

OBSERVATIONS ON THE HABITS OF THE PRAIRIE FALCON

(WITH THREE PHOTOS)

By JOHN G. TYLER

A MOODY creature at all times, peevish and whimsical, the Prairie Falcon is a bird of extremes. One never knows just what to expect from this handsome falcon and the expected seldom happens. He may fairly dazzle us with a burst of speed as he comes in to his nest cliff from a long flight over the sage-covered ridges; but our admiration fades as we behold him sitting stoop-shouldered and motionless, for an hour at a time, on some low mound in a pasture, a picture of listless dejection.

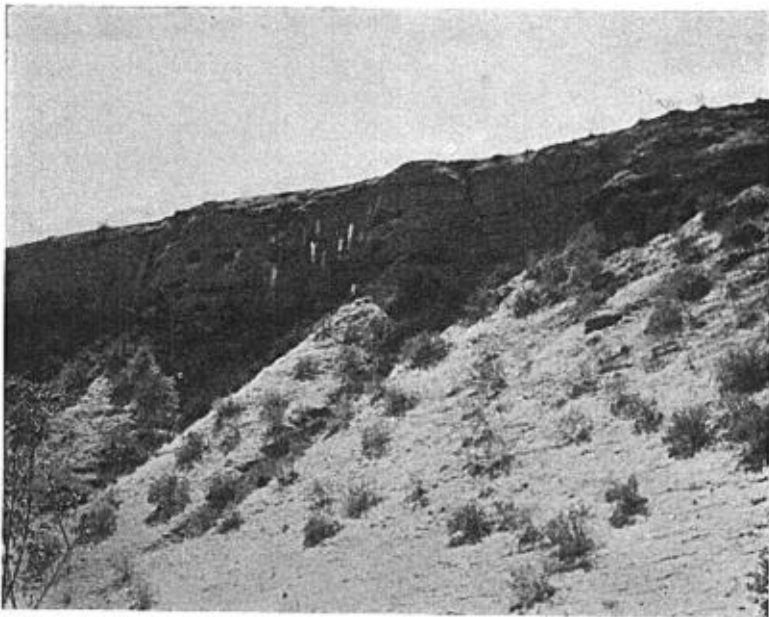


Fig. 29. NESTING CLIFF OF PRAIRIE FALCON IN WESTERN FRESNO COUNTY, CALIFORNIA.

Photo by C. C. Laval.

A pair of ravens in a nest not fifty feet from the falcons' own pot hole may be tolerated for days at a time with no act to indicate that the falcons are even aware of the presence of their neighbors. Then a sudden outburst of anger, totally unprovoked so far as the human eye can detect, may mark the beginning of merciless and unceasing persecution. Indeed, they may even dispossess the ravens entirely and use the wool-lined nest while the falcon's own favorite pot hole or ledge goes untenanted.

Sometimes the canyons echo with her noisy cackling as the female falcon strikes again and again at the observer who approaches her nest cliff and yet, when, upon a return visit, we expect the same thrilling demonstration, she often flaps silently away with all the cramped awkwardness of a sparrow hawk just aroused from the duties of incubation.

With a roar of wings the male sweeps along a canyon wall, dashes into a

feeding flock of quail, snatches a victim and beats away like some giant swift; but when we hope to see this marvelous exhibition of flight repeated, we find him hopping around sparrow-like on the ground in some summer fallow field scrutinizing the bunches of stubble for a chance hidden meadowlark or Savannah sparrow.

A wounded falcon, or one who has changed her nesting site only to have the new location discovered, can give an exhibition of unmistakable anger which defies all attempt at description; but an overfed mid-October bird as it sits dreamily on a roadside fence post is usually too utterly lacking in spirit to attempt anything that requires more energy than a lazy flight to some more secluded perch.

The observations recorded herewith on the habits of the Prairie Falcon (*Falco mexicanus*) were all made in central California, either in the San Joaquin Valley or in the arid hills along the western rim of this valley. They cover a period of twenty-two seasons. No claim is here made to anything approaching completeness, and these notes, taken more or less at random, should be considered nothing more than an attempt to put on record a few facts which may be of assistance to any one who aspires to write a complete "life history" of this most interesting species.

