

found nesting in the sage (*Artemisia*) of the lowland country. The nest, in both location and construction, is not in the least what the uninitiated oölogist would expect in this type of bird. The first one I ever saw was building and, no birds being present, I felt sure it must belong to some kind of flycatcher that had escaped my notice, so closely did it resemble certain types of nests of the Traill Flycatcher (*Empidonax trailli trailli*) that I have found. It was a perfectly typical nest, both in location and construction, being placed about one foot from the ground in the crotch of a live-oak bush that stood in a dense thicket of the same. It is built externally of silky plant fibres, fine strips of bark and fine dead grass, the lining being mostly of horse hair. The measurements are externally four inches in diameter, by a little less than three inches in depth; internal dimensions being two and one-quarter inches wide, by one and three-quarters deep. I have seen one nest as high as five feet above the ground, but this is most unusual, three feet up being considerably higher than the average.

The eggs in all the nests that I have examined were invariably four in number to the set. They are most attractive in appearance, being greenish blue in color, without markings of any kind. In shape they are a rounded-oval, as a rule, averaging in size about .74×.57 inches.

The female appears to commence covering the eggs much of the time before the set is completed, as on two occasions I have found the bird sitting on three eggs, to which a fourth was added on the day following. Even under these circumstances the bird is exceedingly loath to leave the nest, and after incubation commences it is necessary to startle her very considerably, or remove her by hand, in order to examine the contents of the nest. She will then very often remain in the same bush, scolding in a low, harsh *ch-ch-ch*, continuously and very rapidly repeated. This usually brings up the male, who looks over the situation for a moment or two and then returns to his singing, feeling apparently not the least sympathy with the vigorous protests of his mate. I have noticed this habit in several other varieties of birds, and have often asked myself if it might not, instead of lack of sympathy, be another method of endeavoring to draw the attention of an intruder away from the nest.

## COLLECTING SOCORRO AND BLACK PETRELS IN LOWER CALIFORNIA

By PINGREE I. OSBURN

WITH TWO PHOTOS

**T**HIS Genus of birds (*Oceanodroma*) is to the author one of unusual interest. Every available opportunity that has come my way for five years past has been made use of to become better acquainted with sea fowl in general and the Petrels in particular. For this reason the Los Coronados Islands were visited several times in recent years, each stay consisting of from one day to two weeks. While I was disappointed by not finding these particular birds on all my trips, the entire number of days ashore in active work among their burrows would number a satisfactory total.

The two trips of most importance were on July 3, 1909 (the third trip), and June 19 of the present year (the sixth trip). The first was in company with Mr. Willis Ritchie, and the second with Mr. A. B. Howell. I wish to hereby acknowl-

edge my indebtedness to Mr. Ritchie for his vigorous, unselfish work throughout our entire stay.

On the last trip I was compelled through lack of other means of transportation to make the return trip in a large sea-going cedar canoe, which was manned by two stalwart pearl divers. These islands are now isolated. A year ago a noisy little steamer made the trip down the forty miles of intervening water from San Diego irregularly every week, but this has been abandoned now and the islands are only visited by coasting fishermen, or perhaps smugglers.

My first impression of the two middle islands, where most of these observations were taken, was unfavorable. Devoid of vegetation around the sides except for a spot here and there of scrub ice plant or wind blown cactus, they appear barren and desolate. By the time Petrels are ready to lay the Brandt Cormorants (*Phalacrocorax penicillatus*) and Western Gulls (*Larus occidentalis*), which make their homes on the rocks, are deserting their summer homes. Skirting the outlying rocks, an occasional fitting Coronado Song Sparrow (*Melospiza m. coronatorum*)



Fig. 16. MIDDLE ISLAND, LOS CORONADOS, SHOWING AREA OCCUPIED BY PETRELS

or San Clemente House Finch (*Carpodacus mexicanus clementis*) were the only land birds seen. These with an alarmed Black Oystercatcher (*Haematopus bachmani*) and a few Western Gulls perched overhead on prominent rocks were all the birds in sight. Not until we had landed could the amphitheatre, the chief home of the Petrels, be distinctly seen. But here in a few hours time, on my very first visit in 1905, I found enough to prove my first impression entirely wrong. Desolate? No! For hundreds of stout little feathered beings resorted to this spot for their summer home.

The easternmost of the two middle islands I found to be the most accessible; for while landing on the other middle island our cedar canoe was overturned in deep water, and shot gun, kodak, and egg boxes were drenched, but finally rescued. On this island I found Socorro Petrels in the greatest numbers, and with hard work succeeded in collecting a representative series of eggs on July 3, 1909. Mr. Ritchie and I took in all twenty-two sets of Socorro Petrel and five sets of Black Petrel. At this date the eggs were fresh, but the Socorro Petrels were not breeding com-

monly. A favorite locality for burrows was in the loose loamy soil on the slope of the saddle at the east end of the island. A few were found nesting on a steep, treacherous, open cliff on the western exposure. Here the birds had burrowed in under loose, flat rocks; and a tunnel enlarged sufficiently to admit one's hand would usually bring the entire immediate vicinity down on one's head. This mode was given up after a few attempts at dodging boulders and picking a "non-cactus" place for a foothold.

