

# THE CONDOR

A Bi-monthly Magazine  
of Western Ornithology

Volume XXVII

January-February, 1925

Number 1

[Issued January 15]

## THE NEST AND EGGS OF THE BLACK ROSY FINCH

WITH THREE PHOTOS

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**T**HROUGH the generosity of Mr. W. C. Bradbury, Patron and Honorary Curator of Oology, Colorado Museum of Natural History, the museum was able to equip and place in the field a party for the investigation of the nesting habits of the Black Rosy Finch (*Leucosticte atrata*). The major result of these investigations was the discovery of the first nests and eggs of this bird known to science.

The summer range of *atrata* and, consequently, its breeding ground, is known to include the alpine areas of the Wind River, Teton, and Absaroka mountains in north-western Wyoming. There is, however, little data on its local distribution. It was from information kindly supplied by Dr. Alexander Wetmore of Washington, D. C., who had observed the birds in considerable numbers at various points in the Absarokas, that this latter range was selected as the locality for exploration.

Accordingly, the writer, in company with Captain F. E. D'Amour, of Denver, arrived at Cody on June 22, 1924, and on the 23rd proceeded by the stage to the Richard Ranch, twenty-five miles up the Shoshone River. The following day, with an outfit of pack-horses, we climbed the high divide known as Wapiti Ridge, which separates the drainage of the North and South forks of the Shoshone. Camp was established near timberline on the northwest slope of the ridge, in the lea of an ascending tongue of limber pine and Engelmann spruce.

Wapiti Ridge is essentially a broad, greatly dissected plateau, built chiefly by the slow accumulation of volcanic breccia and interbedded basaltic flows, deeply eroded and trenched by a system of canyons and cirques, often exposing nearly vertical cliffs of considerable altitude. The alpine area is quite extensive, reaching from timberline, which occurs at approximately 10,500 feet, to the summits of Ptarmigan and Citadel peaks, 12,100 and 12,000 feet, respectively.

Bird life was comparatively scarce in the alpine zone, and with the exception of an occasional adventurous pair of Mountain Bluebirds (*Sialia currucoides*), the Black Rosy Finch and the Pipit (*Anthus rubescens*) were the only nesting birds. June 25 to 27 a reconnaissance was made along the crest of the ridge. Above timberline the past winter's snows were just beginning to melt and the high volcanic cliffs that rim the alpine basin of the many snow-fed mountain torrents were buried deep under huge drifts.

Finches were first encountered at about 11,000 feet and were seldom seen below this level, although on June 30 we found a single male feeding along a snow bank, among the spruces at 10,300 feet. The basin at the head of Hard-pan Creek, a tributary of the South Fork, proved to be a favorite feeding and resting ground. Here some birds were almost sure to be found, either searching for food in characteristic rosy finch fashion, along the edges of the melting snows, or sunning themselves with fluffed-out feathers among the rocks. At this time, although they were already paired off and nesting was under way, the birds still congregated in small, loosely organized flocks. The males are a quarrelsome and pugnacious lot, and each tolerates no interference in his domestic affairs. As a result, a constant bickering goes on.

From observation and the examination of the stomach contents in the field, the diet of *atrata* during the spring and early summer seems to be largely of a vegetable nature. A number of specimens collected, all exceedingly fat, had their throats



Fig. 1. CLIFFS AT HEAD OF CANYON CREEK, PARK COUNTY, WYOMING. GENERAL VIEW OF NESTING GROUND OF THE BLACK ROSY FINCH.

and gullets crammed with small moisture-softened seeds and bits of newly sprouted plants, material that, for the most part, had been preserved from the preceding year under a mantle of snow, and was revealed as the drifts slowly disappeared.

In common with other members of the genus, *Leucosticte atrata* nests comparatively late in the season. As previously mentioned, on our arrival on the ridge, the birds were paired off, and in the ovary of a female collected June 25, there was a single, fully-developed egg, ready to be laid. Several days were then spent in Hard-pan Basin in a fruitless search for nests. Subsequent developments have convinced me that the locality was used principally as a feeding ground and, by the males, as a sort of gentlemen's club.

