

about overhead continually, ever ready to pounce down on some unprotected cormorant's nest. We observed one Baird cormorant that was scared from its nest. No sooner had she gone than two gulls pounced down upon the vacated eggs, and while one of the robbers pierced two and devoured the contents, the other gull picked up the remaining egg in its bill and flew off to the adjacent rock.

There were a few pigeon guillemots (*Cephus columba*) about the rocks, but not very many were found breeding there. We noticed a number of pairs of black oyster-catchers about the rocks, but were only able to locate one nest.

The birds were flying back and forth continually uttering their whistling call.

The nest of this species that was found was on the south side of the rock, on a little slope where the fine pieces of rock had fallen down from above. The three eggs were placed without the least sign of a nest, two of them were near together while the other was about eight or ten inches below. All of the eggs were pipped and just about ready to hatch in the warm sun. The parent birds were flying about the rock but did not come near the eggs.

Berkeley, Cal.

Nesting of the Prairie Falcon.

BY O. W. HOWARD, LOS ANGELES, CAL.

EARLY during the spring of last year while doing some development work on one of my mining claims in the Huachuca Mountains in Cochise Co., Arizona, my attention was often attracted by the screaming of a pair of prairie falcons (*Falco mexicanus*). The sounds seemed to come from a tall cliff near the crest of a high ridge on the opposite side of the canyon in which we were working, and although the distance was too great to watch the birds I felt certain they were nesting on the cliff. When the birds had been in the vicinity for several weeks I felt sure it was time for a full set of eggs, so my partner and I made a trip up to the cliff to look for the nest. When we were within a few hundred feet of the cliff we were greeted by a sudden screaming, and on looking up saw three prairie falcons in an aerial combat.

Their flight was very swift and graceful; undoubtedly two of the birds were the pair nesting in the cliff and the other an intruder. One bird of the pair was following in close pursuit of the enemy while its mate would ascend high into the air and with folded wings drop like a falling stone and at the same time

utter a shrill scream. Just at the second one would naturally expect to see the enemy dashed to pieces, a slight turn of the tail would carry him to one side and the would-be assassin would dart harmlessly by like a flash.

We watched the performance until the birds had passed out of sight. The rest of the way to the cliff was a hard climb through the thick oak brush and over large, jagged rocks. When we reached the cliff two of the falcons had returned and were flying about in their usual manner with quick fluttering wings, occasionally uttering their peculiar scream. When we had watched the birds a few minutes one of them, presumably the female, flew to a cavity about half way up the face of the cliff and disappeared. This I felt sure was the nest, as the male bird lit on a sharp projection of the cliff not far off. I had forty or fifty feet of small rope with me but not enough to do any good so I decided to let the matter rest until I could obtain a longer and thicker rope.

Before leaving the cliff, however, we looked around to see what else we could find; there were several turkey vultures sailing back and forth, also a golden eagle was seen and a pair of

American ravens sailed in circles high in the air. We located several nests in inaccessible places which were undoubtedly nests of ravens. When we had satisfied our curiosity we made tracks for camp and on the way found several old nests which we felt sure were those of Woodhouse jay. The nests were placed in the low scrub oak, some of them only two or three feet above the ground.

Two or three days later, April 18, I secured 100 feet of inch-and-a-quarter rope from a friend in an adjoining mining camp and, assisted by my partner, we again made our way to the cliff. On reaching the top of the ridge we made our way down to the edge of the cliff through a gorge in the solid rock, where a bunch of oak trees were growing. We tied the rope to one of these oaks and when everything was secure I slid down the rope for twenty or thirty feet to a shelf-like projection. At this point I was somewhat confused; I was standing just above the nesting cavity where the cliff hung over considerably.

About four feet to one side there was a crevice in the rock and by jerking the rope over a point above me I could let myself down the crevice. When I had lowered myself to a point opposite the nest I found I was in a dangerous position as the strain on the rope was not direct and by the least false move the rope would be likely to slip over the point of rock and set me whirling out in space 75 feet above the ground.

Had the rope been long enough to reach to the base of the cliff I should not have felt the least fear for it would have been an easy matter to slide on down. As it was, only fifteen feet of the rope hung below me. I knew I would have to climb to the top again and climbing a loose rope is not child's play for it is nearly all hand-over-hand work. While I thought of these things I had a good resting place and meantime had worked up considerable courage. Just above the nesting cavity was

a hole through the solid rock, leading downward into the cavity. It was rather a risky undertaking as I made my way along the face of the cliff to this hole. I held the rope in one hand and the sharp points of rock in the other, at the same time using my feet to steady myself. I could stand in the edge of the nesting cavity and by sticking my arm down the hole mentioned, could hold on with one hand.

