

togata

58797.41.9 (42)
Spine v. 47

Bonasa togata.

Examination of a series from Nova Scotia - no 2.

The most marked peculiarity of the Nova Scotia form and must be conspicuous in the living bird at a considerable distance when its breast is turned towards the observer.

One of the males in this series has the ruffs dark chocolate brown tipped with bluish black. In the other four the ruffs are wholly black with the usual steady reflections. All five birds have the tail gray more or less tinged with rusty, however, in all but one specimen.

One of the females has a "red" tail - the ground color everywhere posterior to the sub-terminal band being pure, deep ferruginous; the outer plumage of the upper parts and breast is also suffused with rusty. The dark bars of the breast and sides are unusually broad & conspicuous in this bird.

The other female has a "gray" tail slightly suffused with reddish. Its general coloring is paler and more faded than in any other of the series, and the underparts are obscurely barred. I can match this specimen almost perfectly by several Mass. Herons in any collection.

Mr. Bangs tells me that the region where these Green Herons come from is wooded chiefly with spruces. Some forests seem to furnish some form of togata invariably.

Bonasa togata

♂	Digby N.S.	Oct. 9, 1892;	O. Bangs.	Tail gray;	ruffs black with steel reflex.
♂	"	"	" 15	"	" " " " " "
♂	"	"	" 17	"	" dk. chocolate tipped with ^{black}
♂	"	"	" 22	"	" black with steel reflex
♂	"	"	" 26	"	" " " " " "
♀	"	"	" 27	"	<u>red</u> " "
♀	"	"	" 30	"	<u>gray</u> " "

These specimens, loaned me for examination by Mr. Bangs (Dec. 1892), perhaps represent the extreme dark phase of *togata* but in certain respects they are unlike any Ruffed Grouse that I have hitherto seen. Compared with *togata*, as represented in my collection by specimens from N. New England and S. New Brunswick, the general coloring of the upper parts is similar but richer and more variegated. The ground color, while not less dark, being of a warmer, more reddish tint, the dark markings of the top & sides of head, the hind neck, back, scapulars, rump etc. coarser and blacker.

The transverse markings of the underparts especially on the breast and abdomen are unusually dark and sharply defined the transverse blackish lines being of more than double the usual width and the brown sub-terminal bands olive or slaty instead of wood brown. Both these markings are boldly and clearly defined on the usual ashy white or ^{pale} fulvous ground instead of being confused and indistinct as in *umbella* and all the specimens of *togata* which I have hitherto examined. They form

Bonasa u. togata.

Breezy Point, Warren, N.H.

1894. We saw a small flock of Red Crossbills at about 2500 ft.

June 22. (on Mt. Moosilauke where C.F. Batchelder, W. Faxon and I had gone) and a little lower flushed a Partridge with her brood of young - or rather the young only for while the chicks - a dozen or more in number and of about the size of English Sparrows - were rising and flying off in various directions, the old bird ran on ahead of us making a growling noise and also chittering like a Red Squirrel. The young on rising all uttered a Sparrow-like zeep or ze-e-ee.

Bonasa, u. togata

1896. Penobscot Bay, Maine.

Deer Island June 21 $\frac{1}{2}$ ♀ with brood
just hatched.

Marshall Island, . . A farmer living at the only house on this island
told me that there were Partridge in the neighboring woods but
that they were very few in number.

Bonasa umbellus togata.

Two males; near Quebec, Canada; fall of 1900 or 1901; bought in the market in Quebec; skinned by M.A.Frazar in Feb., 1902.

These birds were shot near Quebec, Canada. They were bought in the market at Quebec, in the fall of 1900 or 1901, by Mr.J.H.Conant, brother-in-law of Mr.James C.Melvin, who put them into cold storage in Boston. Mr.Melvin took them out of cold storage in January, 1902 and presented them to Mr. Wm. Brewster. Mr.M.A.Frazar made them into skins. Mr.Conant purchased Gōuse in Quebec in the fall of 1900 and 1901 and sent them to Mr.Melvin who put them into cold storage. These birds belong to one of these sets.

Summer Birds of Bras D'Or Region
Cape Breton Id., N.S. J. Dwight, Jr.

12. *Bonasa umbellus togata*.

Auk, 4, Jan., 1887, p. 16

Summer Bds. Restigouche Valley, N. B.
July, '88. J. Brittain and P. Cox, Jr.

Bonasa umbellus togata. CANADIAN RUFFED GROUSE.—Common.
Many large broods of young about half-grown were seen.

Auk, VI, April, 1889, p. 117

Dwight: Summer Birds of
Prince Edward Island,

Bonasa umbellus togata. CANADIAN RUFFED GROUSE.—A few only
were met with, although said to be abundant. A novel method of hunting
them reached my ears. They come out upon the railroad in a certain
section to sun themselves, and it is said the sportsman riding to and fro
on a track-velocipede shoots them so that sometimes he can pick them up
without stopping. I was informed by gunners that *Dendragapus cana-*
densis does not inhabit the island.

Auk X, Jan, 1893, p. 8

Some Winter Birds of Nova Scotia. By C. H. Morrell.

7. *Bonasa umbellus togata*.—CANADIAN RUFFED GROUSE.—An
abundant resident.

Auk, XVI, July, 1899, p. 251

Birds of Toronto, Canada,
by James H. Fleming.
Part II, Land Birds,
Auk, XXIV, Jan., 1907, p. 71.

115. *Bonasa umbellus togata*. CANADIAN RUFFED GROUSE.—Resi-
dent; formerly abundant, now not common; nest May 23, 1893. I have
put our bird under this somewhat unsatisfactory form; the bird occurring
north at least to Lake Nipissing is the same.

Breezy Point, Warren, N.H.

1894

1894 *Tringa* ?

16 *Tringa* 18 *Tringa*

17 *Tringa* 25 *Tringa*

18 *Tringa*

Breezy Point, Warren, N.H.

1895.

May

29*

June 1* Mt. Mass. Lake

Summer Bds., Mt. Mansfield, Vt.

3. *Bonasa umbellus togata*. CANADIAN RUFFED GROUSE.—Quite numerous, both in the valley and on the mountain throughout the Canadian zone. Those observed were chiefly females with young, for whose safety they showed great solicitude. Although no specimens were secured, it is safe to refer the birds to the Canadian form.

by Arthur H. Howell.

Auk, XVIII, Oct., 1901, p. 340.

General Notes.

Summer Birds of Central Berkshire
Country, Mass. ~~Francis H. Allen.~~

Ralph Hoffman

9. *Bonasa umbellus togata*. CANADIAN RUFFED GROUSE. — Found by
Mr. Faxon on Graylock.

Ann XII. Jan. 1895 p, 88

Maine (Brewer)

Bonasa u. togata

1886

Budding

"The next day after I wrote you last [see quotation on another card] I drove out again to see the crystal forest. At 3 P.M. saw two Grouse budding within 75 yds. of the road, near a house where I never saw one before. They were low down on small poplars on a warm southern exposure. They must have come a long distance to this warm spot where the sun had loosened the ice a little. To get the full advantage they were at work two hours before the usual time." (Mr. Hardy; Letter Feb. 11. 1886)

Maine (Brewer)

Bonasa umbella togata

1886

"Budding"

Feb. 1

Our local papers are deploring the destruction of Grouse by the present heavy crust. If 1000 were offered for every bird killed in this way I believe none could be produced. They never go into the snow when a storm begins with rain or hail and moreover they can easily escape with ice so hard a crust above them. Yesterday I saw three pecking the ice from poplar buds. They rarely "bud" here before death but on this occasion they took advantage of the sun's loosening the ice and got to work about 3 or 4 P.M. They kept flying back and forth from one branch to another to shake off the ice by striking the limbs. Usually they move

Brewer, Maine.

1890.
Apr 26

I got an adult male Ruffed Grouse a few days ago with but 16b tail-feathers. None missing. He never had more.---

Letter of Manly Hardy,
Brewer, Me.

about as little as possible and
if a slight or fewer stops near
them remain perfectly still.
So day they were evidently very
hungry having probably been
without food for some time. I
as there has been no clear trace
then." (Manly Hardy in letter
of Feb. 2, 1886)

Maine (Brewer)

Bonasa u. togata

1886 Budding

"The next day after I wrote you last [see
quotation on another card] I drove out again
to see the crystal forest. At 3 P.M. saw two
Grouse budding within 75 yds. of the road, near
a house where I never saw one before. They were
low down on small poplars on a warm southern
exposure. They must have come a long
distance to this warm spot where the sun
had loosened the ice a little. To get the
full advantage they were at work two hours
before the usual time." (Mr Hardy; letter Feb. 11-1886)

Brewer, Maine.

1890.
Apr 26

I got an adult male Ruffed Grouse a few days ago with but
16 tail-feathers. None missing. He never had more.---
Letter of Manly Hardy,
Brewer, Me.

GROUSE REARED IN CONFINEMENT.—A correspondent of the Truro, Nova Scotia, *Sun* says that the young partridges hatched on the farm of Mr. Henry Hills, of Lower Stewiacke, N. S., were not hatched under a common hen; on the contrary, they were hatched from eggs laid by a tamed partridge, a pair of which Mr. Hills has had in his possession for five years. The mere act of taking a nest full of eggs home and hatching them under a hen does not appear a very extraordinary feat. But the fact that Mr. Hills has held these wild birds in captivity for five years, and has at last succeeded in raising from them a brood of young birds, is what we call an extraordinary feat, and is, we believe the first instance of the kind ever accomplished. Another very difficult feature in Mr. Hills's achievement is the fact that his birds were captured when fully fledged. *For. & Str.* Vol. XXVIII No. 5 Aug. 22. 1887 p. 85.

Maine

Bonasa u. togata

1887

Interesting notes by Manly Hardy

See letters M. H. Nov. 21, 1887, and Nov. 17, 1887

^{with}
Bonasa umbella

No. tail feathers.

Bayer, Maine

Manly Hardy writes me that he has two Ruffed Grouse each of which has twenty tail feathers.

The Number of Rectrices in Grouse. — In my recent paper on the Feather-tracts of North American Grouse and Quail (Proc. U. S. Nat. Mus., XXI, pp. 641-653), under the genus *Lagopus*, I made the statement that the rectrices are always 18. Mr. Manly Hardy of Brewer, Maine, has very kindly written me that his experience proves the statement to be an error. He says that in the last 20 years he has shot 15 or 20 Ruffed Grouse having 20 rectrices, and, he adds, "I have in every case found those having 20 rectrices to be exceptionally large males. While I cannot prove it, still it is my belief that none have this added pair until they are several years old. I well remember shooting three old 'drummers' in one afternoon in November, two of which had 20 tail-feathers. . . . One weighed 31 and the other 32 ounces. . . . Old cocks usually weigh from 24 to 26 ounces." It seems to me that these facts are of great importance in helping us to decide whether the Gallinæ with 12 rectrices are in that respect nearer the ancestral form than those with a larger number. At least they indicate that the number of rectrices may be *increased*, as well as *decreased*, and admit the possibility that increase in number of rectrices may be a form of specialization. — HUBERT LYMAN CLARK, *Amherst, Mass.* *Auk*, XVI, April, 1899, p. 181.

I inclose a scalp of a Partridge to show you a crest, the central feathers of which measured carefully with dividers were $2\frac{1}{4}$ inches long, --- nearly twice as long as I ever saw in killing some 2000. "There is no new thing under the sun," says Solomon; but if he still hunted Partridges he would take that back. Up to three weeks ago the birds acted about as usual; but now they have changed their tactics entirely. One may creep through their old haunts or walk the woods at random, yet he will seldom hear the chirr of the Partridge's wings, much less see one. I have not seen one on the ground for weeks. Of the last ten I shot, not one but was in the tops of trees or on the wing. Now, except at night they stay in choppings (?) two or three years old or in stumpy and bushy sheep pastures, sitting a gun-shot or more from the woods. They often fly when one has come softly out of the woods though twenty rods off and go sailing off to forty or fifty rods to usually alight in trees. One stands twice the chance to get near them by walking carelessly as by creeping. They care nothing for the sound of a gun; in fact they stay longer for it. It takes all the fun out of the shooting for me, as I would not give a cent. to

walk carelessly up to a bird and shoot flying, as there is no skill except in shooting, and, without a dog, I find I lose nearly half I actually kill. I have found several by accident and a place where a fox got one I know I killed. I have written all this just to show how they have changed. But the question is why they all change their habits at the same time? This week I started ten in a place I have not hunted before this year, but they were all out of the woods; while a three miles' walk in the best of places both for shelter and food revealed no tenants. Those I started were feeding entirely on tame sorrel which springs up where sheep go. We all know that birds of a kind come down from the north by common instinct as they say, but how do birds go (?) miles in a few days and change their habits? It is not for any new food or from lack of such as they have been eating all this fall. It is really provoking after one has studied a bird a life time to find out that there are lots of things about them which he cannot even make a decent guess at. ----- Letter of Manly Hardy, Nov. 20, 1889.

Lagopus
Lagopus

Lagopus lagopus.

1892 Maine

April 23 Kenduskeag. - Specimen in collection Manly Hardy sent me for examination Dec. 20, 1894.

Copy of label in Mr. Hardy's handwriting:

"♂ Willow Ptarmigan / Lagopus Lagopus, shot April 23, 1892 / at Kenduskeag, Maine and / mounted from the flesh / by Florin Merrill of Bangor / see Auk for July 1892 page 300 / Purchased of Merrill by Manly Hardy." Collection M.H. #2907

Wing, 6.62; Tarsus 1.60; middle toe without claws, 1.13; its claw, .57; bill from base .73; from nostril, .44; depth at base .43.

In full winter plumage, snow white save for the usual black in the tail, a few ^{dark} black feathers in the lores and a brownish suffron tinge (evidently a stain) to the feathering of the legs and feet.

The first six primaries have black shafts to within .25 of their tips which are wholly white on the 3rd & 4th & 5th & 6th quills. The webs of these (last named) four quills are essentially immaculate (they are absolutely so save that the dark shaft stripe broadens on to the webs slightly near its terminal end) but the 2nd quill on one wing and the 1st & 2nd on the other shows a good deal of fine dusky mottling on the inner web and on the second quill of both wings the shaft stripe for its terminal half inch or more is from .05 to .08 in width and here the dark color spreads quite conspicuously out on both webs next the shaft.

wing coverts, alula feather

The inner primaries, ^{wing coverts, alula feather} and all the secondaries are essentially pure white to their bases but a few of the secondaries have the merest trace of ~~an~~ narrow, faintly dusky line along the upper ridge or convexity of the shaft which basal of them shows a few fine faint streaks of dusky on their inner webs.

The birds measurements show that it belongs to the Lagopus lagopus group.

Lagopus Lagopus

1892

Maine

April 23

(No 2.)

Kundrusky. Here Lo. lagopus frequently has a trace of dusky on the shafts of the secondaries near their bases. I have just detected it in several birds in Boateholder's collection from Sweden and in others in my own collection from the Arctic wastes & "Labrador". In some of these specimens from the mainland of eastern Canada (none of them have very definite or trustworthy records of locality) the dusky is ^{also} not strictly confined to the shafts of the primaries but shows a tendency to spread out slightly on both webs ~~near~~ the tips of the feathers especially on the first & second quills. Such individuals resemble the Manly Hardy specimen in these respects and they are also closely watched by two of Boateholder's Newfoundland skins one of which shows only the faintest suspicion of dusky on the shafts of the secondaries (and not on all of them) while the other has but little dark color on the webs of the primaries. They are evident exceptions to the rule, however, for nearly all the specimens in B's immense series of Newfoundland examples have the basal half to two thirds of the shafts of the secondaries black or blackish (the terminal third appears to be always white although Widgway and Steginger mention this) and the outer five or six primaries marked conspicuously with dusky in the form of central stripes near the ends of the feathers embracing both webs and varying in width from about $\frac{1}{8}$ to $\frac{1}{4}$ of an inch, in length from $\frac{1}{2}$ to $\frac{3}{4}$. On the whole Allen seems to be a fairly constant form but unfortunately none of B's specimens are in full winter plumage the whitest ones showing dark feathers here & there & none being dated later than December.

Lagopus lagopus.

Margarite River, branch of the Saguenay, Canada.

1895. " I was glad to find my old friend Walter Brackett just
Aug. back from his salmon fishing on the Margarite River. He tells
me that Willow Ptarmigan occur there irregularly in winter
often in very large numbers. His guides save the wings of
some of those that they kill and use them for brushes, etc.
at his camp."

Extract from Journal, Aug. 28, 1895.

Bethel, Maine.

Birds within Ten Miles of Point
de Monts, Can, Comeau & Merriam.

79. *Lagopus albus*. WILLOW PTARMIGAN. — Very abundant during the early part of some winters, but during other years it does not occur at all. They generally arrive about the first of December, and a few remain till the first of May. They are always most abundant in December, and Mr. Comeau once killed six hundred before Christmas! He has shot as many as eighty-two in a single morning.

Bull. N. O. C., 7, Oct, 1882, p. 238

THE PTARMIGAN WINTER.—Last autumn (1882) we had published in the *Quebec Chronicle* a letter relative to the probable recurrence of the willow grouse or ptarmigan (*L. albus* Aud.) this winter. The prediction or surmise has proved correct as the following clipping from the *Ottawa Citizen* of March 2 will show: "It was reported to-day by a farmer from the neighborhood of Pembroke that ptarmigan had been seen in the vicinity of the town. It is curious that if such be the case, none have been observed in other localities generally visited by this polar bird during the severe winter south of the Arctic latitudes." Some weeks ago another notice of the recurrence of the ptarmigan appeared in one of the Manitoba papers and was copied in the *Montreal Witness*. Of late years this bird has been very scarce and reports have been received at some of the Hudson Bay outposts, stating that Indian families, whose sustenance depended almost entirely on these birds, were in a starving condition. When the snowfall is very heavy in the north the birds appear to perish in large numbers—not from cold, but owing to the willow brush being covered up. During such winters there is a large migration southward of the ptarmigans, and numbers are killed by hunters and lumbermen to the northward of the St. Lawrence and Ottawa rivers. Some twenty years ago we have seen the birds brought into our markets at Montreal and Quebec in large numbers, but since then they have almost completely disappeared. This, then, has been a "ptarmigan winter," and a cold and severe one too it has been.—H. G. V. (Montreal, March 3). *Tr. & G. XX, No 9, p. 166 Mar. 29. 1883*

"Review for January"

Two or three invoices of Ptarmigan from Labrador, arrived within the last week, and were offered at the stalls at \$1.50 to \$2.00 per pair. From the way several prominent taxidermists are prospecting in the vicinity, we are led to believe that more than one eye is on a future corner in the market.—F. B. W., Boston.

O. & O. X. Feb. 1885. p. 32.

The Common or Willow Ptarmigan (*Lagopus albus*) is still an abundant resident, even in the vicinity of St. John's; and thousands of them are killed annually on the peninsula of Avalon alone. It frequents rocky barrens, feeding upon the seeds and berries of the stunted plants that thrive in these exposed situations. The Rock Ptarmigan (*L. rupestris*) is confined to the high mountains of the interior.

*Newfoundland Notes, G. H. Merriam
Locust Grove, New York.*

O. & O. VIII. June, 1883. p. 43.

An Ornithologist's Summer in Labrador
M. Abbott Frazar.

Lagopus albus, Willow Ptarmigan. In summer this bird seems to retreat to the interior to breed, and visits the coast regularly every winter. The preceding winter they were unusually abundant about Esquimaux Point, far more so than usual. People killed them in their yards, on their doorsteps and about everywhere. Two Indians I saw were said to have killed over eight hundred during the winter. But from all the evidence I could gather, this unusual flight did not extend much to the eastward of Musquarro; the natives recognize this as the White Partridge. Another species which is found about Cape Whittle in winter and which they call the Mountain Partridge, is a smaller bird and is said never to get pure white. It is a recognized species by all the inhabitants about there and is probably *Lagopus welehi*, as Mr. Jones with whom I lived at Cape Whittle, and who was a very reliable man, told me that several years before, he was on the shore of the straits one day in early winter, and that flock after flock of these birds were flying in from across the water and that they lit upon the first land they could reach, evidently being greatly fatigued.

O. & O. XII. Mar. 1887, p. 33.

Birds of N.E. coast of Labrador
by Henry B. Bigelow.

54. *Lagopus albus*. WILLOW PTARMIGAN.—Rather common north to Nain, beyond which point we did not see it. In some places abundant.

Auk, XIX, Jan., 1902, p. 29.

Birds of Toronto, Canada,
by James H. Fleming,
Part II, Land Birds.

Auk, XXIV, Jan., 1907, p. 71.

116. *Lagopus lagopus*. WILLOW PTARMIGAN.—A specimen taken May 15, 1897, about four miles from Whitby (29 miles east of Toronto), is in the collection of Mr. J. H. Ames;³ there is no question about the locality being authentic. An unusually southern migration of Willow Ptarmigan took place in the winter of 1896-97, and I recorded them as far south as Lake Nipissing.⁴ Dr. Wm. Brodie remembers a specimen that was taken many years ago in the township of Whitchurch. Ptarmigan are referred to as frequent migrants into the townships back of Darlington (about 40 miles east of Toronto).⁵

³ Auk, XIV, 1897, 411.

⁴ Auk, XVIII, 1901, 37.

⁵ Early Settlers of Bowmanville, etc. J. T. Coleman, Bowmanville, 1875, 35.

Brief Notes.

A Ptarmigan was shot just north of Bangor, Me., in April. It was sent to Messrs. Holt and Morrill of that city to be mounted. ~~M. Crosby of that city had a black fox in January.~~

O. & O. Vol. 17, May 1892 p. 79

General Notes.

Lagopus lagopus in Maine.—A male Willow Ptarmigan in full winter plumage was shot at Kenduskeag, Maine (a village about eight miles from Bangor), on April 23, 1892. It was brought into this city to be mounted. The man who killed it reported that it showed little or no alarm at his approach, and in fact seemed quite as tame as a domestic fowl. This is, I believe, the first instance of this species being taken in Maine, and will therefore probably be of interest.—HARRY MERRILL, *Bangor, Maine.*

Auk 9, July, 1892. p. 300.

Birds of the Adirondack Region.
C. H. Merriam.

138. *Lagopus albus* (Gmelin) Audubon. WILLOW PTARMIGAN.—
Mr. Romeyn B. Hough has a specimen of this species that was killed in
the town of Watson on the eastern border of Lewis County, May 22,
1876.* Mr. Hough writes me that he has been told by lumbermen from
this region that they had seen "White Partridges" there in winter, and
he presumes they were of this species.

Bull. N. O. C. 6, Oct. 1881, p. 233

THE WILLOW GROUSE IN NEW YORK. — Mr. Romeyn B. Hough, Cor-
nell University, Ithaca, N. Y., writes: "Not finding the Willow Grouse
(*Lagopus albus*) hitherto credited to the State of New York, I take the
liberty of informing you that there is one in my collection which was
taken in Watson, Lewis County, on May 22, 1876. It was killed by the
person who brought it to me, who said that it was the only one he saw,
and that it was not very shy. It was a male, changing plumage, — mostly
white, but with brown head and neck. This is the first instance that has
come to my certain knowledge, though I have heard of some lumbermen
catching in winter what they called a 'White Partridge,' and which was
probably a Ptarmigan, though possibly an albino Spruce or Ruffed Grouse."
— ELLIOTT COUES, *Washington, D. C.*

Bull. N. O. C. 3, Jan., 1878, p. 41.

General Notes.

High Plumage in the Ptarmigan.—Early in January, I received a box of Grouse in the flesh from Mr. Thomas J. Egan of Halifax, N. S., among which were a pair of Ptarmigan (*Lagopus lagopus*) from Newfoundland. One of these, a male, had the shafts of the secondaries black and was therefore probably *L. alleni*, but the most striking thing about the plumage was the very evident tinge of rose-color, which was deepest on the rump and on the sides under the wings. The bird was examined in daylight and there was no mistaking its very high coloration. It was equally clear that the color was not adventitious or due to any external influence. The shading was so delicate that I felt sure it would fade from a skin and so the specimen was not preserved. My attention has again been called to the matter, however, by another male *L. lagopus*, which I have recently received from Mr. William Clark of Winnipeg, to whom I am indebted for other birds also. This specimen was larger than the first and the rosy tint was more intense being especially clear on the sides, making the bird by far the handsomest one of its species which I have ever seen. Possibly this high plumage may have been recorded by others but it is not mentioned by the authorities to whom I have access.—

HUBERT LYMAN CLARK, Pittsburgh, Pa.

Auk XI. April. 1894 p. 177

Passerculus sandwichensis alaudinus. This species, referred to as probably common at Point Barrow, does not occur there.

Asio accipitrinus. Mr. Nelson says, "On the Alaskan coast of the Arctic, it is found nearly if not quite to Point Barrow." It was not found at Point Barrow.

Ægialitis semipalmatus. This species was not seen, although Mr. Nelson's remarks would lead to the inference that he saw a pair there in 1881.

Ereunetes pusillus. This bird, which is said to breed at Point Barrow, only occurs in the autumn migrations, when large flocks of the young appear among the mudholes at Elson Bay, moving southwest along the coast.

Numenius hudsonicus. Referred to as occurring "north to the vicinity of Point Barrow." We did not see it, and the only species of Curlew observed (*N. borealis*) was rare and irregular.

Dafila acuta. Referred to as nesting "in the greatest abundance . . . to the farthest northern extreme of Alaska in the vicinity of Point Barrow." We found the bird comparatively rare and none breed. The natives say they are abundant inland on the rivers.

Nettion carolinensis. It does not reach Point Barrow, as Mr. Nelson thought might be the case.

Mergus serrator. Referred to as found "along the Alaskan coast of the Arctic to Point Barrow." We neither saw nor obtained it.

The following species, supposed by Mr. Nelson not to reach Point Barrow, were obtained by our party.

Limosa lapponica novæ-zelandiæ. A few immature birds were obtained in the autumn migrations.

Grus canadensis (= *fraterculus* Cass.). These birds were seen and two taken in June, 1883.

Lampronetta fischeri. This species occurs sparingly with the other Eiders in the great spring flights, and a few remain on land and undoubtedly breed, as a female was shot with an egg ready for laying in the oviduct, and half-grown young were taken in August, 1883.

WASHINGTON, D. C.

CHANGE OF COLOR IN THE WING-FEATHERS OF THE WILLOW GROUSE.

BY C. HART MERRIAM, M. D.

AT the last meeting of the American Ornithologists' Union Dr. Leonhard Stejneger exhibited the type specimen of 'A new subspecies of Willow Grouse from Newfoundland,' which he named *Lagopus alba alleni*. He characterized it as follows:

1737. *An Interesting Hybrid*. *Ibid.*, Dec. 27, p. 455.—From the 'Evening Mercury,' St. Johns, N. F. A supposed hybrid between the Black-cock and the Ptarmigan. *For. & Stream*, Vol. 31.

1789. *On the Shedding of the Claws in the Ptarmigan and Allied Birds*. By Leonhard Stejneger. *Ibid.*, pp. 774-776. *Amer. Naturalist*, XVIII.

Manchester, Mass.

Lagopus albus

A specimen in the Peabody Academy at Salem marked simply "Manchester, May 10" It is in pure white plumage with some concealed reddish on the auriculars. The shafts of the primaries are black with a slight narrow edging of black on their webs next the shaft.

MEASUREMENTS.

Lagopus stjernegeri

CATL. NO.	COL. W. B. SEX.	LOCALITY.	DATE.	LENG.	EX.	WING.	TAIL.	TAR.	MID TOE.	BILL.					REMARKS.
										Culmen from Base.	Culmen from Feathers.	Culmen from Nostril.	Dipth of Bill at Nostril.		
8246	♂ ad	Newfoundland	June 25. 1883	7.48	4.95	1.40				.97	.58	.40		Full breeding pl.	
8247	♂ "	"	May 19 "	7.30	4.55	1.42				.90	.53	.44		Enter winter & breeding pl.	
8248	♀	"	" 19 "	6.98	4.15	1.50				.85	.58	.42		Full breeding pl.	

Data of Ptarmigan
killed at Henderbrook, Maine
in 1892 & now in
Mr. Hardy's collection.

I have since seen the bird again and engaged to buy
it. It is said by the also specimens the only like called
question a make - It is exactly like a Parula
except dark eye stripe - I think that it was killed at Henshaw
some 8 or 10 miles West of Henshaw

26th Apr 1892

Friend Brewster

I have not written you since receiving your last letter, as I thought you would prefer not to receive letters, but a thing occurred yesterday so unusual that I thought I would venture to write. Being in yesterday at Crosby's he asked if I did not wish to see a pair white Canada grouse, and on my expressing a desire to he went with me to the store of another taxidermist Mr Morrill. They took down a bird just mounted. The instant I glanced at it I saw what it was, and can hardly tell whether more amazed at seeing such a bird here, or the stupidity of two professional taxidermists in mistaking a Ptarmigan in full winter dress for a Canada grouse. The bird was brought in, in the flesh by a farmer who said that he saw it in his field and

that it seemed unable to fly much - It
was taken in September a place some 20 miles
West of Bangor - I have probably one of the
best private Collections of Ptarmigan in the
U.S. but I can find nothing exactly like it
I have not had it home for comparison but
think it must be a Rock Ptarmigan -
I have - Willow - Goshawk - Welches - White tailed
Nelson's & Phalarope - This is exactly like
the Rock except it has no black post ocular
stripe, and I see Coles says that I had it
from which I infer that it is lacking in
the ♀ - It is pure white with dark brown
shafts to wing quills and under part of
tail hook - but it is not the Willow or Welches
I doubt if Mr Merrill can tell the sex, but will
see him and buy the bird if possible and
find out all I can about it - I have had one
of the new turkey described by Sennett
for two years and wrote you once about
it. I was sure it was a new variety of
the Mexican but it was too large to send away
Wishing thus will find you in better health
I am Very Truly
O. Hardy

I have no Rock Ptarmigan

alleni

A NEW SUBSPECIES OF WILLOW GROUSE
FROM NEWFOUNDLAND.

BY DR. L. STEJNEGER.

Lagopus alba alleni Stejneger. NEWFOUNDLAND WILLOW GROUSE.
SUBSPECIFIC CHAR: Similar to *Lagopus alba* (Gm.), but distinguished by having the shafts of both primaries and secondaries black, and by having the wing-feathers, even some of the coverts, marked and mottled with blackish.

HABITAT: Newfoundland.

The type specimen will be presented to the U. S. National Museum. It measures as follows: Bill from nostrils to tip, 11 mm.; wing (not flattened), 186 mm.; tail-feathers, 111 mm.; tarsus, 40 mm.

Four specimens, all in transition from autumnal to winter plumage, have been examined.*

Auk, I, Oct., 1884. p. 369.

E. Mann

A specimen labeled "Manchester, May 10" in the Essex Co. Coll. of the Peabody Museum at Salem. It is in white plumage with only the shafts of the primaries reddish. The shafts of the primaries are black with a narrow black border on their webs, also.

Lagopus albus alleni

6, 1874

ST AND STREAM.

PTARMIGAN OF NEWFOUNDLAND

PTARMIGAN.

Partridge ("partridge," in our local vernacular) of quite equal to the Scotch grouse, and indeed resemble that it is difficult to make out any specific difference from the grouse, or moorcock of Scotland, and the Nova. They are a most delicious article of food, served, or in white soups. All visitors to our shores

admit that the flavor of a plump partridge, well cooked, is unsurpassed in richness and delicacy. They are of respectable proportions, a brace of them in season weighing from three pounds to three pounds and a half. When the sporting season opens, on the 1st of September, they are in prime condition, after feeding on the wild berries, the partridge berry and cranberry being their favorite food. In certain localities they are very abundant, and to the sportsman there can be nothing finer than a day's partridge shooting over our breezy "barrens," during the fine autumn weather. The air is then cool and exhilarating, and the bright skies, the weird and charming scenery, varied by countless lakes or "ponds," as we call them; the low, rounded hills, covered to the summit with the tapering firs; the lakelets bright with the white and yellow water lilies; the bold headlands along the coast through whose summits glimpses of the restless Atlantic are obtained—all these, with the excitement of the sport, combine to furnish to the lover of nature a day of rapturous enjoyment. It is a thrilling moment to the genuine sportsman when, gun in hand and dog at foot, he finds himself among the partridge coverts. His faithful Rover scents the game; every nerve in his frame quivers as step by step he thoughtfully and cautiously advances toward the unseen cover; then suddenly pausing, the right fore paw balanced lightly, and every limb and muscle rigid as a statue, the beautiful animal is at once transformed into a marble Niobe. Presently a whirr is heard, and with a loud "ca, ca, ca," a magnificent old cock rises on the wing. Crack goes the gun and down tumbles the great bird, the scarlet tips over his eyes glistening like rubies, as with a thud that gladdens the sportsman's heart, he strikes the earth. Or perhaps a whole family—father, mother and children—rises at once, and the double barrels bang at them right and left, bringing down two or three brace. At times a late cover is raised, the chickens of which are only two or three weeks old, just able to run smartly along the ground. It is a touching sight then to see the cock fearlessly exposing his life to save the lives of his offspring. He tumbles along the ground a few yards in advance of the dogs, rolling there in order to decoy the sportsman from the brood which the hen is anxiously calling into the thicket. No more touching instance of paternal affection could be witnessed; no more touching proof among the lower creation of self-sacrifice, prompted by love. The poor feeble bird would almost attack dogs and men in his efforts to save his children. No true sportsman would harm a bird under such circumstances. Only a brute would fire upon it. The dogs are called off, and father and mother ptarmigan are soon rejoicing over their rescued family.

After a day's sport over the hills a supper of roast ptarmigan, with wild strawberry tart as an accompaniment, and trimmings composed of our sweet garden vegetables, is "a feast fit for the gods." Our ptarmigan have in summer a plumage brownish ash-gray in color, mottled and barred with dusky spots. This color, when the frost sets in, gradually disappears, as in the Alpine hare, and at length when the snow falls it is almost pure white. One peculiarity, however, in the Newfoundland bird is, that the middle or incumbent pair of tail coverts are rarely found entirely white in winter, as they are stated to be in "Birds of North America," p. 634. These remarkable changes, effected as in the northern hare, without loss of substance, fit it admirably for its situation; as the sportsman, if he have not a dog used to the game, may almost walk over the bird without putting it up. It is feathered and haired down the legs and between the toes, and may be distinguished at a considerable distance by the red about the eye. These birds are widely diffused over the island and it is no uncommon thing for a sportsman to bag in a day from a dozen to twenty brace.

There can be no doubt that our ptarmigan are the Willow Grouse (*Lagopus albus*) of naturalists, and they are the only lowland or sub-Alpine species indigenous to Newfoundland. Their food mainly consists of the buds and tender shoots of birch, alder, black spruce, juniper, &c., but in the berry season they feast on partridge berries and cranberries. They almost invariably roost on the ground, but are often shot feeding on the tops of birch and alder trees. Professor Baird says: "I find a considerable difference in different specimens of the large ptarmigan (*L. albus*) before me. Those from Eastern Labrador and Newfoundland appear to have decidedly broader, stouter, and more convex bills than those from the Hudson's Bay and more northern countries. I think it not improbable that there may be two species." Professor Newton of Cambridge is, however, of a different opinion. He says: "None of Professor Baird's later writings have gone to strengthen the suspicion expressed by him formerly as to the existence of a second species of willow grouse. I have compared a pretty good series of skins from many parts of North America, extending from Alaska to Newfoundland, and so far as I can judge I have no doubt they are of one and the same species, which is further identical with the willow grouse of Europe. *Tetrao saliceti* (Temmick;) *T. subalpinus* (Wilson.)"

At times, in some districts, they are so tame that they can be killed with a stick, and at others so wild that they will not allow you to approach within gun shot, and such is generally the case in winter, when

the snow is hard and crusty, and the noise made in approaching them alarms them. They are shot at all times by our population in the more distant districts, but a close time is now fixed by law, which will have a good effect where the law can be enforced.

There is another species found in Newfoundland, but it is comparatively rare—the Rock Ptarmigan, *L. rupestris* (Gmelin). It is a truly alpine species, and is seldom found below the line of stunted black spruce except in the depths of winter, when they descend to the low lands and feed on the buds of dwarf trees, sometimes in company with the willow grouse. Our settlers call this the "mountain partridge." M. H.

THE SCENT QUESTION.

NICASIO, Marin co., Cal., July, 1874.

EDITOR FOREST AND STREAM:—

In an article in a back number relating to quail withholding their scent, I expressed the opinion that sitting birds gave off no scent. In making this statement I had reference to the California quail, which is about the size of our eastern quail, but differs from it in plumage and somewhat in habits. The California quails, both male and female, have a plume on the top of the head which can be raised or depressed at will. Their plumage is of a slate color, and unlike our eastern quail, they roost in trees at night. They are very prolific, laying about nineteen eggs, often more. I have seen twenty-seven. The nest is made in the ground and lined with fine grass. The bird, when sitting, is about level with the surface. The eggs are placed around the sides of the nest. During incubation the birds lay very close, sometimes being killed by cattle stepping on them. A bevy, on being flushed, alight together, but are easily flushed a second time, when they scatter and lay well if the cover is good. I never had trouble in finding them as soon as I could get to them, if there was any dampness in the air; but in our dry, north wind the scent from some cause is so soon obliterated that I have often seen dogs flush quail by walking over them, and even stand with their foot on a dead bird, at a loss to know what had become of it. But the same dog, on a damp day, would work out and retrieve five hundred and fifty quails. Having kept good dogs during many years, and never having seen one make a point on a sitting bird, I formed the opinion that there was no scent given off that a dog could detect.

