

presence of any such bone, as being one likely to be confounded with the carpal bones, in our study of the carpi of *Falconidæ*. He sums up the results of his valuable and advanced studies by stating, "Thus we must recognize in birds the presence of four tarsal bones, and at least four carpal bones" (op. cit. p. 152).

Prof. Huxley in his "Manual" (Manual of the Anatomy of Vertebrated Animals, New York, 1872, pp. 248-9) has nothing to say to us in regard to any such segment; he concludes with the wrist-joint by briefly remarking that "There are only two carpal bones, one radial and one ulnar," although this same profound anatomist, to whom we owe so much, calls our attention, in another paragraph, to the much smaller ossicle, in these terms: "A small bone, the *scapula accessoria*, is developed on the outer side of the shoulder-joint in most *Coracomorphæ* and *Celeomorphæ*."

One would hardly look for it in Dr. Coues's elaborate description of the bird-wing in his "Key" (Key to North American Birds, 1872, p. 30), as that section was evidently written with a very different purpose in view, and certainly not to decide the peculiar osteological characters that might be or were already known, to occur in the various wings of the many representatives of the class. These remarks apply with equal force to all that Professor Carl Vogt has to say to us in his paper upon the *Archæopteryx macrura* (Ibis, Oct. 1880), where he devotes a paragraph to a revision of the osteological points as they occur in the upper extremity of the Ring-Dove.

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## OÖOLOGICAL NOTES FROM MONTANA.

BY DR. J. C. MERRILL, U.S.A.

THE following notes on the nests and eggs of six species of birds may be of interest, as all are rare and two, those of the Snowbird and Woodpecker, are, I think, undescribed. These nests were found during the past season in the northern part of the Big Horn Mountains, so near the Montana-Wyoming boundary line that in some cases it is impossible to say in which of these Territories they were located.

**Regulus calendula** (Linn.) Licht.—The Kinglets offer a remarkable illustration of the fact that a bird may be very common, and yet its eggs remain for years among the greatest desiderata of oölogists. So far as I am aware, but four nests of the Ruby-crown have been found up to the present time, and all were found in Colorado.\* A fifth nest was found by me on the 18th of June at an elevation of 7,700 feet. It was in a fir tree, about eighteen feet from the ground, and placed directly against the trunk, supported by a single branch beneath and by several twigs to which the sides were firmly attached. It is large for the size of the bird, measuring externally 3×4, internally  $1\frac{3}{8} \times 1\frac{3}{8}$  inches. It is a very neat, well-made structure with soft thick walls. With the exception of the lining, which consists of feathers of the Richardson's Grouse well woven into the sides and bottom, the whole nest is composed of delicate strips of bark, small pieces of green moss, and fibres of weeds, with a few feathers, spiders' webs and fragments of a wasp's nest, the whole forming a somewhat globular mass of soft materials. Of the eggs, which were eight in number, one had apparently just been laid; the others were somewhat advanced in incubation, but in varying degrees, showing that the female had begun to sit soon after laying the first egg. Dissection of the female showed that this was the full complement of eggs. They average .55×.43, with scarcely any variation in size, though some are much more pointed at the smaller end than others. It is not easy to give an accurate idea of the color of these eggs by any description. At first sight they appear to be of a uniform dirty cream-color, but a close examination shows that in most of the specimens this color is deeper at the larger end and there forms a faint ring. In six of the eggs there are one or two very fine hair lines at the larger end. Other eggs of this species are spotted, a fact which is strongly indicated by the appearance of the set just described. Thus, Dr. Brewer, in speaking of the egg found by Mr. Batty, says "the ground color is a cream-white, and over this are profusely scattered minute dots of brown with a reddish tinge." Mr. Scott describes the eggs he found as "of a dirty white color, faintly spotted all over with light brown, which becomes quite definite at the larger end." The single egg obtained by Mr. Drew is described as "white." It is thus evident that many more sets must be obtained before the prevailing type of egg of the Ruby-crown can be determined. I may add that this species was breeding in considerable numbers, but owing to want of time I only succeeded in finding the nest above described.

