

## Some Observations on the Nesting Habits of the Prairie Falcon

BY DONALD A. COHEN

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THIS falcon, *Falco mexicanus*, is very rare in the San Francisco Bay region and in a radius of a day's journey about the adjacent territory. Nowhere does it appear to locate its eyry upon the rocky sea coast after the manner of the duck hawk (*Falco peregrinus anatum*), but prefers the low mountain ranges interspersed with plenty of canyons and rolling valleys. It is hardly necessary to mention that it is less plentiful than in bygone years, having fallen into line with many others of our fauna in their retreat from the encroachments of civilization. In June 1884 while visiting friends in the foothills of Mt. Diablo, Contra Costa county, I was one of a small party in quest of birds' eggs among the cliffs and rocks on the sage-covered slope of the mountain, and incidentally flushed a family of prairie falcons from one of the loftiest cliffs. There were five of them, the family of that year, that circled overhead at no great distance during our presence near the cliff. My host, who was present, said they were prairie falcons and said that Walter Bryant had gone over these rocky cliffs by means of ropes and taken their eggs, from time to time. In later years when I made Mr. Bryant's acquaintance he corroborated this. I first noticed the birds here in 1881 and have wondered for how many centuries the species nested in that spot. About the last set of eggs taken in this locality was, from memory, in 1889. It was of four eggs taken by a boy living near by and procured for me by my friend and exchanged to the late Chester Barlow. The nest was described as being placed on a ledge and lined with a few sticks and I believe, some grass, while all the prairie falcons and duck hawk sets I have ever taken, about twenty-five sets, were all in small caves or potholes, with a bed of sand or fine gravel and sand with a few bones of small mammals and birds. The birds were either killed off by the numerous campers that infest the region or worried into leaving for more secure quarters. The boulders and cliffs and even the top of the ridge is not so high but that rifle balls will go over from the road in the narrow valley below. Among one of my curios is a partly flattened bullet from a large calibre rifle that I picked up at the base of a boulder near the top of the ridge.

In this latitude, I may assume, the birds are constantly resident except for excursions during fall and winter when the young are probably in search of a home, as the old ones will not suffer their presence any longer, so I am told by a mountaineer. On two occasions I have noted single birds in Alameda. One attacked a band of half grown turkeys early in the fall and the other flew from an oak at some pigeons inside their enclosures and struck the wire netting with considerable force. Being well acquainted with the duck hawk in adult and juvenile plumages there is no mistaking a prairie falcon at close range.

The complement to a set of eggs is five and it is hardly possible to confound them with eggs of the duck hawk. As a rule those of the former are plainer and lighter colored, and in exceptional cases some are exquisitely blotched or mottled, being gems among gems. In the general run they lack the generous rich coloring of some of our duck hawk eggs but some of the best sets possess such a different style of beauty as to hold their own with any set of duck hawk I have ever seen. They average a trifle smaller although the superior size of the duck hawk over the prairie falcon is greater in proportion.

The observations on one pair of birds for a few years are limited to one day each year and during the short period of collecting the set, and owing to forced marches to and from the nest the time was necessarily short. It was in an amusing way that I became acquainted with the pair. Having formed the acquaintance of a miner, stockman and hunter in my home town during November 1897 talk gradually drifted into ornithology and falcons. He told me there was "a pair of those bullet hawks" nesting on his ranch and we made arrangements for my visit in the spring. The following April I set out on my wheel and by late afternoon had made a creditable run over the mountains and was suffering considerably from the intense heat. Water was hard to get owing to the drought having let the small streams run dry. Within a few miles of my destination was a small stock ranch and the proprietor, a young man, hailed me.

"Say! where are you going with that fish basket?"

"Fishing, of course!" I replied.

"Oh! that's played out. Do you know Harry Taylor?"

This was too interesting to pass so we adjourned to the cabin and talked things over with spring-water lemonade and big black cigars, and incidentally I learned that Mr. H. R. Taylor of golden eagle fame and editor of the defunct *Nidologist* had been in this vicinity collecting annual rents from golden eagle nests, and I also found out where they were but did not visit them owing to a mutual understanding between self-respecting members of the Cooper Ornithological Club that the law is violated when one collector interferes with another's nests, but I decided that the prairie falcon's nest was mine by right of a grant from the lessee of the land four months before Mr. Taylor had visited it. He was shown to it by friends on the 22d to the 24th of March and obtained a set of five fresh eggs.