In the meantime, we had also investigated the basins of Clocktower, Green and Canyon creeks. The latter creek, judging from experience with *Leucosticte australis* of the Colorado Rockies, was by far the most satisfactory rosy finch nesting ground on the ridge. The entire basin is surrounded by an almost unbroken rim of nearly perpendicular cliffs several hundreds of feet high, a steep slope of slide rock dropping below them to the floor of the valley.

While working just above the slide rock at about 11,500 feet on July 1, an old nest of the previous year was discovered in a vertical crevice about fifteen feet up from



Fig. 2. NESTING SITE OF BLACK ROSY FINCH. ARROW POINTS TO CAVITY IN WHICH NEST NUMBER 1 WAS SITUATED. JULY 1, 1924.

the base of a badly shattered porphyry outcrop. The crevice was rather deep, and at the point where the nest was placed, was about two inches wide. The structure was twelve inches back from the face of the cliff and had been built on the support of a fragment of wedged rock. The side walls of the nest were extremely thin, and, even when fresh, could not have been over one-half inch in thickness.

Investigation of the immediate vicinity disclosed the new nest in a cavity of a basaltic wall a short distance away. The cavity (about forty feet up from the slide

rock) was four inches in diameter, nearly round, and approximately nine inches in depth. The nest was placed at the rear of the hole, its general contour being adapted to the irregularities of the rock.

It is rather loosely woven and is composed largely of fine grass and flower stems. At the outer edge there is a bulwark of fine green moss which considerably thickens the wall at that point. The lining is of finer material, with a small amount of marmot fur and mountain sheep wool and a single rosy finch feather. Measurements are as follows: outside diameter, 130 x 120 mm.; inside diameter, 68 mm.; depth, 30 mm. The nest contained five eggs, ovate pyriform in shape, unmarked, and when fresh and unblown, a beautiful, pearly, pinkish-white (after preparation, a flat white). There is a slight variation in the size of the eggs, both within the set and compared with two other sets collected, as shown in the accompanying table.

MEASUREMENTS IN MILLIMETERS OF EGGS OF BLACK ROSY FINCH

Set number						
1	Length	22.5	21.3	21.7	21.9	22.1
	Width	16.2	16.1	16.1	15.9	16.1
2	Length	22.0	22.0	21.6	21.0	
	Width	16.1	16.0	16.0	16.3	
3	Length	21.9	21.9	22.1	22.2	
	Width	16.2	16.0	16.2	16.1	

On July 6 our second set was found in a fairly large blowhole in the exposed face of a porphyry outcrop, altitude 11,800 feet. This set consisted of four fresh eggs and, on dissection of the female, it was found to be complete.

A third set, the most difficult to collect that we encountered, was placed in a broken-out triangular cavity just beneath a considerable overhang on the face of a towering cliff. A narrow ledge ran to a point about twenty-five feet below the nest, while above it the cliff rose unbroken to an approximate height of two hundred and fifty feet. A rope was secured at the top and the ascent to the nest made from the ledge below. In addition to the overhang our difficulties were increased by the melting snow on the slopes above, which had formed a considerable stream of ice-cold water that fell directly past the nest. This nest, altitude 11,800 feet, was collected July 10; it contained four eggs with incubation well advanced, the embryos being fully formed. Both parents were collected.

From our observation, the evidence leads to the conclusion that practically all the nesting duties are left to the female. The male is seldom seen on the nesting ground proper, though while collecting our last set the male was present in company with the female and his solicitude was equal to hers. Twice he was seen to enter the nest cavity, but he did not remain there any length of time. When disturbed from the nest, the female showed considerable concern, but would courageously hover close by and repeatedly return to the eggs.