FOOD

The literature that happens to be at hand as these notes are being prepared indicates that all authorities are well agreed that this falcon prefers feathered game as a diet. Bendire (1) stated that at Fort Walla Walla, Washington, the falcons fed principally on Brewer Blackbirds, but also on Mourning Doves, Western Meadowlarks, and domestic pigeons. He stated that poultry was seldom taken. Peabody (2) claims that this falcon is a terror to poultry. Fuertes (3) says "All about this point, which I took to be near the eyry, were strewn the feathers of quails and jays." Van Rossem (4) informs us that "At Mecca I had a quail snatched up within ten feet of me by one of these birds." Lamb (5) writing from Yermo says "One seen chasing a dove." Dawson (6) alone mentions mammals when he alleges that "thousands of destructive squirrels" are taken; and Bryant (7) makes a similar statement.

My personal observations have convinced me that small birds are preferred at all times and that only rarely is a mammal of any kind taken. From the time the falcons return to their nest cliffs in early spring through the egg laying and incubation periods the Gambel Sparrows (*Zonotrichia leucophrys gambeli*) are very abundant in the regions where falcons abound and a very heavy toll of these sparrows is taken. But, by the time the young falcons have appeared, these sparrow hosts have practically all migrated and the falcon turns his attention to Western Meadowlarks, Valley Quail, and Western Mourning Doves.

Late in the summer of 1916 I examined the base of a small cliff in which a brood of young falcons had been raised earlier in the season. There were great quantities of feathers of the four species of birds mentioned above, but the only mammalian remains in evidence was the foot of a small rabbit, and that may have been dropped by one of a pair of barn owls which nested in a deep crack in the cliff a few yards beyond the falcon's pot hole.

April 9, 1918, I came across a much-whitewashed pinnacle across a small canyon opposite a cliff in which a female falcon was incubating a set of eggs.

This point, which commanded a view, not only of the nest site, but of much of the surrounding country, was plentifully besprinkled with feathers of the Gambel Sparrow and for a space of several yards around the base, many of these feathers were adhering to the grass and bushes. To this point, no doubt, the male brought the results of his foraging expeditions and here he devoured his meals as he kept a watchful eye over the neighboring hills and canyons.

A nest containing an incomplete set of eggs was examined March 25, 1917. There was no evidence of food in the nest excepting two yellow breast feathers of a meadowlark.

On one occasion, while walking along a creek bed, a falcon, with a most disconcerting roar of wings, came down from a ridge above and dashed into a flock of sparrows. The sparrows dove headlong into the brush squeaking

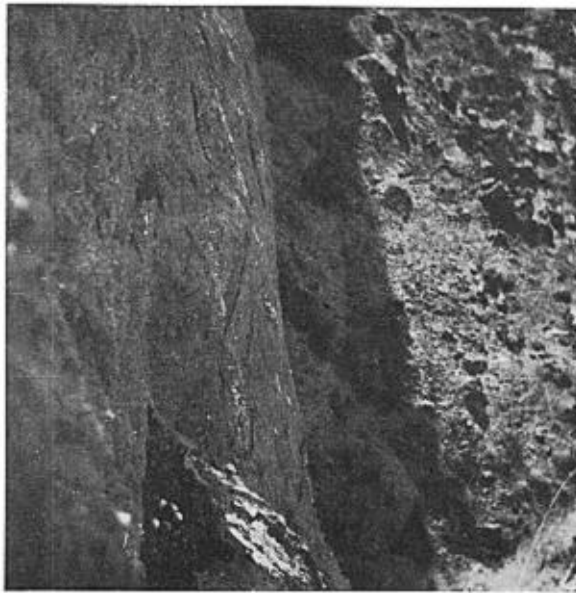


Fig. 30. EGGS OF PRAIRIE FALCON IN SITU,
ON SHELF OF DIRT BANK. WESTERN FRESNO
COUNTY; APRIL 5, 1919.

lustily as they went, but the falcon hurried away over the bank so fast that I could not determine whether or not he had been successful.

October 24, 1912, near Fresno I saw, at close range, a falcon which had been circling overhead suddenly fold his wings and swoop at a small white chicken in a barnyard. The chicken escaped by quickly diving under a clump of shrubbery.

A farmer living in Fresno County, many miles from the hills, once told me that a falcon made almost daily visits to his place and carried away toward the western hills many 'fryers' until a charge of shot put an end to such depredation.