I trust my brother sportsmen will receive this in the true spirit of a sportsman, remembering that the best dogs can be at fault and the finest shots miss their birds, and that in all matters of opinion such as this, no one can be positive. Yours truly,

PIONEER.

rupestris

55. *Lagopus rupestris*. ROCK PTARMIGAN. — Common from Hamilton Inlet northward. Beyond Okak the Rock Ptarmigan probably belong to the race *reinhardti*. We found the ptarmigan very acceptable additions to the larder.

Birds of N.E. coast of Labrador Auk, XIX, Jan., 1902, p.29.
— Henry B. Bigelow

Tympanuchus
americanus

Birds of Toronto, Canada,
by James W. Flaming
Part II. Land Birds, Hypothetical List.
Auk. xx (1), Jan. 1907, p. 89.

20. *Tympanuchus americanus*. PRAIRIE HEN.—It is marked as having been taken at Toronto in 'Hand Book of Toronto,' 1858, 54, with the remark: "This is the Heath Hen of our Legislative Act for the preservation of game." McIlwraith records the taking of one at Hamilton in May, 1886,³ but it seems unlikely that this was a native bird as they were probably extinct by that date in Ontario, though imported birds may have been on some game preserve; but there is no probability that the bird ever came as far east as Lake Ontario.

³ Birds of Ontario, 1886, 128.

OFFICE OF
FALL RIVER ELECTRIC LIGHT CO.
48 BEDFORD ST.

Fall River, Mass.

Mr. W^m Brewster
Cambridge, Mass.

Dear Sir: -

enclosed clipping for

I have been to see to
think it must have

on some preserve, though I know of
none in this vicinity. The bird
was very fat and apparently in good
condition (almost too much so to
be a caged bird) except that it did
not have the use of its legs. It was
alive this morning, and by keeping
quiet in one corner, we could see
the bird eagerly picking up some
cracked corn. I have nothing to
guide me except your descriptions

**Prairie Chicken Captured at Bray-
ton's Point.**

Isaac M. Thrasher, the taxidermist, exhibited at the News office this forenoon a very beautiful prairie chicken which was captured at Brayton's Point by Joseph O'Neill, son of James O'Neill, who lives at the old Wilbur homestead near the Point.

The bird was disabled by the boy's shot, but it was not killed and gave promise to-day of recovering from the injury. The prairie chicken is a stranger in these parts and how this one came here is somewhat of a mystery. Some think it is an escaped pet.

Before it was shot it was able to fly and run very fast. It has very lustrous plumage and is finely speckled, much after the fashion of a partridge. The ruffles on its neck, which help to guide it in its flight, are well developed and add interest to the appearance of the bird.

M. Schauer's smoking sets.

Fall River News

12/8/94

in the 1885 Auk, and from that place it is one of the western Prairie Hen. As well as I could measure, holding the bird in my arm, the wing is about $9\frac{1}{2}$ " and the tarsus $2\frac{1}{4}$ ". There are at least seven of the black feathers in the neck-tufts.

Drayton's Point is the southern end of the town of Somerset, Mass. and is just across Taunton River from this city, jutting out into Mount Hope Bay.

While there is no doubt a suitable explanation for its presence in this vicinity, yet I thought it worth while to report the fact to you.

Yours truly,

Owen Dufee.

Tympanuchus americanus.

Manitoba.

Red Prairie Hen.

I think it may interest you to know that I have a Red Prairie Hen taken in Manitoba. It is finely mounted. I have compared it carefully with the plate in the Auk. Usually plates are more highly colored than the originals. My Hen is fully as red both on breast and back as the plate. If anything the belly is darker. I have not received data, but it is evidently a male.

Copied from a letter to Wm. Brewster
from Manly Hardy, dated, Brewer, Maine,

June 30th, 1898.

Tympanuchus americanus

1892.

May 14 - "1 ♂ Fresh Pond Swamps"

W. Faxon.

note sent by Mr Faxon,

Mar. 14, 1903

Cupidonia americana

Booming—

Those days were filled with preparations for work upon the land. Every farmer was busy getting out his seeders, his drags and cultivators; scouring up his plows, and fanning over his seed-wheat and doing other things necessary for the seeding. The music of the prairie chickens has now become a vast symphony impossible to transcribe. Thousands of throats pour forth the "boom, boom, boom—cutta, cutta wah whoop—boom, boom—whia-oo! ye-ah! ye-ah! whoop." Resonant from every knoll, near and far; filling the mellow dawn with cheer, and ringing the horizon round with sounds: a song that with the glory of the opening day is sublime for its wealth of suggestions and its power of prophecy. On such mornings we drive our team afield, the sun just rising, the sky clear, the west wind soft and warm.

Extract from "boy life
on the Prairie"

American Magazine,
Vol VII, No 6, Apr. 1888.

Albinism and Melanism in North
American Birds. Ruthven Deane.

Cases of albinism in *C. cupido*, are frequent

Bull. N. O. C. 1, April, 1876, p. 22

Albino Pinnated Grouse - ♀

This bird was shipped to H. L. Lawrence of stall
46 Faneuil Hall Market, Boston, coming in an
unfrozen condition from Iowa, near the Missouri
River. It was undoubtedly shot about one week
prior to my purchasing it, (March 13th 1893) while
in the flesh and fresh, the feet and nails, and
bill, were yellowish orange color, The Eyes were
brown; This bird a Female was skinned and
sexed by Mr M. Abbott, Fragar, 93 Sudbury St
Boston.

Geo Mackay -

To

William Brewster, Esq.

A REMARKABLE SPECIMEN OF THE PINNATED GROUSE (*Cupidonia cupido*). — While overhauling some Grouse in the Boston markets a few years since I came across a specimen which exhibits the following peculiarities of plumage:

Adult ♂ (No. 2691, author's collection, Boston Markets, February 27, 1873—said to have come from Iowa). Ground-color above warm, brownish-cinnamon. Shorter neck-tufts or pinnate coverts, bright reddish-brown. Breast, reddish-chestnut, becoming almost clear chestnut anteriorly. A band or collar of broad, stiff feathers extends continuously around the neck in front and across the lower portion of the jugulum about in a line with the neck-tufts. These feathers although less stiff than the longest ones in the neck-tufts, are nevertheless quite as much so as the shorter ones. They make a conspicuous ruff which is mainly black mixed with a good deal of reddish-chestnut. The latter color on the shorter and overlapping feathers occurs in the form of narrow central stripes, which in some cases are nearly orange in tint; on the longer ones as a more or less broad, lateral marginning.

I offer the above description solely for the purpose of calling attention to this remarkable specimen for I am entirely at a loss to account for its peculiarities. Several who have seen it have suggested that it may be a hybrid between the Prairie Hen and the Ruffed Grouse, but this hypothesis seems hardly a probable one, inasmuch as none of the combined characters which would be expected in such an offspring are here presented. The ruff does indeed remotely suggest that of *Bonasa*, but otherwise the bird shows all the well-marked structural characters of *Cupidonia*. To simply say that it is abnormal will hardly satisfy the numerous investigators of this pushing age of inquiry.—WILLIAM BREWSTER, Cambridge, Mass.

Bull. N. O. C. 7, Jan, 1882, p. 59.

not a simple species, and should, therefore, as such, have a compound and not a simple name." The propriety of this must, I think, impress every one, but in endeavoring to carry out his plan in the present instance I have experienced a serious difficulty.

In naming hybrid forms Mr. Collett makes use of the *generic* title of the *male* parent alone, the "compound" part being made up from the *specific* appellations of *both* parents. Thus he calls the offspring of the male Ptarmigan (*Lagopus albus*), paired with the Viewing the very peculiar physical characters of these islands when contrasted with the neighboring American shores, it would seem reasonable that the rate of change demanded of an immigrant species would be high; consequently the origin of the islands need not be dated back to a more distant period than seems indicated by their volcanic origin."

Considered in connection with the subject discussed above, the birds of Guadalupe are of extreme interest, since they apparently represent a transition stage through which those of the Galapagos once undoubtedly passed. Nothing, unfortunately, is known to the writer as to the geological structure of Guadalupe; the character of the modifications presented in its birds, however, point strongly to its volcanic origin, and render it extremely probable that the upheaval took place at a more recent date than that of the Galapagos. The earliest immigrants to this island were probably the ancestors of *Polyborus lutosus*, which has become completely differentiated in plumage but not perceptibly altered in the details of structure,* and those of *Carpodacus amplus*, whose modifications of external struc-

* The case of this species presents a very curious problem. Its origin from *P. cheriway*, the only species now inhabiting Middle America, and even northern South America, can scarcely be doubted; but the modifications which the Guadalupe species has undergone tend toward the distinguishing characters of the South American form (*P. tharus*). The two continental representatives of this genus have undoubtedly had a common origin, the differences between them coming under the scope of ordinary geographical laws of variation in this family, as at present understood. The differentiation of the Guadalupe form is of a most remarkable kind, however, being apparently a partial reversion to the features of the Southern form; but some of the characters which distinguish the latter from its Northern analogues are even greatly exaggerated in this Northern insular form! In this instance, then, the differentiation has been a kind of retrocession, with no change in details of structure, while in all the other forms of the island the differentiation has been of the opposite kind, affecting the proportions more than the colors.

NOTES ON THE TRUNK SKELETON OF A
HYBRID GROUSE.

BY R. W. SHUFELDT.

ON the 15th of last January (1893), Mr. William Brewster purchased in the markets of Cambridge, Mass., a specimen in the flesh of a hybrid Grouse. He prepared the skin of it for his private collection, and placed the body of the bird in alcohol. Writing me from Cambridge upon the 13th of the following month, he offered me the latter for anatomical investigation, saying at the same time that, as far as he could ascertain, the bird "lacked wholly either testes or ovary." During the latter part of February this spirit specimen came into my possession, and in the letter of transmittal Mr. Brewster further said: "The market-man could tell me nothing as to where it had come from, save that he received it with many other Grouse (all *Tympanuchus americanus*) from a wholesale dealer in Boston."

"It is nearly intermediate in respect to color, markings, and feather development between *T. americanus* and *Pediocetes p. campestris*. It has the neck tufts (only about one inch long, however) of the former and the elongated central tail-feathers of the latter. It had evidently been snared, and killed by wringing the neck." I re-examined the specimen for sex characters (but without a lens, however) and utterly failed to find any trace of generative organs whatever. In April, through the kindness of Mr. True of the National Museum, the alcoholic, which had already been partially skeletonized by myself, was passed into the hands of Mr. F. A. Lucas, to be completed by one of his workmen. Thanks to them, the cleaned bones now lie before me for description. These consist of the femora, the shoulder-girdle (complete), the sternum, the ribs (which had all been cut in two in order to examine for sex characters), the cervico-dorsal vertebræ, the pelvis, and two (proximal ones) coccygeal vertebræ.

Am. Field. Vol. XXVIII No. 18 p. 425. 1887
A GENTLEMAN, while gunning in a clearing on the eastern outskirts of our borough, flushed what he supposed was a wounded hawk, and fired and killed it. Finding it was not a hawk, he brought it to Mr. Lucius D. Price, a taxidermist, who pronounced the bird a male prairie chicken. How such a stranger ever found its way to West Chester, is a mystery. Three or four years ago several pairs were liberated in Delaware County, but were never seen or heard of afterward. As Delaware County adjoins our county on the south and east, it is just possible that this bird was the last of those liberated, and had wandered into this section. On examining its body several partially healed wounds were found. Some other sportsman had evidently had a shot at it.

LENAPE.

West Chester, Pa.

Tympanuchus cupido.

1890 Mass.

Nov. 13 Martha's Vineyard. - Will Slocumb (of Jamaica Plain) saw a flock of fifteen Heath Hens about a mile E. of Westisbury. He was driving a little after sunset and the birds passed on both sides of the carriage and plunged into a large tract of "plains brush" about waist high. They came from the direction of a open field and flew very like Quail but rather more scattered.

Mr. Hoyle (of W. Millbury) tells me that he spent several days on the Vineyard last May looking for Heath Hens' nests. He failed to find Abundance any but started a good many birds all in dense scrub oaks. He considers them much more abundant than are Ruffed Grouse in Worcester County. Asquith of his who lives on the Vineyard shot six in one day this autumn. Several of these came into Mr. Hoyle's possession. Their stomachs & crops contained acorns and grasshoppers. Food Mr. Hoyle has never found any other kinds of food in any of the specimens that he has dissected. He knows of a fine set of Heath Hens eggs in the possession of a local collector on the Vineyard Eggs About the 20th Nov. two of Mr. Slocumb's friends who stayed on the V. a little later than he started two Heath Hens in oak scrub not far from Gay Head (probably at about the western extremity of the oak tract.)

1896

Nov. 14 Wisbury Plains. - While crossing these plains in the stage on the way to North Wisbury & about 1 1/2 miles from that place Mr. F. E. Chase (Fallmouth man - Carpenter - native of the Vineyard) saw three Heath Hens. They rose from the side of the road & after flying about 50 yds. dropped into the low oak scrub. Mr. Chase knows these birds well & is perfectly able to distinguish them from Ruffed Grouse as I have satisfied myself by questioning him closely. He further tells me that the person at whose house he stayed during this trip told him that he "knew where he could find Heath Hens at almost any time now".

Symphoricarion cupido

1891 Mass.

May 8

Martha's Vineyard. - Mr. West, who drives the Stage daily between Squibnocket and Vineyard Haven, tells me that Heath Hens have been increasing for the past three or four years. During the past winter he has seen them every few days, singly, in pairs, and in flocks of four or five. Once he counted sixteen in one flock. Has never seen any case of a point about three miles west of Vineyard Haven nor west of W. Fishery. Meets with them oftentimes on the open brush plains. They are attracted by mowing fields and feed out into them morning and evening. He occasionally sees one or two in tall oaks but thinks they are chiefly confined to the brush plains. They are not at all shy of a team but usually rise before it passes them and fly a short distance. Sometimes they run across the road and disappear in the scrub without flying. Once he saw one squat by the side of the rut when it allowed the Stage to pass without moving. He could have struck it with his whip, it was so near. Occasionally they take long flights from place to place. One evening last winter, just after sunset, five passed directly over the Stage as it was waiting at the North Fishery post-office for the mail. They were high in air and had apparently come a long distance. He pointed out a farm house in an orchard, surrounded by open fields and several hundred yards from the nearest woods (tall oaks), where five came regularly last winter, each day, to feed with the farmer's hens. At length these ceased coming. It is supposed that they were shot. "The law protects them at all seasons but a good many are shot on the sly"

Testimony
of Stage
driver

Lyrurus curvicauda.

1891 Mass.

May 9 Westisbury, Martha's Vineyard. - Faxon went to brush plains on Edgartown road taking a Shepard dog. About a mile from town he entered a cart-path on the left of the road and followed it for some distance. The dog ranging about in the stunted oaks put up two Heath Hens. F. saw tracks and droppings in the cart-path. A boy whom he met was taking home a gun which he had just bought to kill "Hessians" and other birds. The "Hessians", he said, were also called "Grees". They were numerous all about and made so much noise in the early morning that it was difficult to sleep. He described their noise as resembling the cut-cut-ca-da-cut of a Hen but knew nothing of any booming or tooting sound. They were seen oftenest on the brush plains but sometimes came into the pens about the house and occasionally fed with the hens. His father had been offered \$10.⁰⁰ for a pair by some one in ^{Vineyard Haven} Edgartown. He never hears them call during the day or in the evening.

" 10 Faxon reached Scott's (the father of the boy met yesterday) house at 4.30 this morning. Weather clear, still and warm the small birds singing with exceptional fervor, the grass soaking with dew. The Heath Hens were calling when F. arrived. He heard one near the Edgartown road and others behind Scott's along the line of the cart-path, all being in the open among the stunted "plains brush". At least five different birds were heard in going a distance of not over $\frac{1}{2}$ of a mile. One of them was flushed by F. who made a rush towards the place where it was calling. It rose about 50 yds. from him.

Symphonachus cupido.

1891 Mass.

May 10 (no 2) West Lisbury, Martha's Vineyard. - Mr. Faxon renders the call as follows: cūc-cūc-cūc-cūc-cūc, cāā? cāā? the first five notes on the same key, the last two on a higher key and each ending with a rising inflection producing a singular effect as if the bird were making some enquiry in the Heath Hen language. The voice is Hen-like and loud enough, F. thinks, to be heard $\frac{1}{8}$ of a mile under favorable conditions. The call was repeated by each bird at irregular intervals varying from one to ten minutes. It was not heard after 5.30 a. m.

After breakfast Faxon returned to Scott's and spent an hour or two searching for Heath-Hens. One started near the path by Scott's boy who was on horse back at the time was the only bird seen.

" 11 Faxon went to Scott's in the afternoon and walked in along the cart-path for a quarter of a mile but neither saw nor heard anything of the Heath Hens.

" 12 Faxon and I reached Scott's at 5 a. m. Morning cloudy with high, cold N. wind; few of the smaller birds singing. He listened for the Heath Hen call until about 5.30 but heard nothing. Then started in along the cart-path. Not 200 yds from the main road we flushed a bird and a moment later a few rods further on another, the mate of the first, probably. About $\frac{1}{4}$ of a mile further in a third was started. All three rose from the middle of the cart path, about 60 yds. 50 yds. and 35 yds. respectively in advance of us. All took the same course which carried them out of our sight over

Tyrannochelidon cupido

1891 Mass.

May 12
(no 2)

Nest Libby, Martha's Vineyard on a ridge which bounded the valley on the left before they had flown 100 yds. The flight is swift and powerful but without rather labored for a Grouse. ^{It suggests monticola} The wings were beaten steadily for the first 30 to 50 yds. after which the bird alternately sailed and flapped giving ten or a dozen strokes each time reminding me of the Gannet's manner of flying. The wings appeared very long and their strokes, although rapid, were deep and lasting and each could be distinctly traced by the eye instead of blending so as to produce the impression of a haze or blur as is the case with the wing beats of a Quail or Partridge when in swift flight. At each upward stroke the white lining of the wings flashed out conspicuously. The birds left the ground at a slight angle although they were forced to rise gradually until out of sight in order to clear the ridge which they did at a height of only six or eight feet above the surface. One voided its excrement just after starting. Only one was sufficiently near to enable me to hear the sound of its wings. The vibrations were more disconnected and less rapid than those of the whirr made by a Quail or Partridge and the sound was more woody (a b-b-b-b-b-b) but yet it may be fairly called a whirr. Taxon says that some of the birds which he has started whirred so nearly like a Partridge that he could detect no difference. The tail, he thinks, is invariably wide-spread as the bird flies. This was conspicuously the case with the three birds seen this morning. The bird

Symphoricarpos curpado

1891 Mass.

May 12 Westisbury, Martha's Vineyard. Looks very large when
(no. 3) in the air and the short tail and peculiar flight
at once distinguish it from a Partridge.

We found tracks and droppings at several places
along the coast path. The tracks resemble those of
a Hen and are shaped thus: ∇ the lateral toes
being inclined well forward instead of spread nearly
at right angles with the middle toe as in a
Partridge track.

The fresh dung is yellowish-green and rather dry
and clean. When old it turns white and becomes
hard. All that I saw was convoluted. I ran or probed
some to pieces and found what looked like fragments
of acorns.

None of the birds seen by F. were seen inside of
30 yds. but the dog got within ten or fifteen yards
of two which were in the oak brush.

There is much conflicting testimony as to the range
of the Heath Hens. Some of the people tell us that
they are distributed over the entire wooded portions
of the island as well as on the brush plains; others
say that they are chiefly confined to the latter.
We spent about three hours to-day beating (with
the help of the shepherd dog) a extensive range
of second-growth oaks west and south of W.
Wisbury. Started three Partridges but could
find no Heath Hens nor any of their signs.

The plains-brush country about Scott's is
fully described in my journal under this
date.

1893 Mass.

Tympanuchus cupido.

Jan. 31 Martha's Vineyard. - Mr. Ottram Bangs has just spent five days on Heath
to the Vineyard searching for Heath Hens. The Mass. Game Commission- Hen.
Feb. 4 ers gave him written permission to trap five pairs for purposes
of breeding and restocking suitable tracts of country on the
mainland. He took with him a skilled trapper but the trip proved
a total failure. The birds were so scarce that Mr. Bangs although
assisted by a native hunter and his dog could find but two. One
of these was seen in the plains brush country. It rose from the
road more than two gunshots ahead and flew out of sight. The
other was flushed by the dog in old oak woods (the woods where
Faxon and I found a Crow's nest in May 1891) where the trees are
of a large size for this island. It flew out into the open and
alighted in the middle of a large field. When approached a
second time it rose very wild and went off towards the plains
where the other bird was seen, making a flight of at least a mile
and probably more.

Mr. Bangs went all over Professor Shaler's 1600 acres without
finding any trace of Heath Hens. The head farmer, an intelligent
man familiar with the birds, said, however, that there were at
least five or six wintering there. Mr. Evans, a local taxider-
mist, who has an order from the Smithsonian Institute for a pair
of the birds knew of two on Mr. Shaler's land but had no inten-
tion of molesting them. In his (Mr. Evan's) opinion there are very
few Heath Hens left on the Vineyard. They were abundant three
years ago but have since ~~decreased~~ suffered severely from gunners, both

1893 Mass.

Tympanuchus cupido.

Jan. 31 Martha's Vineyard.-local and non-resident. Two men who lease a Heath

to large tract of land near Mr. Shaler's place ostensibly, and in Hen.

Feb. 4 fact chiefly, for the Woodcock and Quail shooting which it fur-

(NO. 2) nishes killed and sent to Boston market in the autumn of 1889

between 70 and 80 Heath Hens. These birds were attracted by some

fields of barley which had been sown and left standing for the

benefit of the Quail but which also drew the Heath Hens from

every direction. This on the authority of Mr. Evans.

Another almost equally sad story was told by a livery stable keeper in Cottage City, who asserts that early last autumn two men from Providence R. I. bringing guns and three setter dogs, hired from him a horse and wagon and spent the day driving about the country frequented by the Grouse allowing their dogs to range on every side. They returned that evening with twenty Heath Hens which they took back to Providence.

A great many birds have been also killed within the last two years by people living on the island especially by fox and rabbit hunters, as I stated in my Forest and Stream article. The hounds used by these men will follow the trail of a Grouse as readily as that of their legitimate game. This Mr. Bangs actually witnessed for the Heath Hen, which he saw among the large oaks was "roaded" and flushed by a hound whose owner fired both barrels at the bird quite as a matter of course but fortunately without effect. Mr. Bangs met several other men with guns and hounds evidently look-

1893 Mass.

Tympanuchus cupido.

Jan. 31 Martha's Vineyard.- ing for Grouse. Mr. Waldon told him that Heath
to only a few days before his arrival one of the West Tisbury peo- Hen.
Feb. 4 ple showed him a Heath Hen which he had just killed. Besides
(NO. 3) the two birds which he started and the five or six reported to
be living on Professor Shaler's farm Mr. Bangs heard of a flock
of seven or eight which had been frequently seen near the
German's (where Faxon and I found several in May 1891) but he
searched for them in vain. His experience confirms my impress-
ion that most of the Martha's Vineyard people, including even
the sportsmen and fox hunters, confound the Heath Hen with the
Ruffed Grouse. Indeed he talked with only two persons (Mr.
Evans and Professor Shaler's head farmer) who seemed to know
them apart. One man took him to a swamp to show him a pair of
Heath Hens but when the birds were found and flushed they proved
to be Ruffed Grouse although the islander could not be convinced
of his mistake. Mr. Bangs saw no less than nine Ruffed Grouse
and believes that at present they are much more numerous than
the Heath Hens. He is of the opinion that not more than 40 or
50 of the latter now exist on the whole island.

Martha's Vineyard.

Cupidonia cupido.

Heth'n. Thos. Waldron.

Live in oak scrub but feed ~~out~~ into grain fields; are very fond of clover. Go in small flocks; counted 16 in one flock around barn last winter and saw 6 more same day. Their range covers about 75 sq. m. there were fully 100 birds in this range this spring. Heard them tooting in May. Found nest with 13 or 14 eggs about June 10 some years ago. Nest among oak sprouts at base of large stump. Have counted 12 chicks in brood. 35 years ago saw between 100 and 200 birds in a flock. Have seen them in a row along a fence. When flushed in the fields they fly straight into the woods. Ruffed Grouse is found but is much less numerous than Heth'n.

Another W. Tisbury man tells me he rarely goes to Cottage City without seeing them in the road.

Mr. David Fisher of Edgartown tells me that contrary to general report his father did not introduce any Pinnated Grouse on this island and further that he has no knowledge that the native stock has ever been mixed with foreign blood. The story arises from the fact that his father introduced some Quail many years ago, the native stock having been practically exter. by winter of 1858. The Heath Hens are, he says, much less numerous than formerly (30 years ago) but he thinks they have been increasing for the past three or four years. He saw more last winter than for 5 years.

Mr. C. E. Hoyle has kindly loaned me
for examination three specimens of the
Heath Bee (*J. cupido*) taken on Martha's
Vineyard Dec. 29. 1886. These specimens
(all males) are remarkably uniform ^{in every way} and they
confirm the characters by which I separated
the Martha's Vineyard from the western bird
in the most satisfactory manner. The small
size, short tarsi, rich russet brown coloring
above, broad dark bars beneath and conspicuous
~~white~~ white spots on the ends of the scapulars
are all plain. The points of difference
upon a direct comparison with western
specimens, ^{the dark markings above are also coarser and blacker} but the neck tufts afford the
best character of all for by them the bird
can be easily identified without comparison.
These neck tufts are shorter than in the western
bird and the stiffened feathers ^{of which they are}
~~wholly composed~~ are less numerous, ^{and much} narrower, and more
acutely pointed. ~~instead of blunt or rounded~~
~~at the ends.~~ My ^{original} statement of their number of these
~~stiffened feathers~~ is possibly misleading, inasmuch as I
treated a portion of them as counts to the previous
proper. A simpler and probably better way is to
count only the perfectly plain (either black or
reddish brown) feathers which indicate the
striped ones. In the four specimens of the
cupido before me there are respectively

Tyrannuchus cupido.

The Passing of the Heath Hen.

1897. Mr.C.E.Hoyle called to-day bringing six skins and one
Dec.30. egg of the Heath Hen. He believes that this Grouse is now
practically if not absolutely extinct. Up to 1892 it had held
its own fairly well although more or less birds were shot
every year and at all seasons by native gunners against whom
local sentiment would not warrant the bringing of presecutions.
But this tolerance was not extended to outsiders or, at least,
to such of them as had no friends on the island. A partial
exception to this rule was made, however, in the case of a
man now living in Boston but originally from the Vineyard.
This wretch went to the island in August, 1892, when the young
Heath Hens were still in coveys and unable to take long
flights and hunting them persistently with well-trained dogs
he shot and sent to the Boston markets about 150 birds, or
fully one half of the total number believed to have been on
the Vineyard at that time. The following year he made a simi-
lar raid getting practically all that were left. The Island-
ers grumbled a good deal at this slaughter but nothing was
done to punish its perpetrator.

Nearly all the Heath Hens which have ^{passed} through Mr.Hoyle's
hands were procured by a friend who lives on Martha's Vineyard
and who for many years has been familiar with the habits of
the birds and their haunts. Up to 1894 this man had taken too

Tympanuchus cupido.

1897. strong an interest in the preservation of the Heath Hen to be
Dec.30. willing to kill more than three or four birds in any one sea-
(No.2). son but in the autumn of that year being convinced that the
species was hopelessly near extinction he very properly decid-
ed to obtain, for Mr.Hoyle, as many specimens as possible of
the few individuals that were left. He succeeded in getting
twelve birds, all members of a single covey and all that he
could find. The following year (1895) he failed to meet with
a single Heath Hen although he scoured every part of the island
with good dogs, spending no less than twenty-five days in the
search. One or two birds are reported to have been seen by
other sportsmen during this year but none are known to have
been met with by anyone in 1896 or 1897.

Mr.Hoyle says that the Heath Hens have always suffered a
good deal from the depredations of the larger Hawks as well as
latterly, by those of the Foxes (introduced about) for he
has repeatedly found the remains of birds that had evidently
been killed by one or the other of these marauders and he
thinks that at the very last they may have hunted down and
destroyed the few stragglers that had escaped the sportsmen.
He does not believe that either Hawks or Foxes can be held
responsible for the final result. On the contrary the simple
truth is that the extinction of the Heath Hen has been caused
partly by the short-sighted indifference and jealous greed of

Tympanuchus cupido.

1897. the people of Martha's Vineyard. who while ever ready to en-
Dec.30. force the law against non-resident sportsmen have allowed,
(No.3). if not actually encouraged, their friends and neighbors to
break it at every opportunity, and partly to the apathy of the
Fish and Game Commissioners who, although repeatedly warned
of the seriousness of the situation, have done simply nothing
to avert the calamity which has now come to pass.

It is true that in 18 ~~a half hearted~~^{an} attempt was made
to trap some of the Heath Hens with a view to breeding them
in confinement and afterwards distributing them in suitable
places throughout the State. ^{Mr. Autumn Bangs was} The agent selected for this pur-
pose. Having been duly armed with authority from the Commis-
sioners, ^{he} went to the island and ^{his assistant} succeeded in baiting a ^{small} dozen
^{small covey of} ~~or more~~ birds in a place favorable for the use of ^{the} ~~his~~ nets;
^{they could be used the better} but before ~~he could use them he~~ was awakened early one morning
by a fusillade of gun shots and hastening forth beheld a party
of native gunners retreating in the distance leaving the
ground where the bait had been scattered covered with the
feathers of the birds which they had slain. It seems incred-
ible that this outrage should have gone unpunished but cer-
tain it is that none of those who perpetrated it were brought
to justice while they and their fellow sportsmen on the Vine-
yard have since shot the Heath Hens whenever and wherever they
have had the opportunity regardless alike of the law and their

Tympanuchus cupido.

1897. own direct interest in the preservation of the birds.

Dec.30. In illustration of the laxity of local morals on this part
(No.4). ticular question Mr. Hoyle tells the following story:-

On one occasion a few years since he went after Heath Hens in company with his Vineyard friend. Just as they were leaving the village they met the local game warden who asked what they were going after. Hoyle's friend boldly answered, "Heath Hens". "Hope you'll get some", replied the faithful warden. On their return at evening they again met the warden who inquired as to their success and on being told that they had shot two Heath Hens asked to see them. Mr. Hoyle's companion at once produced them when the warden, smoothing their feathers lovingly, remarked, "Nice birds", if you get any more than you want send them up to my house" !

The centre of distribution of the Heath Hen on Martha's Vineyard, according to Mr. Hoyle, has always been the open plains (more or less covered by low oak scrub) near the village of West Tisbury. Into the taller oak woods they seldom wandered, he thinks, excepting in cold windy weather in winter. Their favorite food was the leaves of the sorrel which abounds on these plains.

Tympanuchus cupido.

Martha's Vineyard, Mass.

Extract from a letter from C.E.Hoyle, West Millbury, Mass., Feb.17, 1898. " I will try to answer your questions in their order.

1st. I think it was Aug., 1893 that the particular offence that I mentioned to you occurred, but I understood that it had been a practise with this party for a number of years, to come to the Island in Aug. and Sept. to get the Chickens.

2nd. I have one 1895 specimen taken on Sept.8th with egg.

3rd. It was in 1896 that my man failed to get a specimen.

The following is to be strictly confidential for the present at least. Some five days after seeing you I met Mr.E.H. Forbush. [Mr.Hoyle saw Mr.Brewster on Dec.30, 1897]. He said he had been on the Island for a few days this fall and among other things he made inquiries about the Heath Hen, among the gunners. He did not hear of any being shot in the last two or three years but said he talked with one man who thought he had seen one this year. I immediately wrote to my man and asked him to send me a full report. He is not much given to letter writing and I had not heard from him this season.

In answer he wrote me that he had been following the matter up very closely through the summer and fall, and in the latter part of June and July he located 2 broods of chicks, much to his surprise. He followed them up and saw them every few days. Knowing their scarcity he realized their

Tympanuchus cupido.

Martha's Vineyard, Mass.

(No.2). value and laid his plans. He said he did not want to get them until they were in full feather and he was afraid that the other fellows would find them, so as soon as they commenced to fly he kept driving them off their accustomed feeding grounds by firing blank charges and other means and finally got them so wild that they ^{would} fly at the sight of a man no matter how far off. He wrote me that not a bird had been shot.

He said there were 27 birds in all and he would send me some of them. Since then he has sent me 27 birds and with the last one wrote that he had cleaned them up and did not expect ever to see another one.

Now I would ask you not to let the above information go any farther than yourself for, as you fully understand, it would reduce the value of my birds very much should it be known that birds had been taken this year. I feel quite sure that this is the last chapter in the history of this species. I think it quite probable that these birds were the offspring of those reported to you by Frazar. The covey had probably been shot into by pot-hunters early in the season which would account for my man not finding them as he did not look for them until the first of Dec. -----

Yours truly,

C.E.Hoyle"

Tyrannus carolinensis

1898.

Martha's Vineyard. - During the present autumn Mr. Abbott Frazar obtained four Heath's Hens all freshly killed birds brought to him in the flesh. One, a fine ♂, was picked up in a marsh in Conn. (to which it had been sent direct from the Vineyard with a bunch of Ruffed Grouse) by an Arlington, Mass. sportsman who sold it to Frazar for \$50. cash. After mounting it Frazar resold it for \$100. cash. The other three birds, all females, were killed by a native of the Vineyard who is now living in or near Boston but who makes occasional shooting trips to the island. This man told Frazar late in November that he knew of a covey of 18 Heath's Hens which up to that time had not been disturbed but which he was intending to hunt up on Christmas day. I saw two of the birds which he killed, ~~one~~ in the flesh. Frazar still has them, I believe. The third ♀ was sent to A. T. Wagon at a valuation he set at \$200.

Dec. 21

C. B. Hoyle called to-day. He admits that he was badly mistaken in assuming that the Heath's Hen was practically extinct at the close of 1897 and admits that his men on the Vineyard has been deliberately deceiving him about the matter. It seems that this man has sent him 5-3 Heath's Hens during the past year. Of these 27 was killed in January 1898 and sent in the flesh as described in Mr. Hoyle's letter of Feb. 17th last. Afterwards (i. e. after this letter was written) Mr. Hoyle received 26 skins, all collected prior to 1898 (in different years I understand) and all made up by the Vineyard gamester. Of the existence of this species Mr. Hoyle claims to have been totally

Zyngamachus cafer.

1898

(No 2)

ignorant at the time the letter of Feb. 17 was written!
The fact that tells me that during 1898 a number of
western Pinnated Grouse were set free on the
Vermont. He first learned of the fact by reading
of it in one of the Spring numbers of Forest & Stream
(1898). His correspondent on the Vermont afterwards
wrote him that he had seen ^{some of} the birds just before
they were liberated.

Pinnated Grouse in Southern Ontario.— On November 25, 1909, I had the pleasure of looking through the collection of Mr. Alex. Gow, Windsor, Ont., and was much pleased to find in it a recent Canadian specimen of the Pinnated Grouse. The bird was a female in fine condition, taken in Sandwich, West Township, eight miles south of Windsor, on the Detroit River, April 29, 1897. It seems altogether probable that this will be the last specimen ever taken in southern Ontario; though, of course, it will probably occur in the northwestern part of the Province.

Mr. Gow tells me, that he had two others, which had been taken near Chatham, forty miles east of Windsor, about 1882 or 1883, but these have not been kept.

The country around Chatham, and from there to Windsor, has much ground suited to the needs of this bird and there can be little doubt that it was once common through most of this territory, although the district ten miles north of Chatham is the only spot from which records have been preserved.— W. E. SAUNDERS, *London, Ont.*

Aug 27. Jan -1910 p. 79

Tympanuchus cupido [48605]**J. W. CRITCHLEY,**

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or Dry Skins.

354 WESTMINSTER STREET.

Providence, R. I., *Mar. 23, 1891**Mr. William Brewster,**Dear Sir,**The ♂ Peahen
you came to us by express
March fourteenth and was
probably shot day before as
it was perfectly fresh.**We weighed it immediately
and found it two pounds four
and one half ounces (2 lb 4 1/2 oz)**The collector's name is
Ernest Pease.**Yours respectfully,
Angell & Cass*

Dutcher, Rare Long Island Birds.

[*Tympanuchus cupido*. HEATH HEN.—There is no specimen of this species in the collection. Col. Pike remembers having killed individuals of this species a number of times on Long Island — the first time in 1836. "I was making a tour on foot round the Island, collecting, and one morning while encamped at 'Comac Hills' we found our larder empty and visited the plains for game. We killed a number of these birds and made some skins of them. They were not plentiful, yet we procured all we wanted. Soon after a law was enacted for their preservation. I have not met with an individual for twenty-five years in the woods or plains which I have hunted over, and I am afraid they are nearly extinct." The Heath Hen has undoubtedly been extinct on Long Island for at least half a century, and it is important, therefore, to place on record all of its life history that can now be obtained from living witnesses. Our esteemed fellow-member Mr. George N. Lawrence is one of the few living scientists who have had the privilege of seeing this species on its native heath. It is with much pleasure, therefore, that I append herewith a letter from Mr. Lawrence relative to bygone days and that extinct bird.