During the incubating period, when off the eggs feeding or resting, the female is always accompanied by her mate. As she quietly feeds along, the male follows her about, perching on every slight eminence, spreading his wings and tail for the better display of his rosy plumage, and generally strutting about, all apparently for her entertainment, to which she pays not the slightest attention. The female is an attraction to every passing male and her spouse is sometimes hard put to it to discourage their unwelcome attentions. The fights between the males are seldom serious, although they chase each other noisily from vantage point to vantage point, sometimes coming together to tumble about among the rocks like European Sparrows.

The voice of the Black Rosy Finch is powerful but harsh and unmusical. While a flock is feeding together, the birds sometimes carry on a friendly conversation and, when on the wing, either singly or in company, they constantly utter their characteristic call notes. During the breeding season, the male will perch on a prominent point among the cliffs and attempt to sing, but the effort usually ends in a number of sharp sparrow-like notes. Despite its unmusical quality, the call of the rosy finch is a welcome sound in the high, bleak areas where bird voices are so seldom heard.

In conclusion, the writer wishes to extend thanks to the various gentlemen whose ready assistance aided in the work: First, to Mr. W. C. Bradbury, without whose

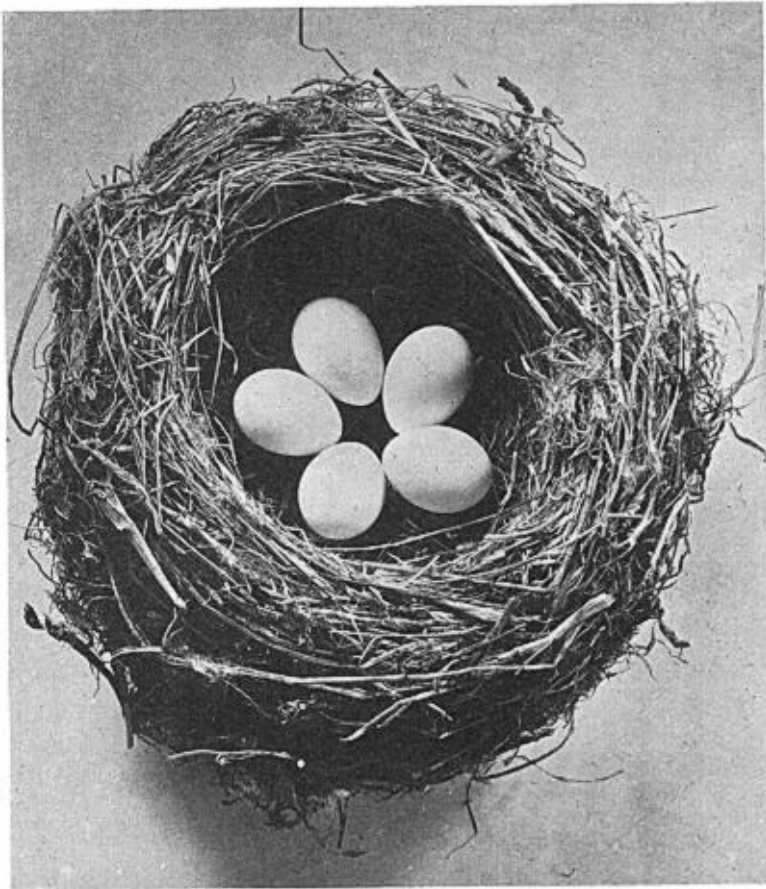


Fig. 3. NEST AND EGGS OF BLACK ROSY FINCH; SET NUMBER 1.  
SLIGHTLY LESS THAN NATURAL SIZE.

help the trip would have been impossible; to Mr. J. D. Figgins, for many valuable suggestions and much practical information on the region visited; to Dr. Alexander Wetmore, for information in regard to the birds; to Messrs. Ned Frost and Fred J. Richard, for many courtesies extended us while in the field; and lastly, to my companion, Captain F. E. D'Amour, whose unstinted coöperation and cheerful comradeship contributed largely to the success of the trip.

*Denver, Colorado, October 24, 1924.*