, for birds of the wide skies.

It was the wild, erratic wingings of a lone Black Swift, as he whizzed back and forth through this narrow flight lane, that first attracted my attention. Such bewildering speed; such coördination of mind and muscle: I stood there fascinated, trying to follow the flight of the wild winged thing. Somehow the thought came to me of a great winged spider suddenly gone mad. While I watched, the bird suddenly swooped and fairly seemed to plaster himself to the wall not fifty feet from where I stood. Then, with fluttering wings the bird moved upward—not straight upward, however, but in an angling course across the face of the cliff. As I followed the movements of the swift the nest was suddenly descried. The swift paused, clinging to the projection that held the nest, and I thought at first that he was feeding young. After a moment he scurried on upward a few feet, fell backward, and then twinkling wings carried him away down the channel.

By scrambling to the top of a great boulder that was lodged in the stream bottom, I was able to approach within thirty feet of the nest. Then I realized that it was not young the swift was feeding, for there on the nest sat a full-grown bird. While I watched, she, too, left the nest and flew down the canyon. I was some twenty feet below the nest and could see neither young nor eggs. I had neither binoculars nor wings and so the contents of the nest must, for the present at least, remain a mystery.

As for the nest itself, as best I could see it, it resembled in form and construction that of the Western Wood Pewee; but in size it appeared larger. Also it reminded me of certain cormorant nests I have seen plastered to the ledges above the sea. The general appearance of the structure, its apparent adhesion to the shelf, and the droppings plastered to the granite immediately below, led me to suspect that the nest may have been occupied through several nesting seasons. The rock wall roundabout was absolutely bare, and dry. There was not a growing plant within ten feet of it. Not once during my visit with the nesting swifts did the birds utter an audible sound. Violet-green Swallows sailed through and above the chasm, but no swifts excepting the nesting pair were seen.

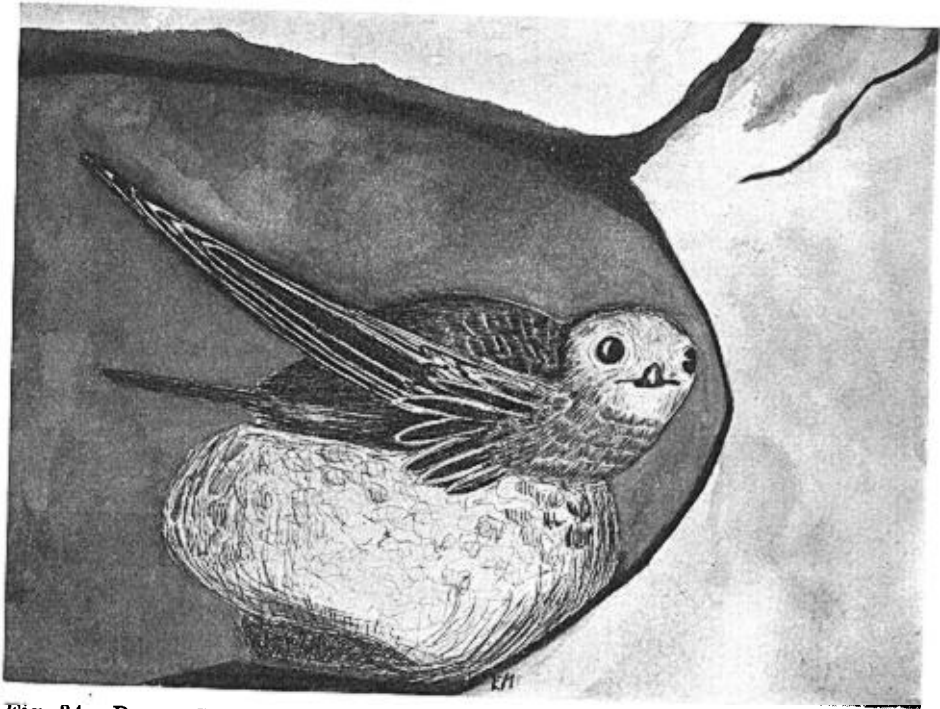


Fig. 34. BLACK SWIFT. FOR HOURS AT A TIME THE OLD BIRD WOULD CROUCH LOW ON THE NEST.

