

ART. 12. A NORTHERN RACE OF RED-TAILED HAWK<sup>1</sup>

BY W. E. CLYDE TODD

(PLATE 1)

***Buteo jamaicensis* subsp. RED-TAILED HAWK.**

- Buteo borealis* (not of Gmelin) COUPER, Canadian Sport. and Nat., 1, 1881, 80 (Mingan R., Quebec, nesting, *vide* Smyth).—PALMER, Proc. U. S. Nat. Mus., 13, 1890, 261 (Mingan Is., Quebec, summer).—DE PUYJALON, Hist. Nat. à l'usage Chasseurs Canadiens, 1900, 420 ([Canadian] Labrador).—MACOUN, Cat. Canadian Birds, pt. 2, 1903, 230 (Moose R., near James Bay, Ontario, June, *vide* Spreadborough).—MACOUN and MACOUN, Cat. Canadian Birds, ed. 2, 1909, 251 (Missanabie River, Ontario, *vide* Spreadborough).—WILLIAMS, Canadian Field-Nat., 34, 1920, 123 (Hamilton Rapids [Groundhog R.], Pike Creek [Mattagami R.], and Missanabie R. [mouth], Ontario, August).—BAILLIE, Canadian Field-Nat., 43, 1929, 172 (Couper's record).—EIDMANN, Zoogeographica, 2, pt. 2, 1934, 241 (Matamek region, Quebec, habitat).—LEWIS, Canadian Field-Nat., 49, 1935, 114 (Couper's record).—RICKER and CLARKE, Contr. Royal Ontario Mus. Zool., 16, 1939, 7 (L. Nipissing, summer).
- "Red-tailed Hawk" AUDUBON (M. R.), Audubon Journ., 1, 1897, 394 ([Wapitagan], Quebec, July).—TOWNSEND, Bull. Geogr. Soc. Philadelphia, 11, 1913, 48 (Natashquan R. [40+ mi. from mouth], July; Audubon and Palmer's records).—EIDMANN, Verh. Orn. Ges. Bayern, 21, 1937, 161 (Trout Lake and Matamek River region, Quebec, August-September).
- Buteo borealis borealis* TOWNSEND, Auk, 30, 1913, 6 (Natashquan R., Quebec, summer; plum.).—LEWIS, Auk, 39, 1922, 512 (Mingan and "Piashte Bay" [Baie Johan Beetz], Quebec, June).—SNYDER, Univ. Toronto Biol. Ser., 32, 1928, 22 (Ghost R., L. Abitibi, Ontario, June).
- Buteo jamaicensis borealis* GODFREY, Nat. Mus. Canada, Bull. 114, 1949, 16 (Lakes Mistassini and Albanel, Quebec, June-September).

The Red-tailed Hawk is the New World representative of the European Buzzard, *Buteo buteo*. It is one of the commoner Hawks of North America, where it enjoys an extensive range, from the Isthmus of Panama north to the limit of trees. Throughout this range it splits up into a number of geographic races, whose inter-relationships are rendered all the more puzzling because of an innate tendency in the species to dichromatism—a tendency which is manifest in varying degrees, and which greatly complicates the discrimination of the several forms. Individual and seasonal variations are other factors which must inevitably be taken into account.

Until rather recently the species has been known as *Buteo borealis*,

<sup>1</sup>The present account is an excerpt from the writer's manuscript report on the birds of the Labrador Peninsula. It has been prepared to show the style of treatment to be followed. Comment and criticism are invited.

from *Falco borealis*, Gmelin, 1788. The specific name was based on the "American Buzzard" of Latham (1781). Oddly enough, "Carolina" is the only definite locality these authors cite; this has now been restricted to South Carolina—an incongruous type-locality for a supposedly northern bird. On the same page, some lines before, Gmelin also named a *Falco jamaicensis*, based on the "Cream-colored Buzzard" of Latham (1788), said to be from Jamaica. His description is by no means clear, and many authors have ignored this name as unidentifiable. This would be the safe and sane course, but most recent authorities (including the American Ornithologists' Union Committee, following Peters, 1931) have chosen to resurrect *jamaicensis* as the specific name for the Red-tailed Hawk. Latham's description may be construed to apply to an immature example of this species in an albinistic condition, and in any event it could scarcely pertain to any other species than the small Red-tailed Hawk of Jamaica and certain other West Indian islands. There is indeed some justification for ranking this insular form as a species distinct from the continental bird. At one time I shared this view, but I now think that we shall have to consider them conspecific. The unfortunate outcome of this decision is that, following the rule of line anteriority, we are compelled to use the utterly inappropriate name *Buteo jamaicensis borealis* for a bird which was first described from South Carolina.

