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EXPERIENCES WITH PRAIRIE FALCONS

WITH TWO ILLUSTRATIONS

By WRIGHT M. PIERCE

The Prairie Falcon is without doubt the wildest and fiercest bird of our western deserts. It is the light colored cousin of the Duck Hawk, that dark fellow which nests sparingly along the coastal slopes. Possibly this latter bird has more dash and speed than the falcon, but I rather doubt this after having seen both at their nesting sites for many seasons. Both species are exceptionally zealous in the protection of their nests and young; and to have either fly toward one with terrific speed and angry fierce cries and lightning-like swoops, gives a thrill never to be forgotten. Both forms are closely related to European and Asiatic species that have been used for generations in the royal sport of falconry.

I admire these birds for their speed and courage and for their marvelous demonstrations of flight maneuvers that I have been privileged to see; and a feeling of sadness comes over me when I realize that these wonderful birds have been so much reduced in numbers in the last few years. Some day, before it is too late, I hope the general public will wake up and realize that just because a bird is a hawk is no reason that it should be ruthlessly exterminated. No doubt these birds do some harm, but scientific study has proved that their good traits far over-balance their bad habits. When they are gone and something far worse has come upon us, for nature always compensates, we will pray for the Prairie Falcon's cry on the desert and for the scream of the royal Duck Hawk in its native home. But then, sad to say, it will be too late and man will repent of his folly.

However, this spring I discovered a nest of the Prairie Falcon (*Falco mexicanus*) in an out of the way, rugged desert canyon, where mountain sheep occasionally wander, and whose walls were fashioned from sheer rough cliffs, hundreds of feet in height. In this wild, secluded section the birds had chosen a nearly flat shelf, in a crevice near the top of one of the highest rocky domes, upon which to lay their eggs; for these falcons build no nests. As my friend and I entered this canyon, some quarter of a mile from the nesting site, we were met by the female with angry cries and tremendously fast dashes; for it is the female bird of this group that is always the larger and the one that does most of the fighting in the protection of the nest. Her scream is the louder and more hoarse; the male usually stays farther away and with weaker, more high-pitched notes, seems to be encouraging his more valiant mate.

This nest held five young, four females and one male, nearly ready to fly. As we went over the top toward the nest, one of the youngsters took off and flew rather unsteadily to a cliff across the gorge. All the while the old female was making furious noisy dashes at us, sometimes too near for comfort, while the young were giving us a furious battle with both beak and talons. They could strike with their talons like lightning, and even though we were cautious we received several deep scratches on our hands and arms. They did not seem to tame at all and by their fierce angry cries they expressed their hatred of us in falcon language. Finally,



Fig. 44. Portrait of Prairie Falcon, the wildest and fiercest bird of our western deserts.

finished with our moving pictures and stills, we placed them all back into the nesting cavity with the exception of the male. This bird, even though he did not seem to have any better disposition than the others, I carried home for further study and with the hope that I could succeed in taming this wild desert fellow.

At first he refused to eat and met me with beak and talons and angry screams. However, after I had forcibly fed him for a day or two and handled him continually, my falcon gradually quieted down and began to eat by himself. For food I gave him raw beef, not chopped up, for he would not eat ground meat. One day he was offered an English Sparrow and this he pounced upon at once. This is interesting since all we found in and about the nesting site were the remains of chuckawallas, large desert lizards that abound in the haunts of these birds. Perhaps his parents had occasionally fed him birds, as there were many of them in the little canyon below the nesting cliff, but there was no evidence of such food about the nest.

Within a few days our bird seemed to recognize all of my family, and now his beak was used more in play than in anger. He gently pecked at our fingers and soon became the family pet; even my small children carried him about on their hands and, while his talons were extremely sharp and sometimes scratched a little as he held on, he did not use them maliciously. When put into the cage in the early morning, after spending the night in a safe place in the house, for we were afraid



Fig. 45. Prairie Falcon: He watches intently all small birds that fly by his cage.

that some marauding cat would frighten our falcon, he seemed to want exercise. Twisting his head from side to side until one wondered if he would not disjoin

it, he would jump around on the floor of his cage, grabbing stones, sticks, a ball or a piece of paper, throwing each about in turn, shaking his head and flapping his wings. During these maneuvers he moved so quickly that his muscles seemed to be coiled springs and his neck to be made of rubber. Anything that could be torn apart seemed to delight him; the paper was torn into bits and soon a rubber ball was in small pieces.