As is befitting the mysterious Black Swifts, the nest site chosen was in one of the most inaccessible sections of a gorge as grand as any in all the Sierra. I feel safe in saying that not ten human beings have ever passed between the sheltering walls that protect the home site of the nesting swifts. On the morning of July 11, I set out to again visit the home of the Black Swifts. Starting from Mirror Lake at 6:30, the first hour was over a good trail; but leaving Snow Creek there followed two strenuous hours before I had climbed through the inner chasm to the nest site. Beyond the "wedged boulder" I moved cautiously, but before I had come within sight of the nest a swift was seen to leave the wall and dash down the canyon. I was afraid that I was not to find the swift at home, but as I came opposite the site, there was the bird in plain sight. She sat on the nest with her tail appressed against the wall and with one long wing drooping over the side. Her body rested in a horizontal position and she appeared much too large for the nest.

While I was watching the bird a second nest was discovered. This second one was tucked away in a niche and, but for the droppings below, it would hardly have been noticed. The nest was a little round cup, shallow, and composed, apparently, of some soft, brown material like dry leaves; the rim was tinted slightly green. On a later visit, with assistance and encouragement from "Big" Con Burns, I managed to climb to a point within eight feet of the nest. And then it was learned that the nest was composed of the delicate pinnae of the five-fingered fern. Great banks of these ferns hung from neighboring walls, and it would be quite possible for the swifts to procure material while on the wing. Perhaps, though, the swifts may gather nesting material while clinging to a wall, as I have often seen swifts alight on a ferny ledge above Vernal Fall. In any event, this nest was rimmed with fresh green leaves.

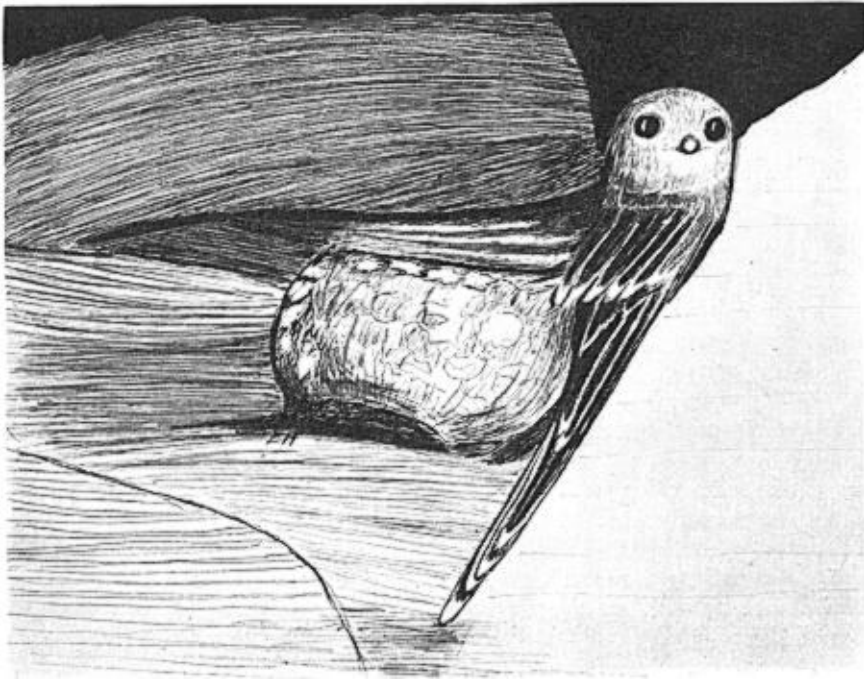


Fig. 35. THE OLD SWIFT APPEARED MUCH TOO LARGE FOR THE NEST, AND OFTEN WHEN INCUBATING THE EGGS ONE WING HUNG LOOSELY DOWN.