To the critical and discriminating study made by the late Percy A. Taverner (Victoria Mem. Mus. Bull. No. 48, 1927, 1-20, 3 pls; and Condor, 38, 1936, 66-71), we are indebted for much light on this interesting group. His object was to clarify the relationships and taxonomy of the forms found in Canada, and particularly in western Canada. He discussed the western race *calurus* at some length, but it is interesting to note that the latest authorities (Hellmayr and Conover, Field Mus. Zool. Ser., 13, pt. 1, no. 4, 1949, 96-97) synonymize this name with *borealis*. After an independent study of the series available to me I find myself in disagreement with this conclusion. Aside from the greater tendency to melanism in *calurus*, the race is characterized by its richer coloration as compared with *borealis*. Taverner treated the eastern Red-tailed Hawk as a single entity; he had no suspicion that more than one race might be involved, nor had other authors—and this in spite of the observed extent of variation. In view of the scarcity of breeding specimens from critical areas, this is not surprising. During a recent study of the Red-tailed Hawks in the collection of the Carnegie Museum I was interested to find that our two specimens from near the northern limit of the species' range stood out from Pennsylvania breeding birds by easily discernible characters.

Through the courtesy of Mr. W. Earl Godfrey of the National Museum of Canada I have been permitted to examine three additional specimens showing the same peculiarities. These five examples (breeding birds) appear to represent a hitherto unrecognized race of this species, which may be called

***Buteo jamaicensis abieticola*, subsp. nov.**

NORTHERN RED-TAILED HAWK

*Type*, No. 57,348, Collection Carnegie Museum, adult female; Sainte Margaret Falls (above Clarke City), Quebec, May 25, 1917; Olaus J. Murie. (Taken with a set of two eggs.)

*Subspecific characters*.—Similar to *Buteo jamaicensis borealis* of the eastern United States and southern Canada, but underparts more heavily streaked; throat and upper breast darker colored (more brownish, less rufescent); upperparts (including wings externally) darker colored (more blackish); and subterminal black band on tail averaging wider.

*Range*.—Apparently the spruce-fir belt of Canada, north (at least west of Hudson Bay) to the limit of trees.

Comparison was first made with seven breeding specimens from western Pennsylvania, but later these were supplemented, through the courtesy of the authorities of the U. S. National Museum, by two specimens from the vicinity of Washington, D. C., and one from Mount Mitchell, North Carolina. The last comes from as near the type-locality of *borealis* as any we can get, and it agrees closely with the Pennsylvania birds. It is fair to presume, therefore, that the form represented by these specimens is the one to which the name *borealis* rightfully belongs. None of the recognized synonyms of *borealis* as commonly understood can possibly apply to the northern race here described, since they all come from "Carolina" or "Virginia," and the descriptions and figures are not pertinent.

The characters apparent in the present race seemed, on first reading, to be those given by Grinnell for his *Buteo borealis alascensis* (Univ. California Pub. Zool., 5, 1909, 211), described from Glacier Bay, Alaska. Of this form I have seen no Alaskan specimens, but through the courtesy of the authorities of the Chicago Natural History Museum I have before me seven specimens from British Columbia which presumably represent this form correctly. When Grinnell described *alascensis* he compared it with *calurus*, and very properly so, since in it the characters of *calurus* are merely carried to an extreme. The rufescent shading of the underparts is a marked character. In any case, *alascensis* has nothing to do with the new race.