Always after these stunts he was ready for breakfast. He grasped his food with his talons and held it tightly while he deliberately tore it into small bits with his powerful hooked beak, before he would eat it. He would carefully pick away the primaries and tail feathers of birds and then devour in small mouthfuls all that remained, even the bones, feathers and entrails. After two months I have never found a regurgitated pellet, for even in the wild, falcon pellets seem to be unusual. I have seen what I thought to be such on rare occasions about their nests. When food was given to the bird he usually grabbed it with his beak but would immediately transfer it to his talons.

A small gun was used to shoot English Sparrows for the falcon, and it was not long until the bird appeared to associate the report of the gun with food. Immediately, especially if he were hungry, he would jump up and down on his perch, flapping his wings all the while, intently gazing at the fallen sparrow, and when I reached the cage he was at the gate awaiting me, and seizing the bird he would utter a few satisfied croaks.

The cage of our bird was in the backyard and he would watch the youngsters at play with apparent interest and enjoyment. At his first sight of a dog, a small white one, he seemed extremely frightened, fluffed up his feathers and screeched angry warnings. This dog was a neighborhood pet and very shortly our bird came to recognize him and simply watched with piercing staring eyes when the animal came near. However a black Spaniel once came into the yard and this appeared to drive our pet mad; he screamed and tried to get away and ever since has shown a great dislike for any black or dark colored dog.

One day, unthinkingly, I approached the cage wearing large dark colored amber glasses; the falcon was nervous and by his actions did not appear to know me. He calmed down as soon as I removed the glasses.

Gophers and toads were scorned; once and only once, did he bite at a small toad and the taste appeared to be repellent to him. When he was younger, I had offered him a snail which he did not appreciate at all; he merely bit at it and the taste seemed to be repulsive, for he spent at least five minutes opening and closing his mouth and rubbing his beak on his perch. It is interesting to note that a young Sparrow Hawk, which I had captured, seemed to enjoy immensely a snail that I fed him. Apparently the tastes of these two hawks are quite different.

Strangely, the sight of two pet desert tortoises nearly drove our bird crazy. It seems unusual that this bird, a native where these reptiles live, should have been so frightened. This was one reaction that has remained a puzzle to me. One afternoon I gave him a small lizard. This he seemed to relish, as he ate it with much gusto. Later, I offered him a larger garden lizard, which he appeared to fear, and he would have nothing to do with it. Now this last lizard was even smaller than the chuckawalla, his principal food as a nestling on the desert. This reaction was also a mystery that I have not yet solved. Bright lights and unusual sounds bothered our bird and he would become very nervous. He even fought and scratched a red flower pot which I accidentally placed in his box one morning. However, after a few minutes he became accustomed to this and paid no more attention to it.

One morning a friend brought a young Sparrow Hawk that could just fly, which I put into the cage. Unafraid, the little hawk sidled up to the falcon, who turned his head from side to side and over backward and studied and stared at his cage mate from every angle for some time but did not offer to strike or harm the smaller bird. After a few minutes the little fellow crawled through the wire and escaped, so that this experiment was soon terminated, excepting that the mother Sparrow Hawk fought the falcon for days. However, our bird did not seem to be bothered a great deal by the swoops and cries of the angry hawk, even though the Sparrow Hawk's wings hit the cage several times in her mad dashes. Our pet simply bored attitude.

Many airplanes cross above our home each day and my falcon would peer at each one from the time it came into view, turning his head sideways and intently looking, until it disappeared in the opposite direction. He studies intently all small birds that fly by his cage, perhaps wishing that he could have a chance to catch them. One day he somehow escaped, but was found sitting quietly on top of his cage. He willingly stepped onto the hand my wife offered him and seemed pleased to get back to his own perch. When taken from his inside sleeping quarters to his open wire cage, he struggles and squirms and is so anxious to get into his cage that he willingly crawls through a small opening in the wire. I have never seen him trying to find a way out, though, at times, when frightened he flies against the side of his cage. When sleeping, he does not put his head under his wing, as many birds do, but fluffs out his feathers and, sitting low, seems to pull his head almost out of sight between his shoulders. Though he partly closes his eyes and appears to doze he seemingly never really sleeps in the daytime. On moonlight nights he faces the moon; his eyes always seem to be open and he seems very alert even then.