Just one hour after my arrival at the site, a swift came up the canyon and dived into the second nest. These two nests were not more than three feet apart, and yet the birds seemed not to pay the least attention to one another. Each bird stuck silently to her duties; in fact for hours the birds did nothing more exciting than to yawn or stretch their wings. Occasionally one of the birds would reach down with her bill and make a movement as though she might be adjusting the eggs beneath her breast.

As nothing happened, or seemed likely to happen, I moved up closer. The bird that sat in plain sight was not the least afraid. I sat down within twenty feet of her and I could plainly see her large, round, black eyes. The feathers immediately around the eyes were hoary, giving the effect of an uncertain eye-ring. Occasionally as she lifted her wing I could get a flash of white on the under side.

In all the four hours I watched, this bird did not budge from the nest. She was so confiding that I had not the heart to drive her from her home; and besides, I wanted to be friends with her that I might be welcome when she began to feed the young. When I got up to leave, the bird in the upper niche again left the nest and flew down the canyon.

On the morning of July 18, Mrs. Michael and I guided three students of the Field Nature School up the Tenaya Canyon. As we were nearing the home of the Black Swifts we saw one of these birds fly down the canyon. We arrived at the nest at 11:15 A. M. There was no old bird in the nest which was most exposed to view, but in the nest that was tucked away in the dark niche we thought we could see a bird crouched low. After waiting fifteen minutes we again saw a bird sail down the canyon. Looking with the binoculars, Mr. Harwell thought he could see the heads of two birds in the more exposed nest. Mrs. Michael and I were inclined to agree, but after looking carefully we could not be sure. Dark little birds in a dark nest: none of us could be sure; we must have more evidence.

After waiting one hour and fifteen minutes, one of the old birds returned and flew directly to the nest. She did not feed the young, but hovered them, sitting in what appeared to be a very awkward position. She sat well forward, with her lower belly resting in the cup of the nest and with her throat and breast resting against the upright rock surface that formed one of the walls of the niche in which the nest was placed. One of her long wings hung limply down in front of the nest. The other wing was crowded against the wall, and the tip could be seen extending beyond her tail. She sat in this position for an hour. And then a breeze appeared to catch her loose wing and swing her about. Now with her back to us she clung to the rock and gazed into the nest for fifteen minutes. While in this position, several times we saw a litt'e head pop up; but only one head. Creeping back onto the nest she reversed her position and now sat looking up the canyon instead of down.

As the time passed, we moved closer and closer to the bird and for the last hour we sat within twenty-five feet of her. Not once in all this time did the swifts utter an audible sound. By standing on top of the wedged boulder we were just on a level with the nest. Mr. Harwell suggested that we gather boulders and build up a bench that would raise us a couple of feet higher; and then before going we were to flush the bird and try to ascertain the number of young. We built the bench. The swift did not appear to mind our working only twenty-five feet from the nest, and when we were ready to flush her she would not flush. I was able to climb the rock wall to a point within eight feet of the sitting bird and slightly below the nest. Still she would not leave. I tossed a little pebble against the cliff close to the nest. She still held her position; but when a second pebble was tossed, she left the nest and flew down the canyon.

With the old bird gone, each of us in turn climbed onto the pedestal to have a look through the glasses. All were in agreement that there might be more than one young bird, but not one of us could be sure. However, we knew that there was one young bird in the nest and that it was fuzzy and dark.

As we watched the old bird while she sat in different positions on the nest we were surprised to find that she showed so much light color. Especially was there much light color to be seen along her side when she drooped a wing. When I hung to the cliff within eight feet of her it was noted that the whole head and neck was dusted with silver. The individual feathers appeared silver-tipped, and as she moved her head there was a slight change of color.

During our stay there was no action about the second nest, but I am sure that at times the bird on it crept forward to look down upon us.