**Parus montanus**, Gamb.—Common in the same localities as the preceding species. This is another bird whose eggs have only recently been described, and especially interesting from the fact that they usually differ from those of other members of the genus in being unspotted. The first

\* See this Bulletin, IV, 91; *ib.*, 97, note; VI, 87. I cannot now refer to the original description of the nest found by Mr. Henshaw.

† It may be stated here that the crown of this specimen was plain with the exception of three scarlet feathers.

specimen described was found by Captain Bendire in Oregon; it was white, "moderately spotted and blotched with pale reddish-brown, but not thickly." Mr. Belding, who found three nests, was the first to describe the eggs as white.\* A fifth nest is recorded by Mr. Scott;† and Dr. Brewer describes‡ a set of seven eggs, six of which are pure unspotted chalky white, the seventh being "marked over its entire surface with fine rounded dots of reddish-brown."

A nest found June 18 was in a fire-killed pine at a height of about sixteen feet. A knothole had been cleared out and the soft decayed wood removed to a depth of four inches, the hardness of the surrounding wood preventing a deeper excavation. On a warm felted bed of various soft materials were five or six recently hatched young and an addled egg. The latter measures .58×.48 and is a dull unspotted chalky white, only slightly pointed at the smaller end. While examining the nest the parents were very bold, perching on a branch within a foot of my head and scolding vigorously.

***Dendroeca auduboni* (Townsend) Baird.**—Breeding rather abundantly in the Big Horn Mountains but only one nest was found. Several descriptions of the eggs of the Western Yellow-rump have recently appeared, and its breeding habits are now fairly well known. My nest was found on the 17th of June in a young pine tree growing on the top of a ridge at the edge of a deep cañon, at an elevation of 6,500 feet. It was about seven feet from the ground and placed against the main trunk, supported by and partly saddled upon two twigs. It is large for the size of the bird, measuring 4×4 inches: internally 1½×1¾. Externally it is composed of many small twigs and fine strips of bark; within this is a thick wall of well matted strips of a weed and of bark and pine needles. The inner lining consists of fine fibrous roots and hairs, with a feather or two. The most curious feature of the nest is a circle of feathers of Richardson's Grouse attached to the rim for nearly the entire circumference, a small bare space being left which was apparently used by the bird on entering. These feathers are fastened to the rim by the larger ends and are directed upwards and inwards forming a sort of canopy which completely hid the female while sitting. The appearance is very peculiar and quite unlike anything I have seen, for this use of the feathers is evidently intentional and is very different from what is seen in nests with a lining of loose feathers in which the bird sinks nearly out of sight. One egg was broken; the other four, far advanced in incubation, average .68×.53. The ground color is a decidedly greenish-white, sparingly marked over the entire surface with small spots and dots of black, brown, and lavender, the latter predominating, and form an irregular wreath around the larger end.

***Junco annectens*, Baird.**—Rather common in the mountains, but only at a considerable height and among the pine trees. A nest taken June 13

\* Proc. U. S. Nat. Mus., I, 400.

† Bull. Nutt. O. C., IV, 92.

‡ *Ib.*, V, 47.

was near the top of a ridge connecting two peaks, at an elevation of 8,000 feet. The nest was under a shelving stone, one of many exposed by a land slide, and was in a little hollow dug out by the parents. The nest was rather large, but well and compactly built, composed externally of coarse dry grasses, with an inner lining of fine yellow straws and hairs of the mountain sheep. The eggs, five in number, were far advanced in incubation and one was broken in blowing. They measure .81X.60; .80X.59; .84X.60; .83X.60. The ground color of three of these eggs is a dull yellowish-white, marked with spots and blotches of light reddish-brown and with a few blotches of lavender. The spots are scattered over the entire surface of the eggs, but are largest and most numerous at the larger end. The ground color of the fourth egg, the largest one, is a rather greenish-white.