"My Dear Mr. Dutcher:

"Did you ever endeavor to trace the specimen of Pinnated Grouse which I informed you I saw at Hempstead about sixty years ago, mounted and under a glass shade? It was said to be the last example of its race on Long Island, formerly so numerous, and known to the natives as the Heath Hen.

"I think it was in the summer of 1831 that I accepted the invitation of a friend to spend a few days with him at the residence of his grandmother at Mastic for the purpose of shooting Bay Snipe in the Great South Bay. At that time the only mode of conveyance was by stage coach. We started from Brooklyn in the morning (another friend going with us), and by noon we reached Hempstead where, at the roadside tavern, while waiting in the parlor for dinner, I was interested in the specimen above alluded to; it was a fine specimen and in good condition; possibly it may be still in the possession of some member of the family.¹ At night we stopped at Patchogue and did not reach our destination until the next morning.

"The Grouse at one time were quite abundant in the scrub oaks of the middle part of the island. I remember hearing of the successful shooting of them by Mr. John Norton. One day he got in the midst of a covey, which was scattered around him in a piece of scrub oak. On shooting one, instead of securing it, he threw down some part of his wardrobe to mark the spot, first his hat, then his cravat, coat and vest; — how far he disrobed I am unable to tell, I suppose that depended upon the number of birds killed. I remember Mr. Norton very well, he was a small man and an enthusiastic sportsman. The family mansion where he resided was on comparatively high ground, just west of Far Rockaway, and bordering on the ocean. The old house was removed by the march of improvement, and the grounds in which it stood are now known by the euphonious name of Wave Crest.

"As is known by ornithologists, the Long Island bird was considered to be identical with the Prairie Hen of the West, but quite recently it has been decided by Mr. William Brewster that they are distinct species. It is surprising that this was not discovered sooner, as their habitats were so very different, one frequenting a dense scrub oak region and the other an open prairie country.

January 20th, 1892. Yours truly, GEO. N. LAWRENCE."]

¹ A visit to Hempstead to see this specimen revealed the fact that it was destroyed by fire a few years since. — W. D.

Mass. (Martha's Vineyard)

Cupidonia cupido

1885

Dec 31

Mr. E. A. Bangs secured two Heath-hens to-day at Centro Town, Martha's Vineyard. He shot one himself the other being killed by an islander who accompanied him. This man told him that the birds were very numerous up to the present season but that two years ago someone turned out fifteen foxes on the island and that since then the Heath-hens had rapidly diminished in numbers. A few years since it was common to see thirty or forty in a pack. The birds are

Mass. (Martha's Vineyard)

Cupidonia cupido

1888-9

Rapidly approaching extinction

Prof. Shaler tells me (Apr. 17/89) that the Grouse on Martha's Vineyard are nearly gone. They were abundant up to within a few years but "five or six years ago" some thoughtless or malicious person introduced foxes and raccoons. They increased with wonderful rapidity and with nearly equal rapidity the Grouse decreased. Prof. Shaler does not think there are fifty left on the whole island. Last year, ^{only} four were seen (during the entire season) on or near his

town, as a rule, and are easily secured. Mr. Bangs saw but two, although he spent three days in searching the island. They are found exclusively in the densest woods, usually oak woods.

The two specimens above referred to are now before me. They are essentially similar to my mounted ♀ but are rather less hairy barred beneath and also have less brownish orange in the under parts. As with my birds the white or light spots on the tertials and scapulars are very large and conspicuous. The tarsi are similarly colored and spotted. (Measurements on special card.)

I have also examined to-day an adult ♂ *Cepidivora* belonging to Gordon Trumbull of Hartford (Conn.) Nest near Palmyra, Mass., Feb. 28, 1885. Its skin coloring, character of plumage, & in most every particular it is identical with western birds. It was doubtless a escaped or liberated western specimen. A similar one was shot the same day but too badly mangled to be preserved.

land (seen 1880 seen), then for in 1889 he has not heard of one. He has visited his land since he thinks is about the best ground country in the island.

About April 10th A. P. Woodhouse secured in the first land from Brewster's grounds a fine adult ♂ *Heath-bun* that had been secured by one of ~~the~~ his *pekinis* who lives there.

MEASUREMENTS.

Cupidonia cupido

BILL.

CATL. NO.	COL. W. B. SEX.	LOCALITY.	DATE.	LENG.	EX.	WING.	TAIL.	TAR.	MID TOE.	BILL.							REMARKS.
										Culmen from base.	Culmen from tip of beak.	Depth of culmen at nostril.	Depth of bill at nostril.	Tip of bill.	Tip of mandible.	Tip of mandible.	
—	♀	Martha's Vineyard ^{Mass.}	Dec. 31. 1885	8.20	1.80	.98	.64	.48	.39								In Coll. E. A. Bangs
	♀	" "	" " "	7.94	1.70	1.01	.70	.50	.39								" " "

Martha's Vineyard, Mass.

Cupidonia cupido
Cupidonia ~~cupido~~

Measurements of adult birds in Coll. F. Y. Jewell.

	Wing	Tail	Tar.	Mid toe	Its claw	Cul. fr. skull.	do fr. f.	do fr. cor.	Bill depth at cor.
♂	8.25	3.25	1.88	1.58	.49	1.05	.73	.55	39
♀	7.86	3.10	1.55	1.55	.49	.96	.71	.46	35

For. & Stream

155. *Trigger and Reel on Martha's Vineyard.* By E. A. D. *Ibid.*, XV, pp. 306, 307.—Contains the following important reference to *Cupidonia cupido* (p. 306): "In no other part of Massachusetts, and I know not if in any of the Eastern States besides, can be found the gamy and toothsome prairie chicken, which abound[s] here in quite large numbers and retain[s] the primitive purity of its Western fellow. . . . However, they are quite abundant and extremely tame, and being well protected during the greater part of the year by a special law, they are allowed to breed in security, and their ranks are but slightly thinned during the 'off months.'"

229. *Grouse [Cupidonia cupido] on Martha's Vineyard.* By S. C. C. *Ibid.*, XIX, No. 18, p. 344, Nov. 30, 1882. For. & Stream.

Decrease of Birds in Mass. J. A. Allen

Under the name of "Pheasants," Morton and others make unquestionable reference to the Pinnated Grouse (*Cupidonia cupido*), showing that it was once a common denizen of this State. A few pairs are still known to exist on the islands of Naushon and Martha's Vineyard, where they have of late been stringently protected by law.

Bull. N. O. C., I, Sept, 1876. p. 56.

Height 2876
 7. cupido
 Martha's V.
 Dec. 25, 1901

One of the most typical forms
 of the species.

Tail also broad
 Side of the head, dark from the
 eye to the base of the bill
 The bill very light brown
 The base of the bill

Length of middle fingered toe
 10.5
 Tarsus 10.5
 Culmen 10.5
 Alar extent 28.5
 Wing chord 9.5
 Tail length 10.5
 Length of middle toe with claw 1.70
 " " " " " 1.74
 " " " " " 1.78
 " " " " " 2.45

Two Heath Hens were sent
 to the Museum in March, 1901,
 by Dr. J. Dwight Jr. of New York
 for verification. Mr. Brewster
 examined them and re-
 ported them as typical ex-
 amples of T. cupido. I
 wrote Dr. Dwight to this
 effect March 25, 1901.

The data on the labels
 is as follows:—

- ♂ Martha's Vineyard Mass.
Feb. 11, 1901.
- ♀ Martha's Vineyard Mass.
Jan. 18, 1901.

W. Deane.

C. J. MAYNARD,
Publisher.

Birds of Eastern North America.
Manual of North American Butterflies.
The Butterflies of New England.
Eggs of North American Birds.
The Naturalist's Guide.
Manual of Taxidermy.
Contributions to Science.
The Bahama Fruit Finch.



NEWTONVILLE, MASS. Jan 28 1896

My dear Mr Brewster,

A reply to yours of the 26 with
great pleasure.

The Heath Hen was remarkable
in having singular glands & the
proventriculus. That is some were
single, some double & some compound
being in some cases as many as
13 lobes. As a consequence of this
arrangement there were very few
internal oesophagus to the glands, they
being at least 25 apart. This
whole features is unique as far as

o of eggs
something like this

I have examined any species of
bird but as I have not the
description of the common Prairie
Hen I cannot say if it differs
from this.

The number of oviducts were about
150, with not a single ruptured
capsule, that is the bird in ~~question~~^{question}
had never deposited an egg.

The contents of the stomach
were two worms in perfect condition
two small bits of quartz, so about this
size & a number of the seeds of
what I take to be from the rose
harrow.

Other things of interest will
probably show upon comparison with
the description of the Prairie Hen.
Yours very truly
O. S. Silliman.

upper parts immaculate. The yellow of the median stripe on the forehead is usually restricted to the bases of the feathers, but in some specimens it extends to their tips, forming a conspicuous marking. In others again it is wholly wanting.

The place which *Helinaia* should occupy in systematic lists is a somewhat puzzling question. Its long wings, large, flesh-colored feet, and sluggish terrestrial habits indicate an affinity with *Oporornis*; its acute, compressed bill and short tarsi a perhaps stronger one with *Helmitherus*. In many respects it seems to form a connecting link between these two genera, with *Helmitherus* extending the chain towards *Helminthophila*. Baird apparently held some such view in 1858, for he placed *Helmitherus* (in which he included *Helinaia*) between *Icteria* and *Helminthophila*, and *Oporornis* immediately before *Icteria*. Subsequently he separated *Helminthophila* further from *Oporornis* by the intervention of the additional genera *Perissoglossa*, *Dendræca*, and *Siurus*, and later authorities have widened the gap still more. Leaving out of consideration the Cœrebidæ, a troublesome family which seems to grade insensibly into the Sylvicolidæ through such genera as *Helminthophila* and *Perissoglossa*, our North American Sylvicolidæ might be very naturally arranged as follows: 1, *Mniotilta*; 2, *Dendræca* (including *Perissoglossa* and *Peucedramus* as sub-genera); 3, *Protonotaria*; 4, *Parula*; 5, *Helminthophila*; 6, *Helmitherus*; 7, *Helinaia*; 8, *Siurus*; 9, *Oporornis*; 10, *Geothlypis*; 11, *Icteria*; 12, *Myiodioctes*; 13, *Setophaga*; 14, *Cardellina*; 15, *Ergaticus*; 16, *Basileuterus*. The Cœrebidæ, however, cannot be thus conveniently ignored, and the general subject is far too important and comprehensive to be discussed within the limits of the present paper.

RECAPITULATION.—Within the United States Swainson's Warbler has been taken only in South Carolina, Georgia, Florida, Alabama, and Texas. There is but one extralimital record (Havana, Cuba). It has been erroneously accredited to New England, on incomplete evidence to Southern Illinois. It is not known to winter within the United States, but on the contrary seems to emigrate southward before the approach of cold weather (latest date, September 25), returning again in April (earliest date, April 12). It has occurred in numbers only near Charleston, South Carolina, [*] where alone it has been positively ascertained

[* Cf. p. 62 of this number of 'The Auk.'—EDD.]

Colinus
virginianus

Colinus virginianus.

1889

April 30¹⁸ 1889. 24⁵
 Ed. 1⁸ Ed. 2⁸ 1889 7¹* 10¹* 14¹* 24^{4c}* 25^{4c}* 26¹* 28⁴* 1890

May 7²* 19²* 29¹* 31¹* 1890 23¹³* 28⁸* 1891

July 6⁵* 1890

Aug.

Sept.

Oct. ^{Concord} 21¹² 24¹⁰ 25⁷ 1891.

Nov. ^{Concord} 5¹⁵ 6¹ 7¹⁰ 12^{hd} 13^{hd} 24^{hd} 1891.

Dec.

Jan'y

Feb. 10⁸ 22⁸ (Spencer) Concord 7/2

March 25¹² 1891.

C. virginianus.

Colinus virginianus

1892

January

February 10⁽⁸⁾ - 22⁽⁸⁾ (Spelman) Concord.

March

April 24⁽⁵⁾ Concord

May 11* - 15* - 20* - 24* - 25* - 28* - 30* - 31* Concord.

June 1* 3* 4* 5* 6* 7* 15* 16* 17* 18* 19* 20* 23* "

July 1* 2* 3* 4* 5* 6* 7* 8* 10* 11* 12* 13* 14* 15* 16* 17* 18* 19* 20* 21* 22* 24* 25* 26* 30* ^{Concord}

August 21* (11 a.m., at short regular intervals; only bird heard this month.) Concord.

September 16^(1st autumn call) - 28^(14th) (Ball's Hill) Concord.

October 7⁽¹⁾ - 8^(14th) (Ball's Hill) - 9^(1st) (Pratt) - 12^(1st) (do) - 21⁽⁹⁾ - 22⁽¹⁰⁾ - 25⁽¹²⁾ - 27⁽¹⁰⁾ - 28⁽¹¹⁾ Concord

November 1⁽⁸⁾ - 6^(15th) Concord.

December

C. virginianus

1893.

May

28* (10th front
Ball's Hill)

July

Milton

10* 12* - 13* - 14* - 17* - 20* - 22* Concord.

1894

June

Great Isl. Hyannis ^{Wareham}
3* 4* 5* 8* 9* 10* 11*

July

Milton
8* 22* 23*

Dec.

Ortyx virginiana

Tallahassee, Florida.

1889

March 12

- 26

Tallahassee. — The Quail found here is true virginiana.

The shooting is very fine better, probably, than anywhere else in the South. The country is hilly and broken by deep valleys and ravines with frequent small ponds and streams bordered by dense thickets overgrown with green briars, the hill tops covered with scattering pines the hillsides and many of the broader valleys in fields of hundreds of acres cultivated with cotton or corn. These cultivated fields are bordered, and often freely sprinkled, as well, with patches of broom sedge and tall wuds, in which the Quail seeks at all hours of the day for their feeding and basking grounds are essentially the same although through the middle of the day they are invariably quiet, running & feeding only in the morning & evening hours, as at the North. In the hours of quiet they are usually found in the hollows lying in small patches of wild plum bushes or rank broom sedge, especially if sprinkled with young pines. They are hunted almost exclusively from wagons the sportsmen driving across country and letting his dogs ramp out widely, only alighting when one or more of them point. Nevertheless it is hard work for the wagon pitches and bounds over the rough ground, usually ploughed in deep furrows, like a boat in a choppy sea. Meadow Larks, Grass Finches and Yellow wings are continually rising in flocks which the dogs flush many Bachman's Finches from the grass. An occasional Marsh Hawk skims athwart the scene and Buzzards wheel and soar overhead. Negroes both men & women are ploughing in every direction & scrawny half wild cattle graze among the pines, in which the

song of the Pine Warbler is the most characteristic sound. In the ponds Grebes and Ducks are seen, about their edges a few Snipe may be nearly always flushed.

On March 12 two guns hunting around S. Jackson, a drive of about 25 miles, bagged 92 Snipe. This is not an exceptional number for so hard days work, but usually 25 to 50 birds are an average bag.

The shooting is usually entirely in the open the birds flying straight away like ducks and dropping in plain sight in the grass or among some thin plum bushes. If near pines or tall birch swamps, however, the bevy is nearly sure to afford only the opening shots for their Snipe appreciate the protection of such cover, when it can be reached, quite as keenly as do our northern birds. Near such covers the bevis are nearly sure to be large whereas those flushed out in the open are, at this season, small often containing only four or five birds for they have been hunted incessantly all winter. As a rule they lie very closely and scatter after the first rise being still more closely the second time. On one occasion I saw a Marsh Hawk suddenly stop & hover over some grass where I had marked several birds down. Two rose directly under him & alighted within 100 yards of me. I went directly to the spot but the dog could not find them nor could I tramp them up. On another I saw a bird alight in a furrow in a ploughed field but I could not flush it nor did the dog find any scent. In fact I have seen several plain cases of withholding scent here.

Colinus virginianus

1889 Mass.

April 30 Concord. - A ♂ calling bob-white regularly at frequent intervals First bob-white
at about 11 A.M. The day clear & cool.

June 1 " A ♂ "singing" and calling in two willows on the bank
of the river. The song sounds most like bob, woot both syllables
about equally distinct but the second slightly the more
strongly emphasized. The call was por-ee, por-ee, por-ee

July Falmouth. Four ♂♂ heard singing July 4, during a drive of about 7 miles, Song
then July 14, during a drive of 10 miles, one July 21 during a
short walk, all of them in open fields, usually pastures sprinkled with
huckleberry & bayberry bushes, at some distance from woods. One bird
in the morning of July 15 began singing about 30 minutes after the
first Robin, 25 minutes after the first Chipping, 15 minutes after the
first Meadow Lark. This was near our house (the neighbors say they
often see Quail on their lawns). The ♂ usually sits on the top of
a rock or fence post while singing. He looks very large & fat.
or plump. At a distance his song sounds precisely like a
human whistle. Near at hand the second note (woot) has
a sharper more ringing quality. At times when it strikes
against a hill or building behind the bird it is almost
as sharp as the report of a pistol or the crack of a whip.

1890

June 10 Wayland. A bird whistling in the fields frequently but by no means Doubles the
invariably doubled the usual notes thus Bob-white-bob-white usual bob-white
the intervals between all four being about equal. I heard a Florida
Quail do the same thing last March at Barona Creek.

Oct Bethmont. - A large number of Quail obtained from dealers in Various species
Chicago were liberated here last Spring. Mr. Alfred Danitson tells me of birds
that they bred successfully & generally. He has stacked introduced
to be of this stock, this month, which acted in a very singular manner from the West.
keeping to the open and when driven towards woods flying over them
and alighting in open fields beyond. Probably they are descendants of birds
acquired to him wholly in open country

Colinus virginianus

1891 Mass.

Feb 8 Middlesex Co. - Although the winter has been severe with many snow storms and several hard frosts Quail do not seem to have suffered much, if at all. Bolles who has been out every Sunday has seen their tracks or flushed birds one nearly every tramp in Arlington, Norwalk etc. and he knows of several berries eight or ten strong. In the dense pitch pine & cedar woods in Norwalk a bevy of fully a dozen birds have wintered safely.

In a letter to the "Post" Bolles says: "A Quail's footprint tracks looks like the barb and part of the shaft of an arrow pointing in the direction from which the bird has come. When they hurry their tracks are run together, forming a continuous line of perpetuated panic" (Post Feb. 10, 1891)

1895 N. H.

June 20 Wolfeboro - While fishing in Lake Minnesaukee this evening a little after sunset I saw a Quail fly from the end of a rocky point about 30 yards away and start out over the lake which at this place was about a mile wide. He flew slowly for a Quail, alternately flapping and soaring on his wings, and proceeding at an even height of about six feet above the water. After flying about 300 yards he turned suddenly and shortly and came back to the thong from which he started but not to the same point. I saw him so distinctly as to be positive of the identification. The impression which I received was that his comparatively slow, easy flight was due to the fact that he realized that he must husband his strength carefully to cross so wide a stretch of water & that his courage afterwards failed him & he gave it up. A man familiar with this region tells me that ^{some} years ago a bevy of Quail passed the autumn near Center Harbor. This is the only instance of their occurrence known to him.

At bird
attempts to
fly across
Lake Minne-
saukee

Occurrence
near Center Harbor
N. H.

Massachusetts.

Colinus virginianus. (M. 1)

1891.

Oct. 24 Concord. The distance from the field to the swamp being perhaps 200 yds. it seemed to me perfectly obvious that the birds in this instance, had run from their feeding ground to their roosting place, a thing which I supposed never happened. + + +.

Nov. 7. Concord, Acton + Charlisle. I followed and at once saw a cock Quail sitting quietly in a crevice between the stones literally within a foot of the dog's nose. Supposing that it was wounded I thrust in my hand cautiously and actually touched it but it slipped through my fingers, disappeared, and the next instant flew from the other side of the wall.

1892.

April. 24. Concord. By one of the big boulders in Hubbard pasture we flushed a bevy of Quail from under the very same cedar where I started what was doubtless the same flock last February. Three of their number have fallen victims to the foxes or gunners for there were only five today.

May 20. While I was watching him two Quail began whistling in the bushes along the old wall near me giving the "bob-white" and also the autumn culls. I did not see either of them.

July 11. On the other hand Quail were silent until at least 15 minutes after sunset when two began and whistled for some time the bob-white note.

Massachusetts,

Colinus virginianus. (No. 2.)

1892.

Sept. 28 Concord. After dinner as I was strolling along the path to the E. of my cabin I flushed a covey of 14 Quail from the old wall directly under my large red oak. Nine appeared to be fully grown and flew swiftly; the other five were not much larger than House Sparrows & after fluttering feebly for about thirty yards dropped to the ground among some pines. The scattered birds began calling within five minutes. The new young ones made a thin, feeble piping which I do not remember hearing before.

Oct. 7 As I was sailing down river at about 3 P. M. a covey of seven Quail rose from the west bank a few hundred yards below Heath's bridge and flew across the river to the woods on the E. bank. They sprang from the very edge of the water where the ground was wet and boggy. The spot, moreover, was surrounded by low, wet marsh covered with tall uncut meadow grass. It is unusual to see Quail in such a place.

Oct. 28 Started only one Partridge and a covey of Quail the latter on the hillside south of Wadley's Run where Don found and pointed them among huckleberry bushes quite in the open. I was confident when the covey rose first that it contained not more than six or seven birds but I killed eight before I left the place and at least three escaped. As the birds were of two sizes, one fully, the other scarce more than half grown it is possible that there were two separate coveys although I think not. They behaved strangely making short flights.

Massachusetts.

Cotinus virginianus, (No. 3)

1892.

alighting very near together, running and whistling soon after alighting, avoiding the oak, pine and birch woods which surrounded this pasture and invariably dropping into patches of briars or huckleberry bushes or open ground.

Colinus virginianus.

Concord, Mass.
April, 2. 1892.

Apr. 2

George Holden who paid us a visit at about noon told Quail me that he saw a covey of seven Quail in the road near his father's house just before the last great snow storm and several days afterwards he noticed their tracks near the same spot. He thinks that they probably survived the deep snows of February but neither he nor anyone else with whom I have talked here has actually seen any Quail since the snow melted.

Concord, Mass.

1893.

May 28
(No 2)

May 28

Soon after landing I heard the welcome sound of a Quail Quail's "bob-white" coming from across the river. The bird whistled at intervals for nearly an hour. Once I thought there were two Quail ^{calls} but an echo may have deceived me. This is the first Quail I have heard this year.

Colinus virginianus.

Peterborough, New Hampshire.

1898. On the afternoon of July 11th I was surprised to hear
July 5 the Bob-white of a quail coming from a field near the barn.
to
Aug.15. The bird continued whistling at intervals for half-an-hour or
more. My sportsman friend (who lives near at hand) also heard
it and was equally surprised for, as he afterwards assured me,
the Quail is of very rare occurrence here although not uncommon
(he says) about Concord, New Hampshire.

Colinus virginianus.

Concord, Mass.

Roosting for the night.

1896. As we ^{were} paddling slowly up the reach past Barrett's Bar I
Oct. 31. discovered a small, short-tailed, plump-looking bird sitting
crouched on the branch of a young oak over the rock where I
shot the Prothonotary. Landing I walked nearly beneath it
when to my great surprise I found that it was a Quail. The
next moment it and another which I had not seen started from
the tree and whirred off over the open fields. It was nearly
dark at the time and both birds must have gone to roost for
the night in this unusual place.

1899. A pair running in the road near Heath's Bridge on the
June. 3th, one calling near the Barrett farm on the 15th and a male
calling bob-white on the Keyes farm place on the 25th. A
pair were also seen in Bedford on the 11th.

BIRDS OF TORONTO, CANADA.

BY JAMES H. FLEMING.

*Part II, Land Birds.*¹

114. *Colinus virginianus*. BOB-WHITE.— The Quail was at one time found along the north shore of Lake Ontario, certainly as far east as Port Hope (62 miles east of Toronto). Of this species the late Hon. G. W. Allen said, in 1853, "The Quail is still occasionally heard uttering its plaintive cry in autumn and winter, about our woods and fields. In former days large coveys used to remain in the stubble fields and about our barnyards, from October to March."² I doubt if any Quail of pure blood are left east of Lake Erie; those I have examined recently from Oakville (19 miles east of Toronto), are the descendents of imported birds and differ from the indigenous species.

¹ For Part I, Water Birds, see Vol. XXIII, Oct., 1905, pp. 437-453.

² Canadian Journal, 1853, I, 171.

Amk, XXIV, Jan., 1907, p. 71.

Maine (9 miles west of Bangor)

Ortyx virginiana

1887

Jan. 10

"I saw to-day at Mr. G. S. Bowler's a fresh Colinus virginianus just brought in from Hermon, 9 miles west of Bangor. It was picked up dead and frozen. Eight more are said to have been seen alive at the same place. These are the first that I have ever known to occur this side of Portland." (Maule Hardy in letter Jan. 10-1887)

Winter Birds of Webster, N. H. by Falco.

Quail, (*Ortyx virginiana*).

O. & O. X. Jan. 1885. p. 14

Quail. *Colinus virginianus*.

Waverly, Mass.

On the 10th I found in the grove by the Waverly Hospital among the large pines, a small bevy of Quail. They flew quite high among the trees, and appeared to me to start and stop in the trees like Partridges; although it is true I did not actually see them at rest in the trees. I could find no prints of their feet on the snow although it was very impressible and took perfect mould of the Robins feet

Walter Faxon (letter January 12, 1891).

Colinus virginianus

Emerson Thayer
Oct. 20. 1880

A bevy of about a dozen Quail which I recently decimated today was composed of four birds about two thirds grown in company with an adult ♂ & ♀. I have at times thought that the old cock led a solitary life at this season but these were evidently a pair of old birds with a late brood of young.

Ortyx virginiana.

1884

Nonguitt, Mass.

June 17. While driving from New Bedford to Nonguitt a Quail attempted to cross the road in front of the horse & becoming confused started directly down the sandy road in front of him. I urged the animal to a speed of at least eight or nine miles an hour but the bird kept its lead for rather more than one hundred yards before it turned back into the bushes.

Pigeon Cove, Mass. July 29-1885.

12. Ortyx virginiana. - Very numerous.

Nov. 21-23. 17. Ortyx virginiana - 22³⁰ - 23²⁶ Great Id. Mass. Dec. 1886.

22. Ortyx virginiana - 21⁴⁰ - 21²⁸ Falmouth, Mass. 1889.

Falmouth, Mass. 1889.

22. Ortyx virginiana. - Aug. 4¹³

Mass. (Worcester Co.)

Ortyx virginiana

1886

Mr S. Perry tells me that Quail are uncommon in Worcester Co. He rarely sees more than two or three bewies in an autumn.

Mass. (near Concord). 1887

1887

April 7¹⁸

May 8³

June 7¹ - 13^L

July 11¹ - 26^{*}

Aug. 9¹ - 13^{*}

* hazing

Ortyx virginiana.

1887

Oct. 22¹³

Nov. 9¹²

1888

Oct. 26¹² Nov. 17³

Oxyx virginiana.

W. Middlesex Co. Mass.

June 25-30, 1889.

Oxyx virginiana

near Mr. Brooks's

Ashby--- A male singing regularly each day during our stay at this village was the only individual met with anywhere in this region. The farmers say it is not very common there.

1893

Feb. 26 *Colinus virginianus*

On this date Dr. Fred. C. Gay of Fisher Hill, Brookline, saw "between six to one hundred" Quail on his place, running about over the lawn, some birds jumping up into bushes. They seemed to be very hungry but when Mr. Gay approached with a dish of grain they all started together and flew out of sight nor did they afterwards return. Mr. Outram Bangs who tells, & vouches for this, story says that there are the only living Quail which he has heard of in Mass since the last great Snow Storm (Feb. 22). He thinks these birds being half Starved had "packed" & were wandering in search of food.

Birds of Bristol County, Mass.
F. W. Andros.

Colinus virginianus (Linn.), Bob-white. Res-
ident, common. Breeds.

O. & O. XII. Sept. 1887 p. 139

Notes from Belchertown, Mass.
J. W. Jackson

Bob White were plenty in October.
A few only were shot and the remainder
have wintered safely.

O. & O. Vol. 18, Mar. 1893 p. 45

General Notes.

Summer Birds of Central Berkshire
Country, Mass. ~~Francis H. Allen~~ Ralph Hoffmann

8. *Colinus virginianus*. BOB-WHITE. — Not uncommon in Stockbridge
in 1892; none found in 1893.

Auk XII. Jan. 1895 p. 88

Colinus virginianus

Falmouth, Mass.

1895-

July 12* 17* 19* 21*

Fields west of
our house

Connecticut, June, 1893,

Columba virginianus

June 5³* 6⁴* 7²* 8¹* 9¹* 10⁵* 11²* } Saybrook
" 12⁷* 13⁶* 15²* 16¹* 17²* 18³* }
" 19⁶* 20²*

" 21¹* 22¹* 23²* 24²* Andover

Saybrook. I had, we were told, perished in large numbers here during the protracted deep snows of last February & March. Considered them very scarce this season, but I have never heard so many where they, in any other part of the region, and on Cape Cod. They were distributed pretty evenly over the country around the town but appeared to prefer the hilly portions dotted with cedars & thickets of dwarf sumac, and bayberry, and other small-leaved shrubs. In such places it was with me common to hear them chirping, but which came from the top of tall trees, distant at once. They were seen to get very near the ground, which was then half concealed by snow. It threw up its head the first and its whole throat flashed as the bird sang as it uttered the whistle. The Quail heard at Andover was in fields of recent English grass along the river.

Distribution of New England Birds.-
A Reply to Dr. Brewer. H.A. Purdie.

Citing again from our standard work on North American birds, we find this of *Ortyx virginianus*; which Dr. B. has classed as a summer resident presumably of all New England:

"This bird is probably found in all the New England States, though its presence in Maine is not certain, and if found there at all, is only met with in the extreme southwestern portion. It is also rare in Vermont and New Hampshire, and only found in the southern portions. It is not given by Mr. Boardman, nor by Professor Verrill."

Bull. N.O.C. 2, Jan., 1877. p. 15.

Some New Records from Central New York.

Colinus virginianus. — During 1894 Mr. William R. Maxon of Oneida wrote me that his father had seen a Quail near Oneida Lake, that he knew the bird well and had watched it for some time at only a short distance away. He also wrote me that a pair had nested on the farm of Lewis Maxon in the town of Verona about twenty years ago, that one had been seen at Vernon and one at Oneida Castle within a few years, and that a perfectly reliable gentleman informed him that a few Bob-whites were to be seen about his place every year. I then wrote to some of my sportsmen friends in that neighborhood, from one of whom I received the information that there was a small covey of these birds around the barns of a noted shooting man residing near Oneida Lake, that they were quite tame and he saw them often; but he would not shoot any of them, and intended to see to it that no one else did. So I think we may safely write this bird down in our list as rare, in the western part of the county.

Egbert Bagg, Utica, N. Y.

Auk, XIV, July, 1897, p. 316

Bob-white in Northwestern New York. — Several Quail (*Colinus virginianus*) have been reported from different parts of the Counties of Oneida and Lewis the past winter. It is very seldom they are seen in this locality. The winter has not been so severe as usual. — W. S. JOHNSON, Boonville, N. Y.

Bird News from Central New York.

Colinus virginianus. BOB-WHITE. — Mr. W. R. Maxon writes me, "On June 11, 1897, a covey of young Quail, able only to run, was observed near Sherrill, Oneida Co. A few Quail remained all last summer (1897) in the neighborhood of the Oneida County house, where they were observed frequently by Mr. Percy Klock. Additional records.

Egbert Bagg, Utica, N. Y.

Auk, XVII, April, 1900, p. 178.

*Notes on the birds of Madison County, New York,
with especial reference to Embury's recent list.*

4. *Colinus virginianus*. BOB-WHITE. — "None recorded since 1893. Formerly a not uncommon summer resident." Still occasional between Oneida and the Lake. A nest was taken at Peterboro in the summer of 1894, the only time the bird has been known to occur in that vicinity. (See also Auk, XIV, 226, 1897, and XVII, 178, 1900.)

By William R. Maxon Auk, XX, July, 1903, p. 263.

ALBINO QUAIL. I was fortunate enough to secure a fine specimen of this bird, which was shot twenty miles north of the city, Oct. 19th. The bird is pure white, with the exception of four light brown feathers (two on the head and one on each wing,) and is in good plumage. I have him mounted and feel quite elated over my success in adding such a rarity to my cabinet. A gentleman of this place shot an Albino Robin in the city, this Spring, that is pure cream color. I was unable to secure this specimen.—*Fletcher M. Noe, Indianapolis, Ind. O. & O. VIII, Dec. 1883. p. 96.*

Albino Quail.

I have mounted three albino quails which are very handsome. There is said to be a whole covey of them, but I was unable to find any more than the above. Each bird has different markings. The markings are those of the Virginia quail; small spot on crown, spot on neck, part of rump, all the rest pure white except bills, of which the upper mandible is dark horn color and the lower white.

W. R. M. Tortal.

Atchison, Kan.

O. & O. XV. Jan. 1890. p. 12.

Auk, XV, April, 1898, p. 184
Colinus virginianus in Peculiar Plumage.—A Bobwhite recently killed in the vicinity of Washington, and now in the possession of Mr. Blair Lee of this city, presents such an unusual appearance as to seem worthy of permanent record. All the dark rufous tints of the normal plumage are replaced by pale fawn color, the buffy shades by white or grayish white. The ground color of the rump and tail is almost pure gray, and the bird is very much paler and more grayish throughout than even *Colinus v. texanus*. None of the black markings, however, seem to have undergone change; and especially on the lower surface, scapulars and innermost secondaries, they are brought out in conspicuous contrast by the lightening of the background. The pattern of coloration appears to be perfectly preserved, the black jugular band being, however, somewhat broader and the black markings on the breast more numerous than in ordinary specimens.—HARRY C. OBERHOLSER, *Washington, D. C.*

Mass. (Wareham)

Ortyx virginiana

1886

A black throated specimen.

The Bangs Bros. have a specimen (♂) which Outram killed this autumn which has a large solidly-black patch on the throat. It is otherwise normal. The black occupies three quarters of the area usually white.

Albinism and Melanism in North American Birds, Ruthven Deane.

Ortyx Virginianus has been recorded in melanistic state. Bull. N.O.C. 1, April, 1876, p. 24

Albinism and Melanism in North American Birds, Ruthven Deane.

Cases of albinism in *O. Virginianus*, are frequent.

Bull. N.O.C. 1, April, 1876, p. 22

Albinism and Melanism in North American Birds, Ruthven Deane.

I have seen *O. Virginianus* having the veiled appearance as described in the Blue Jay.

Bull. N.O.C. 1, April, 1876, p. 22

Brief Notes.

A beautifully marked specimen of a partial albino Bobwhite was secured by Henry J. Thayer at the Boston market. The tips of the feathers were natural, while the background was nearly white, giving a very unusual appearance.

O. & O. Vol. 17, Mar. 1892 p. 47

AUGUST EGGS.—Two sets of Quails,
J. M. W., Noank, Conn.

O. & O. VII. Oct. 1882. p. 163

Late Nesting of the Bob White.

During the fall and winter of 1891-1892 the ORNITHOLOGIST AND OOLOGIST contained several records of late nesting of the Bob White.

I agree with Mr. P. B. Peabody, in regard to his statement, "Nobody has touched, as yet, the bottom mark as to latest normal nesting date of the Bob White." In fact, I said the same in substance in my article in the January, 1892, ORNITHOLOGIST AND OOLOGIST.

My cousin W. F. Hoag, of Blue Rapids, Marshall County, Kansas, again sends me eggs, with data of two instances of late nesting of the Quail. One of them beats his 1889 nest, recorded by me in the January ORNITHOLOGIST AND OOLOGIST, by several days.

Nest No. 1. Found September 22, built in a corn-field, at the foot of a hill of corn, contained ten eggs of the Bob White and one of the domestic hen, incubation about two thirds advanced. The nest was about ten rods from a farm house, which explains the presence of the hen's egg.

Nest No. 2 was found September 23, built in the prairie grass, and run over by the mower before discovered, which crushed all the eggs excepting four. As near as could be ascertained, the set consisted of fifteen eggs. Incubation positively not over one third advanced. Allowing twenty days to be the period of incubation, the chicks would not have left the shells before October 6 at least.

Benjamin Hoag.

Stephentown, New York.

O. & O. Vol. 17, Dec. 1892 p. 184-185

Large set of Eggs

Quail, 18;

A. H. Helme

O. & O. VII. Oct. 1882. p. 76

LARGE SETS OF EGGS. W. D. Hills, Odin, Ill., writes that he found a Quail's nest with thirty eggs and one with twenty-eight.

O. & O. IX. Jan. 1884. p. 5

Late Nesting of the Bob-white.

In the October O. & O. Mr. James B. Purdy of Plymouth, Mich., records a nest of the Bob-white found at that place on August 30, 1891. The nest contained thirteen eggs and the next day, August 31st, they were about half hatched.

Mr. Purdy wishes to know who can beat it for a late Quail's nest. I have an egg of the Bob-white in my cabinet which was collected on September 12, 1889, at Blue Rapids, Kansas, by my cousin, W. F. Hoag. The nest contained ten eggs perfectly fresh, but he drove over the nest before it was discovered and broke them all but one, which he kindly sent to me. I presume there are many who have later records of this bird breeding than either Mr. Purdy's or the one mentioned above. Let me hear from those who live where the Bob-white is an abundant breeder.