July 25, while on our weekly pilgrimage up the Tenaya Canyon to visit with the swifts, we met three of these birds a mile below the inner chasm flying swiftly down the canyon. As they moved overhead we caught the sound of their voices in a low melodious rolling twitter. As a rule, I should say that the Black Swifts are silent birds. During the mating season we have heard their sweet swallow-like chatter occasionally, but never before, I think, did we hear these rich conversational notes.

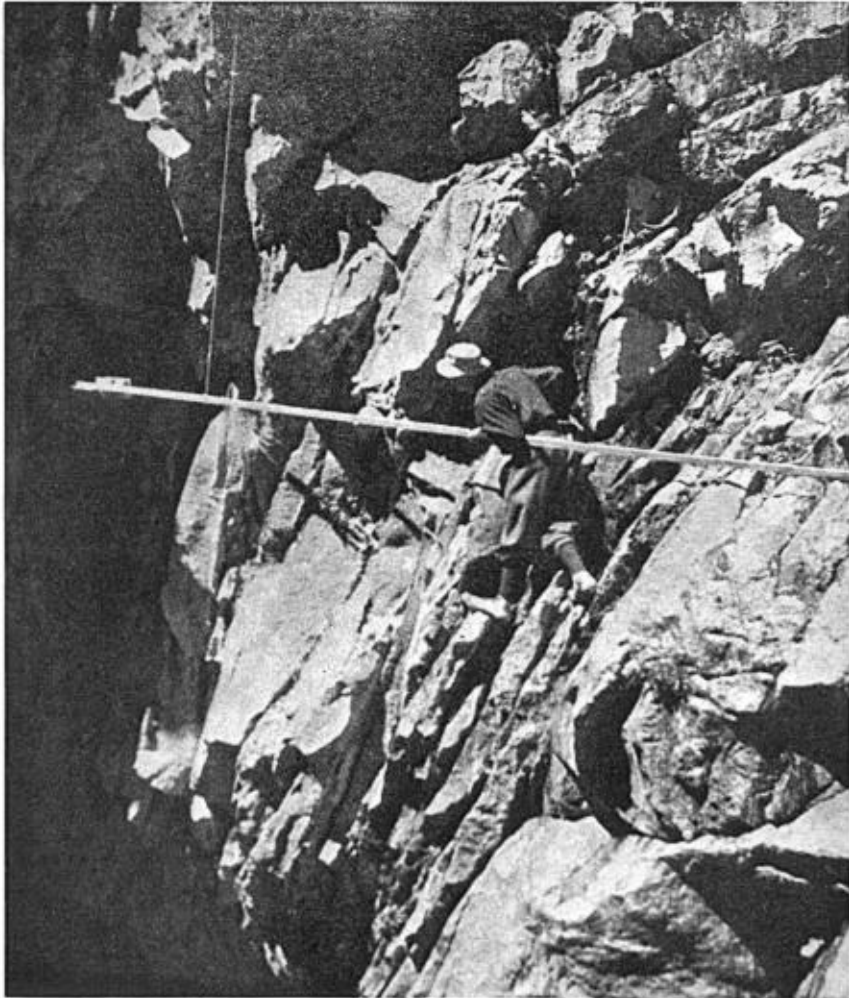


Fig. 36. I, CLINGING TO THE CLIFF AT A POINT NEARLY LEVEL WITH THE NEST, WAS ABLE TO SWING THE KODAK INTO POSITION.

Utterly different are these notes from the high-pitched, hysterical chatter of the White-throated Swifts.

We arrived at the swift's nest at 9:30. Nothing was seen of the old birds. A young bird was squirming about in one of the nests. It was a dark little object and in its dark niche it was not possible to gain any positive knowledge of its appearance or of its behavior. Just before twelve o'clock an old bird flew up the canyon and

came toward the nest, but instead of feeding the young bird she dived into a dark niche and disclosed a nest that had not been previously seen. This makes three nests within a radius of three feet.