Besides the type from Quebec, we have a June specimen from Quatre Fourches Channel, Peace River Delta, Alberta, and I have seen three more (National Museum of Canada) from Lac la Nonne, Alberta. These five breeding specimens of *abieticola*, coming as they do from widely separated points in the north country, suggest an extensive breeding range for this form—a range probably co-extensive with the spruce and fir forests of this area. Here the birds must be only summer residents, migrating southward for the winter. If so, it would be reasonable to expect to find a certain proportion of fall- and winter-taken specimens from the northern United States referable to this race. Examination of a series of specimens shot by gunners some years ago at "Hawk Mountain," near Drehersville, Pennsylvania, and preserved as skins by Dr. George M. Sutton, fully bears out this expectation. These birds were migrants from the north, and were actually taken in migration. Laid out side by side with seasonably comparable specimens from other parts, they show the characters of *abieticola* to even better advantage than do the breeding adults. A few of our fall and winter birds are indeterminate, and might be referred to one form as easily as to the other, but the general difference between the two is well marked. In immature plumage, however, the difference is thus far unsettled, in part because of lack of material. All we can say is, that in young birds, probably northern-reared, the general coloration appears to be darker and the markings on the underparts to be heavier, but there is a great deal of variation in these respects in the specimens examined.

## MEASUREMENTS

No.	Sex	Locality	Date	Wing	Tail	Bill	Tarsus
57,348	♀	Ste. Margaret Falls, Quebec	May 25, 1917	387	195	37.5	82
101,899	♀	Quatre Fourches Chan- nel, Alberta	June 8, 1927	407	210	37	83
21,263*	♀	Lac La Nonne, Alberta	May 26, 1926	415	218	37	86
21,696*	♀	" " " "	July 20, 1926	422	224	37	86
21,250*	♂	" " " "	May 26, 1926	360	216	37.5	82
23,819	♀	Hardin Co., Iowa	Mar. 24, 1905	418	233	37	80
102,681	♂	Towanda, Pennsylvania	Nov. 17, 1925	354	196	34.5	77
102,686	♂	"Hawk Mountain," Pa.	Oct. 22, 1927	353	190	36	79
102,687	♂	" " "	Oct. 22, 1927	344	192	35	75
102,688	♀	" " "	Oct. 22, 1927	373	211	36	78
102,690	♀	" " "	Oct. 23, 1927	382	213	38	80
103,560	♂	" " "	Oct. 22, 1927	363	204	34	74

\*Collection National Museum of Canada.

While there is thus no significant difference in size between *borealis* (as here restricted) and *abieticola*, the above table of measurements reveals that Alberta specimens run a little larger than eastern birds. It will be noted that the migrants taken in Pennsylvania agree in smaller size with the type-specimen from the north shore of the Gulf of St. Lawrence. A female from Iowa, taken on March 24, is so palpably an example of *abieticola* that I am constrained to believe that it must have been a migrant on its way north.

In his "Labrador Journal," Audubon records finding a tail-feather of a young Red-tailed Hawk near Wapitagun, on the north shore of the Gulf of St. Lawrence, in July, 1838. Had the record remained unconfirmed (as it did for many years) it would be open to question, since it is just possible that this particular tail-feather might have come from an Osprey instead. In 1881, the Canadian naturalist William Couper published, in a rare and little-known journal which he edited, a circumstantial account of the finding of a nest on the Mingan River by Sir Greville Smyth. "It contained two young, which could feed themselves at the end of July." "There is no reason to question this" (H. F. Lewis). In the summer of 1890, William Palmer saw two on the Mingan Islands. The Audubon and Palmer records were the only ones known to Townsend and Allen when they wrote their list of Labrador birds in 1907. Later Townsend himself met with the species on a tributary of the Natashquan River, some forty miles from its mouth. Just one bird was seen, whose dark coloration he remarked at the time. "No nest could be found although the bird's actions suggested young."

This brings us down to 1917, the year when our party from the Carnegie Museum was camped just above the first falls on the Ste. Margaret river, ready to begin the ascent of that stream as the first stage in the crossing of the Labrador Peninsula. A pair of Red-tailed Hawks was in evidence across the river from our camp, and their nest was located on May 25. After lunch our whole party (five Indians, three whites) crossed over to investigate. The nest was built of sticks and twigs, about fifty feet up on a thirty-inch birch tree. The men built a blind of young spruce trees below in which Mr. Murie concealed himself, while the rest of us left the vicinity. Scarcely had we reached camp again before we heard the report of his gun, and upon returning we found that he had brought down the parent bird as she returned to the nest. Obviously she could not count. The men felled an adjacent tree against the nest-tree, and Mr. Murie climbed up and brought down the two incubated eggs the nest contained. Thus was the type-specimen of the present new race obtained.