I could look into the cavity through the hole but could not quite see the nest. Now came another difficulty; the cave was only two feet high, of about the same width and ran back about six feet from the face of the cliff. By keeping my hand hold I could lean over just far enough to see that the nest contained eggs. Just about this time I forgot all my danger and somehow managed to squeeze into the cavity head first. The nest was about four feet from the entrance of the cavity, in a depression in the solid rock, with no nesting material except a few feathers of the old bird and small bones and hair of the smaller quadrupeds; also a number of pellets ejected by the old birds. I am certain that both birds occupy the nesting cavity at night for there was a depression in the end of the cavity which showed signs of being occupied by one of the birds.

The nest contained five eggs, rather light in color for the eggs of this species. They have a yellowish-brown appearance, the color being almost solid but somewhat darker about the larger ends. The smallest egg in the set measures 2.03x1.64 inches and the largest 2.13x1.63. After making a thorough examination of the cavity I thought of getting back on top once more. I had a tin tobacco box with me which would accommodate only three of the eggs, so it was entirely useless. It was rather a difficult task in so small a place, but I managed to slip my overshirt off and after wrapping the eggs in what little cotton I had, I rolled them in my shirt.

During this whole performance I had

to keep the rope in one hand as it would otherwise have hung out several feet from the mouth of the cavity, and this of course made matters still more difficult. This was my first set of eggs for 1901 and the only one of this species I had ever taken, so I was much pleased and the thought of getting back to my partner did not worry me in the least. I placed the roll of shirt between my teeth and after twenty-five feet or so of hard climbing came to a resting place, where I took the roll of shirt in one hand and gave myself a chance to

breathe.

The rest of the way to the top was not so hard as the cliff was more broken and not quite perpendicular. My partner looked rather anxious as I scrambled over the edge of the cliff, for I had been out of his sight at least twenty minutes. He cracked a smile when I tried to tell him (without removing the roll from between my teeth) that "I got 'em," while I packed the eggs in a larger can which I had left on top of the cliff. He coiled up the rope and we were soon in camp once more.

Notes on a Small Collection of Birds From the Island of Maui, Hawaii.

RICHARD C. MCGREGOR.

DURING the winter of 1899 and 1900 it was my fortune to spend several months among the Hawaiian Islands and a considerable part of that time at various points on Maui. This island is the second in size of the group, being about 48 miles long by 30 miles wide and covering some 760 square miles. It appears to have been, until recently, geologically speaking, two circular islands which are now connected by a strip of low coral sand-hills, either raised from the ocean or drifted in by the wind.

East Maui rises to 10,000 feet elevation with the volcano of Haleakala, now extinct, at its top. West Maui is but little over half as high, but its sides are far more precipitous, and deeply water-worn. The sand dunes bear but scant vegetation, except where cane fields, through the all-powerful agency of artificial irrigation, have been pushed out in green patches. Save for a few doves and occasional bunches of golden plover or a wandering troupe of weaver birds there is nothing in the sand-hills of interest to the bird-man.

From near the town of Kahului, one may follow up the beautiful Iao valley into the mountains of West Maui. From the desert-like sand dunes to the deep forests of the highlands the change is remarkable. In a short distance from the beach one is confined to the road by the high, thick brush on either side. Here there are a few of our old California friends, the house finches, but nothing else. My impressions of the woods were jotted down at the time I was there and are here transcribed: "As we get up the canyon the brush thins out and trees of fair size, thirty to fifty feet high, occur in bunches. The ground is moist and one can walk absolutely noiselessly. There are no flies and no mosquitoes, and no sound except a chirping, as of some cricket. Birds are scarce. The common introduced species do not get up here."

I will not attempt to describe the plants as they are all unknown to me. Collecting was very unsatisfactory, there being but little open country and but few birds so far as I could see. A number of interesting earth-worms were taken. One species, over seven inches long, found under stones in the sandy soil was as quick as a young eel, which it greatly resembled in its movements. Some small mollusks and a shrimp inhabit the streams. Several rats were seen and a specimen shot was identified by Dr. Merriam as the common *Mus rattus* which he says