By evening I had reached my destination and early next morning my host led the way over innumerable and rough trails through well wooded hills. Sycamore, alder, maple, oaks, an occasional laurel and madrone, with considerable underbrush skirted the creeks and dry water courses, while plenty of oaks were scattered about the hillsides together, with much promiscuous brush. One long range of hills was covered with chemise and sage only, rocky and devoid of grass, and the only trees were small pines. On the south side of the canyon were thickets of manzanita, tough and unbending, the lower branches hard and sharp, a formidable phalanx of spears to break through. After two hours of hard rustling the ridge containing the nest was reached, rugged and rough, covered with manzanita, prickly scrub-oak, sage, and chemise contrarily sending its slender but wiry branches with the downward slope of the hill, contesting our advance on an up grade. Here nature had piled her architecture of sandstone rock. Mimic cities of houses on the hills, pyramids of light-colored sandstone were scattered imposingly among the silvery-green pines, and castles of fantastic shapes rose majestically higher, while round about lay the fragments, large and small, of unfinished or discarded work. Turkey vultures, so many as twenty-seven at one time, were gliding closely overhead seemingly viewing the intrusion into their domain with surprise and distrust. An occasional western redtail appeared in the landscape of oak-dotted grassy knolls against the blue sky. Denizens of the sage, some variety of sparrows, too shy to identify, now and then flitted along. California thrashers (*Toxostoma redivivum*), natural born mockers, sang their matins or furnished melody in various forms, far from view in the chemise and sage, while the harsh scream of the California jay or the cheery springtime call of the red-shafted flicker were carried along the canyon, across which was a battered and broken ledge nowhere over 200 feet high, the home of the prairie falcon. We were now in a dry

arroyo, narrow and rocky in the center of the canyon, and found shady pools of clear cold rain water not yet evaporated from their cisterns of stone. Wending our way along and exploring many grotesque caves with the prints of buzzards, coyotes and wild cats on the sandy floors, constantly alert against surprise by the chance rattlesnake, we came into close quarters with a skunk and disposed of him without any inconvenience to ourselves, and in a large cave wherein we were attracted by a white-throated swift (*Aeronautes melanoleucus*) that had its nest in a cleft in the "ceiling," we tried to mix up with a wild cat that retreated far back to safety in a dark and narrow passage. By a circuitous climb we gained the ledge where the falcon fed. This ledge skirts the top of the canyon for a hundred feet or more and then breaks up into sandstone hummocks and rocky pinnacles, tenanted by the drowsy barn owl and sluggish turkey vulture. The height of the ledge is less than 200 feet at any place and the hill over the nest slopes gently upward and is well covered with chemise, sage, manzanita, suddenly changing to scrub-oak and timber with grass and low growing vegetation. The male took wing off a resting place close to the nest as we were making the circuitous climb, while the female, a very close sitter, closer than any of the duck hawks that have come under my observation, waited until we were almost over her, then darted out on a downward curve with great speed, for almost sixty yards, then rose to a height about twenty-five feet above us and flew to and fro over the canyon in trips about 200 yards long, just out of gun range, almost constantly emitting a vociferous cackling or screeching. She continued in this manner for the space of half an hour and became more excited and approached closer at my descent to the nest, which was a small cave in the face of the smooth concave surface of the ledge and only eight feet from the top. The male remained flying about farther away and much higher, being much less concerned than his mate, finally alighting upon a dead limb across the canyon and then uttering a few short notes of one syllable, sometimes doubled by quick repetition; a sort of chug with considerable squeak to it. The actions of both birds were much the same as those of the duck hawk upon such occasions, but noticeably less fierce. The cackling or screeching was of about the same duration and in detail but of a different key. The flight of both species is quite similar, being rapid, of short, frequent strokes, producing a gliding motion, and at a distance reminding one of large swifts. Little sailing is indulged in except at considerable elevation at which time it is done in a circular course and within a defined radius.

After adjusting the rope about me, I made the descent but found the nest devoid of eggs so went downward a few feet and stood braced on a narrow foothold while my helper moved the slack rope preparatory to investigating other potholes and clefts, the wind and force of gravity sending quantities of sand down my neck and into my eyes, from the friction of the rope on the soft rocks. I was soon satisfied the bird had deposited no eggs, but was only holding down her claim preparatory to depositing the second set. There was insufficient rope, by sixty feet, to allow me to reach foothold below but my helper hauled me up the last few feet, 150 pounds dead weight, overcoming the friction of the rope besides. He sat, braced on the surface of the sloping hill, with a hole kicked for either heel, and accomplished a feat of main strength that I have no desire to be accessory to again.

The following year found us on this exact spot at 10:15 a. m., April 2, a heavy fog over all, which allowed us to approach within ten feet of the male keeping vigil in a small cave to one side of the nest. He flew towards and past us, creat-

ing a loud noise for a few moments. The female remained on duty until we were directly over the nest. They made but little fuss this time, probably owing to the fog. Upon lying down and looking well over the edge of the ledge, the eggs were seen on the sandy floor of a small pothole. They were five in number and so far advanced that the embryos were covered with down. Incubation must have been at least two weeks, causing this set to be the earliest laid of any in the latitude. Bendire's "Life Histories of North American Birds" records a set taken by Mr. W. E. Bryant on March 25, incubation fresh, some years ago at the place hereinbefore mentioned, at the foot of Mt. Diablo.