Only once have I found satisfactory evidence that mammals are occasionally taken. April 8, 1918, a nest on which the female falcon was sitting closely or, perhaps, sleepily, on a rather heavily incubated set of eggs appeared to be

untenanted, since much shouting, clapping of hands, and the throwing of many stones against the bottom of the cliff failed to bring about any signs of occupancy. However, several large, blue flies could be seen buzzing around the entrance to the pot hole. This seemed to suggest the possible presence of a Turkey Vulture, so I climbed to the top of the cliff and threw over a coil of rope, whereupon a female falcon, apparently rudely aroused from slumber, flapped out of the hole. The presence of the flies was explained upon examining the nest, as the hind quarters of a ground squirrel, with the tail attached, were lying in the entrance. Evidently the incubating bird had not found this food particularly palatable, as she had eaten but little of it, although it must have been brought in by the male two or three days previous to our visit. For the fragrance of that nest cavity almost equaled that of the most approved Turkey Vulture cave.

That this species sometimes seeks its food in much more lowly manner than one would expect is evidenced by an incident which came to my notice on January 13, 1920, near Hughson, Stanislaus County. I was sitting in an automobile talking with an acquaintance when I noticed a Prairie Falcon on the ground in a large grain field. The bird was about 125 yards away, but was clearly visible. He was hopping over the ground and seemed to be carefully looking at the many small bunches of stubble which had accumulated as a result of the recent plowing of the field. The falcon was repeatedly seen to hop up onto small clumps of this straw, and scrutinize them carefully as if in search of any small bird which might be concealed therein. After satisfying itself that no prey was to be found, other straw heaps, in turn, were visited. Fully half an acre of ground was covered, but the falcon was not seen to capture anything. I had become convinced that I was watching a wounded bird, which, being incapable of flight, was endeavoring to find food by hunting on the ground instead of from the air. As I left the field, I ran toward the bird and was surprised to see it spring into the air and beat away on strong wings. As the falcon began to gain speed a jack rabbit sprang from its place of concealment, whereupon the falcon made a very swift and graceful swoop toward the rabbit but did not appear to endeavor to strike it.

VOICE

The voice of the Prairie Falcon is, on the whole, rather disappointing. A series of rapidly-repeated screeching, whistling, or cackling notes of varying tone and pitch constitute the usual calls, and these are most often heard in the spring months near the nesting cliffs. Sometimes these notes are given with considerable spirit, but often there is recognizable a sort of indifferent tone. In many cases I have been unable to detect any difference between the voices of the male and female of a pair of falcons, but some females, which may be old birds, have had harsh cackling voices, while a few males with which I have come in contact have had rather pleasing high-pitched whistling calls. While inspecting nests I have often found that one of the pair of birds will remain silent while the other makes all the noise, but this is not always the case. In the majority of instances where this has happened it has been the male that whistled while his mate kept silence. Occasionally, both birds of a pair will become enthused and the resultant din is most thrilling.

FLIGHT

Capable of really remarkable speed and with splendid mastery of the air,

this falcon nevertheless offers many disappointments to the observer. Somehow, the bird seldom seems to do his best. Laziness, perhaps, is the best explanation of this phenomenon. Generation after generation of falcons has found the task of securing sufficient food for their needs a ridiculously easy one. Since, therefore, only a minimum amount of energy need be expended in the chase, much of their spare time is spent in idleness. This is true especially in the fall and winter months. Nothing that has ever come within the range of my observation, however, has quite the thrill-producing quality of the flight of a Prairie Falcon really intent on 'getting somewhere.' Occasionally, too, a pair, while defending a set of incubated eggs, will give an exhibition which is well worth traveling miles to see.