These nesting swifts are bold birds. With my kodak on a long pole I worked within a few feet of the nest, and the bird back in the dark niche did not leave. Four and a half hours were spent with the swifts today, and not once during this time did the nestlings receive food. Not once was a single audible sound uttered. All I learned today about nesting swifts was that they are silent birds and that the young can go long hours without food.

August 1, five and a half hours were spent with the swifts and very little was learned about them. When I arrived at 8:50 A. M. the old birds were gone and the dark little young were snuggled away in their dark niches. At twelve noon one of the old birds came up the canyon, came to perch at the most exposed nest, clung fluttering to the rim of the nest for a moment, and then departed apparently without feeding her young. During the next two hours and a half that I remained on watch nothing happened. The young were too small to be entertaining and the old birds made no visits to their nests. Strange birds are the Black Swifts. Most young birds receive food every few minutes, but here we find young birds that go for hours without food. Raking the skies all day long, the old swifts probably return in the evening to pump their young full of concentrated nourishment.

My next visit to the swifts' nests was on August 9. I arrived at 9:30 A. M., and I stayed four hours. Nothing was seen of the old birds. A young bird could be seen in each of the more exposed nests. They appeared to be about half-grown. Two hours after I arrived, one of the young birds changed his position slightly. Save on this one occasion there was no activity in the nests, and during the length of my stay the birds remained snuggled down obscurely. Still, I could not be sure; there might be more than one young to each brood. A fourth nest was discovered today. It was on the opposite canyon wall a hundred feet up the sheer cliff, neatly tucked away in a well sheltered niche. No bird could be seen in this nest.

On August 15 I arrived at the home of the swifts at 7:15 A. M. On this morning I had started for the nesting site before daylight, hoping to arrive before the old birds had departed for the day; but evidently Black Swifts are among those birds that go out for the early worm—I arrived too late.

The young swift in the more exposed nest appeared but slightly larger than when seen eight days before; but when examined through the glasses it was noted that the wings were much longer and there appeared more white about the eyes and forehead. This bird was at rest on the nest in a horizontal position, with wings pressed close to the body. The second nest was occupied by what appeared to be a larger bird. And this second bird was more active, changing his position now and then. When in certain positions his long wings extended three or four inches beyond the rim of the nest.

A Canyon Wren that came to the pool below to bathe moved back up the wall, passing between the two nests; although within a foot of the nests her presence did not in the least disturb, or even interest, the young swifts.

At 8:15 the bird in the lower nest appeared to awaken. He squirmed about and repeatedly opened his mouth and blinked his eyes. I hoped that this was an indication of the approaching lunch hour, but nothing more happened until 9:20, when the young bird raised himself, stretched his wings a bit and once more settled down for another nap.

Once more during the morning the young bird became active; this time preening his long wing feathers and turning completely about in the nest. When again settled,

a spotlight reflected from a pocket mirror failed to move him. At 12:30 an old bird arrived. She flew up the canyon and alighted directly on the edge of the nest. Clinging here with her tail appressed and one long wing spread out across the surface of the wall she apparently pumped food into the young bird. She appeared to fairly stuff the young one, pumping food into him ten times in twenty seconds with but slight pauses between times. At first the young one was very eager and squirmed with delight while being fed. Soon, however, he was full and had to be coaxed to take the last two or three helpings.



Fig. 37. PHOTOGRAPH TAKEN AUGUST 15, WHEN THE YOUNG BLACK SWIFT WAS FOUR WEEKS OLD.

When through feeding her young one, the mother bird crawled up onto the nest and the young one squirmed and twisted until his head was quite snuggled under his mother's breast. Not an audible sound was uttered during the meal, but just before the parent bird departed she uttered two sharp, squeal-like notes; and then three more as she tumbled backward into space to speed off down the canyon. The young bird stretched and preened and once more settled down.