In 1900, March 31, we arrived at the ranch house and were told the birds had left the locality because one of the party had passed up the canyon last week and failed to see the birds. This was far from encouraging news after our long trip and it seemed our informant knew what he said, but I surmised he failed to see any birds because the female was a close sitter and the male might have been off on a hunting excursion, and we therefore decided to labor over the steep and winding route once more and not return without investigating more closely than a hunter would. When on the opposite hill, before the ledge appeared to view, we breathed a sigh of relief, for wasn't that the music we were anxious to hear, the notes of a prairie falcon? In a short time we saw the female reconnoitre from the nest-hole and after crossing the canyon and adjusting the rope, soon had five eggs in our possession; incubation fully one week. The male had alighted on a dead snag across the canyon and now and then uttered his "chug" notes, described where he allowed his mate to fly to and fro along the canyon, and once as she flew rather close to him he joined her for a short flight, then resumed his perch and uttered a sort of cackle unlike any I ever heard, neither can I remember it nor describe it after hearing it, except that it varied considerably from the usual sounds.

An advanced or retarded spring apparently cuts no figure with these birds. This year spring was well advanced while nidification was later.

In 1901, March 30, the site was tenanted by a pair of duck hawks, but no eggs were found although we worked the length of the ridge very thoroughly, nor did the birds raise any disturbance, as is the rule. One of them was sitting in the nest-hole when seen across the canyon, and the pair allowed us to approach surprisingly close before taking wing for a resting place further along the ridge, instead of making any sort of demonstration or flying about overhead. They were flushed again but only made a half-hearted fuss. From its superior size and fiercer habits I judged they had driven the prairie falcons into a new precinct, for we were not able to obtain a glimpse of them. It is probable that no pair of duck hawks or even prairie falcons dwell within a few miles of each other's domain owing to mutual antagonism. Once while robbing a duck hawk's nest in a dizzy cliff over a canyon the male had settled on a dead tree half a mile along the ridge leaving the angry female to swoop at us and do all the screeching. She took but little interest in abusing a couple of turkey vultures that came too close, but all at once a prairie falcon chanced across the zone of her short flights and she immediately attacked him, about 250 feet over the side hill. Both birds clinched with their talons, and in each others grip fell straight down like dead weights. Seemingly in an inextricable position they were about to meet with injury or death by contact with the ground below, but when within a few feet of the hill they simultaneously and deftly parted, swinging gracefully aside, the prairie falcon continuing its original course and the duck hawk resuming her swoops and invectives at us, with increased energy.

In 1902 we did not arrive at the prairie falcon nest until April 15, so as to

allow the usurping duck hawks ample time to pay the rent, and found things vice-versa once more. The prairie falcons tenanted the ledge as of old and we were fooled. We took one infertile egg, and the other four were pipped or seamed across preparatory to the shells breaking in twain. What the result will be this year is too early to say, but I expect the rightful owners to be in possession. It is apparent there is one place for a nest among numerous, to us, suitable caves and holes in a given locality that would be selected by any pair of birds in preference to all others, in which, if robbed of the first set, they will deposit the second, perhaps a third set that season, and rarely in a nesting place close by, but I have always known both species to return to the original nest at the beginning of next season.

SUPPLEMENT. On April 3, 1903, we visited the ledge once more having been delayed fully a week by rains rendering the roads unfit for travel. The nest was approached from the north through the brush and sage and so accurately gauged that we arrived in a straight line almost. When close to the precipice the cracking of a dry branch scared the prairie falcon from her nest, about six feet to one side of us. Launching like a dart into the air, with loud cries, she sped like a brown meteor into the sunshine over the crags below, until her initial velocity was allowed to wane, and for a second or two she hung in the landscape slightly below, the master touch to an unsurpassable natural panorama. The five eggs contained small embryos, and by comparison coincide with those of the original bird. Eggs from her average larger than any from other of her species that I have handled.

Later: May 6, the second set of the season was obtained from a similar site in the same ledge about twelve feet from the top. One egg was sterile, the others were slightly incubated.

### Bird Life on the Farallone Islands

BY HENRY B. KAEDING

Illustrated from Photographs by the Author

THE Farallone Islands lie about twenty-four miles west of the city of San Francisco and are to be reached from that point by tug or sail-boat. They consist of two main islets about four miles apart. The north islet is inaccessible except in very calm weather and the following notes were taken on the South Farallones only. These South Farallones are two islets lying very close together, —the fact that they are two islets instead of one being due to a narrow cleft that can be spanned by a plank.

On the eastern islet of the South Farallone group is located the Light House Station and the Weather Bureau Station. The light house proper is on the highest point of the eastern end. There are no houses or buildings of any kind on the western islet, the only structure being the tall signal staff on the highest peak.

The party that visited the islands during the first week in June, 1903, comprised, besides the writer, Frank M. Chapman and wife, Mrs. Davenport, Louis A. Fuertes, Dr. T. S. Palmer, and W. Otto Emerson. Leaving San Francisco on the 2nd of June at 10 a. m., we arrived at the island about 2:30 p. m. after a very rough passage. As the little steamer approached the rocks we saw the birds ris-