Benjamin Hoag.

Stephentown, N. Y. Jan. O. & O. Vol. 17, 1892 p. 8

How Many Eggs can a Bob-white Cover?

The above query occurred to me lately when I received a set of twenty-eight eggs of the Bob-white (*Ortyx virginiana*). They were all found in one nest, though whether they were all laid by one bird is a question that cannot be answered. Certain it is that the Bob-white lays a very large clutch, but whether one hen could lay twenty-eight eggs is very doubtful.

The eggs of this species are very small in proportion to the size of the bird, and their shape enables them to be closely placed together in the nest, but twenty-eight of their eggs cover a circle of at least six and a half inches diameter, and it is extremely doubtful whether the bird could cover them all when sitting. O. & O. XIV. Apr. 1889 p. 51. J. P. N.

A Large Set of Eggs of the Bob White.

What do you think of a set of Quails' eggs (Bob White) 38 in number? The nest was found by my young friend, Amon Shearer, Gilbert, Iowa. When found it contained 27 eggs. He took out part of them, and last Sunday, June 5, when I was at his home, the nest contained eggs to make 38 in all. They were laid by one bird. They are beauties. Twenty-seven is a large set, but 38 beats the record. *Carl Fritz-Henning.*

Boone, Iowa.

O. & O. Vol. 17, Aug. 1892 p. 122

[If some of the eggs were removed, and the bird went on laying, they cannot strictly be called a "set."—J. P. N.]

Nesting Dates. Bob White

June 10 - 20

June 16-1901. 11 fresh eggs. nest deserted at least 3 days. Canton Mass.

July 11-1902. two nests mowed over at Ponkapog. one bird had only started laying (3 or 4 eggs). The other nest held 18 eggs. incubation unknown.

July 30-1902. Set 13 eggs. 1/3 incubated. Arnold Arboretum

July 12. 1903. Complete set. 7 eggs. Ponkapog Mass. nest found. 4th with
sour egg. not examined again until the 12th. Period incubation 29 days.

July 3. 1900. Set 18 eggs. all stages incubation taken by J. H. Kennard
at Needham Mass.

F. B. McRee. [1905]

1889

Rearing two broods.

Ortyx virginiana

New York

Mr. Coppers of New York tells me that in that state the Quail frequently, if not regularly, rears two broods in a season. The first brood is turned over to the ♂ when a week or two old and the ♀ goes to sitting on the second laying. He has seen this happen repeatedly on his farm. After the second brood are hatched both parents bring the two broods together.

Mass. (Wareham)*Ortyx virginiana*

Date of appearance of young, etc.

Mr. Outram Bangs tells me that the broods of young Quail regularly appear at Wareham about July 15 when they begin to be seen daily in the roads. He believes that the birds regularly rear two broods and also that two females lay in the same nest and divide the duties of incubation etc. His reason for thinking this is that two females are often seen day after day in company with a single ♂. The males, he says, fight fiercely for their wives and he believes they even

kill one another occasionally.
In England a few years
since he found the keeps
waxing was an "American Lark"
which had been introduced
with much success! That -
imitating the Horn Sparrow in
America - they were rapidly
driving the Common Partridge
from the neighboring premises.

1889

Rearing two broods.

Ortyx virginiana

New York

Mr. Cossens of New York tells me that in that
state the Lark frequently, if not regularly, rears
two broods in a season. The first brood is
turned over to the ♂ when a week or two old
and the ♀ goes to sitting on the second
laying. He has seen this happen repeatedly
on his farm. After the second brood are
hatched both parents bring the two broods
together.

Cape Cod, Mass

Autumn 7 1883

Among our birds the ruffed grouse takes the lead and the Bob White follows. The grouse are found all over the Cape clear to Princetown; though if they were once killed out in that place there would be no more unless they were brought; as none would ever cross East Harbor beach nor come around by the hills from Green Head in Truro. I do not know that any are found in Nantucket or at Martha's Vineyard, though a very few pinnated grouse are found in the latter, some mention of which has been made in the columns of

FOREST AND STREAM. One pinnated grouse was shot by Mr. T. A. Churbeck, in Wareham, some years ago, or at best a grouse that was not our common ruffed variety. The partridge will long continue to be one of our commonest game birds, because in our town many swamps are so thick, and in Middleboro most of the woods that one cannot get in and shoot at the birds his dog points. Little Bob White is fast learning that the woods are his only salvation. He is now quite a woods bird. I have found him several miles from any cleared land and why not? He is a native, and when our fathers came he was here to whistle a welcome to them, and where were the fields then? I wonder if the Indians ever killed the little fellow; I guess they trapped him as some persons do at this day.

Our little bird likes to feed in the top of fallen locusts; these trees bear a little pod with a few hard flat beans in it, and Bob will open these and eat the seeds. I have watched them hours at a time. Often have I seen one jump up and catch on to a pod with his bill, and hang on till he jerked the pod down. There is as much sport in watching a flock as in bringing them to bag, that is to the hunter—I make an exception in favor of the gunner—he goes shooting, a hunter may not have a gun with him.

The voice of a quail is one of the sweetest and most melodious of all our birds; not the clear "ah-Bob-White" of spring, or the simpler "Bob White" and "quite-ce quite-ce" of summer and fall, but the many variations of their every day talk and gossip, perhaps, when feeding. I did wish I could understand what they were saying once, when I could count twenty in a locust top at one time, they said, "Clear-kie, ah-cle-o-kie, ill-clokec, click-ee, click-ee," and many other things too fine and sweet for phonetic spelling. I have heard

Oryz virginiana

a male crow in spring; he sat on the top rail of a fence, and crooked his neck, and made a peculiar sound—inimitable. Whether they have gular sacs like a pinnated grouse, I am not certain, but I never found any or heard of them.

I have seen a quail run up a tree trunk that was inclined at an angle of sixty degrees. The sunny ends of a stone wall is a favorite place with them in the winter. Fallen timber, old brush heaps and thick, tall grass are eagerly sought by them for shelter when feeding, and whoever tries feeding them will do well to have some such cover near by, so they can retire quickly at any approach of danger. They have so many enemies that one cannot do much for them except to supply cover and shoot all the stray cats, animals, skunks, weasels and foxes that come in range. Hawks probably get some, and I never let a hawk get away if I can help it. Their nests are not so easy to find as one might suppose, and they lay a good many eggs, all of which seem to be fertile, as I never saw a rotten one or one that did not hatch. Two litters or hatchings are the rule with us; this I know from seeing a mixed flock of two sizes with only one pair of adult birds.

Quail will sometimes lie so close as to puzzle the shooter. I got one this summer into a small bunch of old limbs and leaves at the foot of a tree. The dog pointed and I looked, threw sticks, and at last kicked the rubbish, and still he did not fly. I thought he was a dead or crippled bird, and reached down and pulled over the sticks and up he got, and off he went before I could catch a sight at him.

Once, after a light snow, my brother and I tracked three into a heap of brush that could all be got into a bushel basket. We knew they were under it, and we looked all over it in vain, then stood on it and stamped, none got up. "Dead," says Phil. I began to dig after them, but they were not dead, and two didn't die that day.

I once picked up a quail that Roy pointed. Sometimes they learn wisdom very soon after being shot at. I know one covey that will rise out of gunshot and fly clear over a wide piece of woods, and get out into the field on the other side before one can hunt through to them.

"Merquies"

Ex 7. out & return
Vol XXI No 22

Dec. 27, 1883, p. 438

Natural History.

Amer. Field, XXVIII, No. 26, Dec. 24, 1887, p. 609.

THE STRANGE ADVENTURES OF A BOB WHITE.

BY JOHN A. WELLS, M. D.

The seventeenth day of November, eighteen hundred and eighty-three, was one of those rare, hazy and mellow days which every sportsman hails with delight. To be anywhere but afield on such a day seems a crime almost, and many a time that bright morning I consulted my timepiece with a view to arranging my business so that at the very least a brief hour or two toward sundown might be devoted to my beloved recreation. All through the day, with its worries and its cares, at intervals there would suddenly arise in my mind a bright vision of a certain golden buckwheat stubble which, unless I was woefully mistaken in my calculations, the lengthening shadows in the west would find tenanted by a hungry, busy little family, all eager for supper and even willing to risk an interruption from their mortal enemy and his terrible dogs, to fill those empty coops. For had they not fasted since long before high noon and might not tomorrow bring a driving storm and only a scant breakfast in the swamp? It wanted but an hour of sundown when I drove up to the door of my house in the village, and very little time indeed did it take to toss the old corduroy, with a *quantum sufficit* of cartridges in the pockets, under the seat, to follow it up with the little Parker gun, unchain the barking, eager dogs and with a touch of the whip to old Pegasus, drive off.

A rapid drive of a little over a mile brought me in sight of the well-known grounds, but ere I arrived at the bars where I usually tied, the two dogs dashed at full speed into the stubble and there, by Diana herself! a point already, and I not half ready. But no! they crawled a couple of yards, feeling the tainted west wind, blowing full in their noses; the pointer slightly in advance, turned his head, gave me one expressive look and dropped as if a cannon ball had fallen plump on his back. I knew what that meant, sure enough—business and no fooling. Reader, did you ever try to get out of a wagon, anchor your horse, change coats and put a gun together all at once? Then you know how I felt and how often the combinations ran into each other. Slipping in a couple of shells as I mounted the fence, I stepped quickly up to the motionless dogs and their invisible quarry. Then commenced the old “thumpety” “thump” “thump” of my heart which twenty years of intimacy with pointing dogs and flushing quails never seems to quell entirely. One step, two steps ahead of the dogs and burr-r-r-r-r away they went. Twice the little six-pound gun barked and let slip the dogs of war and two of the game little beauties came whirling earthward. The rest, panic-stricken, sailed over the fence, crossed an orchard and two low-lying bog meadows and there they were all down in that dense cat-briar thicket just across the alder swamp. Gun reloaded, at the word the red setter sprang to retrieve the first bird and in a very few seconds he was stowed away in that capacious game pocket which has been the tomb of many of his family connections. “Fetch dead, good Puck,” and the eager pointer bounded to where the victim of the left hand barrel fell; but what! not there? wing-tipped only, as I am a sinner! I exclaimed, and while the good dog did not express himself in just so many words he understood matters quite as well, and with nose well up and rigid stern he rapidly roaded across the stubble and into an old field, grown up with rank weeds, forming its eastern boundary. I was almost beginning to feel some alarm as to the material proofs of that rather neat double when suddenly the nose swung sharply to the right and pointed directly downward for a second. There was a very short scuffle and the

good beast galloped in, proudly arched his neck and walked around me ere he handed me the bird, a fine, full plumaged cock it was and except for a fracture of the very tip of the left wing I could find no scratch on it. Alas! poor Yorick, how that single little number eight pellet changed the course of your future life! I was about to end Bob's misery when one of those strange impulses, with which we are all acquainted, seemed to bid me spare that little life. Kind-

ness I certainly intended it for, but it must be doubted whether, in the light of the bird's future history, the quality of mercy was not strained in this instance. My pocket handkerchief sufficed to immobilize Bobby's wings; a bit of twine held the handkerchief in place and a spare pocket in my shooting coat made a suitable temporary cage.

As the sun went down behind the distant Ramapo hills I bagged Bobby's sixth relative. Pegasus was thinking of oats and my homeward drive was short. The captive was quickly transferred to a roomy cage, with plenty of buckwheat and wheat screenings within reach, and a dark cloth thrown over one-half of the cage behind which he could hide. At first everything seemed so strange to the little fellow that he was loath to reconcile himself to his environments, and almost beat his little brains out against the bars; but hunger soon got the better of him and he was not long in recognizing me as the purveyor of his meals. After he had quieted down I put a fresh sod in his cage and this he seemed to prize immensely, scratching the grass and dusting himself very frequently. All kinds of greens, spinach, parsley, lettuce, dandelion and plantain leaves he welcomed eagerly. Gradually he became accustomed to the inmates of the kitchen, but the presence of the dogs in the kitchen at nights for many weeks tried his nerves sorely. But time, that great healer, at last ministered to the mind disordered as well as to the disordered wing and each day brought less fear until, before many months, I could bring one of those great brown muzzles close up to the wires without exciting any alarm in the occupant of the cage. Indeed at times I thought he rather enjoyed their company, for he would occasionally strike in a playful way at the dog's head with his bill, peeping the while in the most laughable manner. Many and many a time I left the cage on the floor and not for all the rewards which a dog's kingdom holds would one of those dogs offer to even frighten their little friend.

It was not many weeks after his capture when, early one morning, Robert screwed up his courage to the sticking point and electrified us by the long drawn out familiar call to assemble the scattered family together. Ever after, while he was with us, the rising of the sun or the going down thereof was the signal for the plaintive whistle to begin and for perhaps half an hour, at frequent intervals, hoping against hope it would be reiterated. When at last the long bleak Winter was over and gone, and the warm sun of late May and early June announced that the season was at hand when the young man's fancy lightly turns to thoughts of love, nothing daunted by his prison bars, the little fellow raised himself to his full height and “Bob White! bob-bob White!” rang out just as clearly and just as tenderly as if his prison floor was a corner fence post and the wished for wife was a veritable Mrs. White, warning those precious promises of a coming family in the long grass beneath. Summer over, the nights began to sharpen and the maples to turn; no more love notes now; only the lovely quoi-e-e-e! quoi-e-e-e! attracted each passerby, for Bob had made many friends and many a ripe cherry and strawberry found their way to his bread basket through our neighbors' solicitude. So tame had he become that he would readily take a berry from between my lips while I held him in my hand. But as the early Autumn advanced to brown November his old wild nature and instinct for self preservation returned in a measure, and too great liberties on my part were resented. It was toward the close of the Summer that, one

Colinus virginianus.

day, the even tenor of Bobby's way was rudely interrupted. Such a day as that was only a weary lonely prisoner can appreciate. He had been whistling ever since an hour before sundown with his customary lack of an answer, when hark! what was that? by all a quail holds most dear, a far-away faint reply. Another clarion peal from Bob and joy and rapture unforeseen! Again comes the long drawn out, mellow echo, this time closer surely. A few more exchanges of Bob's tenor and the visitor's soprano and from my porch where I sit smoking, I spy a hen quail, skipping and mincing along with outstretched neck and eagerly answering my gay Lothario's every note. And now she is directly under the cage and Robert, with head shoved out between the bars, sees her and fairly shrieks out his delight. At this most interesting juncture a crowd of noisy boys come racing down the village street and the noise of the commotion with the unusual surroundings, proved too much for the gentle maiden's nerves and with a whirr-r-r, not even trusting to her little legs for escape, she was in the air and away like a bullet down the street, from whence she came, horrified as well she might be at her own unmaidenly temerity. Poor Bob screamed until long after dark but the fair one came not. Early next morning I placed the cage on the lawn where I could see it from the window, and almost at once the concert opened. Before I could believe it possible not one but two dainty birds, a cock and a hen, put in their appearance, running for all they were worth, and answering every challenge without so much as pausing to take their breath. Both arrived together, and such a time as there was then. Bob, gone completely crazy, tore about his prison like mad and the visitors appeared almost as much excited for they peeped and pecked and scratched at the cage, wondering the while to themselves if ever before was a quail in so sad a plight. For many minutes I watched this strange meeting until something, I have forgotten what, alarmed the visitors and without a good-bye, they were off. For several successive days subsequently one or the other of these birds paid Bob a visit but never again did they come together and, while I hate to say it, the lady quail came several times to her husband's once, and seemed to take a much deeper interest in Robert's society. I never have found out why but her visits suddenly ceased and I can only draw my own inferences on such a purely domestic matter. The husband was probably perfectly right in his views but Bob could not be comforted. It may have been altogether a morbid fancy but ever after, all through the Autumn and Winter, the plaintive, lonely cry seemed even more plaintive and more lonely. Spring was hastening into Summer. Again the "Bob, bob-white!" with its thrice rising inflection, portended every storm, and one day it came over me, all at once, to let the poor little fellow go and see if he could not find that society he so much preferred to my own. Without stopping to think it over, I bundled him, cage and all, into the buggy, and a mile or so from town not far from where I first made his acquaintance I opened the cage door and out he hopped. True to his old instinct, realizing his freedom, he started off on a swift run but only for a few yards. Then he paused, looked back—and started toward me. I called off the pointer, which was watching the proceedings without venturing to take a hand in the matter, and with something suspiciously like a lump in my throat I jumped into the wagon and left my young bird to enjoy or to bemoan his new surroundings.

I have always doubted if my intended mercy proved such in reality. It was on a Friday that I emancipated him and not until the following Sunday did I have an opportunity to visit the locality again. Then, with a friend and accompanied by the pointer, we alighted at the same field, entered so as to give the dog the benefit of the wind and bid him hle on! Not a whiff of scent; no Bobby there. Disap-

pointed, we crossed the fence, beat out the adjoining apple orchard, and were almost about to give it up when, away down in the corner of the field where the catbriers mark the edge of the swamp, the good dog paused suddenly, felt the tainted air, roaded a few steps cautiously and stood firm and motionless. Uncertain still if this indicated the near presence of my own Bobby or some other Bobby I peered cautiously down in the matted underbrush and briars and there, ten feet ahead of the dog's nose, was a quail sure enough. Almost as my own eye caught him he saw me, and Bobby, yes! my Bobby, saw me and saw his dog friend, too. Did he run away? I should rather say not. He jumped up as quick as lightning and ran up to me and just as quick as he could ply his little legs, too. It would have done your heart good, my dog-loving friends, to have seen that dog's muscles relax, that tail to lose all its rigidity and to waggle violently; those brown ears to lose all their prick and those bright eyes all their glare as the noble creature recognized his whilom little friend. And Bobby! he was tickled to death to see us. He walked between the pointer's legs and the pointer sniffed at his mottled back and then he paraded about me and prattled all the while his extreme satisfaction at the interview. At length I bade him good-bye and it was a last good-bye, for I never saw him again to my knowledge. And now, when the days of the wailing winds and whistling woods, and meadows brown and sear return and remind me that November and our favorite sport are at hand I take pains to avoid that particular locality. I avoid it, reader, because I had learned to love that little bird and if any hand should bring him harm it must not be my own. Whether Bobby ever took unto himself the wife whom he yearned for so long, and whether, if he did, he found himself capable of conveying to her his eventful history in the reiterated "Bob Whites" of the honey moon, I may never know. I only know this, that Coleridge was right when he taught us that

"He prayeth well who loveth well
Both man and bird and beast."

Englewood, N. J.

*Amer. Field XXVIII, Dec. 24, 1887, p. 609,
no. 26.*

958. *Quail in Confinement*. By Tenny & Woodward. *Ibid.*, Dec. 25, p. 426.—A brood of five and another of seventeen "hatched last season are still living and in fine condition." *For. & Stream*. XXIII
637. *Breeding Quail in Confinement*. By Henry Benbrook. *Ibid.*, No. 7, p. 123.—Other successful attempts reported. *For. & Stream*. Vol. XXI
1228. *Self-Domestication of a Partridge*. By Geo. D. Alexander. *Ibid.*, No. 26, p. 609.—A Quail makes its appearance daily to receive a share of the food given to barnyard fowls. *American Field*. XXIV
171. *Domesticated Quail*. By Henry Benbrook. *Ibid.*, XVI, May 5, 1881, p. 266.—*Ortyx virginianus* successfully reared in captivity to the third generation. Believes that under favorable circumstances they could be bred "as easily as Turkeys." *For. & Stream*
1300. *The Weight of Quail in the South*. By J. M. W. (Augusta, Ga.).—"Swamp birds" said to weigh two ounces more and to be darker than those inhabiting the uplands. See also *ibid.*, No. 8, Mch. 17, p. 153, No. 11, April 7, p. 226, and No. 13, April 21, p. 274. *For. & Stream*. Vol. XXVIII, No. 4? (Page not given)
1080. *Migratory Quail*. By W. Hapgood. *Ibid.*, Mch. 26, p. 166.—The recent attempt to stock the country with these birds declared to be a failure. *For. & Stream*. XXIV
- The Oologist**. 1610. *Two Large Sets of Quail Eggs*. By J. V[an] D[enburgh]. *Ibid.*, p. 156.—*Callipepla californica* in confinement. *Auk*, VII. Jan. 1890. p. 85.
1351. *Male Quail on the Nest*. By T. E. Epes. *Ibid.*, No. 2, Aug. 4, p. 23. *For. & Stream*. Vol. XXIA
835. *History of a Wing-tipped Quail [Ortyx virginianus]*. By J. L. T. *Ibid.*, Vol. XXII, July 12, p. 34. *American Field*.
878. *Southern Limit of Quail and Grouse*. By Forked Deer. *Ibid.*, p. 224. *For. & Stream*. XXII
1253. [Albino Quail.] By G. V. Young. *Ibid.*, No. 26, Dec. 25, p. 608. *American Field*. XXVI
650. *Game Birds [caus and ...]* *Ibid.*, No. 19, p. 363. *For. & Stream*. Vol. XXI
- The Oologist**. 1622. *Can Quails be Domesticated?* By L[illie] I. C[onley]. *Ibid.*, pp. 150-151. *Auk*, VII. Jan. 1890. p. 85.
864. *Ortyx Virginianus not in Arizona*. By Robert Ridgway. *Ibid.*, March 13, p. 124.—Relates to the preceding (No. 863). *For. & Stream*. XXII
642. *Quail bred in Confinement*. By G. N. (Savannah, Ga.). *Ibid.*, No. 11, p. 183.—Another successful attempt reported. *For. & Stream*. Vol. XXI
880. *Southern limit of Quail and Grouse*. By Robert Ridgway. *Ibid.*, p. 243.—Relates to No. 878, in which reference is made to the supposed occurrence of *Ortyx virginiana* and *Bonasa umbella* in Costa Rica. *For. & Stream*. XXII
1222. [Quail Nesting in November.] By A. J. *Ibid.*, No. 23, Dec. 5, p. 538.—A nest with eleven fresh eggs found at High Point, N. C., November 16. [See also *Ibid.*, No. 24, Dec. 12, p. 562.] *American Field*. XXIV
1217. *A Quail Inters its Mate*. From the 'Chicago Times.' *Ibid.*, Vol. XXIV, No. 10, Sept. 5, p. 223.—A male Quail, in confinement, removes from the nest the body of its dead mate, buries it, and completes the task of incubation. *American Field*.
944. *Quail [Breeding] in Confinement*. *Ibid.*, p. 184.—Extract from Hagerstown, Md., 'News,' detailing further successful attempts at rearing Quail in captivity. *For. & Stream*. XXIII
546. *Young Quails in March [at Mechanicsburg, Ohio]*. By S. M. Harper. *Ibid.*, XVII, No. 3, p. 52. *Amer. Field*.
230. *Death of Mr. Willis's Quail*. *Ibid.*, XIX, No. 18, p. 345, Nov. 30, 1882.—Note from Mr. John J. Willis, of Westfield, N. J., announcing the death of his domesticated Quail [*Oxyx virginiana*] with an autopsical report on the dead birds by the editor [G. B. Grinnell]. (See above, No. 220.) For a further note on the same subject see *Ibid.*, No. 20, p. 384, Dec. 14, 1882. *For. & Stream*.
149. *Breeding Quail in Confinement* (title covering a communication by Dr. Bradley Hull, and two pseudonymous ones. *Ibid.*, XV, p. 166.—Accounts of attempts to raise Quails in confinement. See also *Tame Quail*, *Ibid.*, XV, p. 186. *For. & Stream*
1220. [A Quail on a Church Steeple.] By George N. [?]. *Ibid.*, No. 13, Sept. 26, p. 296. *American Field*. XXIV
1286. *The Strange Adventures of a Bob White*. By John A. Wells, M. D. *Ibid.*, No. 26, Dec. 24, p. 609.—An exceedingly interesting history of a Quail, which, captured and confined after it was fully grown, learned not only to recognize its master and dog captor, but even to evince a decided affection for both.—F. M. C. *American Field*. XXVIII

220. *Breeding Quail in Confinement.* By John J. Willis. *Ibid.*, XIX, Nos. 9 and 10, pp. 164, 165, 185, 186, Sept. 28 and Oct. 5, 1882.— Account of successful attempts at breeding *Ortyx virginiana* in confinement, copied from Westfield, N. J., "Monitor." **For. & Stream.**

1215. *Quail, Partridge, Grouse.* By Julius P. de Conine. *Ibid.*, No. 23, June 6, p. 536.—On their correct vernacular names **American Field, XXIII**

941. *Domesticating Quail.* By J. B. B. *Ibid.*, p. 164.— Successful attempts detailed. **For. & Stream, XXIII**

151. *More Quail Bred in Confinement.* By B. F. Concklin. *Ibid.*, XV, p. 206.—Eggs hatched under bantam hens. and the young successfully reared. **For. & Stream**

74. *The Migratory Quail.* *Ibid.*, XIII, p. 927.— This title covers five letters relating to the introduction of this species to different localities. Mr. Horace P. Tobey notes the probable return of coveys of this species to North Falmouth, Mass., after a winter's sojourn at the South. **For. & Stream**

1368. *A September Brood of Quail.* By Alfred A. Fraser. *Ibid.*, No. 11, Oct. 6, p. 205.—Newly hatched Quail on Long Island, Sept. 14 **For. & Stream, Vol. XXIX**

1784: *Ruffed Grouse Eggs.* By John Williams. *Ibid.*— Notes on number of eggs and period of incubation of *Bonasa umbellus* and *Colinus virginianus*. **For. & Stream, Vol. 32, July 18. p. 528.**
File under Colinus virginianus.

1724. *Game in town.* By von W., J. G. L., J. L. Davison, Blue Ridge, E. T. Johnson, and Herb. **For. & Stream, Vol. 31, Nov. 15, p. 323; Dec. 13, p. 408; Dec. 20, p. 435.**—
Colinus Bonasa umbellus, Colinus virginianus and Philohela minor.

File under Colinus virginianus.

956. *The Migratory Quail.* By G. M. S. *Ibid.*, p. 385.— Birds turned out near Springfield, Mass., 'two years ago,' have reared young and are still there, and there 'to stay.' **For. & Stream, XXIII**

1203. *Caging Quails.* By A. Scherer. *Ibid.*, No. 2, Jan. 10, p. 32. **American Field, XXIII**

1882. *Quail in Packs.* By Edmund Orgill. *Ibid.*, p. 143.— *Colinus virginianus.* **For. & Stream, Vol. 34, March 13.**

1102. *Quail in Confinement.* By W. and Jno. H. Osborne. *Ibid.*, Aug. 6, p. 25. **For. & Stream, XXV**

567. *The Length of Time a Quail sits.* By R. T. C. *Ibid.*, XX, No. 13, p. 298.—Found to be twenty-one days. **American Field,**

Page 82. 1874. *Bob White in Town.* By F. W. T. *Ibid.*, Vol. XXI, No. 5, p. 84.— Successful attempts reported. **For. & Stream, Vol. XXI**

1837. *Weights of Grouse.* By Rudolph von Ob. *Bonasa umbellus* and *Colinus virginianus*. **For. & Stream, Vol. 38 Dec. 12. p. 402.**
File under Colinus virginianus.

1862. *Hawks that Kill Birds.* By M. G. Ellzey. Notes on *B. latissimus*, *Colinus virginianus*, etc. **For. & Stream, Vol. 38 Jan. 9. p. 497.**
File under C. virginianus

1863. *Food of Quail.* By C. T. *Ibid.*, p. 27.— Seeds of skunk cabbage. **For. & Stream, Vol. 34, Jan. 30.**

548. *The Migratory Quails.* By Everett Smith. *Ibid.*, XVII, No. 8, p. 132, Feb. 18, 1882.— On their introduction into Maine. **Amer. Field,**

863. *Ortyx Virginianus in Arizona.* *Ibid.*, p. 104.— Short extract from Tucson 'Weekly Citizen.' **For. & Stream, XXII**

1358. *Confiding Quail.* By Walter B. Savary. *Ibid.*, No. 6, Sept. 1, p. 105. **For. & Stream, Vol. XXXI**

918. *Domesticating Quail.* By J. B. B. *Ibid.*, p. 506.— Experiments with *Ortyx virginiana*. **For. & Stream, XXI**

1930. *Quail Invading Domestic Fowls' Nests.* *Ibid.*, July 3, p. 470.— From the 'Ashtabula Scatinel.' **For. & Stream, Vol. 34**

Sept. 5. p. 123. 1801. *Quail in Dixie.* By Geo. H. Wyman. *Ibid.*—In Utah. **For. & Stream, Vol. 38**
Jan. 9. 1854. *Cape Cod Quail.* By J. C. C[ahoon]. *Ibid.*, p. 498. **For. & Stream, Vol. 33**

Note on the Name *Colinus*.—Dr. Stejneger has recently called my attention to the use of the name *Colinus* by Goldfuss, whose reference has several years' priority over that of Lesson. The proper citation for this genus would appear to be: Goldfuss, Handbuch der Zoologie, II, 1820, 220; the type is '*Perdix mexicana*, Caille de la Louisiana, Pl. Enl. 149,' which is synonymized with *Tetrao virginianus* Linn.—CHAS. W. RICHMOND, *Washington, D. C.* **Auk**, XIX, Jan., 1902, p. 79.

*Bonasa
umbellus*



670

Bonasa umbellus. * = drumming

1889

May 14¹ 1889. ^{Wm.} Martha's Vineyard ^{Col-Ming} Way ^{Ch.} Acis.
 9² (Fox) - 12³ - 23³* - 24¹* - 25¹* - 28² 1891.

July 23¹ - 25³ - 29¹ 1892. Concord

Nov. 30¹ ^{Wm. 2} ms. - 1889.

Dec. 4¹ - 6⁴ - 12³ - 13³ 1889. Concord ^{Ch.} 127. 1890 2³ - 3¹ - 5¹ - 7² - 10² - 20¹ - 27¹ - 28¹ 1891.

July 6² with 3 young 1890 1³ - 2¹ - 10² - 15¹ - 20¹ - 21¹

March 8³ (Fox) Concord 25¹ 1891. 23² - 26²

April 6¹ - 9¹ - 24¹ - 25² all night - 27³ 1891. Concord 6¹ - 18¹ - 24¹ - 25²*

19 (Sandy Pond) - 20 (Davis H.) - 22¹* - 29¹* - 1 am. Concord 1893.

Feb. 1³ - 2¹ - 10² - 15¹ - 20¹ - 21¹ Concord

May 1¹ - 3¹* - 8¹ - 13¹* - 15²* - 24¹* - 18¹* - 19¹ - 20³* 4 birds flushed - 22¹* Concord

2¹* (Sandy P.) - 12¹* - 16¹* - 18¹* - 22¹* (Ball's H.) - 28¹* (Ball's Hill) - 29¹* Concord 1893.

June 3¹ 1889. Concord 19¹* (drummed once only at 12 noon)

July Concord 9¹ - 29¹

Aug Concord 14¹ 2¹ (Ball's H.) - 16¹ (Ball's H.) - 19¹ (do.) - 20¹ (do.) - 25¹ do. - 30¹ do. Concord 1893.

Sept. 17 (Ball's H.) - 24¹ do. - 25¹ 4¹ ^{1 am}* - 26¹ (Ball's H.) - 28¹ (do.) Concord - 3¹ (Ball's Hill) - 4¹ (Holdens H.) Concord 1893.

Oct Concord 18¹ - 19³ - 20³ - 21⁹ - 22⁵ - 23¹ - 24⁴ - 26³ - 29⁴ - 30² - 31² 1891.
 6² - 8¹ - 9² - 15¹ (meadow) - 17² - 18¹² - 19¹⁰ - 20⁵ (meadow) - 21¹¹ - 22⁷ - 24¹ - 25³ - 27⁴ - 28² - 31¹⁰ - 9²

Nov Concord 6² - 7⁴ - 8²* - 24¹ - 29² 1891.
 1³ - 3³ - 6¹* 2 inches snow! - 9² - 11¹ - 13⁵ - 14¹ - 16³ (Ball's H.) - 17¹ - 18¹ - 19¹

1¹⁶ - 3⁵ - 4³ - 5¹⁰ - 11³² (a. Robbins) (Davis H.) - 12³ - 18²⁰ (a. Robbins) - 19³ - 25¹⁷ (a. Robbins)

Dec. Carlisle 1²⁵ (a. Robbins) - 2¹⁰ (do.)

B. umbellus

Bonasa umbellus.

B. umbellus

1894,
 January
 February
 March
 April
 May ^{Balls H. Concord} 3¹* 4² - 6³ 14⁵ 26⁶ 27¹ (Concord)
 June ^{Washam} ^{9 fresh} ^{traces.}
 July
 August ^{cd.} 5 (Balls H.) ^{cd.} 12 (Balls H.)
 September
 October 12³ 14¹ 18² 19⁻ 20² 25² 26² 27⁻
 November 2² 4³ 12¹ 13² 17³ 18⁴ 19¹ 20³ 24⁴
 December

1895
 January ^{cd (Balls H.)} 20⁴
 February ^{cd.} 24¹
 March ^{cd. (Balls H.)} 27¹
 April ^{Concord} 4⁴ (Balls H.) 5⁴ (Banks) 5¹ 17¹ 29² (Balls H.) 30¹
 May ^{Concord} 1¹ 2¹ 3² ² ³ ⁴ ⁵ ⁶ ⁷ ⁸ ⁹ ¹⁰ ¹¹ ¹² ¹³ ¹⁴ ¹⁵ ¹⁶ ¹⁷ ¹⁸ ¹⁹ ²⁰ ²¹ ²² ²³ ²⁴ ²⁵ ²⁶ ²⁷ ²⁸ ²⁹ ³⁰ ³¹ ³² ³³ ³⁴ ³⁵ ³⁶ ³⁷ ³⁸ ³⁹ ⁴⁰ ⁴¹ ⁴² ⁴³ ⁴⁴ ⁴⁵ ⁴⁶ ⁴⁷ ⁴⁸ ⁴⁹ ⁵⁰ ⁵¹ ⁵² ⁵³ ⁵⁴ ⁵⁵ ⁵⁶ ⁵⁷ ⁵⁸ ⁵⁹ ⁶⁰ ⁶¹ ⁶² ⁶³ ⁶⁴ ⁶⁵ ⁶⁶ ⁶⁷ ⁶⁸ ⁶⁹ ⁷⁰ ⁷¹ ⁷² ⁷³ ⁷⁴ ⁷⁵ ⁷⁶ ⁷⁷ ⁷⁸ ⁷⁹ ⁸⁰ ⁸¹ ⁸² ⁸³ ⁸⁴ ⁸⁵ ⁸⁶ ⁸⁷ ⁸⁸ ⁸⁹ ⁹⁰ ⁹¹ ⁹² ⁹³ ⁹⁴ ⁹⁵ ⁹⁶ ⁹⁷ ⁹⁸ ⁹⁹ ¹⁰⁰ ¹⁰¹ ¹⁰² ¹⁰³ ¹⁰⁴ ¹⁰⁵ ¹⁰⁶ ¹⁰⁷ ¹⁰⁸ ¹⁰⁹ ¹¹⁰ ¹¹¹ ¹¹² ¹¹³ ¹¹⁴ ¹¹⁵ ¹¹⁶ ¹¹⁷ ¹¹⁸ ¹¹⁹ ¹²⁰ ¹²¹ ¹²² ¹²³ ¹²⁴ ¹²⁵ ¹²⁶ ¹²⁷ ¹²⁸ ¹²⁹ ¹³⁰ ¹³¹ ¹³² ¹³³ ¹³⁴ ¹³⁵ ¹³⁶ ¹³⁷ ¹³⁸ ¹³⁹ ¹⁴⁰ ¹⁴¹ ¹⁴² ¹⁴³ ¹⁴⁴ ¹⁴⁵ ¹⁴⁶ ¹⁴⁷ ¹⁴⁸ ¹⁴⁹ ¹⁵⁰ ¹⁵¹ ¹⁵² ¹⁵³ ¹⁵⁴ ¹⁵⁵ ¹⁵⁶ ¹⁵⁷ ¹⁵⁸ ¹⁵⁹ ¹⁶⁰ ¹⁶¹ ¹⁶² ¹⁶³ ¹⁶⁴ ¹⁶⁵ ¹⁶⁶ ¹⁶⁷ ¹⁶⁸ ¹⁶⁹ ¹⁷⁰ ¹⁷¹ ¹⁷² ¹⁷³ ¹⁷⁴ ¹⁷⁵ ¹⁷⁶ ¹⁷⁷ ¹⁷⁸ ¹⁷⁹ ¹⁸⁰ ¹⁸¹ ¹⁸² ¹⁸³ ¹⁸⁴ ¹⁸⁵ ¹⁸⁶ ¹⁸⁷ ¹⁸⁸ ¹⁸⁹ ¹⁹⁰ ¹⁹¹ ¹⁹² ¹⁹³ ¹⁹⁴ ¹⁹⁵ ¹⁹⁶ ¹⁹⁷ ¹⁹⁸ ¹⁹⁹ ²⁰⁰ ²⁰¹ ²⁰² ²⁰³ ²⁰⁴ ²⁰⁵ ²⁰⁶ ²⁰⁷ ²⁰⁸ ²⁰⁹ ²¹⁰ ²¹¹ ²¹² ²¹³ ²¹⁴ ²¹⁵ ²¹⁶ ²¹⁷ ²¹⁸ ²¹⁹ ²²⁰ ²²¹ ²²² ²²³ ²²⁴ ²²⁵ ²²⁶ ²²⁷ ²²⁸ ²²⁹ ²³⁰ ²³¹ ²³² ²³³ ²³⁴ ²³⁵ ²³⁶ ²³⁷ ²³⁸ ²³⁹ ²⁴⁰ ²⁴¹ ²⁴² ²⁴³ ²⁴⁴ ²⁴⁵ ²⁴⁶ ²⁴⁷ ²⁴⁸ ²⁴⁹ ²⁵⁰ ²⁵¹ ²⁵² ²⁵³ ²⁵⁴ ²⁵⁵ ²⁵⁶ ²⁵⁷ ²⁵⁸ ²⁵⁹ ²⁶⁰ ²⁶¹ ²⁶² ²⁶³ ²⁶⁴ ²⁶⁵ ²⁶⁶ ²⁶⁷ ²⁶⁸ ²⁶⁹ ²⁷⁰ ²⁷¹ 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Bonasa umbellus.