August 22 found Mrs. Michael and me again at the swifts' nests. We could not hope to learn much of anything new, but we did hope to get a better photograph of the young bird and the nest. As usual the old birds were away for the day. The two

young birds that we could see, one in each nest, appeared almost full grown. Four hours we watched one of these birds, and during this time he was only active for a few minutes, when nature called upon him to shift about in the nest. The excrement fell free of the nest and dropped thirty feet to strike on a boulder that stood above the surface of the pool. In ordinary seasons the droppings would fall directly into the stream and float away, leaving no clew to the nest; but this has been a very dry season and the water is low.



Fig. 38. PHOTOGRAPH TAKEN AUGUST 22, 1926, WHEN THE YOUNG BLACK SWIFT WAS FIVE WEEKS OLD.

The young swift is now much larger than the nest; both head and wings extend beyond the rim. We feel that the young swifts will surely leave their homes in a day or two, and so feeling, the trip today shall be the last trip up the Tenaya Canyon this season. And now, thanks to Mrs. Michael who was my companion on many of the weekly trips. She greatly aided me in my attempts to photograph the birds, and also I have her to thank for a number of pen sketches drawn from life, two of them accompanying this article.

Now that I know something of the nesting habits of the Black Swift, it no longer seems strange to me that their nests were not more often found. To me, everything connected with the lives of Black Swifts tends to hold the secret of their nesting activities. In this regard it may be noted: Black Swifts are silent birds. They nest on inaccessible cliffs in isolated sections. They have flying ability which enables them

to forage far from their nests. The young birds can, and do, go long hours without food. The old swifts are not easily flushed from their nests. If forced to depart, they leave the neighborhood silently and without protest. And I believe that the female takes upon herself all the duties of incubation and of the feeding of the young. With only one parent bird visiting the nest, there is less than half the chance of being observed.

Luck it may have been that led to the finding of the first nest; and luck it may have been that subsequently disclosed six others; but, be that as it may, I now feel that I have the system for locating Black Swifts' nests. Knowing the precise requirements demanded by a nesting swift, the thing to do is to find the locality that approximates these requirements. Pay no attention to the Black Swifts themselves, for they will not lead you to the nest, but search out the nesting site that would suit a Black Swift and there you will likely find the prize. What really simplifies the problem is the scarcity of suitable nesting localities for Black Swifts. There must be cozy niches in which to place the nests, and these niches must be so situated as to afford complete protection against rain, wind, and sunshine. Perhaps, too, there should be many of these niches, that nesting swifts may have nesting neighbors.

Seven visits were made to the home of the swifts. On six of these visits I tried to photograph the nest and the bird. The first four times I registered complete failure. A kodak on the end of a twenty-foot pole is a hard thing to handle; this I learned by experience. On the occasion of my sixth visit, a scheme evolved whereby the twenty-foot pole could be manipulated without danger to the attached kodak and at the same time could be so controlled as to offer a fair chance of making a successful time exposure. It was a simple scheme. A frame at one end of the pole held the kodak. A thread running down the pole from the kodak could be pulled to set off the shutter. A stout cord tied to the pole about five feet from the kodak enabled Mrs. Michael from her position on a ledge above, and to one side of, the nest to lower the whole apparatus. I, clinging to the cliff at a point nearly level with the nest, was able to swing the kodak into position, and by wedging the end of the pole into a crevice it was possible to hold the kodak steady. The kodak, however, pointed toward the nest at an angle, and from my position, twelve feet away, it was difficult to judge the correct angle. But, by making several exposures, I did manage to hit it.

The light was poor. I was not satisfied with the pictures taken on the occasion of my sixth visit. On the seventh I drove a spike into a crevice on the ledge where Mrs. Michael had perched to lower the kodak. Lowering the pole and the kodak to the correct position the cord was tied to the spike. This plan left Mrs. Michael free to help in another way. She, standing in the sunshine fifty feet from the nest, reflected light from a hand mirror directly into the dark niche that held the nest. One-second exposure in this light brought good results, as may be judged by the accompanying photograph showing the nearly full-grown bird.

Yosemite, California, October 14, 1926.