I have carried him for many hours in a box in the car and exhibited him before several groups of people. So far, my falcon has behaved perfectly, although one day when I tied a string to his leg, he became furious and attempted to bite and claw me. However, he calmed down as soon as I removed the cord. Our bird enjoys the freedom that we give him in our home, flying from the table to the moldings on the walls or to the top of a door or even to our shoulders or even onto our heads. Not one of us is bald as yet, so we rather enjoy this last action. With us he is extremely docile and gentle. But one day, he clamped his sharp beak onto the finger of a stranger who tried to be friendly with him. He bit so hard the wound spurted blood. Now I am sure that he recognizes my whole family, and believe that he really enjoys our company.

One hot day, thinking to give our pet a drink, I placed a large pan of water in his cage. At once he dropped into the dish and proceeded to bathe much as a waterbird would. He jumped up and down in the water, flapped his wings, ducked his head under the water and seemed so at home that I wondered for a moment if he had turned into a duck. However, he was a very sorry, bedraggled looking falcon when he finally hopped onto his perch to dry and preen his soaked feathers. He had become so very excited about all this that he trembled for several minutes, but, as the day was hot, I am sure he could not have been cold. He has had several baths since and they still always seem to please and excite him. Now I have been wondering how he knew about this bath business; certain it is, in his dry desert home this bird had had no experience with water. We must certainly put this reaction in the instinctive group.

On warm days he sits on his perch with wings partly spread and when the weather is very hot he often spends hours standing on the ground which is the

coolest location, especially as the cage is often cleaned with water and is damp. It did not take our pet long to locate this cool spot.

A summer trip to a new home in the mountains brought strange experiences for our bird. At first robins, jays and chickadees which scolded about his cage seemed to bother and worry him considerably. When I went to the cage to see what all the fuss was about, I found the bird nervous and trembling. However, in a day or so he adjusted himself to the new environment, and the strange birds with their new notes failed to worry him any more. He simply sat and intently watched them. Apparently tiring of looking, he would yawn and then stretch his wings out at full length; then grasping his perch tightly he would furiously flap his wings for several moments. Nevertheless he was probably again wishing that he could escape, if only for long enough to make one quick stab at his tormentors.

In taming this wildest of desert birds our experiences as a whole have been exceedingly satisfactory. We have learned much about the life habits of this comparatively rare species, that would have been almost impossible to learn in any other way. And while I watch our bird in his cage, intently gazing at the great out-of-doors, and think that perhaps I should give him his freedom, I stop to wonder if he is not better off where he is. For I remember the fate of three young falcons that we came to know and banded a few years ago. Within a few weeks all had been reported as shot. Probably my falcon is better off as he is. Either way the life of these royal birds is not just all that we wish it could be.

Claremont, California, April 9, 1934.

OVER-POPULATIONS AND PREDATION: A RESEARCH FIELD OF SINGULAR PROMISE

By PAUL L. ERRINGTON

Recent publication (Errington, *Ecology*, 15, 1934, pp. 110-127) has been made of evidence supporting a modification of the broad principle advanced by McAtee (*Smithsonian Misc. Coll.*, 85, 1932, p. 141) that "predation tends to be in proportion to population" and later restated by him to conclude "... the proportion, however, rising and falling progressively with the increase or decrease in numbers of the available food organisms" (*Proc. Roy. Ent. Soc. London*, 81, 1933, pp. 113-126). McAtee's emphasis upon availability of prey being the chief factor governing the food habits of predatory species has been particularly substantiated by our ecological studies on bob-white (*Colinus virginianus*) in the north-central United States.

McAtee, summarizing the results of a tremendous amount of research (80,000 bird stomach examinations) in a short statement, neither intended nor attempted to discuss in full detail the food habits of, or the effects of predation on, any individual species. From the standpoint of a concise generalization pertaining to predators and prey as a whole, McAtee's principle of proportional predation may be about as close to the truth as we are capable of approaching.

Fundamental as this may be, we need further amplification of predator and prey relationships to give a clearer insight into the mechanics of predation. Its exceptions, its modifications, its pertinent corollaries, within the limits of our know-