Concord, Mass.

1887. Grouse have wintered regularly all winter long in the
Apr.7. pines at the north end of the Manse to judge by the marks they
have left there, including several quarts of droppings scat-
tered about, most thickly on the platform we had made last
spring.

Bonasa umbella

1888

Nov. 13

At this season Grouse are seldom found in the open oak and maple woods which they frequent so much before the leaves have fallen. They haunt birch and alder runs, hollows filled with dense oak scrub and old pastures grown up with young pines and cedars. In the runs they often lie as closely as Woodcock and a good dog will get many points on them. The more isolated and open the cover the closer do they lie. In such places, now that the leaves are off, one gets nearly perfectly ^{fair} shots and the bird is a very easy one to hit provided the sportsman's nerves are not unsettled by the muffled ~~roar~~ of its powerful wings. A Grouse at this season takes very long flights, especially if shot at. Several, to-day, flew fully 500 yds. If the trees are scattered and there is little or no undergrowth the bird rises nearly as soon as it sees the sportsman and skins off low over the ground. In cover that is dense underneath, as alders or scrub oaks, it mounts to the tops of the trees or bushes before fairly starting on its course. It is rarely that a Grouse is killed outright. Nine times in every ten, however hard it may be shot, it has its death flurry after it has fallen beating the ground with its wings and scattering the leaves in every direction. If merely winged it makes off silently and very swiftly for one or two hundred yards, running with its tail wide spread. After it thinks it has gone a safe distance it crawls in under a log or ground juniper or even into a storm wall. A good dog will surely track & recover it.

Wellesley Hills

Habits in

E. Mass

in November

Bonasa umbella

1888

(Nov. 13) (continued). If the day is still cold the bird within a few

(No. 2) yards one will often hear a light rattle among the dry leaves as it emerges from its hiding place and takes a few steps before springing into the air. It is rare, however, in this region to get more than a glimpse at one on the ground under any circumstances, especially if the sportsman is hunting with a dog. Long before either he or his four footed ally has got within gunshot the wary bird, equally keen of sight and hearing, has skulked from cover to cover and finally concealed itself under ^{a young pine} a fallen tree top or beneath a tangle of vines and branches keeping, meanwhile, a close watch on both dog and man, ready alike to slide a sudden spring rush on the part of the former or to make off in a cover that is most likely to baffle the aim of the latter. A crafty bird indeed is our Ruffed Grouse, hardy, vigorous, profiting by each experience in its peril-beset life and maintaining its place in fair numbers in covers that are shot over almost daily during the open season (and much of the time in close season, also, I fear) long after the more confiding Quail and the positively simple Woodcock have been nearly exterminated there.

Indeed if the poor bird's enemies were limited to the men who follow him fairly with dog and gun during the open season it is probable that his tribe would increase and multiply despite their utmost skill and perseverance. But he has, unfortunately, many other foes who regard neither time nor season. Chief among them is the fox who with almost inconceivable patience and cunning often succeeds.

1888

Boreasa umbellata

Nov. 13
(No. 3)

(continued) in stalking and springing on him unawares. It is probable that most of the Grouse caught by foxes are surprised at night but I know of no testimony bearing on this point save the unmistakable evidence of the killing that one often finds in the woods - a space or circle the snow is trampled or the leaves scattered about with numerous feathers and a few remnants of feet bill etc. when Reynard has made his meal. At night, too, the Great Horned Owl is supposed to often seize the roosting Grouse from his perch in the branches of a pine or cedar but this supposition, as far as I can learn, rests wholly on tradition. It is known, however, that this Owl preys on domestic fowls and even turkeys and why should he not with equal or greater ease catch a sleeping Grouse. Doubtless he does catch them when occasion offers but fortunately for the Grouse the Great Horned Owl has become comparatively scarce in the thickly settled portions of our State - a partial offset, be it remembered, for the increase of sportsmen.

Excluding such rare or chance visitors as the Duck Hawk and Jer Falcon the only other birds of prey sufficiently powerful or skillful to catch an adult Grouse are the Gos-hawk and Cooper's Hawk. The former is with us only in winter and there is seldom very numerous but the Cooper's Hawk being one of ~~most~~ our commonest raptorial birds must destroy a very large number of Grouse perhaps nearly if not quite as many as do the foxes.

Bonasa umbella.

1888

Nov. 17

(Wellesley Hills). On clear, cold days especially when there is a high wind, Grouse like Quail, delight in basking in the sun on the sheltered edge of dense cover such as scrub oaks or young pines or cedars. During such weather they feed mostly at morning and in late afternoon. On mild, moist and still days, whether cloudy or clear, they feed at all times of the day, and are most apt to be found in open places in the woods or small, isolated copses well out in the fields.

A pointer or better points a Grouse nine times out of ten by the scent of its feet; that is he points where the bird has recently passed not at the spot where it is lying. It is necessary therefore for the sportsman to press on ahead, casting to both sides & keeping his eyes roving in every direction, whenever his dog comes to a stand. Occasionally, however, a dog will get the scent directly from the bird especially if the latter be surprised among outlying alders or if it has been flushed several times in quick succession & followed up closely. In the first instance it probably hesitates to expose itself by crossing ^{the} open ground either by flying or running; in the second it is doubtless too tired and out of breath to either run or fly until all hope of escaping by hiding is past. In either case if the dog has a good nose and is staunch on his point the bird will often lie as closely as a Woodcock. Its manner of rising when flushed depends on the character of the cover. If this be open underneath the bird usually

Bonasa umbella

1888

(Nov. 17) (Continued) skins off close over the ground—so close

(No. 2). That the wind from its wings often scatters the dry leaves to either side as it passes over them—so swiftly that it takes a quick shot to bring it down before it gets beyond gun range. If, on the other hand, there is a tangled undergrowth the Grouse mounts straight upward until it clears the tops of the bushes before starting on its course. In the second case it offers a very easy shot providing no bush intervenes and provided, also, that the sportsman's nerves are not shaken by the muffled roar of its powerful wings. The male Grouse with his heavier body and larger tail is appreciably slower at getting "under way" than the lighter smaller hen, but when once fairly started he flies fully as swiftly. For the first two hundred yards or so his wings move incessantly and so rapidly that they make a horn or horn on either side of his body. Then having attained his greatest speed he usually sets them and scales for the remainder of his flight beating them again for a second to check his speed just before he alights.

Grouse that have been much hunted are wonderfully wary and cunning. If possible they rise out of range but if surprised or headed they watch their chance and spring when the sportsman's back is turned. Not infrequently they run a yard or two until they get a tree trunk or bushy pine between them and the gun and thus spoil all chance at a shot.

Grouse
Shooting in
November

Bonasa umbellus

Eastern Massachusetts.

1889

Mass.

May

Mt. Greylocks. - "I have seen a Partridge drum^{xxx} from within Drumming

25 yards (opera glasses 3 + diam.) The performance began by the bird's suddenly sitting squarely down on his bottom and applying his spread tail closely to the log, exactly as Brewster says. This preliminary action was very marked, being spasmodic or convulsive. The wing joints were extended and then the slow strokes began. To all appearances, both to the eye and ear, the wing was brought squarely against the side of the body and the sound resulted from the blow upon the sides of the body. If I did not know that sharp observers had come to a different conclusion I should not hesitate to assert that such was the fact. In any event, the sound comes at the close of the wing stroke. The wing segments being partly extended, the primary feathers (or at least the outer ones) are free from the body when the inner part of the wing (secondaries etc) close against it. It seemed evident to me that the humerus was brought violently against the sides. The bird appeared to be under intense nervous excitement and to require the intervals between the acts to recuperate. In fact while he was drumming I could think of nothing but a bird in a sexual orgasm^{xx} As Mr. Brewster may be interested in this you may send him this sheet if you like" (Walter Faxon in letter to Bradford Torrey sent me by the latter) N.B. Don't use this in any way without permission etc.

Bonasa umbella

1889 Mass

Dec. 12-13 Ashby. - On the 12th we started three Grouse at Mt. Watatic At Ashby

two among laurel (*L. latifolia*) on the edge of a swamp at the base of the mountain, one in pasture spruces about 200 ft below the summit. ^{The latter was the only bird of any species found on this Mt.} All three were very shy, quite as much so as the birds about Cambridge. We found droppings in many places on the mountain most of them in open pastures where the only cover was a few scattered birches. One such sign was in a hollow among the rocks within 50 ft. of the summit. The birds are said to be hunted chiefly with "treeing" dogs & many are shot in this way.

On the 13th we started three more Grouse near the village. Two were in laurel, the third rose from a clearing where the wood had been lately cut off. All three were very shy.

" 15-16 Mt. Graylock. - Two birds seen on the 15th & two more on A winter
the 16th all at about 2200 ft. among dense retreat on
pasture spruces. There was a fall of about 5 inches of damp Mt. Graylock
snow on the 14th and the spruces were heavily loaded
that the tips of their lower branches rested on the ground
forming arches and bowers under which the Grouse found
a warm and very safe shelter. Judging by their tracks which
I studied closely, each bird restricted its rambles during
the 15th & 16th to a very limited area, in fact only the few
square rods embraced in the cluster of trees which it had
chosen, and under which the snow was literally covered with its foot prints.
I could find no indications that it had obtained
food of any kind during its short sojourn. Probably it
bedded at evening in the neighboring birch & maple woods. In
the latter I found no tracks during a walk of a mile or
more. Partridges on Graylock are hunted chiefly with
"treeing" dogs. We found them shy but less so than at Ashby.

Bonasa umbella

1890 Mass.

Sept-Dec. Lexington L. Danielson tells me that he has shot 28 Partridges this autumn in the extensive (about 50 acres) woods on the Bryant farm near the "Lone Pine". Probably as many more have been killed by other sportsmen for the place is much hunted. Yet, as far as I can learn, no one has started more than eight or nine birds in any one day. Danielson has concluded more than once that the last bird had been killed but on the next visit has found as many as before. I beat the ground Dec. 14 and put up the maximum number, about nine, all this goes to show that an influx from the surrounding region makes good the places of those killed.

20000 nest
depleted &
no shot
blowing

1891

Apr. 24-25 Concord. - A Partridge began drumming soon after the moon rose this evening (about 8.30) and kept at it steadily during the entire night. At least my friend and I heard him whenever we were awake and that was most of the night a Great Horned Owl hooting in the pines over our camp preventing us from getting much sleep. The Partridge ceased drumming at about 4.30 (a little after sunrise). The night was clear and still with a sharp white frost, the moon ~~very~~ full at 5 A.M. on the morning of the 24th. I timed the "drum" a number of times with a stop watch and was surprised at the absolute regularity of its length, $8\frac{1}{2}$ seconds from the first thump to the last note of the roll. The roll itself lasted about 3 seconds as near as I could get it, it being a matter of some difficulty to decide just when it began as the preliminary thumps ~~increased~~ quickened gradually until they merged. At one time soon after midnight there were either two birds drumming or else the sound was varied by the performer changing his position for at times it seemed twice as far away as at others. He heard no drumming whatever after 4.30 on the 25th nor on the afternoon of the 26th when we passed the place on the way home.

Cock drums
all night.

M. A. S. S. MUSEUM,

Bonasa umbellus. (m. 1.)

1891.

- Oct. 22. Learlisle. Grouse are very scarce and shy. It is said that all the young were killed by ticks.
- Oct. 29. Learlisle + Acton. We started nothing else on Ferraris Hill but in Melvin's run I came suddenly on a very tame Partridge. I was crossing the brook and bending low under an overhanging branch, when the bird walked out from under some brush within ten yards of me uttering the usual squirrel-like alarm note, after going a few yards it flew, giving me a cozy shot but I found it impossible to get my gun to my shoulder, owing to the branch in which I was half entangled, so the bird went off unharmed. We followed it however, and Dor soon found & pointed it. It was within a few yards of me and I brought it down just as it was disappearing among some dense oak foliage. It fell nicely broken and led Don a long chase but we finally got it. It proved to be a small hen and was probably a young bird.
- Nov. 6. Concord Acton + Learlisle. In some oak woods through which the road passes a Partridge started ahead of the horse and flew across the road. When we came to the spot I saw two more within a few yards of us walking slowly over the ground. One of them flew when I stopped the horse but the other, a fine cock bird, continued stalking proudly along with tail erect and wide spread and distended ruffs twitching convulsively. In short he behaved exactly as the

Massachusetts.

Bonasa umbellus, (no. 2.)

1891.

Maine Partridges are in the habit of doing nothing no fear of us and appearing as if half inclined to resent our intrusion in his native haunts.

1892.

July 1. Concord. To Ripley's Hill at 5 P.M. As I approached the edge of the pitch pine grove I heard a Partridge fly and immediately after, another. From the sound I suspected that at least one of them had "treed" so I advanced into the grove very slowly and silently, scanning each tree closely from top to base. I had gone about 30 yards without seeing anything when suddenly two birds started out of the trees with a prodigious spread of wings, one just after the other, both going off over the swamp. Neither was within 30 yards of me when it flew. A moment after this a third Partridge went out of a pine fully 40 yards from where I was standing. One of the three must have taken to its tree before I reached the top of the hill for I am sure that only two birds started from the ground in the first instance. They had all chosen perches well up in the trees. The two which I saw the quickest after they had spread their wings had evidently been sitting on short, stout branches some three or four feet from the main stem, twelve or fifteen feet from the top of the tree, and perhaps 30 feet above the ground.

July 2. When I first approached the edge of this meadow a Partridge rose from the wood edge on the opposite side flying back into my traple

Massachusetts.

Bonasa umbellus. (no. 3)

1891.

Feb. 2 swamp, just after it left the ground it began
(No. 2.) calling, keeping it up until it was out of
sight beyond the crest of the ridge. I noted the
sound on the spot, thus: Tr-r-r-uck, ker-r-r-uck,
kuk, kuk; this repeated. The bird flew rather
slowly but made quite as much whirring
as usual although it went only a short
distance and acted as if undecided
whether to immediately re-alight or rest, making
as it were a batting flight. I have frequently
heard the vocal sounds just described on
similar occasions and also when a bird
has started to run a little way before flying. I
doubt if they are ever given by a bird
in swift flight or by one which rises
strongly. They are perhaps oftener heard
from a wing-broken bird just raised from
its place of concealment.

Feb. 8. In Pratt's meadow, +++ I found a hole in the
snow where a Partridge had apparently
rosted under the slight crust. There was one
small neat hole where she had entered it,
probably flying down to it with great force,
and another larger hole where she had
come out busting up through the crust &
scattering broken pieces of it about. There was
only one dropping in the burrow. A fox
track led by the spot within 25 feet.

1892.

Mar. 10 Concord. From a belt of alders on the N.E. side

Massachusetts,

Bonasa umbellus. (no. 4.)

1892,

Mar. 10. In my maple swamp I started a pair of Ruffed Grouse. The ♀ a small bird with a very rufous tail, flew first. The ♂, a large gray tailed individual followed her closely. The snow everywhere in and about this swamp is covered with their tracks. They evidently follow the lines of bushes as a rule but in one place the tracks crossed a wide opening the bird showing by the length of its stride that it felt the need of haste in crossing or exposed a place.

March 23. During the forenoon I walked around to the back side of Ball's Hill to cut a birch and came suddenly upon a pair of Ruffed Grouse. The male started from under a young bushy pine and ran across a space of open snow finally stopping in a thicket of birches and standing erect shaking his ruffs and making the red-squirrel cluck. He stood thus for nearly a minute within 20 yds. of me in plain sight. The female then flew from the branches of the pine under which her mate was first sitting and he soon followed her. They have roosted every night for several weeks in a small bushy pine near this spot as is shown by the fresh droppings which I find beneath this tree every morning.

March 26. On my way back I started a pair of Ruffed Grouse on the knoll where the big hickory stands.

Massachusetts,

Bonasa umbellus (no. 5.)

1892.

- May. 31. Concord. In the early evening, after supper, we took a short walk going as far as the *Wendell* where I hoped to find a Partridge drumming as he has never heard one, but they were all silent. Probably their drumming season is over for the summer.
- June 17 In some woods just below Heath's bridge a Partridge drummed once very near the river as we were passing. I have not heard one before this month.
- Sept. 25 Grouse were drumming today as fully and vigorously as in Spring. We heard no less than four different birds and started a fifth in oak scrub. The sportsmen report them very scarce thus far.
- Oct. 18 Partridges are evidently numerous this autumn. Melvin & Robbins started 26 on the 15th and M. & I today saw at least 12 different birds. In one place in an old lane four rose together and a fifth was flushed not 100 yards further on. In another place we started three together. Most of these were very wild rising nearly or quite out of shot and flying long distances. We found nearly all in Woodcock cover.
- Oct. 24 Curiously enough I saw only one Partridge. He rose in a perfectly open pasture and skimmed past me within 20 yards but I missed him. His wings made no noise whatever and I took him at first for a Cooper's Hawk.

Massachusetts,

Binassa umbellus

1892.

Oct. 31 Concord. Partridges appeared to be numerous two weeks ago but they are almost as scarce now as they were last season. I flushed only six today and saw a seventh in the road in woods. It strikes me that they do not venture out into the alder runs and birch covers nearly so much as they did in the old times.

Nov. 1 These two Partridges were both males one a gray old "drummer" with big ruffs the other a young bird very dark and richly colored and as it seems to me without comparison with other specimens, a fairly typical trata.

Nov. 3 In the swamps I started two Partridges one of which made while flying a noise precisely like that of a stick drawn rapidly across a slatted fence or paling and so loud that I heard it distinctly when the bird was 200 yds. off. I think there must have been some feathers (primaries) missing from the wings.

Bonasa umbella

1891 Mass.

May 12

Martha's Vineyard. - Although all the country people know the Heath Hen more or less well I have met no one on the island who was quite sure whether the Ruffed Grouse is found at all and several have positively asserted that it does not exist here. Yet Faxon and I started three birds to day in tramping two or three miles through the oak woods within sight of W.isbury village. Two of our birds were cocks and each was flushed within less than 100 yds of its drumming station which was quickly found. Both stations were on rocks (there are no logs in these woods) on hillsides covered with young oaks. One rock was an inconspicuous little ledge which jutted out from the hillside. Its total length was only about 4 ft., its width barely a foot, its outer edge perhaps 4 inches above the ground which fell away beneath it. The place where the bird stood was slightly worn or perhaps merely discolored and further marked by a pile of excrement containing perhaps a tea-cup full. Branches extended over and around the spot leaving scarce room for the play of the birds wings when drumming.

The other rock was an isolated boulder irregularly rounded and six or eight ft. long by about four feet across and four or five feet high. There was nearly or quite a quart of dung in one heap on the top of the rock and scattered droppings elsewhere on its surface and about its base. Many feathers were scattered among the surrounding brush and leaves. Most of these were from the breast or belly but one from the rump showed that the bird

Drumming
Stations

Bonasa Umbella.

1891 Mass.

May 12 (no 2) Martha's Vineyard. - was a very deep-colored red specimen. The sight which we afterward got at him as he flew directly over us confirmed this. One of the other birds, seen from above as he skinned down a hillside, was also deep red ~~above~~ on the back & tail. The third bird was not seen at all but merely heard as he rose.

I was surprised on breaking up a quantity of the dung found on these rocks, as well as in dusting wallows in a sandy path, to find that it was mainly composed of the scales of birds. Much of it, doubtless, had been dropped early in the spring or perhaps last autumn, even, but some of the droppings that contained a large percentage of scales were unmistakably fresh showing that the birds still subsist largely by budding.

Budding
in May

The Partridges started to-day were quite as wild as our birds about Boston yet they cannot be very persistently hunted in this part of the island. Everyone agrees that they were not indigenous to the island but are descended from birds introduced by Dr. Fisher of Edgartown about 1860. The only difference of opinion is, as already stated, as to whether the stock has or has not run out. This we have settled beyond further dispute.

The exuviae of a Partridge vary much in shape droppings and size. Some elongated-spherical & perfectly straight resembling gigantic ^{or alder cones in form shape & color} ~~hills~~ ^{or perhaps thick catkins}; others are twisted & convoluted like a shell & chalky white on one side.

Bonasa umbella

1891 Mass.

May 23 Concord. - Camped last night on the same spot as on the night of Apr. 24-25 but heard nothing of the Partridge until a little after sunrise this morning when he drummed twice. The night was warm with the nearly full moon veiled in thin clouds.

Drumming

" 24 Wayland. - Camped on the shore of Heard's Pond last night. A Partridge drumming was us at daybreak. He was not heard once during the night although the sky was perfectly clear with a full moon. There was some wind both nights. One bird stopped drumming this morning soon after sunrise.

1893

Jan'y 31 Mertha's Vineyard - Outram Bangs started nine of these Grouse while searching for Heath Hens. They looked to him like the Cape birds but none were killed & examined closely.

1894

Porkapog. - "Ruffed Grouse are much more plentiful than usual" (J. H. Bowles, letter Dec. 20, 1894). [They have been rather more numerous than last year & decidedly more so than usual, in most parts of Mass. while in Maine they have been more abundant than at any time during the past few years W.B.]

1896

Apr. 22 Concord. My birds drummed all day in spite of a rain and drumming snow storm, and the voices of men near by and crackling of a fire in spite of rain & snow. See Journal (3).

Bonasa umbellus.

1898 Mass.

Apr. 23 Concord. This evening I started one near the E. end of the hill & the same bird a second time within 30 ft of the cabin. [Journal].

1898

Apr. 24 Concord. Dark gloomy day, N. E. wind & heavy rain. This afternoon I heard Partridges drumming in 3 places - The E. end of Ball's Hill, the N. E. end of Davis's swamp & the S. end of Marm field. All drummed at short regular intervals. It is evident that the Partridge drums much more persistently in dark weather when rain or snow is falling than at other times. [Journal].

1906.

Sept 30 Concord. A Partridge on the ground among dense young pines, disturbed by the sounds of my near approach but unable to see me distinctly, uttered a sharp, metallic chi- chi- chi- chi almost exactly like that of a Red Squirrel, and also, at frequent intervals, a low growling grus-r-r-r, grus-r-r-r. It was walking slowly all the while. At length it made me out to be something really dangerous and took wing. I have heard both these sounds hundreds of times before, of course. Indeed they are characteristic of the bird when surprised under conditions such as those which I have just described.

Call notes

Bonasa umbellus.

1892. Mass.

Oct. 2. Concord.- At Ball's Hill yesterday I saw where a Fox had killed A Fox
a Partridge and eaten it. To-day I examined the remains care- Catches
fully. There was a pile of intestines and the stomach, one foot a
and leg, and the terminal end of one wing with the primaries "drummer"
attached, besides, of course, a great heap of feathers. All these Grouse.
lay in a heap within two feet of a stone wall. Nearly above the
spot, on the top of the wall, was a pile of Partridge excrement.
This I think was where the bird had been in the habit of drum-
ming, for its tail feathers and large ruffs indicated clearly
that it was an old male. There were no feathers or other re-
mains anywhere outside of a circle of two feet or less in diam-
eter and this confirmed me that the bird had been caught and
killed on the spot where its feathers lay. How could the Fox
have surprised so wary a creature? I could think of only two
possible ways; one that he crept up behind the wall and sprang
over it upon the bird perhaps while it was asleep; the other,
(and this I consider the more probable hypothesis) that he lay
crouched on the top of the wall watching for something to come
along and that the Partridge rambled unwittingly within reach
perhaps ~~making for its drumming~~ stone of the presence and mean-
ing of which the Fox may have been aware before he took up his
position there. There was no undergrowth about the spot but the
ground was covered with a deep mat of old leaves.

Bonasa umbellus. (711.2.)

Concord, Mass.
May, 25 1893.

May 28

At 8.30 I started for Ball's Hill and reached the cabin half-an-hour later. Running the canoe into the lower landing under the maples I was about to step out when something hurtled past me from behind (ie from the river) passing directly through the thickest part of the bunch of maples with a crashing or hissing sound and plunged down into the middle of the path that leads to the cabin. As it stood erect with tail spread I took it for a large Hawk but the next instant it made a short quick run and I saw that it was a cock Partridge. Landing I flushed it directly in front of the cabin over which it flew and then disappeared over the crest of the ridge behind. It was doubtless the bird which I have heard of late drumming on the Bedford shore.

Bonasa umbellus.

1895.

Mass

May 3

Concord. While passing along the island ridge in Davis's

nest & eggs.

Swamp this afternoon I stopped for a moment and looked back when a hen Partridge flew from within about 6 ft. of the path along which I had come & about 20 yds. back. I went to the spot and found a deep hollow scratched in the ground at the foot of a white oak. It looked like the beginning of a nest but all the leaves etc. had been scratched away and the hollow showed nothing but the damp, freshly-exposed earth.

" 5

Visited the supposed Partridge's nest at 6 P.M. with Chapman. It was profusely lined with dry oak leaves which were raised on edge about the rim. In the bottom of the hollow almost completely concealed under some loose oak leaves lay a single egg. A cock Partridge drummed last year on a smooth pine log about 150 yds. from the site of this nest. I heard him drumming there again this year May 1st, but neither before nor since. On the 4th Chapman & I started him near the drumming log but we hung about the place that & this evening without hearing a sound. He started the hen on the evening of the 4th 300 yds. from the male & 200 yds. from her nest.

" 12

The Partridge's nest on Davis's ridge had 6 eggs this afternoon. This shows that five had been laid in six days. No bird seen nor heard. Eggs all unincubated & very conspicuous. I wonder the crows do not find them for the oaks are still practically leafless & the nest is not sheltered in any way.

" 23

Visited the Partridge's nest twice this afternoon & took 12 photos of it, all excellent. There were nine eggs which make the full set I suppose. On my first visit the bird flushed at about 15 yds. & flew off through the swamp. On my second (after an hour's absence) she was fully 20 yds. away. On both occasions she flew directly from her eggs not taking a single step. She did not return (or at least I did not see her) during the hour or more that I spent at the nest. On my second visit I noticed that she had changed the arrangement of the eggs as my photos show. Have not heard the ♂ drum since May 1st but have been out for Concord since the 12th

Bonasa umbellus.

Concord, Mass.

1894. Partridges were scarce through Sept. and Oct., so scarce, indeed, that Melvin on Oct.20th hunted all day in Carlisle with a good dog without starting a single bird. Early in Nov. they began to increase in numbers rapidly and by the end of that month they became fully as numerous as they were last year. Arthur Robbins killed nine in one day about Nov.25th and after this date rarely failed to start from thirty to forty in a day's tramp. He, as well as all the other sportsmen whom I have seen, report that the birds have been unusually shy this year.

In the Ball' Hill region I have noticed no change in the number of Partridges as the season advanced. They were very shy.

1895. In the afternoon I walked to Bateman's Pond. I started three Partridges. One flew from the branches of a leafy oak directly over the woodpath as I was returning half an hour after sunset. It was so dark at the time that I could not see the path distinctly and I think the bird had gone to roost. It called quet-quet-quet-quet-quet in low, hurried tones just before taking wing.

Bonasa umbellus.

Concord, Mass.

1895. A Partridge, on Holden's Hill, on rising uttered a low,
Oct.15. rolling, murmuring, whistling sound evidently vocal. This
note, which I have heard countless times before but never
considered carefully until now, is perfectly distinctly from
the hurried, metallic quet-quet-quet which is also a common
flight note. The former cry is, I think, usually given when
the bird is not much alarmed and when it is about to take a
short flight. The quet is oftenest uttered just before the
bird takes wing but is frequently continued during the first
few rods that the bird advances after leaving the ground or
tree. The quet call indicates unusual alarm and is oftenest
given when the bird is surprised.

Bonasa umbellus.

Concord, Mass.

~~Lake Umbagog, Maine.~~

1897. Last year the Partridges drummed regularly through April April. in my woods, over on a small barkless log at the north end of Davis's Swamp, another on an old stump on the north side of the Blakemore Ridge, the third on the stone wall bordering Holden's meadow just north of the eastern extremity of Ball's Hill. I have seen a cock bird in the last-named locality almost daily this season but have heard no drumming there. Both of the other stations have been occupied but at no time has the bird drummed at all regularly or frequently. I have heard only these two drummers and doubt if there have been any others.

On April 29th, as Faxon and I were crossing Davis's Swamp by the little used foot path a hen Partridge rose a few yards ahead and flew strongly off whirring loudly. On going to the place we found a nest built on the top of a mound between the stout upright stems of a large blueberry bush. There were five eggs all covered so carefully with leaves that not one could be seen until I moved the leaves aside with a stick. This nest was in the swamp itself (an unusual situation) but not over 30 yards from the spot on the crest of the swamp ridge where I found and photographed a nest with 9 eggs two years ago. I have no doubt it belongs to the same bird. It is over 200 yards from the drumming log.

Bonasa umbellus.

Ball's Hill, Concord, Mass.

1897. This morning we (W.Faxon and I) heard two Partridges
Apr.29. drumming and in Davis's swamp found a nest with 5 eggs. The
bird rose directly from the nest at a distance of a few yards.
The eggs were so completely covered with leaves that not one
of them could be seen until there covering was disturbed.
The nest was on a mound in the middle of a cluster of tall
blueberry bushes. *Herbert Holden afterwards told me that
this bird was killed on the west early in May, apparently
by a shot.*

Bonasa umbellus.

Ball's Hill, Concord, Mass.

1897. As William Brewster and I arrived at Ball's Hill, after June 22. our row down the river, we turned in to the landing and walked up to the cabin. Here we enjoyed an interesting spectacle. A Partridge with her covey of young had taken up her position close by in the grove of oaks not more than 6 or 8 feet from the left-hand front corner of the cabin, and we were close upon her ere she was aware. She uttered her whistle of alarm and immediately the young, which were about the size of Robins beat a hasty retreat, some running, some flying. The old bird at first disappeared behind the cabin, still whistling her warning. As we ran her to watch her movements, she suddenly turned about and, with extended ruff and wide-spread wings, she came to within about four feet of us, before she turned and in stumbling flight disappeared up the slope.

Walter Deane.

Bonasa umbellus

Concord, Mass.

1897. Spelman and I were out nearly the whole forenoon taking
Nov.10. a long tramp. ~~xxxx~~ We started three Partridges. ~~xxxx~~ One of
the Partridges was singularly tame. We heard it chickering
among some alders near the edge of Holden's meadow and soon
afterwards saw it walking slowly along shaking its ruffs (it
was a very large and fine cock) and jerking its head and neck
forward and down at each step in such a way as to make it ap-
pear lame. Apparently it did not like to fly because we were
in the opening between it and the woods but at length it
started out over the meadow and doubled back across the open-
ing 40 yards or so in advance of where we were standing.

Soon after dinner I flushed two Partridges together on
the knoll above this opening. One, a large cock and doubtless
the same bird seen this forenoon, flew up into a pine and when
approached took a second flight of only a few yards and a-
lighted again on a dead branch within plain sight and scarce
thirty yards from us.

One of the Partridges seen in Mrs. Barret's woods this
morning was also very tame rising from some bushes along a
wall and attempting to alight on the top of a stake after fly-
ing only a few yards but changing its mind it sped on into
some dense woods.

Bonasa umbellus.

Somerville, Mass.

1897. " On Thursday, Nov.18th, 1897, 10 A.M., my wife saw a
Nov.18. Ruffed Grouse on the fence between my house and my neighbor's.
The bird sat there for a moment or two and then flew over in-
to Norton's Grove about 150 feet away. This is authentic."

From a letter by William E.Wall, 14 Morgan St., Somer-
ville, Mass., dated Jan.22, 1898.

Bonasa umbellus.

Concord, Mass.

1898. I fear that Partridges will be scarce in my woods this March 17. spring. Thus far I have not seen a single bird. Behsen and Pat say that a large Hawk, which has been about all winter and which, from their description, must be a Red-tail, has killed all the birds. It is probably the old, old story - an innocent and useful "Hen Hawk" hunting the open meadows in pursuit of mice and conspicuous because of his habit of perching in isolated trees and a sneaking Goshawk keeping among the dense pines and picking off the Partridges one after another as they came out into the little sunny openings. It is certain that either a Hawk or an Owl killed the Partridge whose feathers I saw yesterday for I found chalky white excrement under the tree and the feathers had all been pulled out not bitten off as would have been the case had a Fox been the marauder. One fact, however, leads me to suspect that it was the work of an Owl viz. that the Partridge was killed either on or directly under her roost for the ground under the dense young pines where the feathers lay was thickly strewn with Partridge excrement.

Bonasa umbellus.

Concord, Mass.

Nest and eggs.

1898. In the latter part of the forenoon Bartlett and I found
May 7. a Partridge's nest with thirteen deep buff-colored eggs. It
was in Mrs. Bartlett's woods, only a few rods back from the old
apple orchard, within two or three yards of a dimly marked
foot path, and beautifully concealed under a matted platform
of broken-down bushes which, although leafless, were so dense
that the eggs could not be seen from above. Two of the eggs
were placed on the tops of the others. The bird left the nest
when we were about ten yards away and without flying made off
with a peculiar crouching gait - a sort of rapid crawling mo-
tion - crouching very low, trailing her wings, and uttering a
continous gruff whining sound - in short behaving as a hen
Partridge invariably does when surprised with a brood of young
but as I have never before seen one behave when leaving a nest
with eggs. She was in sight for thirty yards or more for the
cover was not at all dense being sparse, scrubby sprout growth
with no evergreens. The eggs did not look to be incubated.
Purdie and I passed along this path on April 30th.

Bonasa umbellus.

Barrett's Woods, Concord, Mass.

1898. I visited the Partridge's nest about 12.15 to-day and
May 24. was within three yards of it when, rising suddenly, she darted through the bushes head directly forward, and reeling from side to side, took the same direction that she did on the day when Mr. Brewster took some photographs of the nest. I looked into it and found the eggs unhatched and apparently in the same position as before.

May 25. I visited the nest again to-day in a drenching rain-storm. When I had got within five or six rods of it I began to pick my way to make my approach less noticeable to the bird, thinking that I might get nearer than I did yesterday before she left the nest. The plan worked well as I thought, but on getting within two or three feet of the nest and looking into it I found that a great change had taken place. Instead of the thirteen eggs which I expected to see I found thirteen shells, twelve in the nest and one outside, either knocked or dragged out by the birds. I rather think it was dragged out as it lay in the same direction that the old bird took when she left the nest. The shells all lay together, some of them being telescoped and fitting one into the other. The birds were evidently hatched between yesterday the 24th at 12.15 in the afternoon and 11 o'clock this morning.

Gilbert.

Bonasa umbellus.

Concord, Mass.

Hen and young.

1898. In the cluster of bushes just behind Ball's Hill we (Miss
June 10. M. and Miss A. Keyes and I) stumbled on a hen Partridge with
a brood of young which were of about the size of newly-hatched
chickens. They scattered in every direction some running,
others flying, all peeping in shrill feeble tones. The moth-
er meanwhile went through the usual performance. Her piteous
whining seemed to me to be almost exactly like that of a cold
and hungry puppy and both of my companions agreed that they
should never have suspected that the sound was made by a bird.
- June 21. I was surprised to hear two Partridges drumming at short'
regular intervals, one on the stone wall at the east end of
Ball's Hill, the other at the station at the north end of
Davis's swamp (this evening). I do not quite understand why
they should have started drumming again so late in the season
for the Ball's Hill bird, at least, has a brood of several
young several weeks old.
- June 24. As I was returning through Prescott's pines this morning
I came upon a hen Partridge which ran on ahead of me showing
herself conspicuously but making no vocal sound or other pecu-
liar demonstration. I followed her some distance into the
brush without succeeding in flushing her and finally decided
that she must have injured one of her wings so that she could
not fly. But a few minutes later, as I was watching a Painted

Bonasa umbellus.

Concord, Mass.

1898. Tortoise digging a hole for its eggs, I heard young Partridges
June 24. uttering their feeble chirping (tzee-tzee-e-e) from various
(No.2). parts of the bear oak thicket where I had first seen the old
bird, and presently she began answering them with a low, hen-
like cror-cror-cror (always just three notes). As I could
easily tell by these calls and answers the young quickly re-
joined their mother when the sounds all ceased.

There can be little doubt, I think, that this particular
hen Partridge had learned by experience that the old-estab-
lished trick of tumbling about on the ground with beating
wings and loud whining cries did not always deceive men who
are accustomed to the woods. In its place she had hit upon a
simpler, yet really cleverer, ruse by which I was completely
deceived.