Once, when I was examining a nest on a north-facing cliff, while the male sailed along in short flights cackling constantly, the female, facing a terrific wind, repeatedly came in silently, just skimming the top of the ridge and, suddenly, closing her wings and shooting upward for a distance of about fifty

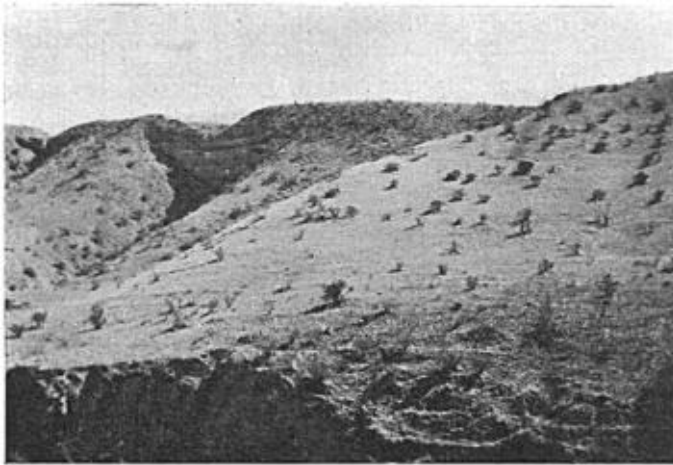


Fig. 31. HUNTING GROUNDS OF THE PRAIRIE FALCON, WITH NEST CLIFF IN THE BACKGROUND.

feet, she would hang motionless for a very brief interval, then turn completely over and dive with almost incredible speed at the climber on the cliff. She never quite struck but came uncomfortably near several times. It was a most exhilarating experience.

In order to see the wing work of this species at its best, it is necessary to be on hand during one of the terrific wind and dust storms which occasionally, about the time of the autumn equinox, sweep through the Altamont Pass and down the entire length of the San Joaquin Valley. At such times the falcon seems to ride the storm for the sheer pleasure of it. Often, he is accompanied by a pair of Marsh Hawks which, although not his equal, are nevertheless fit companions on such a tumbling 'joy ride,' and the falcon's mastery of the air seems even more complete when viewed in contrast to the weaker effort of the other species.

NESTING SITES AND NESTS

In the region where my observations have been made the north end of

the ridges breaks off abruptly into cliffs and for that reason most of the nests I have examined have had a northern exposure. A few have been on west-facing cliffs and one faced the east or northeast, but none has been on ledges with an outlook to the south. Of seventeen nests personally examined during the past few years nine have been in pot holes of various sizes, where the eggs rested on the gravel and small loose rocks which lined the cavity. Six sets were laid on the tops of nests built by ravens and these nests were utilized without any alterations whatever. In one case, the nest was newly built and freshly lined with wool, while the other five were in various stages of disrepair. One pair of falcons used, during three seasons, a hole in which a pair of ravens had evidently built a nest many years before; but successive families of young falcons had so plastered the entire cavity with guano that there remained only a shallow cavity where the eggs rested on a solid 'concrete' block which formed the hardest and most unyielding nest lining I have ever seen. One pair nested on a small rock shelf of a cliff exposed from above and on three sides to the full fury of the elements, while another pair selected a very similar situation on the fifty-foot dirt bank of a creek.

Taverner (8) describes nests of the Prairie Falcon found in Canada as being well lined, substantial structures. The necessity for such nests is probably brought about by the colder weather and heavier storms of that region. So far as the district in which my observations have been made is concerned, it may be said with full assurance that no nesting material of any kind is ever brought to the nest by the falcons and any such material found there can probably be traced to the work of some other species which at some former time occupied the site or was preparing to do so. The floors of some of the cavities are covered with a small quantity of gravel or small pieces of broken up rock upon which the eggs are laid in a very slight depression, but the floors of some of the pot holes are of too solid a formation to permit even the semblance of a nest. I seldom find feathers, bones, fur, or other refuse in the nests before the young appear. On account of the more or less exposed situations of many of the nests, the birds must suffer considerable inconvenience from the cold winds and driving rains which are not always entirely over by the time incubation commences.

EGGS

Data on twenty-one sets of eggs examined in this region by myself and other collectors between the dates of March 25 and April 24, of various years, show that five eggs constitute the usual number, but sets of four are not infrequent. Only undoubted first nests are included in this table, as all sets known or suspected to be second sets have been omitted. Furthermore, the nests mentioned below had not been previously disturbed during the season in which the record was made.

