

101. *Larus atricilla*. LAUGHING GULL.—Nests on high sand near the beaches; eggs three. June 10.
102. *Sterna regia*. ROYAL TERN.—Nests on high sand; eggs three. No dates.
103. *Sterna cantiaca acufflvida*. CABOT'S TERN.—Nests on sand. No dates.
104. *Sterna antillarum*. LEAST TERN.—Eggs three, laid on the high sand near sea. June 18.

NOTES ON THE BREEDING HABITS OF MAXIMILIAN'S JAY (*GYMNOCITTA CYANOCEPHALA*) AND CLARKE'S CROW (*PICICORVUS COLUMBIANUS*).

BY B. F. GOSS.

In May, 1879, I took nine sets of the eggs of Maximilian's Jay in Colorado. Their nests were all found within from five to nine miles east and southeast of Fort Garland. This region lies along the western base of the Sangre de Christo Mountains, is broken by hills and spurs from the main range, and has an elevation of about 9000 feet. The nests were all in high, open situations, two of them well up the steep mountain sides, and none in valleys or thick timber. All were in small piñon pines from five to ten feet up, out some distance from the body of the tree, and not particularly well-concealed. They are large, coarse, and deeply hollowed structures, much alike, being made mostly of grayish shreds of some fibrous plant, or bark, which breaks up into a mass of hair-like fibres, these forming the lining, while some weeds and grass are worked into the general fabric. I did not measure any of them before removal, and afterwards accurate measurement could not be made, as, being loosely constructed, they spread and flattened. They must have been about as deep as wide, deep enough to receive the whole body of the bird, only part of the head and tail showing above the edge. The birds are close sitters, several not leaving till the nest was shaken, and I could have caught some of them with my hand. On being driven from the nest, they would alight on an adjoining limb, and, with

lowered head and half-extended wings, utter their peculiar querulous cry. One nest contained five eggs, six contained four each, and two three each; both sets of three were partly incubated. Two nests were taken May 5, five on the 10th, and two on the 11th, 1879. The eggs are quite pointed at the small end. The ground color is bluish white, splashed all over with small spots of dark brown, thickest at the large end. Thirteen eggs measure respectively: $1.19 \times .88$; $1.21 \times .93$; $1.22 \times .92$; $1.25 \times .91$; $1.17 \times .87$; $1.18 \times .84$; $1.17 \times .85$; $1.20 \times .82$; $1.17 \times .80$; average, $1.19 \times .87$.

My friend, Mr. H. B. Bailey, has kindly sent me notes of a set of four, taken for him in New Mexico, June 5, 1882. He says: "My nest was in a piñon tree, ten feet from the ground. The inside is composed wholly of grayish shreds of some vine similar to grape-vine. The eggs are almost fac-similes of yours, but have a slightly lighter ground color. [His reference is to a set received from me.] They were hard sat on." His eggs measure $1.20 \times .86$; $1.19 \times .87$; $1.25 \times .93$; $1.15 \times .87$; average, $1.20 \times .88$.

The nest is easily seen, and I am surprised that so few have been found. The bird is a restless wanderer, choosing the most unfrequented places. It often changes its haunts, and may be plenty one year where it is scarcely found in another. Probably the food supply has something to do with its movements. It is gregarious, and partly so even in the breeding season. It is locally, and very appropriately, called the "Piñon Bird," for its home is in the piñon pines, and it is rarely seen far from them.

Clarke's Crow is a common resident of the region described, but has a higher range than Maximilian's Jay. I found it most abundant in the mountain valleys, above the foot hills. In that dry climate the trees on the sunny exposure of the valleys are dwarfed, scattering, and interspersed with thick bunches of bushes, while the opposite side, looking northward, is covered with a heavy growth of timber. It was in and around such timber that I found these birds, and there I looked diligently for their nests. Many times they showed great concern and watched me closely, peering down and scolding from the thick foliage overhead. I thought their nest must be near, and searched everywhere in the neighborhood, even climbing to the tops of high trees; but I have no doubt now that their nests were across the

valley, half a mile away. I spent more than two weeks in this fruitless search, returning every night to camp, tired and disappointed. Any one who has tramped over mountains, in the light air of 9000 feet elevation, will understand how exhausting such labor is; but I particularly wished to get the eggs of this bird, was sure they were nesting in the neighborhood, and did not like to give it up. One evening, after a particularly hard day's work, as I sat by my camp-fire, looking up the valley, one of these birds left the high timber and flew across to the other side. Its direct and silent flight suggested that it might be going to its nest, and that I had been looking in the wrong locality. Accordingly, with renewed hope, I started early next morning to the hill where I had seen it go. After climbing over the rocks and through the bushes for some time I sat down to rest, when I noticed something on a tree about thirty feet away that looked more like a squirrel's nest than anything else. On closer inspection, however, I saw that it was a bird's nest, and climbing up a short distance, was delighted to find a Clarke's Crow sitting on its nest. She sat very close, only leaving when touched by my hand. The nest was built near the end of a horizontal limb, about ten feet from the ground, in an open, conspicuous situation. It was bulky, coarsely constructed, and very deeply hollowed, the bird when on it showing only part of her bill and tail, pointing almost directly upward. She was soon joined by her mate, when, after hopping about in a listless manner for a few minutes, both disappeared. They were silent when near their nest, but noisy enough elsewhere. On further search I found several old nests and one new one, apparently abandoned. All were similar in construction and situation to the one described, and evidently belonged to the same species. The nest with young was found May 21. From finding these nests, and from other observations made, I am satisfied that Clarke's Crow breeds in open, warm situations, preferring steep hillsides; had I known this earlier I believe that I should have found more of their nests.