Oct.4. A Partridge drumming at short, regular intervals on the
stone wall at the E.end of the hill at 2 P.M.

Oct.7. While going through the small piece of pine and oak woods
on the West Bedford shore opposite the cabin this forenoon I
heard a Partridge drum a dozen times or more. Gilbert and Mc-
Grath were with me and we were talking and trampling noisily
through the brush but we went entirely round the bird within
30 yards or less without silencing him. Finally I went di-
rectly to the spot whence the sound came and flushed him.

Bonasa umbellus.

Concord, Mass.

1898. His drumming place was unlike any I have seen before on per-
Oct.7. fectly level ground but on the very edge of an old sand bank
(No.2). overgrown with bushes. The ground on the edge of the bank
over a space about a foot square was worn smooth and hard but
there was no excrement or feathers. Probably this is not a
station that has been much used.

Oct.18. As I was returning to the river just before sunset (from
the Barrett farm) I came upon a Partridge in a wild apple tree
in an opening among some pines. When I first saw him he was
standing motionless on a dead branch with his neck and body
in line the neck appearing as long as the body.  I stopped
instantly hoping that he had not discovered me. Presently he
began to walk along the branch spreading his tail and erecting
and twitching his ruffs at every step. Walking along the
branches and hopping from one to another he went directly
through the main body of the tree top (which was dense and
bushy) and after I had lost sight of him I heard him fly. He
was a very large and old cock bird. Probably he was budding
before I disturbed him. I wish I could have seen him at it
but as it was I saw something new to me for his manner of
moving among the branches was unlike anything I have ever
before witnessed.

Bonasa umbellus.

Concord, Mass.

Eating Mushrooms.

1898. Went to the Barrett farm in the afternoon. A Partridge
Nov.9. was drumming there at short, regular intervals on the stone
wall in the run. Either this bird or another "dusts" almost
daily in an ant-hill near the wall. It is a common^{habit} of the
Partridge to resort to ant-hills for this purpose probably
because they afford almost the only clean, dry dirt that can
be found in the leaf-carpeted woods. Gilbert saw a Partridge
eating a mushroom yesterday and brought in the fragment. It
plainly showed the marks of the bird's bill but unfortunately
it was so mutilated that Miss Hosmer to whom Miss Keyes took
it for identification was only able to say that it was one of
the edible kinds.*

*Another and better specimen, afterwards
obtained by Gilbert in the same place and considered both by
him and by Miss Hosmer to be unquestionably the same species,
was identified by Miss Hosmer "at a meeting in Boston" as
Collybea maculata, an edible and "most delicious" kind of
mushroom.

Bonasa

Peterborough, New Hampshire.

1898. I started an old cock Partridge, July 11th, and heard
July 5 another drumming at short, regular intervals just before sun-
to
Aug.15. set on the evening of August 2nd. A local sportsman tells
me that it is by no means unusual to start fifty or even sev-
enty-five birds in a single day in autumn. Whether the form
found here is umbellus or togata I have, at present, no means
of determining.

Bonasa umbellus.

Concord, Mass.

1899. Partridges have more than one drumming place.

April 24. A Partridge was drumming this afternoon in the Barrett run and another in Prescott's pines near the road to the Green Field, both on stone walls. Gilbert heard a third in the Blakemore woods. I think that the bird in the Prescott's pines was the same that I heard yesterday at the north end of Davis's swamp (where the drumming stand is a small log) and I also believe that the Blakemore bird is the one we hear so frequently at the east end of Ball's Hill. In other words I think that each bird has two drumming stations.

Nest with 12 eggs.

May 8. I found a Partridge's nest with 12 fresh looking eggs in a patch of Huckleberry Bushes under a Red Pine on the north edge of the Barrett Run about 50 yards from the drumming wall and 40 yards from the site of the nest with 13 eggs which I photographed last year. We were thinning out birches and Mr. Libby cut down a large one that stood within 15 feet of the nest. As it fell the Partridge rose flying slowly almost like a Rail. The tree fell within a yard of the nest. We had been talking and cutting other trees close about the spot. May 1st I flushed a pair of Partridges within 60 yards of this nest. They rose together within four feet of one another. I started a male this morning about 100 yards from the

Bonasa umbellus.

Concord, Mass.

1899. nest. I have not heard a Partridge drum since April 28th al-
May 8. though I have been in their haunts daily and at all hours.

(2). Nest with 12 eggs.

May 10. Visited the Partridge's nest in the Barrett Run and found
it all right with no additional eggs. The bird rose at ten
yards distance, flew about 10 feet (she had to fly to get
clear of the huckleberry bushes) then dropped to the ground
and ran until out of sight crossing several spaces and moving
in a crouching position with her head close to the ground.
This behavior was so nearly similar to that of the bird that
had the nest with 13 eggs last season that I am satisfied
they are one and the same individual.

May 13. As I was crossing the opening beyond the swamp (near
Ball's Hill) I saw a hen Partridge perched on a little mound
under a pine in a crouching position. The ground over a space
of several yards around the mound was as smooth and open as a
well swept floor. I was less than twenty-five feet away and
the bird must have seen me as I approached. She did not move
until I stopped and put the glass on her when she began walk-
ing slowly off making the squirrel-like chickering sound and
when she got behind a tree she flew. I saw a cock Partridge
a few days ago do nearly the same the same thing but he was
standing rather erect and as still as a statue in an opening.

Bonasa umbellus.

Concord, Mass.

1899. In both instances the bird was only a few yards from dense
May 13. bushes.
(2).

Still drumming.

The Ball's Hill Partridge was again drumming all day long
May 21. on his stone wall and I heard the Davis Swamp bird drumming
steadily late in the afternoon. What has started them up
again? Is it the cool bracing weather or have their nests
been destroyed?

Nest apparently robbed.

To the Barrett farm in the afternoon. Visited the Par-
May 22. tridge's nest and found the bird absent and all the eggs gone.
No shells in or near the nest and no feathers or trace of any
struggle. It looks as if some person had robbed the nest.
The male Partridge was drumming on the stone wall hard by and
I heard the Ball's Hill and Davis Swamp birds drumming also.
As all three have been silent for a long time I cannot under-
stand this sudden revival of the drumming unless all have
lost their eggs.

Birds of Upper St. John.
Batchelder.

91. *Bonasa umbellus* (Linn.) Steph. RUFFED GROUSE. — Rather common at Fort Fairfield. At Grand Falls only a few were seen—in the hard woods.

Bull. N. O. O. 7, July, 1882, p. 151

Birds within Ten Miles of Point
de Monts, Can. Comeau & Merriam

78. *Bonasa umbella*. RUFFED GROUSE. — A resident, like the last, but not common. This appears to be the northern limit of the Grouse on the east coast, and I was unable to find any evidence of its presence lower down along the north shore of the Gulf.

Bull. N. O. O. 7, Oct. 1882, p. 238

The numbers of the Ruffed Grouse have been seriously diminished, but I notice that in those districts where they are most harrassed they have become exceedingly wary and cunning. I have also observed that among these birds the size of the brood has decreased, for instead of clutches of nine, ten, or a dozen, I now rarely find one-half that number.

The Eskimos assert that during the period of incubation the Ptarmigan cease to give off any scent by which they can be traced; and my experience leads me to think that our Ruffed Grouse possess the same peculiarity, else how could they so universally escape alike from furred and feathered foes, as they certainly do at this season.

Pictou Co. Nova Scotia.

James M^c Kibbey.

Auk 2. Jan. 1885. p. 39.

An Ornithologist's Summer in Labrador
M. Abbott Frazar.

Bonasa umbellus. The "Birch Partridge" is a well recognized bird all along the Labrador coast up to the most easterly point I reached, but seems to be not as common as the preceding species. The nearest I came to obtaining a specimen was seeing the tail of one tacked on the wall of a house at Esquimaux Point. It was of a very reddish brown color, very much more so than any I ever saw in Massachusetts or New Brunswick, or in any of the Boston markets.

O. & O. XII, Mar. 1887, p. 33.

Breeding Dates of Birds in Kings
County, N. S. Watson L. Bishop.

Ruffed Grouse (*Bonasa umbellus*). May 15,
18, 10. June 6.

O. & O. XIII, Mar. 1888 p. 45

A Collecting Trip-Dec. 1887.
John Ewart, Yarker, Ont. Can.

Ruffed Grouse. Common, said to have been
abundant before the fire.

O. & O. XIII. June. 1838 p. 94

Halifax Correspondence
May 30. 1889

On the 21st, I went up the
line after Ruffed Grouse, found one nest with
eight eggs, brought them home, put them
under a hen; she ate two eggs; I wrung her
neck, and that settled it. I wanted the young
to stuff.

June 2, 1889.

It "never rains, but it pours," hence, we
smile again. After killing the blasted hen,
mentioned in my last, (because I suspected on
her part "fowl play"), I found the two miss-
ing Grouse eggs in the straw, and now have
the original set of eight eggs complete.

O. & O. XIV. June. 1889 p. 93

Harry Austin.

Summer Birds of Sudbury, Ont.
A. H. Alberger.

300. Ruffed Grouse. Abundant. Breeds.

O. & O. XV, June, 1890, p. 87

Ornithological Trip to St. Bruno, P. Q.
May 25, 1885. E. D. Wintle, Montreal.

Ruffed Grouse. Flushed one.

O. & O. XI. May. 1886. p. 75

Summer Residents on South-west
Coast of Maine. T. H. Montgomery, Jr.

300. Ruffed Grouse. Saw three or four at
Boothbay, in the thickets.

O. and O. 15, Nov. 1890. p. 161

Fall Birds of Northern Maine.
F. H. Carpenter.

Ruffed Grouse (*Bonasa umbellus*). Only two
seen, and one of those was minus a tail, pre-
sented a queer spectacle.

O. & O. XII, Nov. 1887 p. 188

O. & O. VIII, Jan. 1883, p. 3
Notes from Carpenter 1883.

also an Albino
Ruffed Grouse showing entire light plum-
age, not pure white, but of a light cream
color throughout. Harry Merrill has a
specimen showing one or two white prima-
ries, but this is the only perfect Albino I
remember of being taken in this section.
It is a male and its ruffs, although quite
large are so near the shade of neck and
back as to be scarcely discernable at first
sight. It was taken at Danforth, Me., Nov.
10.

Summer Birds Tim Pond Me. by F. H. C.

Ruffed Grouse, (*Bonasa umbellus*). Common,
and lacked the wildness of those of same species
seen in the clearing.

O. & O. XI, Feb. 1886, p. 25.

Birds of Dead River Region, Me. F. H. C.

92. *Bonasa umbellus*, (Ruffed Grouse). This
species was very common about Tim and Seven
Ponds, and equally indifferent to the presence of
man as the preceding. My friend W. G. of Spring-
field, Mass., attempted to hook one by the under
mandible, from a flock sitting on a log by the
camp spring. Reeling up his line until but five
inches of leader hung from the tip of his rod, he
guided the barb under the beak of the wondering
Grouse and struck in approved Waltonian style.
His dainty nine ounce rod might be sufficient to
bring to creel the finny trout, but not to bag the
feathered Grouse. A whirr of wings and clicking of
reel followed the strike and the valiant fisherman
found himself "out" of three feet of "mist-
colored" leader and a Scarlet Ibis fly, while his
\$25 "hexagonal" would not have brought as
many cents at a Boston "uncle's" office. Friend
G. now hunts Maine grouse with his 12-bore
Parker.

O. & O. XI, Dec. 1886, p. 178

Maine (near Bangor)

Bonasa u. togata.

"I find surely that Ruffed Grouse will rise separately with considerable intervals of time between and find each other $\frac{1}{3}$ of a mile off in thick trees in the very darkest swamps. I started four in this way last week and found them all within a space of ten feet, two sitting side by side". (Manly Hardy in letter of Nov. 11. 1885)

Maine near Bangor

Bonasa umbellata togata

1888

With but 17 tail feathers.

Dec.

"I shot a Ruffed Grouse a few days ago that had only 17 tail feathers & seem had none. It was a little, dwarfed specimen". (Manly Hardy letter Dec. 28/88)

Shelburne, N. H. Aug. 8-29-1865. R. D.

Bonasa umbella. — Abundant on the mountains,

Bonasa umbella. — Aug. 17 Rye Beach, N. H. 1866.

Bonasa umbella. — July 25, 30; Aug. 12, 25 Rye Beach, N. H. 1872.
Wolfeboro, N. H. June. 18-1889..

Bonasa ♀ with young bro as Robins

Winter Birds of Webster, N. H. by Falco.

Ruffed Grouse, (*Bonasa umbellus*).

O. & O. X. Jan. 1885. p. 14

Summer Birds of Presidential Range,
White Mts. A. P. Chadbourne

3. *Bonasa umbellus*. RUFFED GROUSE.—Extends from the country at the base of the range to the tree limit. A female and brood of young found in the stunted birches near the Half-way House (altitude, 3840 feet) on July 26, 1884; and another brood was seen near the timber line on Mt. Adams on Sept. 2, 1884. Strange to say, none were seen by any of the party in 1886.

Auk, 4, April 1887. p. 103

Bds. Obs. in Franconia, N. H. June 11-21
'86, and June 4-Aug. 1, '87. W. Faxon

2. *Bonasa umbellus*. RUFFED GROUSE.—Common.

Auk, V. April, 1888. p. 151

Birds Obsvd. near Holderness, N. H.
June 4-12, '85, and 4-11, '86. W. Faxon

3. *Bonasa umbellus*. RUFFED GROUSE.—Very common.

Auk, V. April, 1888. p. 149

Notes on Birds observed at Franconia and Bethlehem, N. H., in July and
August, 1874.* By J. A. Allen.

1. *Bonasa umbellus*. Common.

Auk, V. April, 1888. p. 153

Birds Obs. at Bridgewater, N. H.
July 12-Sept. 4, 1883. F. H. Allen

Bonasa umbellus.—Common.

Auk, VI. Jan., 1889. p. 76

Bird Notes, Central N. H. Winter '91-92
J. H. Johnson

| Ruffed Grouse, not plenty.

O. & O. Vol. 17, May 1892 p. 72

Birds of Hillsboro Co. N. H. June 27, '92
Arthur M. Farmer, Amoskeag, N. H.

Ruffed Grouse, very common.

O. & O Vol. 17, Sept. 1892 p. 136

Winter Birds of the Southern Vermont. 1868.

Ruffed Grouse,

A. S. Johnson, Rydenville, Vt.

O. & O. X. Apr. 1835, p. 63

96. *Bonasa umbella*. E. Mass. 1885. Oct. 2¹² - 5⁸ (1885)
45. *Bonasa umbella*. Princeton & No. Rutland, Mass. June, 18 - 1886.

17. *Bonasa umbella* Nov. 8² E. Mass. 1886,
Winchendon, Mass. June, 1888.

12² - 15² - 16* - 17*

Bonasa umbella Mass. - near Cambridge.

1886 April 12^x - 19^x

Mass. (near Concord). 1887

1887

April 7¹ - 12² - 21*

May 12² - 21* - 23¹

June 2²* - 4²* - 6²* - 7*

July 7¹

Aug. 10¹

* drumming.

Bonasa umbella.

Mass. (near Cambridge).

1887

Oct. 4² 5³

Nov. 9¹

Dec. 14¹

1888

March 24² - ~~Apr. 5¹~~

Oct. 26¹ - 27¹ - Nov. 2¹ - 6² - 13¹ - 17¹⁰

Bonasa umbella

Mass. (near Cambridge).

1887

April 6³

Bonasa umbella.

Mass. (Martha's Vineyard)

Bonasa umbella

1887

Baldwin Coolidge tells A. P. Chadbourne that the Ruffed Grouse is found on Martha's Vineyard.

Mass. (Cape Cod)

Bonasa umbella

Eastward extension

1888

J. C. Cahoon tells that Ruffed Grouse are found as far east as Harwichport. He does not think they extend much further. None are found about Chatham or at East Brewster there being no suitable cover for them in the latter places.

Ashby, Mt Watatic, --- Signs of these species such as feathers, droppings and so forth were found at various places in the woods ^{from} near the summit of Mt Watatic to the lower valleys, but only two or three birds were seen. On June 28th Mr. ^{Hayden} ~~Prayer~~ heard a male drumming, and I started a female which was accompanied by a single young bird about as large as a Robin.

1888

Ruffed Grouse

S. W. Denton.

May 14. While walking along the path at the foot of Shullers hill a Ruffed Grouse flew up. After a moment's search I found the nest at the foot of a large maple tree within 10 ft of the path and its no way concealed, made of oak leaves and in the bottom a few feathers & 13 eggs. A fine set
 May 19. Tom Fitzgerald found a nest with 15 eggs
 May 20 " " " " " " 13 "

1893

Concord

Oct 25 Bonasa umbella Mass.

Nov. 6 Partridges were very scarce in this region in the autumn of 1891. In 1892 they were more numerous but did not get up to their usual numbers. This autumn they have been nearly if not quite as numerous as I have ever known them to be. They have increased steadily in numbers since the leaves fall as is usually the case. Now it is an easy matter to start 25 or 30 birds in a walk of three or four miles.

All that we killed in 1891 and the majority of those taken in 1892 were old birds. This year we have shot nothing but young. For the first time in three years also, we now find a number of birds together often four or five rising practically at once. The secret of the matter seems to be simply that for the first time in three seasons the Partridge has been generally successful in raising their young.

O. & O. VIII. Apr. 1883. p. 31

RUFFED GROUSE.—Last Summer I was riding through a rather low, swampy place, when I heard something clucking in the bushes. I went toward the bushes, when a Ruffed Grouse or Partridge ran past me, making her peculiar call to her chicks. I went on a little farther, and saw, coming towards me, nine or ten chicks, apparently just hatched. I stooped and put down my hand when one of the little fellows ran right into it. I carried it to the carriage to show to my companion, and when I went back I could have caught the whole brood in the same way, as they made no attempt to hide.—*T. Mills Clark, Southampton, Mass.*

Birds of Bristol County, Mass.
F. W. Andros.

Bonasa umbellus (Linn.), Ruffed Grouse.
Resident, common. Breeds.

O. & O. XII. Sept. 1887 p. 139

Bds. Obs. near Sheffield, Berkshire
Co., Mass. June 17-20, '88. W. Faxon

2. *Bonasa umbellus*. RUFFED GROUSE.—Common, especially on the mountain sides.

Birds Known to Pass Breeding Season
nr. Winchendon, Mass. Wm. Brewster

7. *Bonasa umbellus*.

Auk, V, Oct., 1888. p. 389

Bds. Obs. near Graylock Mt. Berkshire
Co. Mass. June 28-July 15. W. Faxon

2. *Bonasa umbellus*. RUFFED GROUSE.—Common in woods nearly to the summit of Graylock.*

Auk, VI. April, 1889. p. 90

* *Colinus virginianus* undoubtedly occurs at the base of the Saddle-Back range. I heard from trustworthy sources that a Quail's nest was found in the Notch, North Adams, during the season of 1888.

Ruffed Grouse in Snow.—From records in the snow I have come to the possibly trite conclusion that the Ruffed Grouse (*Bonasa umbellus*), when not scared from the ground, will often deliberately clamber to some stump, or other eminence, in order to get good wing-space below its body for the first stroke in flight. The awkwardness of a leap from the level I found beautifully illustrated upon a flat piece of fresh soft snow some three inches in depth. Here, at the bird's spring, its entire form from tip of tail just to the swell of the throat, and from tip to tip of both wings, had pressed a mould some inch or two deep. This mould measured eighteen inches long and twenty inches in spread. Even the primaries of both wings were perfectly distinct, struck hard and clean. At a distance of eleven inches in front of this wing-beat the primaries had again struck into the snow, an inch in depth, as the wings met below the bird's body on the second stroke. The tips of these marks at their deepest were, I think, about four inches apart, showing that the bird normally needs an air-space below the body of almost the wing's full length. On firm ground the legs might push to this height; but on soft snow this manner of departure could hardly have been premeditated. These observations were made at Beverly Farms, Mass.—REGINALD C. ROBBINS, *Boston, Mass.*

Auk, XVIII, April, 1901, pp. 190-1.

1901. Bonasa umbellus
 June 12. Lowceston, Mass.

In open mixed woods from 10 AM
 woods came suddenly on a Partridge
 with young. The old hen, a brown gray
 bird, resorted to the usual tactics
 gliding slowly over the ground with head &
 tail lowered. Body feathers close to the
 coverts falling over like a big mantle. Then
 a young one, making a peculiar whining
 like that of a young puppy and a country
 of low growling sounds something like
 those of an angry cat. Over when one
 of her young, which I had caught before
 she ran directly at me stepping less than
 a yard away to within a low blowing
 hiss very audible in quiet. After we
 had gone off a little way she checked
 her young with a hiss.
 Several times I walked with her
 the young although no larger than usual
 looked chickens about for several yards
 at a time. 7. Going to bring my flashlight
 on the first down & had under arms &
 ground from. I walked one of us had down
 close around it. Although we looked all
 the leaves that had fallen & it was
 waterless was about it for when I picked
 a brown one for it. When I took it
 up it began peeping & when I
 released it it ran off a few yards & then
 & had again. The following week that
 the day all birds properly

Genoa: Acornville Rd. 10-5-87
Yesterday morning as I was passing
under my back piazza a Ruffed
Grouse flew from the lattice above
the piazza, when it was evidently
gleaning Concord grapes. Do not
think rather a remarkable case.
Come & see me - Yrs. V. J. J.
Fred. A. Brooks



NOTHING BUT THE ADDRESS TO BE ON THIS SIDE.

Mr. William Brewster
Cambridge
Mass

Am. Field, XXIX, No. 8, Feb. 25, 1888, p. 176.

WHILE out riding on the afternoon of February 12 I went through a piece of woods. Within fifteen feet of the roadside was an old apple tree, and at some distance from it I discovered three ruffed grouse busily engaged eating the buds. I drove slowly till I came alongside of it and as they paid no attention to me I stopped and watched them. They, however, did not show any signs of being disturbed by my presence though I was so near as to be able to almost reach them with my whip. I sat and watched them a few minutes; then one flew away, another flew down to the ground and walked slowly away, while the other I scared away by striking at it with my whip. I never before saw ruffed grouse in this hunted-to-death region so tame as these.

Glastonbury, Conn.

ARTHUR E. DOUGLAS.

Birds of the Adirondack Region.
C. H. Merriam.

137. *Bonasa umbellus* (Linn.) Stephens. RUFFED GROUSE.—A common resident.

Bull. N. O. C. 6, Oct, 1881, p. 233

Notes on the Spring Migration of Birds in the
Northern Adirondacks [Axtell], New York [1901].
April 16. Occurring during the whole season.

Ruffed Grouse. Tolerably common.

E. A. Sterling, Brooklyn, Pa.

Auk, XIX, July, 1902, p. 298.

Notes on the Spring Migration of Birds in the
Northern Adirondacks [Axtell], New York [1901].
April 16 to June 12—

Many notes were kept concerning the doings and habits of the various birds, but they do not differ materially from records kept elsewhere and hence need not be mentioned. One unusual occurrence, however, was the evening drumming of a Ruffed Grouse during a period of some three weeks in May. Beginning each evening about nine o'clock, this energetic bird, at regular intervals, would sound the rolling, drum-like beat so characteristic of the species, often continuing its subdued love tattoo until late into the night.—E. A. STERLING, Brooklyn, Pa.

Auk, XIX, July, 1902, p. 300.

ALBINO RED SQUIRREL.—I have just mounted
a pure white Red Squirrel, shot near this place;
also mounted a Ruffed Grouse, about one-third
white, taken a short time ago.—*J. C. Cahoon,*
Taunton, Mass. **O. & O. X, Feb. 1885, p. 30.**

**Albinism and Melanism in North
American Birds, Ruthven Deane.**

A beautiful specimen of
B. umbellus was recently taken in West Bridgewater, Mass., its
plumage being white as the driven snow.

Bull. N. O. C. 1, April, 1876, p. 22

THE DRUMMING OF THE RUFFED GROUSE.

Am. Field, XXV., No. 18. May 1, 1886. p. 416.
ST. MARYS, PA.

EDITOR AMERICAN FIELD:—The pages of the AMERICAN FIELD always contain something interesting to me. I beg, however, to differ with Old Dominion in part at least regarding the above bird. The opportunities I have had during forty or more years to observe this bird are or have been such that I could hardly be mistaken as to its position while in the act of drumming. Instead of its being prone upon the log its body is stretched to its full extent and it stands as it would seem upon its toes. When about to commence it raises its head high and elevates its body so that its wings may not touch the log. Its first several motions are slow, with a very slight halt between the first and second stroke, but from that to the end the blows are quickened. I have often wondered how the bird could stay upon the log; it would seem as if the motions of its wings would raise its body upward and backward. I have often thought that it must have a grip upon the bark or moss to hold itself down, but I have never been able to convince myself that such was the case, nor am I satisfied that it is not so, and will leave that for others to discover.

I have noticed that the tune is not changed, whether the bird is drumming upon a sound log or a decayed one. If Old Dominion would see one of these birds drumming with its breast toward him, he would be convinced that the log would not suffer much. As regards the drumming season, I would say, it drums most in the Spring time, but I have heard it drum in every month of the year excepting December and January. I have heard it drum all hours of the night, particularly in rainy weather. Why it drums we will leave to the learned. I am fully convinced that the female does not drum, both from my own observation and the allegations of others; but I think Nature has fixed it so that the ruffed grouse must drum, the owl must hoot, the rooster must crow, and the robin and other birds must sing, and the woodpecker does his drumming with his bill upon a dry limb or sliver; it may be a love call or it may be a challenge; again it may be for amusement only, but at no time in my long watches have I ever seen a hen attracted by the drumming, and again I have seen the male birds drumming industriously when not over thirty yards apart, without any apparent disposition to fight.

I will not bother your readers with minute details. I never thought of appearing in the public press, but have been led by a desire to satisfy my own curiosity only, and I no doubt studied the bird more than I did the school book which, however, was a rare article here in those days, much more rare than the ruffed grouse, so that my chances of observation were in favor of the latter. But I don't want to go back to those old days; it might lead to evidence which would be self convicting in the eyes of some of the present-day sportsmen, who have perhaps never experienced the real pains of necessity or enjoyed a nice venison steak in June or July.

Now my dear friend, Old Dominion, may your light burn bright for many years yet, so that you may see to write us often, but don't go hunting on horseback as that is impracticable here about.

KEGGY.

Am. Field, XXIX., No. 3. Jan. 21, 1888. HUNTINGDON, PA.
p. 53.

EDITOR AMERICAN FIELD:—As I have spent many pleasant hours hunting the ruffed grouse, the articles from grouse hunters, that have appeared from time to time in your valuable paper, have been of great interest to me. In reading the articles on mountain grouse, in the AMERICAN FIELD of December 31, the writer says, "The ruffed grouse is as familiar to me as a barnyard fowl," and then goes on to make the erroneous statement that the sound in drumming is produced by the grouse beating his wings on a log. I am surprised that many old hunters are of this opinion. I have often crawled to within thirty feet of a drumming grouse and watched all his movements. Standing on a rock, stick or log, with body and head fully erect, he strikes his wings together, the stroke being forward and downward but never striking the object upon which he stands. The stroke, slow at first, is followed by a succession of quick quivering ones. After drumming, with feathers laid close to his body, he stands erect with every sense strained, listening for a return challenge.

There are many things to be learned before one can become a successful grouse hunter in the hills and mountains of Pennsylvania, as the weather and seasons of the year are factors to be studied as well as to know where and how to look for them, and to top all the hunter should be a good snap shot.

W. A. DEFORREST.

Am. Field, XXIX., No. 3. Jan. 21, 1888. JEFFERSON, TEXAS.
p. 53.

EDITOR AMERICAN FIELD:—Roxey Newton in your issue of December 31 comes to the front in a very good article on the grouse family, but, alas, I fear Roxey has not seen a ruffed grouse for a long time. He says: "His thump, thump, thump, etc., is done exclusively with his wings by beating upon a log." When quite a boy I have often crawled within a few yards and watched Mr. Grouse on his log and have never seen one strike the log with the wing; I have seen them drum on the ground and while perched on a limb and the same noise is always produced. They may thump the log in Idaho but they never did in Missouri, Illinois or Arkansas. I have shot them in the above-named states. I am very sorry to say there are none in this great state of Texas.

We have very fine quail shooting in this state, especially the eastern and southern portions. At this point there is the finest duck shooting to be found anywhere in the state, away from the coast. We are cursed here as elsewhere with the pot-hunter, but his days are numbered and I think they are very few. I intend to report the first duck hunt of the season, that brother sportsmen may know something of a good day's sport in Texas. With a Winchester shotgun and plenty of shells loaded by the company for ducks, stationed at points near this place on the lake, many would say they never knew what sport was before.

RANGER.

Am. Field. XXIX, No. 8, Feb. 25, 1888. p. 176.

THE DRUMMING OF RUFFED GROUSE.—North Bridgton, Me.—*Editor American Field*.—I was much interested in Roxey Newton's article on the drumming of the ruffed grouse. I have given the subject some study and now, although I have many times witnessed the performance, and more than once have laid concealed so near the bird at such times that I could have touched him with a yard-stick (I lay no claim to Indian blood) I acknowledge that I know no more about it than before. The beating of their wings is so very rapid that I do not believe any man is favored with eyes sharp enough to distinguish whether the bird beats its sides, the log, or neither. However, if my reputation was at stake on the subject I should incline to the belief that the drumming was caused by the vibration of the wings through the air. Now can a grouse stand erect and beat the log with anything more than the tips of his wings? I think not, and such being the case I do not think the noise would be noticeable were it not supplemented by other means. Notice the "buzz" of a humming bird's wings as it pauses in its flight, were they as large as grouse, could they not do a respectable job at drumming without beating either their body or a log? When you have had one or more loons fly over you, high in air, has it never occurred to you that, were their wings moving with the velocity of a "buzz saw," they would discount the drumming of a grouse? I will not say grouse do not beat upon logs with their wings but I believe it is only done accidentally. Any one who has noticed how quickly a bird in confinement will wear away its primaries in beating against the sides of its cage can hardly believe it can rapidly thump them against a log for several minutes daily and have any wings left. In my collection I have a male ruffed grouse which I shot from a September drumming log, and even the tips of its wing feathers show no abrasion.

LONG LAKE.

DRUMMING OF THE RUFFED GROUSE

Am. Field. XXIX, No. 11. — March 17, 1888. pp. 246, 247.
NASHVILLE, TENN.

EDITOR AMERICAN FIELD:—I have had some experience with the ruffed grouse, and have been interested in the recent letters in the AMERICAN FIELD on the subject of the peculiar noise made by them while drumming. This noise is usually made while the bird is standing upon a log, but the log has nothing whatever to do with the sound produced. The bird while drumming assumes an upright position and droops his wings until the flight feathers almost, or quite, touch the log, or other perch, on which he stands. He then, by an intense muscular effort, makes quick, spasmodic beats with his wings. In doing this, the ends of the wing feathers may, and perhaps sometimes do, touch the log; but it is the intense quiver of the flight feathers, as they come in contact with the still air, in the short and intensely rapid beats that produce the soft, yet powerful and far-reaching sound. No impact of a feather, or feathers, with a solid substance—especially a moss covered log, could ever make a sound capable of being heard for a quarter of a mile. The air seems to be filled with the sound, soft as it is, and it seems to come to you from every direction so that it requires a quick and practiced ear to locate it correctly. This is proof positive that it is produced by vibratory action in the air and not by the impact of two solid substances.

At times I have been absolutely nonplussed in efforts to locate the bird. On one occasion, thirty years ago, I was one of a party of college students rambling in the mountains of Western Virginia. It was a still, hazy afternoon in the Fall of the year—a typical day of the Indian Summer. Two of us had separated from the party and were making the ascent of a lofty spur of the mountains in order to enjoy the scenery. About midway we sat down to rest by the foot

of an old willow tree. While there we each heard for the first time the mysterious sound. We had no idea what it was and supposed, for a time, that it proceeded from the hollow tree by which we were seated. We were making an investigation, when my friend called my attention to a large bird standing on a log a short distance away. I knew at once that it was a "drumming pheasant" (ruffed grouse). On descending, and again joining our companions near the foot of the mountain, we again heard the peculiar sound, when there arose quite a discussion as to the direction from which it came. All the party, except myself, contended it came from a direction exactly opposite from the true one, when I demonstrated to them the advantage of having a huntsman's ear by going straight to the bird and locating him on a log some hundred and fifty yards distant. The sound begins with a measured beat and winds up with a more rapid stroke—thus, fuff—fuff—fuff-fuff, fuff fuff.

The turkey gobbler makes a sound, while strutting, that is perhaps as little understood as that made by the ruffed grouse. I do not think I ever saw a man who did not think, if he thought about it at all, that the roaring noise—the bur-r-r-up, made by a gobbler while strutting—was produced by his wings. Many think it is produced when he drags his wings on the ground, but this is not true; neither is it produced by his wings at all, but by his tail. I first discovered and satisfied myself thoroughly on this point a few weeks ago, during the session of the poultry show, at Nashville, where I had better opportunities for observation than were ever afforded to me before. Every hunter who has enjoyed that sport of sports, wild gobbler hunting, in the gobbling season, is familiar with this sound. Many and many a time has it made my blood tingle as it announced the slow and stately approach of a grand old bird that I was luring to his death. Until recently I had been of the opinion it was produced by the intense quiver of the flight feathers of the wing. One can see in a few minutes' observation of a tame turkey cock, while strutting, that it is not produced by dragging the wings upon the ground.

This sound is produced after the wings have been raised from the ground, and while they are apparently stationary, and the gobbler standing still. It will be seen that the turkey droops his wings and drags them on the ground while he takes a few steps, his wings in dragging on the ground producing very little sound. Then he will stop, raise his wings slightly from the ground and then you will hear the roaring sound, and as it ends you will observe a perceptible jerk of the body produced by releasing certain muscles after a powerful contraction. The powerful contraction of the muscles referred to produces an intense quiver of the long feathers of the tail which are erect and spread like a fan at the time.

It is this intense quiver of the tail feathers that produces the roaring or buzzing sound. Any one can satisfy himself of this by putting an old gobbler in a large coop on a level with the observer's head and watching the motions of the bird while strutting.

H. E. JONES.

DRUMMING OF THE RUFFED GROUSE.

Am. Field. XXIX., No. 12. — March 24, 1888. p. 271.
DOVER, N. H.

EDITOR AMERICAN FIELD:—I beg leave to differ with your correspondent, Roxey Newton, when he intimates that the ruffed grouse selects only a log for the purpose of drumming. When a boy, living in the country, my father owned a pasture situated about forty rods from the house in which was a never-failing spring of water, that came from under a moss-covered rock, and in dry seasons supplied the neighborhood with water and was known as "drum rock spring." As ruffed grouse were so often known to drum upon this rock. Many a time I have waited beside a stone wall a few rods away to watch them drum; I have seen one light on this rock turn around several times, seemingly to find out which way the wind was (for they always face the wind when drumming), then would throw back his head, raise his wings high as possible and commence drumming rapidly. I never saw one walk or touch his wings to the rock or log on which he was standing while in the act of drumming.

OLD BART.

OTTAWA, CAN.

EDITOR AMERICAN FIELD:—I fully agree with two or three of your correspondents as to the position of the ruffed grouse when drumming, which is erect. The sound could no more be produced by the end of the bird's wings striking the log, than a sportsman could kill a canvas-back with a bayonet, when the bird is flying fifty yards off at the rate of ninety miles an hour. Any one who has heard the sound made by the humming-bird, can get at the secret of the ruffed grouse's drumming. I have seen the bird at his work; and I am quite certain that the sound is produced by the rapid contact of the wings with the atmosphere. After the first three or four claps, the wings move so rapidly that the bird has the appearance of a large top spinning in its swiftest motion.

ALGONQUIN.

WASHINGTON, D. C.

EDITOR AMERICAN FIELD:—If I were to speak to the point of order, I should say: "Boys, what's the use of argifying? How does the bee buzz or the humming bird hum? or the night-hawk make his whirring sound? Is it not by the vibration of the wings alone? If a speaker gets on to a stump and hollers, what has the stump got to do with it? and what has the log to do with the drumming of the ruffed grouse?" If those who have waxed warm in the interest of this discussion will just stop to think, they will recall a great variety of birds which unite sounds by the vibration of the wings; if not, all they have to do when next afield is to jot them down.

CHARLES HALLOCK.

THE DRUMMING OF THE RUFFED GROUSE.

Am. Field. XXIX., No. 13. — March 31, 1888. p. 295.
PENZA, OHIO.

EDITOR AMERICAN FIELD:—I see that the ruffed grouse is again drumming in the AMERICAN FIELD, in all the latest and improved styles. The varied opinions of writers on this subject show how seldom two men can see, hear, and understand alike. I have only seen two ruffed grouse in the act of drumming, but as they are all supposed to go through the same motions, I will base my opinions on what I saw on those occasions. One I watched with a field glass at a distance at which he was largely magnified, and the other with the naked eye. According to my opinion the bird can drum on anything that will give him a foot-hold; that he seldom if ever moves out of his tracks between drumming times; that the wings never touch the log, stone or whatever substance he may be standing on; that the wings do not strike the body of the bird; and lastly that I don't know all about what causes the sound. I feel satisfied though that the incoming waves of displaced air have a great deal to do with it.