On May 27 another individual was noted about nine miles upstream, and on June 6 still another on the Grand Portage, beyond Lac au Poëlon. More recently, Harrison F. Lewis has published June sight records for this species from Mingan and Baie Johan Beetz, and H. Eidmann one for the Matamek region. I do not know the source of the English Bay record to which A. C. Bent (Bull. 167, U. S. Nat. Mus., 1937, 162) refers. Thus far the species has not been traced farther eastward along the north shore than the mouth of the Little Mecatina River, where it was noted by Harold S. Peters (MS.) on June 25, 1938. It is not known to reach Newfoundland. For Anticosti Island there is only Joseph Schmitt's notation that it is a rather rare *permanent* resident—on its face a questionable statement.

The northern limit of the range of this species in the Peninsula remains to be worked out. While we failed to find it on the Ste. Margaret River beyond  $50^{\circ} 44' N.$ , I have a sight record from Gull Lake on the Hamilton River at  $53^{\circ} N.$ , July 17, 1939. From this point to Lake Mistassini and Lake Albanel, where, according to W. Earl Godfrey, it was the "most frequently observed hawk" in the season of 1947, from June 20 to September 4, is a long jump. Unfortunately no specimens were taken. To the westward of Mistassini our party made four records in 1914. One was noted along the railroad, eighteen miles west of the Bell River, on May 28, by O. J. Murie. One was seen on the Bell River near Kanikwanika Island on June 2; several on Chensagi Lake on June 9; and one at the fifth portage (west of Nemiskau) on the Rupert River on June 24. On July 8, we saw one at East Main; this is the farthest north I have ever observed it on James Bay. These are presumptive breeding records, as are also some of those we have from the southern shores of James Bay and from the rivers of northern Ontario, and which were made on sundry Carnegie Museum expeditions. Spreadborough observed the species below Moose Factory on June 6, 1896, and also on the Missanabie River. G. M. Sutton saw two at Moose Factory on June 4, 1926 and one on June 13. The species certainly does not nest on Moose Island, although it must do so at no great distance. It was repeatedly observed in late August and again in October 1923, by our party at several points along the Abitibi River, and Williams (1920) saw individuals in August along the Matagami and Groundhog Rivers.

Spring records are also available for the Missanabie River. These were made by our party in 1926, as follows: above Skunk Island, May 27, one; Long Portage to Soveska River, May 31, three pairs and four single birds; Soveska River (mouth) to about  $50^{\circ} 29' N.$ , two. In 1912, I saw a single individual about six miles east of Cochrane on May 21, and on September

26, 1935, R. L. Fricke saw one along the road near Ramore. L. L. Snyder has recorded the species from Lake Abitibi in summer. Although no specimens appear to be available from this general region, I refer all these records, south to Lake Nipissing, to the race herewith described—this on geographical considerations.<sup>2</sup> Probably the Churchill record given by Taverner and Sutton (1934) belongs here also, since it is this form that occurs in northern and central Alberta, as actual specimens show.

Dr. Arthur C. Twomey tells me that in the spring of 1942 he discovered a nesting pair of Red-tailed Hawks about fifteen miles southeast of Aklavik, in the Mackenzie Delta, but was unable to secure them. Presumably they also were of the present race, the range of which extends far to the northward in this part of Canada.

The general habits of this northern race of Red-tailed Hawk are the same as those of the eastern bird, and its eggs are indistinguishable. Townsend's remarks on a melanistic individual he observed on the Natashquan River (1913) raise the question whether melanism is confined to the race *calurus*. Compare also, in this connection, the remarks of Rand (Auk, 65, 1948, 424).

<sup>2</sup> Since the above was written, the Royal Ontario Museum of Zoology has sent me for examination six specimens from western Ontario (Port Arthur, Amyot, Schreiber) and eastern Manitoba (Deer Lodge, Portage la Prairie, Lake St. Martin). Three were taken in the breeding season, and three in October. Despite some obvious variation, and a suggestion of *krideri* influence in the Lake St. Martin bird, all these are clearly referable to the new race upon comparison. In the Deer Lodge specimen, dated October 15, the characters reach an extreme.

## EXPLANATION OF PLATE 1

Left-hand row: *Buteo jamaicensis abieticola*.

Right-hand row: *Buteo jamaicensis borealis*.

Upper engraving: breeding specimens.

Lower engraving: autumn specimens.

The type of *Buteo jamaicensis abieticola* is the lowermost bird in the left-hand column of the upper engraving.