In the amphitheatre the nests were much more accessible, some burrows being not more than ten inches in length, but others were dug out where the egg was deposited five feet from the entrance. The longest burrows were zig-zag tunnels around loose boulders in the softest soil, and took considerable effort before the end was reached. The nests themselves were usually composed of matted grass and feathers with an under layer of sticks and pebbles. I found some with merely a scratched-out depression in the soft earth, with finely powdered loam heaped around the rim of the hollow to hold the eggs. The burrows showed but little

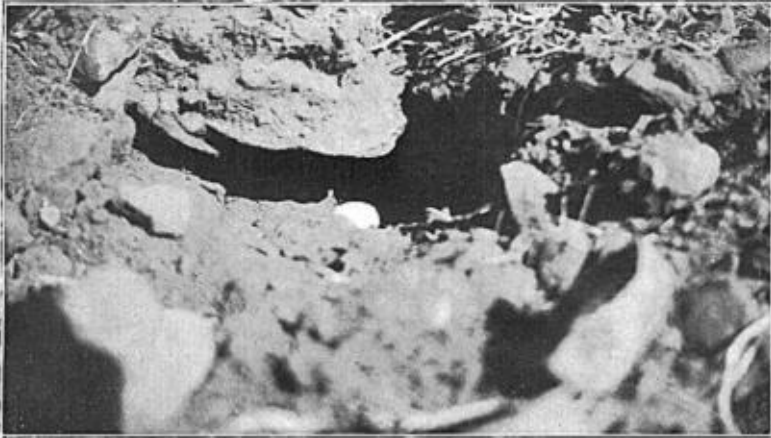


Fig. 17. BURROW OF BLACK PETREL, EXPOSED TO SHOW NEST CAVITY; ENTRANCE AT LEFT

signs of the incoming of the birds as compared with those of the Murrelets. I often found large caves, one measuring at least fifteen feet square, carpeted with soft earth which was sensitive to impressions. The floor of one large cave was a mass of tiny overlapping Murrelet tracks. In this cave the Murrelets burrowed back into almost inaccessible crannies and crevices, where they were easily found, but hard to reach. They probably use these caves as convenient roosting grounds or for nocturnal love walks, as but few of the burrows in such localities were found to be nesting sites, and none contained more than fragments of faded egg shells. I used a candle for locating eggs in one particularly deep cave, and lying prone shoved the light down the shaft ahead of me until for want of oxygen it flickered and failed. This cave was a tight fit and my companion was luckily there and pulled me out by the heels.

The sharp, thorny, buckthorn bushes completely obscure the burrows of the Petrels on the brushy area, and offer great protection to them also, as our gloves in shreds were witnesses after a few hours work. Early in the season when the islands were visited, two birds were usually found in a burrow; later, brooding birds only.

Nearly always the eggs were not quite at the end of the passage. While probably not a premeditated fact, this often helped the birds to escape by frantically digging into another passage. The strong musky odor of the Petrel does not become disagreeable, at least not for several hours. From the moment your hand touches the feathery mass until he makes his exit, the Petrel makes use of this weapon of defense. Drawing the upper and lower mandibles widely apart, he emits a thin strong stream of musky oil.

I found Petrels nesting far above the sea on top of the islands. The main colony was at least thirty feet above the water, and none were as close to the water's edge as were the Murrelets, which I often found in caves whose entrances were submerged in deep water. As a rule the Petrels nested in more secure localities than the Murrelets, and were less often found with damaged egg shells. Half the Murrelets eggs found were dented or slightly cracked by loose pebbles from the roof of the burrow, and a set with an entirely unblemished shell was uncommon. The greatest difference in the nesting of the two Petrels was in burrowing sites and laying dates. The Black Petrels lay earlier. They were more abundant than the Socorro Petrel on the *largest* middle island, and while digging Murrelets I found several burrows containing Petrels. Here also among the hard boulders we found burrows where the brooding bird was in full view and yet inaccessible, so small was the opening. No young birds or immatures of either form were seen, and from incubation stages noted I should judge the hatching point is reached between July 15 and August 15. We saw little of the birds except in their burrows, but they were very active at night.

Of the skins I collected, there is great variation shown in the series of *O. socorroensis*. In two examples the upper tail coverts are white, with dusky median stripes; while in others these coverts are entirely dusky. There is a marked variation in size, also.

The eggs of *O. socorroensis* are white and either minutely speckled with lavender and brown, in a wreath about the larger end, or clear and immaculate. Average measurements (in inches), 1.20×0.90.

The eggs of *O. melania* are white with almost imperceptible traces of brownish speckling. They do not show variation in size or color as much as do those of *O. socorroensis*. The eggs average in inches, 1.45×1.05. Specimens of *O. melania* are unvarying in plumage. My series of skins show the uniform sooty-black color with the exception of the usual light wing-patch, which is characteristic of the dark-colored species of *Oceanodroma*.

## FROM FIELD AND STUDY

**A Second Occurrence of the Bohemian Waxwing in Southern California.**—In THE CONDOR, vol. VII, page 77, a Bohemian Waxwing is recorded as having been taken at Victorville, December 31, 1904. It is the first record of that bird in California outside of Plumas and Lassen counties.

On December 13, 1910, I took an adult female Bohemian Waxwing (*Bombycilla garrula*), six miles east of Daggett, San Bernardino County, which is about thirty miles north and fifteen miles east of Victorville. The bird was alone and was perched on the topmost limb of a dead cottonwood when I shot it.

The elevation here is about 2000 feet. Unlike the previous record we had had no storm in the vicinity, the weather having been unusually mild.—CHESTER LAMB.