There are two peculiarities attached to this bird that I have never seen mention of. One is the silent manner in which they sometimes get up and fly off, contrasting so strongly with the usual "whirr." I have often known them to fly off as silently as an owl, when I would be trying to get up to them while they were drumming, and when approaching along the line of flight of a bird that had been recently flushed, and marked down. I have seen them fly off without a sound fifty and seventy-five yards ahead. They will often do this if they hear a word spoken. I have known them to take this noiseless flight out of trees also.

The other peculiar habit is the one which very clearly explains the injured wing feathers. The wing feathers are injured by the old cocks drumming *a la* turkey gobbler. This is a sight seldom seen twice in a life time, and once seen is never forgotten. The position and motions are identical with those of the turkey. The bird never drums in this manner except in company with several hens. This, and the fact that little or no sound is made makes the chances small of ever seeing a bird in the act. It was several years ago that fortune favored me with the rare and novel sight, but I can close my eyes now and see it just as plain as I did then. It was before I was allowed the possession of a gun, so there was nothing for me to do but to keep quiet and look on. It was in the Winter, and the birds were on the ice on the south side of a swamp, in the sunshine. There were five or six in sight, and one old cock was strutting around among the others, with tail expanded and head thrown back, and his wings dragging on the ice. I have often since seen where they had been drumming in like manner in the snow, and I have no doubt others will remember having seen wing marks in the snow.

E. TULLY.

CHETOPA, KAN.

EDITOR AMERICAN FIELD:—Allow me to have my little say in regard to the drumming of the ruffed grouse. He stands erect, and with wings about one-half opened he beats his breast (which is inflated with air) with the butt or joint of wings, which produces the sound called drumming. Catch a turkey gobbler, stand him up and strike him on the breast with the hand and you will produce about the same sound.

A. A. CASE.

DRUMMING OF THE RUFFED GROUSE.

Am. Field. XXIX., No. 16. — April 21, 1888. p. 366.
FRUITLAND, W. T.

EDITOR AMERICAN FIELD:—A few years ago, while looking after a miner's ditch in the solitude of the mountain forests on the Upper Clear Water River, I happened to get hold of a work on natural history; and as the ruffed grouse were very plentiful, their habits, as set forth by the author, attracted attention.

It was in the Spring of the year, and they were drumming continually on all sides of me. I could not believe the vibration that set the still air in a tremble about my ears was made by the tapping of the wings upon logs, or upon anything more solid than a drum head. My curiosity was aroused, and as the opportunity was at hand I determined to settle the question as to how the drumming was done. Every day an old cock clucked at me as he jumped from an old log and started behind the thick little firs, with his ruffed neck nodding as he stepped proudly away. That log was his drumming place, and I soon found the exact section he occupied. No longer would I let that bird puzzle me. I selected a place with perfect cover as a blind, and with my ax trimmed out the brush so that I could have an unobstructed view of his resort. The next morning, armed with a Berdan rifle telescope, I was in my blind, with the glass arranged on rests, when the shy bird came noiselessly to his sacred bower to sing his matin song. He stood still and upright for a long time, as if intently listening. He puffed up his neck as large as his body; he raised the black tuft of feathers on his neck, showing a wind bag light as a drum-head; then he thumped the sac as if to test the tension of the drum, and then: thump—thump—thump—thump—thump—thump, faster and faster, till his wings were a blue blur to look upon, and the sound was a rumble like the hum of a bee on a large scale. In the interim he would smooth his feathers, and listen for an answer from some charmed female, or the challenge of the enemy. I watched him till I was positive as to how the noise was made. It is made beating upon the inflated neck of the bird, by the butts of the wings, as a boy would beat upon a drum, both ends at once. I then killed the bird, examined the wind bag, and blew it up like a bladder.

My glass was thirty inches long, and so powerful that I could see a .45-caliber bullet-hole in white paper at a distance of one thousand three hundred yards. You can form an idea how distinctly I could see every motion of the grouse. I could see him wink. Every member of the grouse family makes his call or hoot, or whatever it is, by inflating the neck. The ruffed grouse is no exception.

L. P. WILMOT.

DRUMMING OF THE RUFFED GROUSE.

Am. Field. XXIX., No. 22. June 2, 1888. p. 611.
DYSART, PA.

EDITOR AMERICAN FIELD:—Having been a constant reader of your valuable paper for some time, I could not help noticing the differences of opinion as to the mode by which the ruffed grouse produces his peculiar drumming sound. As a sportsman, I can safely say that your correspondent, Roxey Newton, is completely wrong. I crept up where one was drumming, and, as I was only five paces off from him, I can safely assert in what way it was done. He stood erect on the log, and crosswise, looked about a bit and as he did not see me (I was behind a large root) he began. One! two! three times, then he paused, looked around again, and with head erect and chest expanded, how he did make those wings go, but he never touched the log with them. He drummed at least twenty times while I was there, and never once did he walk around, excepting he turned once clean around, shook his feathers, gave a couple of coos and began drumming again. He kept that up until about five o'clock, when the old hen came up, and with tail expanded and wings dragging on the ground, not much unlike a turkey gobbler, he started off with his mate in quest of food. I fully agree with all that T. G. Sargent says and hope to hear often from such men. If no fire comes through the mountain to destroy the nests there will be a large quantity of ruffed grouse, or pheasants, as they are called here.

WILLIE F. PIERSON.

CHETOPA, KAN.

EDITOR AMERICAN FIELD:—A few weeks ago I sent you a short article in regard to the drumming of the ruffed grouse, not thinking for a moment of the improvements which might have been made, since I last heard them thirty years ago, in Ontario County, New York. It certainly must be a decided advantage and a great relief to the bird, to produce the same sound by striking with its wings into the air rather than to pound its body with the same when drumming. What a stupid fellow our barnyard fowl must be that he don't catch on to some of the late improvements, and instead of beating his body with his wings, as a signal that he is about to crow, that he does not strike them out into the air. It would be less exertion, more graceful, less wear and tear. It appears to me that a bird would last much longer, under the late discovery of vibration, than in the old-fashioned way of thumping the very life out of his own body to gratify his desire to make a noise, when the same could be accomplished by vibration. As to the humming bird and the bee, their machinery is too fine for me to tackle. I look every day to see the small boy cast his drum aside and to play his little tune along the streets with drumsticks only, just vibration. Certainly this is a fast age.

A. A. CASE.

MOTTVILLE, N. Y.

EDITOR AMERICAN FIELD:—I wish to add my testimony in the ruffed grouse case. Many times when a boy, I have sat within ten or twelve feet of an old moss-covered log, and have watched the cock partridge strut to and fro, drumming the air, and challenging his rivals to come and try him on. I am sure no sound could come from the log, for it was soft as a bank of earth. I have watched to the best of my ability, but could never fully determine how the partridge made so much noise, although I fancied he did it by rapping the backs of his wings together.

F. A. S.

DRUMMING OF THE RUFFED GROUSE.

Am. Field, XXIX., No. 18. May 5, 1888. p. 414.

WASHINGTON, D. C.

EDITOR AMERICAN FIELD:—I am truly gratified to note that some of your more recent correspondents are getting down toward a common sense view of the drumming of the ruffed grouse, for really the explanations of some of your earlier correspondents upon this subject were so at variance with my experience that I have hesitated to cross lances with them. I have grown a little bolder and now ask permission to dip my spoon in the soup. I do not claim to know it all, but I am no novice, having been hunting more than thirty-five years, and in twenty-eight states and some territories of this country. I have hunted every game animal from the squirrel to the buffalo, as well as every game bird from the reed bird to the wild turkey, the noblest, gamiest and wariest bird that runs the woods.

I have hunted the ruffed grouse from boyhood, and have rambled the woods with my father in quest of them, and have run with boyish glee to retrieve them when he would score a kill. I have shot them on the wing, in trees while eating buds and berries, and on their drumming logs. I have spent hours trying to determine their course and distance when I would hear the wonderfully deceiving fuff—fuff-fuff. Some times it would seem like it might be several hundred yards away, when, suddenly, the bird would spring from his log not twenty yards distant and, with his peculiar “cluck,” pass in an instant out of sight and away from shot, into the tangled mass of brush and vines with which the drumming log is usually surrounded. The fact of his being scared from his log once or twice does not cause him to abandon it; he is quite certain to be there the next day. A number of times in my life I have taken advantage of this knowledge and prepared a way of approach by which I crawled within shooting distance next day, and bagged the game. In this way I have crept up to within less than one rod of two—only two—and with breathless silence and stillness, watched their every movement while drumming. From this experience I believe I can state it as a fact that they do not drum on the log, nor do they drum on their breasts—that is, the fuffing sound is not produced by their wings striking the log or the breast, nor is it produced in the throat of the bird. Do not be startled, gentle sportsman, at this assertion, if it is at variance with so many opinions heretofore expressed in the AMERICAN FIELD. My experience is, and I know whereof I speak when I say it, the bird, when drumming, stands squarely erect, head up, and gamy appearance, and the sound is produced by the immeasurably rapid vibrations or oscillations of the wings, which causes a concurrent vibration or concussion of the air. This produces the drumming, fuffing sound, and the whole story is told.

In drumming, the bird no more beats his breast with his wings than he does when, scared, he springs from his log and takes his flight. At the moment he takes wing the same vibration and concussion in the air and, consequently, the same sound, is produced. It is recognized in the rise of the quail and the pinnated grouse as well. The humming bird, darting from one flower to another with the rapidity of an arrow, as he stops to extract their sweets, produces, in miniature, the drumming sound of the ruffed grouse. Who dares to assert that the little fellow is pounding his breast with his wings to produce the sound? No, it is simply the effects of the incalculably rapid movement of his wings and the consequent vibration and concussion of the atmosphere. The same sound is produced, in a measure, by the violent rotary motion of the old grandmamma's spinning wheel, and the boy swinging his paddle toy, with the string, rapidly round his head.

Where a bird depends almost wholly upon its wings for safety from danger, as the ruffed grouse does, nature certainly would not implant in him a disposition to disable them by pounding on a log and thus jeopardizing his life when the enemy comes. I have killed quite a number of them in days gone by and never yet saw one with wing feathers injured by strutting or drumming. JACKALO.

PITTSBURGH, PA.

EDITOR AMERICAN FIELD:—Although the subject of the drumming of the ruffed grouse has, perhaps, been about as exhaustively treated of as any in your columns, are we any nearer a correct solution? I believe we had better compromise the matter by admitting that they drum in a variety of ways.

I remember well on one occasion, I carefully watched a ruffed grouse drumming as he stood upon a huge rock, and from my close proximity to the bird I noticed that while the wings moved with wonderful rapidity, they did not touch the rock, being clear of the latter by about two inches, in their movements. On another occasion, while resting in a deep ravine, I was afforded an opportunity of seeing this very interesting operation performed upon a log, and in this case I am equally certain he beat the log with his wings.

Such being the case is it really safe to lay down any fixed rule with regard to this bird's drumming? I think not; for from what I have seen of them in their native haunts, I am forced to believe that, like man, they adapt themselves to circumstances, and can drum in a variety of ways. I admit it seems hard to believe that such is a fact, but I can see no other way out of the mire. C. A. R.

WATERBURY, CONN.

EDITOR AMERICAN FIELD:—Your numerous readers hereabouts have been much interested in the discussion now going on over the “drumming of the ruffed grouse.” In a conversation among several of us a day or two since on the subject, one or two of the party declared that they had seen the bird in the act of “drumming,” that the position was erect, and that the motion of the wings was very rapid. In response to a volley of questions as to how the sound was produced, neither of them gave very definite replies at first; but one of them, finally, brought down the house by declaring that his firm belief was that the wings did not strike on anything—unless it was on an “empty stomach.” This is offered as a possible solution of the mystery. MAHAUWE.

How the Ruffed Grouse Drums.

ED. "TOWN AND COUNTRY:"

In the February number of "Town and Country," you have an interesting article upon the Ruffed Grouse. I am a great admirer of this bird and have studied its habits thoroughly. In a heavy growth of hemlock timber with thick underbrush they seem to abound most commonly. Though they visit the hard timber, being very fond of the swelled buds of the yellow birch. In drumming they usually select the trunk of a fallen hemlock lying nearly horizontally, though I cannot see why any other log or even a stone or knoll would not answer the same purpose. They take the same exact spot each day, facing the same way, as is indicated by the smoothness of the worn bark, and the droppings, which are more regular than if dropped from a perch above. They drum for a while in the early part of the morning, then again the latter part of the day; during the middle of the day I cleared a pathway and protected with boughs any exposed portion of the path that I might approach them noiselessly and unseen. I have watched them in close proximity and from each quarter, time and again, and I can assure you they neither strike the log nor their own bodies. While performing this exercise they stand erect from head to feet with wings slightly extended. In this position the stroke of the wings is forward, never downward; being very concave they are brought around opposite each other by a quick movement; the sound is produced by the concussion on the air, which may be described as a hollow "puff, puff, puff." At a distance of forty rods away the sound is much more distinct, than it is a short distance off. Were this sound produced either by striking the wings to the log, or the bird's body, or by meeting each other, the sound could be better described by the word "thump" or "flap" than as above, and would be more distinct near, than a short distance away. If disturbed many times they will desert their log and take another, and if often disturbed they have no fixed place but will drum where they may happen to be.

M. M. WRIGHT.

Saratoga Springs, N. Y.

Y. & C. Mch. 1879

that Afognak (or Litnik) River, is admirably adapted to salmon hatching, being near a safe harbor in a region where skilled labor is cheap, abounding with fairly good timber, and visited by salmon and trout in large numbers. Moreover, the river is not subject to great changes of level and will furnish ample supply of water by gravity.

The President, at the suggestion of the Interior Department and the Fish Commission, has by a stroke of his pen effected an object, the importance of which cannot easily be over-estimated.

FAMILIAR ACQUAINTANCES.

THE RUFFED GROUSE.

The woods in the older parts of our country possess scarcely a trait of the primeval forest. The oldest trees have a comparatively youthful appearance, and are pigmies in girth beside the decaying stumps of their giant ancestors. They are not so shagged with moss nor so scaled with lichens. The forest floor has lost its ancient carpet of ankle-deep moss and the intricate maze of fallen trees in every stage of decay, and looks clean-swept and bare. The tangle of undergrowth is gone, many of the species which composed it having quite disappeared, as have many of the animals that flourished in the perennial shade of the old woods.

If in their season one sees and hears more birds among their lower interlaced branches, he is not likely to catch sight or sound of many of the denizens of the old wilderness. No startled deer bounds away before him nor bear shuffles awkwardly from his feast of mast at one's approach, nor does one's flesh creep at the howl of the gathering wolves or the panther's scream or the rustle of his stealthy footsteps.

But as you saunter on your devious way you may hear a rustle of quick feet in the dry leaves before you, and a sharp, insistent cry, a succession of short, high-pitched clucks running into and again out of a querulous "ker-r-r-r," all expressing warning as much as alarm. Your ears guide your eyes to the exact point from which the sounds apparently come, but if they are not keen and well trained, they fail to detach any animate form from the inanimate dun and gray of dead leaves and underbrush.

With startling suddenness out of the monotony of lifeless color in an eddying flurry of dead leaves, fanned to erratic flight by his wing-beats, the ruffed grouse bursts into view in full flight with the first strokes of his thundering pinions, and you have a brief vision of untamed nature as it was in the old days. On either side of the vanishing brown nebula the ancient mossed and lichened trunks rear themselves again, above it their lofty ramage veils the sky, beneath it lie the deep, noiseless cushion of moss, shrubs and plants that the old wood-rangers knew and the moose browsed on and the tangled trunks of fallen trees. You almost fancy that you hear the long-ago silenced voices of the woods, so vividly does this wild spirit for an instant conjure up before you a vision of the old wild world whereof he is a survival.

Acquaintance with civilized man has not tamed him, but made him the wilder. He deigns to feed upon your apple tree buds and buckwheat and woodside clover, not as a gift, but a begrudged compensation for what you have taken from him, and gives you therefor not even the thanks of familiarity, and notwithstanding his acquaintance with generations of your race he will not suffer you to come so near to him as he would your grandfather.

If, when the leaves are falling, you find him in your barnyard, garden or out-house, or on your porch, do not think he has any intention of associating with you or your plebian poultry. You can only wonder where he found refuge from the painted shower when all his world was wooded.

If he invites your attendance at his drum solo it is only to fool you with the sight of an empty stage, for you must be as stealthy and keen-eyed as a lynx if you see his proud display of distended ruff and wide spread of barred tail and accelerated beat of wings that mimic thunder, or see even the leafy curtain of his stage flutter in the wind of his swift exit.

How the definite recognition of his motionless form evades you, so perfectly are his colors merged into those of his environment, whether it be in the flush greenness of summer, the painted hues of autumn or its later faded dun and gray, or in the whiteness of winter. Among one or the other he is but a clot of dead leaves, a knot upon a

branch, the gray stump of a sapling protruding from the snow, or covered deep in the unmarked whiteness, he bursts from it like a mine exploded at your feet, leaving you agape till he has vanished from your sight and your ears have caught the last flick of his wings against the dry branches.

In May, his mate sits on her nest, indistinguishable among the brown leaves and gray branches about herself. Later when you surprise her with her brood, how conspicuous she makes herself, fluttering and staggering along the ground, while her callow chicks, old in cunning though so lately their eyes first beheld the world, scattering in every direction like a shattered globule of quicksilver and magically disappearing where there is no apparent hiding-place.

Did they con the first lesson of safety in the dark chamber of the egg, or absorb it with the warmth of the brooding breast that gave them life?

Listen, and out of the silence which follows the noisy dispersion of the family you will hear the low sibilant voice of the mother calling her children to her or cautioning them to continued hiding, and perhaps you may see her alertly skulking among the underbrush still uttering that tender, persuasive cry, so faint that the chirp of a cricket might overbear it.

Scatter her brood when the members are half grown and almost as strong of wing as herself, and you presently hear her softly calling them and assuring them of her continued care.

With many other things that make you aware of the changing season, you note the dispersion of this wildwood family. Each member is now shifting for itself in matters of seeking food, safety, pleasure and comfort.

You will come upon one in the ferny undergrowth of the lowland woods where he is consorting with woodcock, frighten another from his feast on the fenceside elderberries, scare one in the thick shadows of the evergreens, another on the sparsely wooded steep of a rocky hillside, and later hear the drum beat of a young cock that the soft Indian summer has fooled into springtime love-making, and each has the alertness that complete self-dependence has enforced.

Still, you may come upon them gathered in social groups, yet each going his own way when flushed. Upon rare occasions you may surprise a grand convention of all the grouse of the region congregated on the sunny lee of a hillside.

It is a sight and sound to remember long, though for the moment you forget the gun in your hands, when by ones, twos and dozens the dusky forms burst away up wind, down wind, across wind, signalling their departure with volleys of intermittent and continuous thunder. Not many times in your life will you see this, yet if but once, you will be thankful that you have not outlived all the old world's wildness.

Natural History.
The Ruffed Grouse.

much smaller, and about eight or ten inches may be taken as the average length.

The trepang, when prepared for market, is an ugly looking, brown colored substance, very hard and rigid, and can be eaten only after being softened by water and a lengthened process of cooking, when it is reduced to a sort of thick soup by the Chinese, who are very fond of it; and when cooked by a Chinaman who understands the art, it makes an excellent dish which the Europeans at Manila regard very highly.

The preparation of the trepang for market is very simple. They are to be boiled in water, either salt or fresh, for about twenty minutes, and then slit open, cleaned and dried. Those dried in the open air or sunshine bring a higher price than those dried over a wood fire, which latter is the usual process adopted by the Malays. Some varieties require boiling for only a few minutes, or till they become firm to the touch. They must be dried thoroughly, as they absorb moisture readily, and are then liable to become moldy and spoil.

No one has yet attempted this fishing in the North Pacific, although trepangs abound in the waters along the northwestern coast of America, particularly in the region of the Queen Charlotte Islands and the Alexander Islands of Alaska, as well as on the west coast of Vancouver Island. Some time ago an Indian brought me two good specimens, which he had caught at low tide near the end of the mill wharf at Point Hudson. I showed them to several Chinamen, who at once pronounced them to be the best quality of "whetong," one of the Chinese names for the trepang.

When properly cured they are a valuable food product, and will sell in Canton for about forty-five dollars per ton. This indicates that there may be a deal of money in the business, if rightly conducted, as a cargo of a hundred tons could easily be cured at some place in a few months with a sufficient force of Indians to collect them. The cost is simply to gather the trepangs at low tide, or have the Indians do so, and then have them properly dried, which is an easy process, though one requiring some care and skill. A few inexpensive experiments will enable one to ascertain the correct way of preparing these slugs, which will be likely to find a ready and lucrative sale to the Chinese merchants.—JAMES G. SWAN, in the Bulletin of the U. S. Fish Commission.

MASCALONGE FISHING WITH LIGHT TACKLE.—St. Paul, Minn.—*Editor American Field*:—A gentleman of my acquaintance recently gave me an account of a long and very exciting fight he had with a sixteen-pound mascalonge which he had hooked when fishing for bass. His tackle consisted of a light eight-ounce rod and very thin silk line, while his hook was baited with a large minnow, about five inches long. The fish after being hooked sprang out of the water like a salmon, showing its whole form above the surface of the water. It made fierce dashes and would run the line out forty or fifty yards, although the angler constantly kept a firm pressure on the reel. Finally, after a constant warfare for thirty or thirty-five minutes, the noble fish gave up the fight, came up to the boat and turned belly up. It seems to me this must be very exciting sport; more so than trolling, by which method I have always been accustomed to fish for mascalonge. However, should a twenty-five or thirty pound mascalonge be hooked when using such light tackle, I am inclined to think the odds would be too much in favor of the fish to make it enjoyable. D. B.

NOTES.

ST. JOSEPH, MO.—A circular has been issued by the Fish Commission of Missouri as follows: "On October 10, we will be ready for the distribution of young fish. We have a full supply of bass and carp at our St. Louis ponds, and a large supply of carp at our hatchery at St. Joseph, Mo. Orders addressed to Elias Cottrell at St. Joseph, Mo., or to Philip Kopplin, Jr., at St. Louis, Mo., will have prompt attention. Terms as follows for cans and cartage to express offices: \$1.25 will be charged, when you send a can only 25 cents will be charged for cartage. Money must accompany each order. No fish sent out C. O. D. Send name of postoffice, county and nearest express office. We have also six million wall-eyed pike fry, and several thousand California trout that will only be distributed from our state car in public waters we think adapted for the same. Upon receipt of 3 cents postage Mr. H. M. Garlich, Chairman Missouri Fish Commission, St. Joseph, Mo., will mail you 120 page circular on fish culture, and how to construct ponds and feed fish." The state fish hatchery has never been more successful than the present year, and the results are very satisfactory. H. C. CARTER.

Natural History.

THE GROUSE FAMILY.—NO. 4.

Amer. Field, XXVIII., No. 17, Oct. 22, 1887, pp. 391, 392.

BY W. B.

The Ruffed Grouse.

To leave the crowded streets of the city or town in the

Autumnal season of the year—a season in which the hum and attractions of business are to most minds the one thing needful, the *summum bonum* of human life, and to retire into the quiet woods, after the beautiful Indian Summer has touched them with its brightest colors, from the scarlet and crimson of the sugar maple through many intervening shades to the soberer yellow and brown of the oak leaves; to wander along gun in hand, through the silent sequestered shades, watching on all sides and momentarily expecting to start your game; to dart down into glens flashing at the bottom with running streams which you cross at your peril, and then to climb cautiously up the hillsides, with the afternoon's sunbeams, brighter than the maple's leaves, striking you in the face slantingly from the beech holes, in such a way as to make you hurry your footsteps, as if the sun were already setting; to plunge still deeper into the gloom of the forest, where many a darkening inanimate object, seen in the distance, sends a thrill through your soul, and causes you to pause and to raise your gun to your face, as if now, now, the darling object of your pursuit were actually in sight; to get your whole being wrought up to that pitch of expectancy and frenzied excitement that the perspiration starts at every pore, and your nerves shake like the leaves of the aspen; and then to have a whole covey of your prized "partridges" spring up under your very feet, with that startling whirr! whirr! whirr! darting off in every direction, some straight up in the air, some sideways, where the leaves are thickest, and some again in a straight line from you; and then with a mighty impulse and resolution, so far to regain your consciousness and self-control as to send a brace of them fluttering to their fall through the dense evergreen branches, and to be able to pick both of them up, after an anxious search—if all this is not happiness, if the world has got anything more satisfactory to offer, I must confess, for one, I despair of ever finding it, for I do not know where to look for it. "Some place the bliss" in wealth, honors and other worldly advantages. But all these, I hold, even in their best estate, are tame in comparison with the hunter's rapture of soul under such cir-



RUFFED GROUSE.

cumstances as I have tried to depict. Others again hold up to view the passion of love as the highest guerdon of humanity. And for a brief season, while no cloud casts its shadow across the lover's path, this will favorably compare with the hunter's heaven. But then the clouds will come, and what is worse, often, too often, they come to stay, and the lover is left disconsolate and in darkness perhaps for the balance of his days; while in the true hunter's soul, there is always the "silver lining" shooting across and gilding all his disappointments. His love never grows old or cold. Whenever and wherever the object of it appears, in the mountain or the lea, there is a plighting of the old troth, a surge of the old tempest, a renewal of the old rhapsody, a meeting that calls forth all the intensity of early passion, and more too. Others again will point to the religious enthusiast as the highest type of human happiness. But I doubt if even he, except in some odd moment of emotional ecstasy, ever reaches the highest pinnacle of the hunter's beatitude. And besides he is always subject to the same vicissitudes which mar the lover's joys—a propensity to harden his heart and let his zeal grow cold, to lose grace, to slip and slide from his first faith. But your real "blooded" hunter never allows his zeal and affections to flag. They increase in intensity, year by year, and every day in the year; and, through his passionate love of Nature, they constrain to a worship, which your ordinary religionist but seldom feels—a worship begotten of the hunter's unconstrained intercourse with the outer world—a worship, which, like that of some Eastern nations, is not offered in temples made with hands, and which is so beautifully set forth in the following lines, I am tempted to quote the whole of them:

"Not vainly did the early Persian make
His altar the high places and the peak
O' earth-organizing mountains, and thus take
A fit and unvalled temple—there to seek
The Spirit, in whose honor shrines are weak
Upread of human hands. Come and compare
Columns and idol-dwellings, Goth or Greek,
With Nature's realms of worship."

"And all this," some of my readers are ready to exclaim, "all this inordinate pleasure comes, you say, from the quest

or the flight of a covey of 'partridges.'" Not all—not exactly all. But yet we must acknowledge the partridges contribute a good part of the pleasure; or to speak more correctly, they furnish a stimulus to the pleasure, and give it wings to mount so high. But the hunter's paradise in these still Autumn woods is compounded of so many essences, so many elements, that no one is able to enumerate them all, much less analyze them all. The partridge may be said to give us the key to unlock some of the mysteries of this paradise, a clue to direct us through some of its wide labyrinths of enjoyment. Or it may be said that the partridge is the tie that binds together so many sheaves in this rich Autumn's harvest of the hunter's experience. It is the loadstone to draw him away from the noisy haunts of men, out of his daily cares, out of himself, out of the purlieus of business and politics, into the seclusion and solitude of the forest, into a communion with natural scenes and objects, into the healing odors of the country air, to open his eyes to new and better sights, his ears to sweeter sounds, his heart to all those genial influences which are wrapped up in the heart of Nature, and which she showers with so bountiful a hand upon the head of every one of her true votaries.

In my own hunting experience, few have been the quests for game that have afforded me more unmixed satisfaction than taking the woods for ruffed grouse (called, in the East, the partridge, and, in the South, the pheasant) at the proper season for hunting them. And the season of the year, as we have already seen, has much to do with the enjoyment of it. How vividly come back early recollections of this sport, as I think of "old Windmill Hill" and "Mt. Independence," towering so much higher above their fellow peaks in the chain of romantic hills that encircle the beautiful valley where I first saw the light. These formidable heights were my *ultima thule* in all my partridge-shooting expeditions, and my favorite resorts when the sport was to be tried on a large scale, and when I was not to be choked off by disappointments. If I was to be cut short with a few hours' hunting, "Ripley's Woods," nearest the village, afforded the best opportunity; if I had a half day, I spent it in "Campbell's Bush," among the maples, or better still, in the beautiful "Still Woods," farthest off of all (and O! what a little paradise!) called the "Still Woods," not because of any hush in the atmosphere of their dense shade and foliage, but because of the old distillery, whose ruins and remains continued to haunt the place for years after its "usefulness" had departed—an old tumble-down roof, with immense beams and rafters braced and spiked with iron, all tottering to their fall, and one or two great rusty copper vats, that looked as if they had done service for ages. At these minor resorts, particularly the lovely Still Woods, my good dog Boze, would generally manage to "tree" a partridge or two, and "Old Bundy" long and single-barreled and caplocked, could be depended on to knock them down from their loftiest perches in the tall beeches and oaks. Well I remember one of my earliest feats in these woods, was shooting a partridge off the top of the old "Still" roof, and having a long search for him among the ruins inside where he fell. It was the only time I ever knew this bird to perch himself on any building.

What romance, what rapture there was in even these half-holiday visits to the Indian Summer forests after partridges! But when it came to a whole day's roving and climbing up the sides and along the brow of "Old Windmill," on the same errand, "no tongue its beauty might declare." Old Windmill was a sight in itself, gnarled on its sides, like an old oak, scarred, seamed with rocks, and by no means prepossessing to the stranger who saw it for the first time from afar. But once near it and on it, and all its apparent ugliness vanished at a glance. Its sheltering groves, its mossy carpet, and that long stretch of level green on its very summit, lined with white poplar, and flanked, where the rocks began to shoot out, with a thick covering of ground hemlock and pine, made it a delightful picture. I used to prepare for these all-day jaunts the evening before, so as to be off in the early morning; and there being only about four or five miles to walk before reaching my partridge ground, I used to get there almost as soon as the birds were up for their breakfast. Many of these mornings, the air on the mountains was as cold and crisp as it is in the lowlands in November; and the leaves under foot as well as over head were spangled and sheeted with ice. Almost always the early morning air was full of frost, which dissolved after an hour or two of sunrise, and gave place to that most intoxicating of all morning draughts, the Indian Summer atmosphere, after it has been mixed with a few degrees of sunshine. The first loud sound heard after reaching the border of the woods was almost invariably Boze's barking, which meant partridge flushed and "treed." I dreaded a rise among the hemlocks, which often happened, as that meant an anxious and often long search for my game through the thick branches, and very likely after the search ended, a stiff neck, that night or the next morning, from craning and bending it into so many unnatural shapes gazing up the tree. Ten to one the partridge on alighting, especially if an old one, will perch on a limb close to the body of the tree, and sit there perhaps for hours without moving a muscle. Then your search may be entirely in vain, or you may blaze away several times at a stub, mistaking it for your bird, which really makes no more movement than a stub, unless it happens to be hit.

There was one place on the top of old Windmill among

the poplars I have mentioned, comparatively free from underbrush where I was pretty sure to find my game and where I used to try my first experiments at shooting these grouse on the wing. But it was for a long time, a bushel of experiments to a single grain of success. Once in a while, if my bird flew right, I would knock it down. But the ruffed grouse is more likely to fly wrong for the sportsman than any bird I know. If there are trees about, as there almost always are, it will manage to wind around among them, spirally or zig-zag, so as to keep them between you and it, though it will sometimes make a bee-line straight away from you, and pretty close to the ground; and what is still more curious, if this bird rises on the sides or near the brow of a hill, the chances are it will dart like an arrow, and about as swift, straight down hill.

While on the subject of this bird's flight, I may as well here take occasion to remark, that nothing shows the shrewdness and keenness of observation with which that grand old man, Audubon, pursued his investigations into the habits of the feathered races, than what he tells us about the two kinds of wing-power the partridge exerts under contrary circumstances. It is like a new discovery in science—is, in fact, a new discovery in science. He assures us that the grouse, when startled from its resting-place on the ground, and taking wing through fear, invariably goes through the air with the whirring sound, which in the general estimation of the world always accompanies its flight. But he likewise informs us that when this bird rises on the wing, of its own accord, and not under the influence of fear, its flight is as noiseless as any other bird's. There can be no doubt on this point; and after reading, years ago, what the great ornithologist says about it, I could easily recall instances to verify his statement. I will mention one in particular, while we are still on old breezy Windmill Hill. It is a notable instance, in more senses than one, inasmuch as it illustrates the principle of well-doing which dominates the hunter's soul, particularly where it jumps so strongly with his inclination. At the solicitation of a very sick lady, who sent word to W. B., then a lad, but even then no novice in the use of the gun, if she could only have a soup compounded of partridge and squirrel, such as I had been in the habit of making her a present of from time to time, she was certain it would cure her. I hurried away to Windmill Hill, on the sides of which was a clump of large old gnarled oaks, where I felt confident I could secure one ingredient of the wished-for soup, since I scarcely ever went there without finding one or more gray squirrels, rocking up and down on the oak limbs to pluck the acorns. Determined not to leave the spot until the squirrels came out, I secreted myself in the bushes, where I had not been half an hour before I saw one partridge after another come flying down on the ground, not far off, as quiet and silent as sunbeams. I could not believe my eyes at first, since I heard not even the slightest rustle or whirr of their wings, as I expected to, and I looked at them long and wistfully before I could make up my mind I was not mistaken in their identity. When completely satisfied on this point, I had a couple of them fluttering in the agonies of death before me, while the rest took wing with the usual whirring sound. It is needless to add that, by dint of watching my faithful old oaks till near sundown, they yielded me a pair of squirrels; and I went home happy as a lord at having found the medicine which Mrs. M.—, to my intense delight, afterward acknowledged to me had saved her life. I have several times since verified, in the same way, Audubon's statement as to this double flight of the partridge. And here let me take occasion to say that the bird-student who shall see with clearer vision, and study with more passionate earnestness and exactness into the character and habits of a race the most difficult of all to study and comprehend, and who shall paint them with a more magical pencil, or write about them with a more magical pen than this splendid old American naturalist, has yet to be born, and very likely never will be born. Never did astronomer watch the stars by night through "his glazed optic tube," with more zeal, more enthusiasm, more fidelity to truth, and with more real genius, to tell their story to a wondering world than this marvelous bird-gazer to tell the story of American birds, while yet the whole subject was in its infancy, wrapt in doubt, obscurity and the mists of fable, crossing pathless deserts to do it, often alone in the midst of wild beasts and Indians, exposing himself to hunger, fatigue and danger, often lying down at night in the forest, in a single blanket, wet with rain, and shivering with cold. All honor then to the great American explorer, thus led by the true hunter's passion, to snatch from the wilderness, the forests and the mountains, their winged inhabitants, to portray them to the life by his matchless pen and pencil—to make them as familiar as household words to all future generations. To catch an idea of the man you have only to look at any good picture of this rare genius—see what an eye he has, capable, one would think, of taking in at a single glance the whole of animated nature, that noble brow, instinct with thought, imagination and intellect, together with fire, resolution and the audacity of genius written in every line of those expressive features.

Of the few yet disputed and undetermined points about the characteristics of the ruffed grouse, the knottiest one is that relating to the male's drumming faculty. For a long time the hollow log theory prevailed, and we thought of this

cock of the walk as a drummer boy, sitting on his chosen drum-log in the depths of the forest, and banging it with his wings instead of drum-sticks; something after the manner of those sturdy preachers of the time of Hudibras (not entirely gone out of fashion in our day) who mount the

"—pulpit, drum ecclesiastic,
Which they beat with fist instead of a stick."

That theory exploded, the next one advanced was that the bird's body was the drum instead of the hollow log, still beaten by the wings; and then it was conjectured that the sounds were produced by the rapid movements of the bird's wings alone, something like the stridulating sounds produced by certain insects. Now, as theorizing is the order of the day on this mooted point, I will venture a new solution of the riddle, which, it appears to me, is more plausible than any of the rest: It is that the drumming sounds of the partridge are made by a simultaneous combination of wing movement and the use of the ordinary vocal organs of birds. It is scarcely conceivable that such loud sounds can be the product of the wings alone. If the ruffed, like his cousin the sage-cock or the pinnated grouse, was possessed of the inflatable air-sac, there would be no difficulty in determining the question; but in the absence of such a wind-instrument as that, is it unreasonable to ascribe the loud thunder of his drumming, not to the vibrations of the wings alone (for these seem incapable of making it) but to the conjoint action of the muscular force of the wings and of the "inferlor larynx," which is the special avian organ of sound? It is not probable that this special organ is consigned to an "innocuous desuetude," in the case of the partridge, any more than in the rest of birds; and if ever he would employ it, it would be when, strutting around on a log or on the ground, lowering his wings and spreading out his great fan of a tail, he tried to attract the attention of the females of his tribe, or perhaps show his belligerent propensities toward the males. Hence I claim that, while this point, like so many others relating to the ways of birds, does not seem to admit of being reduced to absolute certainty, the drumming of the partridge is made with two instruments instead of one alone—it is vocal as well as "wingful."