| Date | SETS EXAMINED | | Remarks |
|----------------|----------------|----------------|---------------------|
| | Number of eggs | Incubation | |
| March 25, 1917 | 3 | Fresh | Set incomplete |
| March 31, 1915 | 4 | Small embryos | |
| April 1, 1915 | 5 | Small embryos | |
| April 1, 1920 | 5 | Begun | |
| April 1, 1920 | 4 | Fresh | Probably incomplete |
| April 2, 1915 | 4 | Slight | |
| April 2, 1915 | 5 | Slight | |
| April 5, 1919 | 5 | Small embryos | |
| April 5, 1919 | 5 | Slight | |
| April 6, 1922 | 5 | Begun | |
| April 7, 1917 | 5 | Nearly fresh | |
| April 8, 1917 | 5 | Small embryos | |
| April 8, 1918 | 5 | About half | |
| April 8, 1918 | 5 | Slight | |
| April 8, 1918 | 3 | Considerable | Full set |
| April 9, 1917 | 4 | Half-incubated | |
| April 9, 1917 | 4 | Small embryos | |
| April 10, 1917 | 5 | Half | |
| April 13, 1921 | 3 | Not noticeable | Possibly incomplete |
| April 15, 1922 | 4 | Begun | |
| April 17, 1921 | 5 | Half | |
| April 24, 1920 | 5 | Large embryos | |

The set of three taken April 8, 1918, was unquestionably complete as the eggs were considerably incubated. But, knowing the habits of this very eccentric pair of birds, I am inclined to believe they may have begun a set in some other location and deserted it after one or two eggs had been laid. This pair of birds evidently left the locality in 1920, or perhaps the female was killed while on a winter foraging expedition out in the valley, as a visit to the nest on April 13, 1921, revealed an entirely different bird with a strange voice and none of the spirit of the former tenant. There were only three eggs and these were not noticeably incubated although the female was in the cavity and seemed very reluctant to leave. The eggs were of a totally different type and unlike any others I have seen, being very much elongated and very boldly blotched with an unusual type of markings.

The eggs from any one pair of birds bear a close resemblance from year to year and it is always possible to tell, by the eggs alone, when a new female takes possession of a nest.

I have never made a practice of taking second sets, but I have determined that a second set is nearly always laid within a period of from twenty to twenty-five days after the first set has been removed. Usually the same nest is used, although sometimes the birds move to another site which, as a rule, is in the same cliff or in one not far away. Second sets almost invariably consist of the same number of eggs as first sets. Undisturbed birds raise but one brood of young each season. Moreover, I am inclined to believe that certain pairs occasionally pass a season without nesting, as I have, on two different occasions, found both birds present at a nest site, yet their actions did not indicate that they were nesting and on subsequent visits they showed no active interest in the neighborhood.

Climbing to nests of this falcon is splendid sport, but an element of danger is always present. Falling rocks are always a source of trouble and in those dry, rocky gorges, I have found rattlesnakes present far too often. The fal-

con's handsome eggs, however, have made her famous. Yet, if this species laid unmarked eggs in stick nests built in the willow thickets out in the valley, it would attract no more attention than the humble Cooper Hawk. What is there about a visit to the haunts of the Prairie Falcon that is so alluring? What is it that impels a bird-lover to return year after year to the same dry washes and the same rough, treeless ridges? These questions are best answered in the language of my companion on one of my trips. It was a warm afternoon and we had been tramping steadily from a far-flung spur of a certain range of hills. As we neared the crest of a high ridge we paused to gaze silently out into the great sun-swept valley where a distant town shimmered faintly in the afternoon sunlight. Picking up his coil of rope preparatory to resuming the climb, my companion turned to me and said, "Attaboy, Tyler; this is the life."

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THE BOY WHO HUNTS*

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TODAY the modern boy cannot go gunning as did his father. Sentiment is against it, game is scarce, and laws prevent him. Yet boys will be boys, and hunt they must. Our problem is to divert this inbred love of the chase along constructive lines and not to destroy his heritage.

Frowning upon bird-killing or forbidding sling-shots will not change the desire. If you take anything at all from the boy you must give him something better in its place, else it is not a fair trade and he will long for the flesh-pots of Egypt. Sentiment loses its charm when the hunt begins. Aesthetic training suffices very well with small children, but the boys soon outgrow it. The boy is a hunter and we may as well accept the fact.

This instinct to hunt the living thing I have learned to utilize in teaching nature to children. It is only recently that I have become aware that parents, teachers, and bird-lovers are still trying to deter young hunters by negations

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