**Pipilo maculatus arcticus** (*Swains.*) *Coues.*—Though a common species in many places, the eggs of the Northern Towhee are rare in collections. In all parts of Montana I have found it abundant wherever a stream with bordering underbrush afforded the needed shelter. There is great diversity in the time of laying, or rather in the contents of nests found on about the same dates from the middle of May until late in July, which I attribute more to the great number of nests that must be destroyed by snakes, birds, and small mammals, and to the attempts of the parents to raise another brood, than to any other cause.

The nests are placed on the ground under some bush, a favorite place being in one of the many small isolated growths of cherry brush that are so often seen near streams flowing down many of the mountains in this Territory; lower, on the plains, any growth of bushes or shrubbery appear to answer as well. The rim of the nest is flush with the surface of the ground, the birds scratching a hollow large enough to contain the nest. These are well and strongly built; externally are placed dead leaves and broad strips of bark; then a wall of finer strips of bark and blades of dry grass, lined usually with yellow straws. The internal diameter is about 2½X 2¼. The complement of eggs is four or five, averaging .94X.69 in size. Five sets now before me are of two very distinct types. In two of the sets the ground color is white, slightly tinged with greenish and covered with dots and small spots of reddish-brown and lavender, most numerous at the larger end, where a more or less distinct wreath is formed. The other sets have the ground color scarcely distinguishable on account of the very numerous markings which cover the entire surface of the eggs and which do not tend to aggregate at the larger end; the appearance is that of a general suffusion of reddish and lilac brown.

**Sphyrapicus varius nuchalis**, *Baird.*—The Red-naped Woodpecker seems to be one of the rarest of its family in Montana, and I have met with it on two occasions only, once near Fort Shaw and, once in the Big Horn Mountains.

On the 12th of June a nest was found near the mouth of the cañon of the Little Big Horn River, a short distance below the point where the pine trees give place to cottonwoods. The nest-cavity was in a dead young

cottonwood tree about forty feet in height. The hole was twenty-five feet from the ground, and near the top of the same tree were three similar holes, very probably occupied by the same pair in previous years. The entrance was rather large for the size of the bird. At the bottom of the cavity, about ten inches deep, lay five eggs upon wood dust and a few chips. These eggs were far advanced and measure .91X.72; .90X.73; .93X.71; .93X.73; .91X.73. The male, which was shot, was evidently assisting the female in incubating.

Fort Custer, Montana.

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## ON A TROPICAL AMERICAN HAWK TO BE ADDED TO THE NORTH AMERICAN FAUNA.

BY ROBERT RIDGWAY.

IN "Forest and Stream" for April 14, 1881 (p. 206), I briefly announced the capture, at Oyster Bay, Florida, by Mr. W. S. Crawford,\* of a specimen of a small black Hawk, well-known as an inhabitant of Tropical America, but not previously recorded from any portion of the United States; the name *Buteo fuliginosus*, Sclater, being provisionally adopted for the species. Since the announcement in question was published, Mr. George A. Boardman, of Calais, Maine, has sent me for examination a finely mounted specimen of a Hawk obtained by him on the first of February last at Palatka, East Florida, which proves to be the *Buteo brachyurus* of Vieillot, a bird having the same range as *B. fuliginosus*, and by many ornithologists regarded as the light-colored phase of the same species. The question of the relationship of the two forms was referred to in the "Forest and Stream" article as follows:—

"This question of what name the species [*i.e.* the black specimen obtained at Oyster Bay] should bear is one involving considerable investigation, pending which I will call it, provisionally, *Buteo fuliginosus*, Sclater. It is a small species, about the size of *B. pennsylvanicus*, but with longer wings, and of a

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\* This specimen was presented to the National Museum by Mr. W. H. Collins of Detroit.