What commends the ruffed grouse particularly to sportsmen is, first, the skill required in shooting it, and, second, its diversified and extensive range and habitat. The first of these difficulties, of which I have already spoken, is very much enhanced by the bird's unsocial habits, constraining it to go in small coveys, and by its seldom springing up before you except in densely wooded districts, and oftenest through grounds overgrown with thickets and underbrush. This latter consideration, taken in connection with its swift and irregular flight, makes it the hardest of all winged targets to hit. It is found dispersed over the whole continent from the Atlantic to the Pacific, and seems to thrive in all climates and latitudes. Nor do the influences of climate, over such an immense stretch of territory, work such changes in the bird's character and coloration as we might be led to suppose. It is everywhere the same rufous-tailed species, with plumage varying from light-brown to mottled with darker brown and even black. It everywhere makes its home in the thick dark woods, preferring the highlands and the umbrageous shelter of the *coniferae*, if they can be found.

Where is the heart so cold and so dead to the quickening impulses of Nature that has not bounded at seeing this graceful bird, so full of spirit and hanteur, when undisturbed, standing erect or moving along with a slow and solemn pace; but "when the dry leaf rustles in the brake," stepping with a quick majestic tread, and, if it finds no convenient place of refuge, darting through the air with swiftest pinions? As I recall early scenes and images, it seems to me no other bird has afforded me so many happy days—no other bird so often darts across my imagination, when I think of the October woods, with their keen frosty air and balsamic odors.

"And thy whirring wings I hear,
When the colored ice is warming
The twigs of the forest serene—
When the Northern wind's a-storming."

And methinks I could cross the dark river with more satisfaction, dear bird of my boyhood, if I could make sure of meeting thee once more in the happy future hunting-grounds, and hear the rustle of thy swift-rushing wings.

Chicago, Ill.

UNUSUAL NESTING SITES.

Amer. Field., XXVIII., No. 17, Oct. 22, 1887, p. 392.

BY WALTER E. BRYANT.

One of the interesting features of the study of oölogy is the selection of strange nesting sites made by many birds when the circumstances of their environment compel a departure from their customary habits. This is especially noticeable in certain tree-building species, which avail themselves of low bushes and sometimes even the ground in the absence of trees.

During a recent trip to Carson, Nev., and vicinity, I was particularly impressed by the unusual and novel situation which had been chosen by birds whose nesting habits were well known. These had adapted themselves to various situations, the mention of which, together with instances noted from other localities where choice rather than cir-

cumstances seemingly prompted the departures, may be interesting.

California Partridge (*Callipepla californica*).—Essentially a ground building species, but several cases have come to my notice of its nesting in trees upon the upright end of a broken or decayed limb or at the intersection of two large branches. A few years ago a brood was hatched and safely conducted away from a vine-covered trellis at the front door of a popular seminary. How the parent birds managed to get the tender young down to the ground is not known.

Red-shafted Flicker (*Colaptes cafer*).—Three instances are recalled when this species nested in unusual places. One of these was in a bridge bulkhead a few feet above the Carson River. The interior of the structure was filled with gravel and large stones, amongst which the eggs were deposited. Another pair used a target butt at a much frequented range as a substitute for a stump. A third nest was in a sand-bank three feet from the top and ten from the creek. This hole was apparently specially prepared, and not one made by a ground squirrel, such holes being sometimes used by these birds.

Calliope Hummingbird (*Trochilus calliope*).—A nest was found built upon a projecting splinter of a wood pile at a height of five feet. Another was secured to a rope within an outbuilding.

Arkansas Kingbird (*Tyrannus verticalis*).—An old and much flattened nest of Bullock's oriole was found relined and containing four kingbird's eggs. One of the most remarkable instances of persistency in nest building was met with in the case of a pair of kingbirds which had attempted to construct a nest upon the outer end of a windmill fan. A horizontal blade had probably been first selected, but an occasional breath of air had slightly turned the mill, bringing into place another and another, upon each of which had been deposited the first material for a nest until several nests were in different stages of construction, varying with the time that the windmill had remained quiet, while upon the roof below was strewn a quantity of debris that had fallen as the wheel revolved. Of course nothing but failure could be expected from their repeated attempts.

Say's Phoebe (*Sayornis saya*).—A nest which could be conveniently reached by a person on horseback was found by Mr. Walter Bliss at Carson, placed within and close to the entrance of a deserted bank swallow's burrow.

Brewer's Blackbird (*Scolecophagus cyanocephalus*).—All the nests found at Carson were upon the ground, usually on the edge of a bank formed by an irrigating ditch, with the exception of one which was built two feet from the ground upon dry tule and well hidden by the growing stems.

Crimson House-Finch (*Carpodacus frontalis rhodocolpus*).—Besides the odd situations which they select about houses, they avail themselves of the last year's nests of Bullock's oriole.

Parkman's Wren (*Troglodytes aedon parkmanii*).—The species has been known to build in the skull of a horse, which had been placed in a fruit tree; in the nests of cliff swallows, and within an old shoe lodged in a tree.

Western Robin (*Merula migratoria propinqua*).—A pair of robins built and reared a brood in a hanging basket suspended from the edge of the veranda at the residence of Mr. H. G. Parker at Carson, Nev.

Western Bluebird (*Sialia mexicana*).—Dr. Cooper informs me that he has known a bluebird to build in a cliff swallow's nest.

Mountain Bluebird (*Sialia arctica*).—Three incubated eggs of this species were taken from the nest of a barn swallow at Lake Tahoe, Cal., by Mr. Walter Bliss.

European Sparrow (*Passer domesticus*).—Since the introduction of this pest into our cities, many birds, hitherto common, have left for the suburbs, notably the cliff swallows, whose nests were appropriated by the sparrows. In these cases the limited space compelled the latter to dispense with the usual amount of rubbish, and carry in only a lining of feathers.

San Francisco, Cal.

DO FOXES CLIMB TREES?—Point Lick, Ky.—*Editor American Field*.—I have seen several articles lately in the AMERICAN FIELD in regard to foxes climbing trees. There is no doubt about gray foxes climbing trees, and the size or shape of the tree has nothing to do with it. They can climb any rough bark tree, no matter how large or straight; but I have never seen a red fox on the outside of a standing tree. I have known many a one to go inside a hollow tree like a rabbit, but I do not think any fox hunter will say he has known one to go upon the outside. Another difference is, that, while it is not much trouble to make a gray come out of a hole with smoke, I have never been able to make a red come out yet, either out of a tree or from the ground. I would like some one better versed in fox lore than myself to explain why it is the male red foxes do not like to go in a hole during the latter part of the winter. I catch more foxes then than in all the rest of the year put together, and the dogs catch them often close to a hole into which I know the fox could have gone had he wished. I scarcely ever catch a female fox at that time of the year. Last winter I caught thirteen foxes from Christmas until March, and all of them were males. The dogs caught them all on the ground.

E. H. W.

THE Fort Hill Private Home and Training School for feeble-minded children. This institution is located upon one of the highest, healthiest, and most picturesque points in Maryland. Mansion of ample size and furnished with all modern conveniences. Only institution of the kind south of the Mason and Dixon line. Send for circular.

SAMUEL J. FORT, M. D., Superintendent.
P. O. Box 57, Ellicott City, Howard Co., Md. advt

Bellesley Hills

20 Jan. '94

My Dear Brewster:

Thank you for your
flicker paper. I hope you are
keeping well and in a working
(and so happy) mood. The winter,
as I see it is pretty brown.
Not a crossbill, pine finch, redpoll
or junco! On the 6th inst. I
heard a grouse drumming. It can't

be, I think, that such a thing
occurs very often. At any rate,
I never heard it before. The bird
I named these times within ten minutes
— the morning cloudy but mild, with
much sun in the woods. You may
like the idea for your biography
of the ruffed grouse.

What a tragedy Bolles's death
was! With everything to live for, and
so much to do. Believe me,
sincerely yours,
Bradford Torrey.

Mass. (near Concord).

Vocal cry when flushed.

May 12 - Flushing several Ruffed Grouse -
noticed they made a passing sound
evidently vocal just as they left the ground.
I have heard it in the autumn but
oftenest at this season

Bonasa umbella

Mass. (Frammingham)

Bonasa umbella

1886

Early nesting.

Apr. 4

"I am going to astonish you! On April 4 a full nest of Ruffed Grouse's eggs was discovered here! 13 or 16 eggs I forget which." (F. C. Brown in letter of Apr. 9 to H. C. B.)

"The finder is an old hunter & O.K. The locality a S.W. hillside mostly in birches. He flushed the bird from the nest. Clutch 13" (F. C. Brown letter Apr. 20 to W. B.)

Mass. (Concord)

Bonasa umbella

Nest.

MAY 25 1887

Visited the nest found May 10th.
Bird sitting. She watched the surroundings so closely that at first I could make out only her tail and eye, the latter the most conspicuous looking very large & black. When I came within about ten feet she hid off and glided away among the trees running swiftly & silently, the body flattened to the ground. She made no vocal sound to-day. Two eggs had been added since my last visit making 12. They looked dark

Mass. (Framingham)

Bonasa umbella

1886

Early nesting.

Apr. 4

"I am going to astonish you! On April 4 a full nest of Ruffed Grouse's eggs was discovered here! 13 or 16 eggs I forget which." (F. C. Brown in letter of Apr. 9 to H. A. B.)

* The finder is an old gamester & O.K. The locality a S.W. hillside mostly in birches. He flushed the bird from the nest. Clutch 13" (F. C. Brown letter Apr. 20 to W. B.)

and were hatching. They were
not covered over in the nest.

Mass. (Concord)

Bonasa umbella ✓

1886

Cock & hen with young.

May 31

Came suddenly on a hen with young in pine woods. The hen glided off whirring & goodling, as usual, the young scattered, each pursuing a few rods, peeping feebly, then squatting. On the dark, ~~uniform~~ pine needles their dead-leaf tints were of no avail but rather made them ~~the~~ more conspicuous. In less than a minute after the first alarm from the mother the old cock appeared, stalking rather slowly about me in a circle shaking his head, erecting his tail and ruffs and chattering like a Red Jaybird. He came within 15 yards several times and

Mass. (Concord)

Bonasa umbella ✓

1886

♀ with young - cries of alarm etc

May 26

Passing through a birch run I heard a series of loud whistles which I at first took to be the call of a Chat. They were soon repeated sounding this time like the cry of a Rail. Approaching cautiously and peeping over an old wall I discovered a ♀ Grouse standing erect on the watch for danger. She saw me instantly and flattening her neck and body on the ground glided off among the weeds uttering a cry exactly like the whirring of a dog, and also, at intervals,

a low growling sound. I went to the spot where the lead fowl and searched for her young but could not find them although I afterward heard one peeping.

showed little fear of me. He and the hen were in flight at the same time but they did not approach or seem to notice one another. I heard the cock uttering both before and after this episode.

I did not molest the chicks but after a few moments walked quietly away intending to leave the little family to themselves. The old hen, however, followed me for at least 200 yards gliding about close to me, whining & growling, at length I sat down to waste her. She quickly stopped, stood erect a moment and then flew to a low limb. Soon after one of the chicks began to call in hissing tones. She at once became excited and answered in loud tones quit, quit, quit, cr, cr. At this the chicks peeped again and then of them soon passed on on their way to her.

A few days ago some car repairers, working near the Erie R. R. car shops here, caught a full grown, healthy ruffed grouse which was feeding on grain which had fallen from erippled cars. About three hundred yards distant is a wooded hill and the bird must have come down into the railroad yard to feed. But why it should do this at this season is more than I can tell, and it is still more difficult to understand why the bird allowed itself to be caught.

—Salamanca, N. Y. O & O. XIII. Nov. 1888 p. 164
M. B. Barnum.

Bonasa umbella ^{togata}

Food

Brewer, Main
 Nov. 21, 1882

Mainly Hardy writes that the crops of two Ruffed Grouse killed to-day contained rock ferns (*Polypodium vulgare*) a kind of food he has never before known them to take.

Sautville/

Bonasa umbella

Food

Two Grouse shot to-day had in their crops a quantity of green leaves among which I recognized those of *Rubus hispida*, white clover, & *Pyrhula*. Also buds of *Betula alba populifolia* with portions of twigs attached from 1/2 to 1/2 inch long, catkins of alder, and a single fruit (hip) of a wild rose. In their stomachs were a few pebbles and a mass of seeds & partially digested pulp of barberries. One bird also had in the crop a blade of green grass.

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M. P. Barnum.

Bonasa umbella^{tozato}

Manly Hardy writes that the crops of two Ruffed Grouse killed to-day contained rock ferns (*Polypodium vulgare*) a kind of food he has never before known them to take.

Mass. (Grantville)

Bonasa umbella

1888

Food

Nov. 13

Two Grouse shot to-day had in their crops a quantity of green leaves among which I recognized those of *Rubus hispida*, white clover, & *Pyrrhula*. Also buds of *Betula alba populifolia* with portions of twigs attached from $\frac{1}{2}$ to $\frac{1}{2}$ inch long, catkins of alder, and a single fruit (hip) of a wild rose. In their stomachs were a few pebbles and a mass of seeds & partially digested pulp of barberries. One bird also had in the crop a blade of green grass.

Man (Wellsley Hills)

Bonasa umbella

1888

Contents of crop.

Nov. 17

Pyrrhula elyptica, *Fregaria virginiana*,
" *botanifolia* *Antennaria plantaginifolia*
cattails or common basal, buds with
twigs of *Vaccinium corymbosum*, Acorns
of *Quercus ilicifolia*

^{logans}
Bonasa umbella

Habits.

Bangor, Maine
Nov. 1883

In a letter dated Nov. 12, 1883
Manly Hardy describes to me a curious
habit of the Ruffed Grouse. He has
on several occasions this fall seen
five or six, which had been scattered,
come together again alighting near
each other. The puzzle was how they
knew each others whereabouts for
he did not hear any of them utter
a sound although he listened closely.
I have noticed the same thing.

Mass. (Wellesley)

Bonasa umbella

1888

Food in Mass. - two red birds in same cover

Nov. 2

Shot three Grouse all young(?) males. One had the crop filled with buds of *Asarum viscosum*, another with acorns of *Laurus ilicifolia*, the crop of the third was empty.

One of these Grouse was a very red bird although its tail was gray. In the same woods we started another which looked equally red if not redder. Can it be that the members of certain broods are all red? Another in a different place had a very red tail but a gray back.

Bonasa umbella

In confinement

DOMESTICATING GAME BIRDS.

UNDER date of Oct. 22, our Lockport, N. Y., correspondent, "J. L. D.," writes:

About a week ago a young man brought to me a ruffed grouse that had flown into a barn and alighted on the stairs, where it was captured. He had had it some days before he brought it to me, and said that it had not eaten anything, but he had given it nothing but crumbs of bread. The bird died the first night he brought it to me. On Friday last another was given to my son, a healthy young male bird, that flew into the house on High street occupied by Mr. R. Compton, and striking Mrs. Compton on the head, and then flew to the bedroom; and when the girl went to catch it flew back into Mrs. C.'s hands. (Mrs. C. is about ninety years old.) They kept it some days in a chicken coop, and it ate and drank readily, and does so now. It is quite lively; we have it in a long shallow box with wire screen in front, and it seems quite contented when not disturbed. We are going to try the experiment of taming a ruffed grouse, something which I have always been told can not be done. I do not believe that two more grouse can be found within two miles of the city in any direction. These two were taken inside the city limits within a week. Why is it they have such a propensity for flying into houses? I reported to you, three years ago, two grouse that flew into two houses six rods apart within a week's time.

Found 7 Grouse
Nov. 1, 1888 p. 264

We read in the Good Book of certain fortunate individuals who were furnished with quail daily, but were not aware that some of our city friends were being specially provided for. The day before Thanksgiving, Mr. Henry J. Thayer, while at the breakfast table, noticed a grouse in his back yard. Getting his gun he shot the bird and resumed his meal. Mr. Thayer's residence is at Cambridgeport.

O. & O. XIII, Dec. 1888 p. 191

The next morning I started out early to skate around an unfrequented pond near the Rhode Island line. While driving up the South Killingly Hill, a partridge flew down the mountain with incredible speed and momentum, sweeping the lines from my hand in a twinkling, and plunging down into the brush below the road. It was like an electric shock, and all over in a second. While I got out on the shafts to check the startled horse and recover the reins, my assailant got off scot free. If it had struck one foot back in the carriage it would have broken all the bones in my hand, but its object seemed to be accomplished in neatly sweeping the lines from my fingers. Who, after this, will say that the Ruffed Grouse has never played cat's cradle? or deny that the birds up here appear to be "getting onto" me? Perhaps these Windham County birds will make common cause with my old New London County Buteos, which seem to recognize me the moment I first reconnoitre in the spring, and, from a safe poise in the blue empyrean, challenge my entrance into their haunts with, "Pee-ho! heigh-ho! J. M. W., J. M. W.! hide our eggs! change our nests! heigh-ho! pee-ho, pee-ho!"

J. M. W.
Norwich, Conn.
Jan. + Feb. 1891.

O & O, XVI, March, 1891, p. 38

GREENWOOD'S GLEANINGS.

The presence of intestinal worms in ruffed grouse has already been noted this season, and as the same thing was observed last year sportsmen are wondering how much this has to do with the scarcity of this favorite game bird.

Dr. E. G. Hoit of Marlboro, Mass., who is an intelligent and observing sportsman, sends me specimens of these intestinal worms which he took from a ruffed grouse shot last week, and they are similar to those found in grouse last year. The worms sent us are of various lengths, evidently from an undeveloped worm to one fully grown. The seemingly matured specimen is about three inches in length; in thickness is the size of a knitting needle; and in color white when they reached me in a bottle of alcohol. The worms are tapered to a sharp point at each end, with neither head nor tail perceptible. There are smaller specimens of worms, varying in size down to those scarcely larger than a human hair.

Last year Mr. H. E. Tuck, the well-known rifleman of Haverhill, Mass., and who is also a keen brush shot, killed a brace of ruffed grouse, and on returning home cleaned the birds and placed them in his cellar. On the following morning he sought the birds, intending to cook them for breakfast. He was surprised to find these long white worms on the flesh of the grouse, and the birds were thrown away. When Mr. Tuck related his experience to me I thought the worms must have been the intestinal worms which had crawled out upon the flesh, from not being thoroughly cleaned. I have

[455]

Shooting & Fishing
G. Vol. 12 no 23 - Sept 29 1892

never heard of such worms being found in the flesh of grouse.

Will some naturalist, etymologically inclined, enlighten sportsmen, and tell us if this worm is one of the reasons for the scarcity of ruffed grouse in New England?

A friend of mine informs me that while on a collecting trip in California a few years ago, he found one of the species of sandpipers which often had these intestinal worms, but the birds appeared to be in good condition. There seems to me no doubt that they would ultimately cause the death of a bird.

Killed by an Engine.

One evening in September last, after the arrival of the last train from Boston, drawn by the Gen. Meade, in charge of the familiarly known engineer and fireman, Al. Franklin and Andy Meikle, a Ruffed Grouse was found in the cow-catcher, still warm. As they came through a small belt of woods between Conway and North Conway it is supposed the bird was flying across the track and a little from the train, as she was struck in the back.

J. W. Wash.

O & O XIV Apr. 1887 page 57

Forest & Stream. Vol. XXIV No 23. Dec. 25. 1890. p. 454.

THE GROUSE IN THE WATER.—*Editor Forest and Stream:* In your issue of Dec. 4 Mr. Bishop, of Kentville, N. S., gives an account of finding a ruffed grouse submerged to the head in water, whither it had dived to escape its cruel pursuer, the goshawk. That was a very interesting and rare occurrence we may believe, and whatever others may think of the possession by animals and birds of anything higher than what is termed instinct, I am firmly of the opinion that the action of the bird in question was the result of intelligent reasoning. It did not dash itself on to the hard earth, but into a medium that it knew would receive and cover it, and there it remained, though in a situation totally foreign to its natural habits. We can easily understand why a duck should take to water to escape the eagle, for there it is at home, but a grouse in water is all abroad. Whether the grouse bathe as birds do, I know not. They seek the streams and pools to drink, and in so doing this grouse may have received in some way the impression that this medium would prove a refuge in time of danger. Why didn't the hawk plunge in after the grouse? It is as reasonable to claim that it is as natural for one to understand the harmlessness of the water as for the other to believe in its protective power. We are just going to believe that this individual grouse put reason into his action. It's better that way. If we were more accustomed to look at such matters in this light, it might lead us to temper love of slaughter with mercy. And the cruelty which is inseparable from field sports struck me with much force when I read that Mr. Bishop, after shooting the hawk, took that trembling, terrified bird, which had in such a trusting and admirable way escaped the wicked beak and talons of its cruel enemy, and now with pleading eyes just above the surface of the water besought its other enemy to spare its life; Mr. Bishop, I say, took the bird from its refuge and coolly wrung its neck.—O. O. S.

A Great-curiosity has been
brought in & can be seen for a
few days

a Two headed full grown
Partridge

Wheaton

Contents of the Crop and Gizzard of a Young Ruffed Grouse (*Bonasa umbellus*).— The following is the result of the analysis made by the U. S. Department of Agriculture, of the contents of the crop and gizzard of an immature specimen of this species, captured July 18, 1906:

"3 percent of the food is animal, consisting of the following:

1 Carabid beetle	1 Tettigoniid
1 <i>Leptura vibex</i>	8 <i>Camponotus pennsylvanicus</i>
8 <i>Plagiodera armorica</i>	1 Snail
1 <i>Pyropyga nigricans</i>	

"97 percent is vegetable matter made up as follows:

About 105 seeds of touch-me-not (*Impatiens biflora*), 22 %.

About 1750 seeds of blackberry (*Rubus* sp.), 31%.

8 seed pods of violet (*Viola* sp.) containing approximately 25 seeds each, together with 114 free seeds, making in all about 514 seeds of this species, 14%.

About 100 seeds of ground cherry (*Solanum* sp.), 2%.

About 462 seeds of sedge (*Carex* spp.), twelve being in perigynia, 4%.

2 pods of *Juncus* sp. with many seeds, 1%.

About 8 seeds of grass, 2%.

A few seeds of *Oxalis* sp. and a few unidentified, 1%.

Some bits of dead leaves and green browse, the latter probably from touch-me-not, 20%.

"Mineral matter consisting of 2 pebbles, is 2% of the entire bulk."—

J. A. WEBER, *New York City.*

Auk, XXIII, Oct., 1906, p. 215-216.



Wm Brewster Esq
Spencer St
Old Cambridge
Mass

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Auk, XXIII, Oct., 1906, p. 245-246.

1143. *Tame Ruffed Grouse*. By M. H. Cryder. *Ibid.*, No. 15, May 6, p. 284.—A frequent visitor to the dooryard, and so tame as to take food from the hand. **For. & Stream, Vol. XXVI**

1198. *Avian Tuberculosis in the Ruffed Grouse*. By Morton Grinnell, M. D. *Ibid.* No. 26, Jan. 20, p. 603. **For. & Stream, Vol. XXVII**

541. *Insectivorous Grouse*. By C [=W. Cooper]. *Ibid.*, III, p. 261.—A specimen of the Ruffed Grouse (*Bonasa umbellus*) found to have "its crop full of caterpillars of *Notodonta concinna*, commonly known as the Red-humped apple tree caterpillar." **Can. Sport. & Naturalist**

1239. *The Drumming of the Ruffed Grouse*. By C. H. Prescott. *Ibid.* Vol. XXVI, No. 2, July 10, p. 31. **American Field**

File under
Bonasa umbellus — 1839. *Weight of Grouse*. By Rudolph von Ohl. *Ibid.*, Dec. 12, p. 402. **For. & Stream, Vol. 33**

1301. *Domesticating Ruffed Grouse*. By J. B. Battelle. *Ibid.*, No. 5, Feb. 24, pp. 83, 84. **For. & Stream, Vol. XXVIII**

1347. *Domesticating Ruffed Grouse*. By J. B. Battelle. *Ibid.*, No. 26, July 21, pp. 550, 551. **For. & Stream, Vol. XXVIII**

1369. *Captive Grouse and Osprey*. By Edward Swift. *Ibid.*, No. 12, Oct. 13, p. 224. **For. & Stream, Vol. XXIX**

1817. *New England Grouse*. By Special. *Ibid.*, p. 267.—*Bonasa umbellus* and *B. u. togata*. **For. & Stream, Vol. 33, Oct. 24.**

1710. *Grouse in Captivity*. By Jay Beebe. *Ibid.*, p. 453.—*Bonasa umbellus*. **For. & Stream, Vol. 30, June 28.**

Vol. 33, Nov. 21. 1827. *A Tamed Ruffed Grouse*. By E. M. Stillwell. *Ibid.*, p. 244. **For. & Stream, Vol. 33, Nov. 21.**

1376. *Sex Markings of Grouse*. By Edward Swift. *Ibid.*, No. 20, Dec. 8, p. 383.—The male said to possess a slightly longer tail and an orange colored spot on the "superciliary membrane."

For. & Stream, Vol. XXIX

1832. *Game in Town*. By C. G., Milton P. Peirce and Medicus. *Ibid.*, p. 364.—Notes on *Bonasa umbellus*, *Colinus virginianus*, and *Melanerpes erythrocephalus*. *File under Bonasa umbellus*
For. & Stream, Vol. 33, Nov. 28.

1724. *Game in Town*. By von W., J. G. L., J. L. Davison, Blue Ridge, E. T. Johnson and Hub. *Ibid.*, Nov. 15, p. 323; Dec. 13, p. 408; Dec. 20, p. 435.—*Bonasa umbellus*, *Colinus virginianus* and *Philohela minor*. *File under Bonasa umbellus*
For. & Stream, Vol. 31

1784. *Ruffed Grouse Eggs*. By John Williams. *Ibid.*—Notes on number of eggs and period of incubation of *Bonasa umbellus* and *Colinus virginianus*. *File under Bonasa umbellus*
For. & Stream, Vol. 32, July 18, p. 528.

1722. *A Ruffed Grouse in Town*. By Henry J. Thayer. *Ibid.*, p. 285.—In Cambridge, Mass. **For. & Stream, Vol. 31, Nov. 1.**

1842. *Grouse Notes*. By Jay Beebe. *Ibid.*, Dec. 19, p. 422.—*Bonasa umbellus*. **For. & Stream, Vol. 33**

1844. *Weight of Grouse*. By Robert T. Morris, M. D. *Ibid.*, p. 433.—*Bonasa umbellus*. **For. & Stream, Vol. 33, Dec. 19.**

1774. *Ruffed Grouse's Nest with Fifteen Eggs*. *Ibid.*, p. 421.—From the 'Worcester [Mass.] Spy.' **For. & Stream, Vol. 32, June 13.**

1848. *Weight of Grouse*. By Noltiks. *Ibid.*, Jan. 2, 1890, p. 467.—*Bonasa umbellus*. **For. & Stream, Vol. 33**

1872. *Weight of Grouse*. By W. V. B. *Ibid.*, p. 66.—*Bonasa umbellus*. **For. & Stream, Vol. 34, Feb. 13.**

1733. *Chestnut Ruffed Grouse*. By F. W. *Ibid.*, p. 408.—Individual variation in *Bonasa umbellus*. **For. & Stream, Vol. 31, Dec. 13.**

1720. *A Captive Grouse*. By J. B. Battelle. *Ibid.*, Oct. 25, p. 264.—*Bonasa umbellus*. **For. & Stream, Vol. 31**

1330. *Grouse in Captivity*. By J. B. Battelle. *Ibid.*, No. 17, May 19, p. 365. (See also *ibid.*, No. 19, June 2, p. 413.) **For. & Stream, Vol. XXVII**

- April 3 - 1894. *Courage of a Grouse*. By Dorp. *Ibid.*, p. 208. *For. & Stream*, Vol. 34
1378. *Sex Markings in Grouse*. By Jay Beebe. *Ibid.*, No. 22, Dec. 22, p. 428. *For. & Stream*, Vol. XXIX
946. *Note on the Ruffed Grouse*. By Manly Hardy. *Ibid.*, p. 208. —
 A specimen with twenty tail-feathers. *For. & Stream*, XXIII
1754. *A Grouse Trajectory*. By Jay Beebe. *Ibid.*, April 4, p. 212. —
 Flight of a Ruffed Grouse. *For. & Stream*, Vol. 32
- Vol. 34. 1929. *Flight of the Ruffed Grouse*. By Dorp. *Ibid.*, June 19, p. 433. *For. & Stream*
1373. *Grouse in Captivity*. By Jay Beebe. *Ibid.*, No. 19, Dec. 1, p. 363. *For. & Stream*, Vol. XXIX
645. *Domesticating Game Birds*. Editorial. *Ibid.*, No. 14, p. 264. —
 Notes on the Ruffed Grouse, the Pintail Grouse, and the common Quail. *For. & Stream*, Vol. XXI
- "Drumming of the Ruffed Grouse" (pp. 57-60), by David Scott; *For. & Stream*, Vol. 2
- For. & Stream*, p. 1875. *The Wily Grouse*. By Dorp. *Ibid.*, p. 84. — *Bonasa umbellus*. Vol. 34. Feb. 20
- page 364. - 1834. *Ruffed Grouse Plumage*. By G. W. Z. *For. & Stream*, Vol. 33, Nov. 26
- Vol. 34. 1914. *A Curious Grouse Drumming*. By Dorp. *Ibid.*, May 22, p. 347. *For. & Stream*.

The Florida Audubon Society



(BOBWHITE—Whistling on hand, a common perch.) C. F. Hodge

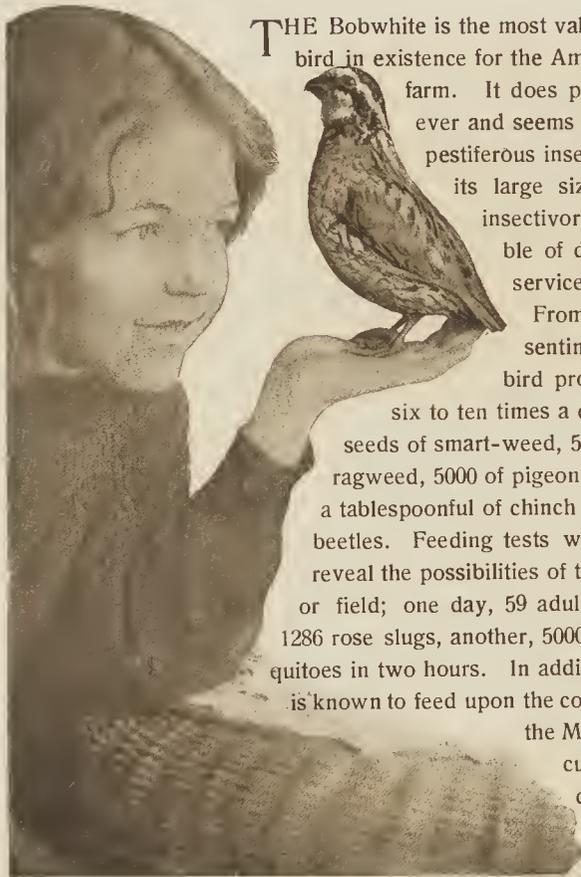
The Bobwhite

(Quail of the north and northwest. Partridge of the south.)

By C. F. HODGE

Clark University, Worcester, Mass.

THE BOBWHITE



Mazie Hodge and her pet bobwhite—C. F. Hodge

THE Bobwhite is the most valuable and important wild bird in existence for the American home, garden and farm. It does practically no harm whatever and seems to specialize on the most pestiferous insects and weed seeds; and its large size compared with other insectivorous birds, renders it capable of doing an amount of good service which few people realize.

From different crops representing a single meal (and the bird probably fills its crop from six to ten times a day) have been taken 300 seeds of smart-weed, 500 sheep sorrell, 1000 of ragweed, 5000 of pigeon grass, 10,000 of pigweed, a tablespoonful of chinch bugs, and over 100 potato beetles. Feeding tests with a pet bobwhite hen reveal the possibilities of the bird's work in a garden or field; one day, 59 adult potato beetles, another, 1286 rose slugs, another, 5000 plant lice and 568 mosquitoes in two hours. In addition to the above the bird is known to feed upon the cotton worm, the boll worm, the Mexican cotton boll-weevil, cut-worms, cabbage worms, cucumber beetles, squash bugs, grasshoppers and crickets, army worms, and the Hessian fly.

If the estimate, \$795,-100,000, annual damage to farm crops in the United States from insect ravages is correct, and it is much too low if anything, the bobwhites alone might save us over half this amount, if the people would give it a chance. Other tens of millions would be saved in weed seed destruction.

The bobwhite is naturally a sociable bird and this character makes it a most companionable and charming household pet. They "home" about the house and garden, if protected; and, if petted a little, become much tamer and more responsive than domestic fowls. The first pair of these pets which the writer had, pro-

duced 20 eggs, laid in a cage in the dining-room window. The past season his hens averaged 58 eggs apiece, and at the Massachusetts State Fish Hatchery one

bobwhite hen laid 100 eggs, practically all hatchable. As many as 42 eggs have been found in a single nest in the wild. This gives some hint of how soon we could have these cheerful birds common in every garden in the land if we could all work together.

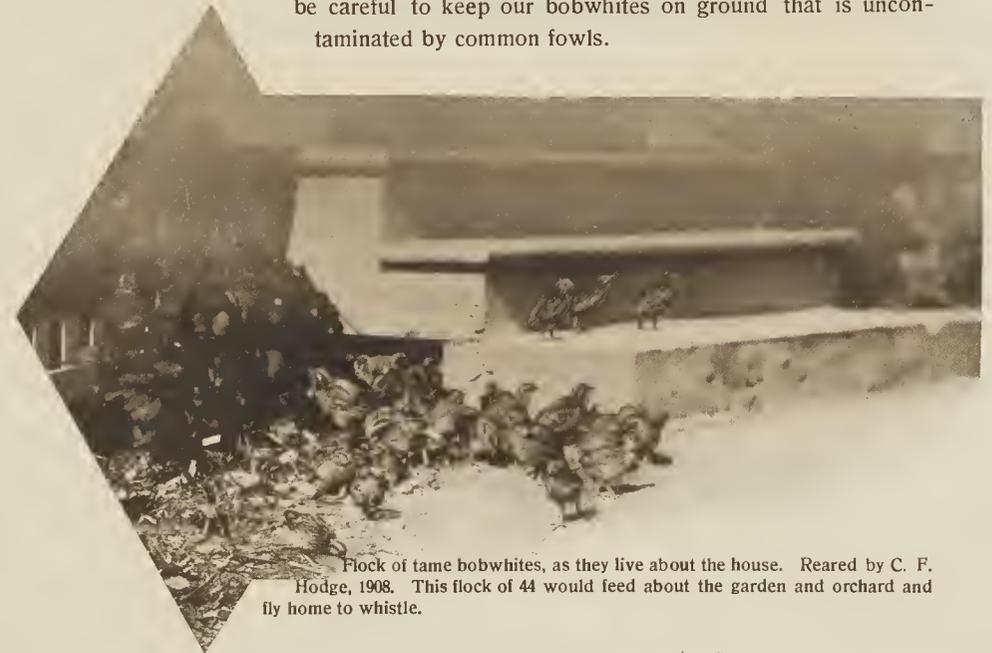


Bobwhite chick three weeks old—usual occupation.

C. F. Hodge

The greatest obstacle to bird protection is the uncontrolled cat. The writer has had eleven bobwhites killed by one cat in a night. Another point to guard against is disease. The

common fowl carries an internal parasite, which may not cause much injury to the fowl, but is fatal to the turkey and the bobwhite. This is probably the reason why the native American grouse have not been domesticated. We should be careful to keep our bobwhites on ground that is uncontaminated by common fowls.



Flock of tame bobwhites, as they live about the house. Reared by C. F. Hodge, 1908. This flock of 44 would feed about the garden and orchard and fly home to whistle.



BOBWHITE COCK.

This bird brooded a nest of 16 eggs, bringing off 15 chicks. He had been reared in domestication the year before.—C. F. Hodge, 1908.



Phasianus torquatus

P. torquatus

- 1901 April ^{7.} One seen almost daily during the last week of this month in the field in front of our farm house by Haverin & Benson
- 1902 March ^{7.} 17th Seen by Benson on the Ritchie place. Herbert Holden tells me that a ♂ was seen in July of this year in Acton.
1905. January ^{7.} One seen several times early in this month by Haverin & Benson.
- February 4. " " on the Ritchie place by Benson.
- 1907 May 30 ^{several seen} June 6. * (Fairbank) 9 * (W. B.) ^{heard from cabin in cedar woods} September 4. * ^{feeding in open grassy meadow} ^{seen at 8 a.m. by Fairbank.}
- 1908 May 18 ^{2 early morn. 1 at 10 a.m.} September 20 ^{1 seen flying across} October 9 ^{1 crown over at 7 a.m.} November 15 ^{1 crown over at 7 a.m.}
- 1909 May 11 ^{1 crown over at 7.30 a.m.} June 20 ^{1 seen in woods} July 11 ^{1 early morn} August 18 ^{1 early morn}
1910. April 1 ^{1 heard from farm house at 5 P.M.} May 7 ^{1 in direction of pond in Betty Pasture} June 1 ^{1 crown over} July 10 ^{1 3 young about 1/2 grown in Cambridge}
- September 18 ^{1 seen on ground in meadow east of hill} October 1 ^{1 crown over at 6.15 a.m.} November 15 ^{1 seen flying over}
1911. March 7 ^{1 crown over at sunset} April 22 ^{1 crown over at 7 a.m.} May 13 ^{1 crown over at 7 a.m.} June 15 ^{1 crown over at sunset} September 28 ^{1 calling at sunset} October 3 ^{1 seen at 5 a.m.} December 12 ^{1 heard at intervals through fumes}